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## **1988** **INDUSTRIAL AND PROFESSIONAL** **VIDEO EQUIPMENT** **BUYERS' GUIDE**

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## PREFACE

Today, almost any dealer catalog you consult contains selected information from our “Equipment Trade References”. A number of years ago, we began developing pages for dealer catalogs from sales brochures, spec sheets, photos, and price lists. The end result is a “Catalog Page Bank” of over 10,000 pages. This page bank has become a product information library for the industries we serve. It became clear to us that most practitioners needed this information daily; therefore, we created the “Illustrated Trade References”. Each volume serves a particular industry, providing the details necessary to design, specify, compare, or purchase equipment. In the past, we attempted to publish these books as annuals. The magnitude of this effort was awesome. We now have the systems in place to bring these books out on a regular schedule. To those who have waited for this edition, we appreciate your patience. We know you will find these volumes to be the dependable reference source you have come to expect from the Bill Daniels Company. If within 15 days you are not completely satisfied with our product, you may return it in resaleable condition for a full credit to your account. Please send us your comments on how we might improve these books. Your remarks will be seriously considered, and may benefit all of us in the future.

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# ABEKAS VIDEO SYSTEMS, INC.

101 Galveston Dr.  
Redwood City, CA 94063  
(415) 369-5111  
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## A42 Video Slide Projector

A compact and reliable digital still store system. With a built-in 5 1/4" Winchester disk drive that provides safe on-line picture storage.

### • Virtual Picture Numbering

Picture numbering scheme is completely independent of disk storage locations. Pictures are identified by serial numbers ranging from 0 to 9999 regardless of the on-line storage capacity.

### • Backup and Off-Line Storage

Utilizing a high speed digital streaming tape drive, the A42 stores pictures on a quarter-inch tape cartridge. This facilitates easy transport of pictures from one system to another, or from the studio to the mobile truck. With selective backup, any number of pictures up to 50 frames/100 fields can be transferred to the tape cartridge. Selective restore allows either the entire contents or only selected pictures to be transferred from the cartridge to the disk.

### • Sequence

Three sequences of 100 pictures each can be created using any of the recorded pictures. A sequence can be edited at any time by inserting, deleting or substituting pictures. A sequence can be temporarily exited to perform other functions.

### • Independent Output Channels

In the dual channel system, pictures can be recalled to both channels independently. Dissolves or vertical interval cuts can be programmed for on-air transitions between the channels.

# VIDEO SLIDE PROJECTOR/ SPECIAL EFFECTS SYSTEM



A42

### • Graphics Compose

Optimizes the use of the 2 channels for easy graphics creation. Each layer, or the entire graphic, can be stored on the disk. The A42 makes it possible to recover from mistakes when composing multi-layer graphics.

### • Library System (optional)

Each still on the A42 can be labeled with a title of more than 60 alphanumeric characters, including an automatic time and date stamp. Flexibility in searching for a picture eliminates the need to set up categories. To group certain pictures together, include a common word anywhere in their titles. For example, if searching with the word '49ers', any picture that includes '49ers' anywhere in its title would be listed on the screen. The library system is compatible with all A42 systems.

## A52 Digital Special Effects System

• Picture positioning • Compression to zero • Expansion to 99 times • Variable compression axis • Border of any color and width • Background of any color • Cropping from any or all sides • Full manipulation of cropped pictures • Flips and tumbles • Mosaics • Multi-freeze • Variable aspect ratio • Solarization • Variable duration for each keyframe • Variable time for entire effect • Programmable break or pause • Soft edge key signal • Contact closures for remote operation • A/B video switching

### • Transparent Picture Quality

The incoming composite signal is digitized to eliminate the analog decoding problems such as drift and complex adjustments. Digitally decoded into 4:2:2 components, it is then processed to ensure signal transparency and long-term stability.

### • The A52 Control System

By providing instantaneous access to a large number of effects, it makes on-air operation simple. Precise control over all parameters is provided to satisfy the most demanding requirements.

### • The A52CP (Control Panel)

The control panel consists of a high-resolution graphics display, a professional 3-axis joystick, numeric keypad, optically encoded fader bar, dedicated keys, the DataKey, and 6 variable "soft keys".

### • Mini Control Panel

The A52MP mini control panel retains the majority of the A52CP functions. It also consists of a 3-axis joystick, display and the DataKey. Operation of the A52MP is similar to the A52CP, allowing them to be used interchangeably.



A52

### • On-Air Operation

The A52 provides the user with 36 on-line effects. Twelve frequently used effects are pre-programmed and presented in picture form on the graphics display. These include flips, tumbles and a variety of compressions. The user can modify the pre-programmed effects to meet specific needs. The remaining 24 locations can accommodate simple to complex effects created by the user. The 12 pre-programmed and 18 user-programmable effects are stored in non-volatile memory.

### • External Control

RS232 and RS422 serial ports are standard. Through these ports, all of the functions of the control panel can be emulated by a computer. For interface to switchers and editors, four contact closure inputs are provided.

### • Digital Interface

The A52 provides composite digital input and output ports. These digital ports make it possible to interface the A52 to the Abekas A42 digital still store system.



# ABEKAS VIDEO SYSTEMS, INC.

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(415) 369-5111  
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## DIGITAL SPECIAL EFFECTS SYSTEM

### A53-D Digital Special Effects System

A 3-dimensional digital special effects system, the A53-D performs rotation, translation, perspective and scaling transforms on the incoming video source, thus providing maximum flexibility in 3-dimensional manipulation of images.

#### • Creating Effects

Effects on the A53-D are made up of keyframes, ranging from 2 to 16 in length. A keyframe is simply a set of parameters, defined by the operator, at a given point in an effect. The system then interpolates the intermediate values allowing the effect to run smoothly and continuously. These parameters could be size, position, border width, background color, perspective or rotation of the picture, etc. To edit an effect, the operator can step through it in forward or reverse direction. Parameters can be modified on one, all, or a group of keyframes saving time. Individual or groups of keyframes can be inserted, deleted, or moved from one part of the effect to another. Complete effects can be copied from one effect location to another or to the workspace

#### • Post-Production Operation

The A53-D is ideal for post-production, each parameter can be programmed with utmost accuracy. Numeric keypad entries allow the exact duplication of parameters making it simple to reconstruct an effect. Matched frame editing can be performed not only at keyframe boundaries, but also at every point between keyframes

#### • Live Operation

The A53-D provides the broadcaster with 24 on-line effects, each of which can be accessed at a stroke of a key. In addition, a repertoire of off-line effects can be quickly recalled from the disk. The 24 on-line effects are user-programmable and stored in non-volatile memory

#### • The Mini Control Panel

Ideal for space limited applications, the A53-D Mini Panel retains the majority of the A53-D standard control panel functions. The Mini Panel consists of a 3-axis joystick, a menu display and function keys. Provides 20 on-line effects, each 16 keyframes long. A micro floppy disk drive is provided for off-line effect storage. Operation of the Mini Panel is similar to the A53-D standard panel, allowing them to be used interchangeably

#### • A53-D Create Effects

• True 3-D perspective • 3-D location • Rotation about H, V, Z axes • Variable rotation axes • Global locate, rotate, axis • Expansion, compression • Variable inside or outside border • Background of any color • Field and frame freeze • Full manipulation of frozen pictures • Variable aspect ratio • Strobe • Cropping from any and all sides • Full manipulation of cropped pictures • Solarization/Posterization • Variable effect time • Programmable pause • Contact closures for remote operations • Built-in A/B video switching • Forced monochrome • Inverted luminance • Multi-pictures live • Switchable fold-over • Auto-keying of multi-faceted objects • Cube maker • Timing setup from the control panel • Variable motion types



A53-D

#### • 3-D Features

The A53-D is designed as a true 3-dimensional effects system. The operator can perform simultaneous 3-axis rotations and translations with variable perspective on the input picture. The picture can be reduced or expanded in size and moved to any location in the 3-D space. The system adds the appropriate perspective to the picture, but the operator can add any amount of perspective desired. Rotations can be performed about the picture axes or the H, V, Z axes of the 3-D space. The picture can rotate about its own center or any specified center. With a combination of 3-D controls on the A53-D, any imaginable 3-dimensional move can be applied to the plane of the input picture

#### • Motion Types

Every effect in the A53-D system can be programmed to have a linear and smooth motion. Manipulating the trajectory can result in an accelerating and decelerating linear motion. This feature can be programmed for any of the H, V, Z axes on a keyframe-by-keyframe basis

#### • Serial Ports

Two connectors, a 25-pin D and a 9-pin D, provide RS232 and RS422 communication paths respectively. Through these ports the A53-D can communicate with a variety of other equipment

#### • 2-Channel Operation

The A53-D Digital Effects Combiner provides a truly flexible multi-channel system. It accommodates up to 4 control panels and 2 channels. A remote assignment panel allows the system to be configured either as a dual channel, or as two completely independent single channel systems

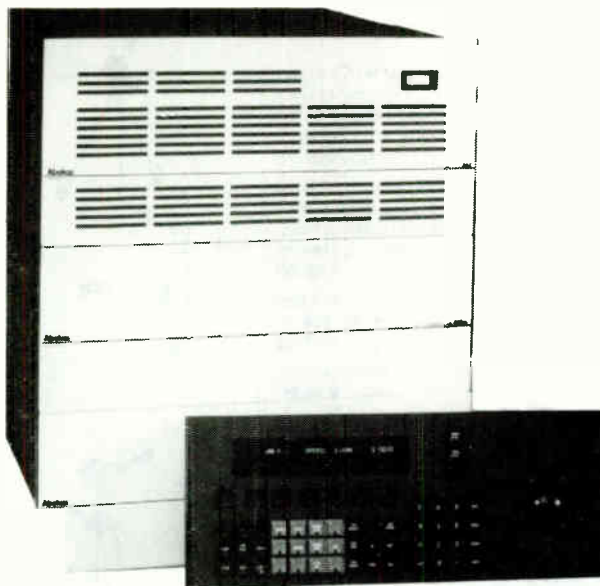
#### • A53-D/A62 Digital Interface

The A53-D system provides composite digital video input and output ports. Through these ports the A53-D can be interfaced to the much acclaimed Abekas A62 Digital Disk Recorder. The combination of the two systems introduces a tremendously powerful tool for on-line post-production. It is now possible to manipulate and composite an infinite number of layers in a completely digital environment and in real time

# ABEKAS VIDEO SYSTEMS, INC.

101 Galveston Dr.  
Redwood City, CA 94063  
(415) 369-5111  
Telex: 59-2712 FAX: (415) 369-4777

# DIGITAL DISK RECORDER



## A62 DIGITAL DISK RECORDER

- Real-time record and playback
- Internal digital matting
- Random access
- Simultaneous record/play
- Variable record/play speed
- Transparent signal system
- Digitally-decoded RGB outputs
- Built-in sequence editor
- SMPTE serial interface
- Precise control
- High quality color framing
- Compact size

The Abekas A62 Digital Disk Recorder is the most advanced tool available to satisfy the demanding needs of complex post-production. It is ideal for applications such as animation, video disk mastering and sophisticated multi-layered matting.

The A62 combines the well-known advantages of digital video recording with high-speed Winchester disk drives, producing a precisely controllable real-time record and playback device with storage capacities of 50 seconds and 100 seconds. Both versions offer the same basic features: namely, a full range of record/playback speeds, from still frame to faster than one times in forward and reverse; precise high-speed single frame editing; built-in sequence editor; and internal digital matting. Dramatically enhancing the value of the A62, the 100 second version also offers simultaneous real-time record/playback and color-framed random access over the entire 100 second range.

### Transparent Signal System

The transparent picture quality of the A62 is the direct result of full bandwidth digital recording and advanced digital signal processing techniques. The digital decoding and freeze frame performance are identical to that of the highly acclaimed A52 Digital Special Effects system. Unlike that of video tape recorders, the A62's performance is not limited by analog recording techniques and the tape medium, but rather by the A/D and D/A performance.

### Powerful Control System

The A62 offers a powerful and traditional video tape recorder type of control system using a time code based addressing scheme.

The A62 can be controlled by the A62CP control panel, which is provided with the system, or by an external computer through RS232 or

RS422 serial ports. In addition, two RS422 SMPTE serial ports are provided, enabling the A62 to emulate a VTR, thus simplifying editor interface.

### Simple Control Panel

The A62CP control panel consists of an integral graphics display with associated softkeys, trackball, DataKey, numeric keypad and various dedicated function keys. Comprehensive menus are presented on the graphics display, enhancing the power and simplicity of the system. The trackball is used to browse manually through the material on the disk. The browse speed corresponds to the speed of the trackball movement. A DataKey, like the one used on the A52 Digital Special Effects system, is used for off-line storage of control parameters.

### Sequence/Segment Editor

A number of variable length segments can be defined by specifying In and Out points, and can be linked in any order to form a sequence. Individual segments, or the entire sequence, can be run manually or automatically. A sequence can be modified by rearranging the order of the segments or redefining the segments by changing their In and Out points. The sequence length automatically reflects these changes.

### Internal Digital Matting

The A62 greatly simplifies the sophisticated post-production task of complex multi-layer matting. The internal matting capability allows a foreground to be digitally matted over an existing background in real-time. The background always remains in the digital domain during this process; therefore, the usual problems of generation loss associated with matting are completely eliminated. This process can be repeated a countless number of times, maintaining first generation quality from start to end. The matting is accomplished in non-real-time on the 50 second version, and in real-time on the 100 second version using the simultaneous record/playback capability.

The flexible system architecture enables internal re-entry of either the background video or the foreground video and key signal. This permits the real-time matting of incoming foreground on an existing background, or the matting of an existing foreground on an incoming background. All the necessary adjustments for the matte/key processor are provided: foreground black, foreground black cleanup, fade value, key polarity, key level and key gain. The analog input/output video level and timing, and the digital matte/key adjustments are made right from the control panel.

### RGB Outputs

Digitally-decoded high quality RGB outputs are provided as an option for the A62.

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Telex: 20-6233

# TRIPODS/ACCESSORIES

## Compact Tripods For Small Cameras

**L-1:** A very compact 4-section tripod easy to carry around and ideal for Compact 35mm and SLR cameras. Legs are slotted for extra strength and to prevent twisting and sections are quickly locked with levers. Extra strength is provided by leg braces. 2-way head pans and tilts. Opens to 48", closes to only 20". Lift-type Elevator. . . . . \$29.95

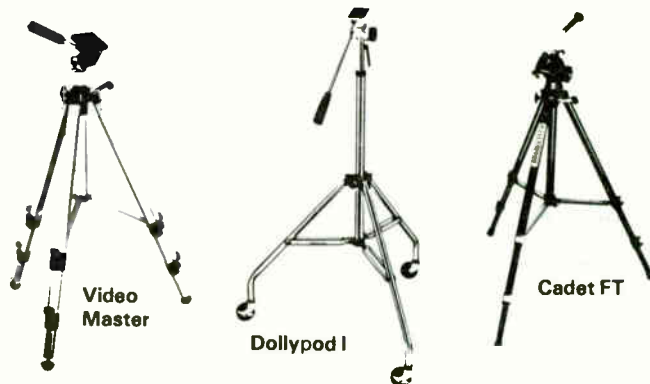
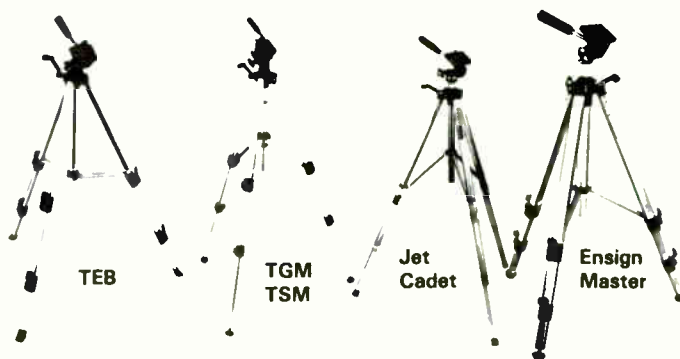
**TEB:** Compact tripod that has every feature needed for small cameras. 21mm channel legs are rigidized by leg braces and sections open and close quickly with lever locks. Elevator column is gear driven with crank handle. 3-way panhead tilts, pans, and flips over for vertical camera position. Opens to 51", closes to 20" . . . . . \$39.95

**TGM:** Handsome lightweight black tripod with 22mm open channel legs and fast lever locks, 3-way head pans, tilts, and flips over for 35mm cameras; leg braces rigidize legs; geared elevator column for precise elevation . . . . . \$49.95

**TSM:** Same tripod as TEM but with stronger closed channel legs for maximum support . . . . . \$54.95

**Jet Cadet:** Heavier 25mm tubular leg for extra strength rigidized by strong leg braces. Sections locked with positive locking collets. Larger panhead is 3-way with panning, tilting, and flip over action. Elevator column is gear driven with folding crank handle and has friction control to prevent camera slipping. Also available with spring head as Video Cadet and with large fluid head as Cadet FT . . . . . \$61.95

**Ensign Master:** Heavier 25mm leg in open channel version rigidized by strong leg braces. Sections locked with fast lever locks. Larger panhead is 3-way with panning, tilting, and flip over action. Elevator column is gear driven with folding crank handle and has friction control to prevent camera slipping. Also available with spring head as Video Master and with large fluid head as Master FT . . . . . \$74.95



## Medium Weight Tripods For Compact Camcorders and 8mm Video Cameras

**Cadet:** Two medium duty models featuring heavy 25mm tubular legs, all black, leg sections slotted for extra strength and to prevent twisting; levers open and lock leg sections quickly and easily; heavy leg braces, geared elevator with crank; friction control adjusts tension on elevator to prevent slipping.

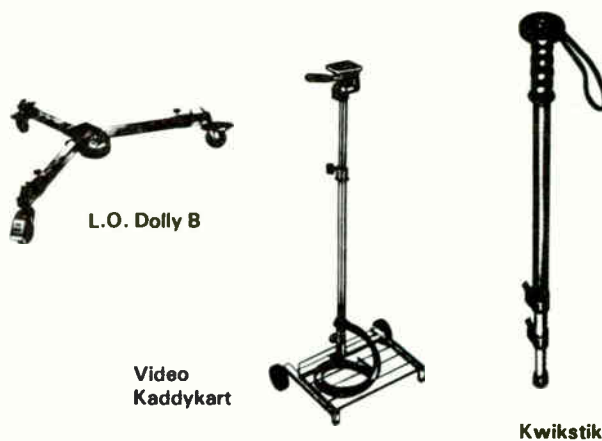
**Video Cadet:** As above with spring action head brakes camera forward and back . . . . . \$79.95

**Cadet FT:** As above with large fluid head for smooth movement, quick disconnect platform, long leveraged panhandle with adjustable angle, large locking controls . . . . . \$89.95

**Master:** Series of two similar tripods offering black 26mm closed channel leg for extra strength. Both models include lever locks, heavy leg braces, geared elevator; friction control adjusts tension on elevator to prevent slipping.

**Video Master:** As above with spring action head brakes camera forward and back . . . . . \$84.95

**Master FT:** As above with large fluid head for smooth movement, quick disconnect platform, long leveraged panhandle with adjustable angle, large locking controls. . . . . \$99.95



## Dollypod Series

**Dollypod I:** The perfect tripod for mobility because it was engineered to roll on wheels. Low center of gravity prevents tripod from tipping when rolling. Heavy leg tubing, double runner brace, clutch elevator control; folds up for compactness. Complete with heavy precision spring head, quick disconnect, adjustable panhandle . . . . . \$210.00

**Dollypod II:** Same as above but smaller spring panhead, quick disconnect, adjustable panhandle. . . . . \$189.00

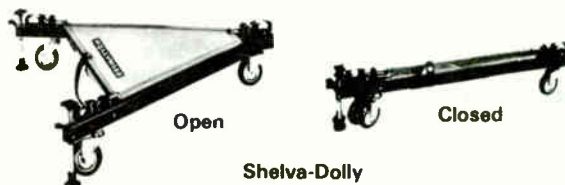
**Dollypod III:** Same as above but with adjustable tension fluid head, quick disconnect, adjustable panhandle . . . . . \$229.00

## Tripod Accessories

**Shelva-Dolly** Unique medium weight dolly with its own built-in shelf to hold VTR and accessories. Three 3" wheels each has plunger lock with toe release. Fits any tripod with adjustable clamps. Canvas shelf folds up when dolly collapsed for easy portability . . . . . \$84.95

**L.O. Dolly B** A heavy-duty dolly made from 30mm square channel aluminum tubing with 3" rubber wheels and toe locks. Each strut is gauge marked for clamp alignment and closes up into parallel position for compactness. Sliding leg clamps are adjustable both for tripod leg spread and tripod leg size. Locks into either open or closed position with web carry strap. Fits all tripods . . . . . \$74.95

**Video Kaddykart** Convenient way to support video camera and VCR. Camera mounts to 3-way panhead on telescoping tubing for adjustable height. VCR mounts on strong base with 3" wheels secured by adjustable strap. Now you can roll your equipment and follow action. Upright tubing disassembles for use as Unipod . . . . . \$69.95



**Podrack** Wire basket which hooks onto legs of any tripod to hold VTR conveniently. Measures 13" W and 4.5" D expandable to 8" . . . . . \$39.95

**Kwikstik** Heavy-duty telescoping Monopod with camera platform to hold still or video camera. Provides steady support with lightweight mobility which can be carried easily and change for camera position quickly. 3-section with fast lever lock; complete with wrist strap and rubber tip. . . . . \$39.95

V-B

Prices and Specifications Subject to Change Without Notice.



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# TRIPODS/HEADS/ PORTABLE TABLE

## Propod and Vidipod Tripods

Because of their size and weight, camcorders require heavy-duty tripods to provide stability while the camera is following the action and also require special adjustable features so the camcorder works with best efficiency and convenience. The Propod and Vidipod tripods are made rugged with full adjustment features for each type and size camcorder on the market to provide the best results easily and comfortably.



**Propods:** Series of 3 models each featuring, heavy 32mm leg tubing and 6' height. All parts have been made massive including the geared elevator column with crank handle, leg braces with lock, oversize collet locks, adjustable friction control to adjust tension on elevator to prevent falling and long panhandle which can be adjusted to different angles

**Propod I:** As above with heavy spring action panhead, quick disconnect platform and tilt lever lock . . . \$149.00

**Propod II:** Massive fluid action head for smooth tilt movement, quick disconnect and tilt lever lock . . . \$175.00

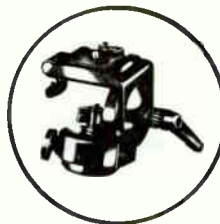
**Propod III:** Precise fluid action head with adjustable fluid tension in both pan and tilt quick disconnect and tilt lever lock . . . \$185.00

**Vidipods:** Series of 2 models featuring heavy 30mm closed channel legs and large lateral lever locks. Both models include geared elevator column, friction control elevator, heavy leg braces and long leveraged panhandle with adjustable angle

**Vidipod CC:** As above with strong spring action head, quick disconnect platform and tilt lever lock . . . \$134.95

**Vidipod CCF:** As above with precise fluid action head with adjustable fluid tension in both pan and tilt movements, quick disconnect, and tilt lever lock . . . \$155.00

**Wheels:** Set of three 3" wheels with toe locks attach without tools to either Vidipod model to provide extra mobility . . . \$39.95



## Three Different Style Heads Providing FluidTorq Features

**Fluid Torq Master:** Massive head measures 2.5" x 3" x 4" high with smooth roller bearing movement and teflon controlled tension. Adjustable pan and tilt tension, quick disconnect, adjustable angle panhandle with positive lock.



**FluidTorq II:** Large, heavier-duty head with added features. Adjusting knob changes head tension to balance camera weight and size. Long handle can be adjusted to different angles. Quick disconnect facilitates mounting camera quickly and easily. Separate locking control for panning and tilting. Smooth fluid movement.



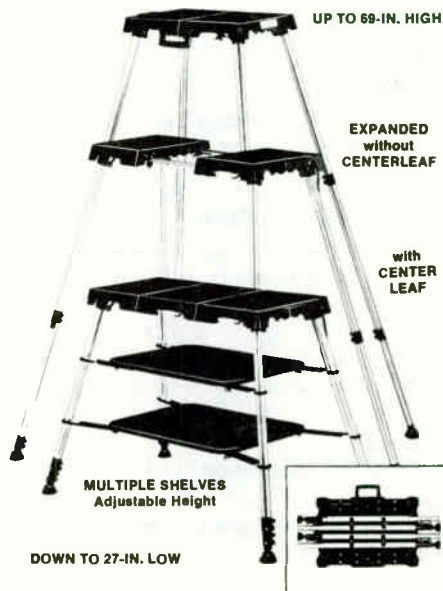
**FluidTorq SR:** Massive, more deluxe head for larger cameras. Adjusting knob changes head tension to balance camera with spring assist to brake camera under loose tension. Telescoping panhandle to adjust to different lengths with adjustable angle and ratchet lock. Quick disconnect to mount camera quickly. Separate locking controls. Smooth fluid movement.

## ADJUSTABLE

- **The Tabletop Gets Bigger and Bigger**  
The large 13" x 19" vinyl covered tabletop opens to 13" x 29" or 375 sq. in. of workspace
  - **The Table Gets Taller or Shorter**  
3 section legs adjust from 27" work height up to 69" for any job in any size room
  - **The Legs Slide In**  
No screwing, no stripping. Legs slip into sockets and clamp locked easy, fast
  - **The Legs Slide Out**  
No more leg locks to twist. Tamperproof levers open/lock adjustable legs
  - **The Shelves Adjust Up or Down**  
Optional 16" x 22" shelves adjust to different heights or use in multiples
- Aluminum diecast table vinyl covered. Steel legs up to 1 1/8" diameter. Large rubber swivel feet. Carry handle; legs store under tabletop for portability.  
**Adjustable Table** . . . \$149.95

### Accessories

- Center Leaf:** 13" x 10" cast aluminum section fills in center to make continuous surface. . . . \$34.95
- Shelf:** 16" x 22" vinyl covered with brackets to adjust to various heights or use in multiple . . . . . 29.95
- Power Panels:** Electrical panel attaches to end of table and provides 3 grounded outlets, 15' cord . . . . . 19.95
- Padded Carrying Case.** . . . . . 39.95



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# LOCATION LITEPAKS/ LITE STANDS

## Location Litepaks

Litepaks provide an economical and convenient way to store and carry all your lighting equipment. A variety is shown below including deluxe and economy lights in both deluxe cases and economy carriers.

### LP340BD Deluxe Location Litepak

Includes: • (3) No. 600 reflectors • (3) No. 4BD barndoors • (3) DYH 600W quartz lamps • (1) Deluxe carry case • (3) Flywate stands • (3) Stand extensions • (1) Extension cord • Lighting plans

Barndoors for use as front, side, and back lighting. Totals 1800W of illumination. All contents contained in partitioned plywood deluxe case measuring 19" x 12" x 8" . . . . . \$515.00

### LP333 Deluxe Location Litepak

Same as LP340BD but without barndoors . . . . . \$449.00

### LP3 Combination Litepak

An economy 3-way lighting kit that provides a total of 1800W of lighting for front, side, and back. Includes 3 No. 600 reflectors with 600W quartz lamps, 3 flywate lite stands with 3 stand extensions for total height of 7.5 ft., 12 ft. extension cord, fittings, and lighting diagrams. All contents in partitioned heavy weight paperboard carrier with metal snaplocks and styrene handle. . . . . \$350.00

### LP2 Combination Litepak

Same as LP3 but a 2-way lighting kit providing 1200W of illumination. Contains 2 each of No. 600 reflector lamps, stands, extensions, etc. in same carrier . . . . . \$250.00

### LP27 Video Combination Litepak

Same as LP2 but adds Model 708G Videolite for total 1800W. Provides camera mounted light plus side and background light for 3-way triangular lighting for professional effect. Complete with lamps, 2 flywate stands and extensions, fittings, and light plans fitted into same carrier . . . . . \$330.00

### LP36 Q-Brite Kit

Contains deluxe heavy-duty Model 660 Q-Brite Reflectors and heavier duty Casestands in sturdy paperboard carrier with metal snap-latches and styrene handle. Includes 3 No. 660 with 600W DYS quartz lamps, 3 Casestands with stand extensions, 2 rotating 4-leaf barndoors, fittings . . . . . \$399.00

### LP26 Q-Brite Kit

Same as above but 2-way kit including 2 No. 660 with lamps, 2 Casestands, and one barndoor. . . . . \$269.00

## Lite Stands

### For Every Video and Photo Need

Lite Stands are an indispensable part of every lighting set-up. They support the light and place it exactly where it is needed. Acme-Lite offers a variety of sizes and prices to suit every need.

#### Flywate Stand

Ultra compact 4-sec. closing to a mere 18" and opening to 6 ft. Recommended for lightweight units and where compact portability is needed. . . . . \$34.95

#### Midelwate Stand

Same design but slightly larger closing to 24"; opens to 7 ft. . . \$39.95

#### Litewate Stand

Basic steel stand with 5/8 tubing offers greatest value. 2-sec closes to 42"; opens to 6.5 ft. . . . . \$22.95

#### Bantamwate Stand

Same stand but 3-sec closes to 36"; opens to 8 ft. . . . . \$34.95



#### Welterwate Stand

Deluxe stand for heavier lights offers finest construction and features 3-sec closes to 31"; opens to 7 ft. Heavier 1" tubing and 31" leg spread . . . . . \$69.95

#### Heviwate Stand

Same construction but 4-sec with heavier 1 3/8 diameter tubing. Closes to 37"; opens to 12 ft.; leg spread 35" . . . . . \$99.95

#### 7A Aluminum Stand

Aluminum 5-sec stand offering lighter weight and greater versatility. Sections locked in; legs braced; lock knobs won't fall out. Closes to 19"; opens to 7 ft.; leg spread 32"; weighs 30 oz. . . . . \$36.95

#### 9A Aluminum Stand

Same as 7A but closes to 23"; opens to 9 ft.; weighs 36 oz. . . \$41.95

#### Champion Roller Stand

Heavy-duty roller stand to hold largest lights. Built-in dolly 3" wheels sturdily braced. Folds up compactly. 3-sec with one inch base tubing closes to 39" and opens to 10 ft. Sections locked in; locking clamps prevent denting. . . . . \$139.95

#### Stand converters

All lite stands except Champion require 3/8" reflector fitting. To convert size of stand to smaller or larger fitting use:

No. 35 Converter Converts 3/8 to 5/8 fittings

No. 53 Converter Converts 5/8 to 3/4 fittings

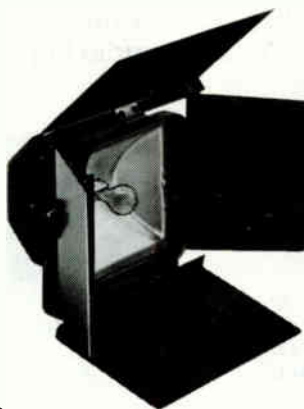
. . . . . each \$6.60



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# PROFESSIONAL LIGHTING



## Q-Brite Professional Video and Photo Lights

Q-Brite represents a trio of heavy-duty, compact quartz reflectors for professional use. Constructed of heavy steel housings and scientifically contoured aluminum reflectors using strong swivel yokes with adaptors for either 3/8 or 5/8 stands. Electrical construction includes 3-cond. power cords, heavy rated switches, and ceramic sockets. All models include lamp, safety chain, accessory clips, finger grips.

### No. 660 Q-Brite

Basic unit conical in shape with 4" diameter reflector, 3" depth which produces medium beam spread, fixed focus. Ideal illumination for most lighting applications such as key or fill as main or side light. Housing sunshine gold. 600W quartz lamp included. .... \$49.95

### No. 680 Focusing Q-Brite

Unique focusing arrangement enables beam adjustment from medium to broad and 3:1 ratio of beam center intensity. Such versatility makes this model adaptable to all lighting situations. Housing surf sand. 600W quartz lamp included. .... \$123.95

### No. 960 Broad Q-Brite

Specifically designed to give broad, uniform beam ideal for back and background lighting. Measures 4 x 4" with shallow 2" depth. Includes built-in 4-leaf barndoors. Housing black. 600W quartz lamp included. .... \$99.95

### No. 990 Q-Brite 1000W

A higher intensity broad beam reflector with long life frosted lamp for greater diffusion. Includes 1000W lamp, rated 400 hours in 5-1/2" reflector with heavy-duty switch. Barndoors included. .... \$149.95

**4VB BARNDOORS:** 4-leaf rotating Barndoors to fit Models 660 and 680 only ..... \$32.50

**VSD SCRIM:** Fine mesh screen framed in aluminum for diffusion. Use singly or in pairs. For all Q-Brite models only. .... each \$11.95

## Specifications For Q-Brite Models

Model	Lamp	Watts	Amps	Kelvin	Hours	Beam	FCBC
660	DYS	600	5.2	3200	75	45°	100
680	DYS	600	5.2	3200	75	40°-75°*	65-190*
960	DYS	600	5.2	3200	75	60°	60
990	FHM	1000	8.7	3200	400	75°	140

**FCBC:** Footcandles at Beam Center measured at 10 feet. All models priced to include Lamps as indicated.

\*For focusing model indicates extreme from spot to flood position.

## Suggested Q-Brite Combinations

The versatility of Q-Brite line allows for various combinations to suit your lighting needs. Below are listed several combinations which are more economical than purchased as components.

**No. LP268 Litepak**  
2 No. 660 Q-Brite  
2 Casestands  
2 Stand Extensions  
2 DYS Lamps  
1 Deluxe Case  
\$450.00

**No. LP266 Litepak**  
2 No. 660 Q-Brite  
2 Casestands  
2 Stand Extensions  
2 DYS Lamps  
1 Deluxe Case  
\$390.00

**No. LP296 Litepak**  
(incl. Barndoors)  
2 Casestands  
2 Stand Extensions  
2 DYS Lamps  
1 Deluxe Case  
\$400.00

**No. LP360 Litepak**  
2 No. 660 Q-Brite  
1 No. 960 Q-Brite  
(incl. Barndoor)  
3 Casestands  
3 Stand Extensions  
3 DYS Lamps  
1 Deluxe Case  
\$490.00

**No. LP366 Litepak**  
3 No. 660 Q-Brite  
3 Casestands  
3 Stand Extensions  
3 DYS Lamps  
1 Deluxe Case  
\$500.00

**No. LP368 Litepak**  
2 No. 660 Q-Brite  
1 No. 660 Q-Brite  
3 Casestands  
3 Stand Extensions  
3 DYS Lamps  
1 Deluxe Case  
\$565.00

**No. LP376 Litepak**  
2 No. 660 Q-Brite  
1 No. 680 Q-Brite  
3 Casestands  
3 Stand Extensions  
3 DYS Lamps  
1 Deluxe Case  
\$535.00

**No. LP386 Litepak**  
1 No. 660 Q-Brite  
1 No. 680 Q-Brite  
1 No. 960 Q-Brite  
(incl. Barndoor)  
3 Casestands  
3 Stand Extensions  
3 DYS Lamps  
1 Deluxe Case  
\$545.00

**No. LP396 Litepak**  
1 No. 660 Q-Brite  
2 No. 960 Q-Brite  
(incl. Barndoors)  
3 Casestands  
3 Stand Extensions  
3 DYS Lamps  
1 Deluxe Case  
\$530.00

**No. LP398 Litepak**  
1 No. 680 Q-Brite  
2 No. 960 Q-Brite  
(incl. Barndoors)  
3 Casestands  
3 Stand Extensions  
3 DYS Lamps  
1 Deluxe Case  
\$550.00

**No. LP290 Litepak**  
2 No. 990 Q-Brite  
(incl. Barndoors)  
2 Casestands  
2 Stand Extensions  
2 FHM Lamps  
1 Deluxe Case  
\$530.00

**No. LP300 Litepak**  
1 No. 660 Q-Brite  
1 No. 680 Q-Brite  
1 No. 990 Q-Brite  
3 Casestands  
3 Stand Extension  
3 DYS/FHM Lamps  
1 Deluxe Case  
\$625.00

## Assort your own lighting studio, packed in Deluxe Case, with Stand and Accessories complete.



**No. LP306 Litepak**  
2 No. 960 Q-Brite  
1 No. 990 Q-Brite  
3 Barndoors  
3 Casestands  
3 Stand Extensions  
3 DYS/FHM Lamps  
1 Deluxe Case  
\$600.00

**No. LP309 Litepak**  
2 No. 990 Q-Brite  
1 No. 960 Q-Brite  
3 Barndoors  
3 Casestands  
3 Stand Extensions  
3 DYS/FHM Lamps  
1 Deluxe Case  
\$650.00

**No. LP332 Litepak**  
2 No. 990 Q-Brite  
1 No. 710SL  
3 Barndoors  
3 Casestands  
3 Stand Extensions  
3 ELJ/FHM Lamps  
1 Deluxe Case  
\$680.00

**No. LP369 Litepak**  
2 No. 990 Q-Brite  
2 Barndoors  
1 No. 660 Q-Brite  
3 Casestands  
3 Stand Extensions  
3 FHM/DYS Lamps  
1 Deluxe Case  
\$650.00

**No. LP390 Litepak**  
2 No. 660 Q-Brite  
1 No. 990 Q-Brite  
1 Barndoor  
3 Casestands  
3 Stand Extensions  
3 DYS/FHM Lamps  
1 Deluxe Case  
\$575.00

**No. LP399 Litepak**  
1 No. 660 Q-Brite  
1 No. 960 Q-Brite  
1 No. 990 Q-Brite  
2 Barndoors  
3 Casestands  
3 Stand Extensions  
3 FHM/DYS Lamps  
1 Deluxe Case  
\$585.00

### The Case

The case designed for the Q-Brite line is the most versatile and deluxe ever designed. Constructed of solid plywood and covered with tough PVC laminate. All edges and corners reinforced with extruded aluminum. Interior fully foam padded. Vertical partitions adjustable to any size. Includes strong hasp locks and full length piano hinge. Measures 26 x 12 x 9. Holds up to 3 lights, 3 stands, plus accessories. .... Case Only \$179.95

### The Stand

The special Case stand designed to fit in the case provides maximum sturdiness for Q-Brites. 3-sec. stands made of 5/8, 1/2, and 3/8 telescoping tubing, black seamless tubing with star locking knobs. Sections locked in, legs channeled and braced. Elevates to 7 ft. folds to 26"; leg spread 30". .... Stand Only \$29.95

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# QUARTZ REFLECTORS

## Quartz and Photoflood Koolvent Reflectors Deluxe Studio Lights for Photo or Video



010-Q  
010-LL



010-P  
012-P



640HD

Each reflector has a specially designed Koolvent housing on the back which keeps the unit cooler and easier to use. Heavy swivelling yoke, 3-conductor grounded power cord, and large control knobs make this suitable for heavy-duty use.

**010-P Koolvent Reflector:** 10" diameter using #1 (BBA) lamp 250W (not included) in screw-in ceramic socket providing 45° beam spread with 125fc at beam center at 10 ft. . . . . \$56.95

**010-Q Koolvent Reflector:** 10" diameter using 600W quartz lamp (included) providing 40° beam spread with 150fc at center at 10 ft. Expected lamp life 75 hours. . . . . \$95.00

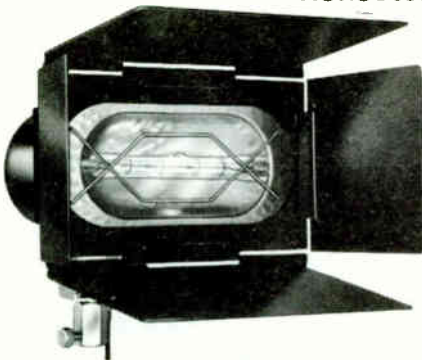
**010-LL Koolvent Reflector:** Same as 010-Q but 500W quartz lamp (included) with 100fc and 2000 hour life . . . . . \$125.00

**012-P Koolvent Reflector:** 12" diameter for #2 (EBV) lamp 500W (not included) providing 40° beam with 170fc at center . . . . . \$69.95

**025-P Koolvent Reflector:** Cone shaped 7" diameter for #1 or #2 photoflood lamp (not included) for narrow beam, 80 to 120fc . . . . \$65.95

**640-HD Koolvent Reflector:** 6" diameter using 600W quartz lamp (included) with 60° beam and 90fc at center at 10 ft. Equipped with 4-leaf rotating barndoors . . . . . \$115.00

## Compact, Economy Quartzflud Reflectors for Front, Side or Backlighting



**710-SL Quartz Studiolite:** Compact, low-cost light with big 1000W lighting punch. Includes quartz lamp with 75 hour life in lightweight phenolic housing small enough for gadget bag. Elliptical aluminum reflector for broad beam complete with folding 4-leaf barndoors to control beam. Includes locking swivel, panel switch, heavy power cord, stand adaptor for 3/8 stand . . . . . \$119.95

**710-LL Quartz Studiolite:** Same as above but with 1000W quartz lamp with 400 hour life rating ideal for longer video taping. . . . . \$129.95

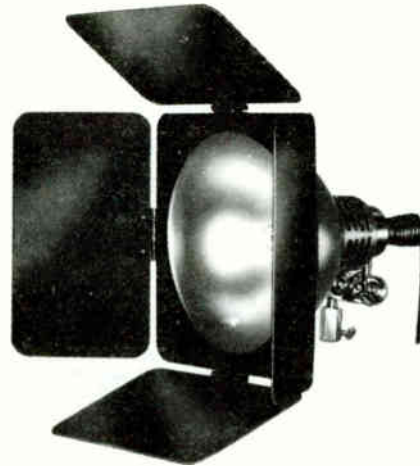
**LP232 Litepak:** Deluxe combination of two Model 710SL for total 2000W. Includes two 7 ft. Midelwate Stands, 4 stand extensions, extension cord, lamps. All fitted into deluxe wood case, partitioned and lined . . . . . \$455.00

**600 Quartz Reflector:** Small, lightweight 6" diameter aluminum reflector which throws broad beam of light. Complete with 600W quartz lamp, double ball swivel, and stand adaptor for 3/8 stand. Electrically fitted with ceramic socket, 10 ft. power cord, 10 amp line switch, cool finger knob. Use for main, side, or back lighting . . . . . \$84.95

**48D Barndoors:** 4-leaf rotating barndoors to fit Model 600 reflector . . . . . \$22.95

**640BD Reflector:** Combination of 600 reflector with lamp and 48D barndoors. . . . . \$105.95

**923 Studio Jumbolite:** Giant 18" diameter reflector to illuminate entire scene and overall lighting in studio. Comes equipped with amazing 2-in-1 Lamp with large frosted outer envelope for diffusion plus inner quartz lamp for long life and consistency. Produces intense light highly diffused. Lamp 1000W, 27,000 lumens, 500 hours, 3200K. Reflector disassembles into 3 sections for portability. Complete with 10 ft. cable cord and 10 amp line switch . . . . . \$125.00



**920-RS Jumbolite:** 923 Reflector assembly and lamp plus heavy-duty Champion stand on roller base . . . . . \$325.00



### Liteclamps



**47 Mini Spring:** Medium tension spring clamp for attaching small lights to flat surface or tubing. Has 3/8 stud for light . . . . . \$7.95



**Pipe Clamp:** Heavy-duty clamp for heavy lights with adjustable screwlock. Fits flat or tubular surfaces from 5/8" to 2" . . . . . \$23.95

**49:** with 3/8 light stud . . . . . \$23.95

**49:** with 5/8 light stud . . . . . \$23.95

**48 Gaffer:** Heavy tension spring clamp with large grips for clamping to flat or tubular surface. Has 3/8 stud for light. Fits 5/8 to 2" . . . . \$23.95

# ACME-LITE MFG. CO.

3659 Lunt Ave.  
Lincolnwood, IL 60645-1210  
(312) 588-2776  
Cable Address: ACME-LITE SKOKIE  
Telex: 20-6233

# VIDEO CAMERALITES

**3 Models Offering Variable Power Sources, Flexibility, and Versatility • Light Output • Power Source • Beam Angle**

## Model 22-AC and AC Twinlite

Two individually switched lamps in tandem each 250W operating from 115V wall outlet. One lamp provides 250W for normal room sizes and average beam angle for smaller subjects. Both lamps provide 500W for large areas and wider beam angle for larger subjects. All Twinlite lamps are miniature size with built-in reflectors having faceted surfaces for optimum illumination. Dichroic coating on lamps and phenolic housings provide cool operation. Swivel yoke can mount on stand or video camera. . . . . \$129.95

Lamp	1	175 hrs.
Life	2	350 hrs.
Color Temp.		3250K
Beam Angle	1	25°
	2	45°
Watts	1	250
	2	500
Footcandles	2	150fc
	1	300fc

### One Lamp

Optimum illumination for normal room. Medium beam angle for average subjects.

### Two Lamps

Increased illumination for large room. Wider beam angle for larger subjects.

## Model 32-DC and DC Twinlite

Two individually switched lamps in tandem for DC operation includes 50W (high intensity) and 100W. Low wattage lamp provides intense light but doubles battery running time while second lamp provides same illumination with wider beam. Use both lamps simultaneously for high light output with wider beam angle. Total unit provides variable light output and beam angle plus double battery running time. . . . . \$129.95

Lamp	1	3000 hrs.
Life	2	50 hrs.
Color Temp	1	3075K
	2	3350K
Beam Angle	1	27°
	2	38°
	both	60°
Watts/ Amps	1	50/4.2
	2	100/8.6
	both	150/12.7
Footcandles	1	80fc
	2	90fc
	both	170fc

### First Lamp

Doubles battery running time.

### Second Lamp

Wider beam angle.

### Both Lamps

Increases both illumination and beam angle.

## Model 32P-DC and DC

Same as Model 32 but made to professional standards, with high intensity lamps. Includes two 200W lamps, to operate on 30V battery to provide maximum illumination of 400W. . . . . \$159.95

## Model 42-AC and DC Twinlite

Same construction as described before but operates on both DC (battery) and AC power.

Two individually switched lamps in tandem: one 100W operates on 12V battery; other 250W operates on 115V wall outlet. Unit can be used on either type power source with security of having unlimited reserve power when battery runs down.

Lamp	AC	175 hrs.
Life	DC	50 hrs.
	2	225 hrs.



**twinlites**

Or both lamps can be used simultaneously on both power sources when additional light and wider beam angle is needed. One power cord to fit battery and one to fit wall outlet each keyed to be used on correct power source. . . . . \$139.95

### DC Lamp

Use on 12V battery for portability.

### AC Lamp

Use on 115V circuit for reserve power.

### Both Lamps

Increased illumination for large room. Wider beam angle for larger subjects.

Color Temp	AC	3250K
	DC	3350K
	2	3300K
Beam Angle	AC	25°
	DC	38°
	2	60°
Watts	AC	250
	DC	100
	2	350
Footcandles	AC	150fc
	DC	40fc
	2	190fc

### Accessories

4VT Barndoors: 4-leaf barndoors attach to front of any Twinlite model to provide accurate control of light pattern. . . . . \$24.95

VST Scrim: Fine mesh screen attaches to front of any Twinlite model to provide soft lighting and diffusion. . . . . \$12.95

95 Handle: Handle attaches to any Twinlite model for holding light in hand. . . . . \$7.95

## Luminex Deluxe Videolite Series

A quartette of four compact lights which attach directly on camera, on light stand, or on tripod. Each is designed to provide color balanced light for sparkling pictures and will improve picture quality by adding depth, interesting highlights, and wiping out objectionable shadows.

Convection cooled, switch, swivels for bounce lighting, safety filter, faceted long-life quartz lamps, built-in shoe adaptor, stand adaptor.

No. 300: Luminex Videolite Operates on battery power; includes 100W, 12V lamp. . . . . \$69.95

No. 310: Luminex Videolite 115VAC current, 150W quartz lamp providing optimum output for low-level cameras. . . . . \$69.95

No. 325: Luminex Videolite 115VAC, 250W quartz lamp for optimum output in average size rooms. . . . . \$79.95

No. 360: Luminex Videolite 115VAC, 600W quartz lamp for high output in large rooms, weddings, parties, etc. . . . . \$79.95

### Accessories

4VL Barndoors: 4-leaf barndoors to fit all above models. . . . . \$17.95

## Videolites Camera Mounted

No. 708G Videolite 600W quartz lamp. 75 hour for more intense light in larger rooms and groups. Complete with safety guard, bounce bracket, stand adaptor. Includes lamp. . . . . \$59.95

No. 800VL Videolite 100W low-level light for closeups and small areas. Same construction as 708G. Includes lamp. U.L. approved. . . . . \$39.95



360



390

No. 725 Videolite Economy videolite with built-in elevated shoe mount (use 948 for cameras without shoe) and includes 250W quartz lamp rated 3200K. 200 hours good for up to 40 video cassettes. . . . . \$59.95

725G Videolite Same as above but with wire safety guard and cooler operation. U.L. approved. . . . . \$69.95

## 390 Auto Thyristor Videolite

A sensor measures the distance from camera to subject and then adjusts the amount of illumination. At full power, the light produces 600W for use in large banquet and party rooms, weddings, etc. but at closer distance or small rooms will dim the light to whatever is needed to prevent excessive heat and glare. A special dichroic filter color balances the light to produce color pictures at any distance. A beam focus lever adjusts for spot or flood. Built-in shoe mounts to top of most video cameras. . . . . \$129.95

Prices and Specifications Subject to Change Without Notice.



# ACME-LITE MFG. CO.

3659 Lunt Ave.  
Lincolnwood, IL 60645-1210  
(312) 588-2776  
Cable Address: ACME-LITE SKOKIE  
Telex: 20-6233

# BATTERY BELTS/LIGHTS/ ACCESSORIES

## Battery Belts

Individual battery belts for strapping around the body to connect to and power VCR, cameras, lights, etc. Each cell in separate pockets to distribute weight evenly. All batteries rechargeable sealed lead acid to provide maximum energy for low cost. Cells are sealed to prevent leakage and can be used in any position; can be recharged in 16 hours up to 200 times from zero. Ideally suited for lighting applications because low impedance insures longest effective illumination output as well as extended discharge time for other applications. All belts include shoulder suspenders to lighten battery weight.

### 12BB Battery Belt

Basic Battery belt 12V, 5AH. Will power 100W light 20 minutes effectively; VCR or camera 4-5 hours. Has standard receptacle for cigarette lighter plug. Battery circuit fused. Includes 500MA charger and belt suspenders. Weight 5.5 lbs.

12BB ..... \$149.95

### 12BL Battery belt

Long life battery belt 12V, 10AH. Same as above but powers light 45 minutes; VCR or camera 9-10 hours. Weight 11 lbs. With 1.0A charger, suspenders.

12BL ..... \$290.00

### 24BB Battery Belt

Heavy-duty battery belt 24V, 5AH. Same construction as above. Includes 500MA charger and suspenders. Weight 11 lbs.

24BB ..... \$345.00

## Low Voltage Videolites For Battery Operation

### 7PB Videolite

12V 100W. Light including quartz lamp for plugging into 12BB or 12BL battery belt or any 12V battery system with 6' coil cord with cigarette lighter plug. Fitted with 3/8 stand adaptor.

7PB ..... \$69.95

### 7DL Videolite

24V 250W. Light including quartz lamp for plugging into 24BB battery belt or any 24V battery system with 6' coil cord with cigarette lighter plug. Swivel yoke with 3/8 stand adaptor. Lamp 75 hours, 3200°K.

7DL ..... \$99.95

## Videolite Accessories

25 Shoe Adaptor for 7PB or 7DL to mount light to video camera . \$ 7.95

4VS Barndoors, 4-leaf rotating for 7DL light. .... 29.95

VSS Diffusing Scrim for 7DL light . .... 10.95

## Combination Light and Battery Belt Kits

### PBB Combination Kit

12V 5AH 100W. Includes 12BB battery belt and 7PB low-voltage light plus 100W lamp, 500MA charger, shoe adaptor to mount light to camera, pouch to hold light, charger, suspenders.

PBB Kit ..... \$225.00

### PLL Combination Kit

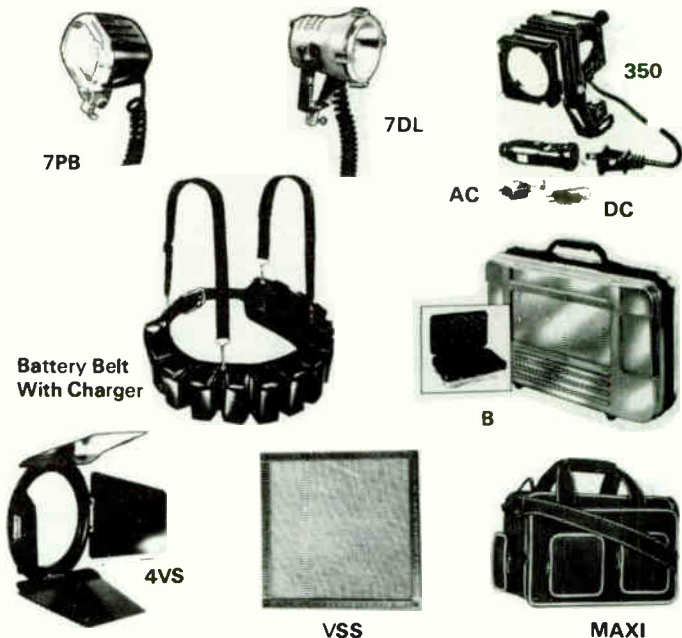
12V 10AH 100W. Intended for longer running time. Includes 12BL battery belt and 7PB low-voltage light plus 100W lamp, 1.0A charger, shoe adaptor, accessory pouch, suspenders.

PLL Kit ..... \$360.00

### PHD Combination Kit

24V 5AH 250W. Heavy-duty kit for greater light output. Includes 24BB battery belt and 7DL low-voltage light plus 250W lamp, 500MA charger, shoe adaptor, suspenders. Barndoors and diffusing scrim available for light.

PHD Kit ..... \$440.00



### 350 AC/DC Minilite

Compact light fits on top of video camera operates on either 110VAC household current or 12V battery power. Comes complete with 100W AC lamp and 50W DC lamp for use on any 12V battery. Includes plug adaptor for use AC or DC. Light includes safety filter, 10' cord, camera shoe adaptor, fins for convection cooling.

350 ..... \$79.95

### Cam-Case A

Hard sided case made of polyethylene laminated on plywood to protect contents and finished in streamlined aluminum molding on all corners and edges in gold. Measures 19" x 14" x 7.5" to fit all camcorders. Interior fully foam padded with 4 permanent compartments formed by adjustable partitions. Includes rugged hardware with key locks, stay hinges, large carry handle. Hold-down strap provided to hold camera secure plus heavy shoulder strap and pad. Built-in Title Board with vinyl letter set allows you to make your own changeable movie titles (included).

A ..... \$119.95

### Cam-Case B

Each half of the case is a single molded shell, richly embossed design, and rounded corners. The two shell halves are joined by black metal edging containing streamlined stretch handle, two slide key locks, large spring hinges, and oversize bumper rests. Interior is fully foam filled with egg-crate lining on top and diced foam on bottom to permit custom forming cavity to fit your own camera.

B ..... \$119.95

Three sizes of soft bags to fit every camcorder. All bags made of water resistant 1000 denier Vandura in black or gray with gold piping. Bags feature unique double zipper top that opens toward back of bag to keep cover out of the way but opens or closes simultaneously for fast, easy access. Sides reinforced with close cell padding for protection. Plenty of extra pockets to hold cassettes and accessories.

MAXI. Measures 15" x 10" x 7" for full VHS or larger 8mm camcorders. Includes 6 pockets for accessories. .... \$64.95

MAXI ..... \$64.95

MIDI: Measures 12" x 7" x 5" for compact or smaller 8mm camcorders. Includes 4 pockets. .... \$54.95

MIDI ..... \$54.95

MINI: Measures 9" x 7" x 5" for Handi camcorders or video cameras. Includes 3 pockets. .... \$49.95

MINI ..... \$49.95



# ADC TELECOMMUNICATIONS, INC.

4900 West 78th St.  
 Minneapolis, MN 55435  
 (612) 835-6800 Telex: 29-0321  
 TWX: 910-576-2832 FAX: (612) 893-3292  
 Cable: ADCTELCOM

# VIDEO/AUDIO PATCHING

## Pro-Patch Video Jackfield

### PPV-24 MK II

The Pro-Patch Video Jackfield features a 2 x 24 array of ADC switching (self-normaling) coax jacks wired back to quick and simple BNC connectors on a clutter-free rear panel. Self-normaling loops internal to the jackfield are color-phase compensated for cross patching. No phase shift occurs between self-normal and patch cord providing a phase coherent patching system.

4-26792-0010 2 x 24 (48 Jacks) . . . . . \$1750.00

Note: Use only 3' patch cord to preserve phase coherent capability of ADC Pro-Patch Video Jackfield.

Note: Use only 36" patch cords for Pro-Patch units.

Note: When ordering, G denotes gold plating on all contact surfaces, N denotes gold plating on the center conductors/springs only.

## PPI Panels

- You can select the SJ3000 in terminating, non-terminating, nickel or gold versions
- The SJ3000 coax jack is rated for 10,000 insertion/withdrawal cycles
- PPI Panels are available in 1<sup>3</sup>/<sub>4</sub>" and 3<sup>1</sup>/<sub>2</sub>" heights with 12, 20, 24 or 26 circuits for greater installation flexibility
- PPI Panels with various hole and spacing configurations are sold separately or loaded with your choice of jacks

Our innovative PPI Panel with SJ3000 switching (self-normaling) coax jacks makes accessing and connecting video circuits easy.

The PPI is available in several configurations to suit your particular application need.

PPI-2224RS-75N Loaded Panels. . . . . \$820.00

PPI-2224RS Blank Panels. . . . . \$85.00

## Standard Size Coaxial Patch Cords

CC1072G	12" (.305m)	. . . . .	\$18.09
CC1072N	12" (.305m)	. . . . .	13.72
CC1074G	24" (.609m)	. . . . .	18.09
CC1074N	24" (.609m)	. . . . .	13.72
CC1076G	36" (.914m)	. . . . .	18.09
CC1076N	36" (.914m)	. . . . .	13.72

## Pro Patch Audio Jackfields

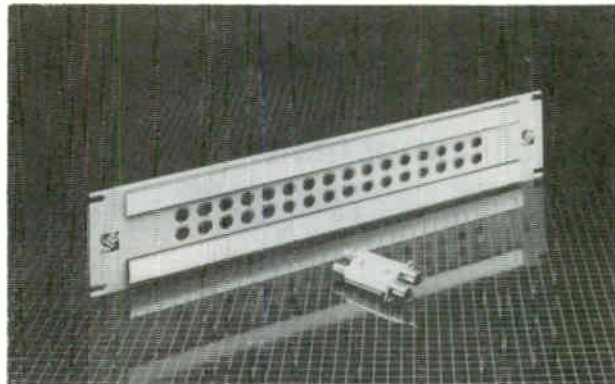
PPA3-14 MK II N.O.	3" x 14", normals brought out	. . . . .	\$680.00
PPA3-18 MK II N.O.	3" x 18", normals brought out	. . . . .	.680.00
PPA3-14 MK II N.S.	3" x 14", normals strapped at panel	. . . . .	550.00
PPA3-18 MK II N.S.	3" x 18", normals strapped at panel	. . . . .	550.00
PPS3-14 MK II N.O.	3" x 14", stereo version, normals brought out	. . . . .	.710.00
PPS3-18 MK II N.O.	3" x 18" stereo version, normals brought out	. . . . .	.710.00
PPS3-14 MK II N.S.	3" x 14" stereo version, normals strapped at panel	. . . . .	580.00
PPS3-18 MK II N.S.	3" x 18" stereo version, normals strapped at panel	. . . . .	580.00

## Longframe (1/4") Patch Cords

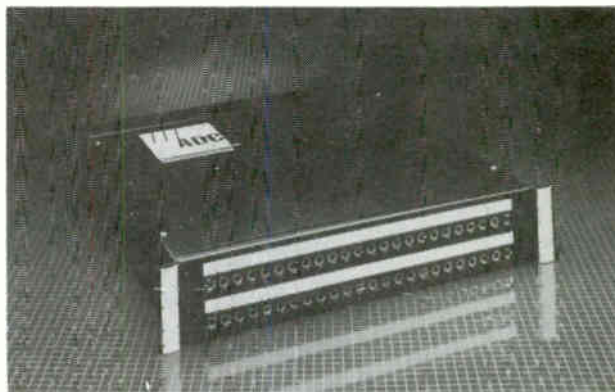
PJ81	1' length	. . . . .	\$12.97
PJ82	2' length	. . . . .	13.66
PJ83	3' length	. . . . .	14.14
PJ84	4' length	. . . . .	14.69
PJ86	6' length	. . . . .	15.76

## 8antam Patch Cords

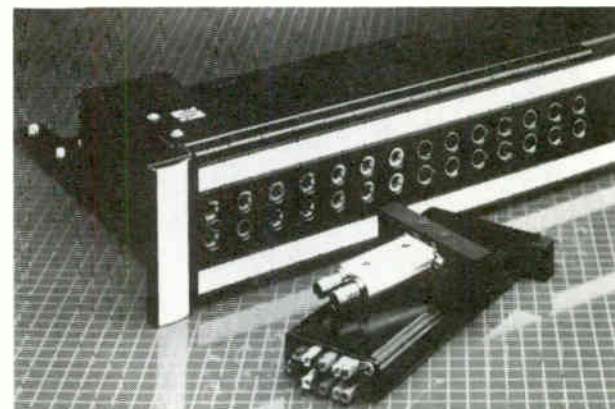
PJ712	12" length	. . . . .	\$7.61
PJ713	18" length	. . . . .	7.78
PJ714	24" length	. . . . .	7.96



PPI Panels



Pro Patch Audio



Vamp Patchbay

PJ715	30" length	. . . . .	\$8.11
PJ716	30" length	. . . . .	8.26
PJ718	48" length	. . . . .	8.56
PJ720	60" length	. . . . .	8.89
PJ722	72" length	. . . . .	9.19

## VAMP—Video, Audio Modular Patchbay

- Chassis accepts 20 video and audio modules
- Audio module features unique QCP terminations
- Video module comes with the ADC SJ3000 self-normaling coax jack
- ADC supplies blanks for unused positions to give the appearance of a fully loaded patchbay

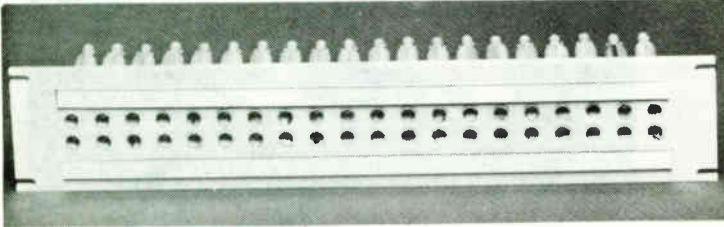
Offers all the flexibility you need in a single bay. Ideal if you have limited or changing patching requirements or need audio and video patching in the same bay.

# ADC TELECOMMUNICATIONS, INC.

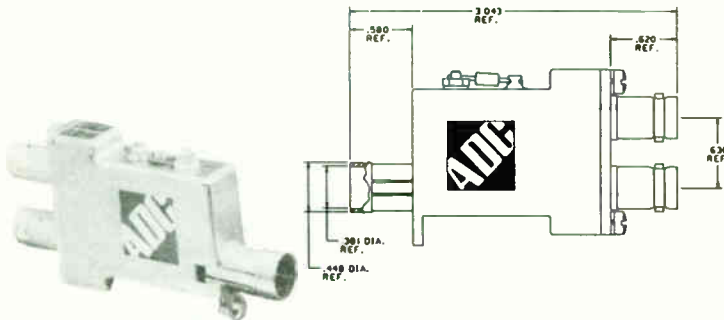
4900 West 78th St.  
 Minneapolis, MN 55435  
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 TWX: 910-576-2832 FAX: (612) 893-3292  
 Cable: ADCTELCOM

# VIDEO PATCH PANELS

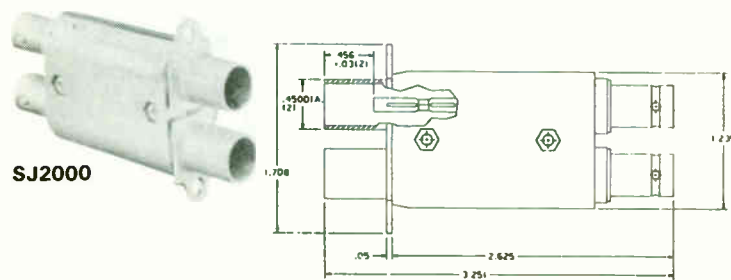
## Coaxial Components



Panels are available in various sizes and configurations and can be purchased separately or loaded with choice of jacks.



SJ1000

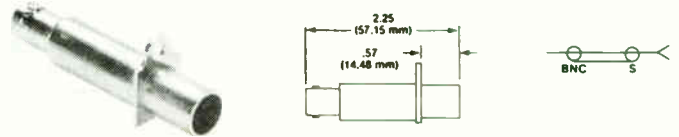


SJ2000

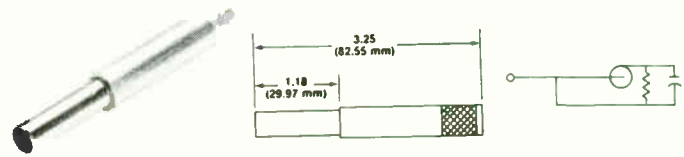
### Coax Panels

19" x 1.75" Panels	
PPI-1120R	20 hole, .83" horizontal spacing . . . . . \$49.00
PPI-1124G	24 hole, .625"/.75" horizontal spacing . . . . . 56.00
PPI-1220R	40 hole, .83" horizontal spacing, .625" vertical spacing . . . . . 77.00
PPI-1224G	48 hole, .625"/.75" horizontal spacing, .625" vertical spacing. . 85.00
PPI-1226R	52 hole, .83" horizontal spacing, .625" vertical spacing . . . . . 85.00
19" x 3.5" Panels	
PPI-2220RS	40 hole, .83" horizontal spacing, .625" vertical spacing. . . . . \$77.00
PPI-2224GS	48 hole, .625"/.75" horizontal spacing, .625" vertical spacing. . 85.00
PPI-2224RS	48 hole, .625" horizontal spacing, .625" vertical spacing . . . . . 85.00
PPI-2226RS	52 hole, .625" horizontal spacing, .625" vertical spacing . . . . . 95.00

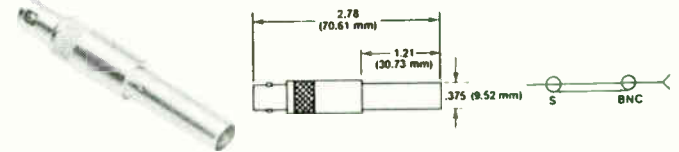
### CJ1011X\*



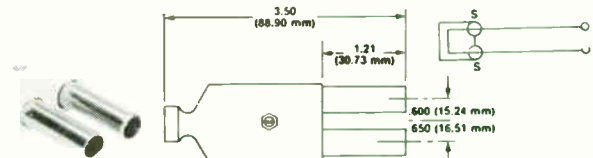
### CP1040X\*



### CP1051X\*



### CP1063X\*



### Standard Size Coaxial Patch Cords



75 Ohm	Length
CC1072X	12" (.305m)
CC1074X	24" (.609m)
CC1076X	36" (.914m)

Note: use only 36" patch cords for Pro-Patch units.

\*Note: When ordering, replace X with either G or N. G denotes gold plating on all contact surfaces, N denotes gold plating on the center conductors/springs only.

### Coax Components

Patch Cords	Single Jacks
CC1072G . . . . . \$18.09	CJ1011G . . . . . \$10.51
CC1072N . . . . . 13.72	CJ1011N . . . . . 5.78
CC1074G . . . . . 18.09	Switching Jacks
CC1074N . . . . . 13.72	SJ2000N . . . . . \$27.53
CC1076G . . . . . 18.09	(non-terminating)
CC-1076N . . . . . 13.72	SJ2000N-75 . . . . . \$31.87
Plugs	(75 ohm resistor)
CP1040G . . . . . \$13.30	SJ2000N . . . . . \$27.53
CP1040N . . . . . 11.41	(non-terminating)
CP1051G . . . . . 9.29	SJ2000N-75 . . . . . \$31.87
CP1051N . . . . . 6.68	(75 ohm resistor)
CP1063G . . . . . 14.94	
CP1063N . . . . . 14.63	

# ADVANCED IMAGING DATA, INC.

875 Maude Ave.  
Mountain View, CA 94043  
(415) 961-9626

# VIDEOGRAPHIC PRINTER



## CT1500 VIDEOGRAPH PRINTER

### IMAGE

- **Size:** 6" x 8" (standard 3 by 4 television aspect ratio)
- **Number of Scan Lines:** More than 100,000, thus creating a videograph which does not display the characteristic television line structure
- **Copy Time:** 18 Seconds typical for 525 line 60 fields/second image  
26 Seconds typical for 625 line 50 fields/second image
- **Tonal Range:** A maximum of 64 discernable shades when using 7772 dry silver paper or 7856 dry silver film
- **Media:** 7772 Dry silver paper — 7856 Dry silver film — 100 film or 200 paper videographs per daylight load cassette

### SIGNAL SOURCES

- **Formats:** 525 Line 60 fields/sec interlaced or 262 line non-interlaced composite video. 625 Line 50 fields/sec interlaced or 312 line non-interlaced composite video. Other television formats available on special order
- **Level:** Nominally per RS170
- **Connectors:** BNC in loop-thru configuration
- **Impedance:** Switchable, between 75 ohm and Hi-Z

### CONTROLS

- **Front Panel:** Recording start/stop, negative/positive image, intensity, contrast, recording speed
- **Remote:** All front panel controls are available at the rear panel connector. Footswitch jack also provided for start/stop

### DISPLAYS

- **Front Panel:** Intensity, contrast, recording speed plus systems status indicators
- **Remote:** All system status data provided on rear panel connector

### GENERAL

- **Size:** 10.5" H x 17"W x 22"D (26.7 x 41.5 x 56.0cm)
- **Weight:** 85 lb. (38kg)
- **Power:** 115V, 60Hz, 750W or 230V, 50Hz, 750W

The CT1500 is a Videograph Printer. Given a standard video signal as the input, it provides large, high quality pictures in paper, negative or overhead transparency form. Superior quality video to photo conversion is available for the first time, because of the capability of the CT1500 to eliminate video scan lines from the image.

Videographs can now be used for applications which previously were open only to time consuming and expensive photographic methods. Continuous tone videographs for reference, analysis, test, comparison, annotation, distribution, overhead projection, and color printing masters (in the form of continuous tone separations and graphic overlays), are now in your hands, in seconds, ready for use.  
**CT1500** ..... \$9900.00

### OPTIONS

**CT1503:**  
The Automatic Range Compensation (ARC) module allows a wide range of input and sync amplitudes to be accepted without adjustment.

**CT1503** ..... \$1000.00

**CT1504**  
The RGB Switcher module selects between RGB signals and mixes all three to allow the creation of continuous tone cyan, magenta, yellow and black separations. Also accepts RGB inputs and combines them to allow the creation of a full quality black and white videographs.

**CT1504** ..... \$1000.00



# THE ADVANCE PRODUCTS CO., INC.

1101 East Central  
P.O. Box 2178  
Wichita, KS 67201  
(316) 263-4231

# MOBILE TABLES



AV-449-A

Model	Description	Price
AV-431	Pixmobile, Compact Overhead Overhead . . . . .	\$ 96.95
AV-432	Pixmobile, Recessed for Overhead . . . . .	137.95
AV-433	Pixmobile, Compact Overhead . . . . .	92.95
AV-441	Pixmobile . . . . .	106.95
AV-442	Pixmobile, cut out for low front reels . . . . .	107.95
AV-443	Pixmobile . . . . .	103.95
AV-444	Pixmobile, adjustable . . . . .	113.95
AV-445	Pixmobile . . . . .	96.95
AV-447	Pixmobile . . . . .	94.95
AV-449	Pixmobile, Sloping Top . . . . .	101.95
AV-451	Pixmobile, Television Table . . . . .	134.95
AV-452	Pixmobile, Television Table . . . . .	136.95
AV-453	Pixmobile, Television Table . . . . .	138.95
AV-454	Pixmobile, Television Table . . . . .	143.95
AV-455	Pixmobile, Television Table, Sloping Top . . . . .	144.95
AV-457	Pixmobile, Tapered Television Table . . . . .	134.95
AV-471	Pixmobile . . . . .	111.95
AV-29 OH	Pixmobile, Overhead Table . . . . .	182.95
AV-39 OH	Pixmobile, Overhead Table . . . . .	177.95

### Accessories

Model	Description	Price
AV-541	Electrical Assembly . . . . .	\$ 24.00
AV-542	Screen Carrier . . . . .	21.00
AV-543	Utility Basket . . . . .	35.00
Loadmaster	Package includes AV-544, AV-545, and AV-548 . . . . .	124.00
AV-544	Handle Basket . . . . .	52.00
AV-545	Stair Step . . . . .	45.00
AV-548	Equipment Guard . . . . .	30.00
AV-552	Safety Belt . . . . .	19.00
AV-573	Equipment Lok . . . . .	21.00
AV-574	Lok . . . . .	9.95
AV-575	Loadtoter . . . . .	225.00

### Pixmobile Specifications

Model	Height (in.)	Shelf Size (in.)	Space From Top To Middle Shelf (in.)	Space From Top To Bottom Shelf (in.)	Space From Middle To Bottom Shelf (in.)	Shipping Weight	
AV-431	32	14 x 18	13		11	29	
AV-432	31	16 x 17 <sup>3</sup> / <sub>4</sub> Two 14 x 18 (detachable)		Adjustable		54	
AV-433	20	14 x 18		15		22	
AV-441	42	18 x 24	13		22	40	
AV-442	Same as above, with top shelf cut out for low front reel projectors						40
AV-443	34		13		14	37	
AV-444	Adjustable		16 <sup>1</sup> / <sub>2</sub>				
	24 <sup>1</sup> / <sub>2</sub>	18 x 24	12 <sup>1</sup> / <sub>2</sub>	Adjustable	15	39	
	to 42		8 <sup>1</sup> / <sub>2</sub>				
AV-445	26	18 x 24		19		30	
AV-447	17	18 x 24		10		28	
AV-449	14 to 20	18 x 24	Sloping Top Overhead Projection Table			28	
AV-451	42	25 x 30	17		17	58	
AV-452	48	25 x 30	21		20	62	
AV-453	54	25 x 30	23		23	63	
AV-454	42	25 x 30	19 <sup>3</sup> / <sub>8</sub>		14 <sup>7</sup> / <sub>8</sub>	57	
	38	25 x 30	15 <sup>3</sup> / <sub>8</sub>		14 <sup>7</sup> / <sub>8</sub>	57	
	34	25 x 30	11 <sup>3</sup> / <sub>8</sub>	Adjustable	14 <sup>7</sup> / <sub>8</sub>	57	
	30	25 x 30	7 <sup>3</sup> / <sub>8</sub>		14 <sup>7</sup> / <sub>8</sub>	57	
	26	25 x 30	3 <sup>3</sup> / <sub>8</sub>		14 <sup>7</sup> / <sub>8</sub>	57	
	24 <sup>1</sup> / <sub>4</sub>	25 x 30	1 <sup>5</sup> / <sub>8</sub>		14 <sup>7</sup> / <sub>8</sub>	57	
AV-455	54 to 57	25 x 30	23" Sloping Top TV Table		23	63	
AV-457	44	19 x 35 top 26 x 38 bottom		33		59	
AV-471	26	18 x 30		21		32	
AV-290H	29	20 x 36	Adjustable Projector Well 15" left to right x 16 <sup>3</sup> / <sub>8</sub> "			55	
AV-390H	39	20 x 36	Adjustable Projector Well 15" left to right x 16 <sup>3</sup> / <sub>8</sub> "			55	

Must specify on order. For 5" casters, add "-5" to model number and add \$9.00 to table price. Electrical Assembly add "-A" to model numbers, add \$21.00 to table price.

### Pixmate Tables

- **Legs:** 16 gauge cold-rolled steel radius-formed for maximum strength. Baked-on charcoal brown enamel finish
- **Shelves:** 18" x 24", 20 gauge cold-rolled steel. Baked-on beige enamel finish. Lower shelves have built-in safety flange. Install shelves with flanges in the up position as a retaining edge, or the down position for a flat shelf without edges. Top shelf has heavy-ribbed rubber pad
- **Castors:** 4" full-swivel with ball bearing and anti-shimmy dampener; two equipped with locking toe brakes. Caster sockets electronically welded for strength and dependability. For 5" casters, add "-5" to model number and add \$9.00 to table price
- **Electrical Assembly:** Optional. Two outlets, 20' cord with 1250W capacity. U.L. and CSA listed

Model	Height (in.)	Space Top To Middle Shelf (in.)	Space Middle To Bottom Shelf (in.)	Shpg. Wt.	Price
PM-42	42	* 15 <sup>1</sup> / <sub>4</sub>	* 17 <sup>1</sup> / <sub>2</sub>	42 lbs.	\$ 86.95
PM-34	34	* 7 <sup>1</sup> / <sub>8</sub>	* 17 <sup>1</sup> / <sub>2</sub>	41 lbs.	84.95
PM-26	26	* 16 <sup>1</sup> / <sub>2</sub>		29 lbs.	73.95
PM-17	17	* 7 <sup>1</sup> / <sub>2</sub>		28 lbs.	71.95
*PM-TV	42 to 54	17 to 23	17 to 23	55 lbs.	134.95
PM-WB (Wide Base)	42 to 54	18 to 30	18 to 30	54 lbs.	144.95

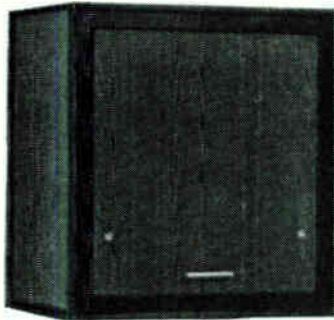
\* Assembled with lower shelf flanges turned down.



# THE ADVANCE PRODUCTS CO., INC.

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# MODULAR VIDEO CABINETS



MVC-1



MVC-2, shown with accessory ROS and TS



MVC-3, shown with accessory ROS

## MVC-1, MVC-2, and MVC-3 Modular Video Cabinets

The MVC-1, 2, and 3 accept most popular monitors and playback equipment, providing complete access to both front and back of the electronics.

The MVC Series offers versatility, security, mobility, and attractive storage for video systems. Each module incorporates a welded steel frame for strength, handsome oak pattern side panels, doors and top, one adjustable shelf built-in ventilation and accommodations for hook-up wiring. Each system has an assortment of accessories.

- **Dimensions:** Each module overall, 33" H x 31" W x 23" D. Inside dimensions, 30 1/2" H x 29 1/2" W x 20 1/2" D. (Deduct 2 1/2" from inside height for flip-up door.) Casters add 6" to overall height.
- **Construction:** Welded steel frame using 16-gauge uprights and 20-gauge top and bottom. Side panels of oak pattern with plastic overlay on 3/8" particle board. All doors oak pattern overlay on 1/2" particle board with T-molded edges, hinges full-length piano type. Master keyed locks on all doors. Pilaster brackets in each module for 1/2" increment adjustments of shelf. Adjustable steel shelf in each module. 2" wiring access holes with plastic grommets supplied in each shelf. Caster sockets arc welded into bottom of each module. Top panel 1/2" oak pattern with T-molded edges
- **Casters:** 5", ball bearing swivel, two with locking toe brakes. (Standard on models MVC-2 and MVC-3).

**MVC-1:** This module includes one swing-up locking door and a fully adjustable shelf. Wiring access holes are provided in the bottom of the cabinet and in the adjustable shelf within the cabinet. The MVC-1 Module can be stacked. Arc welded caster sockets are provided so that casters may be added if desired. Shpg. Wt. 109 lbs.

**MVC-1** . . . . . \$370.00

**MVC-2:** Identical in size to the MVC-1. It is equipped with two conventional piano-hinged doors, both locking. Wiring access holes are provided both in the bottom and in the adjustable shelf. Heavy-duty 5" casters, two with locking toe brakes. Shpg. Wt. 114 lbs.

**MVC-2** . . . . . \$386.00

**MVC-3:** Four locking doors insure easy and immediate access to the back of the video equipment as well as the front. Adjustments can be made without removing the equipment from the cabinet. The front monitor door swings up and slides back into the top of the cabinet leaving a glare shield extending over the monitor screen. Access provisions have been made for equipment hook-up. Shpg. Wt. 223 lbs.

**MVC-3** . . . . . \$719.00

### Accessories

**ROS Roll Out Shelf:** Designed to position at any height within the cabinet and to give easy access to the video recorder/playback, this convenience accessory can be used with either the MVC-1, MVC-2 or MVC-3. The 80 lb. load capacity shelf insures safety for the equipment. Shpg. Wt. 13 lbs.

**ROS Roll Out Shelf** . . . . . \$58.25

**ES Extra Shelf:** The adjustable steel shelf will add over four square feet of shelving to the module. Shpg. Wt. 10 lbs.

**ES Extra Shelf** . . . . . \$25.00

**TS Tape Storage Drawer:** Provides storage for 32 3/4" video tape cassettes. Designed to position at any height within the cabinet. Shpg. Wt. 17 lbs.

**TS Tape Storage Drawer** . . . . . \$79.00

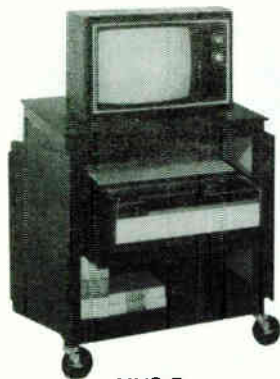
**A Electrical Assembly:** Dual electrical outlets which will mount in the top or bottom, left or right of the MVC-1, MVC-2, MVC-3. 20' of 16/3 stranded wire with molded plug. Shpg. Wt. 2 lbs.

**A Electrical Assembly** . . . . . \$21.00

# THE ADVANCE PRODUCTS CO., INC.

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# VIDEO CABINETS/ TABLES



**MVC-5**  
shown with accessory RROS



**MVC-6**  
shown with accessory RROS



**VT-52C**

**VT-27C**

**VT-38C**



**VT-3254C**

## MVC-4, 5, and 6 Modular Video Cabinets

The MVC-4, 5, and 6 accommodate the larger video equipment. They provide 30% more locking space than the MVC-1, 2, and 3 Series.

- **Dimensions:** Each module overall, 32<sup>1</sup>/<sub>2</sub>" H x 36" W x 27" D. Casters add 6" to overall height. Door openings, 26<sup>3</sup>/<sub>4</sub>" H x 30" W. Inside, 29<sup>1</sup>/<sub>4</sub>" H x 33<sup>1</sup>/<sub>2</sub>" W x 24<sup>1</sup>/<sub>2</sub>" D
- **Construction:** Welded steel frame using 16-gauge uprights and 20-gauge top and bottom. Side panels of oak pattern with plastic overlay on <sup>3</sup>/<sub>8</sub>" particle board. All doors, oak pattern overlay on <sup>1</sup>/<sub>2</sub>" particle board with T-molded edges. Double hinged, double doors front and rear each with 270° sweep. Hinges full length piano type. Master keyed locks on all doors. Pilaster brackets in each module for <sup>1</sup>/<sub>2</sub>" increment adjustments of shelf. One adjustable steel shelf in each module. Equipped with grommets wiring access holes in cabinets and shelves. Top panel <sup>1</sup>/<sub>2</sub>" oak pattern with T-molded edges
- **Casters:** 5" ball bearing swivel, two with locking toe brakes. (Standard on models MVC-5 and MVC-6)

**MVC-4:** Consists of the top module of the MVC-6. Use as a tabletop cabinet. Arc welded caster sockets are provided so that casters may be added if desired. Shpg. Wt. 135 lbs. . . . . \$399.00

**MVC-5:** Same as MVC-4 plus it includes heavy-duty 5" casters, two with locking toe brakes. Shpg. Wt. 140 lbs. . . . . \$430.00

**MVC-6:** Locking doors insure easy and immediate access to the back of the video equipment as well as the front. Acces provisions have been made for hook-up. The spacious system offers 27<sup>1</sup>/<sub>2</sub> cubic feet of locking storage. The top and bottom modules are individually lockable adding convenience and versatility to the system. Shpg. Wt. 275 lbs. . . . . \$822.00

### Accessories

**RROS Roll Out Shelf:** Positions at any height within the cabinets, giving easy access to the video recorder/playback. Shpg. Wt. 22 lbs. . . . . \$68.25

**EES Extra Shelf:** The adjustable steel shelf will add 4.8 square feet of shelving to the cabinets. Shpg. Wt. 11 lbs. . . . . \$28.25

**TTS Tape Storage Drawer:** Provides storage for video tape. Designed to position at any height within the cabinets. Shpg. Wt. 29 lbs. . . . . \$88.25

**A Electrical Assembly:** Dual electrical outlets, 20 feet of 16/3 stranded wire with molded plug. Shpg. Wt. 2 lbs. Television equipment and materials not included . . . . . \$21.00

## VT Series — Video Tables

Fully hinged, steel-backed double-locking doors protect tapes and accessories. Each cabinet has 5.75 cubic feet of storage space with an adjustable shelf within the cabinet.

Heavy, ribbed rubber pads on top of each unit reduce noise and provide a non-skid surface. The welded steel tables have charcoal brown enamel finish with oak panels and a chrome plated handle. Two keys furnished.

The top of the cabinet on the VT-27C is a convenient working height of 27" for video recorders and playback units.

**VT-27C** 27<sup>1</sup>/<sub>2</sub>" H, 18" x 30" shelf size, Shpg. Wt. 62 lbs. . . . \$238.00

The VT-38C offers a monitor shelf 38" above the floor. Small playback units are positioned on the second shelf.

**VT-38C** 38" H, 18" x 30" shelf size, Shpg. Wt. 73 lbs. . . . . \$254.00

The television receiver or monitor is 52" high on the top shelf of the VT-52C model for excellent group viewing.

**VT-52C** 52" H, 18" x 30" shelf size, Shpg. Wt. 77 lbs. . . . . \$263.00

The shelves of the VT-3254C provide over 14 square feet of space. An especially big feature is the choice of heights—there are twelve to choose from—from 32" to 54". Many job functions can be served with one versatile table. Overall size: 18" x 30" with adjustable height from 32" to 54" in 2" increments.

**VT-3254C** Steel, three 18" x 30", one 16<sup>5</sup>/<sub>8</sub>" x 28<sup>5</sup>/<sub>8</sub>" shelf size, Shpg. Wt. 84 lbs. . . . . \$273.00

### Accessories

**VCS Electrical Assembly:** 4 power outlets, grounding type, 20' cord, 3-wire, 1250W. Shpg. Wt. 3 lbs. . . . . \$26.50

**AV-552 Safety Belt:** Webbed belt for securing the monitor to the table. 10' long, 600 lb. test. Shpg. Wt. 1 lb. . . . . \$19.00

### DP-27 Rugged Utility Table

This rugged utility table with a 300 lb. load capacity especially suited for computer and micro-film reader applications. Spacious walnut pattern wood top is 36" x 20" with protective T-molding around edges. The all-welded steel frame is finished with baked on charcoal brown enamel. Equipped with decorative casters as standard.

**DP-27** 27"H (not adjustable), 20" x 36" shelf size, Shpg. Wt. 45 lbs. . . . . \$120.00

### Optional:

**Glides:** Add suffix "G" to model number. Reduce weight by 3 lbs., height by 2". Deduct \$5.00 from price.

**4" Casters:** Add suffix "-4" to model number. Add 2 lbs. to weight, 2" to height. Add \$5.00 to price.

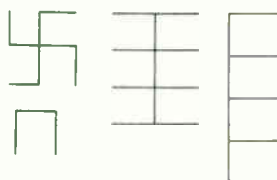
**5" Casters:** Add suffix "-5" to model number. Add 4 lbs. to weight, 3" to height. Add \$10.00 to price.



# THE ADVANCE PRODUCTS CO., INC.

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# LEARNING CENTER STUDY CARRELS



Choice of seating arrangements with IVLC and DVLC



IVLC



DVLC-1 with accessories

## IVLC—Instructive Video Learning Center

- **Overall Dimensions:** Each student position is 50" H x 36" D. The 3/4" thick divider panels are positioned on 48 3/4" centers
- **Work Surface:** Positioned 29" above the floor and is 48" W x 24" D. Supplied in blond maple finish
- **Monitor Shelf:** Built into each student position, 48" W x 12" D. Equipped with electrical outlet on top surface and an entrance into conduit for wiring to recorder/playback. Charcoal brown semi-gloss enamel finish
- **Side Panel:** 30" H x 36" L x 3/4" thick. Designed with flowing contour lines. Provides audio and visual separation between student positions. Supplied in danish walnut finish
- **Front Panel:** 28 1/4" H x 48" W x 1/2" thick. Supplied in danish walnut finish
- **Table:** Steel legs are 14-gauge x 1 1/4" square tubing. Includes adjustable glides with anchor brackets. Legs secured to rails by 5/16" bolts with self-locking nuts. Rails are 18-gauge steel. Legs are spaced in intervals to maintain ample strength and rigidity, yet facilitate easy janitorial maintenance
- **Wiring:** Harness type. Provision is made for quick connections between positions. Accessory Power Cord may be used inside the optional Electrical Leg or enter directly into the wiring channel. Intended usage will determine number of cord sets required. Each circuit should be fused for 15A maximum. 14-gauge wiring provided for current carrying wires in both the wiring for each position and the accessory cord set. The capacity of each circuit is 15A or 1800W at 120V

The handsome walnut pattern front and divider panels are covered with wear resistant plastic laminate as is the birch desk surface. Exposed edges are protected with plastic molding. Metal parts are finished with baked-on charcoal brown enamel. Instructive Video Learning Centers ship unassembled.

Model	Description	Shpg. Wt.	Price
IVLC-1	One Position	127 lbs.	\$ 370.00
IVLC-2	Row of Two	229 lbs.	650.00
IVLC-3	Row of Three	326 lbs.	913.00
IVLC-4	Row of Four	427 lbs.	1195.00
IVLC-5	Row of Five	525 lbs.	1480.00
IVLC-6*	Row of Six	626 lbs.	1752.00
IVLC-2B	2 Position back to back	228 lbs.	651.00
IVLC-4B	4 Position back to back	396 lbs.	1113.00
IVLC-6B	6 Position back to back	567 lbs.	1603.00
IVLC-8B*	8 Position back to back	735 lbs.	2101.00
IVLC-Q	Quad Cluster of 4 positions	401 lbs.	1255.00

### Accessories

IRLS - Reading Light-15W; Shpg. Wt. 4 lbs. . . . . \$35.25

Accessories for IVLC models are interchangeable with ILC models (Instructive Learning Center Study Carrels)

## DVLC—Deluxe Video Learning Center

- **Overall Dimensions of Booth:** Single booth: 53" H x 48 3/4" W x 40" D
- **Work Surface Inside Dimensions:** 47 1/4" W x 34" D
- **Height of Work Surface:** Installed at a choice of 25", 27", or 29" H
- **Power Outlets:** Six per position. One outlet under desk top, two on the rail next to front panel, one on student side rail, and two in power post
- **Power Wiring:** 14-gauge. Receptacles all heavy-duty grounded. Ground wire is 16-gauge. All wiring is concealed
- **Monitor Shelf Dimensions:** Left end 18" D, right end 8" D, 47 1/4" L
- **Finish:** Steel parts are painted with charcoal brown baked enamel. 3/4" composition wood panels have a particle board core of 45 lb. minimum density. Construction balanced with identical type surfaces of Melamine plastic and edges covered with 1/8" thick vinyl T-Mold
- **Glides:** Adjustable height, nylon swivel tip. Combination anchor brackets and glide wrenches furnished

Side and front panels extend to the floor providing built-in modesty panels and privacy. The walnut pattern vertical panel monitor shelf and the birch work surface are all plastic coated to insure long wear and pleasant appearance. Metal parts are finished with baked-on charcoal brown enamel. Shipped unassembled.

Model	Description	Shpg. Wt.	Price
DVLC-1	One Position	205 lbs.	\$ 618.00
DVLC-2	Row of Two	363 lbs.	1175.00
DVLC-3	Row of Three	521 lbs.	1763.00
DVLC-4	Row of Four	679 lbs.	2348.00
DVLC-5	Row of Five	837 lbs.	2936.00
DVLC-6*	Row of Six	995 lbs.	3523.00
DVLC-2B	2 Position back to back	367 lbs.	1046.00
DVLC-4B	4 Position back to back	642 lbs.	2093.00
DVLC-6B	6 Position back to back	917 lbs.	3138.00
DVLC-8B*	8 Position back to back	1192 lbs.	4185.00
DVLC-Q	Quad Cluster of 4 Positions	614 lbs.	2093.00

\*Unlimited Row Lengths Available

### Accessories

DCO Cutout in Work Surface for mounting electronic equipment. Shpg. Wt. 1 lb. . . . . \$ 8.50  
 DPC Power Cord, 20' length. Shpg. Wt. 1 lb. . . . . 9.75  
 DVP Video Pan. Use in Cutout to support equipment. Specify make and model when ordering. Shpg. Wt. 10 lbs. . . 34.50

Prices and Specifications Subject to Change Without Notice.

# AGFA-GEVAERT, INC.

## MAGNETIC TAPE DIVISION

100 Challenger Road  
Ridgefield Park, NJ 07660  
(201) 440-2500  
FAX: (201) 342-4742

# VIDEO CASSETTES



### Agfa Broadcast Plus U-Matic Video Cassettes

AGFA Broadcast Plus U-Matic Cassettes will add a new dimension of color brilliance and definition to your masters with: 1dB more color signal-to-noise, 2.5dB more video signal-to-noise, 4dB more RF output and an exceptionally low dropout rate, as compared to the industry standard.

In addition to excellent video characteristics, AGFA BROADCAST PLUS U-Matic Cassettes utilize a black anti-static backcoating resulting in better tape transport and winding properties.

Precision molded and assembled under stringent and uncompromising quality control standards, AGFA BROADCAST PLUS U-Matic Cassettes are designed for use on all U-Matic video cassette players and recorders.

CASSETTE TYPE	PLAYING TIME	TAPE LENGTH
<b>Packaged/Labeled Series</b>		
KCS10 BP (mini)	10 min.	237 ft.
KCS20 BP (mini)	20 min.	424 ft.
KCA5 BP	5 min.	140 ft.
KCA10 BP	10 min.	237 ft.
KCA20 BP	20 min.	424 ft.
KCA30 BP	30 min.	611 ft.
KCA60 BP	60 min.	1175 ft.

3/4" Bulk Tape PEV 297 Video Pancake Available

### Super HGX VHS Video Cassettes

- Video S/N + 5dB
- Color S/N + 2dB
- RF output + 3.5dB
- Dropouts max. avg. 15/min.

AGFA Super HGX VHS Video cassettes offer the combination of excellent chroma and luminance response found only in today's leading "high grade" cassettes, together with a consistently low dropout rate to truly meet the critical requirements of professional users.

CASSETTE TYPE	PLAYING TIME	TAPE LENGTH
<b>Packaged/Labeled Series</b>		
VHS T30	30 min.	203 ft.
VHS T60	60 min.	406 ft.
VHS T90	90 min.	608 ft.
VHS T120	120 min.	810 ft.

1/2" Bulk VHS Pancake Tape  
PEV 192 HGX 1/2" x 14, 764'  
PEV 192 "A" Grade 1/2" x 14, 764'



# ALEXANDER manufacturing co.

P.O. Box 1508  
Mason City, IA 50401  
(515) 423-8955 Telex: 37-19855  
FAX: (515) 423-1644

## BATTERIES/BATTERY BELTS

### 7700 Series Ride Behind Batteries

All Alexander ride behind (on board) batteries are equipped with an Anton Bauer Snap On battery mount. No cables or modifications are needed. All Alexander batteries feature graded and sorted cells so the battery is assembled with premium grade cells.

<b>7700-10</b> Voltage: 12V Capacity: 4AH Weight: 3 lbs., 8.5 oz. Type: NiCad	<b>7700-11</b> Voltage: 13.2V Capacity: 4AH Weight: 3 lbs., 14 oz. Type: NiCad	<b>7700-12</b> Voltage: 14.4V Capacity: 4AH Weight: 4 lbs., 6 oz. Type: NiCad
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### Mini 7700 Series

The same premium quality as our full size 7700 series except lighter weight. Each of the Mini 7700 batteries will have slightly more than 50% of the run time of our full size 7700 series batteries. All are equipped with an Anton Bauer Snap On battery mount.

<b>7700-10 Mini</b> Voltage: 12V Capacity: 2.2AH Weight: 1 lb., 15 oz. Type: NiCad	<b>7700-11 Mini</b> Voltage: 13.2V Capacity: 2.2AH Weight: 2 lbs., 2 oz. Type: NiCad	<b>7700-12 Mini</b> Voltage: 14.4V Capacity: 2.2AH Weight: 2 lbs., 5 oz. Type: NiCad
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### In Board Batteries

All Alexander in board batteries are constructed of premium grade, tested and sorted cells. The batteries are constructed using the most advanced technology available.

<b>BP90A</b> Replaces: Sony BP90 Voltage: 12V Capacity: 4AH Weight: 3 lbs., 9 oz. Type: NiCad	<b>BP60A</b> Replaces: Sony BP60 Voltage: 13.75V Capacity: 2.2AH Weight: 2 lbs. Type: NiCad	<b>BP20A-11</b> Replaces: Sony BP20A Voltage: 13.75V Capacity: 2.2AH Weight: 2 lbs., 6 oz. Type: NiCad
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<b>JVC-1</b> Replaces: JVC/Panasonic PBP-1 Voltage: 12V Capacity: 2.2AH Weight: 1 lb., 13 oz. Type: NiCad
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<b>JVC-11</b> Replaces: JVC/Panasonic PBP-1 Voltage: 13.75V Capacity: 2.2AH Weight: 2 lbs. Type: NiCad
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### Camcorder Batteries

With longer run time and slightly higher voltage, the Alexander BP-1-11 is the only replacement battery for the NP-1 made in the USA.

<b>BP-1-11</b> Replaces: Sony BP-1 Voltage: 13.75V Capacity: 1500mAH Weight: 1 lb., 8.5 oz. Type: NiCad
--

### Again and Again Camcorder Batteries

<b>RC1209</b> Voltage: 12V Capacity: 900mAH Weight: 1 lb., 5 oz. Type: NiCad	<b>RC1212</b> Voltage: 12V Capacity: 1200mAH Weight: 1 lb., 8oz. Type: NiCad	<b>RC1220</b> Voltage: 12V Capacity: 2AH Weight: 1 lb., 8 oz. Type: Lead Acid
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<b>RC6013</b> Voltage: 6V Capacity: 1300mAH Weight: 9 oz. Type: NiCad	<b>RC1215</b> Voltage: 12V Capacity: 1500mAH Weight: 1 lb., 3 oz. Type: NiCad	<b>RC9614 (CAM)</b> Voltage: 9.6V Capacity: 1000mAH Weight: 1 lb., 3 oz. Type: NiCad
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<b>NPP1245C (Power Pack with Charger)</b> Voltage: 12V Capacity: 4.5AH Weight: 3 lbs. Type: NiCad
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<b>NPP1245B (Power Pack Battery Only)</b> Voltage: 12V Capacity: 4.5AH Weight: 3 lbs. Type: NiCad
---

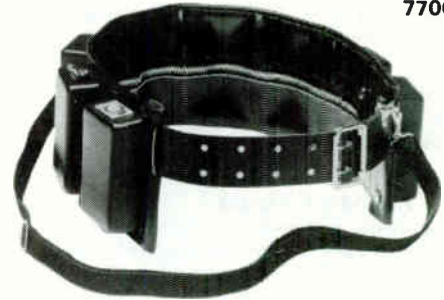
<b>PP1260C (Power Pack With Charger)</b> Voltage: 12V Capacity: 6AH Weight: 6 lbs. Type: Lead Acid
--

<b>BB1280C (Battery Belt)</b> Voltage: 12V Capacity: 8AH Weight: 9 lbs. Type: Lead Acid
---



BP90A

7700



### Double Adjusting Battery Belts

All Alexander battery belts feature a unique double adjusting system allowing the crew member to adjust the belt to fit his or her figure...large or small. In addition, all Alexander battery belts include a shoulder strap for additional comfort and ease. The belt is leather with polyethylene and nylon stitched pockets. Polyethylene will not crack, split or break even under extreme weather conditions.

<b>BB6304A</b> Voltage: 30V Capacity: 4AH Weight: 11 lbs., 14.5 oz.
--

<b>BB6307A</b> Voltage: 12V Capacity: 4AH
---

<b>BB8307F (Fast Charge)</b> Voltage: 12V Capacity: 4AH
---

<b>BB7007A</b> Voltage: 12V Capacity: 7AH
---

<b>BB9007F (Fast Charge)</b> Voltage: 12V Capacity: 7AH
---

### Battery Belt Replacement Batteries

<b>2D24 (2 "D" cells, side by side)</b> Used In: 8V to 16V, 4AH battery belts Voltage: 2.4V Capacity: 4AH
<b>S240/T (2 "D" cells, stacked)</b> Used In: BP90 batteries and 13.2V, 8AH battery belts Voltage: 2.4V Capacity: 4AH
<b>4D4.8S (4 "D" cells, two side by side stacked 2 high)</b> Used In: 30V, 4AH battery belts; all 8AH battery belts and BP90 batteries Voltage: 4.8V Capacity: 4AH
<b>6D7.2S (6 "D" cells, three side by side stacked 2 high)</b> Used In: 7.2V, 4AH battery belts Voltage: 7.2V Capacity: 4AH





# ALEXANDER manufacturing co.

P.O. Box 1508  
Mason City, IA 50401  
(515) 423-8955 Telex: 37-19855  
FAX: (515) 423-1644

## CHARGERS AND ANALYZERS

### Chargers and Analyzers

#### TA3877-II TriAnalyzer

Helps you determine the remaining capacity or life of up to three batteries independently, yet simultaneously. Fully charges, discharges, recharges each battery. Remaining capacity is displayed in mA.H. The deep discharge process also conditions each battery, extending battery life. The ideal companion for our SM32077 Smart Charger.

**Voltage:** 12V to 14.4V  
**Charge Rate:** 1800mA.H  
**Discharge Rate:** 1600mA.H  
**Trickle Charge Rate:** 10mA.H

#### SM32077 Smart Charger

Independently charges up to three batteries. "Smart" because it automatically detects when a battery reaches full charge by using a unique microprocessing system. For use with all types of video batteries.

**Voltage:** 12V to 14V  
**Charge Rate:** 1800mA.H  
**Trickle Charge Rate:** 10mA.H

#### 20-11 Charger

Completely charges three 220mA.H batteries in 10 hours or less. This includes our 7700 Mini Series, BP-20-11, BP60A, JVC-1 and JVC-11 batteries.

**Charge Rate:** 200mA.H

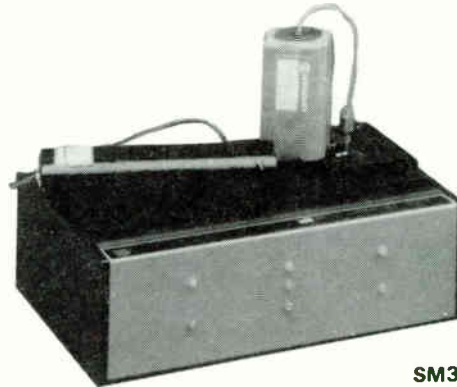
#### 20-40 Charger

Completely charges two 4A.H batteries in 10 hours or less. The full size 7700 Series and BP90A are in this category.

**Charge Rate:** 400mA.H



TA3877-II



SM32077

### Battery Cross Reference Guide

#### RC1209

**Used In:**  
RCA VKP975  
RCA VJP170  
RCA VJP825  
RCA VJP900  
RCA VJP950  
RCA VJP970  
RCA VLP800  
RCA VKP925  
RCA VKP926  
RCA VKP950  
Hitachi VT3P  
Hitachi VT5P  
Hitachi VT7P  
Hitachi VT94  
Hitachi VT98  
Hitachi VT8A  
Pentax 2000  
Pentax 2200  
Pentax PV R1000  
Pentax PV R1100

#### RC1212

**Used In:**  
JVC GX700U  
JVC HRC3U  
JVC HRS100  
JVC HPS101

#### RC1212 (Cont'd.)

Zenith VR5000 (CAM)  
Zenith VR7000 (CAM)

#### RC1220

**Used In:**  
Chinon CVT60  
Pentax PV-R1100A  
Philco 1728  
Olympus VC 105  
Olympus VC 106  
Sylvania 4525  
Sylvania 4540  
Sylvania 4546  
Sylvania 4527  
Philco VCR801  
JC Penney 5110  
JC Penney 5115  
Canon VR20A  
Canon VR30A  
Canon VR40A  
GE 5022  
GE 5024  
GE 5025  
GE 5026  
GE 5028  
GE 5030  
GE Movie 9-9606  
GE Movie 9-9608

#### RC1220 (Cont'd.)

GE Movie 9-9610  
Quasar 5440  
Quasar 5442  
Quasar 5740  
Quasar 5744  
Quasar 5450  
Quasar 5452  
Quasar 5747  
Quasar 5750  
Quasar VM20  
Quasar 2100 (CAM)  
Magnavox 8474  
Magnavox 8475  
Magnavox 8292  
Magnavox VR8485  
Magnavox VR8486  
Panasonic 5800  
Panasonic 5850  
Panasonic 8100  
Panasonic 8484  
Panasonic 8485  
Panasonic PV8500  
Panasonic 8600  
Panasonic 9600  
Panasonic PV 210  
Panasonic PV 220  
Panasonic PV 300  
Panasonic PV 320  
Panasonic A6 2400

#### RC1220 (Cont'd.)

Minolta MV-9005  
Minolta MV500S  
Curtis Mathes 773  
Sears 5370  
Teknika C-7100  
Teknika C-6000

#### RC6013

**Used In:**  
Aiwa CV50  
Sony CCD V3  
Sony CCD M8V  
Sony CCD V8AF  
Sanyo VM8  
Pioneer  
Kyocera KD200  
Aiwa CV80  
NEC EM-A8U  
Samsung SVC8  
Fisher FVC801  
Vivitar Magic 8

#### RC1215

**Used In:**  
Sears 934  
RCA CMR300  
RCA CMR200  
Hitachi VM2000A  
Hitachi VM2100A

#### RC1215 (Cont'd.)

Hitachi VM5000A  
Pentax PVC11A  
Pentax PVC55A  
Minolta CR1000S  
Minolta CR1100S  
Mitsubishi HS F-1 OUR

#### RC9614 (CAM)

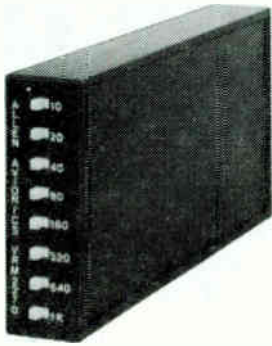
**Used In:**  
JVC GRC 1U  
JVC GRC 2U  
Sharp VCC-50  
Toshiba SK-60  
PV 100  
MGA HSC 20  
VR 8297 AV  
Teknika C-7500  
Zenith VM6200

# ALLEN AVIONICS, INC.

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Mineola, NY 11501  
(516) 248-8080

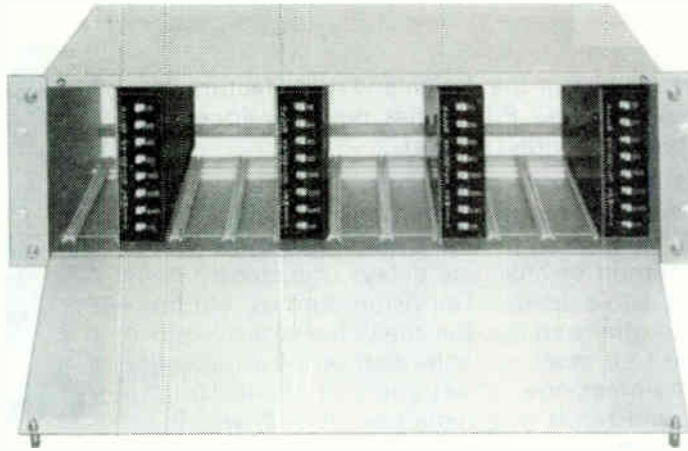
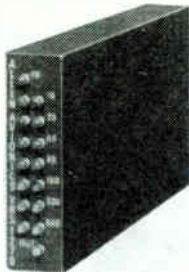
# RACKMOUNTABLE VIDEO/ PULSE DELAY LINES

A complete rack mountable series of video and pulse delay lines, with the capability of replacing up to 1450 feet of cable, is now being marketed by Allen Avionics.



Showing 8 individual slide switches for rapid delay changes.

Photo shows 1 of 4 Strappable versions (VRS Series). Note that there are 7 input and output terminals available for strapping desired delay.



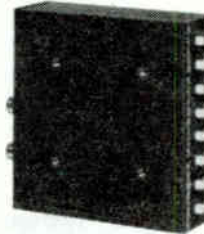
All models are stocked in our plant in Mineola, New York.

**RACK MOUNT** showing delay units with switches and terminals available for delay changes. Up to 11 delay units can be housed. Cards for mounting units in rack are purchased separately. Note hinged front panel.

Rack Size: 19" w., 10" d., 5 1/4" h.

Four variable slide switch units are being offered with total delays of 255, 637.5, 1275 and 2270 nanoseconds. Each unit contains 8 individual delay units. Four strappable units are also manufactured with total delays of 317.5, 635, 1270 and 2260 nanoseconds. The strappable units consist of 7 separate delay lines each having their own input and output terminals. The slide switches or terminal strapping provide methods for adding the individual lines together so that the output is always the summation of the individual lines. This eliminates most video distortions and assures good chrominance to luminance delay. Precision delay changes of as small as one nanosecond are easily accomplished. Low insertion loss, amplitude and delay flatness, along with excellent pulse fidelity, are characteristic of this series.

All units are manufactured to fit standard 19 inch racks and are provided with additional inserts to satisfy almost any mounting requirement. Delay units and racks can be purchased separately. The rack is manufactured with a hinged panel so that fast delay adjustments can be made. However, once adjustments are made, the front panel prevents further tampering with the slide switches or terminals.



Units are rack mounted by attaching a durable plastic card to the large surface. Note inserts provided for the attachment.



To satisfy requirements other than rack mounting, additional inserts are provided.

Part No.	Delay Range (Nano-Sec.)	Delay Steps (Nano-Sec.)	Method of Variation	Maximum Insertion Loss @ 100 KHz (db)	Amplitude Flatness At Any Delay Setting 100KHz to 5.5MHz (db)	Max. Rise Time (Nano-Sec.)	Package Size (Inches)
VRM0255	0-255	1.0	Slide Switch	.40	.4 Max.	20	1.250 x 4.15 x 4.00
VRM0637	0-637.5	2.5	Slide Switch	*1.00	.4	28	1.250 x 4.15 x 6.00
VRM1275	0-1275	5.0	Slide Switch	*3.00	.4	33	1.250 x 4.15 x 9.00
VRM2270	0-2270	10.0	Slide Switch	*3.00	.5	40	1.250 x 4.15 x 9.00
VRS0317	0-317.5	2.5	Strap	.40	.5	26	1.250 x 4.15 x 4.00
VRS0635	0-635	5.0	Strap	.75	.5	35	1.250 x 4.15 x 6.00
VRS1270	0-1270	10.0	Strap	1.50	.5	37	1.250 x 4.15 x 9.00
VRS2260	0-2260	20.0	Strap	3.00	.5	40	1.250 x 4.15 x 9.00

\*±.2db variation at any delay setting.

Impedance: 75 ohms.

Pulse Distortion: Less than 4% with an input pulse rise time of 20 nanoseconds.

Working Voltage: 50 volts maximum.

Return Loss: 15db minimum.

Delay Tolerance: 5% or 1 nanosecond, whichever is greater.

Prices and Specifications Subject to Change Without Notice.



# ALLEN AVIONICS, INC.

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# VIDEO/PULSE DELAY LINES

Allen Avionics, an established leader in the design and manufacture of Electromagnetic Delay Lines and L-C Filters has now developed a specialized group of products for the video market.

In color television broadcasting, accurate timing of signals is essential. This was initially achieved by the use of 75 ohm coaxial cable. The cost in time and materials to accomplish precise trimming and the lack of a rapid and convenient method of changing delays is currently responsible for the decline in cable usage. Television studios, studio equipment manufacturers and others engaged in the video industry are changing from 75 ohm cable to a more suitable method of achieving precise short delays. Allen Avionics now offers a line of Video Units for this purpose. Their use will result in a reduction of size, weight, installation cost and an overwhelming saving in time and effort to make delay changes.



Models VPO635, VP1270 and VP2075 are padded to provide a flat loss at any setting. As a result of this padding, these units will exhibit a maximum variation of  $\pm 2$ db at any delay setting.

Model VP0010 was designed specifically to be used as a delay trimmer in conjunction with our other delay units or any 75 ohm system. It offers .5 nanosecond switching resolution with excellent amplitude flatness up to 5.5 MHz.

These new delay units feature extremely flat amplitude response to 5.5 MHz, small increments of delay variation, low signal distortion and tight delay tolerance. The delay networks are ideal for pulse applications because of their fast rise times and low distortion. Amplitude equalization is employed to achieve excellent flatness over the video frequency range. The delayed output of any model in this group is the summation of individual lines. It is not the result of a tapped line. This feature insures that output pulse distortions are minimized. Units will match to any 75 ohm system and can be directly connected into the video signal path by means of BNC connectors.



Part No.	Delay Range (Nano-Sec.)	Delay Steps (Nano-Sec.)	Method of Variation	Maximum Insertion Loss @ 100 KHz (db)	Amplitude Flatness At Any Delay Setting 100KHz to 5.5MHz (db)	Max. Rise Time (Nano-Sec.)	Package Size (Inches)
VP0010	0-10.5	.5	Toggle	.15	.2 Max.	3	4 3/8 x 2 3/8 x 1 1/16
VP0127	0-127	1.0	Toggle	.15	.3	14	4 3/8 x 2 3/8 x 1 1/16
VP0255	0-255	1.0	Toggle	.15	.3	16	4 3/8 x 2 3/8 x 1 1/16
VP0317	0-317.5	2.5	Toggle	.15	.3	20	4 3/8 x 2 3/8 x 1 1/16
VP0635	0-635	5.0	Toggle	* .50	.4	25	4 1/16 x 3 1/16 x 2 1/16
VP1100	0-1100	10.0	Rotary	1.25	.4	30	4 1/16 x 3 1/16 x 2 1/16
VP1270	0-1270	10.0	Toggle	*3.00	.4	30	4 1/16 x 3 1/16 x 2 1/16
VP2075	0-2075	25.0	Toggle	*3.00	.5	40	7 3/8 x 4 1/16 x 2 1/16
VS0315	0-315	5.0	Strap	.25	.4	28	4 x 2 x 1 1/4
VS0635	0-635	5.0	Strap	.60	.5	33	5 x 2 x 1 1/4
VS1275	0-1275	5.0	Strap	1.25	.5	33	5 x 3 x 1 1/4
VS2075	0-2075	25.0	Strap	2.50	.5	40	6 1/2 x 3 1/2 x 2



Impedance: 75 ohms.

Pulse Distortion: Less than 4% with an input pulse rise time of 20 nanoseconds.

Working Voltage: 100 volts maximum.

Return Loss: 20db minimum. 15db minimum for VP2075 & VS2075.

Delay Tolerance: 5% or 1 nanosecond, whichever is greater.

\*  $\pm 2$ db variation at any delay setting.



# ALLEN AVIONICS, INC.

224 E. Second St.  
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# VIDEO/PULSE DELAY LINES

## DELAY TRIMMERS—VRM011, VAR011 & VAR005



VRM011

These VAR Units, which permit an infinitely small delay adjustment, insure an amplitude and delay flatness superior to that of any other unit presently available.

The units can be used as delay trimmers alone, or in conjunction with any of our other delay boxes from D.C. to over 5.5 MHz.



VAR011

Part No.	Delay Range (Nano-Sec.)	Toggle Switch Variation (Nano-Sec.)	Trimmer Variation (Nano-Sec.)	Maximum Insertion Loss @ 100 KHz (db)	Amplitude Flatness at Any Delay Setting 100KHz to 5.5 MHz (db)	Package Size (Inches)
VRM011	0-11	.5 steps to 10.5	Continuously Variable to .5	.3	.3	1 1/4 x 4 5/32 x 4
VAR011	0-11	.5 steps to 10.5	Continuously Variable to 1	.2	.25	4 3/8 x 2 3/8 x 1 1/16
VAR005	3-7	---	Continuously Variable from 3 to 7	.2	.2	3 5/8 x 1 1/2 x 1 1/4



VAR005

Impedance: 75 ohms.  
Working Voltage: 100 volts.  
Pulse Distortion: Less than 3% with an input rise time of 20 nanoseconds.  
Return Loss: 20db or greater.

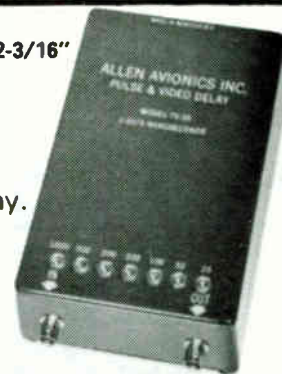
## TYPE AV-397 & 75-2A

75-2A  
7-3/8"x4-11/16"x2-3/16"



AV-397  
2"x2-1/2"x5-1/2"

Maximum Delay: 2.075 microseconds  $\pm$ 3% variable in .025  $\mu$ s. steps from .025 to 2.075 microseconds.  
Time Delay of Individual Lines: 1, .5, .2, .2, .1, .05, .025 microseconds.  
Rise Time for Entire Line: .06 microseconds maximum.  
Frequency Response: 3db down at 5 megahertz for 2.075 microseconds delay.  
Distortion: 2% maximum with .2 microsecond input pulse.  
Impedance: 75 ohms  $\pm$ 5%.  
Working Voltage: 100.  
Temperature Coefficient: 50 parts/million/ $^{\circ}$ C from  $-55^{\circ}$ C to  $105^{\circ}$ C.  
Attenuation: 7% maximum for 2.075 microsecond delay.



## TV LINE EQUALIZERS – VE300 & AV-535

IMPEDANCE: 75 ohms  $\pm$ 2 ohms to 8 Megahertz.  
ATTENUATION OF CABLE PLUS EQUALIZER: 3db.

These Equalizers are designed to compensate for losses in RG-11/U (75 ohm) cable and its equivalents. The units are capable of equalizing 50 to 300 feet in 50 foot increments.



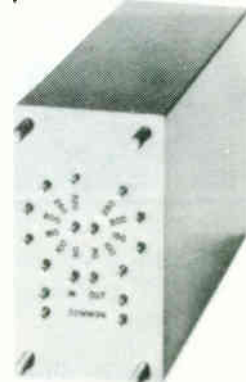
VE300  
4-11/16"x3-11/16"x2-1/16"

The VE300 is provided with a rotary switch to select the required amount of cable footage to be equalized. It is supplied with BNC connectors for quick input and output connections and is foamed in a metal can.

The AV-535 has terminals on its mounting surface arranged to provide for simplified strapping of different cable lengths. The unit is foamed and hermetically sealed in a metal can.

Attenuation of equalizer alone is as shown. TOLERANCE  $\pm$ .07 db.

Feet	0.1 MHz	2 MHz	4 MHz	8 MHz
50	2.97 db	2.86 db	2.79 db	2.67 db
100	2.93	2.68	2.53	2.27
150	2.90	2.51	2.28	1.88
200	2.86	2.35	2.03	1.52
250	2.82	2.19	1.82	1.21
300	2.78	2.02	1.58	0.86



AV-535  
2"x3-1/2"x5"

Prices and Specifications Subject to Change Without Notice.

**“MVFL” SERIES**

**DELAY EQUALIZED NTSC LOWPASS FILTERS —VFL, MVFL & VCL SERIES**

For the video field, we have built many lowpass filters having sharp roll-offs and good passband delay linearity with cut-off frequencies from .1 MHz to 10 MHz. The most popular of these are used to attenuate the harmonics of the NTSC color sub-carrier frequency 3.58 MHz. The most commonly used filters in this group are tabulated below:

**VFL & MVFL SERIES – IMPEDANCE = 75 OHMS**

Standard Size Max. Insertion Loss 1db Part No.	Miniature Size Max. Insertion Loss 2db Part No.	Max. .25db Attenuation @ Frequency (MHz)	Max. 3db Attenuation @ Frequency (MHz)	Min. 45db Attenuation @ Frequency (MHz)	Approximate Passband Delay (Nanoseconds)
VFL1P7	MVFL1P7	1.75	1.92	2.41	1691
VFL2P2	MVFL2P2	2.25	2.45	3.10	1325
VFL2P7	MVFL2P7	2.75	3.00	3.77	1082
VFL3P2	MVFL3P2	3.20	3.50	4.40	928
VFL3P5	MVFL3P5	3.50	3.84	4.82	846
VFL3P8	MVFL3P8	3.80	4.16	5.22	781
VFL4P0	MVFL4P0	4.00	4.38	5.51	741
VFL4P5	MVFL4P5	4.50	4.93	6.19	659
VFL5P2	MVFL5P2	5.20	5.70	7.16	570
VFL6P0	MVFL6P0	6.00	6.58	8.27	494
VFL6P5	MVFL6P5	6.50	7.12	8.95	457

Max. Delay Variation = ±3% to -.25 db Freq. Max. Passband Ripple = ±.25db.

VFL Size: 4" x 2" x 1 1/4" in metal can with BNC Connectors.

MVFL Size: 3" x 1 1/8" x 1/2" in metal can with terminals for PC mounting.

**VCL SERIES – IMPEDANCE = 75 OHMS**

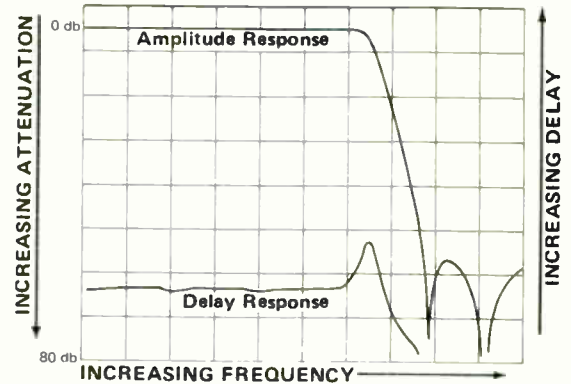
Part No.	Maximum ±3% Delay Distortion to Frequency (MHz)	Maximum .25db Attenuation @ Frequency (MHz)	Minimum 45db Attenuation @ Frequency (MHz)	Approximate Passband Delay (Nanoseconds)
VCL3P2	2.7	3.2	3.63	1100
VCL3P5	2.9	3.5	3.97	1010
VCL3P8	3.2	3.8	4.31	930
VCL4P2	3.5	4.2	4.76	840
VCL4P5	3.8	4.5	5.10	780
VCL4P9	4.1	4.9	5.56	720
VCL5P2	4.4	5.2	5.90	680
VCL5P7	4.8	5.7	6.46	620

Max. Insertion Loss @ 100 KHz = 2.5db.

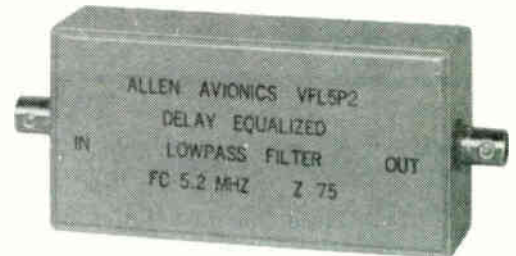
Max. Passband Ripple = ±.25db.

Size: 6" x 2" x 1 1/4" in metal can with BNC Connectors.

**DELIVERY FROM STOCK**

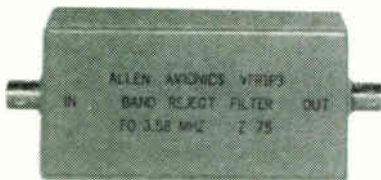


TYPICAL AMPLITUDE & DELAY RESPONSE OF VFL & MVFL SERIES



**NTSC REJECT FILTERS**

Some of the most frequent specifications that we encounter in the video industry are based upon rejection of the color information in the video signal to provide isolation from the luminance signal. These specifications require very low phase distortion to the luminance signal. To satisfy this requirement, Allen Avionics has designed a group of band reject filters with phase equalization where necessary. One of the most often used applications for this band reject filter is in color systems for monochrome transmission to prevent color flashes from appearing on the screen. Since various segments of the television industry have different passband requirements, we are listing three filters with different reject bandwidths.



Impedance = 75 ohms.  
Maximum Insertion Loss @ 100 KHz = 3db.  
Maximum Passband Ripple to 5.5 MHz = ±.25db.

Part No.	Maximum 3db Attenuation @ Frequency (MHz)	Minimum Attenuation @ 3.58 MHz
VFR4P6	1.95 – 6.55	40db
VFR1P3	3.00 – 4.30	40db
VFR0P5	3.37 – 3.88	30db

Size: 4" x 2" x 1 1/4" in metal can with BNC Connectors.

**NTSC BANDPASS FILTER**

Allen Avionics sub-carrier bandpass filter is a low distortion unit designed to attenuate the luminance information in color TV signals. This filter is useful in most applications where it is required to isolate the chrominance information.

Impedance = 75 ohms.  
Maximum Insertion Loss @ 3.58 MHz = 1.5db.  
Maximum Ripple = ±.25db.

Part No.	Maximum 3db Attenuation @ Frequency (MHz)	Minimum 30db Attenuation @ Frequency (MHz)
VFB3P6	3.40 – 3.70	2.40 – 5.80

Size: 4" x 2" x 1 1/4" in metal can with BNC Connectors.

Prices and Specifications Subject to Change Without Notice.





# ALLEN AVIONICS, INC.

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# VIDEO FILTERS

## VSL4P5 DELAY EQUALIZED LOWPASS FILTER

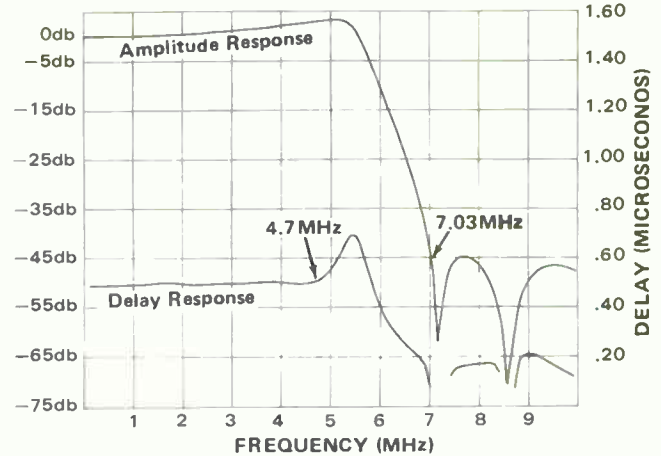
This filter is similar to the VFL series and is intended for use at the output of a digital to analog converter. Its special feature is that amplitude equalizers have been incorporated to shape the passband response for  $\frac{\sin X}{X}$  correction.

Impedance = 75 ohms.  
Attenuation = 38db or greater  
at 7.03 MHz to 20 MHz.  
Maximum Group Delay Distortion  
= 30 nanoseconds or less  
to 4.7 MHz.

Nominal Delay = 500 nanoseconds.  
Size — 4 x 2 x 1¼ inches.

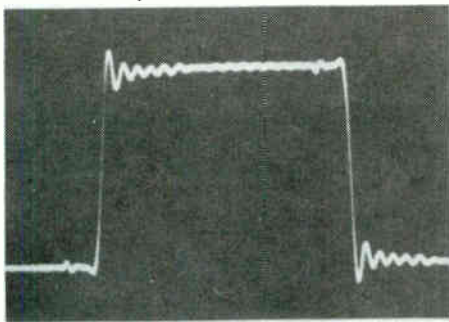


Units supplied in Metal Cans with BNC Connectors

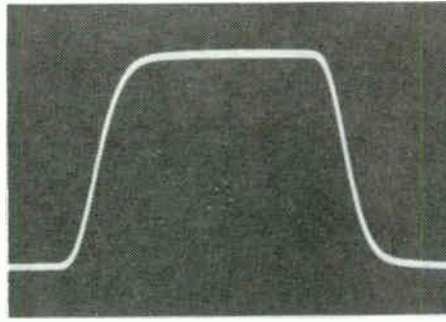


## VIDEO GAUSSIAN FILTERS

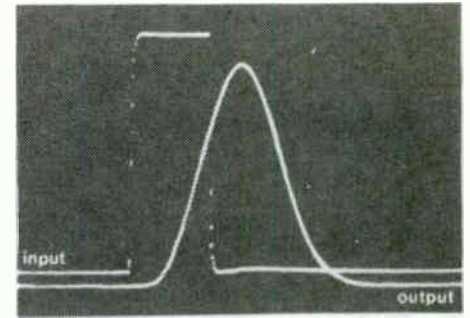
These filters are used for pulse shaping and bandwidth limiting. They are very useful in the removal of unwanted distortions caused by noise, ringing, preshoot and overshoot. Due to their fine impulse response, they are often used in conjunction with delay lines that must have minimum pulse distortion in the delayed output.



Input Pulse



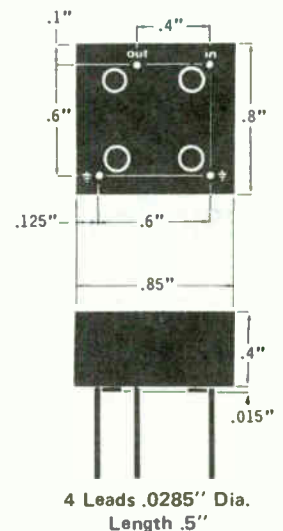
Output Pulse



An approximate Gaussian Waveshape obtained by passing a pulse through a Gaussian Filter.

Part No.	3db ± .5db Frequency (MHz)	Impedance (Ohms)	17db Min. Attenuation Frequency (MHz)	Delay Time (Nano-seconds) Nominal	Rise Time (Nano-seconds) Nominal
VGF00P17Z500	0.17	500	.45	1988	2016
VGF00P30Z500	0.30	500	.80	1126	1147
VGF00P33Z500	0.33	500	.87	1024	1038
VGF01P00Z***	1.00	50, 75, 500	2.60	340	357
VGF01P14Z***	1.14	50, 75, 500	3.00	296	300
VGF01P25Z***	1.25	50, 75, 500	3.30	270	275
VGF01P50Z***	1.50	50, 75, 500	4.00	225	229
VGF01P72Z***	1.72	50, 75, 500	4.50	196	200
VGF02P00Z***	2.00	50, 75, 500	5.20	169	171
VGF02P39Z***	2.39	50, 75, 500	6.30	142	144
VGF02P50Z***	2.50	50, 75, 500	6.60	135	137
VGF03P00Z***	3.00	50, 75, 500	8.00	113	115
VGF03P44Z***	3.44	50, 75, 500	9.00	98	100
VGF04P00Z***	4.00	50, 75, 500	10.50	84	86
VGF04P89Z***	4.89	50, 75, 500	12.80	68	70
VGF05P00Z***	5.00	50, 75, 500	13.20	67	69
VGF05P53Z***	5.53	50, 75	14.65	67	69
VGF12P00Z***	12.00	50, 75	32.00	29	30

\*\*\* Replace asterisks with 050, 075 or 500 depending on your impedance selection from chart.



4 Leads .0285" Dia. Length .5"

Prices and Specifications Subject to Change Without Notice.



## HUM ELIMINATOR HEC1000

**ELIMINATES HUM AND OTHER INTERFERENCE in Video Lines caused by differences in Ground Potential.**

- FLAT - DC to 10 MHz
- For Color and Black & White
- No Low Frequency or High Frequency Roll-Off
- No Differential Gain Distortion
- No Differential Phase Distortion
- Passive Device - Failure Free
- Reversible • Low Price
- Small Compact Package

ALSO AVAILABLE:  
HUM ELIMINATOR HEC500 FOR  
50 OHM APPLICATIONS

**IN FIELD:**

Between Remote Truck & Telco  
Between Remote Truck & Microwave  
For Intertruck Hookup  
For VTR Units  
For Monitoring Lines

**IN STUDIO:**

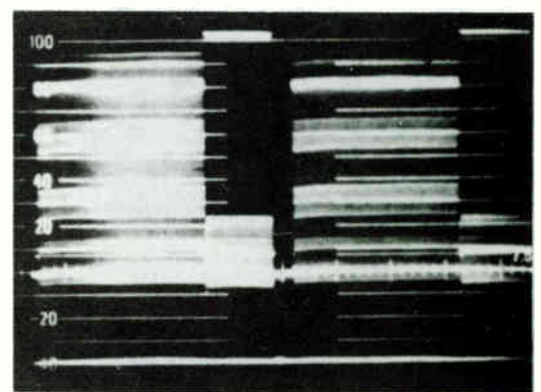
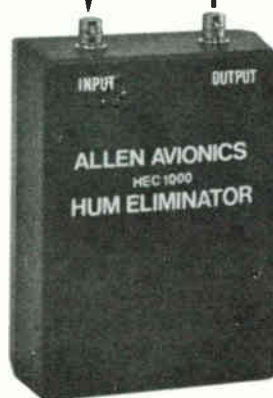
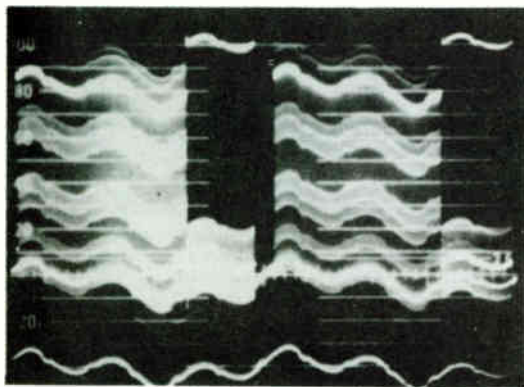
Between Buildings  
On long runs in Buildings  
Between Studios & Transmitter  
On incoming Telco Circuits  
On outgoing Telco Circuits

**HEC1000 SPECIFICATIONS:**

Impedance	75 ohms, unbalanced
Connectors	Type BNC
Bandwidth	DC to 10MHz (0.6 dB @ 10 MHz)
Hum Reduction	to 50 dB depending on system
Dimensions	5.3" x 4.0" x 2.0" (135 x 102 x 51 mm)
Weight	Approx. 3 lbs. (1.36kg)
Insertion Loss	< 0.2 dB

INCOMING VIDEO

OUTGOING VIDEO



## VIDEO NOISE ELIMINATOR—VNE-75

**DESIGNED FOR HIGH RESOLUTION TV AND OTHER HIGH FREQUENCY BANDWIDTH REQUIREMENTS**

ALSO AVAILABLE:  
VIDEO NOISE ELIMINATOR  
VNE-50 FOR 50 OHM  
APPLICATIONS

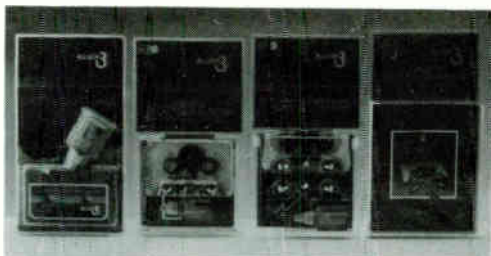


**VNE-75 SPECIFICATIONS:**

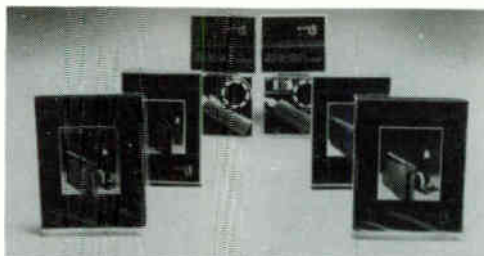
Impedance	75 ohms, unbalanced
Connectors	Type BNC
Bandwidth	DC to 10MHz (0.5 dB @ 10MHz) DC to 20MHz (0.8 dB @ 20MHz)
Hum Reduction	to 40 dB depending on system
Dimensions	4.38" x 3.25" x 2.00"
Weight	Approximately 1½ lbs.
Insertion Loss	< 0.2 dB

**ALLSOP, INC.**  
 4201 Meridian P.O. Box 23  
 Bellingham, WA 98227  
 (206) 734-9090 (800) 426-4303  
 Telex: 15-2101  
 FAX: (206) 734-9858

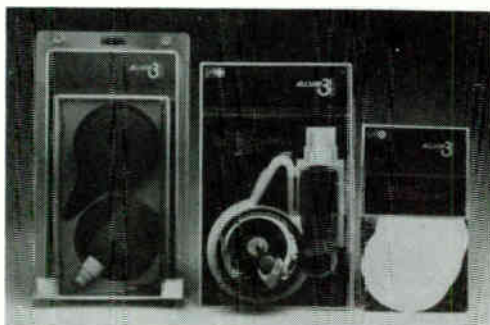
## AUDIO/VIDEO CLEANING ACCESSORIES



71200/71300



60200/68000



58000/58010

### 60100-A VCR Cleaner For VHS

Utilizes an exclusive ribbon that feeds into your machine like a conventional tape. A few drops of Allsop 3 solution are placed on the delicate ribbon which then circles critical parts to remove oxide residues from the video and audio heads. Additional soft pads swab contaminants from the capstan and pinch rollers. This great cleaning system is effective for up to 30 cleaning cycles. Non-refillable.

60100-A ..... \$16.95

### 66000-A VCR Cleaner For Beta

Incorporates Allsop's unique ribbon for thorough, non-abrasive cleaning power. Simply place a few drops of Allsop 3 solution on the soft ribbon and insert the tape into your machine like an ordinary cassette. The ribbon gently swabs contaminants from critical parts, removing oxides and airborne debris from audio and video heads. Good for 20-30 separate cleanings. Non-refillable.

66000-A ..... \$16.95

### 60200 Ultraline VHS Video Recorder Cleaner

Uses a technologically innovative design to provide a cleaning breakthrough offered by no other system. Small "windows" on the surface allow you to directly apply Allsop 3 solution to the internal cleaning ribbon for maximum cleaning coverage. The non-abrasive ribbon cleans entire tape path, removing contaminants from critical VCR parts. Additional felt pads clean capstan and pinch rollers. Replaceable ribbon and pads available.

60200 ..... \$29.95

### 68000 Ultraline Beta Video Cassette Cleaner

The ultimate Beta cleaning system. Strategic "windows" on the cleaning cassette surface allow you easy access to place Allsop 3 solution directly inside the cassette. The moistened cleaning ribbon then gently removes harmful contaminants and oxides from critical parts along the entire tape path. Replacements available.

68000 ..... \$29.95

### 71300 Ultraline Audio Cleaner

Our gear driven wiper arm and felt cartridge replacement system enables the user perfect cleaning action for all three areas needed. When cleaning felts become soiled, cartridges can be easily replaced to make the Ultraline like new again. System includes 1/2 oz. bottle of Allsop 3 cleaning solution. Use part #71010 for replacement cartridges and solution.

71300 ..... 8.95

### 71200 Ultraline Audio Cleaner With Case

Fits nicely into any automotive glove or map compartment. This wet system cleaner performs three important tasks in one cleaning cycle. First our gear driven wiper arm insures positive wiping action for head cleaning; second our felt cartridges on both sides (for auto reverse) of the head wiper cleans the pinch roller as it revolves; and third the Allsop 3 wipes the capstan automatically. Includes a 1 oz. bottle of special Allsop 3 solution, spare felt cartridges and tweezers which all fit into an attractive leather-like case. Uses #71010 for replacement.

71200 ..... \$14.95

### 58000 Orbitrac™ Record Cleaning System

#### 58060 Orbitrac™ Record Cleaning Solution

Takes a totally new approach to record care. By anchoring the cleaner in the record center, the Orbitrac™, when rotated around the record surface, delicately wipes and removes dirt from each groove. After one or two revolutions the record should be free of impurities and have no static charge because of the Orbitrac™ specially formulated cleaning solution. This system comes complete with Orbitrac™ cleaner, solution and sprayer, wipe off brush, special record cleaner anti-static mat, attractive designer case and complete instructions. Orbitrac™ record cleaner solution is also available in an 8 oz. refill bottle, and in a refill kit that includes two new cleaning pads with an 8 oz. bottle of cleaning solution.

58000 ..... \$16.95

58060 ..... 7.95

### 60210 Ultraline VHS Replacement Components

Contains fresh ribbon and pad cartridge. Replace after 20-30 cleanings.

60210 ..... \$8.95

### 68010 Ultraline Beta Replacement Components

Has new ribbon good for 20-30 cleanings. Available from quality video dealers.

68010 ..... \$8.95

### 71010

#### Audio Cleaner Replacement Cartridges and Solution

Makes the Allsop 3 audio cleaning products even more unique. This kit includes four complete capstan and pinch roller cartridges, two head felt cartridges, a 1 oz. bottle of Allsop 3 solution and a pair of specially designed tweezers. This kit is compatible with Allsop #71200 and #71300.

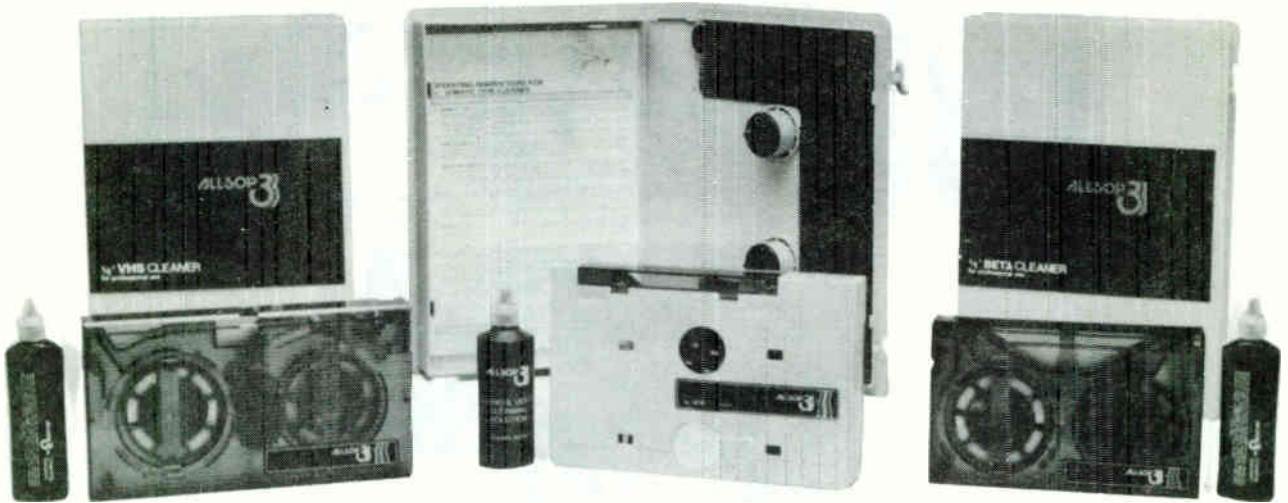
71010 ..... \$7.95

Prices and Specifications Subject to Change Without Notice.

# ALLSOP, INC.

4201 Meridian P.O. Box 23  
 Bellingham, WA 98227  
 (206) 734-9090 (800) 426-4303  
 Telex: 15-2101  
 FAX: (206) 734-9858

# VIDEO HEAD CLEANERS



## Professional Video Products

- 67000** 3/4" U-Matic Video Cleaner with Solution  
 Non-abrasive cleaner with an alternating wet/dry cleaning action. Comes in a plastic storage case. . . . . \$49.95
- 67500** 3/4" U-Matic Refill Kit  
 Included two refill spools of tape and a bottle of solution . . . . . \$29.95
- 62000** 1/2" VHS Format Cleaner with Solution  
 Non-abrasive cleaner with an alternating wet/dry cleaning action. Comes in a plastic storage case. . . . . \$29.95

- 60210** 1/2" VHS Refill Kit  
 (For Model #62000) includes new cleaning ribbon, drive system cleaning pads, and a bottle of solution . . . . . \$9.95
- 63000** 1/2" Beta Format Cleaner with Solution  
 Non-abrasive cleaner with an alternating wet/dry cleaning action. Comes in a plastic storage case. . . . . \$29.95
- 68010** 1/2" Beta Refill Kit  
 (For Model #63000) includes new cleaning ribbon and a bottle of solution. . . . . \$9.95
- 65000** 8mm Cleaner . . . . . \$19.95

## 1/4" Tape Drive Head Cleaner and Refill

- 54000** Cleaner  
 One cleaning cartridge, two plastic boxes each with 6 cleaning pad replacements, two 1/2 oz. bottles of cleaning solution, one pair of tweezers, one cleaning record, one instruction booklet, reusable box to contain above components . . . . . \$44.95
- 54010** Refill  
 Four plastic boxes each with 6 cleaning pad replacements, two 1/2 oz. bottles of cleaning solution, one pair of tweezers, one cleaning record, packaged in tray and box for storage . . . . . \$12.95

- **Cleaning Components:** Absorbent, non-shedding pads in a spring-loaded holder allowing conformance to the head with controlled movement. Replaceable and good for 40 cleanings
- **Cleaning Solution:** A "trichlorotrifluoroethane" cleaning solution is applied to the cleaning foam prior to insertion of the cartridge
- **Cleaning Action:** A thorough cleaning is accomplished by the cleaning pad passing horizontally across the read-write head. Such movement is derived mechanically from the tape drive's own drive roller. The area cleaned on the head surface is approximately .4" x .7". This can be increased by programming the head to be moved up and down





# ALTA GROUP, INC.

535 Race St.  
San Jose, CA 95126  
(408) 297-2582  
FAX: (408) 297-1206

# DIGITAL VIDEO PRODUCTION SYSTEMS

## Pyxis/Pyxis-E Digital Video Production Systems

### Common Features

#### Effects

- Cut (Vertical interval switch between channels) • Dissolve • Horizontal wipe • Corner wipes • Window
- Shutter (R and L edges to center) • Blind (Top and bottom to center) • Fade to black • Vertical wipe

#### Editor Interface

- GPI connection allows external triggering of selected effect by ground closure

#### Modifiers

- Midstop • Soft edge (all effects) • Transition speed (16, 24, 32 or 60 frames)

#### Proc Amp Controls (2 Channels)

- Luminance level • Chroma level • Hue (NTSC only)
- Set-up • H phase • SC phase

#### Audio Select

- Audio cuts • Audio lead • Stereo production • Audio follow video • Audio hold

#### Wipes

- Vertical • Horizontal • Four corners • Window, shutter and blind

#### Sync

- Operates on a stand-alone basis or genlocked

#### Stereo Audio Mixing

- Audio can be mixed, switched or faded along with the video or locked to the A or B channel using "Audio Hold"

#### Digital Effects

- Push on • Pull off • Push off • Posterize

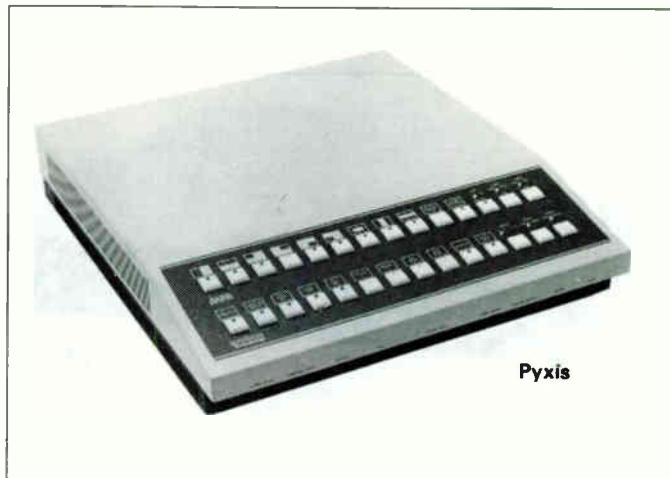
#### Pyxis

- 2-channel TBC • A/B video switcher • Digital video effects • Audio mixer • 8-bit resolution • Live camera inputs • Editor interface • Dual proc amp picture control

The easy way to move up to professional A/B roll editing. A dual-channel TBC with built-in digital effects and full proc amp control for two video tape sources plus two live cameras. It works with 1/2" and 3/4" VCRs to synchronize timing, correct picture imbalances and provide smooth transitions between scenes...cuts, soft wipes, dissolves and even digital push-ons and pull-offs.

Other features include posterization and selectable source switching. Meets RS-170 broadcast specifications.

Pyxis NTSC .....\$6250.00  
Pyxis PAL .....6950.00



Pyxis



Pyxis-E

#### Pyxis-E

- Video channels have independent freeze capability that can be used in field or frame mode • Field mode achieves the clearest image when motion is present • Frame mode delivers the highest resolution for detailed originals and graphics • 8-bit resolution • Built-in dual channel picture freeze • A wide spectrum of special effect possibilities and combinations available • To ensure smooth operation and broadcast quality results, the output is frame synchronous

This is a video production system that incorporates the same A/B roll editing and special effects features found in Pyxis...plus more, with new features and capabilities.

For maximum interfacing flexibility, it is designed with dual eight-bit infinite window TBC/Synchronizers. As a result, the system can synchronize video from any source, even consumer equipment, without advance sync or feedback connections. This means that you can employ equipment ranging from video cameras to remote feeds to 8mm VCRs to VTRs.

Pyxis-E NTSC .....\$8450.00  
Pyxis-E PAL .....9200.00

# ALTA GROUP, INC.

535 Race St.  
San Jose, CA 95126  
(408) 297-2582  
FAX: (408) 297-1206

# DIGITAL VIDEO PRODUCTION SYSTEMS



Cygnus

## Cygnus Digital Video Production System TBC with Effects and Proc Amp Controls

- "Infinite window" TBC
- Video effects
- H & V image enhance (NTSC)
- 4x1 video and stereo audio routing switcher
- 8-bit resolution

### Effects

- Continuously variable picture strobe
- Continuously variable posterization
- Continuously variable colorization
- Digital picture freeze
- 64 levels of mosaic tile
- Cuts (vertical interval switching between channels, audio follows video)

### Proc Amp Controls

- Luminance level
- Chroma level
- Hue (NTSC only)
- Setup
- H phase
- SC phase

Cygnus provides an infinite window TBC as well as numerous special effects and 4x1 audio/video switching.

Broadcast television stations, cable stations, corporations, and independent video producers represent a few of the users that have already gained the "Cygnus Advantage."

The system meets broadcast RS-170 specifications.

The system enables you to freeze the video, or achieve stop-action and slow-motion through strobing controls. As a result "Rock Video" effects can be created.

You can artificially colorize or color correct the video, posterize the video and add a mosaic effect. Each effect can be independently adjusted through a variable control.

But the best part is that all effects can be used in any selected combination. This means you can manipulate the video through a virtually endless stream of visual possibilities. Even a frozen screen can be altered through variable colorization, posterization, and mosaic effects.

Cygnus NTSC . . . . .	\$4,990.00
Cygnus PAL . . . . .	5,600.00

## Centaurus Digital Video Production System

- Full 4.2MHz bandwidth
- Y/C 358 and composite input/output
- Full 8-bit video resolution
- Meets broadcast specification RS120A
- Complete remote operation
- Direct connection to numerous editors
- Simple, single key operation
- Dual proc amp controls: Luma, setup, chroma and hue
- Genlock indicator with horizontal and SC phase adjustments
- Built-in disk drive with removable digital video data disk
- Matched frame editing
- S-VHS inputs/outputs
- GPI interface with internal programmable sequence memory (list mode)
- Display monitor shows full system status, edit listing, retrieval sequence and storage information
- Number key utilizes pad for picture storage-retrieval, programmable transition speeds, variable stops, variable background colors and programmable strobing
- Allows inputs and modifier effects to be changed during split screen operation

Centaurus, a wideband Video Production System for A/B roll editing, provides high resolution still storage and retrieval. The system contains dual infinite window TBCs/synchronizers, a video/stereo-audio routing switcher and special effects generators. Other features include an internal downstream keyer, numerous wipes, digital effects and dual channel fully independent digital frame/field freeze.



Centaurus

Pictures, logos, slides and titles can be easily stored and retrieved with either a removable hard disk or an external 500M byte disk drive which stores up to 1000 frames or 2000 fields of video. The entire system features simple key operation, making it ideal for on line operation and post production.

Centaurus NTSC . . . . .	\$16,950.00
--------------------------	-------------

# ALTMAN STAGE LIGHTING CO., INC.

57 Alexander St.  
Yonkers, NY 10701  
(914) 476-7987

# BEAM PROJECTORS

## 660 10" Beam Projector

- 10" Alzak processed reflector • Sheet steel welded construction
- Medium prefocus socket • Screw feed beam focus adjustment
- Three 36" teflon lead wires • Pipe clamp for 3/4" to 1 1/2" pipe included • Plate steel color frame included • U.L. listed for up to 750W

A special purpose luminaire, the 660 produces a narrow beam which varies from 7.9' to 14.3' at a distance of 25'. Designed to operate both standard incandescent and high color temperature tungsten halogen lamps. The luminaire is used in theater and television for special effect lighting to represent strong sunlight or moonlight shafts. The circular beam pattern is also useful in architectural and museum accent lighting.

660 500-1000W 10" beam projector . . . . . \$110.00

### Accessories

- 660PC Malleable iron pipe clamp . . . . . \$8.00
- 660SC Safety cable with spring clip (not included) . . . . . 5.00
- 660CF Color/diffuser frame . . . . . 5.00

## RLY/RLC Rain Lights

- Sheet steel construction • Dimmable first quality transformer
- Color frame included • Ridges strap iron yoke on RLY • 6' cord with U-ground cord cap on RLY • Key slots for junction box installation on RLC

The Rain Light is a low voltage "Bullet Beam" spotlight used for accenting individual display items or creating a falling "rain" effect when used on a sequencing controller. Utilizing a very narrow beam, long life low voltage lamp, the rain light is ideal for show windows, museums, theatrical special effects and for disco effect lighting. The RLY is designed for portable applications where it can be clamped in place and temporarily connected. The RLC is designed for permanent installation where the luminaire is hard wired and recessed in a ceiling.

RLY 25W 5.5V rain light (yoke mtd.) . . . . . \$45.00  
RLC 25W 5.5V rain light (ceiling mtd.) . . . . . 40.00

### Accessories

- RLY PC Pipe clamp . . . . . \$8.00
- RLY CF Color frame (included with RLY) . . . . . 1.75
- RLC CF Color frame (included with RLC) . . . . . 1.75

## PAR 46, 56 and 64

### Steel Hood Beam Projectors

- Rugged sheet steel construction • 360° beam rotation lamp holder
- Plated steel color frame included • Hinged rear cover for lamp access
- Latching circular color frame holder (PAR 46 and 56) • Spring loaded color frame lock (PAR 64) • Rubber cord with molded plug (PAR 46)
- Three 36" teflon lead wires (PAR 56 and 64) • Pipe clamp for 3/4" to 1 1/2" pipe included (PAR 56 and 64)

Versatile luminaires designed for diverse applications. Intensities and beam spreads are a function of the lamp selected for use in the fixture. One unit can serve multiple purposes simply by changing the lamp.

Ideal for use in concerts, nightclubs, television and film remotes and architectural applications where maximum flexibility is desired in a small, compact package.

### PAR 46

The smaller size of the PAR 46 offers maximum flexibility. With an oval shaped orientational beam and a 200W lamp.

PAR 46 Steel PAR hood . . . . . \$38.00

### Accessories

- PAR 46CF Color frame . . . . . \$1.75
- PAR 46PC Malleable iron pipe clamp . . . . . 8.00
- PAR 46SC Safety cable spring clip . . . . . 5.00



RLY



660



RLC



PAR 64 WP



PAR 64 AL

### PAR 56

Features a lamp range from 300-500W.

PAR 56 Steel PAR hood . . . . . \$46.00

### Accessories

- PAR 56CF Color frame . . . . . \$2.00
- PAR 56PC Malleable iron pipe clamp (included) . . . . . 8.00
- PAR 56SC Safety cable spring clip . . . . . 5.00
- PAR 56SS Safety screen . . . . . 6.50

### PAR 64

The optional 64 to 56 adaptor ring offers maximum flexibility. The PAR 64 features a lamp range from 300-1000W.

PAR 64 Steel PAR hood . . . . . \$52.50

### PAR 64 AL

Shares the same basic features as the PAR 64 except constructed of rolled aircraft aluminum to minimize weight and maximize durability.

PAR 64 AL Aluminum PAR hood . . . . . \$65.00

### PAR 64 WP

Shares the same basic features as the PAR 64 except constructed of rolled aircraft aluminum with an enclosed rear lamp house to minimize weather intrusion.

PAR 64 WP Weather PAR hood . . . . . \$90.00

### Accessories

- PAR 64PC Malleable iron pipe clamp . . . . . \$ 8.00
- PAR 64CF Color frame . . . . . 3.00
- PAR 64/56AR Adaptor ring (for PAR 64 and PAR 65 AL only) . . . . . 5.00
- PAR 64 BD4 4-way barndoor . . . . . 42.00
- PAR 64SN Snoot . . . . . 12.00
- 404-8 Motorized color wheel . . . . . 85.00
- PAR 64SC Safety cable with spring clip . . . . . 5.00
- PAR 64SS Safety screen . . . . . 8.00



# ALTMAN STAGE LIGHTING CO., INC.

57 Alexander St.  
Yonkers, NY 10701  
(914) 476-7987

# SCOOPS

## Scoops

### Common Features

• Heavy spun aluminum construction • Processed matte aluminum reflector • Three 36" teflon lead wires • Pipe clamp for 3/4" to 1 1/2" pipe included • Color/diffuser frame available • U.L. listed for up to 1000W (155 1500W)

Lightweight multi-purpose ellipsoidal reflector floodlights. The luminaire is used in theatre and television as both a flood light and a cyclorama fixture. Other uses include photographic and television remote fill light. These scoops are ideal for fixtures for color blending and for creating smooth even washes of light.

### 153 Scoop

153 Scoop produces a very diffuse soft edged beam of 12.6' in diameter at a distance of 5'. Designed to operate standard incandescent lamps.

153 250-400W 10" scoop . . . . . \$45.00

#### Accessories

153PC Malleable iron pipe clamp (extra) . . . . . \$8.00  
153CR Color frame . . . . . 3.00  
153SC Safety cable with spring clip . . . . . 5.00

### 154 Scoop

154 Scoop produces a very diffuse soft edged beam of 15' in diameter at a distance of 7.5'. Designed to operate both standard incandescent and high color temperature tungsten halogen lamps.

154 300-1000W 14" scoop . . . . . \$75.00

#### Accessories

154PC Malleable iron pipe clamp . . . . . \$8.00  
154CR Color frame . . . . . 7.00  
154SC Safety cable with spring clip . . . . . 5.00

### 160 Scoop

160 Scoop produces a very diffuse soft edged beam which varies in diameter from 13.5' to 20.7' at a distance of 7.5'. Designed to operate high color temperature tungsten halogen lamps.

160 500-1000W 14" scoop . . . . . \$140.00

#### Accessories

160PC Malleable iron pipe clamp . . . . . \$8.00  
160CF Color/diffuser frame . . . . . 7.00  
160SC Safety cable with spring clip available . . . . . 5.00

### 161 Scoop

161 Scoop produces a very diffuse soft edged beam of 20' in diameter at a distance of 10'. Designed to operate high color temperature tungsten halogen lamps.

161 500-1000W Quartz 16" scoop . . . . . \$115.00

#### Accessories

161PC Malleable iron pipe clamp . . . . . \$ 8.00  
161SC Safety cable with spring clip . . . . . 5.00  
161CF Color/diffuser frame. Must be ordered separately.  
Not included in price of fixture . . . . . 13.00

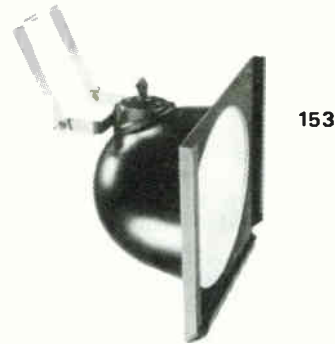
### 155 Scoop

155 Scoop produces a very diffuse soft edged beam of 20' in diameter at a distance of 7.5'. Designed to operate both standard incandescent and high color temperature tungsten halogen lamps.

155 500-1500W 18" scoop . . . . . \$85.00

#### Accessories

155PC Malleable iron pipe clamp . . . . . \$ 8.00  
155SC Safety cable with spring clip . . . . . 5.00  
155CR Color/diffuser frame. Must be ordered separately.  
Not included in price of fixture . . . . . 13.00



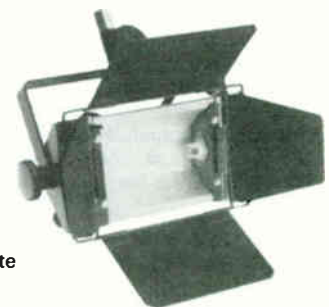
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160



Q-Lite Jr.



Q-Lite

### 1K-Q-Lite and 650 Q-Lite Jr.

• Compact • Broad even beam • Ventilated steel housing • Lightweight • Wide range of lamps • Standard with barndoors

Compact, lightweight multi-purpose flood/fill lights. Designed to operate high color temperature tungsten halogen lamps in stage, studio or location lighting. The luminaire is ideal for use in tight or confined spaces where maximum light output and beam are required for fill or flood lighting.

#### 1K Q-Lite

Produces a very broad beam which will uniformly illuminate an area 25' by 43' at a distance of 10' with a center intensity of 56fc.

\*\*Q-Lite with BD and household conn. (3' lead) (1000W) . . . \$130.00

#### 650 Q-Lite Jr.

Produces a very broad beam which will uniformly illuminate an area 27' by 22' at a distance of 8' with a center intensity of 88fc.

\*\*Q-Lite Jr. with BD household conn. (3' lead) (650W) . . . \$110.00

#### Accessories

Barndoor for Jr. . . . . \$15.00  
Barndoor for Q-Lite . . . . . 20.00  
Hanging 5/8 stud only to fit 510PC . . . . . 12.00  
Q-Lite/Q-Lite Jr. Color Frame . . . . . 6.50  
510 Pipe Clamp . . . . . 8.00  
25' extension cord with protective safety switch and household conn. . . . . 48.00

\*\*Pipe clamp not included with fixture. Both use RSC base.

# ALTMAN STAGE LIGHTING CO., INC.

57 Alexander St.  
Yonkers, NY 10701  
(914) 476-7987

# ELLIPSOIDALS

## 1KL6 and 1KL2040Z Ellipsoidals

### Common Features

- Tempered crown glass lens in a teflon bearing focus assembly
- 1KL6-2040Z features a unique three lens zoom focus assembly
- Extruded aluminum body with diecast parts
- Adjustable lamp holder with heat deflector and lamp lock
- Adjustable tension shutter gate complete with a pattern slot and holder
- Multifaceted peened Alzak aluminum reflector
- 270° tilt strap iron yoke with positive locking dogs
- Offset reversible heavy gauge shutters in separate planes
- Pipe clamp, color frame and safety cable included
- U.L. listed for 1000W lamp

The 1KL Series Ellipsoidals have an adjustable lamp holder for peak performance or for flat field where pattern projection is desired. The four integral framing shutters are in separate planes and are offset and reversible to insure maximum shaping flexibility. With a range of lamps from 500W to 1000W the 1KL Series is ideal for theaters, night clubs and television studios or wherever superior controlled lighting performance is required.

<b>1KL6</b>	1000W Ellipsoidal (6-50°, 6-40°, 6-30°, 6-20°, 6-12°) . . . . .	<b>\$230.00</b>
<b>1KL2040Z</b>	1000W Ellipsoidal (zoom) . . . . .	<b>310.00</b>

### Accessories

<b>1KL6PC</b>	Malleable iron pipe clamp . . . . .	<b>\$ 8.00</b>
<b>1KL6CF</b>	Color frame . . . . .	<b>1.75</b>
<b>1KL6PH</b>	Pattern holder . . . . .	<b>5.50</b>
<b>1KL6SC</b>	Safety cable with spring clip . . . . .	<b>5.00</b>
<b>1KL6PATS</b>	8 patterns . . . . .	<b>10.00</b>
<b>1KL6SN</b>	Snoot . . . . .	<b>10.00</b>
<b>195A</b>	Manual color wheel . . . . .	<b>18.00</b>
<b>404-6</b>	Motorized color wheel . . . . .	<b>70.00</b>
<b>4.5 x 7.4</b>	Replacement lens (6-50°, 6-40°) . . . . .	<b>26.00</b>
<b>4.5 x 12</b>	Replacement lens (2040Z) . . . . .	<b>26.00</b>
<b>6 x 7</b>	Replacement lens (2040Z) . . . . .	<b>40.00</b>
<b>6 x 12</b>	Replacement lens (6-40°, 6-30°, 6-12°) . . . . .	<b>32.00</b>
<b>6 x 16</b>	Replacement lens (6-20°, 2040Z) . . . . .	<b>30.00</b>
<b>1KL6I</b>	Iris (installed in units) 50, 40, 30, 20, 12 . . . . .	<b>50.00</b>

## 1KL8-10 and 1KL8-1424Z Ellipsoidals

### Common Features

- Adjustable lamp holder with heat deflector and lamp lock
- Adjustable tension shutter gate complete with a pattern slot and holder
- Multifaceted peened Alzak aluminum reflector
- Offset reversible heavy gauge shutters in separate planes
- Pipe clamp, color frame and safety cable included
- U.L. listed for 1000W lamp

The 1KL8-10 and the 1KL8-1424Z feature an adjustable lamp holder for peak performance or for flat field where pattern projection is desired. Four integral framing shutters are in separate planes and are offset and reversible to insure maximum shaping flexibility. With a range of lamps from 500W to 1000W.

### 1KL8-10 (10°)

- Tempered crown glass lens
- Extruded aluminum and hardened aircraft aluminum body with diecast parts
- 270° tilt strap iron yoke with positive locking dogs

The one 8" x 14" tempered crown glass plano convex lens produces a very narrow beam of approximately 12.6' in diameter for a 60' throw.

<b>1KL8-10</b>	. . . . .	<b>\$325.00</b>
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### 1KL8-1424Z (14°-24°)

- Unique two lens zoom focus assembly
- Extruded aluminum body with diecast parts
- Adjustable strap iron yoke with positive locking dogs

The variable focus lens system produces beams as wide as 21' or as narrow as 12' or anywhere in between at a distance of 50'.

<b>1KL8-1424Z</b>	. . . . .	<b>\$380.00</b>
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**1KL6**



**1KL8-1424Z**



**1KL8-10**

**1KL10-5**

### Accessories

<b>1KL8PC</b>	Malleable iron pipe clamp . . . . .	<b>\$ 8.00</b>
<b>1KL8CF</b>	Color frame . . . . .	<b>3.00</b>
<b>1KL8PH</b>	Pattern holder . . . . .	<b>5.50</b>
<b>1KL8SC</b>	Safety cable with spring clip . . . . .	<b>5.00</b>
<b>1KL8PATS</b>	8 patterns . . . . .	<b>10.00</b>
<b>1KL8SN</b>	Snoot . . . . .	<b>12.00</b>
<b>8 x 14</b>	Replacement lens . . . . .	<b>55.00</b>
<b>4 1/2 x 6 1/2</b>	Replacement lens . . . . .	<b>26.00</b>
<b>1KL8I10</b>	Iris installed in units . . . . .	<b>50.00</b>

### 1KL10-5 (5°) Ellipsoidal

- Tempered crown glass lens
- Extruded aluminum and hardened aircraft aluminum body with diecast parts
- Offset strap iron yoke with positive locking dogs
- Offset reversible heavy gauge shutters in separate planes
- Pipe clamp, color frame and safety cable included
- U.L. listed for 1000W lamp

The one 10" x 24" tempered crown glass plano convex lens produces a very narrow beam of approximately 12.2' in diameter for a 100' throw.

<b>* 1KL10-5 (5°)</b>	1000W Ellipsoidal . . . . .	<b>\$450.00</b>
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### Accessories

<b>1KL10PC</b>	Malleable iron pipe clamp . . . . .	<b>\$ 8.00</b>
<b>1KL10CF</b>	Color frame . . . . .	<b>5.00</b>
<b>1KL10PH</b>	Pattern holder . . . . .	<b>5.50</b>
<b>1KL10SC</b>	Safety cable with spring . . . . .	<b>5.00</b>
<b>1KL10PATS</b>	8 patterns . . . . .	<b>10.00</b>
<b>1KL10SN</b>	Snoot . . . . .	<b>20.00</b>
<b>10" Dia.</b>	Replacement lens . . . . .	<b>80.00</b>
<b>1KL10I5</b>	Iris installed in units . . . . .	<b>50.00</b>
<b>4.5-</b>	Baby zoom with TP-22 socket	
<b>2550Z-MT</b>	15° to 30°, 25° to 50°, 30° to 60° . . . . .	<b>190.00</b>
<b>4.5-</b>	Baby zoom with mini-can socket	
<b>2550Z-MC</b>	15° to 30°, 25° to 50°, 30° to 60° . . . . .	<b>190.00</b>

\*All 1KL fixtures have special heat tempered lenses and replacement lenses must not be substituted by any other.

# ALTMAN STAGE LIGHTING CO., INC.

57 Alexander St.  
Yonkers, NY 10701  
(914) 476-7987

# ELLIPSOIDALS

## 4.5-2550Z Baby Zoom Ellipsoidal

• Unique smooth action two lens zoom focus assembly • Extruded aluminum body with diecast aluminum parts for lightweight strength • Adjustable lampholder, with lamp lock and heat deflector for long lamp life • Choice of mini-can or medium 2 pin sockets for a wide range of lamp wattages • Pebbled specular Alzak aluminum reflector for precise optical control • 3-36" teflon leads fit in a unique luminaire pocket for easy storage • U.L. listed for 750W (pending)

The 4.5-2550Z zoom focus ellipsoidal is a unique luminaire with professional qualities. The smooth operating, variable focus lens system produces beams as wide as 37.3' or as narrow as 17.7' at a distance of 40'. The 4.5-2550Z has an adjustable lampholder allowing peak center performance or a flat field when pattern projection is desired.

4.5-2250Z-MT Baby Zoom with TP-22 socket . . . . . \$190.00  
4.5-2550Z-MC Baby Zoom with mini-can socket . . . . . 190.00

### Accessories

4.5-2550Z-PC Pipe clamp . . . . . \$ 8.00  
4.5-2550Z-CF Color frame . . . . . 2.00  
4.5-2550Z-PH Pattern holder . . . . . 5.50  
4.5-2550Z-SC Safety chain . . . . . 5.00  
4.5-2550Z-BR 5 beam reducing templates . . . . . 10.00

## 3.5Q 5", 6", 8", 10" and 12" Ellipsoidals

### Common Features

• Two heat resisting plano convex lenses • Aluminum diecast and sheet metal construction • Axially mounted TP-22 socket • Pebbled specular Alzak aluminum reflector • Three 36" teflon lead wires • Pipe clamp for 3/4" to 1 1/2" pipe included • Plated steel color frame included • Safety cable with spring clip available • U.L. listed for 500W

Compact, lightweight ellipsoidal spotlights, which produce a high intensity sharp or soft edged beam. Designed for high intensity tungsten halogen lamps.

3.5Q 5", 6", 8", 10", 12" Ellipsoidals with mini-can socket. . . . . \$135.00

### Accessories

3.5Q PC Malleable pipe clamp . . . . . \$ 8.00  
3.5Q CF Color frame . . . . . 1.75  
3.5Q PH Pattern holder . . . . . 2.50  
3.5Q SC Safety cable with spring clip . . . . . 5.00  
3.5Q PATS 8 patterns . . . . . 10.00  
3.5 Sockets Med. bi-pin or mini-can with leads . . . . . 10.00  
3.5 Lens 5", 6", 8", 10", 12" replacement lens. . . . . 10.00

## 360 4.5" x 6.5", 6" x 9", 6" x 12" and 6" x 16" Ellipsoidals

### Common Features

• Two heat resisting plano convex lenses • Aluminum diecast and sheet metal construction • Medium prefocus socket • Annular ringed specular Alzak aluminum reflector • Three 36" teflon lead wires • Pipe clamp for 3/4" to 1 1/2" pipe included • Plated steel color frame included • Safety cable with spring clip included • U.L. listed for 500W

Compact, lightweight ellipsoidal spotlights which produce a high intensity sharp or soft edged beam. Designed for incandescent lamps as well as the tungsten halogen incandescent replacement lamps.

360 6" Ellipsoidal (4.5" x 6.5", 6" x 9", 6" x 12", 6" x 16") ellipsoidals. . . . . \$140.00

### Accessories

360 PC Malleable iron pipe clamp . . . . . \$ 8.00  
360 CF Color frame . . . . . 1.75  
360 PH Pattern holder . . . . . 5.50  
360 SC Safety cable with spring clip . . . . . 5.00  
360 PATS 8 patterns . . . . . 10.00  
360 SN Snoot . . . . . 10.00  
195A Manual color wheel . . . . . 18.00  
404-6 Motorized color wheel . . . . . 70.00  
Replacement lenses (4.5" x 6.5" PC, 6" x 9" PC  
6" x 12" PC, 6" x 16" PC) . . . . . 17.50  
Iris (installed in units 360I 4.5" x 6.5", 360I  
6" x 9" . . . . . 50.00



## 360Q 4.5" x 6.5", 6" x 9", 6" x 12", 6" x 16" and 6" x 22" Quartz Ellipsoidals

### Common Features

• Aluminum diecast and sheet metal construction • Axially mounted TP-22 socket • Double flatted specular Alzak aluminum reflector • Three 36" teflon lead wires • Pipe clamp for 3/4" to 1 1/2" pipe included • Plated steel color frame included • Safety cable with spring clip included • U.L. listed for up to 750W

Compact, lightweight ellipsoidal spotlights that produce a high intensity sharp or soft edged beam. Designed for long life, high intensity tungsten halogen lamps.

360Q 6" Quartz Ellipsoidal (4.5" x 6.5", 6" x 9", 6" x 12", 6" x 16", 6" x 22") ellipsoidals . . . . . \$165.00

### Accessories

360Q PC Malleable iron pipe clamp . . . . . \$ 8.00  
360Q CF Color frame . . . . . 1.75  
360Q PH Pattern holder . . . . . 5.50  
360Q SC Safety cable with spring clip . . . . . 5.00  
360Q PATS 8 patterns . . . . . 10.00  
360Q SN Snoot . . . . . 10.00  
195A Manual color wheel . . . . . 18.00  
404-6 Motorized color wheel . . . . . 70.00

## 365, 6" Ellipsoidal

• 6" x 8" convex stepped lens • Aluminum diecast and sheet metal construction • Medium prefocus socket • Flatted specular Alzak aluminum reflector • Three 36" teflon lead wires • Pipe clamp for 3/4" to 1 1/2" pipe included • Plated steel color frame included • Safety cable with spring clip included • U.L. listed for up to 750W

A compact, lightweight ellipsoidal spotlight which produces a high intensity sharp or soft edged beam. The 6" x 8" convex stepped lens optical system produces a narrow beam approximately 11' in diameter for a 30' throw.

The 365 is designed for incandescent lamps as well as the tungsten halogen incandescent replacement lamps.

365 6" Ellipsoidal . . . . . \$116.00

### Accessories

365 PC Malleable iron pipe clamp . . . . . \$ 8.00  
365 CF Color frame . . . . . 1.75  
365 PH Pattern holder (installed) . . . . . 20.00  
365 SC Safety cable with spring clip . . . . . 5.00  
365 PATS 8 patterns . . . . . 10.00  
365 SN Snoot . . . . . 10.00  
195 A Manual color wheel . . . . . 18.00  
404-6 Motorized color wheel . . . . . 70.00  
PC lens . . . . . 22.00  
6" x 9" Replacement stepped lens . . . . . 15.00  
6" x 8" Replacement stepped lens . . . . . 15.00



# ALTMAN STAGE LIGHTING CO., INC.

57 Alexander St.  
Yonkers, NY 10701  
(914) 476-7987

# STAGE ACCESSORIES



MODEL	DESCRIPTION	PRICE
111	Pantagraph extends 9'3"	\$190.00
112	Pantagraph extends 9'3"	200.00
113	Pantagraph extends 9'3"	250.00
SY 6	6" Swivel yoke	24.00
SY 8	8" Swivel yoke	30.00
504	Stiffener UV eye	25.50
504/A	Extension clamp with 1/2" bolt	20.00
506	Double "C" clamp extension	15.00
502	"Kellums" grip lift	POR
505	Locking bolt lift	POR
B 50	50 lb. base	85.00
B 50 CB	Castered 50 lb. base	250.00
B 18	26 lb. base	55.00
B 14	18 lb. base	45.00
B 3 CB	Caster tripod base	85.00
1 1/4" / 1"	Reducing bushing	2.00
1" / 3/4"	Reducing bushing	1.67
519	3/4" Locking collar and screw	4.00
519/A	1/2" Locking collar and screw	10.00
	1/2" NPT pipe cap with 1/2" bolt	1.20
	Cable hook for 1/2" diameter pipe	2.93
	Adjustable stand top 1" to 3/4" with bracket handle	2.40
	Adjustable stand top 3/4" to 1/2" with bracket handle	2.20

MODEL	DESCRIPTION	PRICE
524	Adjustable stand 5' min. height 9' max. height, 26 lb. base	\$ 57.00
525	Adjustable stand 3' min. height 5' max. height; 18 lb. base	75.00
526	Castered adjustable stand 5' min. height 9' max. height	100.00
Tees	Sliding Tee	5.00
507	Scenery bumper	25.00
508	Borderlight hanger arm with clamp	16.50
509	Side arm with tee	18.00
510	Pipe clamp	8.00
510-2	Double pipe clamp	20.00
510/B	Baby pipe clamp	4.50
511	Cable clamp	38.00
512	Cable cradle	35.00
512/L	Large cable cradle	60.00
513	Large wall bracket	16.00
514	Small wall bracket	14.00
516	5/16" Bracket handles	1.60
517	1/2" Bracket handles	2.50
521	Rotalock pipe clamp (specify pipe size)	15.00
522	Double T side arm	27.50
Wrench	Altman wrench	5.00

POR - PRICE ON REQUEST

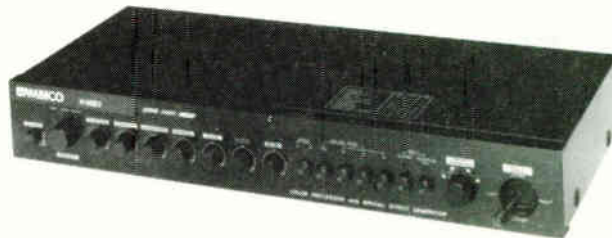
# AMBICO, INC.

50 Maple St.  
Norwood, NJ 07648-0427  
(201) 767-4100

# VIDEO COMMAND MODULE/CAMERA BAGS/ TRIPODS/BATTERY PACKS

## V-0353 Video Command Module

- Sophisticated enhancing and color processing for quality tape duplicating • Offers a wide variety of special effects
- Built-in joystick • RGB color controls to create wipes in seven different color combinations to or from any of the four sides or four corners of the picture • Generates color bar charts • Reverse color processing • Polarity reversal switch • Split screen processing for comparison of the enhanced and unenhanced images • Internal/external synchronization for smooth and noiseless transitions • One or two inputs and as many as three outputs • Equipped with double audio jacks for use with stereo units . . . . \$799.95



V-0353

## VIDEO CAMERA BAGS

### V-0430/V-0431 Video Camera Bag

- Designed for a total video system • Dividers allow ample room for video camera, plus accessories • Caterpillar tread design cushions equipment • Won't slide on smooth surfaces • Nylon fabric outer covering resists moisture, mildew, and abrasion • Luxurious, cushioned vinyl nap inner lining is gentle to equipment inside • Accessory pockets for batteries, tapes, and cables • Tripod can be carried under belting • Web straps adjust for convenient hand or shoulder carrying

### V-0430

Video Camera Bag . . . . . \$49.95

### V-0431

Video Camera and Equipment Bag . . . . . \$64.95

### V-0434 Compact Video Bag

- Perfect for smaller camcorders • Light shoulder strap • Rubber flap over zippered top • 12" x 9" x 6 1/2" . \$39.95

### V-0435 Video Camera Holster

- Unique shape for full sized camcorders • Stiff paneled wall construction • Pockets in both top and sides of bag • Rubber tread on bottom for protection • 18"H x 6"W x 10"L . . . . . \$79.95



V-0520



V-0845



V-8000



V-822



V-821



V-820

## TRIPODS

### V-0520 Professional Fluid Head Tripod

- 1 1/4" Metal legs • Quick release locks • Adjustable spiked/rubberized feet • Fluid head • Oversize quick release camera mount • Two-way adjustable handle • All metal gear driven center column • Maximum height 65" • Collapsed size is only 24" . . . . . \$149.95

### V-0530 Compact Fluid Head Tripod

- Locking 2-way fluid panhead • Quick release camera mount • Braced gear driven column • Rubber grip retractable spike feet • Extends to 58" • Collapses to 24" . . . . . \$119.95

### V-0525 Compact Fluid Head Tripod

- Locking 2-way fluid panhead • Quick release camera mount • Braced gear driven column • Rubber grip retractable spiked feet • Pan and tilt degree indicators • Extends to 61" • Collapses to 24" . . . . . \$89.95

### V-5500 Val-U-Tripod

- Heavy-duty tripod • Fluid head • Quick release camera mount • Gear driven elevator • Friction control center column • Single action quick release leg locks . . . \$69.95

## BATTERIES

### V-0820

- Fits Sony, Aiwa, Kyocera • 1300mA output • Provides the same power as the original battery . . . . . \$49.95

### V-0821

- Fits JVC, Sharp, Toshiba, and Zenith • 1500mA output • 50% more power than the original battery. . . . . \$64.95

### V-0822

- Fits Hitachi, RCA, Sears, and Mitsubishi • 1500mA output

### V-0823

- Fits Panasonic, GE, Sylvania, Magnavox, Quasar, and JC Penney • 12V 2A output . . . . . \$59.95

### V-0824

- Fits Olympus, Chinon, Nikon, and ELMO • 7.2V 1.6A output . . . . . \$79.95

# AMBICO, INC.

50 Maple Street  
Norwood, NJ 07648-0427  
(201) 767-4100

# POWERPACKS/ACCESSORIES

## POWER PACKS AND ACCESSORIES



V-0805

### V-0805 10AH Belt Powerpack

- Convenient, portable power from sealed, rechargeable lead-acid cells • Powers a VCR for up to 10 hours, a 100W lamp for nearly one hour • Connecting coilcords will not dangle • Weighs less than 9 lbs. • 12V lead-acid cells are rugged; have high cycle-life and recovery ability • Power receptacle is fused for maximum protection • Web belting is adjustable and has easy-latch buckle • Includes recharger • Recharges from standard household current

V-0805 .....\$109.95



V-0810

### V-0810 Decathlon NiCad Powerpack

- Lightweight, portable power • Powers 100W videolight for up to 35 minutes • VCR up to 6 hours • Weighs 3 lbs. • Adjustable straps fit over the shoulder or around the waist • Includes heavy-duty AC charger for dependability • Can be recharged up to 1,500 times • Recharges in just 12 hours • Cannot be damaged by over or under-charging • Fused for extra safety • Cigarette lighter-type receptacle connects to any VCR, videolight, voltage meter, etc. with accessory car battery cord • Main pack measures 7"H x 5"W x 2"D

V-0810 .....\$149.95



V-0812

### V-0812 Decathlon Plus NiCad Belt Powerpack

- Powers 100W lamp approximately one hour, or VCR up to 12 hours • Weighs less than 5 lbs. • Attaches comfortably around waist • Adjustable web belt has easy-latch buckle • Foam padding under rugged nylon fabric covering • Can be recharged up to 1,500 times • Recharges in just 12 hours from any standard 110/120V household outlet • Cannot be damaged from over or undercharging • Fused for extra protection

V-0812 .....\$219.00



V-0601

V-0898

V-0892

### V-0601 Dual Connector

- Connects two lights, or one light and VCR, to a single 12V power source • Cigarette lighter-type plug and dual receptacles

V-0601 .....\$9.95

### V-0898 Voltage Meter

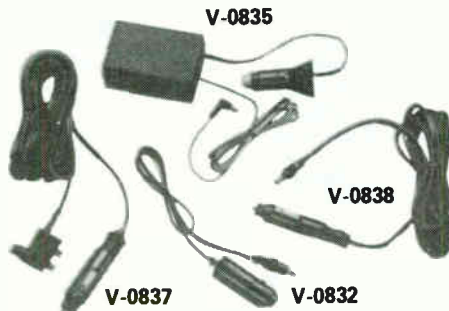
- Assures adequate 12V power to maintain video quality • Connects power supply to VCR, lights, or other equipment • Color-coded LEDs indicate low power

V-0898 .....\$24.95

### V-0892 DC Car Converter

- Supplies multiple voltage power from either car lighter or 12V battery pack • Switch controls 12V, 9V, 7.5V, 6V, 4.5V, 3V • Spider adaptor fits all accessories

V-0892 .....\$12.95



V-0835

V-0837

V-0832

V-0832

### Adaptor Cords for Camcorder

Attach Sony, JVC, Panasonic, RCA or other to any Ambico Power Pack (Model V-0803, V-0805, V-0810, V-0812 or V-8000)

**V-0832 RCA Camcorder-to-Cigarette Plug** • Fits RCA and Hitachi camcorders. (Also fits RCA/Hitachi portables)

V-0832 .....\$14.95

**V-0835 Sony/JVC Camcorder-to-Cigarette Plug** • Fits Sony Beta, JVC

V-0835 .....\$44.95

**V-0837 Panasonic Camcorder-to-Cigarette Plug** • Fits Panasonic, Magnavox, Penney, Canon, Philco, Sylvania, GE, Olympus, Quasar and other camcorders

V-0837 .....\$19.95

**V-0838 Sony 8mm-to-Cigarette Plug** • Fits Sony 8mm camcorders

V-0838 .....\$17.95



### VCR-To-Powerpack Adaptor Cords

(for portable units with separate cameras)  
**V-0832 RCA VCR-to-Cigarette Plug** • Fits RCA/Hitachi (Also fits RCA/Hitachi camcorders)

V-0832 .....\$14.95

**V-0834 Panasonic Dummy Battery-to-Cigarette Plug** • Fits current Panasonic, Magnavox, Penney, Canon, Philco, Sylvania, GE, Olympus, Quasar and other models. (Does not require original VCR battery for operation)

V-0834 .....\$16.95

**V-0836 Panasonic VCR-to-Cigarette Plug (with OEM battery charger)** • Fits same models as V-0834 but requires original VCR battery for operation • Can also be used to charge original VCR battery from a 12V car battery)

V-0836 .....\$14.95



# AMBICO, INC.

50 Maple Street  
Norwood, NJ 07648-0427  
(201) 767-4100

# VIDEOLIGHTS/KITS

## V-0100 Flood/Spot Videolight

• Bathes subject in warm light for accurate, realistic colors • Comes complete with lamp, handgrip, base for wall or tabletop mounting, auto bulb eject, flood/spot switch and instructions • 300W . . . . . \$99.95

## V-0170 AC/DC Flood/Spot

• Quartz-halogen light with brushed reflector to spread soft light • 120VAC and 12VDC adaptor for car lighter receptacle or battery pack • Flood to spot adjustment • 150W AC lamp, 100W DC lamp • Heat absorbing glass Safety-Shield • Tilt Control for 120° bounce lighting . . . . . \$112.95

## V-0190 AC/DC Focusing Videolight

• Quartz-halogen lamps • Separate cords and lamps for AC and DC avoids hazard of bursting bulbs with wrong voltage • 200W AC lamp • Cigarette lighter-type plug and 100W DC lamp • Heat-absorbing glass Safety-Shield • Extra cool vented housing • Wide-Spot adjustment . . . . . \$129.95

## V-0177 AC/DC Convertible Videolight

• Compact video light perfect for even the smallest camcorders • Fantastic versatility—AC or AC/DC capability • 150W AC and 50W DC provide perfect touch for low lux camcorders • Special diffusion light-shield enhances wattage intensity of quartz-halogen bulbs • Lightweight and easily transportable • The Convertible Videolight will provide truer, more exciting colors wherever you use your camcorder V-0177. . . . . \$99.95

## V-0815 Power and Light Kit Plus

• Superior design stores light, cable and battery in hard case • Can also be used as free standing light stand for remote lighting situations • Sealed rechargeable 12V, 4AH battery holds charge up to six months when not in use • Power level indicator gives advanced warning for recharging • 50W heat shielded quartz halogen lamp runs 45 minutes • Shoulder strap, recharger and camera grip with light bracket included . . . . . \$199.95

## V-0806 Battery/Videolight Kit 10-AMP DC

• Compact videolight (V-200) with portable power • Belt power pack (V-0805) has rechargeable lead-acid cells in polypropylene cases for protection from shock and temperature changes • Outer packs of rugged nylon fabric, padded for extra comfort • Recharges from household current overnight • Powers lamp up to one hour • 100W quartz-halogen lamp included . . . . . \$169.95

## V-0817 Battery/Videolight Kit with Focusing AC/DC NiCad

• Long-life NiCad batteries can be recharged up to 1500 times • AC/DC quartz-halogen videolight focuses from wide beam to spot • The light is V-0170 • Power pack (V-0810) weighs 3 lbs. • Gives remarkable power-to-weight ratio • Powers DC lamp for 35 to 45 minutes • Adjustable strap fits over shoulder or around waist • Nylon fabric foam padded case • Includes 150W AC lamp • 100W DC lamp, and connector cords . . . . . \$229.95

## V-0819 Battery/Videolight Kit with Focusing AC/DC NiCad

• A versatile videolight that will run on either AC or DC power, with its own long-life lightweight power pack • Supplies 200W quartz-halogen light in AC operation and 100W quartz-halogen light DC • Light is model V-0190 • Power pack is model V-0810 • Containing rechargeable, long-life NiCad batteries for maximum power at just 3 lbs. • Powers lamp for 35 to 45 minutes • Includes 200W AC lamp, 100W DC lamp, and connector cords . . . . . \$259.95



V-0190



V-1000



V-0177



V-0815

## V-1000 (AC), V-1500 (AC/DC) Val-U-Light

• Quartz-halogen lamp gives 150W light for accurate color reproduction • Hinged barndoors adjust individually • On/off switch • Heavy-duty cord • Safety heat shield  
V-1000. . . . . \$49.95  
V-1500 (Adaptor and DC bulb) . . . . . 79.95

## Quartz-Halogen Replacement Lamps

Model	Watt	Volt	Fits	Approx. Bulb Life	Price
V-0101	300	120AC	V-0100	70 hrs.	\$29.95
V-0151	150	120AC	V-8500, V-1500, V-0170, V-1000	70 hrs.	25.95
V-0201	100	12DC	V-0200, V-0170, V-8500, V-1500	50 hrs.	19.95
V-0191	200	120AC	V-0190	70 hrs.	25.95
V-0192	100	12DC	V-0190	50 hrs.	25.95

# AMBICO, INC.

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# LENS/FILTER KITS/ACCESSORIES



## V-0345 High Power Telephoto Lens

This lens provides a magnification of 4X, the lens provides close-ups for wild-life shoots, sports events and other long distance video photography. Although the high magnification requires a 7" long lens barrel the lens is extremely well-balanced and weighs only 7 ounces . . . . . \$289.95



## V-3100 Auto-Focusing Video Lens Kit

Kit contains two lenses: a 1.5X telephoto lens and a .5X wide angle lens. The kit's 1.5X lens increases a camcorder's capability by 50%. The .5X lens doubles the camcorder's field of view. Both lenses function perfectly in both autofocus and manual focus modes . . . . . \$129.95



## V-0310 Fisheye Lens Attachment

Dramatically widens angle of view. Helpful when shooting in tight quarters. Used close up, it creates those well-known fisheye caricature effects . . . . . \$74.95

## V-0341 Hemispheric Lens Attachment

Gives a picture area three times larger than the video camera's normal wide-angle capability. Tremendous depth-of-field means virtually limitless focal length, from directly in front of lens to infinity. Large precision lens provides distortion free images with no fisheye effect, no barrel distortion, etc. Works with any video camera having macro capability . . . . . \$99.95

## V-0311 Close-up/Wide View Lens Attachment

A two section attachment. As a close-up allows tight, detail shots; for example, a wedding invitation card. As a wide-view, takes in the entire shot when camera cannot be moved back further. Gives 166<sup>2</sup>/<sub>3</sub>% greater field of view than standard camera lens . . . . . \$69.95

## V-0312 Telephoto Lens Attachment

Acts as a telescope to make the longest zoom even longer. Great for sports action, wildlife, and travel. Used for close-ups, gives sharp focus on subject with soft focus on background. 1.5X magnification . . . . . \$175.00

## V-0314 Macro Lens Attachment

For extreme close-ups, less than 6" from subject. A +4-diopter, high-optical-quality attachment; especially useful for video cameras with no macro capability. Necessary when using Ambico Tele-Cine Converter with video cameras not designed for close-up work. . . . . \$19.95



## V-0317 Color/Soft Effects Kit

Contains a Focalizer with clear center that softly diffuses background images while maintaining sharp focus on the primary subject. A neutral density lens with clear center that screens out light from objects other than the focal subject and tri-color filter that saturates images in three colored sections . . . . . \$29.95

## V-0318 Three Color Filter Kit

Contains red, blue and yellow filters with clear centers. These lenses allow sharp highlighting of the focal subject while tinting backgrounds, objects in rich color. Lens can be used individually or in combination to produce a variety of vivid effects . . . . . \$24.95



## Video Lens Attachments

### V-0319

### Video Special Effects Kit

Three high-quality, screw-in lens attachments.

**Multi-Imager** creates identical multiple images which can be rotated with control arm.

**Rainbow-Effect** lens turns light sources into dramatic, prismatic effects in all colors of the spectrum.

**Starburst** lens attachment makes any point of light become a brilliant star. Kit also includes carrying case with protective pouch for each lens attachment, and adaptor rings to fit most video cameras. All handsomely gift boxed . . . \$59.95



## V-0990 Lens Guard Kit

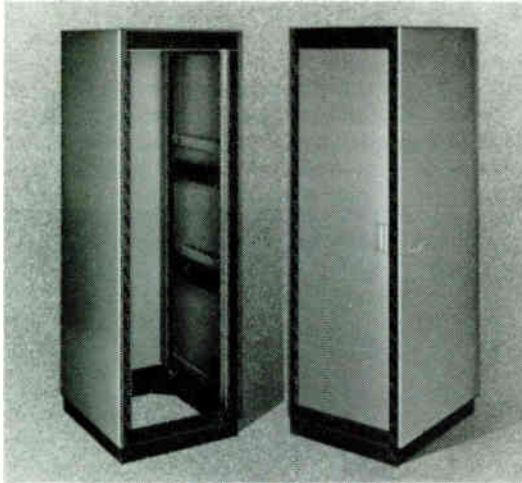
Neutral density attachment protects camera tube when shooting toward strong light. Prevents "hot spot" burn on camera tube. Also adds contrast for extra-vivid coloring. Kit also includes Clear Optical Lens Shield to protect camera lens from fingerprints, dust, spray, etc., while pictures are shot distortion free. Kit comes in carrying case with protective pouch for each lens attachment, and with adaptor rings. . . . . \$15.95



# AMCO ENGINEERING CO.

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# CONSOLES



## Vertical Consoles

### 5 Vertical Heights

Panel Heights: 21", 42", 52 1/2", 61 1/4", 70"

### 2 Depths

25 1/2" or 30"

All 19" Panel Width

### Standard Order

- Doors are provided flush with right-hand hinge
- Rear door mounted to inner frame flange, facilitating recessed mounting
- Styled frames have EN22 trim with black horizontal inlay

### Optional

- DFH left-hand hinged doors, casters, levelers and many other options are featured in the Accessories and Hardware section
- If louvered top panel is desired, add "L" to the end of part number (Optional at additional cost) Example: 5241L
- Optional blowers can be ordered from Blowers section

## 21" Panel Height-29 9/16" Overall Height-19" Width-30" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
2311	290.15	No Side Panels, Used as Center Bays
2321	350.10	With Left Side Panel, Used as Left Hand End Bay
2331	350.10	With Right Side Panel, Used as Right Hand End Bay
2341	410.05	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T2311	307.20	No Side Panels, Used as Center Bays
T2321	384.80	With Left Side Panel, Used as Left Hand End Bay
T2331	384.80	With Right Side Panel, Used as Right Hand End Bay
T2341	462.35	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Louvered Right-Hand "FE" Type Rear Door—Open Front</b>		
2312	306.60	No Side Panels, Used as Center Bays
2322	386.60	With Left Side Panel, Used as Left Hand End Bay
2332	386.60	With Right Side Panel, Used as Right Hand End Bay
2342	426.65	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Louvered Right-Hand "FE" Type Rear Door—Open Front</b>		
T2312	323.65	No Side Panels, Used as Center Bays
T2322	401.25	With Left Side Panel, Used as Left Hand End Bay
T2332	401.25	With Right Side Panel, Used as Right Hand End Bay
T2342	478.90	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
2310	254.80	No Side Panels, Used as Center Bays
2320	314.75	With Left Side Panel, Used as Left Hand End Bay
2330	314.75	With Right Side Panel, Used as Right Hand End Bay
2340	374.75	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T2310	271.85	No Side Panels, Used as Center Bays
T2320	349.40	With Left Side Panel, Used as Left Hand End Bay
T2330	349.40	With Right Side Panel, Used as Right Hand End Bay
T2340	427.05	With Left and Right Side Panels, Used as Single Bays

## 21" Panel Height-29 9/16" Overall Height-19" Width-25 1/2" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
2211	\$269.65	No Side Panels, Used as Center Bays
2221	321.65	With Left Side Panel, Used as Left Hand End Bay
2231	321.65	With Right Side Panel, Used as Right Hand End Bay
2241	373.75	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T2211	286.70	No Side Panels, Used as Center Bays
T2221	355.90	With Left Side Panel, Used as Left Hand End Bay
T2231	355.90	With Right Side Panel, Used as Right Hand End Bay
T2241	425.10	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Louvered Right-Hand "FE" Type Rear Door—Open Front</b>		
2212	286.15	No Side Panels, Used as Center Bays
2222	338.20	With Left Side Panel, Used as Left Hand End Bay
2232	338.20	With Right Side Panel, Used as Right Hand End Bay
2242	390.30	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Louvered Right-Hand "FE" Type Rear Door—Open Front</b>		
T2212	303.15	No Side Panels, Used as Center Bays
T2222	372.40	With Left Side Panel, Used as Left Hand End Bay
T2232	372.40	With Right Side Panel, Used as Right Hand End Bay
T2242	441.65	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
2210	234.30	No Side Panels, Used as Center Bays
2220	286.35	With Left Side Panel, Used as Left Hand End Bay
2230	286.35	With Right Side Panel, Used as Right Hand End Bay
2240	338.40	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T2210	251.30	No Side Panels, Used as Center Bays
T2220	320.50	With Left Side Panel, Used as Left Hand End Bay
T2230	320.50	With Right Side Panel, Used as Right Hand End Bay
T2240	389.75	With Left and Right Side Panels, Used as Single Bays

## 42" Panel Height-50 9/16" Overall Height-19" Width-25 1/2" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
4211	\$338.95	No Side Panels, Used as Center Bays
4221	407.70	With Left Side Panel, Used as Left Hand End Bay
4231	407.70	With Right Side Panel, Used as Right Hand End Bay
4241	476.40	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T4211	355.90	No Side Panels, Used as Center Bays
T4221	446.15	With Left Side Panel, Used as Left Hand End Bay
T4231	446.15	With Right Side Panel, Used as Right Hand End Bay
T4241	536.45	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Louvered Right-Hand "FE" Type Rear Door—Open Front</b>		
4212	356.95	No Side Panels, Used as Center Bays
4222	425.70	With Left Side Panel, Used as Left Hand End Bay
4232	425.70	With Right Side Panel, Used as Right Hand End Bay
4242	494.35	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Louvered Right-Hand "FE" Type Rear Door—Open Front</b>		
T4212	373.95	No Side Panels, Used as Center Bays
T4222	464.20	With Left Side Panel, Used as Left Hand End Bay
T4232	464.20	With Right Side Panel, Used as Right Hand End Bay
T4242	554.40	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
4210	269.35	No Side Panels, Used as Center Bays
4220	337.95	With Left Side Panel, Used as Left Hand End Bay
4230	337.95	With Right Side Panel, Used as Right Hand End Bay
4240	406.80	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T4210	286.35	No Side Panels, Used as Center Bays
T4220	376.50	With Left Side Panel, Used as Left Hand End Bay
T4230	376.50	With Right Side Panel, Used as Right Hand End Bay
T4240	466.90	With Left and Right Side Panels, Used as Single Bays



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# CONSOLES

## Vertical Consoles (cont'd)

### 42" Panel Height-50<sup>9</sup>/<sub>16</sub>" Overall Height-19" Width-30" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
4311	363.00	No Side Panels, Used as Center Bays
4321	442.30	With Left Side Panel, Used as Left Hand End Bay
4331	442.30	With Right Side Panel, Used as Right Hand End Bay
4341	521.60	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T4311	379.95	No Side Panels, Used as Center Bays
T4321	481.25	With Left Side Panel, Used as Left Hand End Bay
T4331	481.25	With Right Side Panel, Used as Right Hand End Bay
T4341	582.55	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
4312	380.95	No Side Panels, Used as Center Bays
4322	460.30	With Left Side Panel, Used as Left Hand End Bay
4332	460.30	With Right Side Panel, Used as Right Hand End Bay
4342	539.55	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T4312	398.00	No Side Panels, Used as Center Bays
T4322	499.40	With Left Side Panel, Used as Left Hand End Bay
T4332	499.40	With Right Side Panel, Used as Right Hand End Bay
T4342	600.55	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
4310	293.40	No Side Panels, Used as Center Bays
4320	372.55	With Left Side Panel, Used as Left Hand End Bay
4330	372.55	With Right Side Panel, Used as Right Hand End Bay
4340	451.90	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T4310	310.40	No Side Panels, Used as Center Bays
T4320	411.60	With Left Side Panel, Used as Left Hand End Bay
T4330	411.60	With Right Side Panel, Used as Right Hand End Bay
T4340	512.95	With Left and Right Side Panels, Used as Single Bays

### 52 1/2" Panel Height-61 1/16" Overall Height-19" Width-25 1/2" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
5211	\$371.45	No Side Panels, Used as Center Bays
5221	447.65	With Left Side Panel, Used as Left Hand End Bay
5231	447.65	With Right Side Panel, Used as Right Hand End Bay
5241	523.90	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T5211	388.55	No Side Panels, Used as Center Bays
T5221	486.50	With Left Side Panel, Used as Left Hand End Bay
T5231	486.50	With Right Side Panel, Used as Right Hand End Bay
T5241	584.60	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
5212	383.90	No Side Panels, Used as Center Bays
5222	460.20	With Left Side Panel, Used as Left Hand End Bay
5232	460.20	With Right Side Panel, Used as Right Hand End Bay
5242	536.45	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T5212	401.10	No Side Panels, Used as Center Bays
T5222	499.00	With Left Side Panel, Used as Left Hand End Bay
T5232	499.00	With Right Side Panel, Used as Right Hand End Bay
T5242	597.00	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
5210	292.75	No Side Panels, Used as Center Bays
5220	368.90	With Left Side Panel, Used as Left Hand End Bay
5230	368.90	With Right Side Panel, Used as Right Hand End Bay
5240	469.40	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T5210	309.70	No Side Panels, Used as Center Bays
T5220	407.80	With Left Side Panel, Used as Left Hand End Bay
T5230	407.80	With Right Side Panel, Used as Right Hand End Bay
T5240	505.75	With Left and Right Side Panels, Used as Single Bays

### 52 1/2" Panel Height-61 1/16" Overall Height-19" Width-30" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
5311	398.50	No Side Panels, Used as Center Bays
5321	486.35	With Left Side Panel, Used as Left Hand End Bay
5331	486.35	With Right Side Panel, Used as Right Hand End Bay
5341	574.10	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T5311	415.45	No Side Panels, Used as Center Bays
T5321	531.35	With Left Side Panel, Used as Left Hand End Bay
T5331	531.35	With Right Side Panel, Used as Right Hand End Bay
T5341	647.10	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
5312	411.10	No Side Panels, Used as Center Bays
5322	498.90	With Left Side Panel, Used as Left Hand End Bay
5332	498.90	With Right Side Panel, Used as Right Hand End Bay
5342	586.70	With Left and Right Side Panels, Used as Single Bays

### 52 1/2" Panel Height-61 1/16" Overall Height-19" Width-30" Console Depth

AMCO Part Number	Price	Description
<b>Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T5312	428.00	No Side Panels, Used as Center Bays
T5322	543.80	With Left Side Panel, Used as Left Hand End Bay
T5332	543.80	With Right Side Panel, Used as Right Hand End Bay
T5342	659.60	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
5310	319.60	No Side Panels, Used as Center Bays
5320	407.65	With Left Side Panel, Used as Left Hand End Bay
5330	407.65	With Right Side Panel, Used as Right Hand End Bay
5340	495.35	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T5310	337.10	No Side Panels, Used as Center Bays
T5320	452.50	With Left Side Panel, Used as Left Hand End Bay
T5330	452.50	With Right Side Panel, Used as Right Hand End Bay
T5340	568.30	With Left and Right Side Panels, Used as Single Bays

### 61 1/4" Panel Height-69 13/16" Overall Height-19" Width-25 1/2" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
6211	\$403.15	No Side Panels, Used as Center Bays
6221	486.50	With Left Side Panel, Used as Left Hand End Bay
6231	486.50	With Right Side Panel, Used as Right Hand End Bay
6241	569.60	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T6211	420.15	No Side Panels, Used as Center Bays
T6221	531.55	With Left Side Panel, Used as Left Hand End Bay
T6231	531.55	With Right Side Panel, Used as Right Hand End Bay
T6241	642.90	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
6212	418.10	No Side Panels, Used as Center Bays
6222	501.30	With Left Side Panel, Used as Left Hand End Bay
6232	501.30	With Right Side Panel, Used as Right Hand End Bay
6242	584.60	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T6212	435.20	No Side Panels, Used as Center Bays
T6222	546.55	With Left Side Panel, Used as Left Hand End Bay
T6232	546.55	With Right Side Panel, Used as Right Hand End Bay
T6242	657.90	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
6210	318.70	No Side Panels, Used as Center Bays
6220	401.90	With Left Side Panel, Used as Left Hand End Bay
6230	401.90	With Right Side Panel, Used as Right Hand End Bay
6240	485.25	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T6210	335.70	No Side Panels, Used as Center Bays
T6220	447.00	With Left Side Panel, Used as Left Hand End Bay
T6230	447.00	With Right Side Panel, Used as Right Hand End Bay
T6240	558.40	With Left and Right Side Panels, Used as Single Bays

### 61 1/4" Panel Height-69 13/16" Overall Height-19" Width-30" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
6311	432.35	No Side Panels, Used as Center Bays
6321	528.50	With Left Side Panel, Used as Left Hand End Bay
6331	528.50	With Right Side Panel, Used as Right Hand End Bay
6341	624.60	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T6311	449.35	No Side Panels, Used as Center Bays
T6321	571.20	With Left Side Panel, Used as Left Hand End Bay
T6331	571.20	With Right Side Panel, Used as Right Hand End Bay
T6341	693.80	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
6312	447.40	No Side Panels, Used as Center Bays
6322	543.80	With Left Side Panel, Used as Left Hand End Bay
6332	543.80	With Right Side Panel, Used as Right Hand End Bay
6342	639.45	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T6312	464.35	No Side Panels, Used as Center Bays
T6322	586.00	With Left Side Panel, Used as Left Hand End Bay
T6332	586.00	With Right Side Panel, Used as Right Hand End Bay
T6342	707.85	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
6310	347.85	No Side Panels, Used as Center Bays
6320	443.95	With Left Side Panel, Used as Left Hand End Bay
6330	443.95	With Right Side Panel, Used as Right Hand End Bay
6340	540.00	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T6310	365.00	No Side Panels, Used as Center Bays
T6320	486.60	With Left Side Panel, Used as Left Hand End Bay
T6330	486.60	With Right Side Panel, Used as Right Hand End Bay
T6340	614.20	With Left and Right Side Panels, Used as Single Bays

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# CONSOLES

## Vertical Consoles (cont'd)

### 70" Panel Height-78<sup>9</sup>/<sub>16</sub>" Overall Height-19" Width-25<sup>1</sup>/<sub>2</sub>" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T211	\$437.25	No Side Panels, Used as Center Bays
T221	547.30	With Left Side Panel, Used as Left Hand End Bay
T231	547.30	With Right Side Panel, Used as Right Hand End Bay
T241	621.05	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T211	454.30	No Side Panels, Used as Center Bays
T221	575.45	With Left Side Panel, Used as Left Hand End Bay
T231	575.45	With Right Side Panel, Used as Right Hand End Bay
T241	696.70	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T212	453.90	No Side Panels, Used as Center Bays
T222	545.90	With Left Side Panel, Used as Left Hand End Bay
T232	545.90	With Right Side Panel, Used as Right Hand End Bay
T242	637.80	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T212	471.05	No Side Panels, Used as Center Bays
T222	592.40	With Left Side Panel, Used as Left Hand End Bay
T232	592.40	With Right Side Panel, Used as Right Hand End Bay
T242	713.55	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
T210	344.40	No Side Panels, Used as Center Bays
T220	436.25	With Left Side Panel, Used as Left Hand End Bay
T230	436.25	With Right Side Panel, Used as Right Hand End Bay
T240	528.05	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T210	361.40	No Side Panels, Used as Center Bays
T220	482.70	With Left Side Panel, Used as Left Hand End Bay
T230	482.70	With Right Side Panel, Used as Right Hand End Bay
T240	603.95	With Left and Right Side Panels, Used as Single Bays

### 70" Panel Height-78<sup>9</sup>/<sub>16</sub>" Overall Height-19" Width-30" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T311	469.00	No Side Panels, Used as Center Bays
T321	574.65	With Left Side Panel, Used as Left Hand End Bay
T331	574.65	With Right Side Panel, Used as Right Hand End Bay
T341	680.55	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T311	485.90	No Side Panels, Used as Center Bays
T321	622.60	With Left Side Panel, Used as Left Hand End Bay
T331	622.60	With Right Side Panel, Used as Right Hand End Bay
T341	759.30	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T312	485.60	No Side Panels, Used as Center Bays
T322	591.55	With Left Side Panel, Used as Left Hand End Bay
T332	591.55	With Right Side Panel, Used as Right Hand End Bay
T342	697.30	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T312	502.70	No Side Panels, Used as Center Bays
T322	639.40	With Left Side Panel, Used as Left Hand End Bay
T332	639.40	With Right Side Panel, Used as Right Hand End Bay
T342	776.05	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
T310	376.10	No Side Panels, Used as Center Bays
T320	481.50	With Left Side Panel, Used as Left Hand End Bay
T330	481.50	With Right Side Panel, Used as Right Hand End Bay
T340	588.40	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T310	393.05	No Side Panels, Used as Center Bays
T320	529.80	With Left Side Panel, Used as Left Hand End Bay
T330	529.80	With Right Side Panel, Used as Right Hand End Bay
T340	666.15	With Left and Right Side Panels, Used as Single Bays

### 78<sup>3</sup>/<sub>4</sub>" Panel Height-87<sup>5</sup>/<sub>16</sub>" Overall Height-19" Width-25<sup>1</sup>/<sub>2</sub>" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
8211	\$476.40	No Side Panels, Used as Center Bays
8221	599.85	With Left Side Panel, Used as Left Hand End Bay
8231	599.85	With Right Side Panel, Used as Right Hand End Bay
8241	723.20	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T8211	494.45	No Side Panels, Used as Center Bays
T8221	647.25	With Left Side Panel, Used as Left Hand End Bay
T8231	647.25	With Right Side Panel, Used as Right Hand End Bay
T8241	799.95	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
8212	496.00	No Side Panels, Used as Center Bays
8222	619.40	With Left Side Panel, Used as Left Hand End Bay
8232	619.40	With Right Side Panel, Used as Right Hand End Bay
8242	742.80	With Left and Right Side Panels, Used as Single Bays

### 78<sup>3</sup>/<sub>4</sub>" Panel Height-87<sup>5</sup>/<sub>16</sub>" Overall Height-19" Width-25<sup>1</sup>/<sub>2</sub>" Console Depth

AMCO Part Number	Price	Description
<b>Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T8212	514.10	No Side Panels, Used as Center Bays
T8222	666.85	With Left Side Panel, Used as Left Hand End Bay
T8232	666.85	With Right Side Panel, Used as Right Hand End Bay
T8242	819.55	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
8210	367.30	No Side Panels, Used as Center Bays
8220	490.70	With Left Side Panel, Used as Left Hand End Bay
8230	490.70	With Right Side Panel, Used as Right Hand End Bay
8240	614.15	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T8210	385.40	No Side Panels, Used as Center Bays
T8220	538.15	With Left Side Panel, Used as Left Hand End Bay
T8230	538.15	With Right Side Panel, Used as Right Hand End Bay
T8240	690.85	With Left and Right Side Panels, Used as Single Bays

### 78<sup>3</sup>/<sub>4</sub>" Panel Height-87<sup>5</sup>/<sub>16</sub>" Overall Height-19" Width-30" Console Depth

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
8311	510.45	No Side Panels, Used as Center Bays
8321	652.70	With Left Side Panel, Used as Left Hand End Bay
8331	652.70	With Right Side Panel, Used as Right Hand End Bay
8341	794.90	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right-Hand "FE" Type Rear Door—Open Front</b>		
T8311	528.55	No Side Panels, Used as Center Bays
T8321	700.10	With Left Side Panel, Used as Left Hand End Bay
T8331	700.10	With Right Side Panel, Used as Right Hand End Bay
T8341	871.60	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
8312	530.05	No Side Panels, Used as Center Bays
8322	672.25	With Left Side Panel, Used as Left Hand End Bay
8332	672.25	With Right Side Panel, Used as Right Hand End Bay
8342	814.50	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Lowered Right-Hand "FE" Type Rear Door—Open Front</b>		
T8312	548.15	No Side Panels, Used as Center Bays
T8322	719.70	With Left Side Panel, Used as Left Hand End Bay
T8332	719.70	With Right Side Panel, Used as Right Hand End Bay
T8342	891.20	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Open Front and Rear</b>		
8310	401.40	No Side Panels, Used as Center Bays
8320	543.55	With Left Side Panel, Used as Left Hand End Bay
8330	543.55	With Right Side Panel, Used as Right Hand End Bay
8340	685.80	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Open Front and Rear</b>		
T8310	419.45	No Side Panels, Used as Center Bays
T8320	591.05	With Left Side Panel, Used as Left Hand End Bay
T8330	591.05	With Right Side Panel, Used as Right Hand End Bay
T8340	762.55	With Left and Right Side Panels, Used as Single Bays

Notes: (1) Add \$7.35 To Each Console Price If Lock Required On Doors  
(2) Add \$10.80 To Each Console Price If Louvered Top Panel Required and Add "L" To Part Number

## Ordering Example

8241 Order Number Includes:

- Plain (without styling trim)
- 78<sup>3</sup>/<sub>4</sub>" Panel Height
- 19" Panel Width
- 25<sup>1</sup>/<sub>2</sub>" Depth
- Right and Left Plain Side Panels
- Plain Rear Door
- Solid Top Panel
- Cowlings-Plain, Front and Rear
- Open Console Front
- MX Panel Mounting Channels, Front and Rear
- Panel Mounting Hardware Kit



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# CONSOLES

## Sloped Front Consoles

### Standard Order Features

- White writing surface has 1<sup>3</sup>/<sub>4</sub>" drop front, 18<sup>1</sup>/<sub>2</sub>" depth
- Doors opened from above table are provided flush with right-hand hinge
- Rear doors mounted to inner frame flange, facilitating recessed mounting
- Styled frames have EN53 trim with black horizontal inlay

### Optional Features

- DFH left-hand hinged doors, casters, levelers and many other options
- If louvered top panel is desired, add "L" to the end of part number. (Optional at additional cost.) Example: 4B41WL
- Optional blowers can be ordered

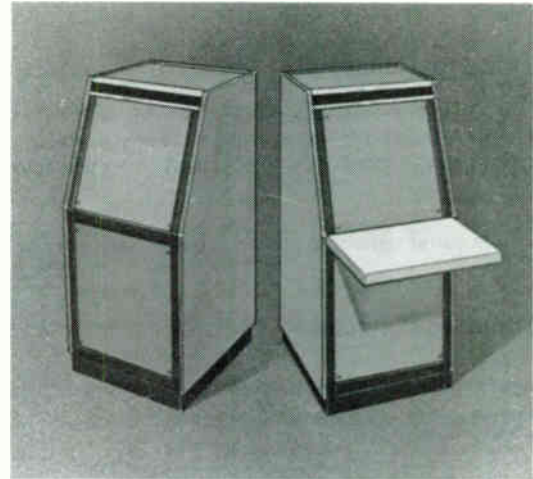
42" Rear Panel Height-50<sup>9</sup>/<sub>16</sub>" Overall Height-19" Width-25<sup>1</sup>/<sub>2</sub>" Console Depth

With PLAIN Top Panel—Without Writing Surface		
AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Rear Panel—Open Front</b>		
4B11	\$342.15	No Side Panels, Used as Center Bays
4B21	438.00	With Left Side Panel, Used as Left Hand End Bay
4B31	438.00	With Right Side Panel, Used as Right Hand End Bay
4B41	533.85	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Rear Panel—Open Front</b>		
T4B11	351.00	No Side Panels, Used as Center Bays
T4B21	479.15	With Left Side Panel, Used as Left Hand End Bay
T4B31	479.15	With Right Side Panel, Used as Right Hand End Bay
T4B41	610.80	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Louvered Rear Panel—Open Front</b>		
4B12	355.60	No Side Panels, Used as Center Bays
4B22	451.35	With Left Side Panel, Used as Left Hand End Bay
4B32	451.35	With Right Side Panel, Used as Right Hand End Bay
4B42	547.20	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Louvered Rear Panel—Open Front</b>		
T4B12	364.40	No Side Panels, Used as Center Bays
T4B22	494.55	With Left Side Panel, Used as Left Hand End Bay
T4B32	494.55	With Right Side Panel, Used as Right Hand End Bay
T4B42	624.60	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Plain Right Hand "FE" Type Rear Door—Open Front</b>		
4B13	372.00	No Side Panels, Used as Center Bays
4B23	467.85	With Left Side Panel, Used as Left Hand End Bay
4B33	467.85	With Right Side Panel, Used as Right Hand End Bay
4B43	563.40	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right Hand "FE" Type Rear Door—Open Front</b>		
T4B13	380.95	No Side Panels, Used as Center Bays
T4B23	510.95	With Left Side Panel, Used as Left Hand End Bay
T4B33	510.95	With Right Side Panel, Used as Right Hand End Bay
T4B43	640.85	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Louvered Right Hand "FE" Type Rear Door—Open Front</b>		
4B14	389.90	No Side Panels, Used as Center Bays
4B24	485.60	With Left Side Panel, Used as Left Hand End Bay
4B34	485.60	With Right Side Panel, Used as Right Hand End Bay
4B44	581.40	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Louvered Right Hand "FE" Type Rear Door—Open Front</b>		
T4B14	398.80	No Side Panels, Used as Center Bays
T4B24	528.95	With Left Side Panel, Used as Left Hand End Bay
T4B34	528.95	With Right Side Panel, Used as Right Hand End Bay
T4B44	658.85	With Left and Right Side Panels, Used as Single Bays

## Ordering Example

4B41W Order Number Includes:

- Plain (without styling trim)
- 19<sup>1</sup>/<sub>4</sub>" Sloped Front Panel Opening with 20<sup>1</sup>/<sub>2</sub>" Angle
- 42" Rear Panel Height
- 19" Panel Width
- 25<sup>1</sup>/<sub>2</sub>" Depth
- Right and Left Plain Side Panels
- Plain Rear Panel
- White Writing Surface with 1<sup>3</sup>/<sub>4</sub>" Drop Front, 18<sup>1</sup>/<sub>2</sub>" Depth
- Solid Top Panel
- Cowlings-Plain, Front and Rear
- Open Console Front
- MX Panel Mounting Channels, Front and Rear
- Panel Mounting Hardware Kit



Sloped Fronts 19<sup>1</sup>/<sub>4</sub>"  
Sloped Panel with 20<sup>1</sup>/<sub>2</sub>"  
Angle 25<sup>1</sup>/<sub>2</sub>" Depth

42" Rear Panel Height-50<sup>9</sup>/<sub>16</sub>" Overall Height-19" Width-25<sup>1</sup>/<sub>2</sub>" Console Depth

With PLAIN Top Panel—With Writing Surface		
AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Rear Panel—Open Front</b>		
4B11W	\$461.75	No Side Panels, Used as Center Bays
4B21W	557.60	With Left Side Panel, Used as Left Hand End Bay
4B31W	557.60	With Right Side Panel, Used as Right Hand End Bay
4B41W	653.20	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Rear Panel—Open Front</b>		
T4B11W	470.60	No Side Panels, Used as Center Bays
T4B21W	600.65	With Left Side Panel, Used as Left Hand End Bay
T4B31W	600.65	With Right Side Panel, Used as Right Hand End Bay
T4B41W	730.25	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Louvered Rear Panel—Open Front</b>		
4B12W	475.20	No Side Panels, Used as Center Bays
4B22W	571.00	With Left Side Panel, Used as Left Hand End Bay
4B32W	571.00	With Right Side Panel, Used as Right Hand End Bay
4B42W	666.80	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Louvered Rear Panel—Open Front</b>		
T4B12W	484.05	No Side Panels, Used as Center Bays
T4B22W	614.05	With Left Side Panel, Used as Left Hand End Bay
T4B32W	614.05	With Right Side Panel, Used as Right Hand End Bay
T4B42W	744.05	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Plain Right Hand "FE" Type Rear Door—Open Front</b>		
4B13W	491.55	No Side Panels, Used as Center Bays
4B23W	587.30	With Left Side Panel, Used as Left Hand End Bay
4B33W	587.30	With Right Side Panel, Used as Right Hand End Bay
4B43W	683.20	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right Hand "FE" Type Rear Door—Open Front</b>		
T4B13W	500.50	No Side Panels, Used as Center Bays
T4B23W	630.50	With Left Side Panel, Used as Left Hand End Bay
T4B33W	630.50	With Right Side Panel, Used as Right Hand End Bay
T4B43W	760.60	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Louvered Right Hand "FE" Type Rear Door—Open Front</b>		
4B14W	509.45	No Side Panels, Used as Center Bays
4B24W	605.30	With Left Side Panel, Used as Left Hand End Bay
4B34W	605.30	With Right Side Panel, Used as Right Hand End Bay
4B44W	701.10	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Louvered Right Hand "FE" Type Rear Door—Open Front</b>		
T4B14W	518.40	No Side Panels, Used as Center Bays
T4B24W	648.50	With Left Side Panel, Used as Left Hand End Bay
T4B34W	648.50	With Right Side Panel, Used as Right Hand End Bay
T4B44W	778.55	With Left and Right Side Panels, Used as Single Bays



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# CONSOLES

## Low Silhouette Consoles

### Standard Order

- Doors are provided flush with right-hand hinge
- Styled frames have EN59 trim with black horizontal inlay
- Consoles complete with 3 1/2" drop front white writing surface, 12" depth

### Optional

- Sloped front turret panels, casters and many other options are featured



## Low Silhouette Consoles

19 1/4" Slope Panel Height-43" Overall Height-19" Panel Width-22" Depth At Base

AMCO Part Number	Price	Description
<b>Plain—Not Styled—Plain Rear Panel—Open Front</b>		
LS111-3	\$733.80	No Side Panels, Used as Center Bays
LS121-3	818.90	With Left Side Panel, Used as Left Hand End Bay
LS131-3	818.90	With Right Side Panel, Used as Right Hand End Bay
LS141-3	904.00	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Rear Panel—Open Front</b>		
TL1111-3	735.10	No Side Panels, Used as Center Bays
TL121-3	839.40	With Left Side Panel, Used as Left Hand End Bay
TL131-3	839.40	With Right Side Panel, Used as Right Hand End Bay
TL141-3	943.70	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Rear Panel—Open Front</b>		
LS112-3	736.55	No Side Panels, Used as Center Bays
LS122-3	821.65	With Left Side Panel, Used as Left Hand End Bay
LS132-3	821.65	With Right Side Panel, Used as Right Hand End Bay
LS142-3	906.75	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Lowered Rear Panel—Open Front</b>		
TL112-3	737.90	No Side Panels, Used as Center Bays
TL122-3	842.20	With Left Side Panel, Used as Left Hand End Bay
TL132-3	842.20	With Right Side Panel, Used as Right Hand End Bay
TL142-3	946.50	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Plain Right Hand "FE" Type Rear Door—Open Front</b>		
LS113-3	760.35	No Side Panels, Used as Center Bays
LS123-3	845.15	With Left Side Panel, Used as Left Hand End Bay
LS133-3	845.15	With Right Side Panel, Used as Right Hand End Bay
LS143-3	930.55	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Plain Right Hand "FE" Type Rear Door—Open Front</b>		
TL113-3	761.70	No Side Panels, Used as Center Bays
TL123-3	866.00	With Left Side Panel, Used as Left Hand End Bay
TL133-3	866.00	With Right Side Panel, Used as Right Hand End Bay
TL143-3	970.30	With Left and Right Side Panels, Used as Single Bays
<b>Plain—Not Styled—Lowered Right Hand "FE" Type Rear Door—Open Front</b>		
LS114-3	772.30	No Side Panels, Used as Center Bays
LS124-3	857.40	With Left Side Panel, Used as Left Hand End Bay
LS134-3	857.40	With Right Side Panel, Used as Right Hand End Bay
LS144-3	942.50	With Left and Right Side Panels, Used as Single Bays
<b>Styled—Lowered Right Hand "FE" Type Rear Door—Open Front</b>		
TL114-3	773.65	No Side Panels, Used as Center Bays
TL124-3	877.95	With Left Side Panel, Used as Left Hand End Bay
TL134-3	877.95	With Right Side Panel, Used as Right Hand End Bay
TL144-3	982.25	With Left and Right Side Panels, Used as Single Bays

## Ordering Example

LS 141-3 Order Number Includes:

- Plain (without styling trim)
- 19 1/4" Sloped Front with 37° Angle
- 15 3/4" Lower Front Panel Height
- 21" Rear Lower Panel Height
- 43" Overall Height
- 19" Panel Width
- 40" Overall Depth
- 22" Base Depth
- White Writing Surface with 3 1/2" Drop Front, 12" Depth
- Right and Left Plain Side Panels
- Plain Rear Panel
- Plain Upper Rear Turret Panel
- Lower Plain Front Panel
- Cowlings—Plain, Front and Rear
- Open Turret Front
- MX Panel Mounting Channels, Front and Rear
- Panel Mounting Hardware Kit

## Accessories

Aluminum Panels—Flat 1/8" Thick—19" Wide—Raw No Finish

AMCO Part Number	Price	Description
IAAP1-19	\$ 8.20	1 1/4" Panel Height
IAAP3-19	9.40	3 1/2" Panel Height
IAAP5-19	11.50	5 1/2" Panel Height
IAAP7-19	15.55	7" Panel Height
IAAP8-19	17.55	8 1/2" Panel Height
IAAP10-19	20.40	10 1/2" Panel Height
IAAP12-19	22.25	12 1/2" Panel Height
IAAP14-19	26.25	14" Panel Height
IAAP15-19	28.70	15 1/2" Panel Height
IAAP17-19	30.45	17 1/2" Panel Height
IAAP19-19	32.95	19 1/2" Panel Height
IAAP21-19	34.25	21" Panel Height

Formed Steel Enclosure Panels—19" Wide—Flush Mount

Plain (Solid)		
Part Number	Price	Description
IAP1-19	7.70	1 1/4" Panel Height
IAP3-19	10.75	3 1/2" Panel Height
IAP5-19	11.55	5 1/2" Panel Height
IAP7-19	12.65	7" Panel Height
IAP8-19	13.30	8 1/2" Panel Height
IAP10-19	15.60	10 1/2" Panel Height
IAP12-19	16.10	12 1/2" Panel Height
IAP14-19	19.40	14" Panel Height
IAP15-19	21.05	15 1/2" Panel Height
IAP17-19	22.05	17 1/2" Panel Height
IAP19-19	22.70	19 1/2" Panel Height
IAP21-19	23.45	21" Panel Height
IAP22-19	25.50	22 1/2" Panel Height, Used On Lower Front Of Slope Front Frame
IAP28-19	34.40	28" Panel Height
IAP42-19	43.75	42" Panel Height
IAP52-19	55.40	52 1/2" Panel Height
IAP61-19	60.70	61 1/2" Panel Height
IAP70-19	65.45	70" Panel Height
IAP78-19	72.15	78 1/2" Panel Height

Formed Steel Enclosure Panels—19" Wide—Flush Mount—Louvered

Louvered		
Part Number	Price	Description
IAP5L-19	15.80	5 1/2" Panel Height, 2 Rows Each 3 Louvers, 6 Total
IAP7L-19	16.90	7" Panel Height, 2 Rows Each 5 Louvers, 10 Total
IAP8L-19	18.80	8 1/2" Panel Height, 2 Rows Each 6 Louvers, 12 Total
IAP10L-19	21.05	10 1/2" Panel Height, 2 Rows Each 7 Louvers, 14 Total
IAP12L-19	22.85	12 1/2" Panel Height, 2 Rows Each 9 Louvers, 18 Total
IAP14L-19	26.20	14" Panel Height, 2 Rows Each 10 Louvers, 20 Total
IAP15L-19	29.05	15 1/2" Panel Height, 2 Rows Each 12 Louvers, 24 Total
IAP17L-19	29.90	17 1/2" Panel Height, 2 Rows Each 13 Louvers, 26 Total
IAP19L-19	30.65	19 1/2" Panel Height, 2 Rows Each 14 Louvers, 28 Total
IAP21L-19	32.60	21" Panel Height, 2 Rows Each 16 Louvers, 32 Total
IAP28L-19	46.00	28" Panel Height, 2 Rows Each 21 Louvers, 42 Total
IAP42L-19	58.95	42" Panel Height, 2 Rows Each 32 Louvers, 64 Total
IAP52L-19	71.85	52 1/2" Panel Height, 2 Rows Each 40 Louvers, 80 Total
IAP61L-19	76.45	61 1/2" Panel Height, 2 Rows Each 47 Louvers, 94 Total
IAP70L-19	84.40	70" Panel Height, 2 Rows Each 54 Louvers, 108 Total
IAP78L-19	91.70	78 1/2" Panel Height, 2 Rows Each 61 Louvers, 122 Total

Plexiglass Doors—19" Panel Width

Face-Frame Mounted Doors		
Part Number	Price	Description
IADPF70-19R	276.30	Right Hinge, 70" Panel Height Frame, With Black Inlay
IADPF70-19L	276.30	Left Hinge, 70" Panel Height Frame, With Black Inlay
IADPF78-19R	280.25	Right Hinge, 78 1/2" Panel Height Frame, With Black Inlay
IADPF78-19L	280.25	Left Hinge, 78 1/2" Panel Height Frame, With Black Inlay
Flush-Frame Mounted Doors		
IADPF70-19R	261.30	Right Hinge, 70" Panel Height Frame, With Black Inlay
IADPF70-19L	261.30	Left Hinge, 70" Panel Height Frame, With Black Inlay
IADPF78-19R	265.30	Right Hinge, 78 1/2" Panel Height Frame, With Black Inlay
IADPF78-19L	265.30	Left Hinge, 78 1/2" Panel Height Frame, With Black Inlay
Flush-Channel Mounted Doors		
IADPF70-19R	257.75	Right Hinge, 70" Panel Height Frame, With Black Inlay
IADPF70-19L	257.75	Left Hinge, 70" Panel Height Frame, With Black Inlay
IADPF78-19R	261.70	Right Hinge, 78 1/2" Panel Height Frame, With Black Inlay
IADPF78-19L	261.70	Left Hinge, 78 1/2" Panel Height Frame, With Black Inlay

# AMCO ENGINEERING CO.

3801 N. Rose St.  
Schiller Park, IL 60176-2190  
(312) 671-6670 TWX: 910-227-3152  
FAX: 312-671-9469

# CONSOLES

## Accessories (cont'd)

### Doors-Steel-Flush Mounted-19" Panel Width-Plain

AMCO Part Number	Price	Description
<b>Channel Mounted Doors</b>		
IADFH14-19R	\$ 31.30	Right Hinge, 14" Panel Height
IADFH14-19L	31.30	Left Hinge, 14" Panel Height
IADFH21-19R	37.35	Right Hinge, 21" Panel Height
IADFH21-19L	37.35	Left Hinge, 21" Panel Height
IADFH42-19R	73.60	Right Hinge, 42" Panel Height
IADFH42-19L	73.60	Left Hinge, 42" Panel Height
IADFH52-19R	83.25	Right Hinge, 52 1/2" Panel Height
IADFH52-19L	83.25	Left Hinge, 52 1/2" Panel Height
IADFH61-19R	89.35	Right Hinge, 61 1/2" Panel Height
IADFH61-19L	89.35	Left Hinge, 61 1/2" Panel Height
IADFH70-19R	98.15	Right Hinge, 70" Panel Height
IADFH70-19L	98.15	Left Hinge, 70" Panel Height
IADFH78-19R	109.10	Right Hinge, 78 3/4" Panel Height
IADFH78-19L	109.10	Left Hinge, 78 3/4" Panel Height
<b>Frame Mounted Doors—Right Hinge—Rear Mounting Only Available</b>		
IADFHFE21-19R	52.10	21" Panel Height
IADFHFE42-19R	88.40	42" Panel Height
IADFHFE52-19R	98.05	52 1/2" Panel Height
IADFHFE61-19R	104.15	61 1/2" Panel Height
IADFHFE70-19R	112.95	70" Panel Height
IADFHFE78-19R	124.05	78 3/4" Panel Height

### Doors-Steel-Flush Mounted-Louvered-19" Width

AMCO Part Number	Price	Description
<b>Channel Mounted Doors—Right Hinge</b>		
IADFH14-19R-L	41.85	14" Panel Ht., 2 Rows Each 10 Louvers, 20 Total
IADFH21-19R-L	48.95	21" Panel Ht., 2 Rows Each 16 Louvers, 32 Total
IADFH42-19R-L	88.90	42" Panel Ht., 2 Rows Each 32 Louvers, 64 Total
IADFH52-19R-L	99.75	52 1/2" Panel Ht., 2 Rows Each 40 Louvers, 80 Total
IADFH61-19R-L	107.15	61 1/2" Panel Ht., 2 Rows Each 47 Louvers, 94 Total
IADFH70-19R-L	117.10	70" Panel Ht., 2 Rows Each 54 Louvers, 108 Total
IADFH78-19R-L	128.70	78 3/4" Panel Ht., 2 Rows Each 61 Louvers, 122 Total
<b>Frame Mounted Doors—Right Hinge Rear Mounting Only Available</b>		
IADFHFE21-19R-L	62.40	21" Panel Height, 2 Rows Each 16 Louvers, 32 Total
IADFHFE42-19R-L	103.60	42" Panel Height, 2 Rows Each 32 Louvers, 64 Total
IADFHFE52-19R-L	114.55	52 1/2" Panel Height, 2 Rows Each 40 Louvers, 80 Total
IADFHFE61-19R-L	121.85	61 1/2" Panel Height, 2 Rows Each 47 Louvers, 94 Total
IADFHFE70-19R-L	131.85	70" Panel Height, 2 Rows Each 54 Louvers, 108 Total
IADFHFE78-19R-L	143.60	78 3/4" Panel Height, 2 Rows Each 61 Louvers, 122 Total

### Plugmold Assemblies

PMA36-6	58.30	3 Feet Long With 6 Outlets On 6" Centers
PMA60-10	82.00	5 Feet Long With 10 Outlets On 6" Centers
PMA72-6	75.65	6 Feet Long With 6 Outlets On 12" Centers
PMA72-12	97.40	6 Feet Long With 12 Outlets On 6" Centers

Plugmold Assembly Includes Entrance Fitting At One End and Blank Fitting At Other End.

### Power Cord

H442-42	13.50	3' Cord—3 Prong Plug One End
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### Drawers-19" Panel Width

AMCO Part Number	Price	Description
IADRPH3-19-22E	\$121.55	3 1/2" Panel Height, 22" Deep Low Silhouette Frame Console
IADRPH7-19-22E	131.30	7" Panel Height, 22" Deep Low Silhouette Frame Console
IADRPH10-19-22E	143.15	10" Panel Height, 22" Deep Low Silhouette Frame Console
IADRPH3-19-25E	122.40	3 1/2" Panel Height, 25 1/2" Deep Slope Front and/or Vert. Console
IADRPH7-19-25E	132.50	7" Panel Height, 25 1/2" Deep Slope Front and/or Vert. Console
IADRPH10-19-25E	145.75	10" Panel Height, 25 1/2" Deep Slope Front and/or Vert. Console
IADRPH3-19-30E	124.65	3 1/2" Panel Height, 30" Deep Vertical Frame Console
IADRPH7-19-30E	133.75	7" Panel Height, 30" Deep Vertical Frame Console
IADRPH10-19-30E	146.25	10" Panel Height, 30" Deep Vertical Frame Console

### Shelves-19" Panel Width

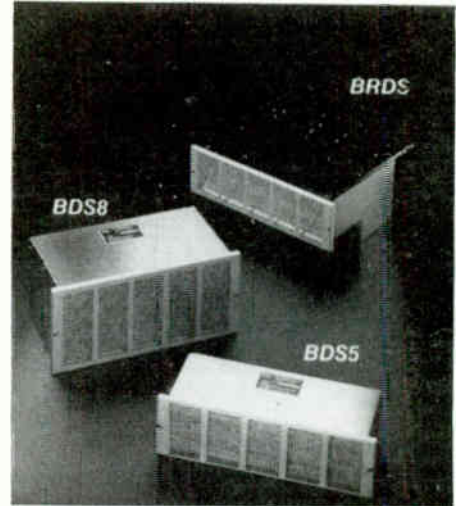
IASH19-22	21.55	22" Deep, Low Silhouette Frame Console
IASH19-25	24.90	25 1/2" Deep, Slope Front and/or Vertical Console
IASH19-30	26.80	30" Deep, Vertical Console

### Writing Surface-Pull Out-19" Panel Width

IAWP19-22	93.85	Mtg. Channel Depth 22", White Laminate
IAWP19-25	104.45	Mtg. Channel Depth 25 1/2", White Laminate
IAWP19-30	117.35	Mtg. Channel Depth 30", White Laminate

### Writing Surface Assemblies-Square Corner-18 1/2" Deep With 1 3/4" Apron On Front and Sides-Single Bay-19" Panel Width

QWSX18-1-19S-25	118.60	Used When Frame Depth Is 25"
QWSX18-1-19S-30	120.35	Used When Frame Depth Is 30"
IAP3WC-19	17.05	Writing Surface Filler Panel
IAP3WCB19-19	22.95	Writing Surface Filler Panel



## Blowers

### 19" Panel Width-With 3' Triple Conductor Cord and Clear Anodized Aluminum Grille

AMCO Part Number	Price	Description
<b>Panel Mount—REAR EXHAUST—(For optional Air Deflectors, up or down, refer to Accessories)</b>		
IABDS5-19-3	\$209.40	5 1/4" Panel Height, 7 1/4" Depth
IABDS8-19-3	294.25	8 3/4" Panel Height, 10 1/4" Depth
<b>Recessed in Base—TOP EXHAUST—(For optional Air Deflectors, up or down, refer to Accessories)</b>		
IABRDS-19-22-3	317.00	3 1/2" Panel Height, 22" Depth
IABRDS-19-25-3	330.05	3 1/2" Panel Height, 25 1/2" Depth
IABRDS-19-30-3	344.40	3 1/2" Panel Height, 30" Depth

### Blower Air Deflectors

IABAD-5	19.45/Pr.	Used on IABDS5 Blower
IABAD-8	21.80/Pr.	Used on IABDS8 Blower

### Blower Filters

IABAF5	15.15	Reusable Filter For IABDS5 Blower
IABAF8	15.70	Reusable Filter For IABDS8 Blower
IABRAF	15.15	Reusable Filter For IABRDS Blower

### Casters

CAX1	7.50	2 1/2" Dia., 1" Tread Width, Swivel, 200lb. Capacity
CAX2R	65.65/Pr.	3 1/4" Dia., 1 1/2" Tread Width, Weld. Rigid, Sold in Pairs, 275 lb. Capacity
CAX2S	24.55	3 1/2" Dia., 1 1/2" Tread Width, Swivel, 200 lb. Capacity
CAX3	27.20	3 3/8" Dia., 1 1/2" Tread Width, Swivel w Foot Lock, 200 lb. Cap.

### Levelers

H317	.95	Leveler Only—Without Sleeve
LLFX	8.95	Leveler With Sleeve
LLFX-1	8.95	Leveler With Sleeve and 1/2" Wood Shim
LLFX-2	8.95	Cushioned Leveler With Sleeve and 1/2" Wood Shim

### Anti-Tip Leg Assemblies\*

ATLE22-1	74.60/Pr.	Use With or W/O CAX1 Casters, 22" D. Frame, Low Silhouette
ATLE25-1	78.30/Pr.	Use With or W/O CAX1 Casters, 25 1/2" D. Frame, Slope Front and/or Vertical
ATLE30-1	80.55/Pr.	Use With or W/O CAX1 Casters, 30" D. Frame, Vert. Consoles
ATLE22-2	103.40/Pr.	Use w/Any CAX2 and/or CAX3 Casters, 22" D. Frame, Low Silhouette
ATLE25-2	111.95/Pr.	Use w/Any CAX2 and/or CAX3 Casters, 25 1/2" D.030 D. Frame, Slope Front and/or Vertical
ATLE30-2	114.10/Pr.	Use w/Any CAX2 and/or CAX3 Casters, 30" D. Frame, Vertical Consoles

### Chassis Guide Support Assemblies

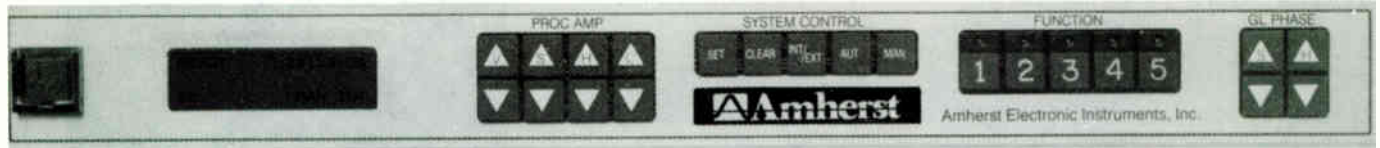
CG4-18	17.05/Pr.	Used With DT and/or PD Desk Top Cabinets, 18 1/2" Deep
CG4-22	19.05/Pr.	Used With Low Silhouette Consoles, 22" Deep
CG4-25	21.40/Pr.	Used With Slope and/or Vertical Consoles, 25 1/2" Deep
CG4-30	28.00/Pr.	Used With Vertical Consoles, 30" Deep

\*Note: Anti-Tip Leg Assemblies shipped loose.

Prices and Specifications Subject to Change Without Notice.

P.O. Box 201  
 Haydenville, MA 01039  
 (413) 268-7204

**AM-2100 AMHERST INTELLIGENT CONTROLLER**



Using advanced microprocessor control, the AM-2100 packs high performance image processing and machine control functions into a rugged, single rack high chassis. Its unique "open bus" design lets you add new functions as you need them, through software.

Standard features include:

- 32-line Time Base Corrector with subcarrier feedback for full bandwidth performance
- RS170A Color Field Sequencer for cleaning up mismatched color frame edits
- Full Proc Amp Controls with presets and front panel LCD display of parameter readings
- SMPTE/EBU Time Code and Control Track Reader
- PC Control from IBM PC or compatible
- Modem Control for remote operation via telephone line, with keyboard override
- Machine Control for VTRs, switchers, etc. Operated from its own front panel or from a PC
- Help menus guide the user as needed
- New functions and updates can be installed in the field
- Multiple units tie together via RS-232, and stack easily with daisy-chain power runs
- Built-in diagnostics can be accessed by phone
- Rear panel circuit breaker resets quickly and eliminates downtime due to blown fuses

Power, expandability, and ease of use make the AM-2100 the ideal tool for broadcast and teleproduction professionals.

**Front Panel:**

Video adjust, setup adjust, hue adjust, chroma adjust, SCH phase adjust, genlock, (RS-170A) protected power on/off switch and indicator, 16 character x 2 line backlit LCD display, 5 button programmable function control with LED status indicators

**Back Panel:**

RS-232 (422 on request), GPI port 1, GPI port 2, Slide-out PCB trays, computer reset switch, circuit breaker, Power receptacle, Power outlet

**Central Processing Unit:**

96-pin Amherst video/computer bus, 8088 processor, 2K to 8K SRAM, 2K increments, 24K EPROM, clock/calendar with battery backup

**Modes:**

Direct (vertical lock), bypass (E/E)

**Specifications**

**Performance**

- Window of Correction:** 32 line window
- Bandwidth:** 4.3MHz, ±0.5dB at unity chroma gain
- Differential Phase:** < 2°
- Differential Gain:** < 2%
- Tilt:** < 1%
- Signal-to-Noise Ratio:** 56dB (plus quantizing effects)

**Method**

- Digitizing Rate:** 14.3MHz (4X subcarrier)
- Quantization:** 8 bits
- Bus:** Multiplexed, computer/video

**Signals**

- Video In:** 0.5 to 2.0V p-p into 75 ohms, NTSC
- GL In:** NTSC, RS-170A loop-through, 0.4 to 2.4V p-p
- Video Out (2):** 1V p-p into 75 ohms, NTSC RS-170A
- Advanced Sync Out:** 0.4/4V, selectable, into 75 ohms
- SC Feedback:** 1V p-p (minimum) into 75 ohms

**Mechanical**

- Dimensions:** 1.75" H x 19" W x 16" D
- Power:** 120VAC, 60Hz, < 30W
- Weight:** 12 lbs.

**AM-2100** ..... \$7750.00

**Options**

- Sony VO5850/5800 Interface Cable ..... \$250.00
- JVC CR850 Interface Copy ..... 300.00
- Sony BVU-800 Interface Cable ..... 325.00



# AMPEREX ELECTRONIC CORP.

A NORTH AMERICAN PHILIPS COMPANY

Providence Pike

Slatersville, RI 02876

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Telex: 92-7584

# CAMERA TUBES

## 30mm TUBES

### XQ1410 Series Plumbicon® Camera Tube

1.2'' (30mm) diameter Plumbicon television camera tube with high resolution lead oxide photoconductive target, separate mesh construction, magnetic deflection and magnetic focusing and internal light bias. It's intended for highest quality usage in XQ1410L, XQ1410R, XQ1410G and XQ1410B types of color cameras, in broadcast, educational and high quality industrial applications.

The XQ1410 series has increased resolution and internal light bias for reduction of lag under low-key conditions.

### XQ1413, XQ1415 Series Plumbicon Camera Tube

1.2'' (30mm) diameter Plumbicon camera tube with high resolution lead oxide photoconductive target, with extended red response.

This series is interchangeable with the XQ1023 series, however the XQ1413 series has internal light bias for reduction of lag under low-key conditions.

Tubes of the XQ1415 series are identical to tubes of the XQ1413 Series but incorporate an infrared reflecting filter on the anti-halation glass faceplate.

### XQ1430 Series Plumbicon Camera Tube

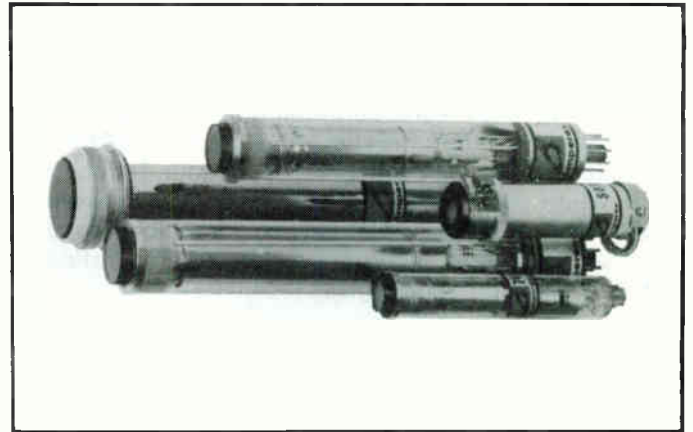
1.2'' (30mm) Diameter high resolution, separate mesh, all magnetic Plumbicon television camera tube intended for high quality color studio cameras which have internal prism of front bias lighting. The XQ1435 is an extended red Plumbicon tube for best red response and includes an integral IR filter.

### XQ3410 Series Plumbicon Camera Tube

1.2'' (30mm) Diameter rear loading high resolution Diode Gun™ (Patent Pending) Plumbicon Television Camera Tube with a 1'' scan format for geometry and low capacitance for high sensitivity and high signal-to-noise. Internal bias light provides for low lag characteristics. The XQ3415 is an extended red Plumbicon tube designed for best red response and includes an integral IR filter.

### XQ3430 Series Plumbicon Camera Tube

Diode Gun Plumbicon Television Camera Tube with full 30mm scan format for high resolution and low capacitance for high sensitivity with high signal-to-noise ratio. The XQ3435 is the extended red Plumbicon tube in this series. It is designed for the best red response and includes an integral IR filter.



## 1'' TUBES

### XQ1070 Series Plumbicon Camera Tube

1'' (25mm) high resolution Plumbicon television camera tube with low heater power, separate mesh construction, magnetic focusing and deflection.

This series is intended for use in highest quality broadcast camera equipment.

The XQ1070 series is also mechanically interchangeable with 1'' diameter vidicons with separate mesh construction and has the same base pin connections.

### XQ1075 Series Plumbicon Camera Tube

1'' (25mm) High resolution Plumbicon television camera tube with extended red response, and is intended for use in high quality broadcast camera equipment where infrared filtering is required but not present in the camera optical system.

This series is identical to the XQ1075 series with the exception that it does not have an infrared cutoff filter.

### XQ2170 Series Plumbicon Camera Tube

A 1'' (25mm) Diode Gun High Resolution Plumbicon Camera Tube. High sensitivity, high resolution, low lag television pick-up tube with lead oxide photoconductive layer, separate mesh and all magnetic deflection and focus. The electron gun assembly is designed to significantly improve resolution and lag. It operates in a diode mode. The beam has a uniform energy distribution, improved beam acceptance and speed of response, and enhanced resolution. The gun also provides very high beam reserve, minimizing comet tailing and blooming in cameras with dynamic beam control.

Note that while the XQ2170 series is mechanically interchangeable with the XQ1070 series, the "diode gun" requires a positive grid 1 voltage (up to +20V) and draws a positive grid current of up to 5mA. Cameras designed around XQ1070 then, must be modified to accommodate this.

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## 1" TUBES (Cont'd)

### XQ1500 Series Plumbicon® Camera Tubes

1" (25mm) High resolution Plumbicon Television Camera Tube which features the Anti-Comet Tail (ACT) gun designed to handle highlights up to four f/stops over peak white. The internal light bias reduces lag to a minimum. The XQ1505 extended red Plumbicon tube for best red response incorporates an infrared reflecting filter on the anti-halation glass faceplate.

### XQ3070 Series Plumbicon Camera Tube

1" (25mm) Diameter Plumbicon with high resolution lead oxide photoconductive layer with Diode Gun™ (Patent Pending) construction and high beam reserve for cameras with DBC. Light bias for low lag. Low output capacitance for high signal-to-noise ratio. The XQ3075 extended red Plumbicon tube provides for the best red response and includes an integral IR filter on the anti-halation button.

## 2/3" TUBES

### XQ4187 (85XQ) Plumbicon Camera Tube

2/3" (17.8mm) Diameter Plumbicon Television Camera Tube with Diode Gun for dynamic beam control DBC and low output capacitance for best signal-to-noise ratio. The R, G, and B has a high resolution lead oxide photoconductive layer, Electrostatic Focus magnetic deflection with high stability (HS) electrode structure. It requires very low power and has low deflection field damping.

### XQ3467 Series Plumbicon Camera Tube

2/3" (17.8mm) Diameter Plumbicon Television Camera Tube with lead oxide, high resolution layer. The R, G, and B employs a triode gun with Electrostatic Focus and Magnetic Deflection.

### XQ3457 (87XQ) Series Plumbicon Camera Tube

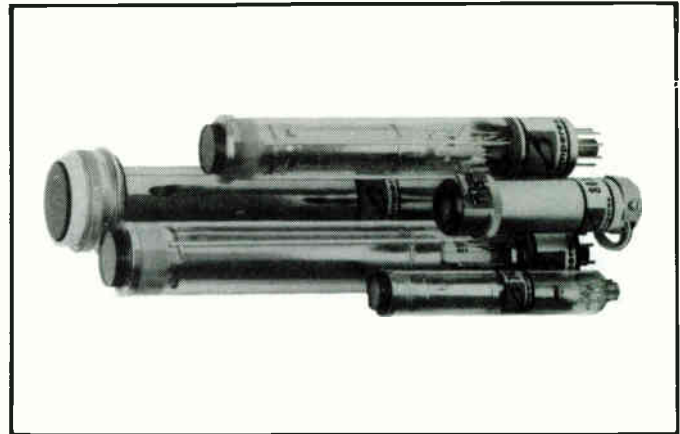
2/3" (17.8mm) Diameter Plumbicon Television Camera Tube with high resolution lead oxide layer, Magnetic Focus and Electrostatic Deflection (MS). The R, G, and B incorporates the Diode Gun for dynamic beam control DBC, Low Capacitance for high signal-to-noise ratio and is only 87.5mm long for smaller cameras.

### XQ2427 Series Plumbicon Camera Tube

2/3" (17.8mm) Diameter Plumbicon Television Camera Tubes with special high resolution lead-oxide photoconductive target, low heater power, magnetic focusing and deflection.

#### Special features are:

- Photoconductive target for increased resolution
- Diode Electron Gun for DBC (Dynamic Beam Control) to minimize comet tailing and blooming



### XQ3427 Series Plumbicon Camera Tube

2/3" (17.8mm) Diameter Plumbicon Television Camera Tubes with special high resolution lead-oxide photoconductive target, low heater power, magnetic focusing and deflection.

#### Special features are:

- Photoconductive target for increased resolution
- Diode Electron Gun for DBC (Dynamic Beam Control) to minimize comet tailing and highlight blooming
- Low output capacitance for high signal-to-noise ratio

### XQ1427 Series Plumbicon Camera Tube

2/3" (17.7mm) Plumbicon Television Camera Tube with high resolution lead oxide photoconductive target, separate mesh construction, low heater power, magnetic deflection and magnetic focusing.

The XQ1427R, XQ1427G, and XQ1427B types are intended for use in color cameras in Field Production, Broadcast Studio, Electronic News Gathering, educational and high quality industrial applications.

## 1/2" TUBE

### XQ4087 (80XQ) Plumbicon Camera Tube

1/2" (8mm scan diagonal) Plumbicon Television Camera tube with low heater power, magnetic deflection and electrostatic focusing, assembled with a DT1120 small lightweight deflection unit.

#### Special features are:

- Diode electron gun for DBC (Dynamic Beam Control), which minimizes comet tailing and blooming
- Low output capacitance achieved by a special signal plate with contact through the window
- Low deflection field damping by wall electrodes
- Excellent geometry and registration capability
- Reduced line pick-up due to side connection of the mesh
- Low power consumption due to electrostatic focus

The XQ4087 tubes are intended for color and monochrome cameras in broadcast (Electronic News Gathering), educational and high quality industrial applications.

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# VIDICON/NEUVICON CAMERA TUBES

## Antimony Trisulfide Vidicons

Type	Length mm/in.	Mesh Construction I - Integral S - Separate	Focusing Method	Deflection Method	Max Image Size mm (Scan diagonal)	Heater		Typical Operation Conditions (2856K Source)						Application Remarks
						Current (mA)	Power (Watts)	Sensitivity		Response (4 x 3 Aspect)				
								At Dark Current (nA)	Output Signal nA at F.C.	At Mesh Voltage	Amp Response at 400 TV Lines/PH (%)	Limiting Resolution (TV-Lines) or (Line Pair/ mm)		
XQ1240	159 6.260	S	M	M	16	95	0.6	20	300 at 0.1	425 950	50 65	750 1000	1" X-Ray (Medical and Industrial)	
XQ1241	159 6.260	S	M	M	16	95	0.6	20	300 at 0.1	425 950	50 65	750 1000	1" Industrial	
XQ1280	159 6.260	S	M	M	16.2	95	0.6	20	150 at 0.1	425 950	—	60LP/mm	1" Ultra High Resolution	
XQ1285	159 6.260	S	M	M	15.8	95	0.6	20	150 at 0.1	425 950	—	50LP/mm	1" with Fiber Optic Face plate for Medical or Industrial X-Ray Equipment	
XQ1270/ 20PE11	108 4.235	I	M	M	11	95	0.6	20	200 at 0.1	400	35	500	2/3" Industrial and consumer CCTV applications	
XQ1271/ 20PE13	108 4.235	S	M	M	11	95	0.6	20	200 at 0.1	400	35	500	2/3" Industrial and consumer CCTV applications	
XQ1272/ 20PE14	108 4.235	S	E	M	11	95	0.6	20	200 at 0.1	600	35	500	2/3" Industrial CCTV applications with electrostatic focus	
XQ1600/ S4152	85 3.35	S	E	M	8	105	0.3	10	120 at 0.1	550	> 20	450	1/2" Miniature, electrostatic focus	

## Newvicons

XQ1440/ S4076	159 6.260	S	M	M	16	95	0.6	—	240 at 0.5	500	50	800	1" Industrial CCTV application
XQ1442/ S4093	160 6.299	S	M	M	16	95	0.6	—	240 at 0.5	500	50	650	1" Industrial CCTV application with fiber optic facaplate
XQ1274/ S4075	108 4.235	S	M	M	11	95	0.6	—	260 at 0.1	400	35	650	2/3" Industrial CCTV application
XQ1275/ S4092	108 4.235	S	E	M	11	95	0.6	—	260 at 0.5	35 to 55	30	600	2/3" Industrial CCTV application with electrostatic focus
XQ1601/ S4162	85 3.35	S	E	M	8	105	0.3	—	110 at 0.1	550	> 20	450	1/2" Miniature electrostatic focus

## Deflection and Focusing Coil Units

Type	Max. Out Side Dia. (mm)	Overall Length (mm)	Weight (g)	Inductance (mH)		Resistance (ohms)		Current (mA)			Tube Diameter	Remarks	
				Line Deflec- tion Coils	Frame Deflec- tion Coils	Line Deflec- tion Coils	Frame Deflec- tion Coils	Focus Coil	Line Deflec- tion Coils	Frame Deflec- tion Coils			Focus Coils
AT1116	60.4	136.7	615	0.78	28	2.4	62	149	300 p-p	43 p-p	105	1"	Front load, for B/W and color applications
KV-12S	46	84	300	0.86	28.7	3.2	146	55	160 p-p	25 p-p	120	2/3"	Front load, for B/W applications
KV-19G	30	80	56	0.9	23	4.6	146	—	160 p-p	25 p-p	—	2/3"	Front load, "Electro-Magnetic" for B/W applications



# AMPEX CORP.

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(415) 367-2011 Telex: 34-8464 USRWC  
FAX: (415) 367-4132 TWX: 910-378-5920

# PRODUCTION SWITCHER

## AVC Series Video Production Switcher

- **Simplified Controls:** pushbuttons instead of knobs assure controls never get out of sync with internal memories
- **Expanded Memory System:** Key Memory System allows storage and recall of up to four separate and distinct key setups for each key source
- **Unparalleled Switcher Flexibility:** three keyers per M/E so operator can introduce any type or combination of keys in any sequence with any background
- **Extensive Preview Capability:** preview monitoring system allows previewing of not only any M/E output, but also individual buses feeding the M/E as well as the Quad Split, Program, and Preset Buses (or program bus A and B)
- **Independent M/E Pattern Systems:** with the AVC series, up to 128 patterns are keypad selectable, and each M/E has its own independent pattern system
- **Bordering Flexibility:** half-halo borders allow wipe transitions to be hard on one side, tapering to full soft on the other for unique images and effects with 164 standard wipe patterns
- **Choice of Auto-Transitions:** automatic transitions from 0.1 to 9.9 seconds can be sinusoidal, exponential or logarithmic, as well as linear
- **Positive Tally Indication:** actual tally with positive "On Air" indications are provided for extra operating ease and reliability
- **Wider Matte Color Choice:** totally independent matte generators let the operator choose any color wanted on every matte function
- **Downstream Mixer/Keyer:** downstream mixer/keyer allows user to choose either PGM/PST or A/B operation
- **Power Backup:** standard dual power supplies automatically switch if one should fail
- **Battery Backup:** batteries hold memory registers and current switcher setting in case of power failure

The uncluttered beauty of the AVC Series panel is striking. In creating the AVC Series switcher, Ampex engineers achieved many industry firsts, including the elimination of all panel control knobs. Instead, there are two centrally located "adjust panels" containing Up/Down and On/Off pushbuttons as well as the Pattern Positioner. All major switcher adjustments are made from this convenient focal point.

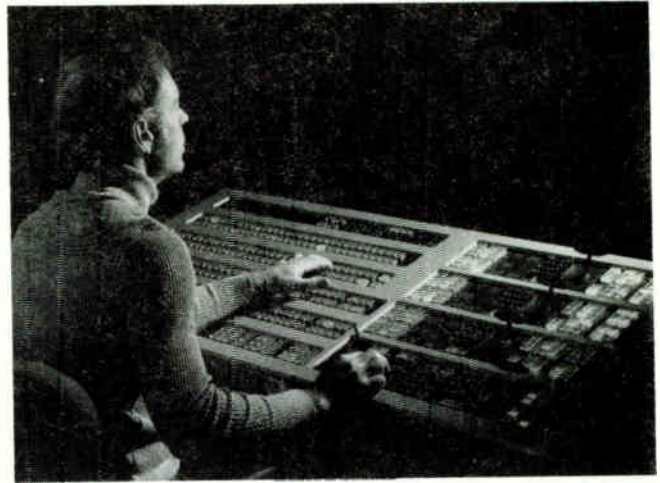
Advanced design concepts are used to enhance reliability and to improve signal performance. For example, dual current sharing power supplies are standard. Independent microprocessors in both the control console and the electronics bay may have an optional backup CPU installed. A battery backup for the AVC system is standard.

One dual-twisted-pair audio cable is the only connection required between the console and the electronics bay.

The large, backlit M/E display panels contribute to the easy operation of the AVC Series. These panels display the key sources selected on all three keyers in each M/E. In addition, the wipe pattern numbers and auto-transition duration times are also displayed in large, easy-to-read numerals.

Also on this display are "active bus" and keyer tally indicators that always show which video bus or buses including keyers are contributing to the output of the M/E. To further simplify the operator's job, these tally indicators change colors from yellow to bright red to indicate when any of those sections of the switcher are "On Air".

One of the greatest advantages of the AVC Series switcher is its ease of operation. AVC Series switchers are among the most powerful and capable production switchers available on the market today. Yet, for all their creative power and capability, AVC switchers operate in the logical and familiar cascaded re-entry, A/B format. The operator's perceived "video flow" is always left-to-right and top-to-bottom and, except for Mix Key, Wipe Key and Auto-Transitions, the fader position always corresponds to the active video bus.



AVC Series

The AVC switchers use 12-button keypads on each M/E for the selection of key sources for all three keyers, wipe patterns and auto-transition rates. Use of the keypad makes control of the M/E fast and efficient, and its compactness allows the overall physical size of these extremely powerful switchers to be kept to human proportions.

AVC Series switchers are designed to significantly increase creative capabilities while actually reducing operational tasks. Simple controls, easy-to-read and understand visual displays and tallies and compact size add up to a more useful production system. With an AVC Series switcher's simple-to-operate console and logical, familiar A/B operation providing truly useable power, you'll be assured of better final production results every time.

### AVC Series Options

There are numerous options available for use with AVC Series switchers that can extend their unique and powerful production capabilities. AVC switcher options include:

#### Analog Key Border Generator and Encoded Chroma Keyers

This option gives a smooth, high quality analog key border generator capable of making borders or drop shadows with any luminance value, colored outlines and, on effects keyers, drop shadows which can be varied from zero up to 14 lines deep. Key insert video can be decayed and delayed up to 14 lines for very dramatic effects from even simple graphics.

Each key border generator option also includes an encoded chroma keyer. The encoded chroma key portion is fully integrated and fully timed in the AVC. No external rack units or timing devices are required.

#### Switcher Status Display Output

Every parameter of AVC switcher status can be displayed in easy-to-read bar graphs with this option. Fader status, direction and travel are shown along with pattern modifier menus, error and operating messages. A switch in the signal system converts the status output to a diagnostic display output to help with maintenance and troubleshooting.

#### Clock/Timer/Safe Area Display

This option is a valuable aid for both live and post production. It provides up to two Clock/Timer displays, and a Safe Title display keyed over the Preview monitor. The Clock/Timer displays can be made to count up or down from any present time, manually or automatically. The Safe Area display shows SMPTE Safe Title and Safe Action area (Safe Title only in PAL), plus centering and alignment cursors.

#### Auxiliary Buses

All AVC Series switchers can accommodate up to 16 auxiliary buses. Auxiliary buses can be video-only, audio-follow-video or audio breakaway. Aux buses can select from all primary switcher inputs plus all M/A and Program output (fully timed). Numerous control systems are available.

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# PRODUCTION SWITCHER

## AVC Series Video Production Switcher (Cont'd)

### Panel STAR™ Memory

Panel STAR Memory is a panel-oriented memory system which can store and recall up to eight complete switcher setups. With the Panel STAR option, setups can be swapped or transferred from one M/E to another. When complex production requirements and heavy time pressures are involved, this can be an invaluable time and frustration saver.

Panel STAR Memory will also make smooth interpolations of size and position between the setups stored in memory. You can transition between setups involving up to three M/Es and the downstream keyer individually, simultaneously or in any combination at the same or at different rates. This kind of powerful control makes any type of production faster, easier and more flexible.

### X-STAR™ Memory

X-STAR Memory is a dual micro-floppy disk system which can store 400 complete switcher setups on one disk, greatly extending the power of Panel STAR Memory. With two disks in operation, over 800 setups can be stored and available for immediate recall. Dual drives mean that disks can be checked, edited, formatted and copied in-house using standard 3 1/2" disks. X-STAR can also store the contents of the AVC Key Memory for even greater production simplicity. Worst-case access to any AVC X-STAR setup is about ten seconds, with typical access requiring less than five seconds.

### ADO™ 2000 System Interface

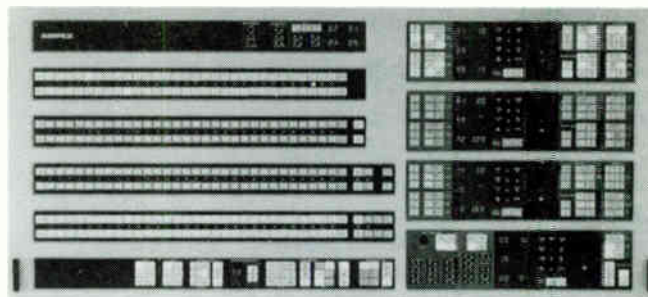
Designed primarily for live, on-air use, the ADO interface lets you select, trim and run ADO effects from the console as though the ADO were an integral part of the AVC pattern system. The switcher can control up to four ADO channels at once. It even allows you to use the full AVC pattern border capability around ADO pictures.

A special Quad Bus option is available to route signals—including M/E outputs—to the ADO inputs. The Quad Bus and ADO interface let you build up extremely complex effects that can then be controlled quickly and easily by a single button push at the AVC console. Since the whole AVC/ADO setup can be stored in Panel STAR Memory, the AVC switcher will set up a three M/E effect involving ADO keys and moves, select inputs to the ADO, and set up all other switcher parameters and effects. The ADO moves can then be done using AVC faders or auto-transitions, or it can be part of a complex transition of the entire AVC from one memory to another.

### SPECTRAKEY™ Chroma Key System

SPECTRAKEY is an exceptionally high quality RGB chroma key system that uses a patented chroma-nulling process. It lets you key from any color. SPECTRAKEY is fully integrated into the AVC system, so it eliminates the cumbersome problems of external timing compensation or signal routing, and all SPECTRAKEY setups can be stored in Key Memory.

The SPECTRAKEY system's low gain edges and patented techniques make chroma key scenes that are difficult to distinguish from real scenes. Chroma keys involving smoke, glass and other transparent objects present no problems for SPECTRAKEY.



AVC-33

Other options not shown here include Quad Split System and Serial Edit Interface

## SPECIFICATIONS

### Input Characteristics

Primary Input Loop-through bridging: 1.0V P-P composite video  
RGB Chroma Key Inputs 0.7V P-P video, with or without composite sync  
Reference Video Input 1.0V P-P composite video; non-loop through input, 75Ω termination  
Return Loss > 40 dB, at subcarrier frequency, with external 75Ω termination

### Output Characteristics

Output Impedance 75Ω, all outputs  
Line Outputs PGM, 2 outputs; Master Black, 1 output; DSK Black, 1 output  
Monitor Outputs M/Es, 3 outputs (A-bus, B-bus, M/E output) PGM bus, 1 output PST bus (PGM B), 1 output  
Quad Split (when Q/S system installed), 1 output; Key PVW system  
Aux Bus Outputs 2 outputs per aux bus  
Return Loss ≥ 37 dB, at subcarrier frequency

### Video Performance

Frequency Response ± 0.2 dB, 100 KHz - 5 MHz  
+ 0.2, -0.5 dB; 5 MHz - 8.0 MHz  
Smooth rolloff above 8.0 MHz  
Line Tilt (IEEE window signal) ≤ 1.0%  
Field Tilt (IEEE window signal) ≤ 1.0%  
Chrominance/Luminance Gain Inequality < 1.0 dB  
Chrominance/Luminance Delay Inequality (12.5T Modulated Pulse) < 25 ns, max  
Differential Gain ± 1.5%; 10-90% APL  
Differential Phase ± 1.5; 10-90% APL  
Dynamic Gain ± 1.0%; 10-90% APL  
Signal Noise Ratio > 60 dB P-P video (1.0V reference to RM6 noise (unweighted), 30 KHz to 5 MHz)  
Crosstalk ≥ 55 dB at subcarrier frequency  
Path Length Accuracy 1.5° at subcarrier frequency  
Video Switch Approximately 1 μs during vertical interval  
K Factor (ZT Pulse) ≤ 1.0%  
Crossfade Gain Linearity ± 0.5% luminance, ± 1.5% chrominance  
Crossfade Phase Linearity ± 1.5%

### Power

Power Supply Diode coupled, dual redundant power supply with battery back-up  
Battery Back-up 5 days, nominal  
Input 100/110/220/240 VAC, +10%, -15% plug programmable  
60 Hz ± 2%  
50 Hz ± 2%  
Ferro-resonant transformer  
Power Consumption AVC-33: approximately 1.4 KW  
AVC-31: approximately 1.3 KW  
AVC-23: approximately 1.2 KW  
AVC-21: approximately 1.0 KW

### Tally

Relay 1 Form C; 24 V, 2A contacts  
Tailed Inputs All primary plus 2 external key inputs plus ME tally

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# PRODUCTION SWITCHERS

## Vista™ Series Production Switchers

### Standard Features

- 10 or 18 inputs including color, black and color background
- Powerful Mix/Effects unit
- Downstream mixer keyer with Master Fade-to-Black
- Flip-Flop operating format
- Integrated switcher status display
- 5 independent matte generators
- 4 auxiliary buses (2 with full re-entries)
- Available in NTSC, PAL or PAL-M video standards

### Patterns

- 32 patterns including rotary wipes and random pixel dissolve
- Full screen adjustable borders
- 4 pattern border types (hard, soft, soft halo and half halo)
- Border width can track pattern size
- Patterns can be positioned with Auto-Panning capability

### Keying

- Three linear keyers capable of Luminance, RGB Chroma, Composite Chroma and ISO keys
- Key memory system stores setups for each source, recalls to any keyer
- UNIKEY™ additional DSK external linear gain key
- Key Masking System
- Optional SPECTRAKEY™ advanced Chroma Key System
- Optional flexible borders: 4 shadow styles and border-modify

### Microprocessor Features

- Panel Memory with event transition and automatic sequencing
- Powerful Preview System will even preview patterns
- RS-232, RS-422 and GPI control ports
- AVC audio system compatibility
- User-programmable switcher configuration

Vista Series switchers are available in ten or eighteen input configurations (including black and color background).

The Mix/Effects system is capable of virtually any combination of transitions involving two keys and two backgrounds. Both keyers can do every type of key—they each have full length, independent source buses as well as operator-assignable automatic isolated hole cutting. Keys may appear over the A or B bus, both buses, or in any combination. And, key transitions are selectable at any time as part of—or independent of—the transition system.

A full function downstream system provides two additional levels of keying (one full capability, one ISO only) as well as mix and fade capabilities.

A versatile preview system quickly and easily monitors the video available at any point in the switcher, and even allows pattern previews without tying up the M/E.

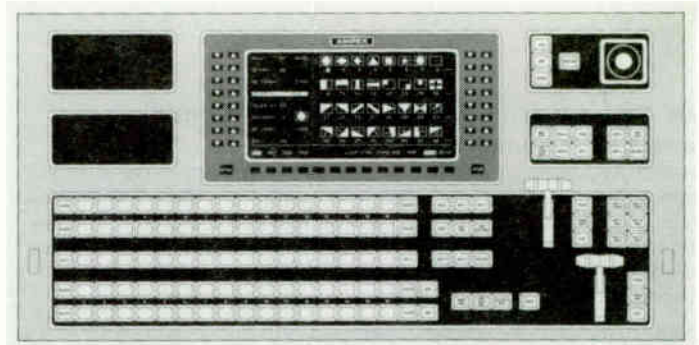
The Vista is ideal for small production facilities, editing suites, mobile applications, or any broadcast or post production situation where space is at a premium. The console measures 12½" tall, while the electronics require only 14" of rack space. Since communications between the two are serial, a simple dual twisted-pair cable is all it takes.

A unique electro-luminescent display shows operating status of transition times, memory setups, diagnostics and other essential operational information—so you always know where you are.

The Vista's up-down controls require less space, are more precise, and are more suited to modern, memory driven switchers than potentiometers. And they won't drift or get noisy over time.

New operators will be pleased at how fast they master Vista's capabilities, while seasoned operators will appreciate the creative freedom offered by Vista's well placed controls.

Vista will store and recall 24 switcher setups, as well as eight different sequences involving any combination of the 24. Sequences can call other sequences, loop, or be paused at any time.



Vista

You can design any transition between setups, then automatically execute the sequence linearly, or in a variety of non-linear transitions.

Auto transitions can be specified in seconds, tenths of seconds, or frames. And, an optional extended memory system lets you save it all on disk.

## Specifications

Video Inputs	75 ohm, loop-through
Return Loss	< -40 dB at subcarrier
Video Level	1V p-p composite
Timing Inputs	
Pulse Level	2 or 4V p-p nominal
Subcarrier	2V p-p nominal
Video Outputs	75 ohm source terminated, 1V p-p
Return Loss	< -37 dB at subcarrier
Frequency Response	±0.2 dB, 100 kHz to 5 MHz +0.2 db/ -0.5 dB 5 MHz to 8 MHz Smooth roll off above 8 MHz
Differential Phase	±1.5° (10%-90% APL) worst case
Differential Gain	±1.5% (10%-90% APL) worst case
Signal-to-Noise Ratio	>60 dB p-p video/RMS noise 120 kHz to 5 MHz, unweighted
Line Tilt	≤1.0% (IEEE window signal)
Field Tilt	≤1.0% (IEEE window signal)
Chrominance/Luminance Delay Inequality	≤25 nS (12.5 T Pulse)
Chrominance/Luminance Gain Inequality	≤0.2 dB
Crosstalk	≤ -55 dB at subcarrier
Path Length Accuracy	<1.5° at subcarrier
K Factor (2T Pulse)	<1.0%
Crossfade Gain Linearity	±0.5% luminance ±1.5% chrominance
Crossfade Phase Linearity	±1.5°
Dynamic Gain	±1.0% (10%-90% APL)

Prices and Specifications Subject to Change Without Notice.



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# COMPUTERIZED EDITING SYSTEMS

## ACE™ Computerized Editing Systems

Because the ACE Editor is both software-based and modular, it is a superior long-term investment—for both the editor and the engineer. Software enhancements improve the system's capabilities without making the hardware obsolete. Modularity allows you to start out with exactly the system you need, and add capability as your business grows.

### A Family of Editors Lets You Choose the Best System for Your Application

From a very affordable interformat system, all the way to a 16-device control system with up to 6000-line edit list capacity, the Computerized Editing family consists of powerful editors—designed to fit almost any of your editing requirements.

### A Systems Approach to Post-Production

When an ACE Editor is the centerpiece of a system in which the major components are Ampex products, you're in charge of a Creative Command Center™. Within the Creative Command Center, ACE has superb control of Ampex switchers, VTRs, and Ampex Zeus™ advanced video processors, and even ADO™ special effects systems. RS-422 serial communications and compatible software throughout make machine interfacing a smooth road.

The Creative Command Center offers enough flexibility to satisfy any post-production requirement. Select your switcher from the Ampex 4100 Series, or from the Ampex AVC Series, including the powerful AVC Century or the compact Vista™ switchers. Choose from Ampex's complete line of Type C VTRs. For small format work, Ampex offers a selection of Betacam and Betacam SP™ VCRs. Choose from three versions of ADO systems for digital effects. ACE Editors control them all—via the speed and efficiency of serial communications.

Of course, ACE interfaces with products of other manufacturers, too. RS-422 compatibility, general purpose interface (GPI), superb disk input/output capabilities, and ACE's Trigger Screens help make ACE the right choice for any equipment configuration.

### Dedicated Keyboard: Soft Key Superiority

The ACE dedicated keyboard features a logical, uncluttered layout that positions clusters of keys according to function and frequency of use and, like the TouchScreen, easy to learn and easy to master.

The true power of the ACE Editor is contained within eight soft keys, grouped at the top of the keyboard. These soft keys provide direct access to the powerful software features ACE Editors offer.

### TouchScreen: Silent Lightning

The TouchScreen is silent, efficient, powerful, and extremely rapid. Instead of keyboarding your inputs, you merely point your finger at an entry on the menu monitor. It provides the editor all the power and features of a keyboard, but allows greater operating comfort and speed.

TouchScreen data is displayed "double spaced," making it easy to move quickly from one command to another. Whenever numbers are required, a keypad display appears. It is arranged much like a standard 10-key array on a keyboard, but with many extra custom features for easy numerical entry, trimming, and storage.

### ACE Software: The Power Behind the Screen

One of the unique features of ACE software is the ability to configure menus to an editor's preference. You can display as little or as much data as desired on your Edit Construction List (ECL) or Edit Decision List (EDL). Simplify the menu for a "cuts-only" session, or add important switcher data for a challenging multiple M/E session. ACE does not impose its menus on the user. It lets you custom tailor the display to match your creativity and style.



ACE

### ACE Triggers: The Power of the Pulse

All triggers are indented from the program line for an easy visual cue, with concise titles heading the four information columns. Triggers are fully listed in the EDL—easy to read and easy to modify.

GPIs can be triggered at entry plus, entry minus, or record absolute, with variable pulse durations easily set.

### Joystick Control

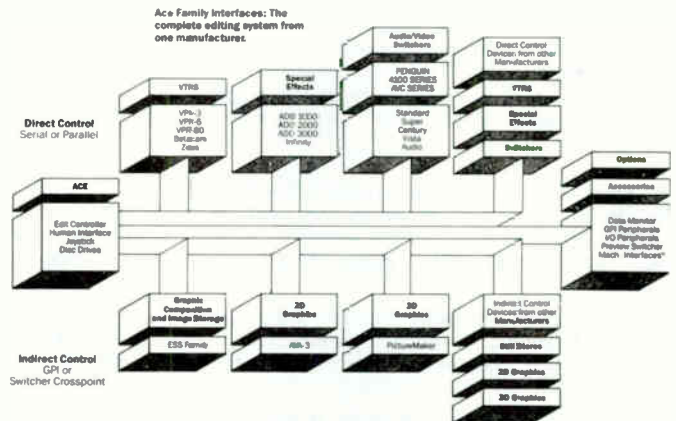
The joystick is standard with many ACE models and complements both TouchScreen and keyboard operation. This is no ordinary joystick, but rather a key element in the synergy of a Creative Command Center.

### ACE 200 Editor

ACE 200 is an NTSC, PAL, and PAL-M compatible distributed processing electronic editor which controls up to 20 GPIs and 16 devices. These devices include VTRs, ATRs, Ampex Zeus advanced video processors, Ampex switchers, ADO special effects systems, as well as equipment from other manufacturers.

### ACE Micro Editor

The ACE Micro Editor is an NTSC, PAL, and PAL-M compatible distributed processing electronic editor which provides full computing power and editing versatility at an affordable price. ACE Micro Editors have excellent functionality in broadcast, industrial, interformat, and second suite applications. ACE Micro controls one video switcher, and up to 4 GPIs and 4 VTRs, including Type C, 3/4", Betacam and Betacam SP. A printer and one human interface are also supported.



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# VIDEO TAPE RECORDER

## VPR-80 C-Format Video Tape Recorder

### The VPR-80/TBC-6 Package

The VPR-80 and its digital time base corrector, the TBC-6, were designed to make your production and editing easier and faster.

Automatic Scan Tracking™ (AST) is a standard feature on the VPR-80. The AST system insures tracking and allows you to vary playback speed from still frame through slow motion to 1½ times play speed—with no picture breakup and no need to adjust.

A complete editing package is standard, too. It's easy to understand, fast and simple to operate, and frame-accurate. It even lets you preview and trim your edits prior to recording.

The exclusive AST tracking system enables the VPR-80 to deliver broadcast quality pictures at any play speed—from stop through slow motion to 1½ times normal forward speed. By providing accurate auto tracking at all tape speeds, AST insures stable, perfect pictures. And, the AST system further improves the quality of your normal playback by automatically servoing the video head to the exact center of the video track.

### Gentle Tape Handling, Even at 30X Play Speed

Whether you need two hours of recording and playback time, or just enough tape for a 30 sec. spot, the VPR-80's "intelligent," high-response servo system gently handles reels of any size from 11¾" down to the smallest, lightest spot reel.

### Sophisticated Electronics Let You Work Fast and Efficiently

Dual microprocessors are the key to the VPR-80's power and operating simplicity. By dividing the workload, the VPR-80 can respond faster and more efficiently.

One microprocessor manages the VTR control system while the other is dedicated to all the servo subsystems. The result is accurate, dependable performance of all the machine's operations—and instantaneous response to your commands.

All this power has an additional benefit; it makes the VPR-80 simple to operate. Everything from setup to servicing can be done with a minimum of technical skill.

### Power Failures Won't End Your Day

If the power fails, a backup battery and voltage regulator system continue to power your machine's memory. Tape time, control panel setup and edit functions are all held until power is restored.

### Sophisticated Editing

Sophisticated editing is simple, fast and frame accurate. And, built-in machine intelligence helps guide you through the process.

- Insert and Assemble can be selected by pushbutton
- Auto-Edit permits automatic editing from preselected cues
- Entry and Exit edit points can be selected by pushbutton
- Your edits can be trimmed, frame by frame, on the keypad or by jogging the tape
- Both audio and video edits can be previewed prior to final recording
- A transfer feature automatically sets the next scene's edit entrance point

### "No-Fault" Operation Standard on this Machine

The VPR-80 advises you of any system faults or non-standard conditions that could affect machine performance. Status verification and diagnostic routines are performed automatically when the machine is turned on.

The VPR-80 checks for power failure in any of the subsystems, scanner stall, over-heating or absence of control track. It even lets you know when an editing procedure is incorrect—or when there's no video input.

If a fault or non-standard condition is detected, you're immediately alerted. And, the VPR-80 pinpoints the problem and indicates it, specifically, on the control panel display. If the problem could cause tape damage, the machine automatically shuts down.



VPR-80

### Audio

There are three fully independent audio channels on the VPR-80. Channels 1 and 2 are optimized for use as a stereo pair, and channel 3 has wideband capability for time code.

Individual level meters are standard, and separate level controls are provided for audio record and playback.

### Flexible System Interface

A simple five function remote control interface lets you run your VPR-80 from up to 100' away. For 2-machine editing, there's a single, plug-in connector. There's even a monitor jack that lets you keep an eye on critical video and control waveforms. And, parallel remote and serial remote PWAs are optionally available to give your VPR-80 even more flexibility.

The VPR-80 can also be teamed with our ADO™ effects, PictureMaker 3D animation, ACE™ and ACE Micro editors and Ampex switchers in a complete post-production editing system.

In order to provide consistent performance over a wide range of time base error inputs, we've packaged the VPR-80 with the TBC-6 digital time base corrector.

The 28-line correction window in the TBC-6 will handle the wildest gyroscopic errors you can throw at it. And in shuttle, its circuitry provides viewable pictures at 30X play speed, in forward and reverse.

Full color dropout compensation and velocity error correction are built in. And, the SCH phased sync generator includes fully adjustable horizontal and vertical blanking circuitry.

You're in full control of composite video signal adjustments on the TBC-6, with independent video and chroma gain controls, as well as chroma gain controls, as well as chroma phase, subcarrier phase, horizontal phase and black level controls. And primary controls are all remotable via an optional TBC-6 remote control panel.

You can even time share your TBC-6. It's designed to operate with heterodyne recorders, so you get maximum service out of a single piece of equipment.

For applications that don't require the broadcast quality variable speed capabilities of the TBC-6, the low cost TBC-40 is available.

Like the TBC-6, the TBC-40 will time share with other VTRs. It provides all the video signal control of the TBC-6 and, if ever needed, can be easily upgraded to TBC-6 performance specs.



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# BETACAM RECORDER/PLAYERS

## CVR-75/CVR-70 Betacam SP Recorder/Players

### Common Features

#### Video

- Automatic Scan Tracking™ (AST) with Dynamic Motion Control
- TBC remote control interface
- High speed picture-in-shuttle up to 24X normal speed in mono-chrome, either forward or reverse
- Full-featured editor
- Jog function allows tape movement in either direction, one frame at a time
- Versatile editing interfaces
- Dynamic Motion Control CVR-70 can memorize rehearsed playback speeds of a connected CVR-65 or CVR-75 over their tracking range (-1 to +2X normal), and then command the CVR-65 or CVR-75 to reproduce these speeds in subsequent editing operations
- Versatile Time Code System, VITC and SMPTE/EBU longitudinal track format
- Presettable user bits, free-run or record-run modes
- Built-in time code generator/reader
- Two composite outputs
- Two dub/component outputs
- —Y, R-Y, B-Y or Compressed Time Division Multiplexed (CTDM) output for high-quality component editing
- Color framing. Superior color framing operation, using both the CF flag and the Vertical Interval Subcarrier (VISC) system when operating in a composite environment
- Studio-quality audio performance
- Four channels: two longitudinal, two AFM
- Separate playback levels for each channel
- Integrated mixer for channels 1 and 2
- Low impedance audio monitor outputs for separate or mixed output
- Dolby C\* noise reduction on longitudinal channels
- Multi-function hours meter
- Headphone jack with volume control

### CVR-75 Betacam Recorder/Player

The CVR-75 is equipped with a built-in, full-featured editor that allows both assemble edits and insert edits for Video, Audio 1 and 2, and time code. Pre-roll times are selectable. Preview/Review functions can be engaged to check edit accuracy. And, edit points determined by the use of in/out mark functions may be trimmed in either direction on a frame-by-frame basis.

Sc/H (subcarrier to horizontal sync) phase indicators, are built into the CVR-75. These circuits monitor both the video input and output for correct RS-170A phasing, assuring good edits whether the CVR-75 is the source or recorder.

In the editing suite, the CVR-75 is a versatile work-horse. Designed to meet the stringent requirements of demanding editing sessions, the machine provides a selection of time codes.

Besides Longitudinal Time Code (LTC) with user bits, the CVR-75 provides Vertical Interval Time Code (VITC).

With the CVR-75, you always know exactly where you are on the tape. The need for shuttling back and forth to search for an exact insert or exit point is eliminated.

### CVR-70 Betacam Recorder/Player

The CVR-70 studio VTR combines the performance of Betacam SP with features such as dynamic motion control, viewable pictures in shuttle, a full-featured editing system, a built-in time base corrector and a versatile time code system.

The CVR-75/70 are compact, lightweight and can be installed in either standard 19" EIA racks or consoles in studios and OB vehicles.

\*Dolby C is a registered trademark of Dolby Laboratories Licensing Corp.



CVR-75

### Specifications

#### VIDEO

	NTSC OXIDE TAPE	NTSC METAL PARTICLE TAPE
Bandwidth, luminance	30 Hz to 4.1 MHz +0.5/-6.0 dB	30 Hz to 4.5 MHz +0.5/-3.0 dB
Chrominance, R-Y/B-Y	30 Hz to 1.5 MHz +0.5/-3.0 dB	30 Hz to 1.5 MHz +0.5/-3.0 dB
S/N Luminance	48 dB	51 dB
Chrominance, amplitude phase	50 dB	53 dB
K-factor (2T pulse)	50 dB	53 dB
Differential gain	Less than 3%	Less than 2%
Differential phase	Less than 3°	Less than 2°
Chrominance/luminance delay	Less than 20 nsec.	Less than 20 nsec.

#### AUDIO

	LONGITUDINAL OXIDE TAPE	LONGITUDINAL METAL PARTICLE TAPE
Frequency response	50 Hz to 15 kHz ±3 dB	50 Hz to 15 kHz 1/-2 dB
S/N	50 dB (3% distortion level, without NR system)	54 dB (3% distortion level, without NR system)
Dynamic range	N/A	N/A
Phase difference	N/A	±20 degrees at 15 kHz
Distortion (1 kHz ref. level)	Less than 2%	Less than 1%
Wow and flutter	Less than 0.10% rms	Less than 0.10% rms
Crosstalk	N/A	-65 dB
Depth of Erasure	More than 70 dB	More than 70 dB

#### SIGNAL INPUTS

Video (75 ohms)	Composite video 1.0V p-p
Ref Video (75 ohms)	1.0V p-p ±0.3V
Dub/component (75 ohms)	(12-pin connector)
Luminance	1.0V p-p sync negative
Chrominance, R-Y/B-Y	0.7V p-p
Component (75 ohms)	(3 BNC connector)
Y	1.0V p-p sync negative
R-Y/B-Y	0.7V p-p (75% color bars)
Audio Ch. 1/2/3/4/ Low	-60 dB, 3K ohms balanced
High	±4 dB 600 ohms, 10 K ohms balanced
Time code	0.5V to 18V p-p, 10K ohms balanced

#### SIGNAL OUTPUTS

Video 1 (75 ohms)	1.0V p-p sync negative
Video 2 (75 ohms)	1.0V p-p sync negative
Composite video	0.714V p-p/NTSC
Non-composite video	
Video 3 (75 ohms)	1.0V p-p sync negative (monitor out with character insertion)
Composite video	(12-pin connector)
Dub/component (75 ohms)	1.0V p-p sync negative
Luminance	0.7V p-p (75% color bars)
Chrominance R-Y/B-Y	
Component (75 ohms)	(3 BNC connector)
Y	1.0V p-p sync negative
R-Y/B-Y	0.7V p-p (75% color bars)
Audio Ch. 1/2/3/4	+4 dBm, 600 impedance balanced (150 ohms load permissible)
Monitor Ch. 1/3, Ch. 2/4	2.2V p-p, 600 ohms, unbalanced
Time code	



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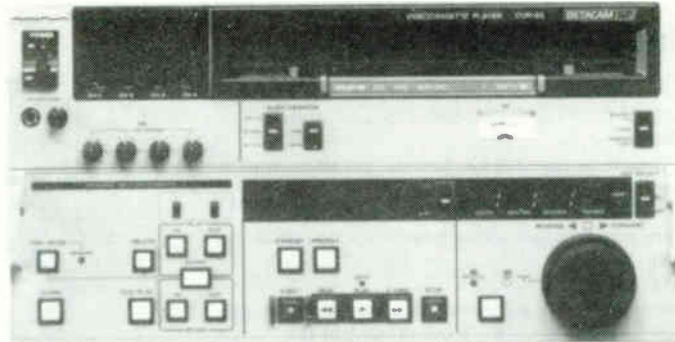
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# BETACAM PLAYERS

## CVR-65/CVR-60

### Betacam SP Players

- AST™ automatic tracking allows variable speed playback within a range of -1 to +2X play speed with broadcast quality pictures (CVR-65 only)
- Built-in time base corrector provides broadcast quality video while eliminating any other signal processing requirements
- TBC remote control interface
- High speed picture-in-shuttle up to 5X normal speed in color, 24X in monochrome, either forward or reverse
- Jog function allows tape movement in either direction, one frame at a time
- Versatile editing interfaces
- Dynamic Motion Control CVR-65 can memorize rehearsed playback speeds over -1 to +2X normal speed, and reproduce them in subsequent playback
- Versatile Time Code System, VITC and SMPTE/EBU longitudinal track format
- Built-in time code reader
- Built-in character generator
- Time code, system status or setup menus displayed in video monitor output
- Two composite outputs
- Two dub/component outputs —Y, R-Y, B-Y or Compressed Time Division Multiplexed (CTDM) output for high-quality component editing



CVR-65

- Color framing. Superior color framing operation, using both the CF flag and the Vertical Interval Subcarrier (VISC) system when operating in a composite environment
  - Studio-quality audio performance  
Four channels: two longitudinal, two AFM  
Separate playback levels for each channel  
Low impedance audio monitor outputs for separate or mixed output  
Dolby\* C noise reduction on longitudinal channels
  - Multi-function hours meter
  - Headphone jack with volume control
- The CVR-65 delivers all the performance of the Betacam SP format with features such as

AST automatic tracking, dynamic motion control, viewable pictures in shuttle, a built-in time base corrector and a time code reader.

The CVR-65 is compact, lightweight and can be installed in either standard 19" EIA racks or consoles in studios and OB vehicles.

The CVR-60 delivers all the performance of the Betacam SP format in an economical playback machine.

The CVR-60 is compact, lightweight and can be installed in either standard 19" EIA racks or consoles in studios and OB vehicles.

\*Dolby C is a registered trademark of DOLBY LABORATORIES LICENSING CORP.

## Specifications

VIDEO	NTSC OXIDE TAPE	NTSC METAL PARTICLE TAPE	
Bandwidth, luminance	30 Hz to 4.1 MHz +0.5/-6.0 dB	30 Hz to 4.5 MHz +0.5/-3.0 dB	
Chrominance, R-Y/B-Y	30 Hz to 1.5 MHz +0.5/-3.0 dB	30 Hz to 1.5 MHz +0.5/-3.0 dB	
S/N Luminance	48 dB	51 dB	
Chrominance, amplitude	50 dB	53 dB	
phase	50 dB	53 dB	
K-factor (2T pulse)	Less than 3%	Less than 2%	
Differential gain	Less than 3%	Less than 2%	
Differential phase	Less than 3°	Less than 2°	
Chrominance/luminance delay	Less than 20 nsec.	Less than 20 nsec.	
<b>AUDIO</b>	<b>LONGITUDINAL OXIDE TAPE</b>	<b>LONGITUDINAL METAL PARTICLE TAPE</b>	<b>AFM METAL PARTICLE TAPE</b>
Frequency response	50 Hz to 15 kHz ± 3 dB	50 Hz to 15 kHz 1/-2 dB	20 Hz to 20 kHz +0.5/-2.0 dB
S/N	50 dB (3% distortion level, without NR system)	54 dB (3% distortion level, without NR system)	N/A
Dynamic range	N/A	N/A	More than 85 dB
Phase difference	N/A	± 20 degrees at 15 kHz	± 10 degrees at 20 kHz
Distortion (1 kHz ref. level)	Less than 2%	Less than 1%	Less than 0.5%
Wow and flutter	Less than 0.10% rms	Less than 0.10% rms	N/A
Crosstalk	N/A	-65 dB	-65 dB
Depth of Erasure	More than 70 dB	More than 70 dB	N/A
<b>SIGNAL OUTPUTS</b>			
Video 1 (75 ohms)	1.0V p-p sync negative		
Video 2 (75 ohms)			
Composite video	1.0V p-p sync negative		
Non-composite video	0.714V p-p/NTSC		
Video 3 (75 ohms)			
Composite video	1.0V p-p sync negative (monitor out with character insertion)		
Dub/component (75 ohms)	(12-pin connector)		
Luminance	1.0V p-p sync negative		
Chrominance R-Y/B-Y	0.7V p-p		
Component (75 ohms)	(3 BNC connector)		
Y	1.0V p-p sync negative		
R-Y/B-Y	0.7V p-p		
Audio Ch. 1/2/3/4			
Monitor Ch. 1/3, Ch. 2/4	+ 4 dBm, 600 impedance balanced (150 ohms load permissible)		
Time code	2.2V p-p 600 ohms, unbalanced		

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# BETACAM PORTABLE RECORDER/PLAYER

## CVR-35 Betacam SP Portable VTR

Through advanced circuit design and semiconductor technology, power consumption for the CVR-35 is kept to a minimum.

You can choose between NP-1A or BP-90 batteries for up to 120 minutes of recording on one set of batteries.

An AC-500 Power Adaptor is also available for AC operation.

### Excellent picture quality — with two playback modes

Now you can insure that you have recorded the picture you need. Luminance or Compressed Time Division Multiplex (CTDM) monochrome pictures can be seen in the camera viewfinder, either during recording using the confidence playback mode, or later using the normal playback mode. In addition, color pictures can be viewed on a monitor during normal playback.

### Four audio channels, with performance to match the video

With the Betacam SP format the CVR-35 can deliver true studio quality audio performance.

In addition to two high performance AFM tracks, specifications have been improved on the longitudinal channels. Dolby\* C noise reduction is also provided on the longitudinal channels to further improve sound quality.

And as with the video capability, you also have audio confidence playback while recording, to assure that those valuable scene sounds are being captured.

### Frame accurate backspace editing and an RS-422 interface makes field editing easier

Automatic frame accurate back space editing and nearly instantaneous starts on the CVR-35 provide smooth, continuous recording without break-up between sequences.

The CVR-35 is designed to also act as a high quality video/audio "feeder" source for an editing VTR. During the editing process the CVR-35 can be controlled by the editing VTR through the RS-422 serial interface.

### Multifunctional time code generator/reader with genlock

Now you can have a choice of time codes for post-production on Betacam SP. In step with the extended performance of Betacam SP, the CVR-35 brings the advance of Vertical Interval Time Code (VITC) as well as the SMPTE/EBU longitudinal track format.

The versatility of the Time Code System of the CVR-35 includes pre-settable User Bits, free-run or record-run modes, and genlock for setting/synchronizing to an external time code master generator.

To complement the CVR-35 playback capabilities, both Time Code Systems now have built-in readers.

### TBC interface adds versatility

Through a time base corrector, the CVR-35 is capable of studio-quality color playback for re-recording, microwave, satellite, or on-air transmission.

Advanced video/sync and subcarrier inputs are provided for use with an Ampex TBC-40 or other TBC.

### Complete professional connector panel

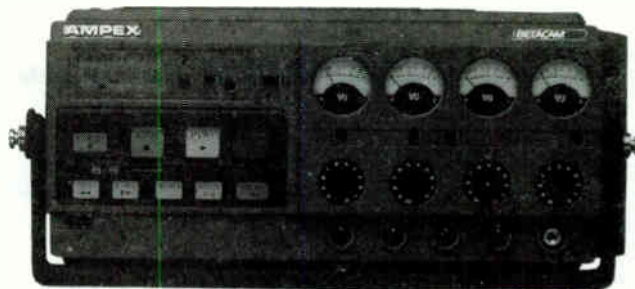
Although compact in size, the CVR-35 provides a full featured connector panel that allows you to configure a system that meets your specific applications.

Composite and component video inputs and outputs are provided along with audio interfaces, allowing the CVR-35 to be connected to a wide variety of ENG/EPF equipment.

### Designed for operational convenience

Independent VU meters and controls are provided so you can accurately adjust record and playback levels on all four audio channels. Other features include:

- Built-in RF modulator
- Time code/tape time display
- Video input level display
- Battery status display



## Specifications (Playback on CVR-75)

CVR-35

	NTSC Oxide Tape	NTSC Metal Particle Tape
<b>Video</b>		
<b>Bandwidth,</b>		
Luminance:	30Hz to 4.1MHz + 0.5/-6.0dB	30Hz to 4.5MHz + 0.5/-3.0dB
Chrominance, R-Y/B-Y:	30Hz to 1.5MHz + 0.5/-3.0dB	30Hz to 1.5MHz + 0.5/-3.0dB
<b>S/N Luminance</b>	48dB	51dB
<b>Chrominance,</b>		
amplitude:	50dB	53dB
Phase:	50dB	53dB
<b>K-factor (2T pulse):</b>	< 3%	< 2%
<b>Differential Gain:</b>	< 3%	< 2%
<b>Differential Phase:</b>	< 3°	< 2°
<b>Chrominance/ Luminance Delay:</b>	< 20nsec	< 20nsec
<b>LF Linearity:</b>	< 3%	< 2%
<b>Audio</b>		
	Longitudinal: Oxide Tape	Longitudinal: Metal Particle Tape
<b>Frequency Response:</b>	50Hz to 15KHz ± 3dB	50Hz to 15KHz + 1.5/-3dB
<b>S/N Ratio:</b>	50dB (3% distortion level, without NR system)	54dB (3% distortion level, without NR system)
<b>Dynamic Range:</b>	N/A	N/A
<b>Distortion (1KHz ref. level)</b>	< 2%	< 1.5%
<b>Wow and Flutter:</b>	< 0.15% RMS	< 0.15% RMS
<b>Crosstalk:</b>	N/A	N/A
<b>Depth of Erasure:</b>	> 70dB	> 70dB
<b>Signal Inputs</b>		
<b>Video: (75 ohms)</b>		
<b>BNC Connector:</b>	1.0V p-p (VBS)/4.0V p-p (SYNC)	
<b>Camera: (75 ohms)</b>	(26 pin connector)	
<b>Composite:</b>	1.0V p-p	
<b>Component Y:</b>	1.0V p-p	
<b>B-Y/R-Y:</b>	0.7V p-p	
<b>SC (75 ohms) BNC:</b>	2.0V p-p ± 6dB	
<b>Audio Ch.</b>		
<b>1/2/3/4 XLR:</b>	-60dBm/-20dBm/ + 4dB selectable. High impedance, balanced	
<b>Time Code: BNC:</b>	0.5V -18V p-p, 10K ohms	
<b>Signal Outputs</b>		
<b>Video 1/2, BNC (75 ohms):</b>	Composite video 1.0V p-p	
<b>Dub 12-pin:</b>		
<b>Luminance Y:</b>	1.0V p-p, 75 ohms	
<b>Chrominance B-Y/R-Y:</b>	0.7V p-p, 75 ohms (75% color bars)	
<b>Audio, XLR, Ch. 1/2/3/4:</b>	+ 4dBm, low impedance, balanced	
<b>Time Code BNC:</b>	2.2V p-p ± 3dB, 75 ohms	
<b>Headphone:</b>	Max. -20dBm, 8 ohms	
<b>Earphone:</b>	Max. -20dBm, 8 ohms	
<b>VHF (F-Connector):</b>	Ch-3/4, NTSC	

\*Dolby is a registered trademark of DOLBY LABORATORIES LICENSING CORPORATION.

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## CVR-5 Portable VTR

- Four audio channels, with performance to match the video
- Full bandwidth playback capability
- Multifunctional time code generator/reader with genlock
- Recording review function
- Combine with Betacam cameras for complete camcorder operation
- Phantom power supply
- Frame accurate automatic backspace editing
- Adaptors let you configure your CVR-5 for a variety of applications

The CVR-5 can be configured as an integral part of an AmpeX camcorder, or operated as a stand-alone recorder.

The CVR-5 can also be configured to record input from most existing cameras—in either the component or composite domain. So you can get Betacam SP performance, without having to replace your equipment.

The CVR-5 records and plays both oxide and metal particle tape in the 30-minute size cassette. It lets you pick the tape that's right—and cost effective—for your application.

And as with the video capability, you also have audio confidence playback while recording, to assure that those valuable scene sounds are being captured.

Audio recording is extremely flexible. Besides recording directly from your camera's microphone the CVR-5 has four XLR inputs for external microphones and audio lines.

If your work requires playback at full bandwidth you'll appreciate the playback output provided on the CVR-5. When combined with an optional CVA-500 playback adaptor the CVR-5 will output at full video bandwidth in color plus one channel of audio for recording check or microwave transmission.

Now you can insure that you have recorded the picture you need. Luminance or Compressed Time Division Multiplex (CTDM) chrominance pictures can be seen in the camera viewfinder either during recording using the confidence playback mode or later using the normal playback mode.

With the Betacam SP format the CVR-5 can deliver true studio quality audio performance.

In addition to two high performance AFM tracks, specifications have been improved on the longitudinal channels. Dolby® C noise reduction is also provided on the longitudinal channels to further improve sound quality.

For a quick confidence check, the CVR-5 provides a review function. It will rewind and playback the final few seconds of your recording, then automatically recue for your next sequence.

Now you have a choice of time codes for post-production of Betacam tape. In step with the extended performance of Betacam SP, the CVR-5 offers both Vertical Interval Time Code (VITC) as well as the SMPTE/EBU longitudinal track format.

The versatile Time Code System of the CVR-5 includes pre-settable user bits, free-run or record-run modes, and genlock for setting/synchronization to an external time code master generator.

## PORTABLE VTR



And to complement the CVR-5 playback capabilities, the longitudinal Time Code System now has a built-in reader.

To eliminate picture breakup between sequences, the CVR-5 provides a backspace assemble editing function. It automatically rewinds at the end of a sequence when the record button of the CVC-5 is pushed, then recues the tape at a clean edit point. Backspace editing can be performed from either the stand-by or save modes.

For applications where a remote microphone is required, a "phantom" power supply is built right into the CVR-5. It's designed to power a professional quality condenser microphone, providing audio input on Channel 1.

- CVA-5—allows the CVR-5 to accept either component or composite input from a wide range of cameras
- CVA-1—allows the CVR-5 to accept component input from a wide range of cameras
- CVA-500—allows color playback at full bandwidth

Two VU meters and controls are provided so you can accurately adjust record and playback levels on all four audio channels.

Other features include: Time code/tape time display, video input level display, and battery status display

Warning indicators are also provided for the status of: RF, servolock, end of tape, tape slack, condensation, and low battery.

The CVR-5 can be combined with CVC-3A camera to become the CVR-503A camcorder or the CVC-30 camera to become the CVR-530 camcorder.



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# COLOR CAMERAS

## CVC-3A/CVC-30 Color Cameras

### Common Features:

- Automatic iris adjustment
- Automatic centering
- Automatic beam optimizer
- Automatic tube protection shutter
- Automatic white/black balance
- White balance memory for each filter position
- Linear matrix
- 2H delay image enhancement
- Shading compensation for lens extender
- Built-in effects microphone
- 1.5" viewfinder with horizontal slide mechanism

### Viewfinder Displays Provide:

- Record status
- Filter position
- Video level
- Audio level and control (CH.1)
- Gain setting
- White/black balance status
- Can be combined with CVR-5 portable VTR for complete camcorder operations

The CVC-3A is a 3-tube  $2/3"$  Saticon camera. The CVC-30 is a 3-tube  $2/3"$  diode gun Low Output Capacitance (LOC) Plumbicon camera.

Both cameras provide superior resolution and S/N, and both feature an electrostatic deflection/magnetic focus system. The CVR-5 VTR is compact, versatile, and can be used in a number of composite and component configurations. And, since it records and plays both Betacam and Betacam SP format tapes, the CVR-5 is ideal for a wide range of ENG/EFP applications.

## Specifications

<b>CAMERA</b>	Pick-up tube	3A: $2/3"$ MF Saticon 30: $2/3"$ Diode Gun Plumbicon (MS, LOC)
	System	RGB 3-tube system
<b>VIEWFINDER</b>	Optical system	F1.4 prism system
	Built-in filters	1:3200° K, 2:5600° K + 1/4ND, 3:5600° K, 4:5600° K + 1/16 ND
	Lens mount	Special bayonet mount
	Video output	1.0V p-p, sync negative, 75 Ohms 2 outputs: TEST OUT, VTR connector
	Horizontal resolution	650 TV lines at center (typical)
	Registration	0.1% Zone I, 0.15% Zone II, 0.3% Zone III
	Geometric distortion	Less than 1%
	Sensitivity	3A: 2000 lux with F4, 90% reflectance 30: 2000 lux with F4.5, 90% reflectance
	Minimum illumination	3A: approx 30 lux (with f 1.4 lens +18 dB gain) 30: approx 25 lux (with f 1.4 lens +18 dB gain)
	S/N Ratio	NTSC/PAL-M: 59 dB, PAL/SECAM: 57 dB
Connectors	VTR: 50-pin, TEST OUT: BNC, LENS: 6-pin/12-pin, REMOTE: 6-pin	
<b>VIEWFINDER</b>	Picture tube	1.5 inch monochrome, BRIGHT control, CONTR control, TALLY switch, AUDIO control, ZEBRA on/off switch
	Resolution	500 TV lines
<b>GENERAL</b>	Power requirements	DC 12V (10.5V to 17V)
	Power consumption	20W NTSC/PAL/PAL-M, 22 W SECAM
	Warm-up time	3.5 seconds from pre-heat condition
	Operating temperature	-20° C to +40° C (-4° F to 104° F)
	Storage temperature	-20° C to +50° C (-4° F to +122° F)
	Microphone	Sharp-directional
	Supplied accessories	Extension board, tripod adaptor, tripod bracket, extractor, auto centering chart
	Dimensions	265 mm (10.4 in) H x 111 mm (4.3 in) W x 360 mm (14.2 in) L
	Weight	Approx 4.3 kg (9 lb, 7 oz) with viewfinder



CVC-3A

The electrostatic deflection/magnetic focusing system allows precisely controlled beam ballistics in a very compact package.

This system also lowers the amount of drive voltage required while improving deflection accuracy. The improved deflection increases the luminance resolution in the corners of your picture, while reducing the registration error. The result is a compact camera, with no trade-off in picture quality.

The low output capacitance of diode gun pick-up tubes and a low noise/high sensitivity FET, help contribute to superior S/N ratio.

Both cameras also have an exceptionally high center resolution. And, since a constant beam focus is maintained over the active area of the tube face, corner resolution is excellent.

When combined with the Betacam SP format, this ability to deliver quality pictures gives you studio camera performance in a lightweight, compact package.

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# CCD CAMERA

## CVC-50 Betacam Camera

- Automatic iris control
- Automatic white/black balance
- 2 white balance memories for each filter position
- High resolution, adjustable viewfinder
- Genlock capable
- Microphone
- Automatic white level compression
- Color bar generator
- Can be combined with CVR-5 portable VTR for complete camcorder operations

## Viewfinder Displays Provide:

- Record status
- Tape remaining
- Filter position
- Video level
- Audio level and control (CH. 1)
- Gain position
- White/black balance
- Battery condition
- Shutter speed (CVC-50)

## CVC-50 Camera

The CVC-50 combines all the durability and convenience of the CVC-5 with the picture dynamics you demand for sports, EFP and high-quality ENG production.

Frame Interline Transfer CCD sensors make it all possible. They reduce vertical smear to such a degree that it's no longer visible in most shooting situations.

The shutter captures moving objects more clearly. The switchable electronic shutter makes the CVC-50 especially effective for sports and action news.

It allows you to capture clear pictures, even when your subject is moving at high speed. You'll also find that the shutter mode results in exceptional still and slow-motion playback.

It allows you to select any of seven shutter speeds: (1/100 through 1/2000 NTSC, 1/60 through 1/1600 PAL). The speed is displayed in your viewfinder.

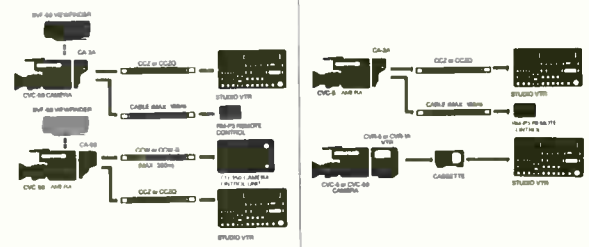
## Specifications

<b>CAMERA</b>	Imaging device format Imaging array density Optical system Built-in filters Gain select Lens mount Video output  Horizontal resolution Registration Geometric distortion Sensitivity  Minimum illumination S/N ratio Smear (Y) Electronic shutter  Connectors	3-chip 2/3" CCD (New FIT type—CVC-50) 510 (H) × 492 (V) NTSC, 500 (H) × 582 (V) PAL F1.4 prism system 1:3200°K, 2:5600°K, 1:4ND, 3:5600°K, 4:5600°K + 1/16 ND - 0/ + 9/ + 18 dB (+ 24 dB available) Special bayonet mount 1.0V p-p, sync negative, 75 Ohms 2 outputs: TEST OUT, VTR connector 550 TV lines (Center) 0.05% all zones (Excluding lens error) Less than 1% 2000 lux at F5.6, 90% reflectance (NTSC) (Shutter off CVC-50) 2000 lux at F5.0, 90% reflectance (PAL) (Shutter off CVC-50) NTSC - 15 lux; PAL - 20 lux (with f1.4 lens, + 18dB gain) CVC-5 - NTSC: 58 dB, PAL: 55 dB; CVC-50 - NTSC: 60 dB, PAL: 57 dB (CVC-50 only) Less than 0.0002% (Shutter off) NTSC: 1/100, 1/125, 1/175, 1/250, 1/500, 1/1000, 1/2000 (sec.) PAL: 1/60, 1/100, 1/150, 1/200, 1/400, 1/800, 1/1600 (sec.) VTR: 50-pin; TEST OUT: BNC; LENS: 12-pin; Remote: 6-pin (CVC-50)
<b>VIEWFINDER</b>	Picture tube Resolution	1.5 monochrome, BRIGHT control, CONTR control, TALLY switch, AUDIO control, ZEBRA on/off switch 500 TV lines
<b>REMOTE CONTROL</b>	Functions	CVC-50 and CVC-5 with optional CA-3A and RM-P3: Gain, Output Mode, Iris Auto/Man., Iris, Master Pedestal, R/B Pedestal, R/B Level, W/B Balance, Lock CVC-50 with optional CA-50 and CCU-350: Gain, Output Mode, Iris Auto/Man., Iris, Master Black, Master Gamma, R/B Black, R/B Levels, Black Balance, White Balance, Master Knee On/Off, Master Knee, Detail, Cable Comp., Panel Active, Headset Level, Camera Call, Shutter On/Off, Shutter Speed, SCH Phase, H Phase, Intercom Mode. RM-P3: 100 Meters (10M cable supplied) CCU-350: 300 Meters (25, 50, 100 M cables available)
<b>GENERAL</b>	Distance  Power requirements Power consumption Warm-up time Operating temperature Storage temperature Microphone Supplied accessories Dimensions Weight	Sharp-directional Extension board, Inpod adaptor, chest brace, extractor, rain cover, 50-pin cap, mount cap, carrying handle, op. maint manual 236mm (9.2 in) H × 102mm (4 in) W × 478mm (18.8 in) L CVC-5 - Approx 3.2 kg (7 lb, 1 oz); CVC-50 - 3.4 kg (7 lb, 8 oz) with viewfinder



CVC-50

## TYPICAL SYSTEM CONFIGURATIONS



The viewfinder can be shifted back and forth as well as right and left for more comfortable shooting.

## Options

Assemble a high-performance camcorder by combining either camera with a CVR-1A or CVR-5 on-board VTR.

Add a CA-3/CA-3A stand-alone adaptor and feed component or composite video directly to a remote VTR. An RM-P3 Remote Control Unit can be connected to the CA-3A to allow simple remote control.

For an expanded system, add a BVF-50 5" black and white viewfinder and CA-50 adaptor to your CVC-50 camera, and run it all with the CCU-350 camera control unit.



On-board VTRs are available from Ampex to turn your CVC-5 or CVC-50 into a versatile, high-performance camcorder.

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# BETACAM ENG CAMCORDER

## CVR-505 Betacam SP ENG Camcorder

The CVR-505 Camcorder combines all the benefits of a full featured CCD camera with a portable VTR capable of studio quality video and audio.

### The CVR-505 Consists of the CVC-5 CCD Camera and the CVR-5 Video Tape Recorder

The CVC-5 3-CCD Camera is rugged, reliable and operates under conditions that are difficult or impossible for other camera types.

The CVR-5 VTR is compact, versatile and can be used in a number of composite and component configurations. And, since it records and plays both Betacam and Betacam SP formats, the CVR-5 is ideal for a wide range of ENG applications.

## The CVC-5 Camera

### Superior Picture Quality

In high contrast settings, the CVC-5 allows you to compress high lights with a switchable Dynamic Contrast Control.

And, CCD technology eliminates lag, burn-in and microphonic noise while delivering excellent resolution.

### No Registration Hassles

CCD image geometry eliminates the need for registration—and virtually eliminates registration error in all zones.

### A Full Range of Operational Conveniences

- Automatic iris control
- Automatic white/black balance
- 2 white balance memories for each filter position
- Linear matrix
- 2H delay image enhancement
- Shading compensation for lens extender
- Built-in effects microphone
- Automatic white level compression

### Viewfinder Displays Provide:

- Record status
- Filter position
- Video level
- Audio level and control (CH. 1)
- Gain setting
- White/black balance status

### Stand-Alone Versatility

When combined with a CA-3 adaptor the CVC-5 can be operated in a stand-alone configuration. It will feed either component or composite video to a remote VTR via a 26-pin connector.

### Rugged Construction

The CVC-5 features a compact, lightweight, diecast magnesium alloy frame, and is both dust and moisture resistant.

## The CVR-5 Portable VTR

The CVR-5 can be configured as an integral part of an Ampex Betacam SP Camcorder, or operated as a stand-alone recorder.

The CVR-5 can also be configured to record input from most existing cameras—in either the component or composite domain.

The CVR-5 records and plays both oxide and metal particle tape in the 30 minute size cassette.

### Excellent Picture Quality—with 2 Playback Modes

Luminance or Compressed Time Division Multiplex (CTDM) chrominance pictures can be seen in the camera viewfinder either during recording, using the confidence playback mode, or later, using the normal playback mode.

### Four Audio Channels with Performance to Match the Video

With the Betacam SP format the CVR-5 can deliver true studio quality audio performance.

In addition to two high performance AFM tracks, specifications have been improved on the longitudinal channels. Dolby C noise reduction is also provided on the longitudinal channels to further improve sound quality.

And, as with the video capability, you also have audio confidence playback while recording.

Besides recording directly from your camera's microphone, the CVR-5 has four XLR inputs for external microphones and audio lines.



CVR-505

### Full Bandwidth Playback Capability

The CVR-5, when combined with an optional CVA-500 playback adaptor, will output at full video bandwidth in color plus 1 channel of audio for recording check or microwave transmission.

### Recording Review Function

For a quick confidence check the CVR-5 will rewind and playback the final few seconds of your recording, then automatically recue for your next sequence.

### Multifunction Time Code Generator/Reader with Genlock

CVR-5 offers both Vertical Interval Time Code (VITC) as well as SMPTE/EBU longitudinal track format.

The versatile CVR-5 Time Code System of the CVR-5 includes presettable user bits, free-run or record-run modes, and genlock for setting/synchronization to an external time code master generator.

And, to complement the CVR-5 longitudinal playback capabilities, the time code system now has a built-in reader.

### Frame Accurate Automatic Backspace Editing

To eliminate picture breakup between sequences, the CVR-5 provides a backspace assemble editing function. It automatically rewinds at the end of a sequence when the record button of the CVC-5 is pushed, then recues the tape at a clean edit point. Backspace editing can be performed from either the standby or save modes.

### Phantom Power Supply

A Phantom Power Supply is built into the CVR-5. It's designed to power a professional quality condenser microphone, providing audio input on Channel 1.

### Adaptors Let You Configure Your CVR-5 for a Variety of Applications

- CVA-5 allows the CVR-5 to accept either component or composite input from a wide range of cameras
- CVA-1 allows the CVR-5 to accept component input from a wide range of cameras
- CVA-500 allows color playback at full bandwidth

### Designed for Operational Convenience

Two VU meters and controls are provided so you can accurately adjust record and playback levels on all four audio channels.

### Other Features Include:

- Time code/tape time display
- Video input level display
- Battery status display

### Warning indicators are also provided for status of:

- RF
- Servo lock
- End of tape
- Tape slack
- Condensation
- Low battery



# AMPEX CORP.

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 FAX: (415) 367-4132 TWX: 910-378-5920

# VIDEO TAPE



## 187 Series 3/4" Helical Scan Videocassettes

### KCA-3/4" U-Matic Standard—Shelf Box

Catalog No.	Length	Ctn. Qty.	Price
187-KCA-05	5 min.	10	\$17.42
187-KCA-10	10 min.	10	18.61
187-KCA-15	15 min.	10	19.76
187-KCA-20	20 min.	10	20.92
187-KCA-30	30 min.	10	23.23
187-KCA-40	40 min.	10	27.88
187-KCA-50	50 min.	10	30.22
187-KCA-60	60 min.	10	32.55

### KCA-3/4" U-Matic Standard—Shipper

187-KCA-10S	10 min.	10	\$19.11
187-KCA-20S	20 min.	10	21.42
187-KCA-30S	30 min.	10	23.73
187-KCA-60S	60 min.	10	33.05

### KCA-3/4" U-Matic Standard—Bulk

187-KCA-05B	5 min.	20	\$16.42
187-KCA-10B	10 min.	20	17.61
187-KCA-15B	15 min.	20	18.76
187-KCA-20B	20 min.	20	19.92
187-KCA-30B	30 min.	20	22.23
187-KCA-40B	40 min.	20	26.88
187-KCA-50B	50 min.	20	29.22
187-KCA-60B	60 min.	20	31.55

## 197 Series 3/4" Helical Scan Videocassettes

### BCA-3/4" U-Matic Standard—Shelf Box

Catalog No.	Length	Ctn. Qty.	Price
197-BCA-05	5 min.	10	\$20.29
197-BCA-10	10 min.	10	23.30
197-BCA-20	20 min.	10	26.15
197-BCA-30	30 min.	10	27.84
197-BCA-45	45 min.	10	33.52
197-BCA-60	60 min.	10	39.17

### BCA-3/4" U-Matic—Shippers

197-BCA-10S	10 min.	10	\$23.80
197-BCA-20S	20 min.	10	26.65
197-BCA-30S	30 min.	10	28.34
197-BCA-60S	60 min.	10	39.67

### BCA-3/4" U-Matic—Bulk

197-BCA-05B	5 min.	20	\$19.29
197-BCA-10B	10 min.	20	22.30
197-BCA-20B	20 min.	20	25.15
197-BCA-30B	30 min.	20	26.84
197-BCA-60B	60 min.	20	38.17

### BCS-3/4" Mini U-Matic—Shelf Box

197-BCS-05	5 min.	10	\$20.29
197-BCS-10	10 min.	10	23.30
197-BCS-20	20 min.	10	26.15

### BCS-3/4" Mini U-Matic—Shippers

197-BCS-05S	5 min.	10	\$20.79
197-BCS-10S	10 min.	10	23.80
197-BCS-20S	20 min.	10	26.65

### BCS-3/4" Mini U-Matic—Bulk

197-BCS-05B	5 min.	20	\$19.29
197-BCS-10B	10 min.	20	22.30
197-BCS-20B	20 min.	20	25.15

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# VIDEO TAPE

## 1/2" Industrial Videocassettes

### Beta Format Videocassettes

Catalog No.	Play Time Minutes			Ctn. Qty.	Price
	8I	8II	8III		
<b>Sleeve</b>					
188-L250-6C	30	60	90	20	\$ 9.29
188-L500-6C	60	120	180	20	11.69
<b>Plastic Box</b>					
188-L250-6A	30	60	90	20	\$ 10.29
188-L500-6A	60	120	180	20	12.49
<b>Bulk</b>					
188-L250-6B	30	60	90	40	\$ 8.69
188-L500-6B	60	120	180	40	11.09

### VHS Format Videocassettes

Catalog No.	Play Time Minutes			Ctn. Qty.	Price
	X1	X2	X3		
<b>Sleeve</b>					
189-T30-6C	30	60	90	20	\$ 11.99
189-T60-6C	60	120	180	20	12.89
189-T90-6C	90	180	270	20	15.09
189-T120-6C	120	240	360	20	16.29
<b>Plastic Box</b>					
189-T30-6A	30	60	90	20	\$ 13.09
189-T60-6A	60	120	180	20	13.99
189-T90-6A	90	180	270	20	16.19
189-T120-6A	120	240	360	20	17.39
<b>Bulk</b>					
189-T15-6B	15	30	45	40	\$ 10.59
189-T30-6B	30	60	90	40	11.39
189-T45-6B	45	90	135	40	11.89
189-T60-6B	60	120	180	40	12.29
189-T90-6B	90	180	270	40	14.39
189-T105-6B	105	210	315	40	15.09
189-T120-6B	120	240	360	40	15.69
189-T127-6B	127	254	381	40	16.19

## 1/2" Broadcast Videocassettes

### 198 Series

#### BC - 1/2" Betacam - Shelf Box

Catalog No.	Description	Ctn. Qty.	Price
198-BC-05A	Betacam, 5 min.	20	\$ 14.01
198-BC-10A	Betacam, 10 min.	20	17.03
198-BC-20A	Betacam, 20 min.	20	21.98
198-BC-30A	Betacam, 30 min.	20	28.05
198-BC-60LA	Betacam, 60 min.	10	72.29
198-BC-90LA	Betacam, 90 min.	10	98.98

#### BC - 1/2" Betacam - Shipper

198-BC-05S	Betacam, 5 min.	20	14.01
198-BC-10S	Betacam, 10 min.	20	17.03
198-BC-20S	Betacam, 20 min.	20	21.98
198-BC-30S	Betacam, 30 min.	20	28.05

#### BC - 1/2" Betacam - Bulk

198-BC-05B	Betacam, 5 min.	40	\$ 13.51
198-BC-10B	Betacam, 10 min.	40	16.53
198-BC-20B	Betacam, 20 min.	40	21.48
198-BC-30B	Betacam, 30 min.	40	27.55



#### BC - 1/2" Betacam SP - Shelf Box

298-BC-5MA	Betacam SP, 5 min.	10	\$ 45.81
298-BC-10MA	Betacam SP, 10 min.	10	52.60
298-BC-20MA	Betacam SP, 20 min.	10	58.31
298-BC-30MA	Betacam SP, 30 min.	10	63.82
298-BC-60MA	Betacam SP, 60 min.	10	87.02
298-BC-90MA	Betacam SP, 90 min.	10	135.94

## 1" Broadcast Helical Video Tape

### 196 Series

#### 1" Broadcast Helical Ampex/Sony, A Wind (backcoated)

Catalog No.	Description	Ctn. Qty.	Price
196-1630EB	1633', 1" x 8" Prec. M, 34 min.	5	\$ 73.10
196-1630EP	1633', 1" x 8" Prec. M, 34 min.	5	78.60
196-3170CD	3169', 1" x 9" Prec. M, 66 min.	5	107.71
196-3170CP	3169', 1" x 9" Prec. M, 66 min.	5	113.21
196-4610HD	4610', 1" x 10 1/2" Prec. M, 96 min.	5	164.37
196-4610HR	4610', 1" x 10 1/2" Prec. M, 96 min.	5	169.87
196-5100HD	5100', 1" x 10 1/2" Prec. M, 106 min.	5	172.60
196-5100HR	5100', 1" x 10 1/2" Prec. M, 106 min.	5	178.10
196-6050NE	6050', 1" x 11 3/4" Prec. M, 126 min.	5	204.72
196-6050NX	6050', 1" x 11 3/4" Prec. M, 126 min.	5	213.22
196-7500FE	7500', 1" x 12 1/2" Prec. M, 156 min.	5	253.80
196-7500FX	7500', 1" x 12 1/2" Prec. M, 156 min.	5	262.30
196-9200KF	9200', 1" x 14" Prec. M, 192 min.	5	351.00
196-9200KX	9200', 1" x 14" Prec. M, 192 min.	5	359.50

### 196 Series

#### 1" Broadcast Helical Bosch-Fernseh, B Wind (backcoated)

196-1630EP-B	1633', 1" x 8" Prec. M, 34 min.	5	\$ 78.60
196-3170CD-B	3169', 1" x 9" Prec. M, 66 min.	5	107.71
196-3170CR-B	3169', 1" x 9" Prec. M, 66 min.	5	113.21
196-4610HD-B	4610', 1" x 10 1/2" Prec. M, 96 min.	5	164.37
196-4610HR-B	4610', 1" x 10 1/2" Prec. M, 96 min.	5	169.87
196-5100HD-B	5100', 1" x 10 1/2" Prec. M, 105 min.	5	172.60
196-5100HR-B	5100', 1" x 10 1/2" Prec. M, 105 min.	5	178.10
196-6800JE-B	6800', 1" x 12" Prec. M, 141 min.	5	259.11

# AMTEL SYSTEMS, INC.

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# CHASER/EMULATOR

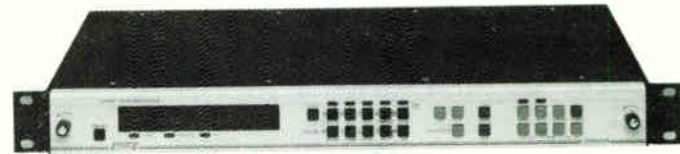
## Chaser™ 7000 Series Chase Synchronizer

Chaser is a time code based chase synchronizer, developed principally for "audio for video" post production facilities. It continually reads edit code from two tape machines, a master and a slave, and maintains a pre-determined time relationship between the two by directly controlling the slave's transport functions and capstan motor. The use of full speed time code readers allows the slave to chase the master in wind speeds, reducing cueing and lock up times. Chaser is capable of a high degree of synchronization accuracy, so that overall system stability is only limited by the slave transport mechanics.

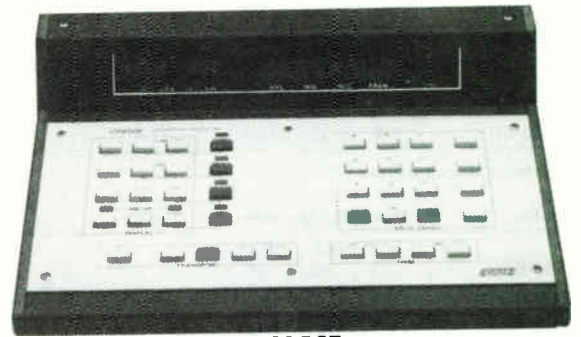
The master and slave time code numbers are seldom the same, as the audio and video portions of a program are not always recorded at the same time. Even if they were, the same machines are rarely used for both, recording and post production. The instantaneous position that the slave is displaced with respect to the master is called the offset. (Slave - Master = Offset). With Chaser, offsets can be entered over the complete 24 hour range, with a resolution of 1/100<sup>th</sup> of a TV frame.

Three different synchronization modes give Chaser tremendous flexibility. In "frame-lock" mode, Chaser maintains absolute alignment of the time code numbers, including offset, and subframe phasing. If tapes with disrupted time code or splices need to be synchronized, the user can select the "phase-lock" mode, to maintain only the relative phase between the two tapes without regard for absolute time code numbers. A third mode, "auto-lock" is a combination of both. After initial synchronization using time code numbers, "phase-lock" continues using only the frequency component of the code.

Two different, though functionally similar control panels are available: the integral front panel with display/keypad or a remote control unit with expanded capabilities. The integral control panel contains an alphanumeric LED display and a number of clearly labelled pushbuttons logically arranged in a display group, a data entry group and a function group. In the data entry mode the display keys double as numerical keys, keeping the panel uncluttered and user friendly.



7000 DSP



7000 RCT

The remote control unit is connected to Chaser's SMPTE/EBU RS-422 serial remote control port, allowing it to be conveniently located at the edit console, while the Chaser electronics are located near to the audio transport. In addition to the functions on the integral front panel, the remote control unit constantly displays the slave transport's status. The data entry and display keys are separated, permitting additional display flexibility. Four keys are dedicated to remote control of the slave transport's fast forward, rewind, play and stop functions. This optional remote control unit replaces the integral front panel display/keypad.

7000 DSP Integral Front Panel/Local Control . . . . . \$3950.00  
7000 RCT Remote Control Version . . . . . \$4950.00

## 7100 Emulator Audio Transport Interface

Emulator is an audio transport interface that integrates audio into the video edit suite without the need for extra VTRs and external tape synchronizers. Using Emulator, you can perform audio insert edits without tying up a VTR to synchronize the audio tape machine. Integrating the ATR edit points into the edit decision list eliminates the need to maintain separate lists of offsets and record in/out points for the audio, simplifying the list management process.

Emulator uses the same transport interface and control electronics as Chaser. It receives commands from the edit controller, in the specified RS-422 serial VTR protocol format. These commands are then broken down into sub commands which are used to control the ATR using the built-in intelligent transport interface. Emulator controls all the cueing, pre-roll synchronization, record in/out, and other functions necessary in an integrated editing environment.

To make use of Emulator, all you require is an edit controller that uses the SMPTE/EBU serial remote control protocol for controlling video tape machines. Emulator interfaces are available for several VTR protocols, (BVU, BVH, VPR, etc.) The edit controller must be capable of sync rolling the source VTRs. An extra channel of control is required to communicate with Emulator.



7100

For example, an A/B roll video suite would require that a C source machine capability be added for the audio transport interface. If multiple record machine capability is available on the edit controller, an additional Emulator may be added to control a master record ATR sync rolled with the record VTR. All the ATR functions, edit points, etc. are controlled from the main edit controller keyboard. Separate synchronizer control panels are not required.

7100 . . . . . \$3995.00



# AMTEL SYSTEMS, INC.

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# TIME CODE EQUIPMENT

## ECM-4010 Edit Code Master

- Designed to take full advantage of the multitude of application possibilities for vertical interval time code
- Combination generator and high speed reader for both, LTC and VITC
- High resolution character inserter can be used to burn in a window from either the generator or reader data
- Powerful microprocessor software and proprietary reader and generator circuitry combine to offer a time code system that will outperform any other
- Modular construction using euro-card style EV-BLOC modules in a one rack unit high frame
- High resolution character generator/keyer
- Time and user bits presettable from front panel
- Parallel and serial remote control
- RS-232/422 serial port to interface to external computers
- Alphanumeric user bit capability
- Wide speed range in both LTC and VITC readers
- Reads last valid code from either VITC or LTC in auto mode or manual priority selection
- Several Jam-Sync modes with and without user bit transfer
- Adjustable LTC output level to +12dBm
- Keypad lock-out prevents unauthorized tampering

**ECM-4010 . . . . . \$4995.00**



**ECM-4010**



**3700D**



**4900**

## 3700D Edit Code Master

- Longitudinal time code generator and full speed reader (over 2000:1 speed ratio)
- Video character generator with high resolution characters and alphanumeric user bit decoding is standard
- Separate generator and reader displays are particularly useful in Jam-Sync modes and when operating reader and generator independently
- High flexible Jam-Sync modes allow transfer of reader time and user bits into the generator in a variety of configurations
- Full alphanumeric user bit functions can be used to record tape index, captions, source identification or other data along with the time code
- RS-232C serial port permits interfacing to remote control panels, computers, editors, etc.
- Multiplexed parallel BCD output of reader time and user bits
- An aural alarm signals genlock problems. This can be disabled if, for example, the generator is locked to a VTR rather than house Sync or PGM video

**3700D . . . . . \$3650.00**

## 3600D Edit Code Generator/Reader

- SMPTE/EBU edit code generator, a full speed reader and a video character inserter in a slim one rack unit package
- True dual standard, NTSC and PAL. Generates time code in accordance with SMPTE RS-170 or RS-170A, or EBU 4 or 8 field standards (4 switch selectable modes), locked to the PGM video source
- Front panel format switches, no need to disassemble whenever certain system parameters need to be changed, e.g. field 1 or 2 update of VCG, color framing, drop frame, etc.
- Reads time code from 1/30X to 70X play speed
- High resolution character generator in two character sizes, full screen positionable, keys time and user bits into the picture
- Momentary and continuous Jam-Sync modes. In Cont Jam, good code is automatically substituted when synchronizing to poorly recorded or disrupted code

**3600D . . . . . \$3150.00**

## 4900 Edit Code Reader/VCG/Translator

- Capable of hesitation-free time code display from 70X down to 1/30X play speed
- VITC option all the way down to still frame
- Full speed range LTC reader
- Optional VITC decoder module
- Easily accessible formatting DIP switches
- High resolution character inserter; 2 sizes
- VITC source ID decoder
- Byte-wide parallel data output for easy editor inter-

face • Play speed LTC translator output incorporating a soft-lock feature provides continuous time code at all reading speeds from still frame to maximum wind
- LTC code phase corrector/regenerator for dubbing

**4900 . . . . . \$1995.00**  
**49V VITC Reader Module for 4900 . . . . . 300.00**

## 800 Portable SMPTE Time Code Generator

- Generates time code in 30, drop frame and 25 fps
- Video Sync lock, code error, battery low indicators
- High intensity LED display with blanking capability
- Built-in play speed reader with Jam-Sync
- Generator hold and reader hold functions
- Long battery life
- Large, easy to read keypad
- Full user bit capability, including hexadecimals
- Generator preset function
- Automatic start/stop function for generator

**800 . . . . . \$1300.00**

## TCR-500 Time Code Reader/Character Inserter

- Provides low cost solution to the recovery and video display of SMPTE time code
- High resolution character keyer which inserts the time code display into the active video picture
- Perfect choice for off-line or field time code reading and "burn-ins"
- Characters displayed are 16 scan lines per field in height. External controls for complete horizontal and vertical positioning of display, and character level. User selectable display of time code, user bits, or both. Characters may be white with black border or vice versa. Drop-frame, non-drop-frame, and reading error indicated in display
- Two isolated video outputs containing video input with or without character display. The outputs are source terminated into 75 ohms and provide unity gain from the video input
- Composite video 2V p-p (not terminated). Looping input via BNC connectors
- Balanced or unbalanced input of SMPTE time code at a signal level from -30 to +40dBm, at tape speeds of 0.1X to 10X play (tape machine dependent). XLR connector

**TCR-500 . . . . . \$995.00**

# AMTEL SYSTEMS, INC.

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(603) 880-9011  
FAX: (603) 880-8781

# POST PRODUCTION MANAGEMENT SYSTEM

## Transform-1 Post Production Management System

- The ability to use conventional videotape editing controllers for electronic film post production
- A complete production logging system that allows both data and pictures to be stored for all original material
- The power to accurately conform video edit decision lists to lists suitable for the assembly of the final release media i.e. conform to film, videotape, digital, audio, etc.
- A central edit decision list database with full list management and multi-user capabilities
- The ability to accept and generate video edit lists in all industry formats

Transform-1 is a computerized post production management system designed to integrate all film and videotape editing functions within a facility.

A key element is its ability to work within existing industry equipment. No specialized support hardware of any kind is required to adapt the system to existing facilities.

### Multi-User Capabilities

The addition of two remote terminals allows simultaneous, independent access to the system by three users. A single main computer can integrate into three separate logging/editing workstations within a post production facility. Each workstation can be interfaced with total independence to existing hardware.

### Production Logging System

The system provides a logical means of storing all pertinent information relating to any number of productions. Random access to all data simplifies information retrieval and speeds the overall production process.

The transfer logging functions allow the user to record detailed information describing the relationship between each reel of film and the corresponding videotape. This allows the system to accurately conform video edit decision lists to film cut lists. The logging system also provides for the transfer of all original dialogue including wild and post sync sound, and can accommodate the conforming of dialogue on other audio post production media, such as digital audio.

The duplication logging function allows information for both the master and working copy tape reels to be stored. This allows the system to make the necessary changes in off-line edit lists when they are used for auto assembly of the original master tape reels.

The descriptive logging function allows information to be stored for each take shot in a particular production. All pertinent information such as tape reel, scene, slate, original camera and sound rolls as well as the time code location of the particular take area stored in the log. The system also provides a field for storing notes regarding the content of the take.

### Electronic Story Board

Provides the ability to store a single black and white image for each slate or camera setup shot for a production. The stored images may be recalled to provide the editor with a quick visual representation of the material to be edited. In a simple recall mode, it can display 16 images simultaneously on a monitor.

The images may also be recalled and interactively re-arranged on screen to establish a visual sequencing of an edited segment. Thus, the user is able to create an electronic "story-board" of a segment prior to editing.



The System provides the ability to accurately conform video edit decision lists to lists suitable for assembly of the final release media. Individually conformed lists for both picture and sound may be created by the system. The production log serves as the basis for referencing each edit decision to original source material.

For film releases, the System generates cut lists for both picture and sound for direct use by an assistant or negative cutter. The system completely accounts for the 3:2 relationship as it conforms time coded video edit lists to foot/frame cut lists. Extensive error checking is performed on all cut lists to identify possible assembly problems such as missing material, holes, overlaps, as well as re-used picture and sound.

If the production is to be released on tape, the System can provide CMX compatible lists optimized for on-line auto assembly.

Using the duplication and descriptive log information the system makes any necessary changes in the off-line edit lists while checking for on-line assembly errors such as video holes and "B-roll" requirements. It provides the ability to generate an audio conform list enabling the dialogue to be rebuilt from original audio material. This list will provide a synchronous dialogue track for either tape or film releases.

## Specifications

### Main Computer:

Intel 80286 processor, 4M byte internal memory

### Operating Environment:

Xenix System V

### Storage Media:

5 1/4" Floppy Disk Drive, 1.2M byte capacity

5 1/4" Winchester Disk Drive, 60M byte capacity

### I/O Connections

#### Console Monitor

Output: 9-pin "D" type

#### Console Keyboard

Input: 5-pin DIN connector

#### Printer Output:

25-pin "D" connector, Centronix type interface

#### Terminal/Editor

Serial Ports: 25-pin "D" connector, 4 standard

#### Logging VTR

##### Video Input:

9-pin "D" type, 1V p-p 75 ohm switch selectable

#### Picture/VTR

##### Video Output:

9-pin "D" type, 1V p-p 75 ohm impedance

#### SMPTE/EBU:

RCA connector, unbalanced

#### Time Code Input:

-12dBm to +6dBm

#### Drive Expansion

##### Interface:

50-pin ribbon connector

# AMTEL SYSTEMS, INC.

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# TERMINAL EQUIPMENT

## 610 System Controller

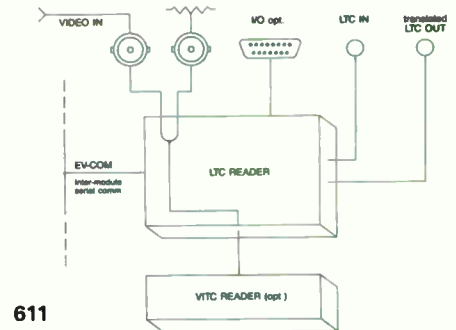
All communications within the EV-BLOC system are supervised by a system controller. The function of the system controller is to establish the location and type of each module installed in the system, and to schedule the use of the EV-COM bus by other modules. The 610 System Controller module is specifically designed to perform this task and provide a gateway to the EV-BLOC system. The standard RS-232C serial port allows an external computer or computer based editor to control and monitor the status of any of the 610 Series modules installed in the system. Fitting the 422 option changes the serial port to a SMPTE/EBU compatible RS-422 configuration.



610

## 611 Time Code Reader/Translator

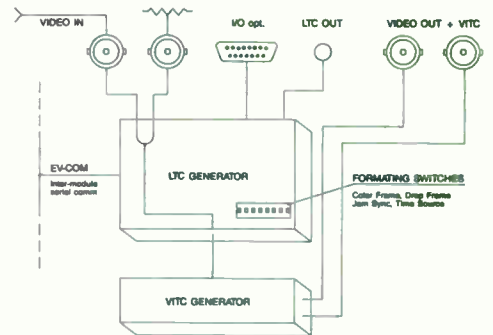
- VITC/LTC Reader. Reads longitudinal time code from 1/30<sup>th</sup> play speed to 70 times providing time and user bits out as multiplexed parallel BCD (with BCD option fitted) or as serial ASCII (with 232 option fitted). Custom interfaces are available for other OEM applications
- LTC Jam-Sync Generator. Regenerates and re-synchronizes LTC code to eliminate edit aborts due to mis-phased or unreadable time code
- VITC/LTC to LTC Translator. Permits LTC only editing equipment to read both codes providing frame accuracy at all tape speeds



611

## 612 Time Code Generator

- VITC/LTC Generator. 4/8 field color framed, free running or jam-synced to data from a 611 Reader module. When jam-synced to the record VTR reader in VITC only editing, continually ascending code is inserted on the edit master as edits are assembled. VITC coded workprints can be prepared for frame accurate edit decisions without a character burn-in
- Multi-Source VITC Keyer. Any number of isolated video sources may be encoded with identical VITC using multiple 612 Generator modules



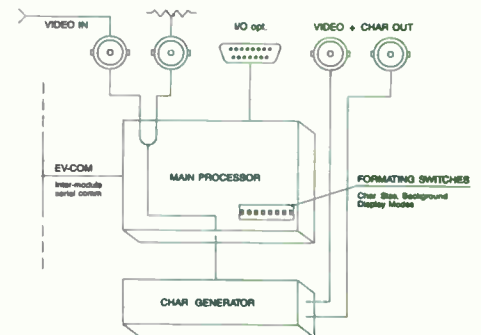
612

## 613 Video Character Generator

- Off-Line Editing. Inserts time/user bit character data from another 610 series module into program video for burning time code into workprints. Frame accurate edit decisions can also be made directly from VITC without the need of a window dub
- Video Typewriter. Used in conjunction with a computer or keyboard, the 613 module is a low cost alphanumeric character generator for preparing tape indexes, slate boards, etc.

Each module requires a companion I/O module as outlined below:

- For 610 — 605 Serial I/O Module
- For 611 — 604 Parallel I/O Module
- 605 Serial I/O Module when 232 option fitted
- For 612 — 603 Parallel I/O Module
- & 613 — 605 Serial I/O Module when 232 option fitted



613



# AMTEL SYSTEMS, INC.

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(603) 880-9011  
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# TERMINAL EQUIPMENT

## 620 VITC/VITS Deleter

## 621 VITC Generator/Translator

## 622 VITC Reader/Translator

Powerful VITC/LTC translator modules. Source identification and remote control via video signals.

The 620 series modules are basically stand-alone units, i.e. no provisions are made for direct data transfer between modules, except via external code or video connections. For more complex systems 610 series modules should be used. Their "EV-COM" communications bus permits direct command/data interchange with other modules within a frame.

## 620 VITC/VITS Deleter

This is a general purpose vertical interval signal deleter. A high quality programmable video keyer substitutes black level for any type of code or test signal present on lines 10 to 21 (6 to 22 for PAL) of the vertical blanking interval. A group of DIP switches is used to select any line or group of lines. Color burst is not affected.

## EV-BLOC RACK FRAME COMPONENTS

### Backplane Assembly #601

The Backplane circuit board has been developed specifically to meet our design goal of maximum flexibility on the system level with reliability and performance on the module level. Circuit conductors for data, video and audio signal transfers, from each circuit block to its associated I/O module, have been carefully laid out to eliminate any chance of cross-talk between program video and high frequency microprocessor signals.

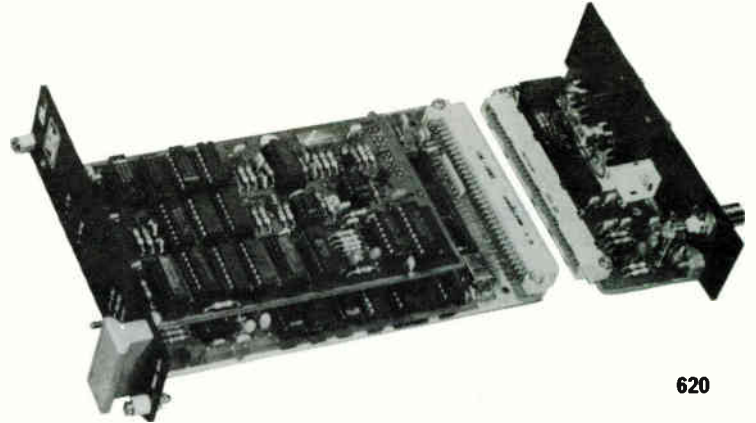
The assembly comes complete with 21 64-pin euro-card connectors (DIN 41612), one for the power supply regulator module, and 10 pairs for the EV-BLOC modules and their companion I/O modules.

## 621 VITC Generator

- VITC Generator: 4/8 field color framed, resettable to 00:00:00:00 or jam-synced to longitudinal time code (LTR option) with error bypass (a terrific LTC to VITC translator; teach your editor VITC)
- Multi-source VITC Keyer: Any number of 621's can be synchronized to a common time code generator to accommodate isolated video sources. User bits may be transferred from the common generator or preset locally, using easily accessible DIP switches. This provides an added benefit
- Source Identification: The user bits in each module can be encoded to uniquely identify its video source. The time code bits can be set to zero, for cameras etc., or jam-synced to time-coded sources such as VTR's
- Remote Machine Control: Six control inputs can be utilized to control VTR's etc. via the program video path

## 622 VITC Reader

- VITC Reader. Reads vertical interval time code from about 20 times play speed down to still frame, providing time and user data out as LTC and multiplexed parallel BCD. An optional video inserter (VCG) keys the data into the picture
- VITC to LTC translator for use with LTC only editing equipment or readers
- Source ID Decoder. User bits encoded with a special code from an EV-BLOC 621 module or Model 4000 are displayed as unique source identification e.g. CAM 3, TC 1, VTR 5 etc., using the optional VCG
- Remote Machine Control. Six grounding output switches respond to specific user bit codes from a 621 encoder to remotely control a variety of devices via the program video path or off tape. Just think of the application potential



620

## Power Supply Regulator #602

## Power Transformer #6025

The power supply consists of two separate assemblies.

The plug-in regulator module provides regulated +5V for micro-processor and logic circuits, and ±8V for signal processing elements.

The power transformer module contains all line/mains voltage circuits enclosed in a heavy duty stainless steel shielding case. Appropriate RFI protection is provided by LC filters.

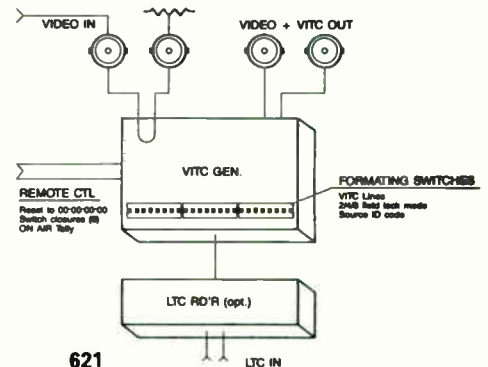
The power supply provides enough DC current to handle a full complement of 10 EV-BLOC modules. Except for special custom applications, the two units are generally supplied together.

Options currently available are:

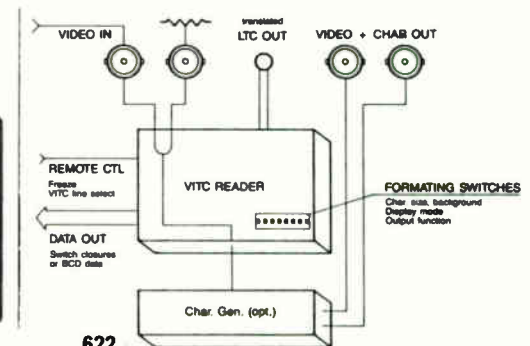
for Model 621: — LTR Longitudinal timecode reader

for Model 622: — VCG Video character generator

Each EV-BLOC module in this series requires I/O module #603



621



622

# AMTEL SYSTEMS, INC.

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# CHARACTER GENERATOR/ TEST EQUIPMENT/ CLOCKS/TIMERS

## VCG-1260 Character Generator

The VCG-1260, designed primarily to display time information in video, has limited text and logo capabilities too. It decodes DQS-B6 or SMPTE/EBU time code from your master clock system and displays the time or user bit information. In addition, a built-in elapsed time counter with 0.01 sec resolution and a remote START/STOP control may be used for timing sporting events, etc.

The VCG-1260 may be used as a low cost alphanumeric generator using the optional serial. ACSII port. Limited custom logo capabilities are optionally available.

Eight front panel keys allow user selection of 4 character sizes; horizontal and vertical positioning, inverse video, input code, and display formats to suit individual applications. The configuration parameters are stored in non-volatile memory, eliminating the need to reprogram the setup after a power failure.

A broadcast quality keyer and high resolution characters combine to give a high quality presentation for on-air use. A separate preview output is provided for setup to preserve the integrity of the program output on air.

VCG-1260 Video character generator including video keyer to convert master clock and SMPTE inputs to video output. Sports timer function with remote control stop/start facility — internal clock system, H-V positioning, inverse, video-preview output. Optional serial ASCII input for alphanumeric display information and tape leader generator function.

VCG-1260 .....\$2480.00

## PT-26 Production Timer

The PT-26 Production Timer is a very versatile and easy to use production tool. Two independent timers with separate displays allow up-counting, down counting with automated count reverse at 00:00, totalizing program segments, real time use in 24 hour format, etc. Timer A may be used as a 24 hour real time clock and gives a DQS-B6 serial code output to drive many Evertz accessories such as remote displays, video character generators, serial-to-parallel decoders, etc. A programmable transistor switch output is available on each timer and will operate in either the up or down mode. A front panel slide switch permits the two timers to operate with seconds in sync.

Data entry follows calculator format for ease of operation. Separate function keys for each timer control UP/DOWN, SET/RESET and START/STOP. Each timer is provided with an external input for remote control using a single pushbutton for stop, start or reset.

A quartz crystal timebase provides an accuracy of approximately 1 sec per week. Power is supplied from a separate 9-14V, 300mA DC line adaptor. The unit is packaged in an attractive, lightweight enclosure.

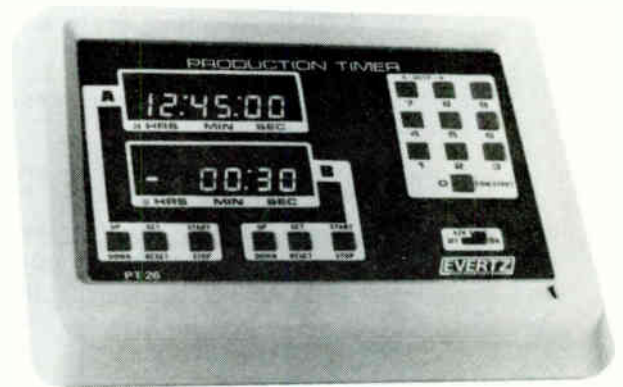
PT-26 Deluxe production timer features two event count up, count down, real time and two displays, time calculator function .....\$890.00

## Remote Time Displays

A variety of remote time displays is available, all operating off our well established DQS-B6 serial time code. The code can be distributed over large areas using a twisted or shielded pair cable. In addition, a simulated analog display, 1275A, also reads SMPTE/EBU edit code.



VCG-1260



PT-26



1272



1275A

## 1272 Remote Time Display

1272 is a bright 6 digit time display with 1" high characters readable to over 40'. Desk or wall mountable

1272 .....\$295.00

## 1275A Time Display

1275A has 60 LEDs mounted in a circular arrangement, simulating an analog second hand. In addition, the hours, minutes and seconds are displayed in digital format. The unit reads DQS-B6 or SMPTE/EBU time code or may be used as a totally self contained 12 or 24 hour clock. A dip switch allows user selection of 8 different operating and display modes. Beautifully finished with wood trim, ideally suited for studio, lobby, board room, etc.

1275A .....\$890.00

# ANGENIEUX CORP. OF AMERICA

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# 1/2" CCD ENG/EFP LENSES



14x7



14x6

## Lenses for ENG/EFP 1/2" CCD Cameras

14 x 7 Lightweight, rugged, for high performance 1/2" CCD Cameras

specifications	14x7		14x7 with wide angle attachment		14x7 with retro-zoom		14x7 with tele-attachment	
		with 2x extender		with 2x extender		with 2x extender		with 2x extender
focal length	7-98 mm	14-196 mm	4.5-7.5 mm	9-15 mm	5.6-78 mm	11.2-156 mm	40-163 mm	23-326 mm
zoom range	14x	14x			14x	14x	4x (note 1)	14x
maximum aperture (see curves below)	f/1.4-f/1.6 T 1.6-T 1.8	f/2.8-f/3.2 T 3.2-T 3.6	f/1.4 T 1.6	f/2.8 T 3.2	f/1.4-f/1.6 T 1.6-T 1.8	f/2.8-f/3.2 T 3.2-T 3.6	f/1.4-f/1.6 T 1.6-T 1.8	f/2.8-f/3.2 T 3.2-T 3.6
image diagonal	8.5 mm	8.5 mm	8.5 mm	8.5 mm	8.5 mm	8.5 mm	8.5 mm	8.5 mm
minimum focusing distance	0.80 m 31"	0.80 m 31"	0.02 m .75"	0.02 m .75"	0.47 m 18 1/2"	0.47 m 18 1/2"	2 m 6 1/2"	2 m 6 1/2"
minimum focusing distance in macro position	0 mm 0"	0 mm 0"	0 mm 0"	0 mm 0"	0 mm 0"	0 mm 0"		0 mm 0"
horizontal field angle	52°-4°	27°-2°	76°	41 1/2°	63°-5°	31°-2 1/2°	8 1/2°-2 1/2°	16 3/4°-1 1/4°
vertical field angle	40°-3°	21°-1 1/2°	60°	31°	49°-3 3/4°	25°-1 3/4°	6 1/4°-1 3/4°	12 1/2°-1°
smallest object to fill the screen	39x52 mm 1.5x2"	19x26 mm .7x1"	83x111 mm 3.3x4.4"	41x55 mm 1.6x2.2"	32x42 mm 1.2x1.7"	16x21 mm .6x.8"	65x86 mm 2.5x3.4"	32x43 mm 1.2x1.7"
smallest object to fill the screen in macro	40x54 mm 1.6x2.1"	20x27 mm .8x1"	65x86 mm 2.6x3.4"	32x43 mm 1.3x1.7"	68x90 mm 2.7x3.5"	34x45 mm 1.3x1.8"		61x81 mm 2.4x3.2"
weight (include servo zoom and iris)	1.4 kg 3.1 lbs	1.5 kg 3.3 lbs	1.9 kg 4.2 lbs	2 kg 4.4 lbs	2.4 kg 5.3 lbs	2.5 kg 5.5 lbs	2.4 kg 5.3 lbs	2.5 kg 5.5 lbs

note 1 : limited for reason of size and weight

14 x 6 Extremely wide angle, razor sharp and lightweight lens, for high performance 1/2" CCD Cameras

specifications	14x6		14x6 with wide angle attachment	
		with 2x extender		with 2x extender
focal length	6-84 mm	12-168 mm	3.6-6 mm	7.2-12 mm
zoom range	14x	14x		
maximum aperture (see curves below)	f/1.4-f/1.6 T 1.6-T 1.8	f/2.8-f/3.2 T 3.2-T 3.6	f/1.4 T 1.6	f/2.8 T 3.2
image diagonal	8.5 mm	8.5 mm	8.5 mm	8.5 mm
minimum focusing distance	0.8 m 31"	0.8 m 31"	0 m 0"	0 m 0"
minimum focusing distance in macro position	0 mm 0"	0 mm 0"	0 mm 0"	0 mm 0"
horizontal field angle	58°-4 1/2°	30 3/4°-2 1/4°	85°	43°
vertical field angle	45°-3 1/4°	23 1/4°-1 3/4°	69°	35°
smallest object to fill the screen	46x61 mm 1.8x2.4"	23x30 mm .9x1.2"	90x128 mm 3.5x7.5"	45x64 mm 1.8x2.5"
smallest object to fill the screen in macro	51x68 mm 2x2.7"	25x34 mm 1x1.3"	90x128 mm 3.5x7.5"	45x64 mm 1.8x2.5"
weight (include servo zoom and iris)	1.9 kg 4.2 lbs	1.9 kg 4.2 lbs	2.5 kg 5.5 lbs	2.5 kg 5.5 lbs

Prices and Specifications Subject to Change Without Notice.



# ANGENIEUX CORP. OF AMERICA

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## 2/3" ENG/EFP LENSES



14x9



14x8

### Lenses for ENG and EFP 2/3" Cameras

**14 x 9** Lightweight, compact, rugged, razor sharp lens for demanding 2/3" ENG and EFP assignments

specifications	14x9		14x9 with wide angle attachment		14x9 with retro-zoom		14x9 with tele-attachment	
		with 2x extender		with 2x extender		with 2x extender		with 2x extender
focal length	9-126 mm	18-252 mm	5.8-8 mm	11.6-16 mm	7.2-101 mm	14.5-202 mm	60-210 mm (note 1)	30-420 mm
zoom range	14x	14x			14x	14x	3.5x (note 1)	14x
maximum aperture (see curves below)	f/1.6-f/2 T 1.8-T 2.2	f/3.2-f/4 T 3.5-T 4.4	f/1.6 T 1.8	f/3.2 T 3.5	f/1.6-f/2 T 1.8-T 2.2	f/3.2 - f/4 T 3.5-T 4.4	f/1.6-f/2 T 1.8-T 2.2	f/3.2-f/4 T 3.5-T 4.4
image diagonal	11 mm	11 mm	11 mm	11 mm	11 mm	11 mm	11 mm	11 mm
minimum focusing distance	0.80 m 31"	0.80 m 31"	0.15 m 5.9"	0.15 m 5.9"	0.47 m 18 1/2"	0.47 m 18 1/2"	2 m 6 1/2"	2 m 6 1/2"
minimum focusing distance in macro position	0 mm 0"	0 mm 0"	0 mm 0"	0 mm 0"	0 mm 0"	0 mm 0"	—	0 mm 0"
horizontal field angle	52°-4°	27°-2°	76°	41 1/2°	63°-5°	31°-2 1/2°	8 1/2°-2 1/2°	16 3/4°-1 1/4°
vertical field angle	40°-3°	21°-1 1/2°	60°	31°	49°-3 3/4°	25°-1 3/4°	6 1/4°-1 3/4°	12 1/2°-1°
smallest object to fill the screen	39x52 mm 1.5x2"	19x26 mm .7x1"	222x296 mm 8.7x11.6"	111x148 mm 4.4x5.8"	32x42 mm 1.2x1.7"	16x21 mm .6x.8"	65x86 mm 2.5x3.4"	32x43 mm 1.2x1.7"
smallest object to fill the screen in macro	40x54 mm 1.6x2.1"	20x27 mm .8x1"	68x90 mm 2.7x3.5"	34x45 mm 1.3x1.8"	68x90 mm 2.7x3.5"	34x45 mm 2.7x3.5"	—	61x81 mm 2.4x3.2"
weight (include servo zoom and iris)	1.4 kg 3.1 lbs	1.5 kg 3.3 lbs	1.9 kg 4.2 lbs	2 kg 4.4 lbs	2.4 kg 5.3 lbs	2.5 kg 5.5 lbs	2.4 kg 5.3 lbs	2.5 kg 5.5 lbs

note 1 : limited for reason of size and weight

**14 x 8** Extremely wide angle, razor sharp and lightweight lens with all the features for demanding 2/3" ENG and EFP assignments

specifications	14 x 8		14x8 with wide angle attachment	
		with 2x extender		with 2x extender
focal length	8-112 mm	16-224 mm	4.8-6.7 mm	9.6-13.4 mm
zoom range	14x	14x		
maximum aperture (see curves below)	f/1.6-f/2 T 1.8-T 2.2	f/3.2-f/4 T 3.5-T 4.4	f/1.6 T 1.8	f/3.2 T 3.5
image diagonal	11 mm	11 mm	11 mm	11 mm
minimum focusing distance	0.8 m 31"	0.8 m 31"	40 mm 1.6"	40 mm 1.6"
minimum focusing distance in macro position	0 mm 0"	0 mm 0"	0 mm 0"	0 mm 0"
horizontal field angle	58°-4 1/2°	30 3/4°-2 1/4°	85°	43°
vertical field angle	45°-3 1/4°	23 1/4°-1 3/4°	69°	35°
smallest object to fill the screen	46x61 mm 1.8x2.4"	23x30 mm .9x1.2"	139x192 mm 5.5x7.5"	70x96 mm 2.8x3.8"
smallest object to fill the screen in macro	51x68 mm 2x2.7"	25x34 mm 1x1.3"	90x128 mm 3.5x5"	45x64 mm 1.8x2.5"
weight (include servo zoom and iris)	1.8 kg 3.9 lbs	1.8 kg 3.9 lbs	2.4 kg 5.3 lbs	2.4 kg 5.3 lbs

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## 2/3" AND 1" LENSES



40 x 9.5



40 x 14

### LENSES FOR 2/3" AND 1" CAMERAS

#### Zoom 40x Lenses — Microprocessor Controlled

This lens is incredibly small, very lightweight 43 lbs. (19.5 kg), yet it has a remarkably fast relative maximum aperture. The limitations of minimum object distance no longer exist because of microprocessor control, focusing is now possible at any distance.

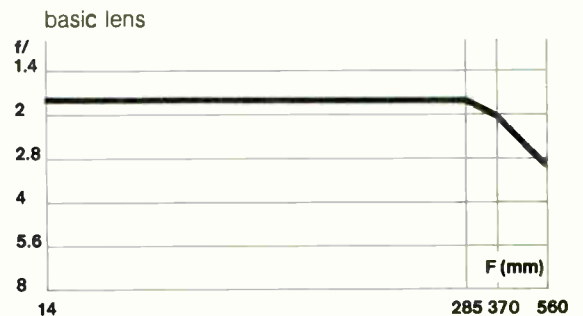
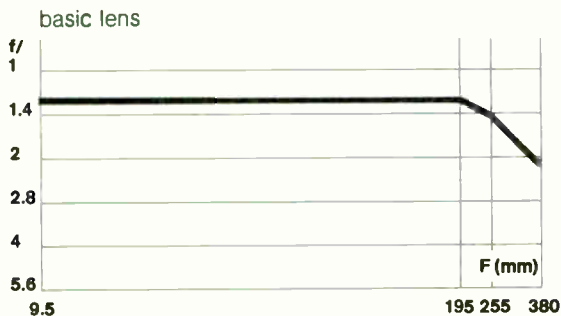
The 40x is a lens with high transmission, minimum iris ramping, superior MTF (Modulation Transfer Function) and reduced chromatic aberrations.

The 40x is a multipurpose lens, it will cover all the angles from a wide 49.75° to a tight 1.33° and more, with the standard 2.1x extender and optional 1.45x extender.

Advanced three lamp diascope, a modular PC board layout, circuit breakers, ribbon cable wiring, interchangeable servo modules and a heater are standard. Even the operational ease has been taken into account with external LED readouts for zoom position, iris position, and extender/diascope position.

Also adding to the operational ease of the 40x are an easily accessible electronic back focus adjustment with a lock, a manual back focus adjustment and manual overrides for the iris and the extender/diascope turret.

Specifications	Zoom 40 x 9.5 — f/1.3 for 2/3" Cameras			Zoom 40 x 14 — f/1.9 for 1" Cameras		
	40x9.5	40x9.5 with 1.45x extender (optional)	40x9.5 with 2.1x extender (standard)	40x14	40x14 with 1.45x extender (optional)	40x14 with 2.1x extender (standard)
focal length	9.5-380mm	13.8-550mm	20-800mm	14-560mm	20-800mm	30-1200mm
zoom range	40x	40x	40x	40x	40x	40x
maximum aperture (see charts below)	f/1.3 F 9.5-195mm f/1.4 F 255mm f/2.1 F 380mm	f/2.1 F 13.8-375mm f/3 F 550mm	f/3 F 20-540mm f/4.4 F 800mm	f/1.9 F 14-285mm f/2 F 370mm f/3 F 560mm	f/3 F 20-550mm f/4.4 F 800mm	f/4.4 F 30-800mm f/6.4 F 1200mm
image diagonal	11mm	11mm	11mm	16mm	16mm	16mm
minimum focusing distance	0m 0"	0m 0"	0m 0"	0m 0"	0m 0"	0m 0"
horizontal field angle	49 3/4° - 1 1/3°	34° - 1°	24° - 1/2°	49 3/4° - 1 1/3°	34° - 1°	24° - 1/2°
vertical field angle	37 3/4° - 1°	26 1/4° - 3/4°	18° - 1/2°	37 3/4° - 1°	26 1/4° - 3/4°	18° - 1/2°
minimum object area at object distance 8.2' (2.5m)	41.5x55mm 1.6x2.2"	28.6x38mm 1.1x1.5"	19.8x26.2mm 0.8x1"	41.5x55mm 1.6x2.2"	28.6x38mm 1.1x1.5"	19.8x26.2mm 0.8x1"
weight of lens package (full servo version with diascope and cover)	43 lbs. (19.5 kg)	43 lbs. (19.5 kg)	43 lbs. (19.5 kg)	43 lbs. (19.5 kg)	43 lbs. (19.5 kg)	43 lbs. (19.5 kg)



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## 1" / 1 1/4" LENSES



Zoom 15X HP



Zoom 18X HP

Lenses for 1" / 1 1/4" Cameras  
15x13 HP and 15x17 HP  
High Performance  
Multipurpose Lenses

### 15x13 HP

Specifications	15x13 HP	15x13 HP w/1.7x extender
Focal Length	13-195 mm	22-330 mm
Zoom Range	15x	15x
Maximum Aperture	f/1.5 F 13-130 mm f/2.1 F 195 mm	f/2.5 F 22-220 mm f/3.5 F 330 mm
Image Diagonal	16 mm	16 mm
Minimum Focusing Distance	0.80 m 31"	0.80 m 31"
Horizontal Field Angle	53° - 3¾°	32¼° - 2¼°
Vertical Field Angle	40½° - 2¾°	24½° - 1¾°
Smallest Object To Fill The Screen	52x69 mm 2x2.7"	31x41 mm 1.2x1.6"
Weight Of Lens Package (full servo version with diascopes and cover)	25 kg 55 lbs.	

### 15x17 HP

Specifications	15x17 HP	15x17 HP w/1.7x built-in extender
Focal Length	17-255 mm	30-450 mm
Zoom Range	15x	15x
Maximum Aperture	f/2 F 17-170 mm f/2.8 F 255 mm	f/3.4 F 30-300 mm f/4.7 F 450 mm
Image Diagonal	21.4 mm	21.4 mm
Minimum Focusing Distance	0.80 m 31"	0.80 m 31"
Horizontal Field Angle	53° - 3¾°	32¼° - 2¼°
Vertical Field Angle	40½° - 2¾°	24½° - 1¾°
Smallest Object To Fill The Screen	52x69 mm 2x2.7"	31x41 mm 1.2x1.6"
Weight Of Lens Package (full servo version with diascopes and cover)	22 kg 55 lbs.	

18x16.5 and 18x12.5  
Superb Optical Performance and  
High Operational Flexibility Lenses

### 18x16.5

Specifications	18x16.5	18x16.5 w/1.6x extender	18x16.5 w/2.5x extender
Focal Length	16.5 - 300 mm	26.5 - 480 mm	40 - 750 mm
Zoom Range	18x	18x	18x
Maximum Aperture	f/2 F 16.5 - 180 mm f/3.2 F 300 mm	f/3.2 F 26.5 - 290 mm f/5.1 F 480 mm	f/5 F 40 - 450 mm f/8 F 750 mm
Image Diagonal	21.4 mm	21.4 mm	21.4 mm
Minimum Focusing Distance	0.6 m 24"	0.6 m 24"	0.6 m 24"
Horizontal Field Angle	54¼° - 3¼°	35¼° - 2°	23° - 1-1/3°
Vertical Field Angle	41¾° - 2½°	26¾° - 1½°	17¼° - 1°
Smallest Object To Fill The Screen	37 x 50 mm 1.4 x 2"	23 x 31 mm .9 x 1.2"	15 x 20 mm .6 x 8"
Weight Of Lens Package (full servo version with diascopes and cover)	27 kg 60 lbs.		

### 18x12.5

Specifications	18x12.5	18x12.5 w/1.6x extender	18x12.5 w/2.5x extender
Focal Length	12.5 - 225 mm	20 - 360 mm	31.5 - 565 mm
Zoom Range	18x	18x	18x
Maximum Aperture	f/1.5 F 12.5 - 135 mm f/2.4 F 225 mm	f/2.4 F 20 - 215 mm f/3.8 F 360 mm	f/3.7 F 31.5 - 335 mm f/6 F 565 mm
Image Diagonal	16 mm	16 mm	16 mm
Minimum Focusing Distance	0.6 m 24"	0.6 m 24"	0.6 m 24"
Horizontal Field Angle	54¼° - 3¼°	35¼° - 2°	23° - 1-1/3°
Vertical Field Angle	41¾° - 2½°	26¾° - 1½°	17¼° - 1°
Smallest Object To Fill The Screen	37 x 50 mm 1.4 x 2"	23 x 31 mm .9 x 1.2"	15 x 20 mm .6 x 8"
Weight Of Lens Package (full servo version with diascopes and cover)	27 kg 60 lbs.		

Prices and Specifications Subject to Change Without Notice.



# ANTON BAUER, INC.

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# BATTERIES

## Snap-On® NiCad Batteries

Snap-On batteries feature • Quick change design for instant camera mounting without cables or connectors • Premium fast charge cells and exclusive all-cell sensing • Batteries are individually computer tested and shipped with a print-out • Accessories are available for mounting Snap-On batteries on belts, VTRs, monitors, and other portable equipment.

**PRO PAC® 14 4AH, 14.4 Volt Snap-On NiCad Battery.** Fast or slow charge. 4-3/4 lbs. Typical run time: 2 hours at 25 watts, 3 hours at 18 watts, 4 hours at 13 watts. . . . . **\$525.00**

**PRO PAC® 13 4AH, 13.2 Volt Snap-On NiCad Battery.** Fast or slow charge. 4-1/4 lbs. Typical run time: 2 hours at 24 watts, 3 hours at 16 watts, 4 hours at 12 watts . . . . . **\$505.00**

**TRIM PAC® 2AH, 12 Volt, Compact Snap-On NiCad Battery.** Fast or slow charge. 2-1/2 lbs. Recommended for applications drawing under 15 watts. Typical run time: 1-1/2 hours at 12 watts. . . . **\$250.00**

**Recommended Battery Applications:** The Pro Pac 13 is a universal battery that will power virtually all ENG/EFP cameras, VTRs, and monitors. However, the Pro Pac 14 will yield superior performance and capacity on those cameras that can accept the higher voltage.

Pro Pac 14/Com Pac 14	Pro Pac 13	Trim Pac
Ikegami	Panasonic	JVC KY-1900
RCA	Bosch	Sony BVP-110
Sharp	Hitachi	
Thomson	Ampex	
Philips	JVC	
	Sony	
	NEC	

## PRO PAC® 90 Professional VTR Battery

The Pro Pac 90 is a premium professional version of the Sony BP-90 type VTR battery. Unique features include: • Special fast charge premium cells • Printed circuit board design instead of wiring • Individual cell sensing system • Low temperature protection circuit • Special Triconn® 3-conductor connector (eliminates need for separate fast charge cable) • Accessible fuse with spare fuse • Heavy duty molded housing and steel reinforced molded strain relief on cable • Can be charged directly with all Lifesaver Chargers • Can also be charged with other brand conventional chargers but without benefit of the individual cell sensing protection system.

**PRO PAC 90. 4AH, 12 Volt NiCad VTR Battery.** Fast or slow charge. 3-1/2 lbs. Typical run time: More than 3 hours at 14 watts. . . . **\$330.00**

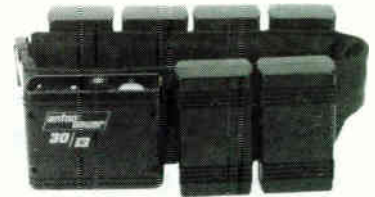
**T-SO-90. PRO PAC 90 to Snap-On Adaptor.** Allows Pro Pac 90 to fit any Anton/Bauer Snap-On Bracket; i.e., for on camera mounting or for wearing on a belt with UniPac holder. Adapts Pro Pac 90 to charge on the Mobile Fast Charger . . . . . **\$195.00**

**NP-1A. High Capacity (1.7AH) 12 Volt NiCad VTR/Camera Battery.** Direct replacement for NP-1 type battery applications. Can be charged with any NP-1/NP-1A charger. Typical run time one hour at 18 watts . . . . . **\$85.00**

**Power Strap** A multi-purpose battery strap designed for use with all portable video recorders and low voltage portable lighting equipment • Can be worn as a belt for lighting applications • At 12V, 4AH, the Power Strap will continuously run a VO-6800 recorder for 3 hours or power a 25W UltraLight bulb for 2 hours • User accessible 8A circuit breaker • Made of 1000 Denier Cordura • Supplied with a nylon strap for belt mounting and a 14-16 hour overnight charger • Can be fast or quick charged with any Anton/Bauer Lifesaver® charger with the optional CA-30 charge cable • Accessory cables are available for most DC power requirements . . . . . **\$495.00**



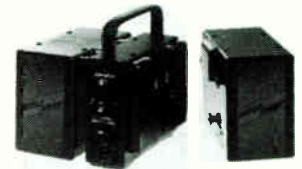
PRO PAC 90



30/13 BATTERY BELT



POWER STRAP



DBH. DUAL BATTERY HOLDER



PRO PAC 13/14



PPSA-D. PERPETUAL POWER BELT

**CC-68 Cable.** VTR coiled cable with right angle connector to power most popular recorders. 4-pin DC input . . . . . **\$70.00**

## Universal NiCad Battery Belts/Holders

The ultimate battery belt. Powers virtually all portable equipment, including 30 volt lights, all 13V cameras and VTRs, and UltraLight Modular Lighting System. Unique construction features include: • Leather belt • Lexan® battery modules • Quick release military buckle • Anatomical design • Can be worn around the waist, over the shoulder or bandolero style • 30 volts, 4AH or 13.2 volts, 8AH switchable • Built-in 115/230 volt overnight charger • Voltage display • Charge indicator • Input and output circuit breakers • Multiple charge sensors • In low voltage lighting applications 80 watt maximum total light output (one or two bulbs).

**30/13 Battery Belt.** • 30 Volt, 4AH or 13.2 volt, 8AH switchable • Built-in 115/230 volt overnight charger • One hour fast charged • 10 Amp circuit breaker • Waist size: 32" to 48" adjustable . . . . . **\$865.00**

**CA-30. Fast Charge Cable.** Connects 30/13 belt to Lifesaver 1 Hour Fast Charger (LSFC) . . . . . **\$56.00**

**PPSA-D. Perpetual Power Belt-Automatic.** • Accepts two Snap-On batteries of any type • When first battery is depleted, the belt automatically draws from the second • First battery may be replaced and the process repeated providing uninterrupted power • Leather belt • Quick release aircraft buckle • Lexan® control module with voltage display • Circuit breaker • 2 Output connectors for powering a camera and a VTR simultaneously . . . . . **\$335.00**

**DBH. Dual Battery Holder.** • Accepts a pair of either 2 Pro Pac 13 or Pro Pac 14 Snap-On NiCad batteries • Provides 8AH of continuous power to run a typical camera 4 hours • Control module monitors battery capacity and switches automatically to the second battery when the first is depleted • First battery may be replaced and the process repeated, providing uninterrupted power • Low-battery warning LED • 5 Amp circuit breaker • Universal 5-pin XLR output • Size: 5-1/2" x 3" x 6". Wgt. 1-1/2 lbs. . . . . **\$265.00**

# ANTON BAUER, INC.

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# BATTERY SYSTEM/CHARGERS

## Silver Battery System

• Silver Zinc batteries will operate equipment approximately three times longer than NiCad batteries of equivalent size and weight. In many cases the SV-13 Silver Battery will operate a camera for an entire day • Fully compatible with Anton/Bauer Snap-On accessories and Snap-On mounts, and will power all video cameras and VTRs • Not recommended for lighting applications • Silver batteries can only be charged with the Anton/Bauer SVDC-13 Silver Battery Charger

**SV-13. 12AH, 13.5V Snap-On Silver Battery.** • Expected life: 80-100 charge/discharge cycles (one year maximum) • Typical run time: 6 hours at 25W • Wgt. 4 1/2 lbs. • Individually computer tested and packaged with computer printout. . . . . \$1985.00

**SVDC-13 Digital Control Silver Charger.** • Charges two SV-13 Silver Batteries simultaneously and independently • Overnight or 6 hour charge rate, selectable • Dual protection circuits • Charge rate indicators and green ready lights • Size: 8 1/2" x 5 1/2" x 10 1/2" • Wgt. 14 1/2 lbs. • 115/230V, 50/60Hz . . . . . \$1985.00

**SVSC. Silver System Shipping/Carrying Case.** • Heavy-duty case features custom foam interior that holds one SVDC-13 Charger and two SV-13 Silver Batteries • Rugged hardware and an outer shell of high density polyethylene fully protects battery charger during shipment • Size: 18" x 11" x 16 1/2" . . . . . \$295.00

## Lifesaver® NiCad Chargers

The first 100% safe charging systems. Lifesaver circuit safely maintains fully charged battery indefinitely. All Lifesaver chargers feature • 3 automatic charge rates • Logic controlled charge monitor circuit • Battery coupled cell sensing system with hot and cold temperature protection • Integral Anton/Bauer Snap-On bracket directly accepts Snap-On type batteries • Special Triconn 3-conductor connector accepts Pro Pac 90 and other BP-90 type VTR batteries

**LSFC. Lifesaver Fast Charger.** • Single position, one hour charger • Accepts all Anton/Bauer 4AH Snap-On, Pro Pac 90, NiCad batteries • And all Anton/Bauer battery belts • Size: 7 1/2" x 6 1/4" x 4" • Wgt. 4.4 lbs. • 115/230V, 50/60Hz . . . . . \$565.00

**LSQC. Lifesaver 8 Hour Single.** • Single position, 8 hour quick charger • Accepts all Anton/Bauer 4AH Snap-On, Pro Pac 90, and Pro Pac 60 NiCad batteries • Charges other brand BP-90 type batteries at the overnight rate • Size: 6 1/2" x 4 1/8" x 3 5/8" • Wgt. 5.5 lbs. • 115/230V, 50/60Hz . . . . . \$365.00

**LSQ4. Lifesaver 8 Hour Quad.** • Four position 8 hour quick charger • Independent charge circuits and LED indicators for each position • Accepts any combination of Anton/Bauer 4AH Snap-On, Pro Pac 90 and Pro Pac 60 NiCad batteries • Charges other brand BP-90 type batteries at overnight rate • Size: 10 1/4" x 3 5/8" x 7" • Wgt. 5 lbs. • 115/230V, 50/60Hz . . . . . \$995.00

**MP-8 Lifesaver 8 Position** • Automatically identifies any combination of battery • Equalizing routine restores batteries to full capacity • Red and green LED's for each position • 24 character two line LCD provides detailed charge information for each battery . . . . . \$2985.00

## Special Purpose Charger

**MFC. Mobile Fast Charger.** • Single position universal one hour fast or 16 hour, overnight charger • Operates from most vehicles with or without engine running • Accepts all Anton/Bauer Snap-On NiCad batteries and Pro Pac 90 batteries using TSO-90 XLR adaptor • Protection circuit that disconnects charger if vehicle voltage becomes too low • Operates on 10-15VDC input • Size: 6" x 7 1/2" x 3 1/2" • Wgt. 2 3/4 lbs. . . . . \$565.00

## Micro Chargers

Micro Chargers are designed for travel or as back up chargers and are not recommended as a primary charge system. Prolonged use of Micro Chargers may contribute to premature battery aging.



Silver System Batteries and Charger



Lifesaver Fast Charger



SVSC Shipping Case (shown with Silver System)



Mobile Fast Charger



Lifesaver 8 Hour Quad Charging the Pro Pac 13 and 14, and two Pro Pac 90 batteries



MP-8

**MC-14. Micro Charger 14 Volts.** Miniature wall mount overnight (16-18 hours) charger for Pro Pac 14. Must not be used with 13V or 12V batteries. For 115VAC only. . . . . \$85.00

**MC-13. Micro Charger 13 Volts.** Miniature wall mount overnight (16-18 hours) charger for Pro Pac 13. Must not be used with 14V or 12V batteries. For 115VAC only. . . . . \$85.00

**TPMC-12. Trim Pac Micro Charger.** Compact overnight charger for 12V Trim Pac battery. Full charge in 16-18 hours. For 115VAC only. . . \$85.00

**U-12MC. Micro Charger 12 Volts.** Miniature wall mount overnight (16-18 hours) charger for the Power Strap. Must not be used with 14V or 13V batteries. For 115VAC only . . . . . \$85.00

**CPMC-14. ComPac Micro Charger 14 Volts.** Miniature wall mount overnight (16-18 hours) charger for the ComPac 14 battery only. Not to be used with any other battery types. For 115VAC only . . . . . \$85.00



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# ACCESSORIES/ POWER SUPPLIES

## Snap-On Accessories

Snap-On accessories will accept both Anton/Bauer Snap-On NiCad and Silver batteries except as noted.

**UP. UniPac Single Snap-On Battery Holder.** • Accepts any Anton/Bauer Snap-On battery • Includes loops (for any size pants belt) • Integral power cable with female XLR-4 DC input connector • Cameras and VTRs not equipped with an XLR-4 DC input require SO/XLR adaptor . . . . . \$130.00

**UL-UP. UltraLight® UniPac.** • As above with XLR-2 DC input connector for new UltraLight system • NiCad only . . . . . \$130.00

**SO/XLR. Snap-On Bracket to XLR-4 Adaptor.** • Fits any Anton/Bauer Snap-On Bracket • Provides universal 4-pin male XLR DC input connection to any camera or other device with an Anton/Bauer Snap-On bracket . . . . . \$95.00

**ULPA. Light Tap™ Power Adaptor.** • Allows camera battery to power UltraLights, and camera simultaneously • Maximum 85W total light output (one or two bulbs) • Accepts 12-14V Snap-On NiCad batteries • Operates 12-14V bulbs. NiCad only . . . . . \$130.00

**PSXLR5. Snap-On Battery to XLR-5 Adaptor.** • Compact adaptor snaps onto any Anton/Bauer Snap-On battery or power supply converting it to a 5-pin XLR female power output connector . . . . . \$95.00

**TSO-9Q. Pro Pac 90 to Snap-On Adaptor.** • Allows Pro Pac 90 to fit any Anton/Bauer Snap-On bracket; i.e., for on camera mounting or for wearing on a belt with UniPac holder • Will not accept other brand BP-90s . . . . . \$195.00

**PPSA-D. Perpetual Power Belt-Automatic.** • Accepts two Snap-On batteries of any type . . . . . \$335.00

## Snap-On® Quick Release Brackets

**QRX. Universal Snap-On Quick Release Bracket.** • This is the basic Anton/Bauer Snap-On bracket that is the standard of the video industry and included as standard equipment with virtually all ENG cameras. Includes: • Electrical contacts, internal wire connections • 4 mounting screws (6x32) • Designed to be installed on any portable device allowing use of any Anton/Bauer Snap-On battery • Bracket measures 4 11/16" x 3 5/8" . . . . . \$75.00

**QRX-C. Universal Snap-On Compact Bracket.** • Designed for the new smaller cameras • Fully compatible with all Snap-On products • Includes electrical contacts • Internal wire connectors and 4 mounting screws (6x32) • Bracket measures 4 11/16" x 3" . . . . . \$75.00

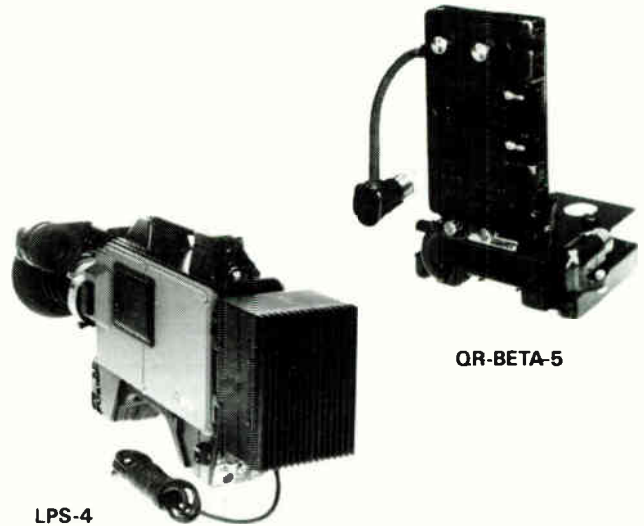
**QR-BVP-3. Snap-On Quick Release Bracket.** • With integral power connector and plate for custom mounting on Thomson 601/701 and Sony BVP-300 Series cameras • No camera modifications required . . \$95.00

**QR-BVP-1. Snap-On Quick Release Bracket.** • With integral power connector and plate for custom mounting on Sony BVP-110 • No camera modifications required . . . . . \$95.00

**QR-DXC-M3. Snap-On Quick Release Bracket.** • As above, but for Sony DXC-M3 camera • Built-in circuit operates low battery level indicator in viewer . . . . . \$130.00

**QR-DXC-M3A. Snap-On Quick Release Bracket.** • With integral power connector and plate for custom mounting on Sony DXC-M3A, DXC-M2, BVP-150 and BVP-3 (with CA-3/CA-30 adaptor) cameras • No camera modifications required . . . . . \$95.00

**QR-DX-3000. Snap-On Quick Release Bracket.** • For custom mounting on the rear of the Sony DXC-3000 camera • With integral power connector . . . . . \$120.00



**QR-777. Snap-On Quick Release Bracket.** • With integral power connector for custom mounting on the rear of Panasonic 777, 888, or 555 camera • No camera modifications required. (Same as Panasonic WV-PS355 bracket) . . . . . \$130.00

**QR-76BC. Snap-On Quick Release Bracket** • With integral power connector and special plate for custom mounting on the rear of RCA TK 76B and C cameras • No camera modifications required . . . \$165.00

**QR-BETA-3. Snap-On II Quick Release Bracket.** • With integral power connector and plate for custom mounting on Sony/Thomson Betacam camera/recorders • No camera modifications required . . . \$150.00

**QR-BETA-5. Snap-On II Quick Release Bracket.** • Features a unique dual mounting system for the Sony BVW-105 camera/recorder • Rear mount when used on tripod • Under mount for field use (Same as QR-BETA-3 Bracket) . . . . . \$165.00

**QR-BETA-1.** • As above but for BVW-1 camera . . . . . \$150.00

**QR-BETA Back Mount.** • Snap-On II Quick Release Bracket with integral power connector and plate for custom mounting on the back of Sony/Thomson Betacam camera/recorder or to power the recorder alone . . . . . \$95.00

**SP-BETA Kit. Snap-On Quick Release Bracket.** • Mounting system for the new "SP" series AMPEX and Sony cameras/recorders . . \$195.00

## Charge Adaptor Cables

**CA-30. Fast/Quick Charge Cable.** • Connects the 30/13 belt to Lifesaver Fast Charger (one hour) only • The UltraKit 12V U12VCO Clip-On battery to Lifesaver Fast Charger (one hour) • Lifesaver Quick Charger (8 hour) or Quad Charger 4 position (8 hour) • And to Mobile Fast Charger . . . . . \$55.00

**TCA-30. Tektronix Fast Charge Cable.** • Connects Tektronix BP1 battery (Waveform Monitor DC power source) to Lifesaver 1 hour Fast Charger) . . . . . \$55.00

## Power Supplies

The Anton/Bauer SPS-3 is an advanced switching-type power supply and the LPS-4 is a linear regulator with a toroidal transformer. Superior filtering techniques and design make these power supplies the coolest, most efficient and noise-free units available to the video industry. The integral Snap-On mount allows these supplies to be conveniently snapped onto the rear of any camera just like a battery pack.

**SPS-3. Advanced Switching Type 3 Amp Power Supply with Snap-On Mount.** • Output: 13V at 3A (max.) • Input: 115VAC only . . . \$495.00

**LPS-4. Linear Power Supply 4 Amp with Snap-On Mount.** • Output: 12V at 4A (max.) • Input: 115/230VAC . . . . . \$595.00



# ANTON BAUER, INC.

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# BATTERY-OPERATED LIGHTS

## UltraLight® System

The UltraLight System provides compact, lightweight, and versatile portable lighting. UltraLights become fill, spot or flood lights according to the selection of quick-change bulbs, filters, and focus adaptors. The removable lighthead module allows bulb changes in the field without direct handling. A working system requires one or more of the power cables/adaptors listed below as well as a bulb of corresponding voltage.

**ULS. UltraLight Single.** • Single base and head module with single power input • Includes one (1) BAB 25 watt bulb .....\$195.00

**ULD. UltraLight Dual.** • Dual base with two head modules • Two switches and single power input • Includes two (2) BAB 25 watt bulbs. Bulb voltages must be matched • Total power draw not to exceed 100 watts .....\$350.00

**UL-HM UltraLight Head Module.** • Extra quick-change rugged aluminum module to house alternate or spare bulbs .....\$ 75.00

## UltraKit® Complete 12 Volt Lighting Kit

- UltraLight Single
- UltraLight Dual

**Kits include the following:**

• 12 Volt Power Strap NiCad fast charge battery pack with integral belt loop and detachable ULC-L power cable • Wall-type Micro Charger • One (Single UltraKit) or two (Dual UltraKit) 12 Volt BAB 25W flood bulb • Heavy duty shipping case with custom fit foam interior (extra spaces allowed for accessories).

Filters, spare head modules, and power adaptors/cables may be purchased separately if required. Lifesaver fast charge (LSFC) with the optional CA-30 charge cable adaptor.

Single .....\$595.00  
Dual .....750.00

## Power Adaptors

**ULPA. UltraLight Light Tap Power Adaptor.** • Allows camera battery to power UltraLight(s) and camera simultaneously • Maximum 85 watts total light output (one or two bulbs) • NiCad only. ....\$130.00

**ULAC. UltraLight AC Power Supply.** • Compact AC power supply allows use of low voltage bulbs (12-14V) where AC power is available • Maximum 90 watts of light output (one or two bulbs) • 115/230V, 50/60Hz, 12-14VAC for lighting applications only • (Requires ULC-LAC cable) .....\$265.00

**UL-UP. UltraLight UniPac.** • Compact Anton/Bauer Snap-On bracket with integral belt loops and 5 foot cable with XLR-2 DC input connector • Maximum 85 watts total light output (one or two bulbs) • NiCad only .....\$130.00

## Adaptors/Filters

**UL-WA. UltraLight Wide Angle Adaptor.** • Optical device that provides a smooth, even pattern that will cover the widest angle zoom lenses • Can also be used with flood bulbs to smooth out uneven bulb patterns .....\$45.00

**UL-DF. UltraLight #1 Diffuser.** • For use with spot bulbs • Lowers light output by one "F" stop (50%) while softening the edges of the beam pattern .....\$45.00

**UL-DC. UltraLight Dichroic Filter.** • Converts output of all bulbs to match 6000°K daylight • Must be used when using UltraLight for daylight fill or cool white fluorescent fill. ....\$98.00



UltraLight Single with UL-WA Focus Adaptor



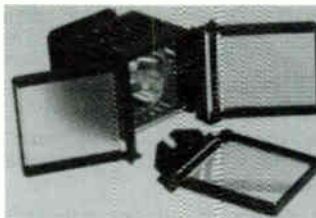
ULTRALIGHT DUAL



ULTRAKIT



ULPA Power Adaptor allows battery to power UltraLight and camera simultaneously.



UltraLight head module with Adaptors and Filters.



ULAC

## Brackets

These brackets are used for quick mounting the UltraLight on all popular cameras. The UltraLight can be mounted to any 5/8" stud mount or light stand in either a horizontal or vertical position (facing down).

**BR STUD 1/4.** For all cameras with 1/4-20 threaded accessory hole. ....\$45.00

**BR STUD 3/8.** For all cameras with 3/8-16 threaded accessory hole. ....\$45.00

**BR SHOE.** For all cameras with microphone/accessory shoe. ....\$45.00

**BR UNIV.** Universal mount that clamps onto the handle of virtually any camera .....\$45.00

**BR U2.** Similar to BR UNIV but permits mounting of two UltraLight Singles or one stud may be replaced by a microphone holder to allow operation of UltraLight Single or Dual with a microphone. ....\$65.00

**UL-HH.** UltraLight handle with 5/8" stud for off camera hand-held applications .....\$45.00

## Cables

**ULC-L.** 5 Foot cable for 12-14 volt application. 5 pin male to 2 pin XLR female .....\$56.00

**ULC-30.** 5 Foot cable for 30 volt applications. 2 pin male to 2 pin XLR female .....\$56.00

**ULC-110.** 8 Foot 110 volt cable. Wall plug to 2 pin XLR female. ....\$48.00

**ULC-LAC.** 8 Foot cable for operating UltraLight from ULAC Power Supply. 2 pin male to 2 pin XLR female .....\$56.00

**ULC-BETA.** 2 Foot cable for operating UltraLight directly from QR-BETA Brackets. Eliminates need for UltraLight Power Adaptor (ULPA). 4 pin male to 2 pin XLR female .....\$56.00

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# BULBS/PORTABLE LIGHTING/ LIGHTING KIT

## Bulbs for UltraLight

**Triple Purpose Low Voltage Bulbs** — The ESX, EYR and EYF/FPA bulbs provide three beam/output options.

1. Spot (15°)-plain bulb. 2. Medium Spot (approximates 21°)-with #1 Diffuser (UL-DF). 3. Flood (36°)-with Wide Angle Adaptor (UL-WA) this bulb covers most zoom lenses down to 9mm length (for 2/3" tube cameras).

**Dual Purpose Low Voltage Bulb** — The EXZ bulb provides two beam/output and is a good all around bulb.

Bulb	Watts	Spot	Med.	Flood	Amps	Run Time w/4AH Battery	Price
ESX	25	200	85*	30**	1 <sup>2</sup> / <sub>3</sub>	120 min.	\$28.00
EYR	50	400	170*	60**	3 <sup>3</sup> / <sub>4</sub>	60 min.	28.00
EYF/FPA	85/75	700	300*	120**	6 <sup>1</sup> / <sub>4</sub>	35 min.	28.00
EXZ	60	—	175	70**	4 <sup>1</sup> / <sub>2</sub>	45 min.	28.00
BAB	25	—	—	35	1 <sup>2</sup> / <sub>3</sub>	120 min.	28.00
EYP	50	—	—	65	3 <sup>3</sup> / <sub>4</sub>	60 min.	28.00
EYC	85	—	—	125	6 <sup>1</sup> / <sub>4</sub>	35 min.	28.00

Note: All above data measured at 14V. \*with #1 Diffuser (ULDF)

\*\*with Wide Angle Adaptor (ULWA) wattage ratings shown above are higher than those indicated by bulb manufacturer; when bulbs are used at higher voltages (13.2 or 14.4) the wattage ratings increase to those shown above.

**30V Bulbs.** While the above low voltage bulbs offer maximum versatility, the following bulbs can be used with 30V battery belt to provide excellent results in certain applications.

Bulb	Watts	Amps	Footcandles at 5'	Run Time w/4AH Battery	Price
EXS	200	6 <sup>2</sup> / <sub>3</sub>	400	35 min.	\$28.00
EKP/ENA	80 Note 1	2 <sup>1</sup> / <sub>2</sub>	140	90 min.	28.00
ENZ	50 Note 1	1 <sup>2</sup> / <sub>3</sub>	90	140 min.	28.00

Note 1: Bulbs ELB and ENZ must be used with UL-WA Wide Angle Adaptor. The beam pattern of the plain bulbs is unacceptable.

1. Medium Flood (24°)-plain bulb. 2. Full Flood (36°)-with Wide Angle Adaptor.

**Single Purpose Low Voltage Flood Only Bulbs** — The BAB, EYP, and EYC bulbs provide full flood (36°)-plain bulb.

Results of extensive testing have shown that the 25W ESX bulb used with the Wide Angle Adaptor or the plain BAB bulb provide the most pleasing lighting conditions for most indoor interviews in the typical 3' to 6' range.



UltraLight head module securely holds bulbs. Removable lighthouse module permits field changes without direct handling of bulb.

## 115/230VAC Bulbs

The UltraLight will directly accept several 115 and 230V bulbs. However, while AC powering is desired, we recommend using the Low Voltage Bulbs powered with the model ULAC 115/230 voltage AC power supply. Anton/Bauer does not offer 230V bulbs.

Bulb	Watts	Volts	Footcandles at 5'	Price
FMG	150	115	300	\$20.00

## UltraKit® 30V Light Kit

30V light kit combines either a single or dual Ultralight system with the 30/13 Battery Belt in a heavy duty shipping case with custom fit foam interior for protection. The kit includes a ULC-30 5' cable with 2 pin Amphenol male to 2 pin XLR female connectors. Single kit has one spare 30V bulb and the dual comes with 2 spare 30V bulbs.

Filters and spare head modules may be purchased separately. 30/13 Battery Belt may be charged in 1 hour with the Lifesaver Fast charger using the CA-30 cable.

Single .....\$1265.00  
Dual .....1395.00



Ultrakit

# ANTON BAUER, INC.

One Controls Drive  
Shelton, CT 06484  
(203) 929-1100  
FAX: (203) 929-9935

# DIAGNOSTIC EQUIPMENT/CCU/ VIDEO CABLE

## Diagnostic and Service Equipment

**DATA-TAP™ Battery Testing and Monitoring Device.** Gives the user accurate information on the constant state of discharge of their battery pack • Measures 1/2 inch thick and sandwiches between the existing Anton/Bauer Snap-On® camera bracket and Pro Pac® system battery • Equipped with a digital read-out in ampere hours • This device monitors power consumption • Weighs 12 oz.

**DATA-TAP** ..... \$345.00

**ADM (Automatic Discharge Module)** Designed to be used in conjunction with DATA-TAP to calibrate/discharge Anton/Bauer Snap-On, Pro Pac or Pro Pac 90 VTR type batteries (12-14V only), giving the user accurate information as to the battery's ampere hour capacity. Can also be used as a stand-alone to discharge NiCad or silver batteries which may not have been fully depleted during operation • The unit has a 2-position switchable automatic cut-off circuit • LED indicates when discharge is complete • Will discharge a standard 4AH battery in 2 hours • Weighs approximately 2-1/2 lbs.

**ADM** ..... \$295.00

**SCD. Silver Cell Equalizer.** This unit is designed to enhance silver cell battery life through equal discharging of the individual cells. Features: • Digital voltmeter capable of monitoring individual cell voltages • 9 LED display which indicates the discharge status of each individual cell..... \$595.00

**EXTEND.** Extender Board of Servicing SVDC-13 Silver Charger Control Boards ..... \$45.00

## Micro Control™ Compact Control Unit (CCU)

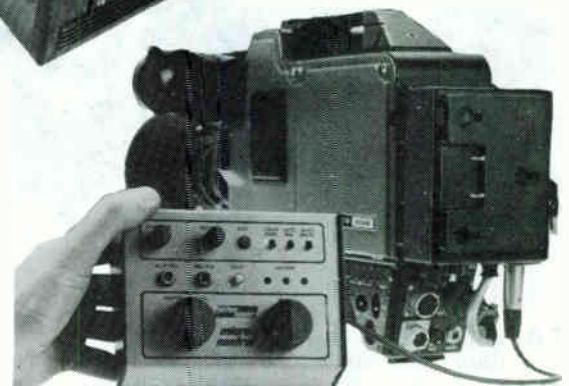
**Revolutionary portable camera control system** operates over a standard 3 wire microphone cable to more than 1000 feet and is powered by the camera battery.

Micro Control's hand-held Compact Control Unit (CCU) weighs only 1-1/3 lbs. and its companion Camera Decoder snaps onto an Anton/Bauer Snap-On battery bracket on the rear of the camera. A standard battery then snaps onto Micro Control's Camera Decoder. The system controls • Iris, Master Ped, Red Gain, Blue Gain, Red Ped, Blue Ped, On/Off control for Bars, Auto White Balance, and Auto Iris • In addition, tally/call and an intercom circuit are included • Micro Control draws only 75 milliamps from the camera battery • All control functions, power and intercom operate over a single microphone audio cable with standard 3 pin XLR connectors • Specify RTS or Clear-Com when ordering

**MC-3.** MicroControl for the Ikegami HL-79A-DAL ..... \$2995.00

**MC-3 79E.** MicroControl for the Ikegami HL-79E ..... 2995.00

**MC-3 HL95.** Micro Control for the Ikegami HL-95 ..... 2995.00



**Compact Control Unit:**  
Panel size is 6" x 4-3/8", and unit is 2-1/2" deep, weighs 1-1/3 lbs.  
**Camera Decoder:**  
5-1/3"H x 4-1/3"W x 2-1/2"D; weighs 1-1/2 lbs.

Cable may be selected from list below.

**Special Twin Cable.** Miniature, highly flexible cable consisting of one audio conductor and one coax for video output • Audio terminated with 3 pin XLR male and female • Video terminated with standard BNC connectors both ends • Cables may be linked in series for additional length with BNC adaptor.

50 feet ..... \$ 75.00  
100 feet ..... 105.00  
150 feet ..... 135.00

## VIDEO CABLES

Connection Type	Camera/VTR Manufacturer and Model
CC48 4-Pin DIN Male	Sony VO4800 Recorder
CC75 4-Pin Hirose Female	Panasonic AK710, 750, 760
CC76 Bendix Female	RCA TK76 A, B, C
CC77 7-Pin Female	Ikegami HL77
CC79 5-Pin Female	Ikegami HL79A-AF, HL-95 ITC 350, 730, 730A, 730AP
CC88 4-Pin XLR Female	Hitachi SK97 with SO/XLR Ikegami HL83, 95 with SO/XLR JVC KY210, 310, 320, 900, 950 KY1900, 2000, 2700, 4400, 4700 4900 Recorder Panasonic AK30, WV 555 A/B, 777, 888, 890, 999 with SO/XLR RCA CCD-1, TK86, Hawkeye with SO/XLR Sharp XC800, 900; XCA-1; XC-700 with SO/XLR Sony BVP110, 150, 250; BVP 300 Series; Betacam; DXC-M3A; DXC-M3, 1800, 6000 with SO/XLR; VO6800 Recorder Thomson MC 601, 611, 613, 701
CC90 3-Pin Hirose Female	Hitachi FP-7, 10, 11, 15, 21, 22; SK 1, 90, 91, 97; Z-31 NEC SP-3A; Ampex Betacam

## Video Cables

Anton/Bauer stocks the 5-pin XLR universal cable for purchase with open end (customer installs equipment connector) or with dedicated connector.

**CC-U2.** Coiled 1 to 6 feet, 2 conductor, open end cable. Specify one of these cables when ordering connector-type. Price includes cable. (See chart to determine correct connector)..... \$ 50.00

**CC-48, 75, 77, 79, 88, 91** ..... 70.00

**CC-76** ..... 140.00

Prices and Specifications Subject to Change Without Notice.



# ANVIL CASES, INC.

4128 Temple City Blvd.  
P.O. Box 888  
Rosemead, CA 91770-0888  
(818) 575-8614  
TWX: 910-587-4935

## CASES

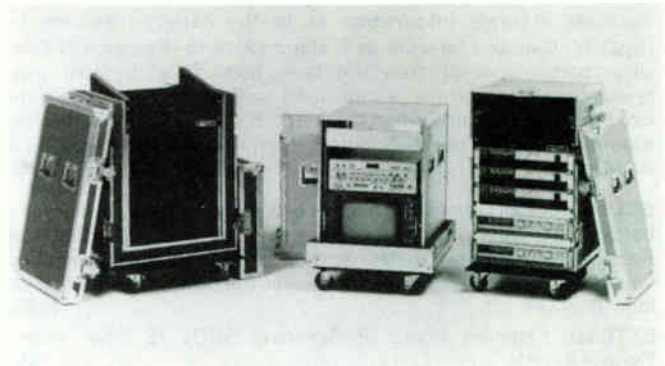
### Transit Cases

Anvil® A.T.A. Cases offer the ultimate in protection. They conform to the Air Transport Association specification 300, Category 1 standards for reusable shipping containers. Anvil A.T.A. Cases must withstand the rigors of more than 100 round-trip transittings, on both surface vehicles and aircraft, to qualify for this rating.

In addition to custom-designed models for individual requirements, Anvil maintains a design library containing literally thousands of stock

case models which can be shipped as is, or modified to meet your requirements, and shipped without delay.

Case interiors are custom-designed to provide maximum shock absorption and vibration resistance. Soft, resilient unicellular polyfoam is sculptured to fit around your equipment like a glove. Quality control is assured through numerous inspections during and at the conclusion of the manufacturing process.

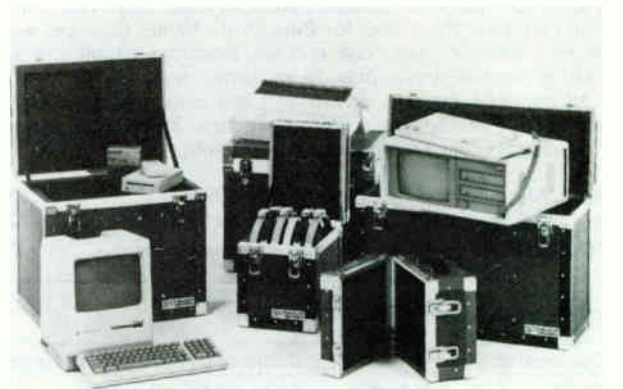


### A.T.A. Video Cases

We can build a strong case around any broadcast, industrial or educational video product on the market. Just give us the model number of your camera, recorder, monitor or any other component or combination—and we'll give you a case that will make sure your video components are ready to get the shot when you are, every time.

### E.I.A. Rackmount Cases

Standard 19" rackmount components can be safely and easily moved to your location—shoot ready. Anvil offers several variations on the rackmount design; front and rear removeable lids with or without shock isolation option, pull-over-lid design (case within a case design), or the popular mixer/rack arrangement providing rackmount space horizontally opposed to standard vertical rack space. Whichever way you go, Anvil has the rack case to make for the fastest setup and strike.



### A.T.A. & Forge® II Audio-Visual Cases

Want your A/V shows to come off without a hitch, time after time? Pack your gear in Anvil cases and relax. Our catalog includes models for motion, slide, strip and overhead projectors, as well as multi-image devices and dissolve units. And we've got your sound system covered too. Forge II carrying cases are now available for selected film-based items.

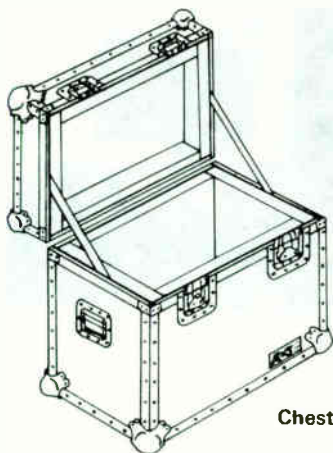
### A.T.A. & Forge® II Computer Cases

Now you can ship individual computer components, or entire mini or micro computer systems, anywhere in the world without the slightest bit of worry. Our A.T.A. Computer Case catalog contains models for hundreds of different components and system combinations. And mixing components from different hardware manufacturers is as easy as giving us the brand names and model numbers. We'll recommend the case or cases required to provide the highest degree of protection possible. And we can custom-design your cases to provide room for software and peripherals, too.

# A & S FLIGHT & ROAD CASE CO.

1111 N. Gordon St.  
Hollywood, CA 90038  
(213) 466-6181

## CASES



Chest Style A

### A.T.A. —

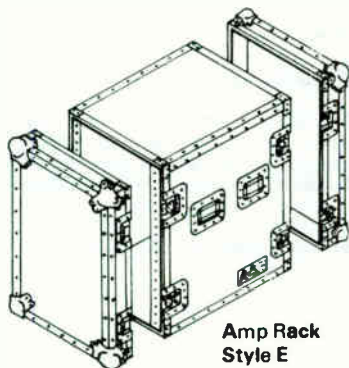
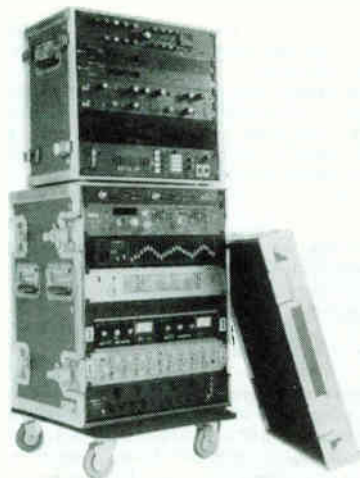
Our A.T.A. Spec. 300, Category 1 Cases are constructed using the finest materials available. To form the actual shell, we start with high grade 1/4" plywood, laminated with tough ABS plastic, fiberglass, or aluminum. Aluminum edging is secured into place using machine driven steel rivets. Heavy-duty recessed twist-latches and recessed spring loaded handles are used on all A.T.A. Cases. Other features include heavy gauge steel ball corners and edge clamps. The interior is lined with 1" polyester foam to custom fit the equipment and provide protective shock absorption. Definitely a must for excessive truck or air travel.

### Lite Flite —

Designed for the around town user, Lite Flite Cases are made with high grade 1/8" plywood laminated with ABS, fiberglass, or aluminum. Aluminum edging is secured to panels using machine driven steel rivet. High quality exterior latches and handles are used on Lite Flite Cases. As in the A.T.A. Case, the interior is 1" polyester foam lining provided for shock protection.

### Custom Cases —

Our specially trained staff of case designers are available by telephone between 9:00 and 5:00 and in person to answer any questions in regards to design or specific case requirements. Their expertise is invaluable in designing for and fulfilling your particular case needs.



Amp Rack  
Style E

### Colors —

#### ABS Exterior —

Black, Blue, Red, White, Gray, Green,  
Sky Blue, Orange, Beige, Pink

#### Fiberglass — (Available at 10% additional charge)

Black, Blue, Orange, Red, Yellow,  
White, Olive, Gray

#### Carpet Covering —

Aluminum — (Available at 15% additional charge)

# ASTON ELECTRONICS, INC.

346 N. Lindenwood Dr.  
Olathe, KS 66062  
(913) 782-4007

# CHARACTER GENERATOR

## Aston 4 Video Character Generator

- Software anti-aliasing
- 10ns effective resolution
- Typographic excellence
- Library of over 1600 typefaces
- Fonts in any size from 10 to 100 lines
- Multi-colored logos in any size from 10 lines to full screen
- Diagonal writing
- Optional second multi-layer background
- Plane displays
- Multi-layer background plane for graphics
- Up or down roll and multi-row left or right crawl
- Timed roll or crawl
- Caption management system
- Remote disk drives
- Multiple keyboard option
- Dual channel option

The Aston 4 provides clean, clear text copy. Large and small characters are provided without flicker or stairstepping. With the optional LogoMaster, flicker free multi-colored logos and symbols can be merged to provide a smoothness which pleases the graphic designer, director and customer.

### Basic Video Character Generator Includes:

- 1 Keyboard
- 2 Disk drive units mounted in mainframe
- 5 Typeface master disks selected from Aston 4 standard typeface library
- 1 Display font disk
- 1 Page store disk
- 1 Software disk
- 1 Set of technical manuals and operating instructions

**Aston 4** . . . . . \$32,500.00  
**Aston 4 With Dual Channel Option** . . . . . 47,500.00

### Optional Accessories

Remote DDU Case . . . . . \$ 325.00  
 Additional DDU . . . . . 250.00  
 Additional Keyboard . . . . . 4,500.00  
 LogoMaster . . . . . 4,500.00  
 Additional Typeface Masters selected from our Standard Typeface Library . . . . . 250.00  
 Shaded Backgrounds . . . . . 1,700.00

### Specifications

#### Characters

**High resolution:** Characters specified by 74nS x 1 TV line pixels, 8 anti-alias levels (tones) per pixel, providing an effective resolution of 10nS. (The Aston 4 pixel width of 74nS is chosen to be compatible with the sampling rate used in the international digital television standard (CCIR 601) for direct interfacing of digital component systems).



Aston 4

- Character Height:** 10 to 100 TV lines (height of capital H) in 1 line increments
- Italics:** Variable from 4 to 30° slope
- Edging:** 8 angles of variable-thickness drop shadow, and variable-thickness all-round edge
- Diagonal:** Variable in 1° steps from vertically up, through horizontal, to vertically down
- Kerning:** Automatic
- Inputs**
- Syncs:** 2 to 4V mixed syncs or standard color black, looped through via BNC connectors. Internal non-broadcast sync source provided, when external source not present
- AC Power:** Mainframe: 184V to 256V, 50Hz. Consumption 1000VA (absolute maximum rating for dual channel machine with full set of peripherals). 102V to 128V, 60Hz available to special order. Keyboard: 194V to 256V, 50Hz. Consumption 125VA (absolute maximum rating including remote disk drives). IEC Power Connectors
- Interface Connections**
- Keyboards:** Two 2Mbit/second bi-directional data links, Manchester encoded, using dual code driver. Each 4V p-p (nominal) into 75 ohms (BNC connector). Maximum distance is 300 meters. A total of 6 keyboards can be connected
- Serial Ports**
- Port A:** Full RS232-C serial port, providing all handshake lines for full modem capability. All lines may be optionally configured for RS422 levels. Programmable number of stop bits plus parity. Data speed programmable in standard steps from 45.5 to 38400 baud
- Port B:** RS232-C serial port supporting RTS/CTS handshake only. All lines may be optionally configured for RS422 levels. Programmable number of stop bits plus parity. Data speed programmable in standard steps from 45.5 to 38400 baud
- Parallel Port:** 16-bit unidirectional or 8-bit bi-directional with handshake. Fully programmable
- Outputs**
- Program:** RGB, Red, Green and Blue, 0.7V p-p non-composite into 75 ohms. BNC connectors
- Key:** 0.7V p-p non-composite linear key signal into 75 ohms. BNC connector
- Edit:** RGB, Red and Blue are 0.7V p-p non-composite. Green is 1V p-p composite ("syncs-on-green") or 0.7V non-composite, user preset. BNC connectors. The edit output displays safe title area, cursor, characters and (by switch option) system status information
- "Add-Edit"**
- Input:** 75 ohms 1V p-p. Output from color encoder. BNC connector

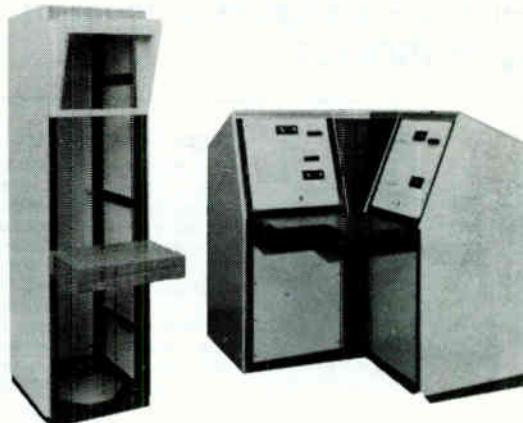


**Select Series Cabinets**

**Select Series Modular Enclosure System**, for electronic and industrial equipment, provides quality protection, optimum flexibility and aesthetics. Components include 19" slope front consoles, turrets and wedge sections; 19", 24" and 30" racks and wedge sections and a full line of customizing accessories.

Features include modular design for expansion ease, convenient accessibility to interior equipment through cabinet top and sides, designer-styled aesthetics including textured flat black enamel frame, a satin clear anodized aluminum horizontal trim, choice of colors for top and side panels and an extensive choice of decorative and convenience accessories

Units are 16-gauge CRS welded construction with an adjustable 11-gauge CRS mounting system with 10-32 N.F. threads on EIA standard hole spacing. UL Listed and custom versions are available. All Select Series enclosures are shipped completely assembled.



**Heavy Duty Slope Front Consoles**

The **Select Series 1044 Slope Front Console** is an example of Soundolier's top quality engineering and modern design. This unit has a wide variety of applications. The modular design allows for easy installation of assemblies, and the modern color schemes compliment any building interior. Basic unit consists of a 16 gauge CRS frame with 11 gauge CRS mounting angles, a removable full length locking rear door with louvers, a removable top and lower front panel and pontoon base. Mounting angles are tapped 10-32 on universal E.I.A. hole spacing and are adjustable from front to rear. Caster plates are provided. The writing surface may be easily removed for access to standard 19"(483mm) E.I.A. mounting rails. Plastic laminate writing surface is white or teakwood color. Wiring access is provided on the rear portion of the writing shelf. The frame, mounting angles, pontoon base and shelf assembly are finished in Soundolier textured flat black baking enamel. Standard

colors for tops, sides and doors of this series will be Soundolier Royal Blue (Color No. 35) or Soundolier Satin Beige (Color No. 31).



1044

MODEL NO.	DESCRIPTION	VERTICAL PANEL SPACE
*1044	..... SLOPE FRONT CONSOLE	19 1/2" (492mm) TOP FRONT
*1044LS	..... 1044 w/o WRITING SURFACE	24 1/2" (625mm) BOTTOM FRONT

**UL** NOTE: TO ORDER UL LISTED VERSIONS ADD U PREFIX BEFORE MODEL NO.  
 EXAMPLE: U1044

**Model 1047 Slope Front Console**

Soundolier **Model 1047 Slope Front Console** is the same basic design as Model 1044, except that it will not mount a writing surface. Modular in design, it can be joined with other 1047 or 1044 consoles, or 1044-45 wedge sections. The basic unit consists of a 16 ga. CRS frame painted textured flat black baking enamel with 11 ga. CRS mounting angles and a removable full length locking rear door with louvers. Additionally, the top and lower front panels and pontoon base are removable. Mounting angles are tapped 10-32 on universal E.I.A. hole spacing and are movable from front to rear. Caster mounting plates are tapped for easy installation of Soundolier CS-8PR Casters. Side panels and casters are optional. Color selections

include Soundolier Royal Blue (Color No. 35) or Soundolier Satin Beige (Color No. 31). Other colors are available, see



1047

MODEL NO.	VERTICAL PANEL SPACE
*1047	19 1/2" (492mm) TOP FRONT 28 1/2" (714mm) BOTTOM FRONT

**UL** NOTE: TO ORDER UL LISTED VERSIONS ADD U PREFIX BEFORE MODEL NO.  
 EXAMPLE: U1047

**Console and Turret 45° Wedge Sections**

**Model 1044-45** wedge section is for use with 1044 and 1047 Slope Front Consoles. Models **714-45** and **719-45** Wedge Sections are for use with 700-14 and 700-19 Desk Turrets respectively. Each wedge section is a complete self supporting unit. They have no front openings or mounting angles. One wedge section used with appropriate consoles or turrets will produce a 45° corner installation. Two adjoining wedge sections will produce a 90° corner installation. The 1044-45 wedge section used with 1044-LS consoles and 144-45 or 144-90 writing surface will produce a

45° or 90° corner writing surface. The basic frame is 16 ga. CRS painted textured flat black baking enamel. The 1044-45 has a pontoon base painted textured flat black. It has a removable louvered full length locking rear door and top panel. The 714-45 or 719-45 have removable top and back panel. Door, top and back panels are available in Soundolier Royal Blue (Color No. 35) or Soundolier Satin Beige (No. Color 31).



1044-45

714-45

MODEL #	DESCRIPTION	MOUNTS TO
*1044-45	45° Console Wedge	1044, 1044LS and 1047 Slope Consoles
*714-45	45° Turret Wedge	700-14 Desk Turret
*719-45	45° Turret Wedge	700-19 Desk Turret

**UL** NOTE: TO ORDER UL LISTED VERSIONS ADD U PREFIX BEFORE MODEL NO. EXAMPLE: U719-45

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Prices and Specifications Subject to Change Without Notice.

## Select Series Cabinets (cont'd) ACCESSORIES

700 SERIES



### Slope Front Turrets

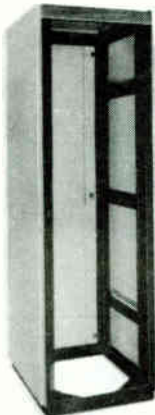
The **Select Series** Slope Front Turrets are sturdy, compact modular units designed for standard 19"(483mm) rack panels. These desk top assemblies have a variety of applications. In addition to their functional aspects, the color schemes brighten any office or building interior. Construction is 16 gauge CRS. The 700 Series consists of the frame, base, removable top, back panel and horizontal aluminum trim. Panel mounting strips are punched with  $\frac{1}{2}$ " (7mm) diameter holes on universal E.I.A. spacing on the front, rear, top and bottom. The frame and base are finished in Soundolier textured flat black enamel. Standard colors for tops, sides and back panels of this series will be Soundolier Royal Blue (Color No. 35) or Soundolier Satin Beige (Color No. 31). Suffix model number with color number. Other colors are available.

OPTIONS: Side panels, side trim, laminate decorative insert strip - consult spec. sheet # SL 1257.

MODEL NO.	VERTICAL PANEL SPACE
*700-14	14 $\frac{1}{2}$ " (368mm)
*700-19	19 $\frac{1}{2}$ " (492mm)

 NOTE: TO ORDER UL LISTED VERSIONS. ADD U PREFIX BEFORE MODEL NO. EXAMPLE U700-14

SELECT SERIES VERTICAL CABINETS



### Heavy Duty Vertical Cabinets (19", 24", 30" Panel Widths, 25 $\frac{1}{2}$ " Deep)

The **Select Series** vertical multi-racks are the result of our technical knowledge, innovative design and superior construction techniques. Optional sides and door appear flush. The many color combinations compliment any decor. Modular concept, standard 19"(483mm) rack panels, and easy assembly offer maximum flexibility. Open side approach makes wiring convenient. No nuts or bolts for the removal of doors and side panels makes servicing electronic components a time saver. The **Select Series** consists of a 16 ga. CRS frame and 11 ga. CRS mounting angles. Panel mounting angles are tapped 10-32 on universal E.I.A. hole spacing and are movable front to rear. Doors are easily removed through the use of spring pull pin type hinges. Caster plates are provided. The frame, mounting angles and base are finished in textured flat black baking enamel. A satin, clear anodized aluminum trim provides a contrast to the textured black frame. The plastic insert panel on top front of cabinet is available in teakwood, black, royal blue or brick orange. Standard colors for tops, sides and doors of this series are Soundolier Royal Blue (Color No. 35) or Soundolier Satin Beige (Color No. 31). Suffix model number with color number.

MODEL NO.	PANEL WIDTH	VERTICAL PANEL SPACE
*2036	19"	36 $\frac{1}{2}$ " (937mm)
*2042	19"	42 $\frac{1}{2}$ " (1070mm)
*2061	19"	61 $\frac{1}{2}$ " (1559mm)
*2070	19"	70 $\frac{1}{2}$ " (1781mm)
*2077	19"	77 $\frac{1}{2}$ " (1959mm)
2436	24"	36 $\frac{1}{2}$ " (937mm)
2442	24"	42 $\frac{1}{2}$ " (1070mm)
2461	24"	61 $\frac{1}{2}$ " (1559mm)
2470	24"	70 $\frac{1}{2}$ " (1781mm)
2477	24"	77 $\frac{1}{2}$ " (1959mm)
3036	30"	36 $\frac{1}{2}$ " (937mm)
3042	30"	42 $\frac{1}{2}$ " (1070mm)
3061	30"	61 $\frac{1}{2}$ " (1559mm)
3070	30"	70 $\frac{1}{2}$ " (1781mm)
3077	30"	77 $\frac{1}{2}$ " (1959mm)

 NOTE: TO ORDER UL LISTED VERSIONS (2000 Series Only) ADD U PREFIX BEFORE MODEL NO. EXAMPLE: U2036

19" SELECT SERIES WEDGE



### Floor Cabinet Wedge Sections

**2000-45 Series** wedge sections are designed to accommodate corners for the **Select Series** 19", 24" and 30" vertical cabinets. Wedges are self supporting and designed to provide wiring access between cabinets (units are not intended to house equipment). A 45° corner is produced by joining appropriate wedge and cabinet. Two adjoining wedge sections will produce a 90° corner installation. Basic Frame is 16 gauge CRS painted textured flat black baking enamel. Top and Rear door are available in Soundolier Royal Blue (color No. 35) or Soundolier Satin Beige (color No. 31). Other colors are available see paint color code p. 51. Decorative insert panel must be ordered separately. Consult spec sheet #SL1312 for complete information.

MODEL NO.	MOUNTS TO
2036-45	2036, 2436, 3036
2042-45	2042, 2442, 3042
2061-45	2061, 2461, 3061
2070-45	2070, 2470, 3070
2077-45	2077, 2477, 3077

**Select Series Writing Surfaces**

**For Vertical Cabinets**

1 PIECE ALL LAMINATE SHELF		
MOUNTS 2036 thru 2077	MODEL	BRACKETS FURNISHED
1 BAY	TKS200-PL-1	2
2 BAYS	TKS200-PL-2	3
3 BAYS	TKS200-PL-3	4
4 BAYS	TKS200-PL-4	5

2 PIECE METAL FRAME SHELF		
MOUNTS 2036 thru 2077	TEAKWOOD MODEL	WHITE MODEL
1 BAY	*TKS200-FR-1	*WHS200-FR-1
2 BAYS	*TKS200-FR-2	*WHS200-FR-2
3 BAYS	*TKS200-FR-3	*WHS200-FR-3
4 BAYS	*TKS200-FR-4	*WHS200-FR-4

**For Console Cabinets**

1 PIECE ALL LAMINATE SHELF		
MOUNTS 1044	MODEL	BRACKETS FURNISHED
1 BAY	TKS144-PL-1	2
2 BAYS	TKS144-PL-2	3
3 BAYS	TKS144-PL-3	4
4 BAYS	TKS144-PL-4	5

2 PIECE METAL FRAME CORNER SHELF		
MOUNTS 1044LS and 1044-45	TEAKWOOD MODEL	WHITE MODEL
45° ANGLE	*TKS144-45	*WHS144-45
90° ANGLE	*TKS144-90	*WHS144-90

 NOTE: TO ORDER UL LISTED VERSIONS, ADD U  
PREFIX TO AVAILABLE MODEL NUMBERS.  
EXAMPLE: UTKS200-FR-1

TO MAINTAIN UL LISTING, THESE MODELS MUST BE USED  
WITH UL LISTED CABINETS.

**Rectangular Writing Surfaces**

The **TKS-200-PL** Series, is designed for **Select Series** vertical cabinet models 2036 thru 2077 and the **TKS-144-PL** Series, is designed for the 1044 console. The entire unit is teakwood laminate covered over heavy particleboard. Two (2) heavy duty "Z" angle brackets, (Model No. **200-SBR** for racks) (Model No. **144-SBR** for consoles) and hardware are provided with each single writing surface for attachment to the rack or console. Additional brackets may be ordered as single items. Brackets are 11 ga. CRS, painted Soundolier textured flat black.

The **TKS-200-FR** and **WHS-200-FR** Series writing frames are two piece writing surfaces designed for **Select Series** vertical racks. The frame is constructed of 16 ga. CRS and is mig welded. Wiring access (per bay) is provided on the rear portion of the writing frame. The frame is painted Soundolier textured flat black baking enamel. A choice of teakwood (TKS) or white (WHS) laminate writing surface is available. The writing surface may be easily removed for access to standard 19 inch E.I.A. mounting rails. Writing surfaces are offered for a single rack or console, and for 2, 3 and 4 bay installations.

**Corner Writing Surfaces**

The **144 Series** 45° and 90° Writing Surfaces are designed to be used with Soundolier's 1044LS slope front consoles and 1044-45 corner wedge sections. The writing surface frame is constructed of 16 ga. CRS steel with choice of Teakwood (TKS) or White (WHS) laminate writing surface. Versions for 45 degree or 90 degree console configurations are available. Wiring access is provided on the rear portion of each writing surface. The 16 ga. CRS frame is painted in Soundolier textured flat black baking enamel to match the 1044LS consoles.

TKS200-PL  
TKS144-PL



WHS200-FR



TKS144-45



TKS144-90



**Select Series Front Door**

**Select Series Flush Front Cabinet Doors**

MODEL NO	DESCRIPTION
2036FD	FRONT DOOR FOR MODEL 2036
2042FD	FRONT DOOR FOR MODEL 2042
2061FD	FRONT DOOR FOR MODEL 2061
2070FD	FRONT DOOR FOR MODEL 2070
2077FD	FRONT DOOR FOR MODEL 2077

NOTE: When using 2000FD Door Series, storage and phono drawers with "-FP" suffix cannot be used.

The **2000FD** Series front doors are for Soundolier's **Select Series** cabinets (Model Nos. **2036** thru **2077**). To maintain the trim appearance of this series of quality cabinets a recessed door pull is used. Spring pull pin type hinges facilitate rapid access to equipment. For security a key lock is standard - 2 keys furnished. Construction is of 16 gauge CRS. Two colors are available: Soundolier Royal Blue (Color No. 35) or Soundolier Satin Beige (Color No. 31). Suffix model number with color number.

2000FD SERIES





**Standard 19" Cabinets**

100 SERIES



**Cabinet Relay Racks (Unassembled)**

**Series 100** cabinet relay racks are designed for standard 19" (483mm) panels. Constructed of 16 ga. CRS throughout. Rear door lock and low profile handle included. Panel mounting angles are tapped to accept 10-32 pan head screws (included). Louvers are internal type for improved ventilation. Iron phosphate coated for rust prevention and paint adhesion. Knockouts located at rear top and bottom. If no color is specified, Soundolier Satin Beige will be furnished.

**OPTIONS:**

**Series 110 (Front Door)** — Mounted on a ridged continuous hinge for right or left hand mounting, includes lock and handle. May be ordered with or without

cabinet. See chart for model numbers.  
**Series 110 FDP (Plexiglas front door)**

MODEL NO.	WIDTH	HEIGHT	DEPTH	PANEL SPACE	OPTIONAL FRONT DOOR
100-36	22 $\frac{1}{2}$ " (568mm)	41 $\frac{1}{8}$ " (1043mm)	18 $\frac{1}{2}$ " (470mm)	36 $\frac{1}{2}$ " (937mm)	110-36
100-42	22 $\frac{1}{2}$ " (568mm)	46 $\frac{1}{8}$ " (1176mm)	18 $\frac{1}{2}$ " (470mm)	42 $\frac{1}{2}$ " (1070mm)	110-42
100-61	22 $\frac{1}{2}$ " (568mm)	65 $\frac{1}{8}$ " (1665mm)	18 $\frac{1}{2}$ " (470mm)	61 $\frac{1}{2}$ " (1559mm)	110-61
100-70	22 $\frac{1}{2}$ " (568mm)	74 $\frac{1}{8}$ " (1888mm)	18 $\frac{1}{2}$ " (470mm)	70 $\frac{1}{2}$ " (1781mm)	110-70
100-77	22 $\frac{1}{2}$ " (568mm)	81 $\frac{1}{8}$ " (2065mm)	18 $\frac{1}{2}$ " (470mm)	77 $\frac{1}{2}$ " (1959mm)	110-77

WA100 SERIES



**Cabinet Relay Rack (Welded Assembly)**

**WA100 Series** cabinet relay racks are constructed of 16 ga. CRS and are completely welded for additional strength and neater appearance. The panel mounting angles are tapped for 10-32 screws. The rear door is attached by slip-jointed hinges and includes lock and low profile handle. The entire cabinet receives an iron phosphate coating for rust prevention and excellent paint adhesion. If no color is specified, Soundolier Satin Beige will be furnished.

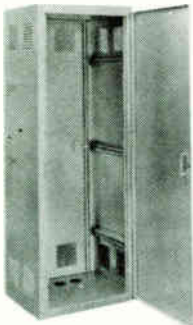
**OPTIONS:**

**Series 110 (Front Door)** — Mounted on a ridged continuous hinge for right or left hand mounting. Includes lock and handle. May be ordered with or without cabinet. See chart for model numbers.  
**Series 110FDP (Plexiglas front door)**

MODEL NO.	WIDTH	HEIGHT	DEPTH	PANEL SPACE	OPTIONAL FRONT DOOR
*WA100-36	22 $\frac{1}{2}$ " (568mm)	41 $\frac{1}{8}$ " (1041mm)	18 $\frac{1}{2}$ " (470mm)	36 $\frac{1}{2}$ " (937mm)	110-36
*WA100-42	22 $\frac{1}{2}$ " (568mm)	46 $\frac{1}{8}$ " (1176mm)	18 $\frac{1}{2}$ " (470mm)	42 $\frac{1}{2}$ " (1070mm)	110-42
*WA100-61	22 $\frac{1}{2}$ " (568mm)	65 $\frac{1}{8}$ " (1665mm)	18 $\frac{1}{2}$ " (470mm)	61 $\frac{1}{2}$ " (1559mm)	110-61
*WA100-70	22 $\frac{1}{2}$ " (568mm)	74 $\frac{1}{8}$ " (1888mm)	18 $\frac{1}{2}$ " (470mm)	70 $\frac{1}{2}$ " (1781mm)	110-70
*WA100-77	22 $\frac{1}{2}$ " (568mm)	81 $\frac{1}{8}$ " (2065mm)	18 $\frac{1}{2}$ " (470mm)	77 $\frac{1}{2}$ " (1959mm)	110-77

 NOTE: TO ORDER UL LISTED VERSIONS, ADD U PREFIX TO MODEL NO. EXAMPLE: UWA100-36

200 SERIES



**Transmitter Racks (Unassembled)**

**200/200LD Series** transmitter racks are designed to mount standard 19" (483mm) panels. Constructed of 16 ga. CRS throughout. Front and rear door handles and locks provided (locks keyed different for security). Modern internal louvers for improved ventilation. The 11 ga. panel mounting angles are tapped for 10-32 screws (included) and are adjustable to any distance from front to rear. Panel angles are mounted to three sturdy channel slides on each side. Knockouts are located at rear top and bottom. If no color is specified, Soundolier Satin Beige will be furnished.

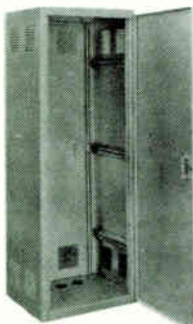
**OPTIONS:**

**Series 230 (Mounting rail)** Standard rack includes

rails. Extra sets available as an option.  
**Series 110FDP (Plexiglas front door)** For 200LD series only.

MODEL NO.	WIDTH	HEIGHT	DEPTH	PANEL SPACE
200-36 200-36LD	22 $\frac{1}{2}$ " (568mm)	41 $\frac{1}{8}$ " (1043mm)	18 $\frac{1}{2}$ " (470mm)	36 $\frac{1}{2}$ " (937mm)
200-42 200-42LD	22 $\frac{1}{2}$ " (568mm)	46 $\frac{1}{8}$ " (1176mm)	18 $\frac{1}{2}$ " (470mm)	42 $\frac{1}{2}$ " (1070mm)
200-61 200-61LD	22 $\frac{1}{2}$ " (568mm)	65 $\frac{1}{8}$ " (1665mm)	18 $\frac{1}{2}$ " (470mm)	61 $\frac{1}{2}$ " (1559mm)
200-70 200-70LD	22 $\frac{1}{2}$ " (568mm)	74 $\frac{1}{8}$ " (1888mm)	18 $\frac{1}{2}$ " (470mm)	70 $\frac{1}{2}$ " (1781mm)
200-77 200-77LD	22 $\frac{1}{2}$ " (568mm)	81 $\frac{1}{8}$ " (2065mm)	18 $\frac{1}{2}$ " (470mm)	77 $\frac{1}{2}$ " (1959mm)

WA200



**Transmitter Rack (Welded Assembly)**

**WA200/WA200LD Series** transmitter racks are constructed of 16 ga CRS and are completely welded for additional strength and neater appearance. The adjustable mounting angles are 11 ga. CRS and are tapped for 10-32 screws. The front and rear doors include locks and low profile handles. The locks are keyed differently for security. The entire cabinet receives an iron phosphate coating for rust prevention and excellent paint adhesion. If no color is specified, Soundolier Satin Beige will be furnished.

**OPTIONS:**

**Series 230 (Mounting rail)** Standard rack includes rails. Extra sets available as an option.  
**Series 110FDP (Plexiglas front door)** For WA200LD Series only.

MODEL NO.	WIDTH	HEIGHT	DEPTH	PANEL SPACE
*WA200-36 WA200-36LD	22 $\frac{1}{2}$ " (568mm)	41 $\frac{1}{8}$ " (1043mm)	18 $\frac{1}{2}$ " (470mm)	36 $\frac{1}{2}$ " (937mm)
*WA200-42 WA200-42LD	22 $\frac{1}{2}$ " (568mm)	46 $\frac{1}{8}$ " (1176mm)	18 $\frac{1}{2}$ " (470mm)	42 $\frac{1}{2}$ " (1070mm)
*WA200-61 WA200-61LD	22 $\frac{1}{2}$ " (568mm)	65 $\frac{1}{8}$ " (1662mm)	18 $\frac{1}{2}$ " (470mm)	61 $\frac{1}{2}$ " (1559mm)
*WA200-70 WA200-70LD	22 $\frac{1}{2}$ " (568mm)	74 $\frac{1}{8}$ " (1888mm)	18 $\frac{1}{2}$ " (470mm)	70 $\frac{1}{2}$ " (1781mm)
*WA200-77 WA200-77LD	22 $\frac{1}{2}$ " (568mm)	81 $\frac{1}{8}$ " (2065mm)	18 $\frac{1}{2}$ " (470mm)	77 $\frac{1}{2}$ " (1959mm)

 NOTE: TO ORDER UL LISTED VERSIONS, ADD U PREFIX TO MODEL NO. EXAMPLE: UWA200-36

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Prices and Specifications Subject to Change Without Notice.

## Standard 19" Cabinets

MODEL NO.	WIDTH	HEIGHT	REAR SECTION DEPTH	CENTER SECTION DEPTH	FRONT SECTION DEPTH	PANEL SPACE
300-17	20 $\frac{1}{2}$ " (524mm)	20 $\frac{1}{2}$ " (521mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	2"(51mm)	17 $\frac{1}{8}$ " (446mm)
300-17LD	20 $\frac{1}{2}$ " (524mm)	20 $\frac{1}{2}$ " (521mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	—	—
300-21	20 $\frac{1}{2}$ " (524mm)	24" (610mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	2"(51mm)	21 $\frac{1}{8}$ " (535mm)
300-21LD	20 $\frac{1}{2}$ " (524mm)	24" (610mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	—	—
300-26	20 $\frac{1}{2}$ " (524mm)	29 $\frac{1}{2}$ " (743mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	2"(51mm)	26 $\frac{1}{8}$ " (668mm)
300-26LD	20 $\frac{1}{2}$ " (524mm)	29 $\frac{1}{2}$ " (743mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	—	—
300-28	20 $\frac{1}{2}$ " (524mm)	31" (787mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	2"(51mm)	28 $\frac{1}{8}$ " (713mm)
300-28LD	20 $\frac{1}{2}$ " (524mm)	31" (787mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	—	—
300-42	20 $\frac{1}{2}$ " (524mm)	45" (1143mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	2"(51mm)	42 $\frac{1}{8}$ " (1068mm)
300-42LD	20 $\frac{1}{2}$ " (524mm)	45" (1143mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	—	—
300-61	20 $\frac{1}{2}$ " (524mm)	64 $\frac{1}{2}$ " (1632mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	2"(51mm)	61 $\frac{1}{8}$ " (1557mm)
300-61LD	20 $\frac{1}{2}$ " (524mm)	64 $\frac{1}{2}$ " (1632mm)	4 $\frac{1}{2}$ " (114mm)	11" (279mm)	—	—
320-17	20 $\frac{1}{2}$ " (524mm)	20 $\frac{1}{2}$ " (521mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	2"(51mm)	17 $\frac{1}{8}$ " (446mm)
320-17LD	20 $\frac{1}{2}$ " (524mm)	20 $\frac{1}{2}$ " (521mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	—	—
320-21	20 $\frac{1}{2}$ " (524mm)	24" (610mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	2"(51mm)	21 $\frac{1}{8}$ " (535mm)
320-21LD	20 $\frac{1}{2}$ " (524mm)	24" (610mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	—	—
320-26	20 $\frac{1}{2}$ " (524mm)	29 $\frac{1}{2}$ " (743mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	2"(51mm)	26 $\frac{1}{8}$ " (668mm)
320-26LD	20 $\frac{1}{2}$ " (524mm)	29 $\frac{1}{2}$ " (743mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	—	—
320-28	20 $\frac{1}{2}$ " (524mm)	31" (787mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	2"(51mm)	28 $\frac{1}{8}$ " (713mm)
320-28LD	20 $\frac{1}{2}$ " (524mm)	31" (787mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	—	—
320-42	20 $\frac{1}{2}$ " (524mm)	45" (1143mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	2"(51mm)	42 $\frac{1}{8}$ " (1068mm)
320-42LD	20 $\frac{1}{2}$ " (524mm)	45" (1143mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	—	—
320-61	20 $\frac{1}{2}$ " (524mm)	64 $\frac{1}{2}$ " (1632mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	2"(51mm)	61 $\frac{1}{8}$ " (1557mm)
320-61LD	20 $\frac{1}{2}$ " (524mm)	64 $\frac{1}{2}$ " (1632mm)	4 $\frac{1}{2}$ " (114mm)	15" (381mm)	—	—

## Sectional Wall Mounting Cabinets

**Series 300/320** sectional wall cabinets are designed for standard 19" (483mm) rack panels. Series 320 is the same as series 300 but has an extra deep center section. Both series are available without the front door. Specify 300LD series or 320LD series. Entire cabinet is constructed of 16 ga. CRS. Back and front sections are one piece construction with angle braces at each corner. All seams and miters are electric welded and ground smooth. Center cabinet is strengthened with 16 ga. braces at each corner. Three larger models have 11 ga. mounting supports on back section. Removable pin hinges are provided for easy assembly and are bolted to cabinet section for greater strength. Knockouts and internal louvers are provided. Center section and rear section are secured with locking rods and alignment pins. Front section is complete with cylinder lock. All models have tapped panel mounting rails and 10-32 pan head screws for panel mounting. If no color is specified, Soundolier Satin Beige will be furnished.

300/320 SERIES



## Desk Top Cabinet

**400 Series** desk top cabinets are completely assembled and constructed from 16 ga. CRS throughout. Each unit is equipped with a locking rear door which is mounted on sturdy slip joint hinges. Internal louvers and recessed panel angles give this compact cabinet a "clean look." The panel mounting angles are tapped for 10-32 screws. Designed to mount most Soundolier cabinet accessories. If no color is specified, Soundolier Satin Beige will be furnished.

400 SERIES

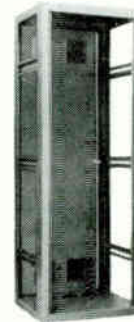


MODEL	WIDTH	HEIGHT	DEPTH	PANEL SPACE
400-12	22 $\frac{1}{2}$ " (565mm)	15 $\frac{1}{2}$ " (394mm)	15 $\frac{1}{2}$ " (391mm)	12 $\frac{1}{2}$ " (314mm)
400-17	22 $\frac{1}{2}$ " (565mm)	20 $\frac{1}{2}$ " (527mm)	15 $\frac{1}{2}$ " (391mm)	17 $\frac{1}{8}$ " (448mm)
400-24	22 $\frac{1}{2}$ " (565mm)	27 $\frac{1}{2}$ " (705mm)	15 $\frac{1}{2}$ " (391mm)	24 $\frac{1}{8}$ " (625mm)
400-31	22 $\frac{1}{2}$ " (565mm)	34 $\frac{1}{2}$ " (883mm)	15 $\frac{1}{2}$ " (391mm)	31 $\frac{1}{8}$ " (803mm)

## 500/502 Series Multi Racks

The **500/502 Series** multi racks are designed to provide maximum flexibility for standard 19" (483mm) rack panels. Series 502 is the same as Series 500 but is deeper for extra equipment area. Multi racks can be readily joined together and because of its open side construction, wiring is simple and convenient. Each basic rack is supplied with a rear door complete with cylinder lock and low profile handle and slip-jointed hinges. Panel mounting rails are adjustable, manufactured of 11 ga. CRS and tapped for 10-32 screws. Construction of all other parts is 16 ga. CRS. Combination knockouts are located on the top, bottom and rear flanges. To facilitate cable entry, three 2 $\frac{1}{2}$ " (71mm) diameter holes are located toward the rear of the base of the rack. Racks are shipped welded and assembled. All metal surfaces receive an iron phosphate coating prior to finishing for rust prevention and maximum paint adhesion. If no color is specified, Soundolier Satin Beige will be furnished.

500 SERIES  
502 SERIES



MODEL NO.	DESCRIPTION	WIDTH	HEIGHT	DEPTH	PANEL SPACE
*500-61	BASIC RACK**	22 $\frac{1}{2}$ " (568mm)	65 $\frac{1}{8}$ " (1665mm)	18 $\frac{1}{2}$ " (470mm)	61 $\frac{1}{8}$ " (1559mm)
*502-61	BASIC RACK**	22 $\frac{1}{2}$ " (568mm)	65 $\frac{1}{8}$ " (1665mm)	25 $\frac{1}{2}$ " (648mm)	61 $\frac{1}{8}$ " (1559mm)
*500-70	BASIC RACK**	22 $\frac{1}{2}$ " (568mm)	74 $\frac{1}{8}$ " (1883mm)	18 $\frac{1}{2}$ " (470mm)	70 $\frac{1}{8}$ " (1781mm)
*502-70	BASIC RACK**	22 $\frac{1}{2}$ " (568mm)	74 $\frac{1}{8}$ " (1883mm)	25 $\frac{1}{2}$ " (648mm)	70 $\frac{1}{8}$ " (1781mm)
*500-77	BASIC RACK**	22 $\frac{1}{2}$ " (568mm)	81 $\frac{1}{8}$ " (2065mm)	19 $\frac{1}{2}$ " (470mm)	77 $\frac{1}{8}$ " (1959mm)
*502-77	BASIC RACK**	22 $\frac{1}{2}$ " (568mm)	81 $\frac{1}{8}$ " (2065mm)	25 $\frac{1}{2}$ " (648mm)	77 $\frac{1}{8}$ " (1959mm)
510-61 (110-61)	FRONT DOOR	21 $\frac{1}{2}$ " (540mm)	63 $\frac{1}{8}$ " (1607mm)	1"	—
510-70 (110-70)	FRONT DOOR	21 $\frac{1}{2}$ " (540mm)	72 $\frac{1}{8}$ " (1830mm)	1"	—
510-77 (110-77)	FRONT DOOR	21 $\frac{1}{2}$ " (540mm)	79 $\frac{1}{8}$ " (2008mm)	1"	—
530-61 (230-61-T)	MTG. RAILS**	—	61 $\frac{1}{8}$ " (1556mm)	—	—
530-70 (230-70-T)	MTG. RAILS**	—	70" (1778mm)	—	—
530-77 (230-77-T)	MTG. RAILS**	—	77" (1956mm)	—	—
540-61	SIDE PANELS	18 $\frac{1}{2}$ " (460mm)	65 $\frac{1}{8}$ " (1662mm)	$\frac{1}{2}$ " (16mm)	—
542-61	SIDE PANELS	25 $\frac{1}{2}$ " (638mm)	65 $\frac{1}{8}$ " (1662mm)	$\frac{1}{2}$ " (16mm)	—
540-70	SIDE PANELS	18 $\frac{1}{2}$ " (460mm)	74 $\frac{1}{8}$ " (1883mm)	$\frac{1}{2}$ " (16mm)	—
542-70	SIDE PANELS	25 $\frac{1}{2}$ " (638mm)	74 $\frac{1}{8}$ " (1883mm)	$\frac{1}{2}$ " (16mm)	—
540-77	SIDE PANELS	18 $\frac{1}{2}$ " (460mm)	81 $\frac{1}{8}$ " (2061mm)	$\frac{1}{2}$ " (16mm)	—
542-77	SIDE PANELS	25 $\frac{1}{2}$ " (638mm)	81 $\frac{1}{8}$ " (2061mm)	$\frac{1}{2}$ " (16mm)	—

\* TO ORDER UL LISTED VERSIONS, ADD U PREFIX TO AVAILABLE MODEL NO. EXAMPLE: U500-61

\*\* BASIC RACK INCLUDES REAR DOOR AND 1 PAIR TAPPED ADJUSTABLE MOUNTING RAILS. ADDITIONAL RAILS ARE OPTIONAL.

**OPTIONS:**  
**Series 510** (Front Door) Mounted on a ridged continuous hinge for right or left hand mounting. Includes lock and handle.

**Series 110FDP** (Plexiglas front door)

**Series 230** (Mounting Rail) Standard rack includes rails. Extra sets available as an option.

**Series 540/542** (Side Panels) — One pair of side panels is required to close either a single basic rack or multiple racks attached. The side panels install easily by hooking them over internal side channels in the basic rack. 540 Series mounts 500 model racks. 542 Series mounts 502 model racks.



**Cabinets and Racks**

600-12



**600-12 Wall Mounted Cabinet**

**Model 600-12** is for surface mount installations accommodating 19"(483mm) rack panel equipment. Constructed of 16 gauge CRS. Includes a locking front door. Internal louvers on each side provide ample ventilation. 11 Ga. CRS panel mounting rails are recessed for a "Flush" look and tapped 10-32 on universal EIA spacing. Panel mounting screws are provided. Three double 1/2"(13mm) and 3/4"(19mm) knockouts are provided on top and bottom for wire entry. Four keyhole slots for wall hanging are provided on back panel. Finish is Soundolier Satin Beige.

MODEL	WIDTH	HEIGHT	DEPTH	PANEL	WEIGHT
600-12	22" (568mm)	15 1/2" (394mm)	15 1/8" (391mm)	12" (314mm)	45 Lbs (20.41 kg)

NOTE: TO ORDER UL LISTED VERSIONS, ADD U PREFIX TO AVAILABLE MODEL NO. EXAMPLE: U600-12

AWR SERIES



**AWR Series**

**AWR Series** Amplifier Wall Cabinets are designed for recessed or surface wall mounting of amplifiers. Available with 3 1/2" and 5 1/4" panel space openings as well as a version for commercial metal stud walls (Model AWR-3-4). Amplifier mounting frame is an integral part of the tilt out door. 10-32 mounting holes are on standard EIA spacing. Right side of chassis has a blank panel area 1 1/2"(38mm) x 5"(127mm) where additional switches may be mounted (AWR-3-4 has no blank panel area). Door and door frame assembly are 14 gauge CRS. Front door is flush with flush keylock and two keys. Door is attached to frame with a piano hinge and has welded door stops to prevent improper closing. Backbox is 16 gauge CRS with 7 knockouts on bottom panel. Tampering is prevented by attaching door frame to backbox internally. Shipped complete, finished inside and out with Soundolier Satin Beige.

MODEL	TYPE	WIDTH	HEIGHT	DEPTH	PANEL SPACE
AWR-3	RECESSED	22" (559mm)	16 1/8" (408mm)	5 9/16" (141mm)	3 1/2" (89mm)
AWR-3S	SURFACE	24 1/8" (616mm)	18 1/8" (464mm)	5 1/8" (130mm)	3 1/2" (89mm)
AWR-3-4	RECESSED	22" (559mm)	16 1/8" (408mm)	4" (102mm)	3 1/2" (89mm)
AWR-5S	SURFACE	24 1/8" (616mm)	18 1/8" (464mm)	7 1/8" (180mm)	5 1/4" (133mm)

800 SERIES



**800 Series Open Relay Racks**

Series 800 open relay racks are for use when a complete enclosure is not required. Heavy 16 ga. CRS construction is used throughout with integral 11 ga. CRS mounting rails. Five models are available in vertical panel space openings from 36 1/4"(921mm) up to 77"(1956mm). Each unit is shipped unassembled with all necessary hardware. Standard finish is Soundolier Satin Beige (Color #31).

MODEL NO.	VERTICAL PANEL SPACE
800-36	36 1/4"(921mm)
800-42	42 1/2"(1070mm)
800-61	61 3/8"(1559mm)
800-70	70 1/2"(1781mm)
800-77	77 1/2"(1959mm)



**Cabinet Accessories**

MODEL	FRONT VERTICAL MOUNTING SPACE	REAR VERTICAL RACK PANEL SPACE	MONITOR PROJECTION	MOUNTS
TMC-10	10 $\frac{1}{2}$ " (270mm)	14" (356mm)	6" (152mm)	100, 200, 500, 502 and 2000 Series Racks
TMC-15	15 $\frac{1}{4}$ " (403mm)	19 $\frac{1}{2}$ " (489mm)	8" (203mm)	

**Television Monitor Adapters**

The **TMC-10** and **TMC-15** are designed to accommodate a variety of sizes of video monitors in a 19 inch panel space. These adapters are easy to attach to the rack and provide the proper slope for easy viewing.

The **TMC-10** and **TMC-15** are constructed of 16 ga. CRS and are mig welded together. Panel mounting rails are punched with .281 dia. holes on universal EIA hole spacing. Panel mounting screws and U clips are provided with each console. Standard colors are Soundolier Satin Beige (No. 31) and Soundolier Royal Blue (No. 35).

TMC SERIES



MOUNTS STANDARD 19" CABINETS			
MODEL	PANEL SPACE	DEPTH	DRAWER EXTENSION
PD10-16	10 $\frac{1}{2}$ "(267mm)	16 $\frac{1}{2}$ "(417mm)	12"(305mm)
PD10-16S	10 $\frac{1}{2}$ "(267mm)	16 $\frac{1}{2}$ "(417mm)	16"(406mm)
PD10-14	10 $\frac{1}{2}$ "(267mm)	14 $\frac{1}{2}$ "(366mm)	10"(254mm)
PD10-14S	10 $\frac{1}{2}$ "(267mm)	14 $\frac{1}{2}$ "(366mm)	14"(356mm)

**Phono Drawers**

**PD Series** phono drawers are constructed of 16 ga. CRS and designed to mount in standard 19"(483mm) rack panel space. The chassis is mounted on slides with nylon bearing rollers. The chassis is complete with 1/4"(6mm) thick walnut grain hardboard base. Partial and full drawer extension models are available. Mounting hardware is supplied. Finish is Soundolier Satin Beige (No. 31).

PD SERIES  
PD/FP SERIES



MOUNTS SELECT SERIES 19" CABINETS			
MODEL	PANEL SPACE	DEPTH	DRAWER EXTENSION
PD10-16SFP	10 $\frac{1}{2}$ "(267mm)	16 $\frac{1}{2}$ "(417mm)	16"(406mm)
PD10-14SFP	10 $\frac{1}{2}$ "(267mm)	14 $\frac{1}{2}$ "(366mm)	14"(356mm)

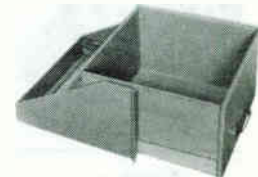
**PD/FP Series** phono drawers are the same as the PD series but are designed with a flush appearance to compliment our select series cabinets. Slide has a tilt-up action for removal of chassis. Two standard colors are offered: Soundolier Royal Blue (No. 35) or Soundolier Satin Beige (No. 31). Suffix model number with color number.

MOUNTS STANDARD 19" CABINETS			
MODEL	PANEL SPACE	DEPTH	DRAWER EXTENSION
SD7-14	7"(178mm)	14 $\frac{1}{2}$ "(366mm)	10"(254mm)
SD7-14S	7"(178mm)	14 $\frac{1}{2}$ "(366mm)	14"(356mm)
SD7-16	7"(178mm)	16 $\frac{1}{2}$ "(417mm)	12"(305mm)
SD7-16S	7"(178mm)	16 $\frac{1}{2}$ "(417mm)	16"(406mm)
SD10-14	10 $\frac{1}{2}$ "(267mm)	14 $\frac{1}{2}$ "(366mm)	10"(254mm)
SD10-14S	10 $\frac{1}{2}$ "(267mm)	14 $\frac{1}{2}$ "(366mm)	14"(356mm)
SD10-16	10 $\frac{1}{2}$ "(267mm)	16 $\frac{1}{2}$ "(417mm)	12"(305mm)
SD10-16S	10 $\frac{1}{2}$ "(267mm)	16 $\frac{1}{2}$ "(417mm)	16"(406mm)

**Storage Drawers**

**SD Series** storage drawers are ideal for tapes, records, microphones and other accessories. Constructed in 16 ga. CRS and designed for standard 19"(483mm) rack panel space. Complete with nylon bearing rollers. Available in a choice of panel space sizes, overall depths and either partial or full drawer extension. Mounting hardware is supplied. Finish is Satin Beige.

SD SERIES  
SD/FP SERIES



MOUNTS SELECT SERIES 19" CABINETS			
MODEL	PANEL SPACE	DEPTH	DRAWER EXTENSION
SD7-14SFP	7"(178mm)	14 $\frac{1}{2}$ "(366mm)	14"(356mm)
SD7-16SFP	7"(178mm)	16 $\frac{1}{2}$ "(417mm)	16"(406mm)
SD10-14SFP	10 $\frac{1}{2}$ "(267mm)	14 $\frac{1}{2}$ "(366mm)	14"(356mm)
SD10-16SFP	10 $\frac{1}{2}$ "(267mm)	16 $\frac{1}{2}$ "(417mm)	16"(406mm)

**SD-FP Series** storage drawers are the same as the SD series but are designed with a flush appearance to compliment our select series cabinets. Slide has a tilt-up action for removal of drawer. Two standard colors are offered: Soundolier Royal Blue (No. 35) or Soundolier Satin Beige (No. 31). Suffix model number with color number.

MOUNTS SELECT SERIES 19" CABINETS			
MODEL	PANEL SPACE	PANEL WIDTH	DRAWER EXTENSION
VTD3-16	3 $\frac{1}{2}$ "(89mm)	19"(483mm)	16"(406mm)

**Video Tape Recorder Slide Out Shelves**

**VTD Series** slide out shelves are designed to hold most commercial video cassette recorders in 19" and 24" wide panel mount cabinets. Units are designed for both front and rear mounting for secure support (extra set of mounting rails required). Extra long slides provide 16" protrusion outside of cabinet. Constructed of heavy gauge CRS and finished in baked semi-gloss Soundolier Satin Beige (color No. 31) or Soundolier Royal Blue (color No. 35) other colors are available.

VTD SERIES



MOUNTS SELECT SERIES 24" CABINETS			
MODEL	PANEL SPACE	PANEL WIDTH	DRAWER EXTENSION
VTD3-1624	3 $\frac{1}{2}$ "(89mm)	24"(610mm)	16"(406mm)

**Cabinet Accessories**

SH2000



**Heavy Duty Cabinet Shelves**

**SH Series** shelves are designed for heavy equipment installations. Heavy gauge CRS construction and front and rear mounting provide secure support (front and rear mounting rails required). The SH2000, SH2400 and SH3000 are used for standard 19", 24" and 30" panel width cabinets respectively. Standard colors are Soundolier Satin Beige (color No. 31) and Soundolier Royal Blue (color No. 35). Additional colors available upon request.

MODEL	DIMENSIONS	MOUNTS CABINET MODELS*
SH2000	17 <sup>1</sup> / <sub>2</sub> "W x 21 <sup>1</sup> / <sub>2</sub> "D x 3 <sup>1</sup> / <sub>8</sub> "H (449mm) x (540mm) x (16mm)	2036, 2042, 2061, 2070, 2077
SH2400	22 <sup>1</sup> / <sub>2</sub> "W x 21 <sup>1</sup> / <sub>2</sub> "D x 3 <sup>1</sup> / <sub>8</sub> "H (576mm) x (540mm) x (16mm)	2436, 2442, 2461, 2470, 2477
SH3000	28 <sup>1</sup> / <sub>2</sub> "W x 21 <sup>1</sup> / <sub>2</sub> "D x 3 <sup>1</sup> / <sub>8</sub> "H (729mm) x (540mm) x (16mm)	3036, 3042, 3061, 3070, 3077

\*Additional set of mounting rails required.

SH19-7



**Shelf Assembly**

**Model SH19-7** shelf assembly is constructed of 16 ga. CRS and is easily mounted to the panel mount rails of all standard 19"(483mm) racks. Requires 7"(178mm) of panel space. Ideal for mounting equipment that does not have an attached rack mount panel. Finish is Soundolier Satin Beige.

MODEL	DIMENSIONS	MOUNTS
SH19-7	17 <sup>1</sup> / <sub>2</sub> "W x 14"D x 7"H (445mm) x (556mm) x (178mm)	Standard 19" Cabinets

DK19-3



**DK19-3 Rack Mounted Writing Surface**

**Model DK19-3** is a hard board walnut grain laminated writing or component surface which mounts 19" racks that do not have a front door. Surface is supported by a heavy gauge CRS bracket. Hardware furnished.

MODEL	DIMENSIONS	MOUNTS
DK19-3	17 <sup>1</sup> / <sub>2</sub> "W x 12"D x 3 <sup>1</sup> / <sub>8</sub> "H (445mm) x (305mm) x (87mm)	Standard 19" Cabinets

AS100 SERIES



**AS100/AS120 Amplifier Shelves**

**AS100 Series** shelves are designed to support electronic equipment. They are wall mounted by use of keyhole type screw holes. Wiring holes are provided on bottom of shelf for convenient wiring access. Front of shelf has a 3/8"(10mm) retaining lip. Construction is of heavy gauge CRS.

MODEL	DIMENSIONS	MOUNTS
AS100	14 <sup>1</sup> / <sub>2</sub> "W x 10 <sup>1</sup> / <sub>2</sub> "D x 7 <sup>1</sup> / <sub>8</sub> "H (362mm) x (256mm) x (202mm)	Wall Surface
AS120	20"W x 12 <sup>1</sup> / <sub>2</sub> "D x 10"H (508mm) x (318mm) x (254mm)	Wall Surface

110FDP  
2000FDP



**Plexiglas Doors**

**110FDP and 2000FDP Series** are equipment cabinet doors with a smoked plexiglas front. Units are constructed of reinforced 16 ga. CRS frame with integral keylock (2 keys furnished), sturdy piano hinge, door pull and mounting hardware. Standard color is Soundolier Satin Beige (color No. 31) for the 110FDP Series and Soundolier Satin Beige (color No. 31) or Royal Blue (color No. 35) for the 2000FDP Series.

MODEL NO.	USE ON FOLLOWING SOUNDOLIER CABINETS
110-36FDP	100-36, WA100-36, 200-36, WA200-36
110-42FDP	100-42, WA100-42, 200-42, WA200-42
110-61FDP	100-61, WA100-61, 500-61, 502-61, 200-61, WA200-61
110-70FDP	100-70, WA100-70, 500-70, 502-70, 200-70, WA200-70
110-77FDP	100-77, WA100-77, 500-77, 502-77, 200-77, WA200-77
2036FDP	2036
2042FDP	2042
2061FDP	2061
2070FDP	2070
2077FDP	2077

**Panel Trim**

**Series PT** — stainless steel trim for covering panel mounting hardware. Complete with clips.

MODEL NO.	VERTICAL PANEL SPACE
PT-36	36 <sup>1</sup> / <sub>4</sub> "(937mm)
PT-42	42 <sup>1</sup> / <sub>4</sub> "(1070mm)
PT-61	61 <sup>1</sup> / <sub>4</sub> "(1559mm)
PT-70	70 <sup>1</sup> / <sub>4</sub> "(1781mm)
PT-77	77 <sup>1</sup> / <sub>4</sub> "(1959mm)

**Cabinet Accessories**

MOUNTS	STANDARD 19"	SELECT SERIES 19"	SELECT SERIES 24"	SELECT SERIES 30"	STANDARD 19"
PANEL SPACE	S19 SERIES CRS	S219 SERIES CRS	S224 SERIES CRS	S230 SERIES CRS	A19 SERIES ALUMINUM
1 1/2" (44mm)	S19-1	S219-1	S224-1	S230-1	A19-1
3 1/2" (89mm)	S19-3	S219-3	S224-3	S230-3	A19-3
5 1/2" (133mm)	S19-5	S219-5	S224-5	S230-5	A19-5
7" (178mm)	S19-7	S219-7	S224-7	S230-7	A19-7
8 1/2" (222mm)	S19-8	S219-8	S224-8	S230-8	A19-8
10 1/2" (267mm)	S19-10	S219-10	S224-10	S230-10	A19-10
12 1/2" (311mm)	S19-12	S219-12	S224-12	S230-12	A19-12
14" (356mm)	S19-14	S219-14	S224-14	S230-14	A19-14
15 1/2" (400mm)	S19-15	S219-15	S224-15	S230-15	A19-15
17 1/2" (445mm)	S19-17	S219-17	S224-17	S230-17	A19-17
19 1/2" (489mm)	S19-19	S219-19	S224-19	S230-19	A19-19
21" (533mm)	S19-21	S219-21	S224-21	S230-21	A19-21
24 1/2" (622mm)	—	S219-24	S224-24	S230-24	—
28" (711mm)	—	S219-28	S224-28	S230-28	—

**Blank Panels**

**S19 Series** panels are constructed of 16 gauge CRS. The top and bottom of the panel are formed for rigidity. The panel mount holes are oblong for adjustment and neater appearance. Finish is Soundolier Satin Beige.

**S219/S224/S230 Series** panels are constructed the same as S19 series but are formed on all four sides to maintain the flush appearance of **Select Series 19"**, 24" and 30" cabinets respectively. S219 will also mount standard 19" racks. Two standard colors are offered: Soundolier Royal Blue (No. 35) or Soundolier Satin Beige (No. 31). Suffix model number with color number.

**A19 Series** panels are constructed of 1/8" (3mm) aluminum with no returns. Panel mount holes are oblong for adjustment and neater appearance. Panels are painted on one side. Finish is Soundolier Satin Beige.

S19 SERIES



A19 Series



MOUNTS	STANDARD 19"	SELECT SERIES 19"
PANEL SPACE	SVP19 SERIES VENT	SVP219 SERIES VENT
1 1/2" (44mm)	SVP19-1	SVP219-1
3 1/2" (89mm)	SVP19-3	SVP219-3
5 1/2" (133mm)	SVP19-5	SVP219-5
7" (178mm)	SVP19-7	SVP219-7
8 1/2" (222mm)	SVP19-8	SVP219-8
10 1/2" (267mm)	SVP19-10	SVP219-10
12 1/2" (311mm)	SVP19-12	SVP219-12

**Vent Panels**

**SVP19 Series** vent panels are constructed of 22 ga. perforated CRS. The top and bottom are formed for rigidity. Panel mount holes are oblong for adjustment and neater appearance. Finish is Soundolier Satin Beige.

**SVP219 Series** are constructed the same as SVP19 but are formed on all four sides. Panels will fit any Soundolier cabinet but are designed to maintain the flush appearance of **Select Series** cabinets. Two standard colors are offered: Soundolier Royal Blue (No. 35) or Soundolier Satin Beige (No. 31). Suffix model number with color number.

SVP19 SERIES



LOUVERED REAR PANEL	
MODEL	MOUNTS ENCLOSURE MODEL
S219-8L	700-14 Turret
S219-14L	700-14 Turret

LOUVERED TOP PANEL	
MODEL	MOUNTS ENCLOSURE MODEL
S219-10L	700-14/700-19 Turret
S219-15L	1044/1047 Console
S219-21L	2036, 2042, 2061, 2070, 2077 Racks
S224-21L	2436, 2442, 2461, 2470, 2477 Racks
S230-21L	3036, 3042, 3061, 3070, 3077 Racks

LOUVERED SIDE PANELS			
LEFT	MODELS		MOUNTS ENCLOSURE
	RIGHT	PAIR	
2036LPL	2036RPL	2036LRPL	2036
2042LPL	2042RPL	2042LRPL	2042
2061LPL	2061RPL	2061LRPL	2061
2070LPL	2070RPL	2070LRPL	2070
2077LPL	2077RPL	2077LRPL	2077

ENCLOSURES WITH LOUVERED PANELS INSTALLED*		
** CABINET WITH LOUVERED TOP	CONSOLE WITH LOUVERED TOP	TURRET WITH LOUVERED TOP AND REAR
2036LV	1044LV	700-14LV
2042LV	1044.8LV	700-10LV
2061LV	1047LV	
2070LV		
2077LV		

\*NOTE: Side panels must be ordered separately.  
\*\*NOTE: 2400 and 3000 Select Series cabinets are available with louvered top factory installed upon request.

**Select Series Louvered Panels**

Optional louvered panels for **Select Series** cabinets are designed to provide air flow and to dissipate equipment generated heat from within an enclosure. Top, side and rear panels are available for models listed. (Louvered rear panels are standard for **Select Series** cabinets and consoles). All panels are constructed of 16 gauge CRS with either two or four sets of nine internal louvers. Panels incorporate a 1/4" return on all four sides to maintain the flush appearance of **Select Series** Enclosures. All sizes and hole spacing conform to EIA Standards. Standard colors are Soundolier Satin Beige (color No. 31) and Soundolier Royal Blue (color No. 35). Additional colors are available.

NOTE: These panels are optional for models noted and may be ordered separately for use wherever desired.

TOP AND REAR PANELS



SIDE PANELS





# ATLAS/SOUNDOLIER

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# CABINET ACCESSORIES

## Cabinet Accessories

CT1020



### Roller Truck

**Model CT1020** roller truck is constructed of 16 ga. CRS and is designed for Soundolier's 100, 200, WA100 and WA200 series cabinets only. Finish is Soundolier Satin Beige. Other colors are available.

CT1020 ROLLER TRUCK		
DIMENSIONS	LOAD CAPACITY	MOUNTS CABINET SERIES
24 1/4" x 21" (630mm) x (533mm)	400 lbs (181 kg)	100, 200, WA100 and WA200 only

CS-8PR



### Select Series Casters

**CS-8PR** Swivel casters must be used with **Select Series** racks and consoles which have caster plates ready to mount CS-8PR casters. Each CS-8PR includes 2 swivel casters. An individual rack or console requires 4 casters or two CS-8PR. Adjoining cabinets require only 2 casters (one CS-8PR) at juncture.

## Fan Panels

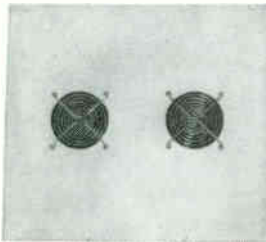
ES2195-71 (FRONT)



ES2195-71 (BACK)



ES21921-122



### Fan Panels

**ES** and **IS** Series fan panel assemblies provide exhaust or intake cooling respectively for electronic equipment mounted in standard 19" EIA cabinets. Units are available in single or dual fan models with 70 CFM or 120 CFM fan speeds. Recessed and flush mounting configurations are available for top or front mounting on standard cabinet mounting rails. Fan units are constructed of nickel chrome plated wire grille backed with stainless steel wire mesh screen assembled on standard 19" EIA 16 gauge CRS panels. Standard finish is Soundolier Satin Beige (color No. 31). Additional colors are available.

MODEL	DESCRIPTION	PANEL SPACE
ES195-71	Exhaust, 1 Fan, 70 cfm, Recessed Panel	5 1/4" (133mm)
ES195-72	Exhaust, 2 Fan, 70 cfm, Recessed Panel	5 1/4" (133mm)
ES195-121	Exhaust, 1 Fan, 120 cfm, Recessed Panel	5 1/4" (133mm)
ES195-122	Exhaust, 2 Fan, 120 cfm, Recessed Panel	5 1/4" (133mm)
ES2195-71	Exhaust, 1 Fan, 70 cfm, Flush Panel	5 1/4" (133mm)
ES2195-72	Exhaust, 2 Fan, 70 cfm, Flush Panel	5 1/4" (133mm)
ES2195-121	Exhaust, 1 Fan, 120 cfm, Flush Panel	5 1/4" (133mm)
ES2195-122	Exhaust, 2 Fan, 120 cfm, Flush Panel	5 1/4" (133mm)
ES21921-71	Exhaust, 1 Fan, 70 cfm, Flush Panel	21" (533mm)
ES21921-72	Exhaust, 2 Fan, 70 cfm, Flush Panel	21" (533mm)
ES21921-121	Exhaust, 1 Fan, 120 cfm, Flush Panel	21" (533mm)
ES21921-122	Exhaust, 2 Fan, 120 cfm, Flush Panel	21" (533mm)
IS195-71	Intake, 1 Fan, 70 cfm, Recessed Panel	5 1/4" (133mm)
IS195-72	Intake, 2 Fan, 70 cfm, Recessed Panel	5 1/4" (133mm)
IS195-121	Intake, 1 Fan, 120 cfm, Recessed Panel	5 1/4" (133mm)
IS195-122	Intake, 2 Fan, 120 cfm, Recessed Panel	5 1/4" (133mm)
IS2195-71	Intake, 1 Fan, 70 cfm, Flush Panel	5 1/4" (133mm)
IS2195-72	Intake, 2 Fan, 70 cfm, Flush Panel	5 1/4" (133mm)
IS2195-121	Intake, 1 Fan, 120 cfm, Flush Panel	5 1/4" (133mm)
IS2195-122	Intake, 2 Fan, 120 cfm, Flush Panel	5 1/4" (133mm)
IS21921-71	Intake, 1 Fan, 70 cfm, Flush Panel	21" (533mm)
IS21921-72	Intake, 2 Fan, 70 cfm, Flush Panel	21" (533mm)
IS21921-121	Intake, 1 Fan, 120 cfm, Flush Panel	21" (533mm)
IS21921-122	Intake, 2 Fan, 120 cfm, Flush Panel	21" (533mm)

## AC Power Strip



### AC Power Strip

**ACS-1** is designed for equipment cabinet installation. Units provide six UL Listed, grounded duplex outlets with UL Listed power cord. Each assembly includes necessary hardware. For your convenience, appropriate Soundolier cabinets may be ordered with ACS-1 Power Strips pre-mounted. Consult factory for details. ACS-1 may also be used in conjunction with Soundolier fan assemblies and power panels to provide a complete cooling and AC power distribution system.

MODEL NO.	DESCRIPTION
ACS-1	6 Duplex Outlet Power Strip

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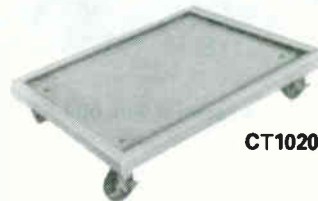
# CABINET ACCESSORIES

## AC Power Panels

**Model ACR-193** is an AC master power panel for standard 19" (483mm) rack mounting requiring only 3-1/2" (89mm) of vertical panel space. Panel is constructed of 16 gauge CRS and standard color is Soundolier Satin Beige (No. 31). Complete list of colors available. The main switch is a DPST rocker type and switches both sides of the power line. A red jewel, neon pilot lite indicates whether AC power is on or off. Eight outlets are provided, six controlled by main switch and two non-switched outlets. Each outlet is grounded. A 15 amp fuse is provided. Back of panel has a 7/8" (22mm) hole which accepts 1/2" (13mm) conduit fittings.

**Model ACK-193** is identical to ACR-193 except a key switch is used for security. Two keys are provided.

**Model ACR-293 and ACK-293** are the same as those above except they have a return on all four sides to maintain flush appearance of Soundolier select series cabinets.



CT1020



ACR-193



ACK-193

SPECIFICATIONS		
	ACR-193/293	ACK-193/293
PANEL RATING	15 AMPS	15 AMPS
SWITCH RATING	15 AMPS	15 AMPS
OUTLETS SWITCHED	6	6
OUTLETS UNSWITCHED	2	2
PILOT LITE	YES	YES
PANEL SIZE	19" x 3 1/2" (483 x 89mm)	19" x 3 1/2" (483 x 89mm)

## Roller Truck

**Model CT1020** roller truck is constructed of 16 gauge CRS and is designed for Soundolier's 100, 200, WA100 and WA200 series cabinets only. Finish is Satin Beige. Complete list of colors available. The roller truck is complete with four 3" (76mm) ball bearing casters. Two casters are the rigid type and two are the swivel type. The swivel casters are also the locking type. The total load capacity is 400 lbs (181kg). Dimensions—24-13/16" (630mm) x 21" (533mm).

## Monitor Panels

**Model MVX-193** monitor panel for standard 19" (483mm) rack mounting requiring only 3-1/2" (89mm) of vertical panel space. Panel is constructed of 16 gauge CRS and standard color is Soundolier Satin Beige (No. 31). Complete list of colors available. Unit can be used with any multi-channel sound system. It provides aural and visual monitoring with the turn of a switch. A double pole, six position switch is wired to supply five program channels with a sixth "off" position. Each channel connects to two screw terminals on the rear of the panel. A 70 volt or 25 volt line may be monitored. A 3" (76mm) speaker is used for aural monitoring connected through a potentiometer for level selection. Potentiometer and channel selector are on a black plate with white nomenclature. Speaker grille is slightly raised. The VU meter has a long life thermoplastic case. The meter movement is a moving coil design and has a type A meter scale.

**Model MVX-293** is identical to MVX-193 except it has a return on all four sides to maintain flush appearance of Select Series cabinets and Soundolier Royal Blue (No. 35) is offered as a second standard color.

**Model MX-193** is identical to MVX-193 except the VU meter is not provided.

**Model MX-293** is identical to MVX-293 except the VU meter is not provided.

**Model MVX-195** is identical to the MVX-193 except a high compliance Soundolier 4" (102mm) FC104 speaker is used for better aural monitoring. A high quality Soundolier HT-82 line transformer is also used. Panel height is 5-1/4" (133mm).

**Model MVX-295** is identical with the MVX-293 except a high compliance Soundolier 4" (102mm) FC104 speaker is used for better aural monitoring. A high quality Soundolier HT-82 line transformer is also used. Panel height is 5-1/4" (133mm).

**Model MVX-1910** is identical to MVX-193 except the panel is 10-1/2" (267mm) high and the monitor speaker is an 8" (203mm) unit.

**Model MVX-2910** is identical to MVX-293 except the panel is 10-1/2" (267mm) high and the monitor speaker is an 8" (203mm) unit.

**Model MX-1910** is identical to MVX-1910 except a VU meter is not provided.

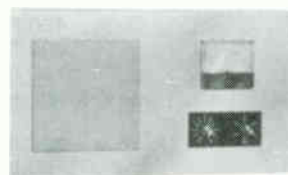
**Model MX-2910** is identical to MVX-2910 except a VU meter is not provided.



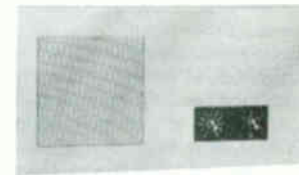
MVX-193



MX-193



MVX-1910



MX-1910

SPECIFICATIONS					
MONITOR PANELS	MVX-193/293	MX-193/293	MVX-195/295	MVX-1910/2910	MX-1910/2910
CHANNELS	5	5	5	5	5
MONITOR VOLUME CONTROL	YES	YES	YES	YES	YES
LOUDSPEAKER SIZE	3"(76mm)	3"(76mm)	4"(102mm)	8"(203mm)	8"(203mm)
VU METER	YES	NO	YES	YES	NO
METER ADJUST	YES	NO	YES	YES	NO
PANEL SIZE	19" x 3 1/2" (483 x 89mm)	19" x 3 1/2" (483 x 89mm)	19" x 5 1/4" (483 x 133mm)	19" x 10 1/2" (483 x 267mm)	19" x 10 1/2" (483 x 267mm)
PANEL MATERIAL	CRS	CRS	CRS	CRS	CRS
TERMINALS	SCREW	SCREW	SCREW	SCREW	SCREW

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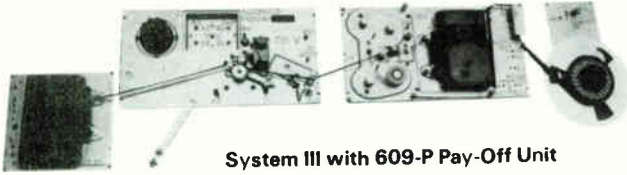
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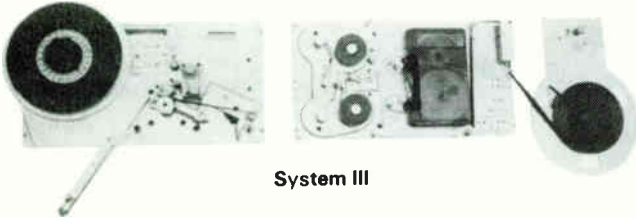
# AUDICO INC.

219 Crossen  
Elk Grove, IL 60007  
(312) 640-1030  
Telex: 49-92690 AUDCO UI

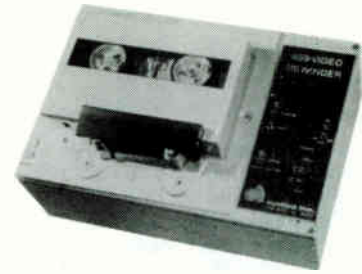
# TAPE LOADING SYSTEMS/ACCESSORIES



System III with 609-P Pay-Off Unit



System III



609-R Rewinder



Hockey Puck Splicer

## Video Tape Loading Systems U-matic, VHS and Beta

System can be equipped to load and reload U-matic, VHS, Beta, 8mm, M-II, Betacam and 19mm video cassettes and cookies, plus load 1" and Nagra reels and audio cassettes, carts, and reels. Video cue-tone available. Tape loading speed is 135" per second. Counter allows selection of exact tape length desired. Built-in cleaner can wipe video tape during loading or rewinding.

All systems consist of a 751-V delivery unit and an 829 receiving unit with one interchangeable take-up module. Systems II and III also include the 29R unloading unit. The 829 receiving unit, which contains a processor that continuously monitors in-path tape loading tension, may be upgraded: System I or II to System II or System III.

Systems I and II require only one take-up module for both VHS and Beta; System III requires separate modules for each format. U-matic modules handle both KCA and KCS housings. When ordering, specify desired module—U-matic or 1/2" on System I or II; U-matic, VHS or Beta on System III.

**System I Video Loader** Loads new tape into new cassette housing . . . . . \$6,550.00

**System II Video Loader/Reloader** Has additional feature that automatically removes old tape from cassette housing without taking them apart, and thus allows for their convenient reuse. . . . . 7,550.00

**System III Video Loader/Reloader/Rewinder** Adds ability to rewind and fast-forward cassettes, and to wipe tape while rewinding. When reloading, tape can be removed from either reel . . . . . 7,850.00

**Take-up Modules** Extra interchangeable modules (in addition to one selected with Receiving Unit).

Load (All Systems) . . . . . 450.00

Load/Reload (Systems II and III) . . . . . 600.00

Load/Reload/Rewind (System III) . . . . . 750.00

**Audio Tape Loading Options** (1) Audio Cassettes, (2) Type-A Broadcast and 8-track Carts, and (3) Nagra Reels.

**First Option** . . . . . 325.00

**Second and Third Option (each)** . . . . . 50.00

**609-P Pay-off Unit** Used with video loader to transfer tape directly from a cassette housing or cookie into another housing. Mounts to left of Delivery Unit which counts desired length. Stops on leader and indicates length loaded. VHS unit transfers tape from VHS housing to both VHS and Beta housings.

**U-matic or VHS** . . . . . \$ 975.00

**U-matic and VHS** . . . . . 1,175.00

**Economy Video Loader** Loads new tape into new cassette housings. Includes 751-V Delivery Unit and 609-T Take-up Unit with tape wiper and one Take-up Module, either 1/2" (VHS and Beta) or U-matic, Audio tape loading options also available . . . . . 4,850.00

**Second Take-Up Module** . . . . . 450.00

## Video Cassette Rewinder, Cyclor, Counter, Unloader

**609-R Video Cassette Rewinder, Cyclor, Counter, Unloader** Rewinds and fast-forwards U-matic, VHS and Beta Cassettes. Cyclor fast-forwards tape to leader and then automatically rewinds it. Counter displays tape length in cassette in feet. These units can also be used as pay-off unit or as take-up unit on Economy Loader.

**609-R** Rewinder/Cyclor—One format: U-matic, VHS, or Beta . . . . . \$1,125.00  
Each additional format . . . . . 700.00

**609-RC** Rewinder/Cyclor/Counter—One format: U-matic, VHS or Beta . . . . . 1,400.00  
Each additional format . . . . . 975.00

**29-R** Unloader—When added to 609-R or 609-RC, removes old tape from housings so they can be reused . . . . . 850.00

## Video Tape Splicers

**Hockey Puck Splicer** Tape and leader are butted together and held in place by vacuum holes in tape slot. Splicing tape is placed on top of block across ends to be spliced. The "puck", a precision fitting, hardened metal roller, is rolled down the slot and cuts and applies splicing tape in one motion.

1/2" Tape . . . . . \$575.00

3/4" Tape . . . . . 575.00

**Vacuum Source** The Hockey Puck Splicer requires a vacuum source for tape hold-down, either a small vacuum pump or a compressed air source connected through a venturi.

**Venturi Kit** Consists of venturi, flow control and fittings to generate vacuum from compressed air source . . . . . \$ 75.00

**Vacuum Pump** . . . . . 125.00

Costs for various formats and features, including optional Hockey Puck Splicer(s) and vacuum pump.

Economy Loader	System I	System II	System III
U-matic (or one 1/2" format on System III)			
\$5,550.00	\$7,250.00	\$8,250.00	\$8,550.00
VHS and Beta			
\$5,550.00	\$7,250.00	\$8,250.00	\$9,300.00
U-matic, VHS and Beta (two Hockey Puck Splicers)			
\$6,575.00	\$7,250.00	\$9,425.00	\$10,625.00

Above System III for U-matic, Plus:

**U-matic Pay-off Unit** . . . . . \$9,525.00

**VHS/Beta System II Load/Reload Module, and 1/2" Hockey Puck Splicer** . . . . . \$9,725.00

Add \$325.00 to above prices for audio cassette or broadcast cart loading option; add \$375.00 for both.

Subtract \$50.00 from above prices for Venturi Kit instead of Vacuum Pump.



# AUDIO KINETICS, INC.

P.O. Box 1260  
Caramel, NY 10512  
(914) 225-0380  
TWX: 910-250-2437 FAX: (914) 225-0382

# MACHINE CONTROLLERS/ SYNCHRONIZERS/ EDITING SYSTEMS

## Q•LOCK

### Professional Machine Controllers, Synchronizers and Editing Systems

- 2, 3, 4 or multi-machine systems
- EBU/SMPT E time code based
- 2 levels of control for different budgets and applications
- Interfaces to virtually all tape transports
- Synchronizes video, audio and film machines
- Integral time code generator and readers

All Q•LOCK machine control systems use standard EBU/SMPT E time code as the reference for synchronization, and each configuration includes as standard a time code generator capable of delivering 24, 25, 30 fps and drop-frame codes.

Event control of remote equipment is available, with two levels of central system control.

## Full Central Control

### The Q•LOCK 4•10 Series

For most aspects of post-production, some type of central control is required, where the system, in whole or in part, is always under the direct control of the engineer.

Speed is of the essence, and time is money. Q•LOCK has been designed to keep post-production time to a minimum.

The Q•LOCK 4•10-A Series is just such a system. Based on the enormously successful Q•LOCK 3•10 products, the 4•10-A System consists of a computer frame and the Alpha Controller.

The 4•10-E Series uses the Eclipse Editor, an intelligent controller with a clear, multiline display of system status and messages.

The 4•10 frame contains the main control electronics—machine interfaces, time code generator, time code readers for each machine, and the main processor card governing the synchronizing routines. Four full machine interfaces may be installed. In addition, there are several relays accessible to the operator, with connections via the "services" socket on the rear of the frame.

**Event Relays.** Three single "make" relays for firing external equipment from time code addresses.

**"On Air" Relay.** A change-over relay which closes when a record command is issued, and opens when the un-record is fired.

**Sync Unmute.** This relay only closes when all machines are cued, or in synchronized play, which means audio can be muted at other times.

The integral time code generator has separate feeds to all machines, and may be referenced to either the internal crystal or an external source such as video syncs.

Selection of whether a machine is designated master or slave is made via switches on the front of the cards in the frame—there is no need to recable any machines just for master status.

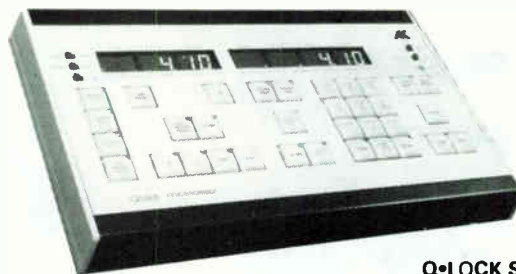
## Q•LOCK 4•10 + Alpha

The Alpha Controller will control and synchronize 2 or 3 machines out of the maximum "pool" of 4 (the 4<sup>th</sup> machine is selected to be "off line").

Full transport control of individual machines or the whole group is provided, with industry standard locator functions and 10 locate/numeric memories. The integral time code generator may be preset to any desired value, and genlock software allows code to be restriped or generated for consistency, in time code value and rate, with existing tapes.

A special version of the Alpha Controller, the Beta, has been specifically designed for flush mounting in a mixing console, with a width of 160mm (typically 4 modules).

Offset calculations can be performed by the system automatically, while automatic record drop-in and drop-out can be programmed on-the-fly or from an edit list.



Q•LOCK Synchronizer



Eclipse Editor

Specialist software is available for particular tasks which demand repetitive routines, such as dialogue replacement (dubbing or looping). Each package reduces to single keystrokes routines which normally would require several. Such software is available (as an option) for Sound Effects Assembly (Q•SOFT-SFX), Dialogue Replacement (Q•SOFT-ADR), Audio/Video Conforming (Q•SOFT-CONFORM), and Automatic Machine Selection (Q•SOFT-RELAY).

A typical setup for the Q•LOCK 4•10 is with a U-matic Video Machine as master, a multitrack machine as Slave 1 and a 2-track audio machine as Slave 2. This configuration is typical of that used in video-audio post-production, where music, sound effects and dialogue are transferred from the twin-track, or direct, onto the multitrack in sync with picture, for later mix-down and layback onto video.

## Q•LOCK 4•10 + Eclipse

The Eclipse Editor may be used as the central controller for either the 4•10 computer, giving full four machine editing or combined with a future family of synchronizers expandable up to 32 machines on the SMPTE studio bus system.

Eclipse offers 12 user-programmable keys so that engineers derive a routine of keystrokes and execute it with one key depression.

Dual tasking may be performed: any single machine may be accessed for other functions while the group is editing, saving possibly large amounts of on-line studio time—for example, some sound effects may be spotted while an audio tape is being laid back to video.

Each event relay with the 4•10 frame may be associated with 3 time code cue points.

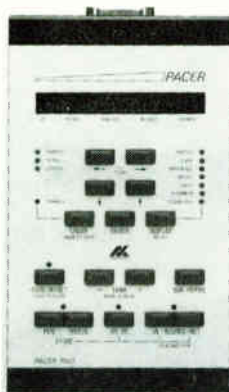
Up to 100 loop memories are available, each loop containing the data for Loop Start, Loop End, Record-In, Record-Out, and machine configuration and offsets.

# AUDIO KINETICS, INC.

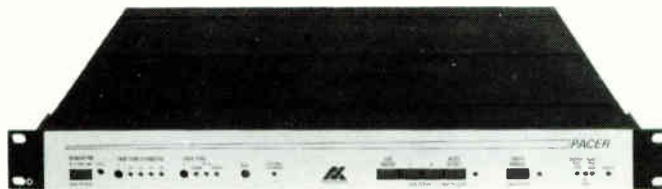
P.O. Box 1260  
Caramel, NY 10512  
(914) 225-0380

TWX: 910-250-2437 FAX: (914) 225-0382

# SYNCHRONIZATION SYSTEM/ TIME CODE GENERATOR/READER



Pacer Pad



Pacer



Striper

## Pacer Synchronizer/Generator/Resolver

- Easy to operate • Complete two-machine synchronization • Integral time code generator • Program select for all popular slave machines • Compatible with off-line and on-line editing systems • "Pacer Pad" option for increased flexibility • High-speed serial interface for control expansion

The Pacer has been designed with a wide range of applications in mind: Interlinking with VT edit facilities; transferring sound from videotape to a master audio machine; final layback to video; hooking up two multi-track audio machines — any application where you need two machines running in sync with subframe accuracy and maximum stability.

The compact 1U rackmounting Pacer package contains everything you need. All you may wish to add is the Pacer Pad—a remote keypad and display terminal adding locate facilities and record drop-in/out functions. It connects to an industry standard RS-232-422 serial interface which can be used for interfacing a PC, or a video editing system for centralized, flexible control applications.

A multistandard time code generator is built into the Pacer package, so you need no extra equipment. It can be reset or jam-synced to incoming code as required.

Two high-speed code readers monitor master and slave positions. As well as reading time code, they automatically switch to reading tachometer and directional information if time code is absent.

The slave interface is simply and quickly set up for your machine—all you need is the appropriate cable and your selection of the slave machine "file" from the library ROM. Interface software is provided for all the major tape machine families.

The "calibrate" mode rapidly learns your machine's characteristics and stores them in memory. Then, pressing "chase enable" ensures that the slave stays as close as possible to the master.

Time code offsets are simply and quickly programmed from the front-panel. Battery-backed intelligence means that learned machine characteristics, tachometer rates, time code offsets and the like are retained even when the system is switched off.

Three types of lock are selectable: Frame-lock — utilizing constant master/slave time code comparison; Auto-lock — utilizing frame edges for reference after initial time code sync, and therefore allowing the use of discontinuous time code (for example as a result of editing) and offsets; and phase-lock — where sync is achieved via frame edge and phase information only. This facilitates the use of external sync references—such as house video sync—for a wider range of applications requiring "genlock" and resolving capabilities.

## Striper Time Code Generator And Reader With "Quickstripe"

- Multistandard time code generator • Code output at 1X, 2X and 4X playspeed • Reads time code and user bits • Genlock facility, in forward and reverse • Presettable generator start times • Auto preroll generation

Striper can output code at 2 or 4 times playspeed, simply switch the machine to the higher speeds and record time code in a half or even a quarter of the time.

For example, if your machine has speeds of 15 and 30 ips, and you want code on tape at 15 ips, set the machine to 30 ips, Striper to 2X speed and save half the time.

The generator can be referenced to internal crystal, or external pulse such as video sync or the frame rate output of the Audio Kinetics Gearbox unit. It is also compatible with the revised EBU/SMPTE format with the included parity bit.

This combination offers a sophisticated time code standards conversion system.

Striper can also be preset to any hour start from 0 to 10 hours, with an option to automatically start with a 15 second preroll. The generator level is user adjustable on the front panel.

Striper can also be set to read time code, or user bits, and so new code can be generated from bad code.

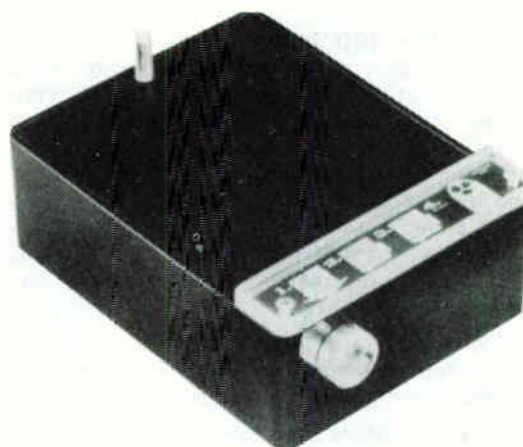
An intelligent time code reader front-end detects time code direction and sets the generator direction to the same when the JAM command is given, so code can also be generated backwards to, for example, extend code at the start of material to provide pre-roll for synchronizers. This is easily achieved by turning the tape over and feeding the existing code into Striper, pressing JAM and recording the extending code over the end (start) of the old code. The reader can also display User Bits, and a run/stop key allows the display to be held. A "good code" LED shows whether incoming code is suitable for jamming.

The run/stop key can also stop the generator, and then continue from the same point.

Striper also has a comprehensive self-diagnostic program, so in the unlikely event of IC failure, the display will show which IC is faulty.

**TD-1B TAPE DEGAUSSER**

- Erases audio, video, computer, data tape, magnetic films, cartridges and cassettes
- For tapes up to 3/4 inch
- Accommodates up to 10-1/2 inch NAB reels
- Provides a wide focused magnetic field to assure complete erasure
- Positive results every time with a simple two pass operation for broadcast NAB audio cartridges
- Transient protection to prevent permanent tape damage
- Internal fuse protection
- 115 and 220 volt, 50-60Hz models available



**TD-1B—\$119.00**  
(115V 50-60Hz)

**TD-1BF—\$128.00**  
(230V 50-60Hz)

**Power**

**Requirements:** TD-1B 115VAC ± 10% 50-60Hz

TD-1BF 230VAC ± 10% 50-60Hz

**Duty Cycle:** One minute ON — Three minutes OFF

**Dimensions:** 5-1/4" x 7-1/4" x 3"

**Weight:** Net: 9-1/2 lbs. Shipping: 10 lbs.

**Reel Size:** Up to 10-1/2" in diameter. Removable center post for large carts

**TD-4A TAPE DEGAUSSER**

- Erases audio, video, data tapes, U-Matic cassettes up to 750 oersteds, reels to 16 inches in diameter. See performance chart
- Provides 2550 effective gauss field
- Built-in timer has adjustable "on" cycle and automatic shut-off
- Automatic cooling fan operation
- Overheat light with automatic thermal protection prevents exceeding duty cycle on "Hi" position. Thermal protection resets to normal operation automatically
- Hi-Lo operation allows continuous duty erasing on Lo position for most tapes. See performance chart
- Standard 5/16 inch center post with 3 inch NAB hub supplied
- Conservative design assures long, reliable performance



Erases audio, video, computer, and cartridge tape.

MODEL NUMBER	LINE VOLTAGE	LINE FREQUENCY	LINE CURRENT		MAXIMUM GAUSS		PRICE
			HI	LO	HI	LO	
TD-4A-115-60	110-125VAC	60Hz	8A	4A	2550	2000	\$895.00
TD-4A-115-50	110-125VAC	50Hz	8A	4A	2550	2000	920.00
TD-4A-230-60	220-250VAC	60Hz	4A	2A	2550	2000	955.00
TD-4A-230-50	220-250VAC	50Hz	4A	2A	2550	2000	955.00

**Duty Cycle:** Hi position 50%, 20 minutes. Lo position — continuous

**Dimensions:** 13" x 17" x 4"

**Shipping**

**Weight:** 46 lbs.

**TD-5 TAPE DEGAUSSER**

- Erases audio, video, data U-Matic cassettes up to 1100 oersteds and 16" diameter
- Provides 3700 effective gauss field
- Built-in timer has adjustable "On" cycle and automatic shut-off
- Automatic cooling fan operation
- Overheat light and automatic thermal protection prevents exceeding duty cycle on "Hi" position, resets to allow normal operation
- Hi-lo selectable operation allows continuous duty erasing on Lo position for many tapes. See performance chart
- Standard 5/16" center post with 3 NAB hub supplied
- Conservative design assures long reliable performance



Erases audio, video, computer, and cartridge tape.

MODEL NUMBER	LINE VOLTAGE	LINE FREQUENCY	LINE CURRENT		MAXIMUM GAUSS		PRICE
			HI	LO	HI	LO	
TD-5-115-60	110-125VAC	60Hz	10	4	3700	2600	\$ 995.00
TD-5-115-50	110-125VAC	50Hz	10	4	3700	2600	1050.00
TD-5-230-60	220-250VAC	60Hz	5	2	3700	2600	1085.00
TD-5-230-50	220-250VAC	50Hz	5	2	3700	2600	1085.00

**Duty Cycle:** Hi position 50%, 20 minutes. Lo position — continuous

**Dimensions:** 13" x 17" x 4"

**Shipping**

**Weight:** 46 lb.



# AUTOMATIC DEVICES CO.

2121 S. 12th St.  
Allentown, PA 18103  
(215) 797-6000

# CURTAIN TRACKS

## Curtain Tracks Rig-I-Flex 140 Series

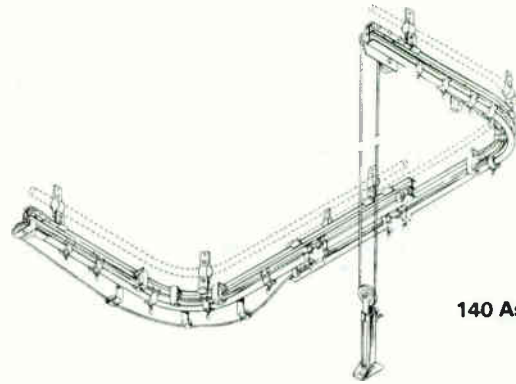
Rig-I-Flex is a versatile I-beam track which has been engineered for both curved (Model 140) and straight (Model 141) cord traverses as well as for "walk along" use (Model 142). It was especially designed for heavy curtains on stages and TV studios and for enclosing areas in industrial plants. The 140 utilizes spindles and idler brackets (charged as extras) for guiding the operating cord along curved areas. The track channel is curved on-the-job to a suggested minimum radius of 2'. This traveler cannot be used for reverse curving or serpentine layouts.

The 140-R, 141-R and 142-R are identical to the 140, 141 and 142 except that the carriers consist of nylon wheels (without ball-bearings) which permit quieter track operation.

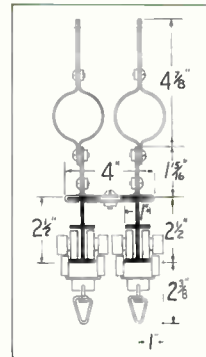
When ordering, advise whether the track is to be ceiling-mounted or suspended.

A sketch or template must accompany each inquiry or order for the 140 Rig-I-Flex curved tracks. Only in this way can the required number of Spindles and Idler Brackets be supplied.

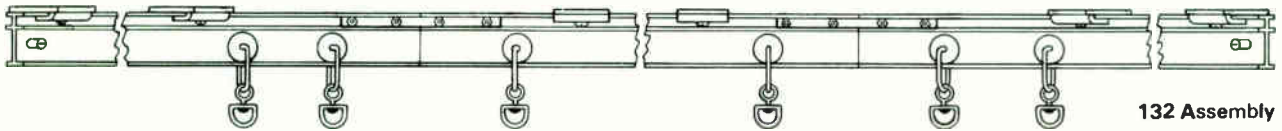
- 140** Rig-I-Flex Track \* except 1458', 1459', 1460'
- 140R** Rig-I-Flex Track \* except 1458', 1459', 1460'
- 141** Rig-I-Flex Track \*
- 141R** Rig-I-Flex Track \*
- 142** Rig-I-Flex Track \*
- 142R** Rig-I-Flex Track \*



140 Assembly



Cross Section of Track at Center Overlap



132 Assembly

## 132 Flex-I-Trac 130 Series

Flex-I-Trac is a light-to-medium duty cyciorama I-beam type track designed for medium weight stage and TV studio curtains, and for enclosing industrial welding booths.

This economically priced track unit is supplied for "walk-along" operation only with no cord, pulleys or master carriers furnished. The track channel is curved on-the-job to virtually any degree or radius.

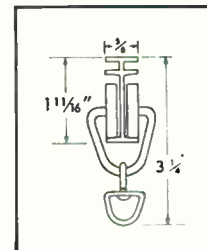
For most satisfactory track operation the track channel should be solidly anchored to the ceiling with the use of ceiling clamps. When ordering, advise whether the track is to be ceiling-mounted or suspended.

132-B is identical to the 132 except that #1337 Nylon Ball-Bearing Single Carriers are used instead of #1301.

132-C is identical to the 132 except that #1337-A Nylon Ball-Bearing Single Carriers with non-binding lips are used instead of #1301, and #1352 Master Carriers are used.

- 132** 26 Flex-I-Trac Track \*
- 132B** 26 Flex-I-Trac Track \*
- 132C** 26 Flex-I-Trac Track \*

\*Complete with all necessary accessories



Cross Section of Track

# AUTOMATION ASSOCIATES, INC.

P.O. Box 90  
Bryn Mawr, PA 19010  
(215) 642-0200

# ADAPTOR MODULES/KITS/ COMMUNICATIONS ADAPTOR

## HOBNOB® Serial Adaptor Module (SAM)

HOBNOB is a serial adaptor module (SAM) in easily and quickly installed kit form. HOBNOB, when installed into a Sony VP-5000 or VO-5600 VCR, converts the standard remote port to function as the Sony VO-5800 and VO-5850 remote control port.

HOBNOB provides the full range of forward and reverse search from edit controllers or search modules such as the RM-440 or RM-580. HOBNOB accurately responds to all edit command sequences. Therefore, the much lower cost VCP's and VCR's can be used in source positions of most low to medium priced editing systems.

HOBNOB also provides a front panel mounted search dial to the VP-5000 and VO-5600 allowing full bi-directional/variable, local/manual shuttle control. The search dial provides linear speed control from 0 to 9 times play. Popular applications for this feature include off-line manual reviewing and re-cueing without the need of tying up more expensive models.

HOBNOB (in kit form) . . . . . \$595.00

## SCA-58 VTR Serial Communications Adaptor

The SCA-58 is a micro-processor based VTR serial communications adaptor, designed to increase the editing flexibility for the Sony VO-5800 and the VO-5850 industrial video tape recorders.

The SCA-58 provides the capability of adding one or more VO-5850 or VO-5800 to the source side of Sony BVE-800 editing system or editing systems other than Sony that utilize the RS-422 SMPTE BUS as well as the Sony 800 protocol serial communications format. A built-in SMPTE high speed time code reader insures absolute editing accuracy.

The SCA-58 is a stand alone, plug-in, VTR powered module, which can be easily attached to the rear panel of the Sony 5800/5850 recorders. A single SCA-58 may also be utilized in conjunction with a Sony BVU-800 Broadcast VTR, for the purpose of VTR to VTR editing. The SCA-58 allows the use of low cost VTR's in high level editing situations, saving users thousands of dollars over the cost of broadcast type VTR's.

SCA-58 . . . . . \$1,295.00

HOBNOB kits are also available for Sony VP-5020 as well as for type 7 and type 9 VCRs.

NOB-IT Kit provides front panel search dial only for Sony VP-5000/5600 VCRs . . . . . \$389.00

HOB-IT Kit provides editor interface only for Sony VP-5000/5600 VCRs. . . . . \$389.00

DUB-IT Kit provides Y-688 Dub-out for Sony VP-5000/5600 Sony DUB connector is provided . . . . . \$389.00

DUB-IT 5600 Kit w/Dub-in provides both Y-688 Dub-out and Dub-in for Sony VO-5600 VCRs. Sony Dub connectors are provided . . . . . \$489.00

DUB-IN 5600 Kit provides the record in feature of the DUB-IT kit only. . . . . \$389.00

HOBNOB 5020 Kit provides both front panel search dial and 33 pin parallel remote control port with editor interface and external sync for use with TBC's . . . . . \$695.00

AA-5020PI Kit provides 33 pin parallel remote control port with external sync for use with TBCs . . . . . \$495.00



HOBNOB w/Sony VP-5000



SCA-58

NOB-IT 5020 provides front panel search dial only . . . \$389.00

DUB-IT 5020 Kit provides Y-688 Dub-out. Sony DUB connector included . . . . . \$389.00

DUB-IT 5020 with Sync-In for use with Dub or Y-688 type TBCs . . . . . \$549.00

5020 External Sync-In Kit provides Sync-in for use with TBCs . . . . . \$295.00

HOBNOB 7000 Kit provides both front panel search dial and source side editor interface for Sony 7000 Series of VCRs . . . . . \$695.00

NOB-IT 7000 Kit provides front panel search dial only for Sony 7000 Series of VCRs . . . . . \$495.00

HOB-IT 7000 Kit provides editor interface only for Sony 7000 Series of VCRs . . . . . \$495.00

HOB-IT 9000 Kit provides editor interface only for Sony 9000 Series of VCRs . . . . . \$495.00

DUB-IT 7000 Kit provides Y-688 Dub-out for Sony 7000 Series of VCRs. Sony Dub connector is provided . . . . . \$389.00

DUB-IT 9000 Kit provides Y-688 Dub-out for Sony 9000 Series of VCRs. Sony Dub connector is provided . . . . . \$389.00

# BARCO ELECTRONICS, INC.

1500 Wilson Way  
Smyrna, GA 30080  
(404) 432-2346 FAX: (404) 432-1470

# VIDEO/DATA/ GRAPHICS PROJECTION

## Barcoveision 400

- High resolution liquid cooled 5.5" projection CRTs with low blooming P53 phosphor provides greatly improved picture definition • Optical resolution: 1000 lines • Wide range of screen sizes up to 20' x 15'

For applications that require large screen projection of different composite video and standard video resolution RGB computer sources, the Barcoveision 400 delivers high light output and excellent resolution on front, rear, flat or curved screens up to 20' wide. The Barcoveision 400 accepts inputs from virtually any NTSC/PAL/SECAM composite video source.

Order Code 90-00340 .....\$6,950.00

## Barcodata 400-RGB

- Independent Video/RGB mode horizontal and vertical size and horizontal phase (centering) remote controllable adjustments; allows each projector input to be individually corrected for size, aspect ratio and phase position
- Reduced horizontal retrace time (<5.0 $\mu$ s) for greater computer compatibility
- Low noise, DC "smart" fans for improved cooling efficiency
- Improved autolock circuitry provides greater immunity to signal noise, VCR playback problems
- Improved "Auto Tracking" circuits guarantee perfect image quality, convergence from 15-42kHz
- Extended range of operation possible on a dedicated or slaved basis from 42-54kHz
- Wideband 30MHz RGB amplifier standard (projector inputs are RGB only)
- Optional direct drive composite video input with 15MHz RGB amplifier
- Wide range of screen sizes up to 20' x 15'

For corporate and industrial applications that require large screen projection of a wide range of video and computer data sources. Compatible with an array of RGB computer display terminals as well as standard NTSC/PAL/SECAM composite video

Order Code 90-00360 .....\$12,850.00

## Barcographics 400-RGB

- Microprocessor based autolock circuitry allows flawless operation from 15-72kHz
- 100MHz single-ended RGB amplifier for unsurpassed picture resolution (projector inputs are RGB only)
- High definition, all glass lenses provide resolution >2000 lines
- Ultra low horizontal retrace time (<2.5 $\mu$ s) for universal computer display compatibility
- Independent video/RGB mode horizontal and vertical size and horizontal phase (centering) remote controllable adjustments; allows each projector input to be individually corrected for size, aspect ratio and phase position
- Low noise, DC "smart" fans for improved cooling efficiency
- Wide range of screen sizes up to 20' x 15'

For CAD/CAM/CAE applications that require very high resolution, real time imaging together with the flexibility of large screen display of other lower resolution computer sources, as well as NTSC/PAL/SECAM composite video

Order Code 90-00190 .....\$23,995.00

## Retrovision 400

- Rear screen projected image provides very high light output and contrast
- Ideal for use in high ambient light environments where mobility is an important factor

The Retrovision 400 is a completely self-contained, stand alone, rear screen projection system with stereo audio capability specifically designed for applications which require the flexibility of ease of transport and operation in very high ambient light environments. Through the combined use of rear screen projection and a large 67" (1.7m) high performance fresnel screen, the Retrovision 400 delivers pictures with outstanding contrast and brightness. The Retrovision 400 is equipped with stereo audio inputs and 2 x 15W 2-way bass reflex loudspeakers for truly stand alone operation.

Designed to provide the ultimate resolution and flexibility on screens up to 20' (6.0m) wide, the Barcographics 400 breaks all existing limits of projector performance through its: 15-72kHz scan rate, 100MHz RGB bandwidth, 2.5 $\mu$ sec horizontal retrace time and precision glass optical lens resolution of over 2000 lines

Order Code 90-00226 .....\$11,650.00

## Retrodata 400 RGB

- Independent video/RGB mode H and V size and H Phase (centering) remote controllable adjustments; allows each projector input to be individually corrected for size, aspect ratio and phase position
- Reduced horizontal retrace time (<5.0 $\mu$ sec) for greater computer compatibility
- Low noise,



Barcodata 400

- DC "smart" fans for improved cooling efficiency
- Improved autolock circuitry provides greater immunity to signal noise, VCR playback problems
- Improved "auto tracking" circuits guarantee perfect image quality, convergence from 15-42kHz
- Extended range of operation is possible on a dedicated or slaved basis from 42-54kHz
- Wideband 30MHz RGB amplifier standard (projector inputs are RGB only)
- Optional direct composite video input with 15MHz RGB amplifier

The Retrodata 400 is a completely self contained, stand alone 67" (1.7m) rear screen projection system which offers unparalleled performance, flexibility and ease of operation. The Retrodata 400 offers all of the advantages incorporated in the Retrovision 400 with additional features specifically oriented toward corporate and industrial applications where high light output, contrast and resolution are required for projection in full ambient light environments.

Order Code 90-00166 .....\$17,950.00

## Barcoveision 1000

- 9" CRT technology provides up to twice the light output and resolution of conventional CRTs
- Liquid coupled, high definition, all glass lenses provide resolution of over 2000 lines
- Video mode picture framer; provides adjustable blanking on all four sides of projected image

Developed to provide the ultimate in performance, the Barcoveision 1000 provides over 1000 lumens of light output and an optical resolution of 2000 lines.

These major improvements were made possible through the development and utilization of 9" CRT technology. Together with high definition, liquid coupled glass lenses, these CRTs provide up to double the light output and double the resolution of 5" and 7" CRTs found in most typical projectors.

The Barcoveision 1000 accepts inputs from virtually any NTSC/PAL/SECAM composite video source as well as RGB,S analog from most standard video resolution computer terminals.

Order Code 90-00310 .....\$14,275.00

## Barcodata 1000-RGB

- 9" CRT technology provides up to twice the light output and resolution of conventional CRTs
- Liquid coupled, high definition, all glass lenses provide resolution of over 2000 lines
- 1000 lumen light output
- Independent video/RGB mode horizontal and vertical size and horizontal phase (centering) remote controllable adjustments; allows each projector input to be individually corrected for size, aspect ratio and phase position
- Reduced horizontal retrace time (<5.0 $\mu$ s) for greater computer compatibility
- Low noise, DC "smart" fans for improved cooling efficiency
- Improved auto-locking and "Auto Tracking" circuits guarantee flawless performance from 15-42kHz
- Extended range of operation possible on a dedicated or slaved basis from 42-54kHz
- Wideband 30MHz RGB amplifier standard (projector inputs are RGB only)
- Optional direct composite video input with 15MHz RGB amplifier

The Barcodata 1000 offers all of the advantages incorporated in the Barcoveision 1000 with additional features specifically oriented toward corporate and industrial applications which require very high resolution projection of a wide range of video and computer data sources. Compatible with a number of computer display terminals.

Order Code 90-00320 .....\$18,495.00



1500 Wilson Way  
Smyrna, GA 30080  
(404) 432-2346  
FAX: (404) 432-1470

**Specifications**

MODEL	BARCOVISION 400	BARCODATA 400	BARCOGRAPHICS 400	RETROVISION 400	RETRODATA 400	BARCOVISION 1000	BARCODATA 1000
ORDER NUMBER	90 - 00340	90 - 00360	90 - 00190	90 - 00226	90 - 00166	90 - 00310	90 - 00320
LIGHT OUTPUT	400 LUMENS AT 20% PEAK WHITE				400 LUMENS / 130 FL. AT 20% PEAK WHITE		1055 LUMENS AT 10% PEAK WHITE 712 LUMENS AT 20% PEAK WHITE
CRT TYPE	HIGH DEFINITION, LIQUID COOLED CRT'S WITH P53 PHOSPHOR 6.8" (5.5" PHOSPHOR AREA) FOR LOW BLOOMING SPOT				LIQUID COOLED 9" (7.7" PHOSPHOR AREA) HIGH BRIGHTNESS CRT'S		
LENS TYPE/ OPTICAL RESOLUTION	HIGH RESOLUTION F1.0 LENSES WITH INDEPENDENT CENTER AND EDGE FOCUS ADJUSTMENT 5 lp/mm = 1000 LINES.	LENSES WITH INDEPENDENT ADJUSTMENT 5 lp/mm = SUPER HIGH DEFINITION HYBRID F1.0 COLOR CORRECTED LENSES 10 lp/mm = 2000 LINES	ULTRA HIGH DEFINITION GLASS F1.2 LENS FULLY COLOR CORRECTED 14 lp/mm = 2400 LINES.	HIGH RESOLUTION F1.0 LENSES WITH INDEPENDENT CENTER AND EDGE FOCUS ADJUSTMENT 5 lp/mm = 1000 LINES.	SAME AS BARCODATA 400		SUPER HIGH DEFINITION, COLOR CORRECTED F1.2 LENSES, LIQUID COUPLED FOR MAXIMUM CONTRAST WITH CENTER AND EDGE ADJUSTMENT 10 lp/mm = 2000 LINES.
OPTIONAL LENSES	PRECISION, ULTRA-HIGH RESOLUTION, ALL GLASS LENS SET, OPTIMIZED FOR				PRECISE MAGNIFICATION. 14 lp/mm = 2400 LINES.		-NA-
SCAN FREQUENCY	HORIZONTAL VERTICAL	15.6-15.7kHz AUTOMATIC 50-60 Hz AUTOMATIC	15-42 kHz* AUTOLOCK 50-100 Hz AUTOLOCK	15-72 kHz AUTOLOCK 50-100 Hz AUTOLOCK	15.6-15.7 kHz AUTOMATIC 50 - 60 Hz AUTOMATIC	15-42 kHz* AUTOLOCK 50-100 Hz AUTOLOCK	15.6-15.7 kHz AUTOMATIC 50 - 60 Hz AUTOMATIC
RETRACE TIME	HORIZONTAL VERTICAL	< 10 uSEC < 650 uSEC	< 5.0 uSEC < 450 uSEC	< 2.5 uSEC < 450 uSEC	< 10 uSEC < 650 uSEC	< 5.0 uSEC < 450 uSEC	< 10 uSEC < 450 uSEC
RGB BANDWIDTH		15 MHz ± 3 dB	30 MHz ± 3 dB	100 MHz ± 3 dB	15 MHz ± 3 dB	30 MHz ± 3 dB	15 MHz ± 3 dB
INPUTS		N3/N4/PAL/SECAM COMPOSITE VIDEO, RGB,S ANALOG	RGB,S ANALOG, RGB TTL OPT. - VIDEO (RCVDS4Q)	RGB,S ANALOG, RGB TTL OPT. - VIDEO (RCVDS4Q)	N3/N4/PAL/SECAM, COMPOSITE VIDEO, RGB,S ANALOG	RGB,S ANALOG, RGB TTL OPT. - VIDEO (RCVDS4Q)	N3/N4/PAL/SECAM, COMPOSITE VIDEO, RGB,S ANALOG
SCREEN SIZE	MIN. MAX.	1.0 x 0.75 m 6.0 x 4.5 m	(3.3 x 2.5 FT) (20 x 15 FT)		1.36 x 1.02 m 53.5" x 40.3"	(1.7 m DIAGONAL) (67" DIAGONAL)	2.0 x 1.5 m 3.2 x 2.4 m
OPERATOR CONTROLS		CONTRAST, BRIGHTNESS SHARPNESS, COLOR SATURATION, TINT, SWITCH FOR: VIDEO/ RGBS/RGB, FAST/SLOW SYNC	CONTRAST, BRIGHTNESS, HORIZONTAL PHASE, HORI- ZONTAL AMPLITUDE, SWITCH FOR: RGBS/RGB/RGB TTL, INPUTS, FAST/SLOW SYNC.	CONTRAST, BRIGHTNESS, SHARPNESS, COLOR SAT. TINT, SWITCH FOR: VIDEO/RGBS/RGB/FAST/ SLOW SYNC.	SAME AS BARCODATA 400		CONTRAST, BRIGHTNESS, SHARPNESS, COLOR SAT. TINT, SWITCH FOR: VIDEO/RGBS/RGB/FAST/ SLOW SYNC.
REMOTE CONTROL (SAME THROUGHOUT)		REMOTE CONTROL BOX MAY BE PLUGGED INTO UNIT OR HARDWIRED UP TO 100 M CABLE IS INCLUDED WITH UNIT.			(330 FT); 12 M (40 FT)		REMOTE CONTROL BOX MAY BE PLUGGED INTO UNIT OR HARDWIRED UP TO 100m (330FT) 12m (40FT) CABLE IS INCLUDED WITH UNIT.
OPTIONAL SOURCE SELECTOR		PCU 03 OR RCVDS 4	RCVDS 4 OR RCVDS 4 QUAD		PCU 03 OR RCVDS 4	RCVDS 4 or RCVDS 4 QUAD	PCU 03 OR RCVDS 4
MAXIMUM DIMENSIONS (H x W x D)		235 x 565 x 830 mm ( 9.25" x 22.25" x 32.7" )			1870 x 1440 x 1080 mm ( 73.6" x 56.7" x 42.5" )		267 x 787 x 1118 mm ( 10.5" x 31" x 44" )
WEIGHT NET SHIPPING		37 kg (82 lbs.) 48 kg (106 lbs.)	37 kg (82 lbs.) 48 kg (106 lbs.)	49 kg (108 lbs.) 60 kg (132 lbs.)	210 kg (462 lbs.) 270 kg (594 lbs.)	210 kg (462 lbs.) 270 kg (594 lbs.)	72 kg (159 lbs.) 87 kg (192 lbs.)
SPECIAL FEATURES		GOOD PRICE VS. PERFORMANCE. WIDE RANGE OF SCREEN SIZES AND TYPES	WHEN USED WITH THE RCVDS 4 QUAD SWITCHER, PROVIDES INDIVIDUAL REMOTE CONTROL ADJUSTMENT OF: H. AMPLITUDE (WIDTH CONTROL)- ALLOWS VARIABLE ASPECT RATIO, UNDERSCAN AMOUNT. H. PHASE (CENTERING CONTROL)- ALLOWS PERFECT PICTURE POSITIONING. V. AMPLITUDE (HEIGHT CONTROL)- ALLOWS TWO PRESETS; FOR VIDEO AND RGB HEIGHT ADJUSTMENT.	OUTSTANDING CONTRAST AND HIGH LIGHT OUTPUT. IDEAL FOR PROJECTION IN BRIGHT ENVIRONMENTS.	SAME AS RETROVISION 400		VERY HIGH LIGHT OUTPUT, EXCELLENT RESOLUTION AND CONTRAST. VIDEO MODE - PICTURE FRAMER, FOUR SIDE BLANKING ADJUSTMENTS.
							VERY HIGH RESOLUTION, CONTRAST AND LIGHT OUTPUT. REMOTE CONTROL OF H. AMPLITUDE AND H. PHASE. (SEE BARCODATA 400)

NOTES: \* DEDICATED OPERATION ON A SLAVED INPUT BASIS IS POSSIBLE FROM 42 - 54 kHz.

Prices and Specifications Subject to Change Without Notice.

# BARCO INDUSTRIES, INC.

170 Knowles Dr., Suite 212  
 Los Gatos, CA 95030  
 (408) 370-3721  
 FAX: (408) 866-9103

# COLOR MONITORS

## CVS Series Broadcast Color Monitors

- Automatic set-up • Microprocessor based • Password protection
- American Standard Phosphor (ASP) • EBU Phosphor (optional) • Automatic Kinescope Biasing (AKB) • 2 Coded Video Inputs: loophrough and floating • Quad decoder • RGBS input • Component video input (optional) • Internal test patterns • Notch filter/comb filter • Switchable color temperature • Front RGB switches • Simple or full remote
- Master remote for up to 48 monitors • Adjustable aperture correction • Presettable functions per input • Pulse cross
- Underscan/overscan • Safe area • Program display (optional)
- Rackmountable

### Stable and matching pictures

Display controls such as contrast, brightness, saturation and hue are value-related. When set to identical values different monitors will display matching pictures.

AKB-circuitry maintains color temperature independent of tube-aging and ambient temperature.

### Flexible set-up

Settings of display controls, display functions (INT/EXT sync, H&V delay, etc.) and decoder functions (mono, aperture etc.) can be memorized and recalled.

In calibrated position, pictures are displayed as recommended by the EBU and SMPTE.

In preset position, the settings of the display controls, display functions and decoder functions are user selected.

### Flexible, easy color temperature alignment

While manual adjustment is provided for, three different standard color temperatures (6500°K, 3200°K, 9300°K) can be automatically aligned.

### Flexible full modular design

CVS design reflects extreme modularity, independent boards exchange information over an analog and digital bus while a microprocessor controls all communications.

The standard monitor is equipped with an RGBS-input on the RGB-amplifier board and 2 coded inputs on the Quad-decoder board, thus leaving three slots empty. Here other options can be inserted at any time, while no hardware modifications are needed.

### Flexible remote control facilities

As the CVS has full remote capabilities, Barco Industries developed a multi-monitor remote control. From this MMRC all settings of display controls, display functions and decoder functions can be accessed, for any or all CVS monitors of a production gallery.

Also, a handheld keyboard was designed to remotely control a single CVS monitor.

### 14" Monitors

CVS/37/PS/Q CRT Pitch .62mm (330 TV lines) . . . . \$4295.00  
 CVS/37/IH/Q/ASP CRT Pitch .31mm (680 TV lines) . . . . \$5495.00

### 20" Monitors

CVS/51/PS/Q CRT Pitch .68mm (480 TV lines) . . . . \$4650.00  
 CVS/51/IM/Q/ASP CRT Pitch .43mm (700 TV lines) . . . . \$5650.00

### CVS Options

Single remote panel . . . . . \$ 445.00  
 Master remote panel . . . . . 6495.00  
 Component input module (RGB, Y/R-Y/B-Y, Y/I/Q, Y/PR/PB) . . 620.00  
 Input extension module (5 composite loophrough inputs) . . . 535.00  
 Service kit . . . . . 185.00  
 Program display . . . . . 350.00  
 Thoma color analyzer . . . . . 5800.00  
 RM 37 Rackmount kit for CVS 37 . . . . . 280.00  
 RM 51 Rackmount kit for CVS 51 . . . . . 350.00



CVS Series



CTVM4/37

## CTVM 4 Series Broadcast Precision Color Monitors

- ASP • EBU phosphor (optional) • AKB • RGBS input • Component video input (optional) • Internal test patterns • Notch filter/comb filter
- Front RGB switches • Decoded RGBS and B-Y and R-Y outputs
- Pulse cross • Underscan/overscan

### Cathode Ray Tubes

**Delta Gun Dot Mask CRT (D):** If accurate monitoring at every stage, when keen observation for the slightest error in color picture reproduction is vital, the monitor must be equipped with a delta gun dot mask picture tube.

**In-line Gun Dot Mask CRT (I):** Combining the advantages of in-line CRT (no dynamic convergence adjustments) with the resolution of delta gun tubes, the high resolution dot in-line CRT accurately displays every detail.

**In-line Gun Slot Mask CRT (P):** In broadcast situations where color monitors are used for picture identification, a slightly lower standard of reproduction can be accepted and sometimes it may be advantageous to employ monitors fitted with in-line gun slot mask picture tube.

### 14" Monitors

CTVM4/37/IH/N2/ASP In-line Dot Mask CRT  
 CRT pitch .31mm (680 TV lines) . . . . \$8100.00

CTVM4/37/DH/N2/ASP Delta Gun Dot Mask CRT  
 CRT pitch .31mm (750 TV lines) . . . . \$9500.00

### 20" Monitors

CTVM4/51/IM/N2/ASP In-line Dot Mask CRT  
 CRT pitch .43mm (700 TV lines) . . . . \$8800.00

CTVM4/51/DM/N2/ASP Delta Gun Dot Mask CRT  
 CRT pitch .43mm (775 TV lines) . . . . \$9800.00

### 26" Monitor

CTVM4/66/PS/N2 In-line Slot Mask CRT  
 CRT pitch .82mm (530 TV lines) . . . . \$9450.00

RM 37 Rackmount kit for CTVM 4/37 . . . . . 280.00  
 RM 51 Rackmount kit for CTVM 4/51 . . . . . 295.00

# BARCO INDUSTRIES, INC.

170 Knowles Dr., Suite 212  
 Los Gatos, CA 95030  
 (408) 370-3721  
 FAX: (408) 866-9103

# COLOR MONITORS

## CM Series

### Professional High Resolution Color Monitors

CM Series high quality color monitors meet all but the most critical professional and broadcast requirements. They are available with standard resolution slot mask in-line gun CRTs or high resolution dot mask in-line gun CRTs. Both provide precise, stable convergence. The CM Series consists of three models: CM 22 (9", portable), CM 33 (14"), and the CM 51 (20")

### CM 22 9" Portable Monitor

- Two composite video inputs, looped through and floating
- One RGBS input plus RGB fast insert
- Automatic Kinescope Biasing (AKB) maintains color temperature and black level stability
- Comb filter, switchable to notch
- AC or DC operation (external 12V battery)
- Built-in audio amplifier, speaker and front panel headphone output
- Pulse cross and underscan
- Blue-only for tape noise evaluation and for monitor adjustment using SMPTE color bars
- Front panel pre-set controls for hue, brightness, chroma and contrast
- Internal/external sync (fast or slow)
- Remote control and tally light
- Modular design: all active and passive components on plug-in boards

### CM 22 Applications

Television picture evaluation; preview of individual video sources; video/data combinations; systems for combined video and graphics display; background and character generators; and editing suites. The CM 22 is also ideal for ENG, EFP and other outside applications where high resolution and color temperature stability must be combined with compact size and portability.

### Decoder

NTSC comb filter (switchable to notch); PAL B, M or N

### CM 22 Options

Rackmount tray for mounting of two CM 22s in a 19" rack

CM 22 CRT pitch .30mm (420 TV lines) . . . . . \$2850.00

### CM 33 14" and CM 51 20" Professional Color Monitors

- Two video inputs, looped through and floating
- One RGBS input (optional)
- Built-in audio amplifier and speaker
- Pulse cross and underscan
- Blue-only for tape noise evaluation and for monitor adjustment using SMPTE color bars
- Front panel presets for controls and color balance adjustments
- Modular design: all active and passive components on plug-in boards



### CM 33 and CM 51 Applications

The CM 33 and CM 51 are especially suited for artistic evaluation of television pictures, video source previewing, graphic systems and character generators, and RGBS viewing or other RGB applications. They are also ideal for applications where video and data are combined.

### Decoder

NTSC notch filter; PAL B or SECAM H/V

### CM 33/CM 51 Options

RGBS inputs; rackmount kit

### CM 33/

HRC/NTSC CRT pitch .43mm (420 TV lines)  
 Without RGB . . . . . \$2850.00  
 With RGB . . . . . 2850.00

### CM 51/C/NTSC

CRT pitch .68mm (480 TV lines)  
 Without RGB . . . . . \$3100.00  
 With RGB . . . . . 3350.00

### CM Options

TR 22 19" rackmount tray (holds two CM 22's) . . . . . \$210.00  
 RM 33 19" rackmount kit for CM 33 . . . . . 280.00  
 RM 51 19" rackmount kit for CM 51 . . . . . 258.00



# BARCO INDUSTRIES, INC.

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(408) 370-3721  
FAX: (408) 866-9103

# MONITOR/DECODERS/ DEMODULATORS

## TVM 3/37 Master Control Monochrome Monitor

- Illuminant D phosphors (6500°K color temperature) • Switchable notch filter • Pulse cross and underscan • Front panel presets for brightness and contrast • Internal/external sync • Remote control • Modular design

The TVM 3/37 precision monochrome monitor is a measuring instrument for broadcast, industrial and educational applications where high quality, transparency and reliability are important. Derived from the CTVM master control monitors, the TVM 3/37 produces sharp, clear and stable pictures.

### Applications

Any quality-oriented, monochrome application, such as program evaluation or viewing that does not require color information. The unit can also be used for camera and telecine alignment.

TVM 3/37	14" Monochrome Monitor	.....	\$3495.00
RM/37	Rackmount for TVM 3	.....	.280.00

## PCD 3 Series Chroma Decoders

Two decoder models handle every standard and application. Both provide either RGBS or Y/R-Y/B-Y outputs from one of two encoded video inputs. The line includes a cabinet for housing the decoders.

The PCD 3 NTSC 5 is a precision complex comb filter decoder using advanced, 3-line adaptive CCD comb filter techniques. It is an NTSC-only unit. The cabinet holds one decoder.

### The PCD 3 Multi-standard Decoder

Offers a choice of NTSC; PAL B, M or N; and SECAM. It uses a 2-line comb filter switchable to notch (NTSC). Two units will fit in the decoder cabinet, in any combination of standards.

### ASMD 3 Automatic Decoder Controller

Provides automatic signal identification and decoder switching for both models. It can accommodate up to seven different color systems.

### Applications

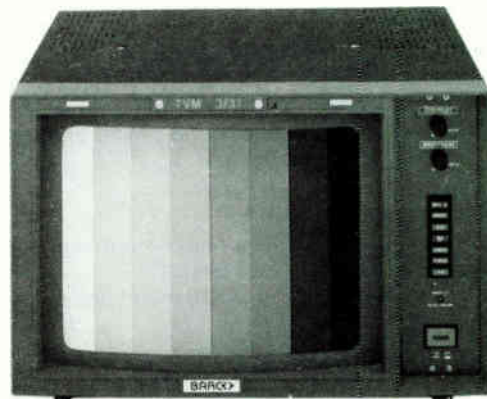
Decoding of any composite video signal to RGBS or Y, R-Y, B-Y for various RGB or component signal processing applications; input module for precision standards converters and signal processing applications, like chroma keyers and paintboxes.

PCD 3-*	Precision chroma decoder (CDU)		
	*Specify decoder type:		
	1 CDU	.....	\$3175.00
	2 CDU	.....	.4650.00
	<b>Note: Up to 2 CDU per PCD 3</b>		
PCD3-N5	Precision complex comb filter decoder	.....	5800.00
ASMD3	Automatic switching chroma decoder controller	.....	1390.00
RM/PCD3	Rackmount for PCD Series	.....	.295.00

## VSD Series Television Demodulators

- High grade video and sound signals • Overall gain independent of picture content • Automatic Gain Control (AGC) eliminates the effects of variable field strength resulting from different input signals • Video and sound level meter • Relative indication of field strength on front panel meter • Excellent 2T and 20T pulse response • Modular, all solid-state design

VSD demodulators are used where high grade video and sound signals from a broadcast signal are needed. Three models are available: VSD 1 Multi-channel, multi-standard; VSD 2 Multi-channel single standard (VSD 1 and VSD 2 have five presettable channels); and the quartz-controlled VSD 2/X single channel, single standard, which is available for any TV channel between 5 and 890MHz.



TVM/3/37

VSD 1000	BG/IF only	.....	\$6450.00
	VHF/IF Converter (47-225MHz)	.....	.1175.00
	VHF/IF Converter (225-400MHz)	.....	.1175.00
	UHF/IF Converter (400-900MHz)	.....	.1175.00
	SPC/IF Converter (5-25MHz)	.....	.1550.00
	Input Synthesizer	.....	.1535.00

### Options

High stability quartz for the quartz controlled input converter . . . \$105.00

Sound Trap Off (for measurements on the video output signal) . . . \$1220.00

VSD 1	Multistandard, multi-channel TV demodulator with 5 presettable channels available in the following combinations: BGH, I, L, CF, BGH, DK, L, CF, BG, MN BG, DK	.....	\$2800.00
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### VSD 1 Options

Input failure info outlet . . . \$110.00  
Combined VHF and UHF input . . . .255.00

VSD 2	Single standard, multi-channel TV demodulator with 5 presettable channels available for all world systems: BG, DK, I, L, MN	.....	\$2870.00
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### VSD 2 Options

Additional IF input . . . . . \$ 65.00  
Input failure info outlet . . . . .110.00  
Combined VHS and UHF input . . . . .255.00

VSD 2/X	Single channel, single standard TV demodulator available for systems B, G, H, L, K, D, and MN (input channel to be specified)	.....	\$3295.00
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When IF only input (without channel to IF converter) . . . . .2120.00

### VSD 2/X Options

Input failure info outlet . . . . . \$110.00  
Combined video + 5.5MHz output (BG models only) . . . . .225.00  
Combined video + 6MHz output (I models only) . . . . .255.00

# BARDWELL & McALISTER, INC.

2621 Empire Ave.  
P.O. Box 7748  
Burbank, CA 91510-7748  
(213) 849-5533

## LIGHTING EQUIPMENT

### Slimline II 2000W Tungsten-Halogen Light

Lightweight and portable, designed for broad fill applications. It is ideal for TV, motion picture, still photography and provides a flat even pattern of light over a wide area.

Slimline II comes with 4-leaf barndoors and accepts a wide variety of accessories. Lamping options include a complete range of 120/240V lamps for AC or DC operation.

### Mini-Mac 650 and Mini-Mac 1000 Tungsten-Halogen Broad Lights

The Mini-Mac 650 and Mini-Mac 1000 Tungsten-Halogen Broad Lights feature a rugged, compact design ideal for general lighting applications. Mini-Mac's provide a wide range of lamping options in different wattages and produce an even pattern of light over a wide area. 4-leaf barndoors included.

The Mini-Set 1000 flood and set light is indispensable anywhere a wide wash of light is required. It is available with stand or C-clamp mounting and comes with 2-leaf barndoors. Full range of lamping options available.

### Cyc Strip Lights

Available in 9 different models in a wide range of lengths and circuits. Cyc strips provide a clean, even illumination for cyclorama backgrounds. Cyc Strips can be overhead or floor mounted and accept a full range of mounting hardware, gel frames, safety frames and plug connectors.

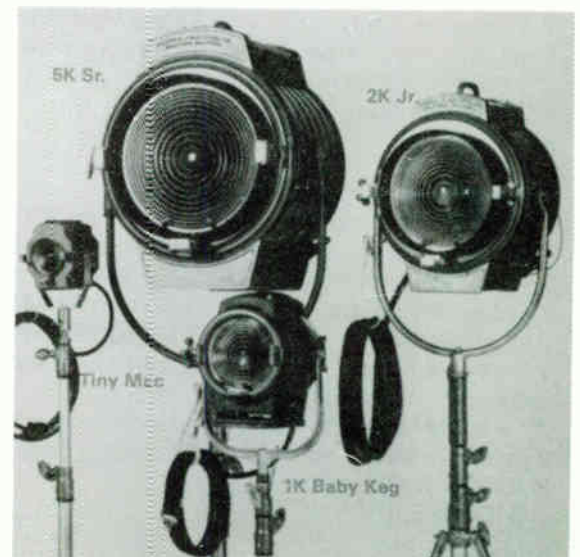
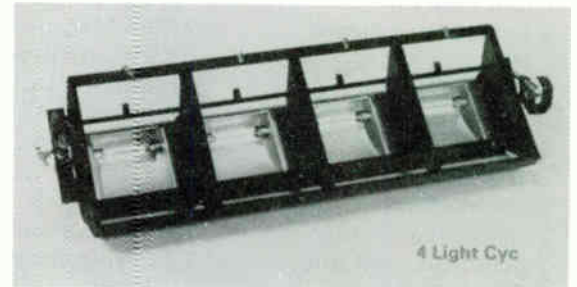
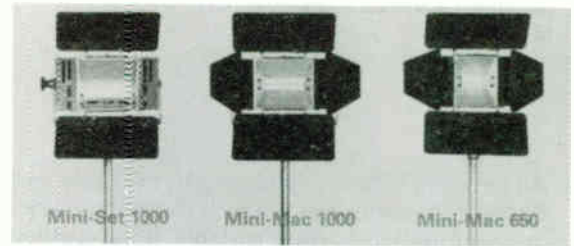
### Focusing Fresnel Spotlights

Deliver a superior filament-free illumination and provide a smooth transition from flood to spot. Durable, well ventilated spotlights from 300 to 5000W. Their fresnel lenses from 3-13" make them ideal for TV and motion picture applications.

They accept a complete line of accessories including barndoors, scrims, gels, snoots, cables, hangers and stands.

### Baby Keg Spotlight with Barndoors

This unit is pole operated and features an improved state-of-the-art medium bipost lamp socket. It has a focusing range of better than 10:1 and includes 4-leaf barndoors.

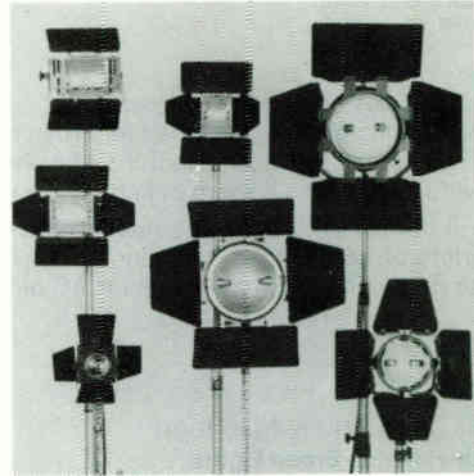


# BARDWELL & MCALISTER, INC.

2621 Empire Avenue  
 P.O. Box 7748  
 Burbank, CA 91510-7748  
 (213) 849-5533

# LOCATION LIGHTING KITS

All Lighting Kits are lightweight, portable and affordable. Each kit is complete with all the necessary accessories and comes in its own durable fully padded case. Kits feature a variety of open face focusing and broad lights.



## Flight Mac Kit

- |                                 |   |
|---------------------------------|---|
| 2 650W open-face focusing light | 2 Mini-Mac 1000 broad-light with 4-way barndoor |
| 2 4-way barndoor                | 2 1000W FHM lamp, Q1000T3/4                     |
| 2 accessory holder              | 3 light stand with 5/8" adaptor                 |
| 2 single scrim                  | 1 Grip Mac with 5/8" spud                       |
| 2 1/2 single scrim              | 1 carrying case                                 |
| 2 double scrim                  |   |
| 2 1/2 double scrim              |   |
| 2 gel/diffusion frame           |   |
| 2 650W FAD lamp, Q650T4/4CL     |   |

**Flight Mac Kit . . . . . \$1625.00**



Flight Mac

## Pro Mac Kit

- |                                  |   |
|----------------------------------|---|
| 2 1000W open-face focusing light | 2 Mini Mac 1000 broad-light with 4-way barndoor |
| 2 4-way barndoor                 | 2 1000W FHM lamp, Q1000T3/4                     |
| 2 accessory holder               | 3 light stand with 5/8" adaptor                 |
| 2 single scrim                   | 1 Grip Mac with 5/8" spud                       |
| 2 1/2 single scrim               | 1 carrying case                                 |
| 2 double scrim                   |   |
| 2 1/2 double scrim               |   |
| 2 gel/diffusion frame            |   |
| 2 1000W DXW lamp, Q1000T5/4CL    |   |

**Pro Mac Kit. . . . . \$1650.00**



Pro Mac

## Super Mac Kit

- |                                  |   |
|----------------------------------|---|
| 2 1000W open-face focusing light | 3 Mini Mac 1000 broad-light with 4-way barndoor |
| 2 4-way barndoor                 | 3 1000W FHM lamp, Q1000T3/4                     |
| 2 accessory holder               | 4 light stand with 5/8" adaptor                 |
| 2 single scrim                   | 1 Grip Mac with 5/8" spud                       |
| 2 1/2 single scrim               | 1 carrying case                                 |
| 2 double scrim                   |   |
| 2 1/2 double scrim               |   |
| 2 gel/diffusion frame            |   |
| 2 1000W DXW lamp, Q1000T5/4CL    |   |

**Super Mac Kit. . . . . \$2025.00**



Super Mac



# BARDWELL & McALISTER, INC.

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Burbank, CA 91510-7748  
(213)849-5533

## DURO-DIFFUSION LAMP SCRIMS

### Duro-Diffusion All Metal Lamp Scrims

49431	4 1/4" dia. for Tiny Mac—Single Scrim . . . . .	\$7.00
49432	4 1/4" dia. for Tiny Mac—Half Single Scrim . . . . .	7.00
49429	4 1/4" dia. for Tiny Mac—Double Scrim . . . . .	8.00
49430	4 1/4" dia. for Tiny Mac—Half Double Scrim . . . . .	8.00

49436	5 1/8" dia. for Midget—Single Scrim . . . . .	\$7.25
49437	5 1/8" dia. for Midget—Half Single Scrim . . . . .	7.25
49438	5 1/8" dia. for Midget—Double Scrim . . . . .	8.25
49439	5 1/8" dia. for Midget—Half Double Scrim . . . . .	8.25

49144	6 5/8" dia. for Baby—Single Scrim . . . . .	\$8.00
49145	6 5/8" dia. for Baby—Half Single Scrim . . . . .	8.00
49146	6 5/8" dia. for Baby—Double Scrim . . . . .	9.00
49147	6 5/8" dia. for Baby—Half Double Scrim . . . . .	9.00

49186	8" dia. for Baby-Junior—Single Scrim . . . . .	\$ 8.50
49187	8" dia. for Baby-Junior—Half Single Scrim . . . . .	8.50
49188	8" dia. for Baby-Junior—Double Scrim . . . . .	10.50
49189	8" dia. for Baby-Junior—Half Double Scrim . . . . .	10.50

49190	8 1/2" dia. for Baby-Junior—Single Scrim . . . . .	\$ 9.00
49191	8 1/2" dia. for Baby-Junior—Half Single Scrim . . . . .	9.00
49192	8 1/2" dia. for Baby-Junior—Double Scrim . . . . .	11.00
49193	8 1/2" dia. for Baby-Junior—Half Double Scrim . . . . .	11.00

49194	9" dia. for Baby-Junior—Single Scrim . . . . .	\$ 9.50
49195	9" dia. for Baby-Junior—Half Single Scrim . . . . .	9.50
49196	9" dia. for Baby-Junior—Double Scrim . . . . .	11.50
49197	9" dia. for Baby-Junior—Half Double Scrim . . . . .	11.50

49198	10" dia. for Junior—Single Scrim . . . . .	\$10.00
49199	10" dia. for Junior—Half Single Scrim . . . . .	10.00
49200	10" dia. for Junior—Double Scrim . . . . .	12.00
49201	10" dia. for Junior—Half Double Scrim . . . . .	12.00

49148	12" dia. for Junior—Single Scrim . . . . .	\$11.50
49149	12" dia. for Junior—Half Single Scrim . . . . .	11.50
49150	12" dia. for Junior—Double Scrim . . . . .	13.50
49151	12" dia. for Junior—Half Double Scrim . . . . .	13.50

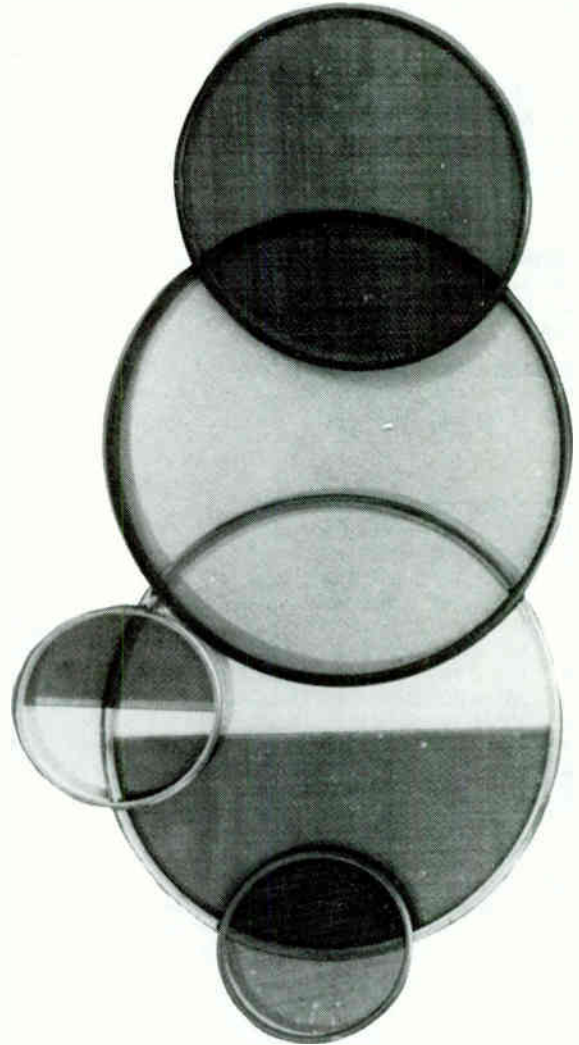
49152	15 1/2" dia. for Senior—Single Scrim . . . . .	\$15.00
49153	15 1/2" dia. for Senior—Half Single Scrim . . . . .	15.00
49154	15 1/2" dia. for Senior—Double Scrim . . . . .	18.50
49155	15 1/2" dia. for Senior—Half Double Scrim . . . . .	18.50

49156	21" dia. for 10K—Single Scrim . . . . .	\$28.00
49157	21" dia. for 10K—Half Single Scrim . . . . .	28.00
49158	21" dia. for 10K—Double Scrim . . . . .	33.50
49159	21" dia. for 10K—Half Double Scrim . . . . .	33.50

49160	29" dia. for Brute—Single Scrim . . . . .	\$56.00
49161	29" dia. for Brute—Half Single Scrim . . . . .	50.00
49162	29" dia. for Brute—Double Scrim . . . . .	60.00
49163	29" dia. for Brute—Half Double Scrim . . . . .	60.00



HOLLYWOOD  
SCENE DOCK



# BARDWELL & McALISTER, INC.

2621 Empire Ave.  
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Burbank, CA 91510-7748  
(213) 849-5533

# SCRIMS/FLAGS AND CUTTERS/ ACCESSORIES

## Open End Scrims

F1824S	18" x 24" Single Scrim	\$35.50
F1824D	18" x 24" Double Scrim	40.00
F1824SK	18" x 24" Silk Scrim	35.50
F1824L	18" x 24" Lavender Scrim	35.50
F2430S	24" x 30" Single Scrim	41.65
F2430D	24" x 30" Double Scrim	49.95
F2430SK	24" x 30" Silk Scrim	41.65
F2430L	24" x 30" Lavender Scrim	41.65
F2436S	24" x 36" Single Scrim	42.25
F2436D	24" x 36" Double Scrim	49.95
F2436SK	24" x 36" Silk Scrim	42.25
F2436L	24" x 36" Lavender Scrim	42.25
F3636S	36" x 36" Single Scrim	47.50
F3636D	36" x 36" Double Scrim	55.75
F3636SK	36" x 36" Silk Scrim	48.00
F3636L	36" x 36" Lavender Scrim	47.50

## Solid Frame Scrims

F4242S	42" x 42" Single Scrim	\$ 75.00
F4242D	42" x 42" Double Scrim	90.00
F4242SK	42" x 42" Silk Scrim	75.00
F4848S	48" x 48" Single Scrim	90.00
F4848D	48" x 48" Double Scrim	105.00
F4848SK	48" x 48" Silk Scrim	90.00

## Flags and Cutters

F1824	18" x 24" Solid Black Flag	\$35.00
F2430	24" x 30" Solid Black Flag	39.00
F2436	24" x 36" Solid Black Flag	40.00
F3036	30" x 36" Solid Black Flag	47.95
F2448	24" x 48" Solid Black Flag	49.00
F1042	10" x 42" Solid Black Flag/Cutter	46.50
F1848	18" x 48" Solid Black Flag/Cutter	45.00
F2460	24" x 60" Solid Black Flag/Cutter	72.50
F3072	30" x 72" Solid Black Flag/Cutter	73.65
F4242	42" x 42" Solid Black Flag/Cutter	65.00
F4848	48" x 48" Solid Black Flag/Cutter	75.00
F2472	24" x 72" Solid Black Flag/Cutter	72.50

## Flag and Scrim Boxes

2334	3-Place Flag/Scrim Box; will hold Flags/Scrims up to 24"W. Dimensions: 43"H x 28"W x 24"D	\$355.00
2335	Castered base for above 3-Place Box	225.00
2331	12" x 24" Flag/Scrim Box	76.00
2332	18" x 24" Flag/Scrim Box	80.00
2333	24" x 36" Flag/Scrim Box	94.00
2336	30" x 36" Flag/Scrim Box	99.00
2340	4 1/4" dia. Duro Diffusion Scrim Box	31.95
2341	6 5/8" dia. Duro Diffusion Scrim Box	37.50
2342	12" dia. Duro Diffusion Scrim Box	42.50

## Celo and Wood Coocoloris (Kooks)

K1824C	18" x 24" Celo Coocoloris	\$ 73.00
K2436C	24" x 36" Celo Coocoloris	82.75
K4242C	42" x 42" Celo Coocoloris	93.75
K1824W	18" x 24" Wood Coocoloris	75.85
K2436W	24" x 36" Wood Coocoloris	98.00
K4848W	48" x 48" Wood Coocoloris	155.00



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Flags and Scrims



FAS Flex Arm with Finger



## Flex Arm

FAS 42" Flex Arm with ball joints and quick acting spring clamp for mounting on stands or pipe, with 1/4" dia. receptacle \$84.00

## Dots

1225S	3" Single Dot	\$20.50
1225D	3" Double Dot	22.00
1255SK	3" Silk Dot	20.50
1225	3" Solid Black Dot	19.75
1225L	3" Lavender Dot	19.75
1226S	6" Single Dot	21.50
1226D	6" Double Dot	23.00
1225SK	6" Silk Dot	21.50
1226	6" Solid Black Dot	21.50
1226L	6" Lavender Dot	21.50
1227S	10" Single Dot	22.50
1227D	10" Double Dot	24.00
1227SK	10" Silk Dot	22.50
1227	10" Solid Black Dot	22.50
1227L	10" Lavender Dot	22.50

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# FINGERS/FLEX ARM SCRIMS/ BUTTERFLYS/OVERHEADS

## Fingers

1228S	3" x 12" Single Finger	\$23.00
1228D	3" x 12" Double Finger	24.50
1228SK	3" x 12" Silk Finger	24.50
1228	3" x 12" Solid Black Finger	23.00
1228L	3" x 12" Lavender Finger	23.00
1229S	4" x 14" Single Finger	23.50
1229D	4" x 14" Double Finger	25.00
1229SK	4" x 14" Silk Finger	23.85
1229	4" x 14" Solid Black Finger	23.50
1229L	4" x 14" Lavender Finger	23.50

## Flex Arm Scrims

FA912S	9" x 12" Single Scrim	\$26.75
FA912D	9" x 12" Double Scrim	31.65
FA912SK	9" x 12" Silk Scrim	26.75
FA912	9" x 12" Solid Black Flag	27.50
FA912L	9" x 12" Lavender Scrim	26.75
FA1218S	12" x 18" Single Scrim	33.75
FA1218D	12" x 18" Double Scrim	36.50
FA1218SK	12" x 18" Silk Scrim	33.75
FA1218	12" x 18" Solid Black Flag	33.75
FA1218L	12" x 18" Lavender Scrim	33.75

## Butterflies

1266	5' x 5' Butterfly Set consisting of: 1-Frame; 1-Single Net; 1-Double Net; 1-Silk; 1-Solid Black and 1-Compartment Bag	\$525.75
B5F	5' x 5' Knockdown Frame of steel and aluminum round tubing and mounting pin	128.50
1265	Compartment Bag for 4-5' x 5' Butterflies	44.75
B5S	5' x 5' Single Net	83.75
B5D	5' x 5' Double Net	121.00
B5SK	5' x 5' Silk (China Silk)	75.50
B5B	5' x 5' Solid Black	75.50
1268	6' x 6' Butterfly Set consisting of: 1-Frame; 1-Single Net; 1-Double Net; 1-Silk; 1-Solid Black and 1-Compartment Bag	525.00
B6F	6' x 6' Knockdown Frame of steel and aluminum tube and mounting pin	140.00
1280	Compartment Bag for 4 6' x 6' Butterflies	41.75
B6S	6' x 6' Single Net	83.75
B6D	6' x 6' Double Net	121.50
B6SK	6' x 6' Silk (China Silk)	99.00
B6B	6' x 6' Solid Black	76.00

## Overheads

1259	12' x 12' Overhead Set consisting of: 1-Frame; 1-Single Net; 1-Double Net; 1-Silk; 1-Solid Black; 1-Bag for Solid Black and 1-Compartment Bag	\$1285.00
B12F	12' x 12' Knockdown Frame of square aluminum tubing complete with Sliding Bracket for attachment to Hi-Stand Grip Heads	302.00



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Dots, Fingers and Flex Arm Scrims

B6 Butterfly Frame



6' x 6' Frame

B12F Overhead Frame



12' x 12' Frame

1281	Compartment Bag for 3 12' x 12' Overheads	\$ 52.00
1282	Bag for Solid Black 12' x 12' Overhead	18.75
B12S	12' x 12' Single Net	243.50
B12D	12' x 12' Double Net	432.75
B12SK	12' x 12' Silk (China Silk)	280.00
B12B	12' x 12' Solid Black	224.50

## Backings

1288	20' x 20' Single Net	\$ 659.50
1289	20' x 20' Double Net	1165.00
1286	20' x 20' Silk (China Silk)	715.00
1284	20' x 20' Solid Black	465.00
1285	20' x 30' Solid Black	630.00



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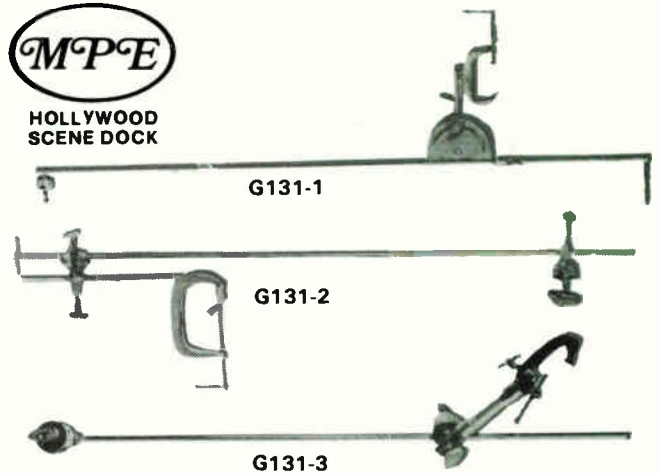
# MOUNTING EQUIPMENT

## Mounting Equipment — Flag Hangers

- G131-1 Overhead Cutter Hanger — Meat Axe — with slide extension and C-Clamp for mounting on post, rail or pipe .....\$207.50
- G131-2 Overhead Cutter Hanger — Bear Trap — with slide extension and swivel C-Clamp for mounting on post, rail or pipe .....207.50
- G131-3 Studio Overhead Grid Cutter Hanger and Diffusion Holder — with "pipe" C-Clamp and Extension Arm with standard 2 1/2" Grip Head .....105.00
- 1925 Deck Pole Assembly complete with special 2" Grip Head, Rod Assembly and Wooden Dowel .....73.25
- 1926 Deck Pole Clamp Assembly only .....23.95
- 1928 Deck Pole Rod Assembly only .....23.95



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## Mounting Equipment — Reflector Hangers

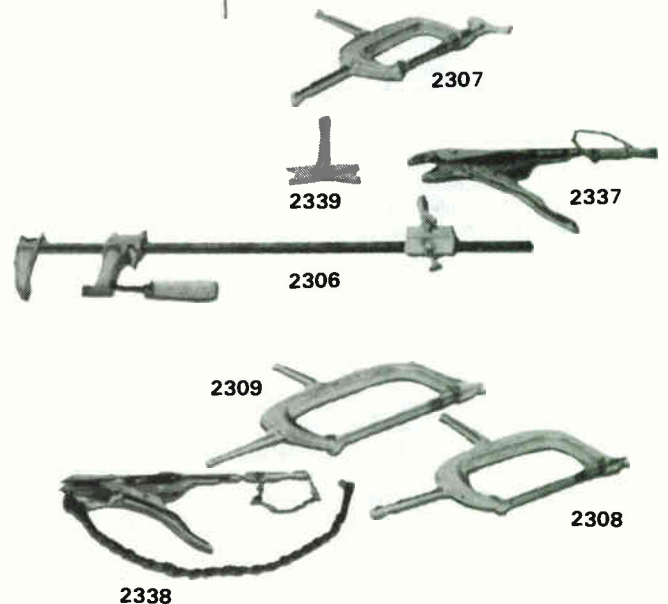
- G121 Reflector Hanger with 1" to 1", 1 1/8" to 1 1/8" or 1" to 1 1/8" Spud and Socket .....\$39.95

## G122 Reflector Hanger



## Mounting Equipment — Clamps

- 2307 4" C-Clamp with two 5/8" dia. Pins .....\$41.50
- 2308 6" C-Clamp with two 5/8" dia. Pins .....47.50
- 2309 8" C-Clamp with two 5/8" dia. Pins .....56.00
- 2306-6 6" Furniture Clamp with Sliding 5/8" Spud. ....35.95
- 2306-12 12" Furniture Clamp with Sliding 5/8" Spud. ....37.95
- 2306-18 18" Furniture Clamp with Sliding 5/8" Spud. ....39.00
- 2306-24 24" Furniture Clamp with Sliding 5/8" Spud. ....40.50
- 2303 Slide only with 5/8" Spud .....13.50
- 8456 6" Jr. C-Clamp with 2-way 1 1/8" Socket .....47.95
- 8458 8" Jr. C-Clamp with 2-way 1 1/8" Socket .....56.75
- 63070 Grip Mac (Gaffer Grip) with 5/8" Spud .....30.95
- 2337 Vise Grip with 5/8" Spud .....30.75
- 2338 Chain Type Vise Grip with 5/8" Spud. ....43.65
- 2339 Scissor Clip with 5/8" Spud .....8.00
- 2339-1 Scissor Clip with Cable Hook .....10.00



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# MOUNTING EQUIPMENT/ ACCESSORIES/PARALLELS

## Nail-On Plates

G123	Baby Nail-On-Plate with 3" long 5/8" Stud. . . . .	\$19.00
G123-6	Baby Nail-On-Plate with 6" long 5/8" Stud. . . . .	24.00
G123-12	Baby Nail-On-Plate with 12" long 5/8" Stud. . . . .	21.85
G123-RA	Baby Nail-On-Plate with Right Angle 5/8" Stud. . . . .	29.50
G128	Jr. Nail-On-Plate with 1 1/8" dia. Socket . . . . .	28.95
G128-1	Jr. Set Wall Bracket with 1 1/8" dia. Socket . . . . .	34.95

## Mounting Equipment—Suction Cups

2322	Single Suction Cup with 5/8" dia. Spud . . . . .	\$53.00
2323	Double Suction Cup with 5/8" dia. Spud . . . . .	93.50

## Mounting Equipment—Extensions

G117B	Baby Offset Arm with Double 5/8" dia. Spud . . . . .	\$ 28.50
G117J	Jr. Offset Arm with 1 1/8" dia. Socket . . . . .	39.95
G118	Double Header with two double 5/8" dia. Spuds and one 5/8" dia. Female Mounting Socket . . . . .	40.50
G119	Triple Header with two double 5/8" Spuds and one single 5/8" Spud and 5/8" Mounting Socket . . . . .	49.50
G120B	Baby Stand Extension Riser—24" long . . . . .	31.50
G120J	Jr. Stand Extension Riser—36" long . . . . .	58.00
G116B	Baby Side Arm with 5/8" Double Spud. . . . .	59.50
G116J	Jr. Side Arm with 1 1/8" dia. Socket . . . . .	60.00
G115B	Baby Trombone with 5/8" dia. Double Spud . . . . .	105.00
G115J	Jr. Trombone with 1 1/8" dia. Socket. . . . .	109.00

## Mounting Equipment—Wall Spreaders

2311	2" x 4" Wall Spreader Assembly for 2" x 4" wood . .	\$52.00
2312	2" x 6" Wall Spreader Assembly for 2" x 6" wood . .	57.00

## Apple Boxes

2301	Full Apple Box (12" x 20" x 8") . . . . .	\$29.00
2302	Half Apple Box (12" x 20" x 4") . . . . .	29.00
2304	Quarter Apple Box (12" x 20" x 2") . . . . .	29.00

## Cup Blocks

2326-1	Wooden Cup Block (each) . . . . .	\$ 5.00
2326	Wooden Cup Block (set of 16 with case). . . . .	119.95

## Sand Bags

	Filled	Empty
G125	Fly-A-Way Sand Bag (25 lb. approx.) . . . . .	\$42.95
G129	15 lb. Sand Bag . . . . .	24.95
G132	25 lb. Sand Bag . . . . .	30.00
G130	50 lb. Sand Bag . . . . .	43.00

"Empty" bags are Sand Bag shells sewn completely except for partially open side seam to allow filling and sewing-closed by purchaser and saves shipping charges.

## Heavy-Duty Ballistics Nylon Sand Bags

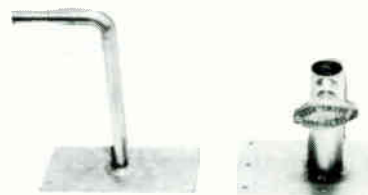
Fly-A-Way Sand Bag . . . . .	\$43.65
15 lbs. filled with sand. . . . .	42.95
15 lbs. filled with lead. . . . .	56.50
30 lbs. filled with sand. . . . .	56.50

## Umbrella and Stand

2328	6' dia. Sun Umbrella with adaptor for mounting on 1 1/8" dia. Female Socket . . . . .	\$107.00
2329	Bag for Sun Umbrella . . . . .	33.00
S112	Umbrella Stand with collapsible legs, 1-riser and 1 1/8" dia. Female Socket . . . . .	153.00



HOLLYWOOD  
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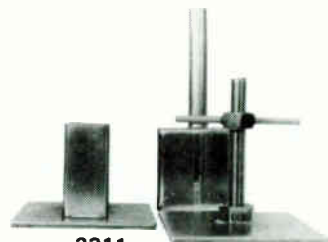
Nail-On-Plates



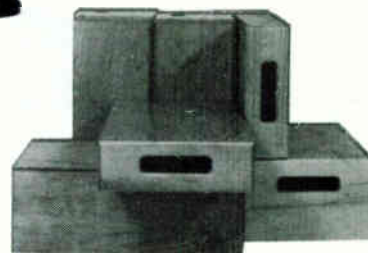
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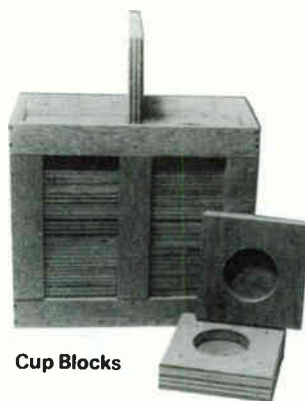
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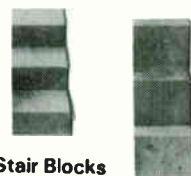
2311



Apple Boxes



Cup Blocks



Stair Blocks



Sand Bags

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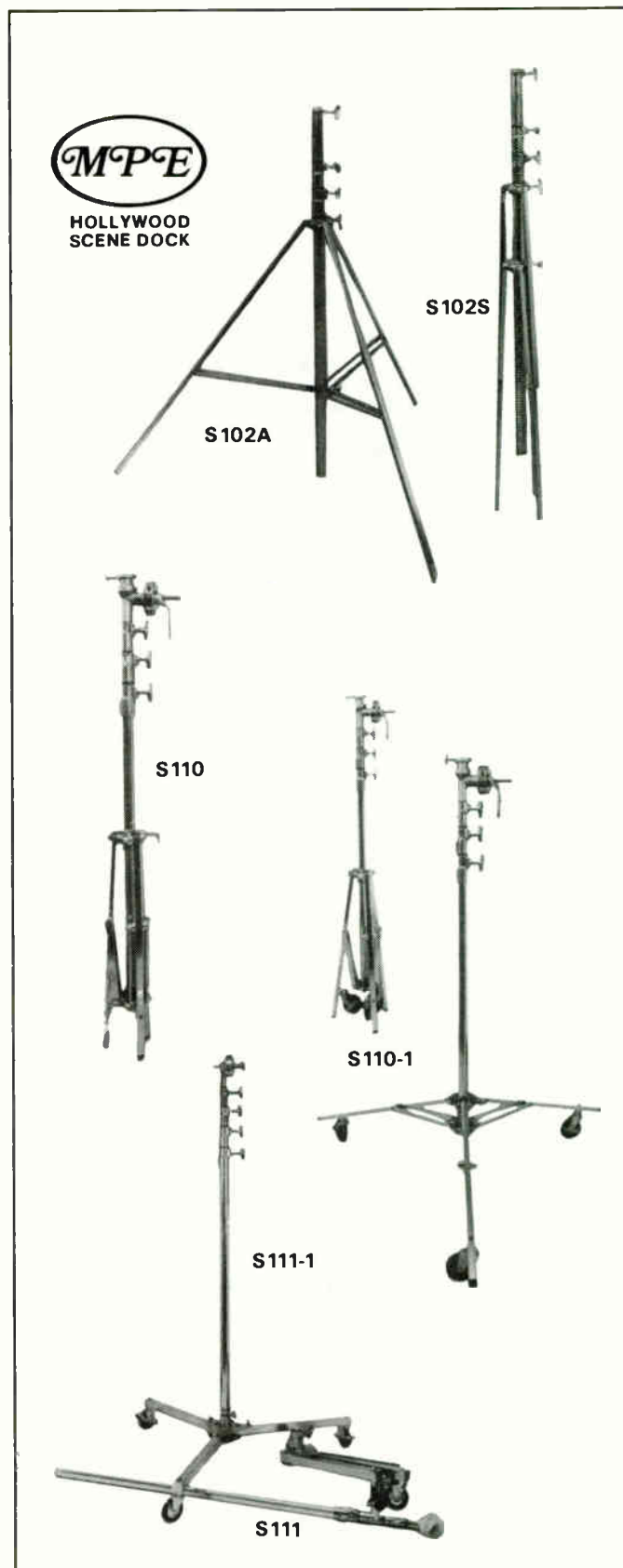
# REFLECTOR/OVERHEAD STANDS

## Reflector Stands

- S102A** Combo Reflector/Lamp Stand with collapsible legs, 2-risers and 1 1/8" dia. female socket, Aluminum. One leg has an extender, "Rocky Mountain Leg" for use on uneven terrain . . . . \$289.00
- S102S** Same as above but in Steel . . . . .232.00
- S105A** Combo Reflector/Lamp Stand with collapsible legs, 1-riser and 1 1/8" dia. female socket, Aluminum. One leg has an extender, "Rocky Mountain Leg", for use on uneven terrain . . . . \$228.00
- S105S** Same as above but in Steel . . . . .204.00
- S108A** Low Combo Reflector/Lamp Stand, with collapsible legs, 2-risers and 1 1/8" dia. female mounting socket, Aluminum. One leg has an extender, "Rocky Mountain Leg", for use on uneven terrain . . . . . \$265.00
- S108S** Same as above but in Steel . . . . .235.00
- A110** Caster bracket adaptor for above Combo Stands . . . . .39.95
- 1655** Stand adaptor—1 1/8" to 5/8" . . . . .25.50
- S107** Hi-Hi Combo Reflector/Lamp Stand with collapsible legs, 3-risers and 1 1/8" dia. female mounting socket, Steel. One leg has an extender, "Rocky Mounting Leg", for use on uneven terrain . . . . . \$269.95
- A111** Caster bracket adaptor for above Combo Stand . .46.88
- S101** Standard Reflector Stand with folding spring-loaded legs, 1-riser with 1" clamp socket, leg extender, Steel . . . . . \$266.00
- S101-1** Reflector Stand with collapsible legs, 1-riser, with 1" clamp socket, leg extender, Steel . . . . \$259.00

## Overhead Stands

- S110** Medium Hi Stand with collapsible legs, 3-risers with 4" dia. Combo Grip Head, no casters, Steel (14'). . . . . \$299.00
- S110C** Same as above but with casters . . . . .347.00
- S115** Hi-Hi Stand with collapsible legs, 3-risers, with 4" dia. Combo Grip Head, no casters, Steel (20') . . . . . \$315.00
- S115C** Same as above but with casters . . . . .366.00
- S113** Medium Hi Stand with folding legs, 3-risers, 4" dia. Combo Grip Head and casters, Steel (14'). . . . . \$349.00
- S-113-1** Hi-Hi Stand with folding legs, 3-risers, 4" dia. Combo Grip Head and casters, Steel (20') . . . . \$377.00
- S111** Hi-Hi Stand with removeable column and folding base with casters, 3-risers, Steel (20') . . . . . \$475.00
- S111H** Super Hi-Hi Stand with removeable column and folding base with casters, 4- risers, Steel (25') . . . . . \$499.00





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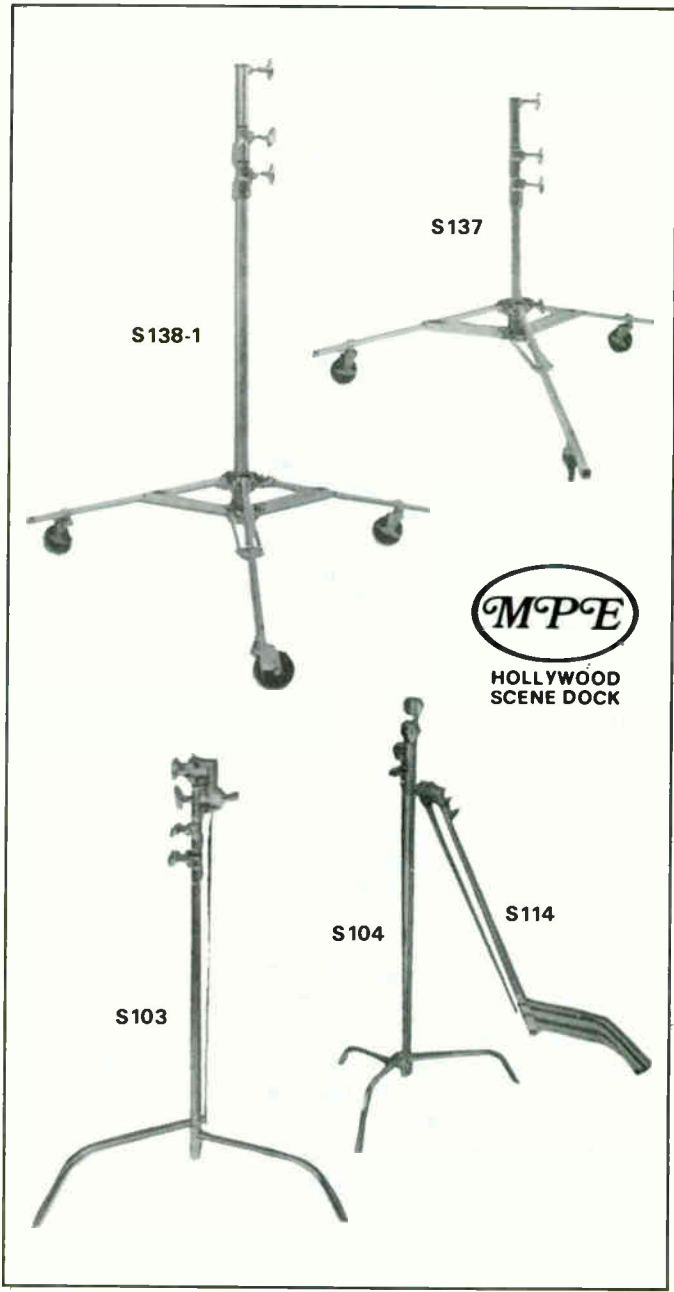
## LIGHT STANDS

### Light Stands

- S135A **Lightweight Baby Stand** with collapsible legs, 2-risers, 5/8" dia. top pin, no casters, Aluminum. One leg has an extender, "Rocky Mountain Leg", for use on uneven terrain . . . . . \$138.50
- S135S **Standard Baby Stand** Same as above but in Steel . . . 129.95
- S136A **Hi-Riser Lightweight Baby Stand** with collapsible legs, 3-risers, 5/8" top pin, no casters, Aluminum. One leg has and extender, "Rocky Mountain Leg", for use on uneven terrain. . . . . 188.00
- S136S **High Riser Standard Baby Stand** Same as above but in Steel . . . . . 172.50
- S134A **Lightweight Baby-Jr. Stand** with collapsible legs, 2-risers, 5/8" top pin and casters, Aluminum . . . . . 195.00
- S134S **Standard Baby-Jr. Stand** Same as above but in Steel . . . . . 185.00
- S134-1A **Hi-Riser Lightweight Baby-Jr. Stand** with collapsible legs, 3-risers, 5/8" dia. top pin and casters, Aluminum . . . . . 239.00
- S134-1S **Hi-Riser Standard Baby Stand** Same as above but in Steel. . . . . 229.00
- S133A **Itsy Bitsy Baby Stand** with collapsible legs, 2-risers, 5/8" dia. top pin, no casters, Aluminum . . . 109.95
- S133S Same as above but in Steel . . . . . 99.95
- S137 **Low Jr. Stand** with collapsible legs, 2-risers, 1 1/8" dia. female mounting socket and casters, Steel . . . . 275.00
- S137-1 **Standard Jr. Stand** with collapsible legs, 2-risers, 1 1/8" dia. female mounting socket and casters, Steel . . . . . 285.00
- S137-2 **Hi-Riser Jr. Stand** with collapsible legs, 3-risers, 1 1/8" dia. female mounting socket and casters, Steel . . . . . 299.00
- S138 **Low Sr. Stand** with collapsible legs, 2-risers, 1 1/8" female mounting socket and casters, Steel . . . 290.00
- S138-1 **Hi-Riser Sr. Stand** with collapsible legs, 2-risers, 1 1/8" dia. female mounting socket and casters, Steel . . . . . 280.00

### Century Stands

- S103 **Standard 30" Century Stand** with spring loaded folding legs, 2 risers. . . . . \$155.00
- S114 Same as above but with 2-risers (40"). . . . . 145.00
- S114T **Turtle/Century Stand 40"**, 2-risers, with removeable spring loaded leg base, with 5/8" dia. male stud . . . . . 160.00
- S114SL **Sliding Leg 40" Century Stand** with spring loaded folding legs, (1-sliding leg), 2-risers, complete with Grip Head and Extension Arm . . . . . 180.00
- S116 Same as above but with 2-risers . . . . . 175.00
- S116SL **Sliding Leg 60" Century Stand** with spring loaded legs (1-sliding leg), 2-risers . . . . . 193.50



### Accessories for Century Stands

- A109 2 1/2" dia. Grip Head Assembly with Extension Arm which also has a Grip Head attached, to mount directly on any 5/8" dia. pin. . . . . \$49.95
- G126 2 1/2" dia. Grip Head Assembly only to mount directly on any 5/8" dia. pin. . . . . 23.00
- G133 4" dia. Grip Head with 1 1/8" dia. pin for mounting directly into female mounting stand sockets. . . . . 77.00
- G133-1 4" dia. Combo Grip Head with 1 1/8" dia. pin and receptacle. Will mount directly into 1 1/8" female stand sockets and enable light unit or gobo mounting . . . . . 99.95

# BCD ASSOCIATES, INC.

7510 N. Broadway Ext. Suite 205  
Oklahoma City, OK 73116  
(405) 843-4574 Telex: 49-91435 ITT

# VIDEO CONTROLLER

## BCD-4000 Professional Video Controller

- One expansion slot
- Tape and disc
- Disc and disc
- Tape and tape
- Full function control variable speed
- Edit function select 2 VTR editor option
- RS-422 SMPTE protocol
- 2 VTR SMPTE code
  - Read and write
  - Non-drop frame
  - Drop frame
  - EBU 25 fps (optional)
- Vertical interval video switching
- 4 "GPI Triggers"

The BCD-4000 Professional Video Controller for slot-compatible IBM PC type computers controls virtually all industrial and broadcast video tape and disc machines as well as many other video devices.

The controller can simultaneously control a pair of Industrial or Broadcast video tape or video disc machines with full variable speed, and function select. RS-232 and RS-422 SMPTE protocols are available for 1", Betacam, M-II and other sophisticated devices. The unit can be equipped with a built-in 2-machine editor.

The main CPU board occupies one expansion slot in the computer with no adaptors, making it suitable for advanced "AT" and 386 machines. The board is short enough to fit small computers.

For Interactive Video Systems, the controller responds to the same command protocol as BCD's VIPc with the added capability of interrupting the host computer on the user's choice of interrupt lines.

For video editing and animation support, the unit may be equipped to read and write SMPTE Time Code: Drop Frame, Non-Drop Frame, or 25 fps EBU Time Code.

The optional internal video editor can control any two appropriate video tape or disc machines for straight-cuts editing. BCD's EDL-4000 Edit Decision List Management system takes full advantage of all the features.

The unit is currently at home in production, post-production and video animation environments.

### Supported Machines

#### Sony Disc

LDP-1000, 2000, 180

#### Sony Tape

Type V, VII, IX, BVU, BVH, SLO-383, SLO-305, SLO-325

#### Panasonic Disc

TQ-2023F, TQ-2024F

#### Panasonic Tape

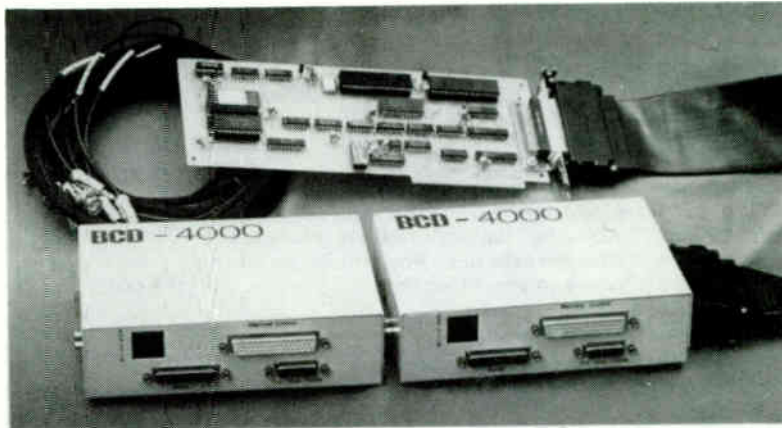
NV-8200, 8170, 9240, 9600, 8500, AU-700, M-II, AG-6100, 6200, 6300, 6500, RECAM with adaptor

#### JVC Tape

CR-850U, CR-8250, BR-8600, BR-6400, BP-5000

#### Pioneer Disc

LD-V 1000, 2000, 3000, 4000, 6000, 6010, LP-700, CLD-900, 909



#### Hitachi Disc

VIP-9500, 9550

#### Philips Disc

LD-935/17

#### MAST/Keystone Slide

System 2 Random Access

### Specifications

#### Video Machine Control I/O

##### Parallel Outputs

26 Open Collector  
40 ma. current sink  
15V max.

##### Analog Output

0-10VDC

##### Parallel Inputs

16 LSTTL Schmitt Trigger 14V max.

##### Serial I/O

RS-232  
RS-422  
Sony Type V, VII, IX

##### Auxilliary Trigger

4 GPI Opto-Isolator

##### Video Audio Signal Control

###### Inputs

2 audio line level Ch. 1 and Ch. 2  
2 video 1V p-p 75 ohm unterminated  
Player and Aux.  
1 tape address code, line level

###### Outputs

2 audio line level, Ch. 1 and Ch. 2  
1 video 1V p-p into 75 ohm, selectable  
Player/Aux./Off  
1 tape address code, line level

#### BCD-4000 Standard System

1 Machine Control with SMPTE Read . . . . . \$1750.00  
1 Machine Animation Option. . . . . 295.00

#### Second Machine Control Option

Includes SMPTE Read . . . . . \$1100.00  
2 Machine Video Editing Option. . . . . 495.00  
SMPTE Generator Option (per machine). . . . . 395.00

EDL-4000 Edit Decision List Software . . . . . \$595.00

# BCD ASSOCIATES, INC.

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# VIDEO CONTROLLER

## VIPc Video Disc/Tape Controller

The VIPc is a microprocessor based video tape/video disc controller for the IBM PC and similar computers. The VIPc controls an industrial style video tape recorder/player and/or laser video disc player or one of each.

Originally designed for Computer Assisted Video Instruction, the VIPc fills other needs for precision video machine control: Cable TV Headend control, Multiple VTR control and multiple video disc control for simulations, and Point-of-Purchase displays.

### Mother Board

VIPc's "Mother Board" plugs into a computer expansion slot and may host one or two Expansion Modules to control tape, disc, one of each, or two disc. The Mother Board contains a microprocessor and up to 24K of ROM and 4K of RAM. The board uses two bi-directional 8088 I/O port addresses in the host computer, typically 3C2 hex and 3C3 hex. All communication is in the form of ASCII characters using mnemonic 4 character commands.

### Video Tape Module

The VIPc command syntax is very straightforward for either tape or disc. All commands consist of four characters, sometimes followed by a number. For example Stop, Play, FFWD, REWD and Pause are typical VTR commands.

"FIND 1000; PLYB 2000" causes the device to play both video and audio from frame 1000 to frame 2000.

### Video Disc Module

The VIPc-Disc Module operates in the same manner and with the same commands as the VIPc-Tape Module.

Because different disc players require different commands to perform similar actions, BCD has incorporated on-board firmware to interpret the user's commands into those appropriate for a particular disc player. The VIPc command to select disc type is "Type X" where X is the disc type.

This flexibility enables the user to control various disc players by merely changing the "X" designation.

The VIPc-Tape features frame-accurate location or video tape scenes using BCD's Absolute Addressing Code which numbers each video tape frame and provides a Tape I.D. number. The BCD frame code is compatible with all other BCD products for tape interchangeability. Optionally, the VIPc can read standard SMPTE time code for tape positioning.

### Monitor Switch

Each module includes a small external video-audio switch box which connects the VIPc to the video player and TV monitor. Typically, it switches between computer composite video and player video, at the precise frame. Alternately, a special jack provides TTL trigger signals to switch some combination TV monitors from RGB Computer mode to Composite Video mode. The player itself is controlled through a cable from the switch box.

The switch box for VIPc-Disc has three disc control connectors for players requiring RS-232 Serial, 8-bit parallel or bit-stream (consumer) communications.

### Video Tape Animation

The Video Tape Animation option equips the VIPc tape system to: read standard SMPTE time code and to perform short-duration insert edits with an appropriate VTR. The input source may be any recordable video signal, camera or computer graphics.

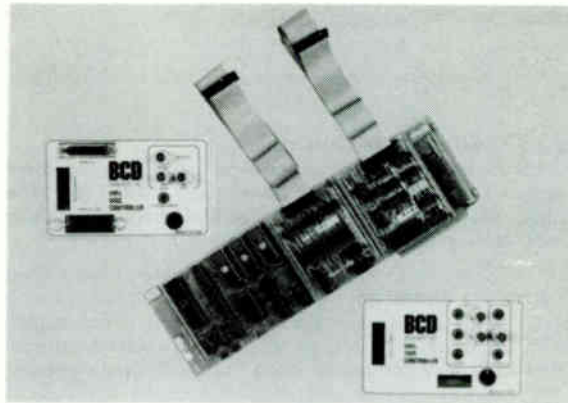
### VTR Types:

#### Sony

Type V Series (VP-5000 to VO-5850), BVU Series, SLO-323, SLP-303, SLO-325, SLP-305, SLO-383, VO-2011, VO-2611, VO-2811, VO-2850, VO-2860.

#### Panasonic

NV-9240, NV-9600, AU-700, NV-8200, NV-8170, NV-8500, AG-6100, AG-6200, AG-6300, AG-6500.



### JVC

BR-6400 with modification. CR-850U.

### Disc Player Types:

#### Pioneer

LD-V1000, LD-V2000, LD-V3000, LD-V4000, LD-V4200, LD-V6000, LD-V6010, PR-8210, LD-700, CLD-900.

#### Sony

LDP-1000A, LDP-180, LDP-2000/1 through /5.

#### Philips

935/17

#### Hitachi

VIP-9500

#### Panasonic

OMDR TQ2024F

## Specifications

6502 Microprocessor

2K RAM

8K PROM (Field Upgradable to 24K)

I/O to/from Video Disc/Tape Modules

I/O to/from IBM PC (compatible) 62-pin slot connector.

## Video Tape Module

### (PC Board and "Breakout Box")

VTR Control I/O: VTR control cable supplied for 1 VTR type

Inputs: 5 LSTTL Schmitt Trigger 14V max.

Outputs: 9 open collector  
40 ma. current sink, 15V max.

Aux. Connector: 5-pin DIN  
+12V, -12V, +5V

TTL switch signal (Tape video), TTL switch signal (Auxiliary Video), TTL signals are software controlled, simultaneous with analog player/aux video switching

### Analog Signals

Inputs: 2 audio line level CH1 and CH2  
2 video, 1V p-p 75 ohm terminated, tape and auxiliary

Outputs: 1 tape addressing code from VTR, line level  
1 audio line level, CH1, CH2, both or off  
1 video 1V p-p into 75 ohm, selectable tape or aux. video  
1 addressing code to VTR, line level

## VIPc Video Disc Module

### (PC Board and "Breakout Box")

Control I/O: RS-232 (DB-25) for control of Serial Video Disc Players Centronics style 36-pin for control of "Parallel" and "Consumer" type Disc Players

Aux. Connector: 5-pin DIN  
+12V, -12V, +5V  
TTL switch signal (Tape video), TTL switch signal (Auxiliary video), TTL signals are software controlled, simultaneous with analog player/aux. video switching

### Analog Signals

Inputs: 2 video, 1V p-p 75 ohm terminated, tape and auxiliary  
Outputs: 1 video, 1V p-p into 75 ohm, selectable tape or aux. video

VIPc Tape or Disc ..... \$1195.00  
Additional Module ..... 500.00  
Animation option includes SMPTE Read ..... 900.00  
SMPTE Read Only Option ..... 250.00



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# VIDEO TAPE CONTROLLER/ COMPUTER CONTROLLED VIDEO SOFTWARE

## VideoLink 232 Video Tape Controller

The 232 lets computers control industrial type video tape recorders with frame-accurate precision via a standard RS-232 Serial Port. The internal microprocessor and up to 16K of RAM/ROM translates simple user commands into complex VTR operations.

The VideoLink features frame accurate location of video tape scenes using BCD's Absolute Addressing which numbers each video frame and provides a Tape I.D. number. The BCD frame code is compatible with all other BCD products. Its internal video/audio switcher permits one TV monitor to display composite video from either tape or computer.

A special terminal provides TTL trigger signals for auxiliary device control. With accessories, this output can automatically switch a Sony PVM Series monitor from RGB for computer display to composite video for tape display.

The VideoLink command syntax is straightforward: "FIND 1000; PLYB 2000" causes the system to play both video and audio tapes from frame 1000 to frame 2000.

Originally designed for computer assisted video instruction, the VideoLink fills other needs for precision video tape control: Cable TV headend control, multiple VTR control for simulations, point-of-purchase displays and video disc simulation.

SMPTE Read option equips the VideoLink to read standard SMPTE time code as well as BCD's frame number code.

The VideoLink animation option equips the VideoLink to: read standard SMPTE time code and to perform short-duration insert edits with an appropriate VTR. The input source may be any recordable video signal, camera or computer graphics.

## VTR Types:

### Sony

Type V Series (VP-5000 - VO-5850), BVU Series, SLO-323, SLP-303, SLO-383, SLO-305, SLO-325, VO-2011, VO-2611, VO-2850, VO-2860

### Panasonic

NV-9240, NV-9600, AU-700, NV-8200, NV-8170, NV-8500, AG-6100, AG-6200, AG-6300, AG-6500

### JVC

BR-6400 (VHS with dealer modification.) CR-850U.

## Specifications

6502 Microprocessor

2K RAM

8K PROM (Field upgradable to 16K)

I/O to/from RS-232C Communication with host computer

300-9600 Baud

110V or 220V versions available

**Control I/O:** VTR control cable supplied for 1 VTR type

**Inputs:** 5 LSTTL Schmitt trigger 14V max.

**Outputs:** 9 open collector  
40ma. current sink  
15V max.

**Aux. Connector:** 5-pin DIN  
+ 12V, -12V, + 5V  
TTL switch signal negative going (Tape video), TTL switch signal positive going (Auxiliary video), TTL signals are software controlled, simultaneous with analog tape/aux. video switching

## Analog Signals

**Inputs:** 2 audio line level CH1 and CH2  
2 video, 1V p-p 75 ohm terminated, tape and aux.  
1 tape addressing code with VTR, line level

**Outputs:** 1 audio line level, CH1, CH2, both or off  
1 video, 1V p-p into 75 ohm, selectable tape or aux. video  
1 addressing code to VTR, line level



VideoLink 232	.....	\$1295.00
VideoLink 232 Animation option	.....	2195.00
VideoLink SMPTE Read option	.....	1545.00
RS-232 "Null Modem Cable"	.....	40.00
Video/Audio Signal Cable Harness (BNC and RCA)	.....	75.00

## VideoBase Computer Controlled Video Software

VideoBase is a small memory-resident program which operates a BCD VIPc, VideoLink or BCD-4000 from within almost any program. The Database system you use now is ready to be a video database. Even your word processor can control video disc and tape.

The five functions Play, Stop, Fast Forward, Rewind and Pause are always available by pressing the ALT key in concert with one of the cursor keys.

The video scene is defined by two frame numbers on the screen. To play a scene with VideoBase, just position the cursor on the first frame number and press a pair of special "hot keys," usually the ALT and the right shift keys. VideoBase then scans the screen until it locates the cursor and the first (beginning) frame number. Then it continues scanning until it finds another number, the ending frame number. It then sends the appropriate commands to the BCD controller.

Alternately, you may define the frame numbers by enclosing them with brackets. Pressing the "hot keys" with [2000] {3000} on the screen will play the video from frame 2000 to frame 3000. If only the first number is present, the BCD Controller will "press the Pause button" at that frame.

VideoBase takes full advantage of the VIPc's ability to control both disc and tape players.

Beginning and ending frame numbers of scenes may be expressed in either frames or SMPTE format. This means that frame 18000 is the same as 00:10:00:00 or ten minutes into the program. The format choice is yours. If your BCD controller is equipped to read SMPTE code, VideoBase will handle that, too.

With so much power and so many options, you'll be surprised how easy VideoBase is to configure. Just select the options you want from the menu in the VBINSTALL program.

All you need for VideoBase is an MS-DOS computer that uses the equivalent of the IBM Color Graphics Adaptor or Monochrome display and, of course, a BCD VIPc, VideoLink or BCD-4000.

# BCD ASSOCIATES, INC.

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# VTR CONTROL INTERFACE/SOFTWARE

## 450 VTR Control Interface

The 450 VTR Control Interface permits any Apple II, II+ or IIE computer to control industrial type video tape recorders and/or players with frame-accurate precision. The single board fits into a peripheral slot (typically #4) in the computer, and includes all required video, audio and VTR control cables.

Solid-state video/audio switching displays composite video from either the computer or the VTR.

Standard software permits encoding absolute frame addressing of video tape for frame-accurate tape positioning.

The standard software includes the Logger II utility for defining "In" and "Out" points of scenes and saving the file to disk. Additionally, OPSUBS (Operational SUBroutineS) provides all the BASIC subroutines required for integrating precision VTR control into your custom BASIC programs. Drivers for Pascal are available at additional cost.

Applications for precision random access video tape include education, training, point-of-purchase and a multitude of other image storage/retrieval uses including X-ray and museum filing.

Many users pre-produce and evaluate programs before mastering video discs.

## VTR Types:

### Sony

Type V Series (VP-5000-VO-5850), BVU Series, SLO-323, SLP-303, SLO-383, SLP-305, SLO-325, VO-2011, VO-2611, VO-2811, VO-2850, VO-2860.

### Panasonic

NV-9240, NV-9600, AU-700, NV-8200, NV-8170, NV-8500, AG-6100, AG-6200, AG-6300, AG-6500.

### JVC

BR-6400 (VHS with dealer modification.) CR-850U.

## Specifications

<b>Control I/O:</b>	VTR control cable supplied for 1 VTR type
<b>Inputs:</b>	5 LSTTL Schmitt Trigger 14V max.
<b>Outputs:</b>	9 open collector 40ma. current sink, 15V max.
<b>Analog Signals</b>	
<b>Inputs:</b>	2 audio line level CH1 and CH2 2 video, 1V p-p 75 ohm terminated, Tape and Apple computer
<b>Outputs:</b>	1 Tape addressing code from VTR, line level 1 audio line level, CH1, CH2, both or off 1 video 1V p-p into 75 ohm, selectable Tape or Aux., video 1 addressing code to VTR, line level

450 ..... \$595.00

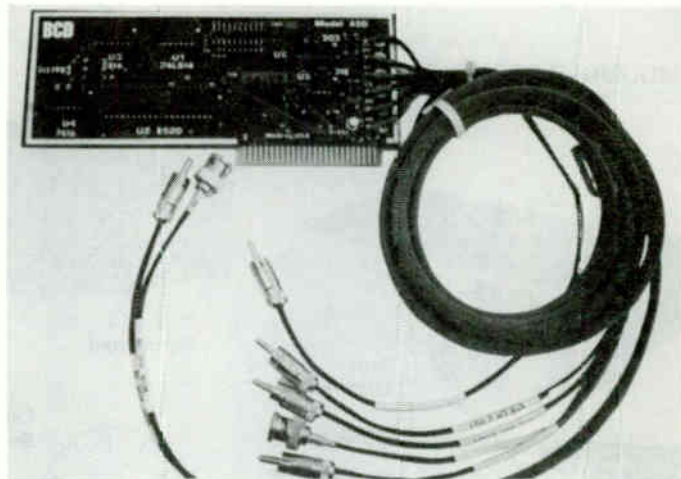
## Software for the Model 450 Logger II

Logger II is an enhanced version of Logger I which is provided with each BCD 450 VTR Control Interface. Logger II is a standard part of BCD's The Instructor authorizing system. If you purchase The Instructor, you do not need another copy of Logger II.

Logger II in concert with the BCD 450 VTR Control Interface lets you control most VTR functions from your Apple keyboard. You can write BCD frame code (and read it), mark in and out points of video scenes, Go To and play specific scenes, label scenes (up to 30 characters), adjust "preroll" times, and even read SMPTE time code at extra cost.

## Flexible Display

Logger II displays the in and out points of scenes and current tape position as Hours:Minutes:Seconds:Frame, or Frame Numbers or both. HH:MM:SS:FF: display is selectable for either 30 frames/second or 25 frames/second for U.S. or European systems.



450

Additionally, Logger II allows global up/down changes of the tape log, printing of tape logs in HH:MM:SS:FF: or Frames format, and Go To from its main menu or the Change File sub-menu.

OPSUBS .....	N/C
Logger II .....	N/C
Logger II SMPTE .....	\$125.00

## The Instructor

Originally designed for those who must produce an Interactive Video lesson "by tomorrow afternoon", The Instructor provides a myriad of selections for the creative author.

Based upon the 450 VTR Control Interface, The Instructor almost holds your hand, prompting you to select "Pages" in the form of text, multiple choice, keyword, video, audio, graphics, menu, random, or even activate your video tape recorder's Record function.

## The Instructor Knows the Score

Not only the student's final percentage, but every response to every question is automatically saved to the disk for your analysis.

Precision Video Tape Control, The Instructor includes the Logger II program which makes the computer remember frame numbers while you concentrate on lesson content. The system encodes a specific tape I.D. number on each video tape and disk tape log so The Instructor can be sure your student has inserted the current tape into the VTR.

The Instructor 450 system is frame-accurate so you can update existing tapes to become interactive. For video facilities that already have SMPTE time code, The Instructor's SMPTE option can read that too.

The Instructor .....	\$395.00
The Instructor SMPTE .....	520.00

## Super Pilot Library Routines

### Super Pilot + Video

Apple Super Pilot is a versatile Pascal-based authoring language. Now, supplemented by BCD's routines, Super Pilot can control industrial video tape machines with frame-accurate precision.

The BCD Apple Super Pilot Library Routines are supplied on a standard Apple Disk, to be transferred to your Author Master Disk. Thereafter, each student lesson disk you initialize will contain the BCD VTR operating routines. The BCD SPL package also contains the BCD standard disk, including Logger I and Logger II.

Super Pilot Library Routines .....	\$125.00
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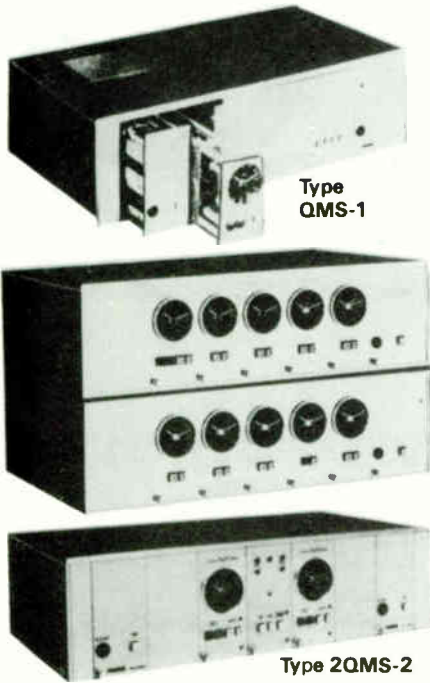
\*Apple Super Pilot (c) Apple Computer

# BEAVERONICS, INC.

8 Haven Ave.  
Port Washington, NY 11050  
(516) 883-4414

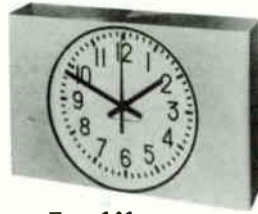
# MASTER CLOCK SYSTEMS

## MODULAR DESIGN FACILITATES FUTURE EXPANSION



Type QMS-1

Type 2QMS-2



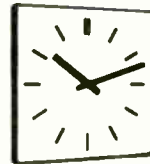
Type 141 Illuminated



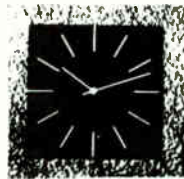
Tabletop



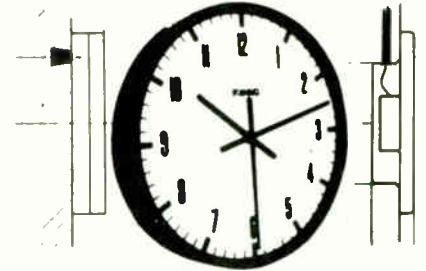
Extra-Flat Secondary Clock



Decorative Secondary-Clocks



## NUMEROUS SECONDARY CLOCKS ARE AVAILABLE INCLUDING THOSE WITH SILENT OIL-BATH MOVEMENTS



Surface Mtg.

Flush Mtg.

6 Digit Digital Displays Available



### Typical Slave Clock Prices (Sec-Impulse Types)

3"	Panel Mtg. . . . .	3200.066 . . . . .	\$240.00
12"	Oil Bath . . . . .	3200.040* . . . . .	395.00
16"	Oil Bath . . . . .	3200.052* . . . . .	420.00
10 1/2"	Oil Bath (Illum.) 141-2* . . . . .		745.00
12"	Single Face Quartz Battery Clock . . . . .	3305.005E . . . . .	70.00
12"	Double Face Quartz Battery Clock with Mtg. Bracket . . . . .	3305.005D . . . . .	155.00

\*Indicates Silent Operation

2"	Panel Mtg. . . . .		\$185.00
10"	Extra-flat . . . . .	3201.002 . . . . .	215.00
12"	Extra-flat . . . . .	3201.003 . . . . .	225.00
16"	Extra-flat . . . . .	3201.004 . . . . .	245.00

**2QMS-2 Dual Master Clock** with automatic change-over to 2nd Timebase upon demise of 1st. Includes all features of QMS-1 plus 2nd isolated LS Driver Module and heavy-duty 9.5AH reserve battery backup . . . . . \$15,465.00

**QMS-1 Master Clock with OS Precision Oscillator Module and LS Driver Module;** provides a basic accuracy of better than one second per year; includes 1AH reserve battery backup. Provides expansion capabilities including ability to synchronize to external signal. Modular Design . . . . . \$5,290.00

**PR 80 Microprocessor Cont'd Programmer**  
Provides for 255 permanent commands and 127 temporary commands over six separate output circuits. Varying duration commands may occur; daily, daily except Sat. and Sun., daily except Sun., or on a specific week day. PR 80 contains its own timebase or may be driven from a Master Clock . . . . . \$1,620.00





**BECKMAN INDUSTRIAL CORP.**  
 A SUBSIDIARY OF EMERSON ELECTRIC COMPANY  
 3883 Ruffin Rd.  
 San Diego, CA 92123-1898  
 (619) 495-3264  
 Telex: 24-9031  
 FAX: (619) 268-0172

# OSCILLOSCOPE

## 9020 OSCILLOSCOPE

- 20MHz, dual trace
- Delayed sweep
- Component tester
- Variable hold off
- Beam finder
- Includes two X1/X10 probes

The 9020 is a 20MHz, dual trace oscilloscope with an abundance of features to satisfy any use in the education, field service, hobby and development environment.

The 9020 is equipped with a delayed sweep feature usually available on higher bandwidth oscilloscopes. This makes easy waveform analysis.

The built-in component tester makes the 9020 both an oscilloscope and a component curve tracer. This function will give the user a quick good/bad indication of resistors, capacitors, inductors, diodes, transistors, transformers etc. The testing can be done on components both in or out of circuit.

Other useful features include the variable hold off function for obtaining a stable display when measuring an aperiodic signal and the beam find function for locating the beam tracing itself regardless of any knob settings.



The switchable X1/X10 probes offer more sensitivity at low frequency measurements and less circuit loading at high frequency measurements.

### SPECIFICATIONS (at 23 ± 5°C, < 75% R.H.)

#### Electrical

<b>Vertical Deflection</b>			
Bandwidth	DC to 20MHz (-3dB)	Slope	+ or -
Risetime	17.5ns	Sensitivity	Internal 0.5 div (20Hz - 20MHz). External 0.5 Volts (min.)
Overshoot	< 3%	Trigger Level	Variable control; level indicated by LED
Calib. Deflection Factor	10 steps: 5mV/div to 5V div. 1-2-5 sequence	<b>Sweep Delay</b>	
Accuracy	± 3% (10°C to 35°C)	Ranges	10, 1, 0.1ms.; 10, 1, 0.1us
Variable Control	5:1; max clockwise increases sensitivity five times to 1mV/div, 10MHz (-3dB) approx. 5% error	Mode	Normal, Search, Delay
Input Impedance	1M ohm, 25pF (2%)	Multiplier	10 turn variable (X1 to X10)
Input Max. Voltage	400V (DC + pos peak AC); 500V p-p AC at 1kHz or less	<b>X - Y Operation</b>	
Operating Modes	CH1, CH2, CH1 & CH2, ALternate, CHOPped (Approx. 500KHz)	X - Y Mode	Selected by X - Y switch
Algebraic Addition	CH1 + CH2; or -CH1 + CH2	Bandwidth	DC - 2MHz (3dB), Y, CH1; X, CH2
Inverter	CH1 only	Phase Shift	Less than 3° (100KHz)
<b>Timebase</b>		<b>Component Tester</b>	
Deflection Factor	20 calibrated steps: 0.1us/div to 0.2s/div (1-2-5 sequence); uncalibrated VAR control extends deflection factor to 0.5s/div.	Test Voltage	8.6Vac (rms) Max. Open Circuit
Accuracy	Less than 3% (10°C to 35°C)	Test Current	Max. 28mA (Shorted)
Expansion	X10, Accuracy less than 5% (0.2us, 0.1us Uncalibrated)	Test Frequency	50Hz:60Hz
Single Sweep	SINGLE - RESET switches with LED	Components	Capacitor, Inductor, Diode, Trans stor, Zener, etc.
Holdoff	10:1, HOLD-OFF variable control increases holdoff time.	<b>Ambient Operational Conditions</b>	
<b>Trigger</b>		Normal Range	10° to 35°C; R. Humidity 80% max.
Triggering Modes	AUTO (peak) or NORM	<b>Power Consumption</b>	Approx. 35 watts
Source	CH1, CH2, ALT (CH1/CH2), EXT.	<b>Dimensions</b>	310mm (wide) 160mm (high); 400mm (deep).
Coupling	AC, DC, LF, HF	<b>Weight</b>	9Kg
		<b>Accessories</b>	Power cord, Operator's Manual 2 Probes (10:1/1:1)

#### General

Cathode Ray Tube	150mm rectangular with 8 x 10 division internal graticule; approx. 2KV acceleration potential; phosphor P31.
Trace Rotation	Corrects trace tilt; adjustment is made on right side of instrument.
Beam Finder	Returns trace to view regardless of control settings.
Z-Modulation	Positive TTL level, >50ns width pulse can blank trace of an intensity.
Ramp Output	Sawtooth wave approx. 5V p-p.
Calibrator	1KHz (5%), 0.2V p-p (2%) Square Wave.

Price ..... \$499.00

Prices and Specifications Subject to Change Without Notice.

# BELDEN WIRE AND CABLE

DIVISION OF COOPER INDUSTRIES



P.O. Box 1980  
Richmond, IN 47375  
(317) 983-5200

# COAXIAL CABLE




## Computer, Instrumentation and Broadcast Cables

Description	Trade Number & U.L. Type	Standard Lengths		Std. Unit Lbs. ea.	AWG (Stranding) Dia. in In. Nom. D.C.R.	Insulation & Nominal Core O.D.		Nominal O.D.		No. of Shields & Material Nom. D.C.R.	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
		ft.	m			Inch	mm	Inch	mm			pF/ft.	pF/m	MHz	db/100 ft.	db/100 m

### 50 ohm

	<b>88240</b> 200C Subject 13 Non-conduit	100	30.5	5.1	20 (Solid) .032 bare copper 10.1Ω/M' 33.1Ω/km	Teflon <sup>®</sup>		.178	4.52	Tinned copper 4.1Ω/M' 13.5Ω/km 95% shield coverage	70%	27	88.6	100	4.1	13.5
		500§	152.4	19.7		.112	2.85				Black tint Teflon jacket.					
<b>RG-58/U Type</b>		1000§	304.8	38.5										400	9.5	31.2
	<b>89880</b> 200C Subject 13 Non-conduit	100	30.5	20.8	Solid .0855 Tinned copper 1.42Ω/M' 4.66Ω/km	Foamed Teflon		.375	9.53	Aluminum/polyester shield + 95% tinned copper braid + Duofoil <sup>®</sup> + 95% tinned copper braid 1.52Ω/M' 5.0Ω/km	80%	26	85.3	5	.37	1.2
		500§	152.4	78.1		.247	6.27				Orange tint Teflon jacket.					
<b>Ethernet<sup>™</sup></b>		1640§	500.0	247.5												

### 75 ohm

	<b>88241</b> 200C Subject 13 Non-conduit	100	30.5	6.1	22 Solid .025 bare copper covered steel 55.0Ω/M' 180.5Ω/km	Teflon		.206	5.23	Bare copper 2.7Ω/M' 8.9Ω/km 95% shield coverage	69.5%	21.0	68.9	100	3.4	11.2
		500§	152.4	24.7		.135	3.43				Black tint Teflon jacket.					
<b>RG-59/U Type</b>		1000§	304.8	48.0										400	7.1	23.3
	<b>89108</b> 200C Subject 13 Non-conduit	100	30.5	5.9	20 (Solid) .032 bare copper covered steel 61.5Ω/M' 201.8Ω/km	Foamed Teflon		.218	5.53	Duofoil + 95% tinned copper braid 100% shield coverage	84%	16.5	54.2	50	1.8	5.9
		500§	152.4	23.7		.140	3.56				Black tint Teflon jacket.					
<b>RG-59/U Type</b>		1000§	304.8	46.1										200	4.0	13.1
	<b>89259</b> 200C Subject 13 Non-conduit	100	30.5	6.0	22 (7x30) .030 bare copper 15.0Ω/M' 135.2Ω/km	Foamed Teflon		.218	5.54	Bare copper 2.6Ω/M' 8.5Ω/km 95% shield coverage	84%	16.0	52.5	50	2.1	6.9
		500§	152.4	25.0		.146	3.70				Black tint Teflon jacket.					
<b>RG-59/U Type</b>		1000§	304.8	46.3										200	4.5	14.8
														400	6.6	21.7
														900	10.1	33.1

<sup>®</sup>DuPont trademark

<sup>™</sup>Xerox trademark

§Spools are one piece, but length may vary ± 10% from length shown.

# BELDEN WIRE AND CABLE

DIVISION OF COOPER INDUSTRIES





P.O. Box 1980

Richmond, IN 47375




(317) 983-5200

# COAXIAL CABLE

## Broadcast Cables

Description	Trade & U.L. Type Number	Standard Lengths		Std. Unit Lbs. ea.	AWG (Stranding) Dia. in In. Nom. D.C.R.	Insulation & Nominal Core O.D.		Nominal O.D.		No. of Shields & Material Nom. D.C.R.	Nom. Imp. $\Omega$	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
		ft.	m			Inch	mm	Inch	mm				pF/ft.	pF/m	MHz	db/100 ft.	db/100 m
 <b>RG-58A U Type</b> Triax Cable	<b>9222</b> 80C	100	30.5	4.5 19.6 20.4	20 (7x28) .037 tinned copper 9.46 $\Omega$ /M' 31.04 $\Omega$ /km	Poly-ethylene		.240	6.10	2 tinned copper Inner 4.73 $\Omega$ /M' 15.5 $\Omega$ /km Outer 4.30 $\Omega$ /M' 14.1 $\Omega$ /km 96% shield coverage	50	66%	30.8	101.0	50	3.3	10.8
		U-500	U-152.4			.114	2.90								100	4.9	16.1
 <b>RG-59/U Type</b> Triax Cable	<b>9267†</b> 80C	100	30.5	8.6 41.2 86.0	20 (Solid) .033 bare copper 10.1 $\Omega$ /M' 33.1 $\Omega$ /km	Cellular Poly-ethylene		.360	9.14	2 bare copper Inner 2.54 $\Omega$ /M' 8.3 $\Omega$ /km Outer 2.82 $\Omega$ /M' 8.6 $\Omega$ /km 96% shield coverage	75	78%	17.3	56.8	1	0.3	1.0
		500	152.4			.146	3.71								50	1.8	2.76
 <b>RG-11/U Type</b> Triax Cable	<b>9192†</b> AWM 1641 60C Power Limited Cable Class 2	500	152.4	81.1 146.0	14 (19x27) .064 bare copper 3.0 $\Omega$ /M' 9.84 $\Omega$ /km	Cellular Poly-ethylene		.520	13.2	2 bare copper Inner 1.55 $\Omega$ /M' 5.1 $\Omega$ /M' Outer 1.7 $\Omega$ /M' 5.58 $\Omega$ /km 96% shield coverage	75	78%	17.3	56.8	50	1.0	3.3
		1000	304.8			312	7.92								100	1.5	4.9
 <b>RG-11/U Type</b> Triax Cable	<b>8233</b> 80C	500	152.4	63.5 124.0 251.9	14 (Solid) .064 bare copper 2.5 $\Omega$ /M' 8.2 $\Omega$ /km	Cellular Poly-ethylene		.475	12.07	2 bare copper Inner 1.4 $\Omega$ /M' 4.59 $\Omega$ /km Outer 1.5 $\Omega$ /M' 4.9 $\Omega$ /km 1.5 $\Omega$ /M' 4.9 $\Omega$ /km 96% shield coverage	75	78%	17.3	56.8	50	1.0	3.3
		1000	304.8			.285	7.24								100	1.5	4.9

## Broadcast and Computer Cables

 <b>RG-8/U Type</b> Triax Cable	<b>9888</b> 80C	500	152.4	72.8 142.4	11 (7x19) .108 bare copper 1.17 $\Omega$ /M' 3.80 $\Omega$ /km	Cellular Poly-ethylene		.480	12.19	2 bare copper Inner 1.2 $\Omega$ /M' 3.9 $\Omega$ /km Outer 2.1 $\Omega$ /M' 6.9 $\Omega$ /km 96% shield coverage	50	78%	26.0	85.3	50	1.2	3.9
		1000	304.8			.285	7.24								100	1.8	5.9
 <b>RG-59/U Type</b> Triax Cable	<b>8232</b> 80C	500	152.4	28.4 58.0 118.1	20 (Solid) .032 bare copper covered steel 34.5 $\Omega$ /M' 113.2 $\Omega$ /km	Cellular Poly-ethylene		.315	8.00	2 bare copper 2.61 $\Omega$ /M' 8.5 $\Omega$ /km Inner 2.5 $\Omega$ /M' 8.2 $\Omega$ /km Outer 2.8 $\Omega$ /M' 9.2 $\Omega$ /km 96% shield coverage	75	78%	17.3	56.8	50	1.8	5.9
		1000	304.8			.143	3.63								100	2.6	8.5
 <b>RG-11/U Type</b> Triax Cable	<b>9232†</b> AWM 1641 30V 60C Power Limited Cable Class 2	500	152.4	75.0 154.7	14 (19x27) .064 bare copper 3.0 $\Omega$ /M' 9.84 $\Omega$ /km	Cellular Poly-ethylene		.520	13.2	2 bare copper Inner 1.55 $\Omega$ /M' 5.1 $\Omega$ /km Outer 1.7 $\Omega$ /M' 5.58 $\Omega$ /km 96% shield coverage	75	78%	17.3	56.8	50	1.0	3.3
		1000	304.8			.312	7.92								100	1.5	4.9

†Passes the VW-1 Vertical Wire Flame Test.  
Request quotations of RG-U cables not listed.

Prices and Specifications Subject to Change Without Notice.



# BELDEN WIRE AND CABLE

DIVISION OF COOPER INDUSTRIES

P.O. Box 1980  
Richmond, IN 47375  
(317) 983-5200







# VIDEO CABLE

## 75 ohm Precision Video Cables

The 9231 is a precision 75 ohm Video cable manufactured with rigid control of concentricity and all dimensional tolerances offering superior return loss characteristics, a quality Video transmission cable which provides exceptional picture definition and eliminates problems resulting from periodicity. It has a non-contaminating PVC jacket for more flexibility. The double braid 8281 75 ohm Video cable is made to tight tolerances for excellent return loss performance. Our 8279

miniature 75 ohm Video cable is for applications where space is critical. The gray PVC and black polyethylene jackets are made of non-contaminating, non-migratory compounds.

Typical Application: Video signal transmission in Color and Monochrome TV studios.  
100% Sweep Tested.

Description	Trade & U.L. Type Number	Standard Lengths		Std. Length ea.	AWG (Stranding) Dia. in In. Nom. D.C.R.	Insulation & Nominal Wire O.D.		Nominal O.D.		No. of Shields & Material Nom D C R	Nom. Imp. Ω	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
		ft.	m			Inch	mm	Inch	mm				pF/ft.	pF/m	MHz	db/100 ft.	db/100 m
	9231† 60C	500	152.4	37.4	20 (Solid) .031 bare copper 9.9Ω/M' 32.5Ω/km	Poly- ethylene .198	5.03	.305	7.75	Tinned copper double braid 1.06Ω/M' 3.5Ω/km 98% shield coverage	75	66%	21	69.0	.01	.06	.2
		1000	304.8	76.0											1	.08	.3
	8281⊖ 80C	500	152.4	36.1	20 (Solid) .031 bare copper 9.9Ω/M' 32.5Ω/km	Poly- ethylene .198	5.03	.305	7.75	Tinned copper double braid 1.06Ω/M' 3.5Ω/km 96% shield coverage	75	66%	21	69.0	.01	.06	.2
		1000	304.8	73.5											1	.08	.3
	9141 80C	1000	304.8	73.6	20 (Solid) .032 bare copper 9.9Ω/M' 32.5Ω/km	Poly- ethylene .200	5.08	.305	7.75	Tinned copper double braid 1.06Ω/M' 3.5Ω/km 99% shield coverage	76	66%	20	65.6	.01	.06	.2
		1500	457.2	110.9											1	.08	.3
	8279⊖ 80C	100	30.5	3.1	23 (7x32) .023 bare compacted copper 19.1Ω/M' 62.7Ω/km	Poly- ethylene .146	3.71	.220	5.59	Tinned copper 96% shield coverage 4.5Ω/M' 14.8Ω/km	75	66%	21	69.0	.01	.14	.5
		250	76.2	7.5											1	.15	.5
	9209 80C	U-500	U-152.4	14.2	23 (7x32) .023 bare compacted copper 19.1Ω/M' 62.7Ω/km	Poly- ethylene .146	3.71	.220	5.59	100% Duofoil® + 96% tinned copper 4.5Ω/M' 14.8Ω/km	75	66%	21	69.0	.01	.14	.5
		U-1000	U-304.8	27.1											1	.15	.5
	8299	Pkg. wt. ea. .3 lbs.		For use on 9231, 8281 and 9141. Adapter for use with PI-259 connector, 25 in box.													

† Passes the VW-1 Vertical Wire Flame Test.  
⊖ Request Technical Data Bulletin T/8-17 for connector information.  
Request quotations of RG/U cables not listed.

Prices and Specifications Subject to Change Without Notice.




# BELDEN WIRE AND CABLE

DIVISION OF COOPER INDUSTRIES



P.O. Box 1980  
Richmond, IN 47375  
(317) 983-5200

# COAXIAL CABLE

## Broadcast and MATV Cables

Description	Trade & U.L. Type Number	Standard Lengths		Std. Unit Lbs. ea.	AWG (Stranding) Dia. in In. Nom. D.C.R.	Insulation & Nominal Core O.D.		Nominal O.D.		No. of Shields & Material Nom. D.C.R.	Nom. Imp. $\Omega$	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
		ft.	m			Inch	mm	Inch	mm				pF/ft.	pF/m	MHz	db/100 ft.	db/100 m
 <b>RG-59/U Type</b>	<b>9244</b> AWM 1354 80C Power Limited Cable Class 2	U-500*	U-152.4	15.9	22 (Solid) .025 bare copper covered steel 55.0 $\Omega$ /M' 180.5 $\Omega$ /km	Poly-ethylene		.242	6.15	Bare copper braid 4.5 $\Omega$ /M' 14.8 $\Omega$ /km 86% shield coverage	73	66%	21.0	68.9	50	2.4	7.9
		500*	152.4	16.6		.146	3.71								100	3.4	11.2
		U-1000*	U-304.8	30.8										200	4.9	16.1	
		1000*	304.8	31.7										400	7.1	23.3	
														700	9.5	31.2	
														900	10.9	35.6	
														1000	12.0	39.4	
 <b>RG-59/U Type</b>	<b>8221</b> 80C	100	30.5	3.8	22 (Solid) .025 bare copper covered steel 55.0 $\Omega$ /M' 180.5 $\Omega$ /km	Cellular Poly-ethylene		.242	6.15	Bare copper braid 2.6 $\Omega$ /M' 8.5 $\Omega$ /km 95% shield coverage	80	78%	16.3	53.5	50	2.0	6.6
		U-500	U-152.4	17.0		.146	3.71								100	2.9	9.5
		500	152.4	17.8										200	4.1	13.5	
		U-1000	U-304.8	33.0										400	5.9	19.4	
		1000	304.8	33.9										700	7.8	25.6	
														900	8.8	28.9	
														1000	9.9	32.5	
 <b>RG-59/U Type</b>	<b>9240</b> 80C	U-500	U-152.4	14.9	20 (Solid) .032 bare copper covered steel 61.5 $\Omega$ /M' 201.8 $\Omega$ /km	Cellular Poly-ethylene		.242	6.15	Bare copper braid 5.6 $\Omega$ /M' 18.4 $\Omega$ /km 80% shield coverage	75	78%	17.3	56.7	50	1.8	5.9
		500	152.4	14.3		.146	3.71								100	2.6	8.5
		U-1000	U-304.8	26.2										200	3.8	12.5	
		1000	304.8	27.2										500	6.2	21.0	
														900	8.4	27.6	
														1000	8.8	28.9	

## MATV Cables

Description	Trade & U.L. Type Number	Standard Lengths		Std. Unit Lbs. ea.	AWG (Stranding) Dia. in In. Nom. D.C.R.	Insulation & Nominal Core O.D.		Nominal O.D.		No. of Shields & Material Nom. D.C.R.	Nom. Imp. $\Omega$	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
		ft.	m			Inch	mm	Inch	mm				pF/ft.	pF/m	MHz	db/100 ft.	db/100 m
 <b>RG-59/U Type</b>	<b>9233<sup>P</sup></b> 80C	U-500	U-152.4	11.0	22 (Solid) .025 bare copper covered steel 55.0 $\Omega$ /M' 180.4 $\Omega$ /km	Cellular Poly-ethylene		.216	5.49	Duofoil <sup>®</sup> + drain 22.5 $\Omega$ /M' 73.8 $\Omega$ /km 100% shield coverage	80	78%	16.3	53.5	50	1.9	6.2
		500	152.4	11.7		.140	3.56								100	2.8	9.2
		U-1000	U-304.8	21.0										200	4.0	13.1	
		1000	304.8	22.0										500	6.6	21.7	
														900	8.8	28.9	
 <b>RG-59/U Type</b>	<b>9291</b> 80C	U-500*	U-152.4	10.7	22 (Solid) .025 bare copper covered steel 55.0 $\Omega$ /km 180.5 $\Omega$ /km	Cellular Poly-ethylene		.242	6.15	Duofoil 40% aluminum braid 17.0 $\Omega$ /M' 55.8 $\Omega$ /km 100% shield coverage	80	78%	16.3	53.5	50	1.9	6.23
		500*	152.4	11.5		.140	3.56								100	2.6	8.53
		U-1000*	U-304.8	20.5										200	4.0	13.12	
		1000*	304.8	21.4										500	6.5	21.32	
														900	9.0	29.53	

<sup>P</sup>Belden U.S. Patent 3,927,247, Canadian Patent #875,188.  
<sup>◆</sup> Spools are one piece, but length may vary  $\pm 10\%$  from length shown.  
 Request quotations of RG/U cables not listed.





# BELDEN WIRE AND CABLE

DIVISION OF COOPER INDUSTRIES



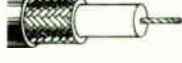
P.O. Box 1980  
Richmond, IN 47375  
(317) 983-5200

# COAXIAL CABLE

## Broadcast and Computer Cables

Description	Trade & U.L. Type Number	Standard Lengths		Std. Unit Lbs. ea.	AWG (Stranding) Dia. in In. Nom. D.C.R.	Insulation & Nominal Core O.D.		Nominal O.D.		No. of Shields & Material Nom. D.C.R.	Nom. Imp. $\Omega$	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
		ft.	m			Inch	mm	Inch	mm				pF/ft.	pF/m	MHz	db/100 ft.	db/100 m
 <b>RG-58/U Type</b>	9889 1354 60C	500	152.4	15.6	18 (Solid)	Cellular Polyethylene		.216	5.49	Duofoil® with 4/24 AWG tinned copper drain wires 25 $\Omega$ /M' 82 $\Omega$ /km	50	78%	26	85.3	50	3.3	10.8
		1000	304.8	29.6	.041 bare copper	.116	2.95								100	4.9	16.1
		2000	609.6	60.5	6.5 $\Omega$ /M' 21.3 $\Omega$ /km									500	13.6	44.6	
														1000	18.8	61.7	
 <b>Dual RG59/U Type</b>	9555 20063 300V 80C	100	30.5	8.1	23 (Solid)	Polyethylene		.238 x .478	6.04 x 12.14	Bare copper 2.6 $\Omega$ /M' 8.5 $\Omega$ /km 95% shield coverage	75	66%	20.5	67.3	100	3.4	11.5
		500	152.4	39.0	.023 bare copper	.146	3.71								200	5.1	16.7
		1000	304.8	74.7	covered steel 47 $\Omega$ /M' 154.2 $\Omega$ /km									400	7.5	24.6	
														700	11.4	37.4	
														900	12.0	39.4	
														1000	12.7	41.7	
 <b>RG-59/U Type</b>	9259 AWM 1354 80C Power Limited Cable Class 2	50	15.2	2.0	22 (7x30)	Cellular Polyethylene		.242	6.15	Bare copper 2.6 $\Omega$ /M' 8.5 $\Omega$ /km 95% shield coverage	75	78%	17.3	56.8	50	2.1	6.9
		100	30.5	4.0	.031 bare copper	.146	3.71								100	3.0	9.8
		U-500	U-152.4	18.4	15.0 $\Omega$ /M' 49.2 $\Omega$ /km									200	4.5	14.8	
		500	152.4	19.1										400	6.6	21.7	
		U-1000	U-304.8	35.7										700	8.9	29.2	
		1000	304.8	36.7										900	10.1	33.1	
														1000	10.9	35.8	
 <b>RG-59/U JAN-C-17A</b>	8241 AWM 1354 60C Power Limited Cable Class 2	25	7.6	1.3	22 (Solid)	Polyethylene		.242	6.15	Bare copper 2.7 $\Omega$ /M' 8.9 $\Omega$ /km 95% shield coverage	73	66%	21.0	68.9	50	2.4	7.9
		50	15.2	2.2	.025 bare copper	.146	3.71								100	3.4	11.2
		100	30.5	4.3	covered steel									200	4.9	16.1	
		U-500	U-152.4	18.5	55 $\Omega$ /M' 180.5 $\Omega$ /km									400	7.1	23.3	
		500	152.4	19.2										700	9.5	31.2	
		U-1000	U-304.8	36.0										900	10.9	35.6	
		1000	304.8	36.9										1000	12.0	39.4	

## Broadcast Cables

Description	Trade & U.L. Type Number	Standard Lengths		Std. Unit Lbs. ea.	AWG (Stranding) Dia. in In. Nom. D.C.R.	Insulation & Nominal Core O.D.		Nominal O.D.		No. of Shields & Material Nom. D.C.R.	Nom. Imp. $\Omega$	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
		ft.	m			Inch	mm	Inch	mm				pF/ft.	pF/m	MHz	db/100 ft.	db/100 m
 <b>RG-59B/U MIL-C-17D</b>	8263† 80C Power Limited Cable Class 2	U-500	U-152.4	18.1	23 (Solid)	Polyethylene		.242	6.15	Bare copper 2.6 $\Omega$ /M' 8.5 $\Omega$ /km 95% shield coverage	75	66%	20.5	67.3	50	2.4	7.9
		500	152.4	18.8	.023 bare copper	.146	3.71								100	3.4	11.2
		U-1000	U-304.8	35.2	covered steel									200	4.9	16.1	
		1000	304.8	36.1	47 $\Omega$ /M' 154.2 $\Omega$ /km									400	7.0	23.0	
														700	9.7	31.8	
														900	11.1	36.4	
														1000	12.0	39.4	
 <b>MIL-C-17F M17/29-RG59 QPL</b>	9204† 80C	U-500	U-152.4	18.1	23 (Solid)	Polyethylene		.242	6.15	Bare copper 2.6 $\Omega$ /M' 8.5 $\Omega$ /km 95% shield coverage	75	66%	20.5	67.3	50	2.4	7.9
		500	152.4	18.7	.023 bare copper	.146	3.71								100	3.4	11.2
		U-1000	U-304.8	35.2	covered steel									200	4.9	16.1	
		1000	304.8	36.0	47 $\Omega$ /M' 154.2 $\Omega$ /km									400	7.0	23.0	
														700	9.7	31.8	
														900	11.1	36.4	
														1000	12.0	39.4	
 <b>RG-59/U Type</b>	9659† 1354 80C Power Limited Cable Class 2	U-500	U-152.4	17.0	22 (7x30)	Cellular Polyethylene		.242	6.15	Bare copper 2.6 $\Omega$ /M' 8.5 $\Omega$ /km 95% shield coverage	75	78%	17.3	56.8	50	2.1	6.9
		500	152.4	17.5	.031 bare copper	.146	3.71								100	3.0	9.8
		U-1000	U-304.8	32.6	15.0 $\Omega$ /M' 49.2 $\Omega$ /km									200	4.5	14.8	
		1000	304.8	33.6										400	6.6	21.7	
														700	8.9	29.2	
														900	10.1	33.1	
														1000	10.9	35.8	

†Passes the VW-1 Vertical Wire Flame Test.  
Request quotations of RG/U cables not listed.



## ELECTRONIC CABLE TERMINOLOGY

**ampere**—A standard unit of current. Designated as the amount of current that occurs when one volt of emf is applied across one ohm of resistance. An ampere of current is produced by one coulomb of charge passing a point in one second.

**analog**—Representation of data by continuously variable quantities.

**bandwidth**—The difference between the upper and lower limits of a given band of frequencies. Expressed in hertz.

**baud**—Unit of data transmission speed meaning bits per second 500 baud = 500 bits per second.

**bit**—One binary digit.

**bunch strand**—Conductors twisted together with the same lay and direction without regard to geometric pattern.

**byte**—A group of adjacent binary digits, (8 bits)

**capacitance**—The ability of a dielectric material between conductors to store electricity, when a difference of potential exists between the conductors. The unit of measurement is the farad, which is the capacitance value which will store a charge of one coulomb when a one-volt potential difference exists between the conductors. In ac, one farad is the capacitance value which will permit one ampere of current, when the voltage across the capacitor changes at a rate of one volt per second.

**concentric stranding**—A group of uninsulated wires twisted together and containing a center core with subsequent layers spirally wrapped around the core to form a single conductor.

**conductivity**—The ability of a material to allow electrons to flow, measured by the current per unit of voltage applied. Also, it is the reciprocal of resistivity.

**conductor**—A material suitable for carrying an electric current.

**CPU**—Central Processing Unit.

**crossstalk**—A type of interference caused by audio frequencies from one line being coupled into adjacent lines. The term is loosely used also to include coupling at higher frequencies.

**current, alternating (ac)**—An electric current that periodically reverses direction of electron flow. The rate at which a full cycle occurs in a given unit of time (generally a second) is called the frequency of the current.

**current, direct (dc)**—Electrical current whose electrons flow in one direction only. It may be constant or pulsating as long as their movement is in the same direction.

**db**—Decibel.

**dc resistance**—See resistance.

**dielectric**—An insulating (nonconducting) medium.

**dielectric constant**—Also called permittivity. That property of a dielectric which determines the amount of electrostatic energy that can be stored by the material when a given voltage is applied to it. Actually, the ratio of the capacitance of a capacitor using the dielectric to the capacitance of an identical capacitor using a vacuum as a dielectric.

**digital**—Representation of data by discrete characters.

**electrostatic**—Pertaining to static electricity, or electricity at rest. An electric charge, for example.

**flex life**—The ability of a cable to bend many times before breaking.

**Hertz**—The unit of frequency, one cycle per second.

**hum**—A term used to describe the 60- or 120-cps sound present in the sound of some communications equipment. Usually hum is the result of undesired coupling to a 60-cps source or to the defective filtering of 120-cps ripple output of a rectifier.

**impedance**—The total opposition a circuit, cable, or component offers to alternating current. It includes both resistance and reactance and is generally expressed in ohms.

**impedance, characteristic**—In a transmission cable of infinite length, the ratio of the applied voltage to the resultant current at the point the voltage is applied. Or, the impedance which makes a transmission cable seem infinitely long, when connected across the cable's output terminals. For a waveguide, it is the ratio of rms voltage to total rms longitudinal current at certain points in a diameter, when the waveguide is match-terminated.

**impedance match**—A condition whereby the impedance of a particular circuit cable or component is the same as the impedance of the circuit, cable, or device to which it is connected.

**inductance**—A property of a conductor or circuit which resists a change in current. It causes current changes to lag behind voltage changes and is measured in henrys.

**interference**—Disturbances of an electrical or electromagnetic nature that introduce undesirable responses into other electronic equipment.

**jacket**—Pertaining to wire and cable, the outer sheath which protects against environment and may also provide additional insulation.

**lay**—Pertaining to wire and cable, the axial distance required for one cabled conductor or conductor strand to complete one revolution about the axis around which it is cabled.

**lay direction**—The twist in the cable as indicated by the top strands while looking along the axis of the cable away from the observer. Described as "right hand" or "left hand."

**leakage**—The undesirable passage of current over the surface of or through an insulator.

**loss**—The portion of energy applied to a system that is dissipated and performs no useful work.

**MHz**—Megahertz (one million cycles per second). Formerly mc.

**micro**—Prefix meaning one-millionth.

**mil**—A unit of length equal to one thousandth of an inch.

**milli**—Prefix meaning one-thousandth.

**nanosecond**—One thousandth of one millionth of a second ( $10^{-9}$  seconds)

**ohm**—The electrical unit of resistance. The value of resistance through which a potential difference of one volt will maintain a current of one ampere.

**periodicity**—The uniformly spaced variations in the insulation diameter of a transmission cable that result in reflections of a signal, when its wavelength or a multiple thereof is equal to the distance between two diameter variations.

**pico**—Prefix meaning one-millionth of one-millionth. ( $10^{-12}$ ).

**picofarad**—One-millionth of one-millionth of a farad. A micro-microfarad, or picofarad (abbreviation pf).

**plasticizer**—A chemical added to plastics to make them softer and more flexible.

**polymer**—A substance made of many repeating chemical units or molecules. The term polymer is often used in place of plastic, rubber, or elastomer.

**Propagation delay**—Time required for a signal to pass from the input to the output of a device.

**pulse**—A current or voltage which changes abruptly from one value to another and back to the original value in a finite length of time. Used to describe one particular variation in a series of wave motions.

**resistance**—In dc circuits, the opposition a material offers to current, measured in ohms. In ac circuits, resistance is the real component of impedance, and may be higher than the value measured at dc.

**RG/U**—"RG" is the military designation for coaxial cable, and "U" stands for "general utility."

**rope strand**—A conductor composed of a center group of twisted strands surrounded by layers of twisted strands.

**separator**—Pertaining to wire and cable, a layer of insulating material such as textile, paper, Mylar, etc., which is placed between a conductor and its dielectric, between a cable jacket and the components it covers, or between various components of a multiple-conductor cable. It can be utilized to improve stripping qualities and/or flexibility, or can offer additional mechanical or electrical protection to the components it separates.

**shield**—A sheet, screen, or braid of metal, usually copper, aluminum, or other conducting material placed around or between electric circuits or cables or their components, to contain any unwanted radiation, or to keep out any unwanted interference.

**shield effectiveness**—The relative ability of a shield to screen out undesirable radiation. Frequently confused with the term shield percentage, which it is not.

**shield percentage**—The physical area of a circuit or cable actually covered by shielding material, expressed in percent.

**skin effect**—The tendency of alternating current, as its frequency increases, to travel only on the surface of a conductor.

**standing wave**—The stationary pattern of waves produced by two waves of the same frequency traveling in opposite directions on the same transmission line. The existence of voltage and current maxima and minima along a transmission line is a result of reflected energy from an impedance mismatch.

**standing wave ratio (swr)**—A ratio of the maximum amplitude to the minimum amplitude of a standing wave stated in current or voltage amplitudes.

**surge**—A temporary and relatively large increase in the voltage or current in an electric circuit or cable. Also called transient.

**sweep-test**—Pertaining to cable, checking frequency response by generating an rf voltage whose frequency is varied back and forth through a given frequency range at a rapid constant rate and observing the results on an oscilloscope.

In CATV applications, the structural return loss sweep-test determines internal reflections in the cable. A high structural return loss is desirable.

**thermoplastic**—A material which will soften, flow, or distort appreciably when subjected to sufficient heat and pressure. Examples are polyvinyl chloride and polyethylene.

**thermosetting**—A material which will not soften, flow, or distort appreciably when subjected to heat and pressure. Vulcanizable. Examples are rubber and neoprene.

**twist**—A type of electrical conductor comprised of a number of tiny threads, each thread having a fine, flat ribbon of copper or other metal closely spiraled about it. Used for small size cables requiring limpness and extra-long flex life.

**transfer impedance**—For a specified cable length, transfer impedance is defined as the ratio of internal longitude in a voltage to external current flow on the cable shield. Transfer impedance is used to determine shield effectiveness against both ingress and egress of interfering signals. Cable shields are normally designed to reduce the transfer of interference—hence shields with smaller transfer impedance are more effective than shields with higher transfer impedance.

**triboelectric noise**—Noise generated in a shielded cable due to variations in capacitance between shielding and conductor as the cable is flexed.

**unbalanced line**—A transmission line in which voltages on the two conductors are unequal with respect to ground, e.g., a coaxial cable.

**unlay**—More than one layer of helically laid wires with the direction of lay and length of lay the same for all layers.

**velocity of propagation**—The transmission speed of an electrical signal down a length of cable compared to speed in free space. Usually expressed as a percentage.

**volt**—A unit of electrical pressure. One volt is the amount of pressure that will cause one ampere of current in one ohm of resistance.

**voltage**—Electrical potential or electromotive force expressed in volts.

**watt**—A unit of electrical power. One watt is equivalent to the power represented by one ampere of current under a pressure of one volt in a dc circuit.

**wavelength**—The distance between the nodes of a wave. The ratio of the velocity of the wave to the frequency of the wave.

## FIBER OPTIC CABLE TERMINOLOGY

**bend loss**—A form of increased attenuation caused by a) having the fiber curved around a restrictive radius of curvature or b) microbends caused by minute distortions in the fiber imposed by externally induced perturbations. Excessive Bend Loss may result from poor drawing or cable manufacturing techniques.

**bend radius**—Radius of curvature that a fiber can bend without breaking.

**buffer**—A protective coating over the fiber.

**carrier frequency**—The electromagnetic wave frequency selected to transmit information. Optical carrier frequency is from the infrared, visible, or ultraviolet spectrum areas ( $10^{12}$  Hz and above).

**cladding**—A low refractive index that surrounds the core and provides optical insulation and protection of the core.

**core**—The light transmission part of the fiber with a refractive index higher than that of the cladding.

**dispersion**—The cause of bandwidth limitations in a fiber. Dispersion causes a broadening of input pulses along the length of the fiber. Two major types are a) mode dispersion caused by differential optical path lengths in a multimode fiber, and b) material dispersion caused by a differential delay of various wavelengths of light in a waveguide material.

**fiber**—A single, separate optical transmission element characterized by a core and a cladding.

**Fiber Optics**—Light transmission through optical fibers for communication or signaling.

**gigahertz (GHz)**—A unit of frequency equal to one billion hertz.

**graded-index**—A type of fiber where the refractive index of the core is lower toward the outside of the fiber. It bends the rays inward and also allows them to travel faster in the lower index of refraction region. This type of fiber provides high bandwidth capabilities.

**Injection laser diode (source)**—Sometimes called the semiconductor diode. A laser in which the lasing occurs at the junction of n-type and p-type semiconductor materials.

**KPSI**—Tensile strength in thousands of pounds per square inch.

**laser**—A coherent source of light with a narrow beam and a narrow spectral bandwidth (about 2nm).

**link**—One transmitter and one receiver.

**light emitting diode (source)**—A semiconductor device that emits incoherent light formed by the P-N junction. Light intensity is roughly proportional to electrical current flow.

**megahertz (MHz)**—Unit of frequency equal to one million hertz.

**micron ( $\mu\text{m}$ )**—Millionth of a meter =  $10^{-6}$  meter.

**mode**—A permitted electromagnetic field pattern within a waveguide fiber.

**modulation**—The coding of information onto the carrier frequency. Modulation means include (among others) amplitude, frequency, or phase, plus many forms of on-off digital coding.

**multiplex**—Putting two or more signals into a single channel.

**nanometer (nm)**—One billionth of a meter =  $10^{-9}$  meter.

**numerical aperture (NA)**—The acceptance angle of the fiber defined as:

$$NA = \sqrt{n_1^2 - n_2^2}$$

Where  $n_1$  and  $n_2$  are respectively, the refractive index of the core and the cladding. Also defined as the sine of the half angle of light acceptance. (See figure under Step-Index.)

**optical waveguide fiber**—A high refractive index core with low refractive index cladding.

**photodetector (receiver)**—Transforms light into electricity. For relatively fast speeds and moderate sensitivity in the 0.75  $\mu\text{m}$  to 0.95  $\mu\text{m}$  area wavelength, the silicon photo diode is most commonly used.

Avalanche photodiodes (APD) combine the detection of optical signals with internal amplification of photo-current. The internal gain is realized through avalanche multiplication of carriers in the junction region. The advantage in using an APD is its higher signal-to-noise ratio, especially at high bit rates.

**pin-diode**—A device used to convert optical signals to electrical signals in a receiver.

**refractive index**—The ratio of light velocity in a vacuum to its velocity in the transmitting medium.

**repeater**—A transmitter and receiver combination used to regenerate an attenuated signal.

**receiver**—An electronic package that prepares the optical signal for conversion to an electrical signal.

**single mode fiber**—A fiber waveguide on which only one mode will propagate. It must be used with single mode sources—lasers—and provides the ultimate in bandwidth transmission. Very small core diameters 2.5  $\mu\text{m}$ , extremely expensive, and difficult to couple due to its small core size.

**skew rays**—A ray which is skew to the fiber axis. If the optical waveguide is straight, a skew ray traverses a helical path along the fiber, not crossing the fiber axis.

**source**—The means (usually LED or laser) used to convert an electrical information-carrying signal into a corresponding optical signal for transmission by an optical waveguide.

**spectral bandwidth**—The difference between wavelengths at which the radiant intensity of illumination is half its peak intensity.

**speed of light (c)**— $2.998 \times 10^{10}$  meters per second.

**splicing**—Permanent joining of identical or similar fiber ends without a connector.

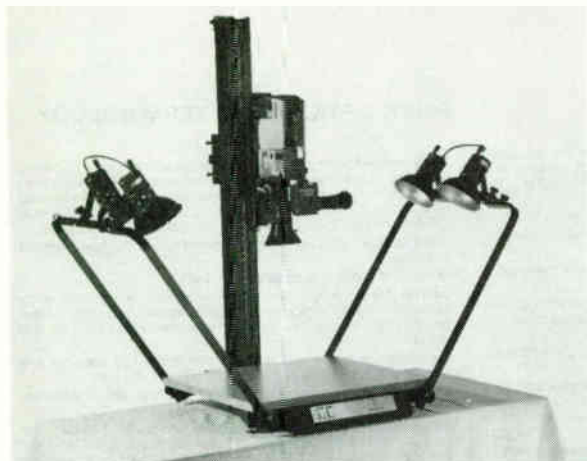
**step-index**—A fiber in which the core is of a uniform refractive index.

**transmitter**—The electronic package that prepares an electrical signal for conversion to an optical signal.

# BENCHER, INC.

333 W. Lake  
Chicago, IL 60606  
(312) 263-1808

# CAMERA STANDS



### M3 Camera Stand - Table Model

Consists of • 4' M3 column • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 baseboard • M3 column/baseboard support base

430-02 .....\$675.00

### M3 Camera Stand - Table Model

Consists of • 5' M3 column • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 baseboard • M3 column/baseboard support base

430-04 .....\$700.00

### M3 Camera Stand - Wall Model

Consists of • 4' M3 column • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 wall mounting brackets

430-06 .....\$575.00

### M3 Camera Stand - Wall Mount - EX

Consists of • 5' M3 column • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 wall mounting brackets

430-08 .....\$600.00

### M3 Column & Carriage Only

Consists of • 4' M3 column • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly

430-80 .....\$550.00

### M3 Column & Carriage - EX

Consists of • 5' M3 column • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly

430-81 .....\$575.00

### M3 Quartz Camera Stand - Bench

Consists of • M3 column (4 1/2' net, 6' overall) • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 baseboard • Sidelight arms, pair • Sidelight arm braces, pair • Dual quartz copy lights, pair • Copy light control • Camera stand bench

430-15 .....\$1650.00

### M3 Quartz Camera Stand - Pedestal

Consists of • M3 column (4 1/2' net, 7' overall) • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 baseboard • Sidelight arms, pair • Sidelight arm braces, pair • Dual quartz copy lights, pair • Copy light control • Camera stand pedestal

430-16 .....\$1825.00

### M3 Strobe Camera Stand - Bench

Consists of • M3 column (4 1/2' net, 6' overall) • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 baseboard • Sidelight arms, pair • Sidelight arm braces, pair • Dual strobe copy lights with power supply • Camera stand bench

430-17 .....\$2350.00

### M3 Strobe Camera Stand - Pedestal

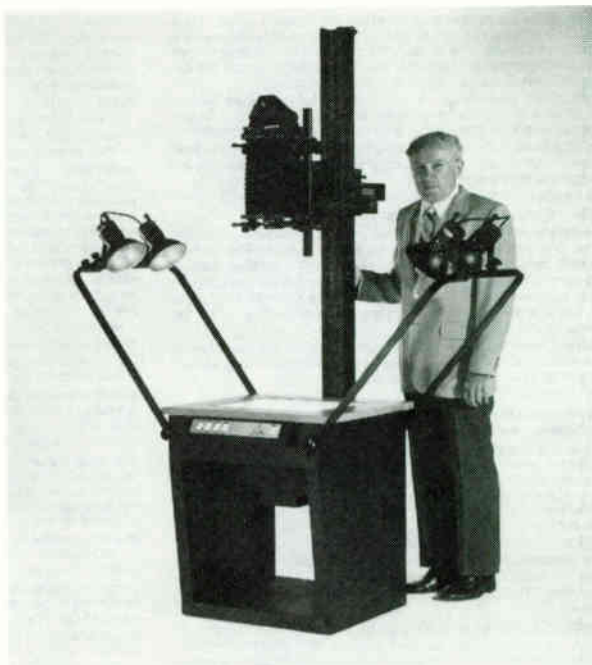
Consists of • M3 column (4 1/2' net, 7' overall) • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 baseboard • Sidelight arms, pair • Sidelight arm braces, pair • Dual strobe copy lights with power supply • Camera stand pedestal

430-18 .....\$2500.00

### M3 Quartz Illuma Stand - Bench

Consists of • M3 column (4 1/2' net, 6' overall) • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 illuma baseboard • 14 x 17" opal plexiglass • 14 x 17" clear glass • Quartz base illuminator assembly • Sidelight arms, pair • Sidelight arm braces, pair • Dual quartz copy lights, pair • Dual function copy light control • Camera stand bench

430-20 .....\$2000.00



### M3 Quartz Illuma Stand - Pedestal

Consists of • M3 column (4 1/2' net, 7' overall) • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 illuma baseboard • 14 x 17" opal plexiglass • 14 x 17" clear glass • Quartz base illuminator assembly • Sidelight arms, pair • Sidelight arm braces, pair • Dual quartz copy lights, pair • Dual function copy light control • Camera stand pedestal

430-21 .....\$2150.00

### M3 Strobe Illuma Stand - Bench

Consists of • M3 column (4 1/2' net, 6' overall) • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 illuma baseboard • 14 x 17" opal plexiglass • 14 x 17" clear glass • Strobe base illuminator assembly • Sidelight arms, pair • Sidelight arm braces, pair • Dual strobe copy lights with power supply • Camera stand bench

430-22 .....\$2700.00

### M3 Strobe Illuma Stand - Pedestal

Consists of • M3 column (4 1/2' net, 7' overall) • Auxiliary dual counterbalance springs • Column scale • M3 camera carriage assembly • M3 illuma baseboard • 14 x 17" opal plexiglass • 14 x 17" clear glass • Strobe base illuminator assembly • Sidelight arms, pair • Sidelight arm braces, pair • Dual strobe copy lights with power supply • Camera stand pedestal

430-23 .....\$2825.00

M3 remote control motor drive options are available .....POR



# BIB AUDIO/VIDEO PRODUCTS

P.O. Box 27682  
 Denver, CO 80227  
 (303) 972-0410 (800) 325-0853  
 FAX: (303) 972-4519

## VE-40 VHS Video Head Cleaner

Features a one-piece pushbutton design. Can be used with or without the cleaning solvent that cleans the entire tape travel path.

Effectively cleaning the erase head, audio and control track heads, capstan, pinch rollers and most importantly, the video head drum. The VE-40 is safe for use in all VHS and VHS Hi-Fi stereo format machines as well as VHS format camcorders . . . \$14.95

## VE-41 Beta Video Head Cleaner

Featuring the same technology as the VE-40, built as a two-piece cleaner for Beta format machines. The cleaning solvent is provided in a pressurized applicator. Simply spray the cleaning material before inserting the cleaner into the machine. The VE-41 is safe for use in all Beta and Beta Hi-Fi stereo format machines as well as Beta format camcorders . . . \$14.95

## VE-42 8mm Video Head Cleaner

Designed especially for all 8mm video cassette recorders and camcorders. The VE-42 features abrasive-free polyester spun bonded material that may be used with or without the cleaning solvent. Each cleaner is good for 25 fresh cleanings . . . \$16.95

## VE-17B Video Cassette Title and Label Kit

Self adhesive clear pockets can be affixed to the edge of the cassette shell. Professionally lettered title cards can easily be inserted and quickly replaced . . . \$8.95

## VE-13B Video Lens Care Kit

Dust and fingerprints impair video image quality. Keep your video camera lens clean with the Video Lens Care Kit . . . \$5.95

## VE-16 VCR Dust Cover

Protects against dust, corrosion and scratches. Constructed of a soft gray cloth material that releases humidity but traps out air contaminants . . . \$16.95

## VE-20B Tape Mending Kit

The VE-20B mending and splicing kit is fitted with specially designed clamps to hold tape securely in place while diagonal or butt splices are being made. Supplied with easy to follow instructions in a permanent storage box . . . \$24.95

# MAINTENANCE PRODUCTS



## BK-1 Video Care System

Includes all necessary components for maintaining ultimate VCR performance.

- Unique pushbutton fluid-dispensing VHS video head cleaner
- 10 peel-off video title labels
- 20 re-useable re-record safety tabs
- Anti-static video screen cleaning fluid with cleaning cloth
- Complete instructions enclosed . . . \$24.95

## BK-2 Compact Disc Care System

Includes all necessary components for maintaining ultimate compact disc performance.

- Effective and safe radial compact disc cleaner
- Combination blower cleaning brush
- 10 cotton cleaning tips
- Anti-static cleaning cloth
- Compact disc cleaning fluid
- Complete instructions enclosed . . . \$24.95

## BK-3 Audio Care System

Includes all necessary components for maintaining ultimate audio system performance.

- Carbon fiber record cleaning brush
- Stylus cleaner with inspection mirror
- Cassette head cleaner with cleaning fluid
- Tape mending kit complete with splicing tape and tape cutter
- Complete instructions enclosed . . . \$24.95

## BK-4 Computer Care System

Includes all necessary components for maintaining ultimate computer performance.

- Computer drive head cleaner available in 5 1/4", 3.5 diskette or data cassette
- Combination blower cleaning brush
- Anti-static monitor screen cleaning fluid with cleaning cloth
- Complete instructions enclosed . . . \$24.95

## BK-5 Audio Cassette Care System

Includes all necessary components for maintaining ultimate audio cassette deck performance.

- Electronic tape head demagnetizer
- Audio cassette head cleaner with cleaning fluid
- Audio tape head cleaning tools
- Pocket-size inspection flashlight, using AA batteries (not included)
- 10 Audio cassette title cards
- Complete instructions enclosed . . . \$24.95

## VE-1 Camcorder Care System

Packed in a portable, shock-resistant carrying case, the Camcorder Care System is ready to go anywhere with a camcorder. Containing all the elements to keep camcorders in top performing condition, this system comes complete with:

- A safe and non-abrasive head cleaner available in four different formats: VHS, Beta, 8mm, or C-Format
- Combination blower cleaning brush
- Anti-static lens cleaning fluid with cleaning cloth . . . \$24.95



# B&K PRECISION

A DIVISION OF MAXTEC INT'L CORP.

6470 W. Cortland St.

Chicago, IL 60635

(312) 889-1448

# OSCILLOSCOPES



2521 w/2502 Waveform Processor

## 2520 and 2521 Digital Storage/Analog Oscilloscopes



2520

### SPECIFICATIONS (Models 2520 and Model 2521)

#### VERTICAL DEFLECTION

Two identical input channels CH1 and CH2  
**Bandwidth:** -3dB. DC to 20MHz (2Hz to 20MHz on AC)  
**Sensitivity:** 2mV/div to 10V/div in 1-2-5 sequence.  
**Accuracy:** ±3%. **Variable Sensitivity:** -2.5:1 range allows continuous adjustment of sensitivity 2mV/div to 25V/div. **Input Impedance:** 1MΩ/28pF. **Input Coupling:** DC—GND—AC. **Input Protection:** 400V DC or pk AC

#### HORIZONTAL DEFLECTION

**Normal Mode Sweep Rate:** 0.5μs/div to 0.2 sec/div, 18 ranges in 1-2-5 sequence. **Accuracy:** ±3% (to 200ns/div.). **Variable Sweep:** -2.5:1 allows cont coverage from 0.5μs/div to 0.5 sec/div. **Store Modes Sweep Rate:** 0.5μs/div to 50 sec/div, 25 ranges in 1-2-5 sequence. **Accuracy:** ±3% (to 200ns/div). **Variable Sweep:** -2.5:1 allows cont. coverage from 0.5μs/cm to 50μs/div (sampling only) **X Expansion:** X10 push button gives fastest speed of 50ns/div. **Accuracy:** ±3% (50ns ± 5%)

#### TRIGGER

Variable level control with Auto trigger. In Auto, timebase free-runs when insufficient signal is present or outside range of input. **Source:** Internal CH1 or CH2, External. **Slope:** Positive or negative. **Coupling:** DC, AC or TV (active sync separator with line frame selected by timebase switch between 50 and 100 μs/div). **Sensitivity Int.:** DC coupled 0.3div to 2MHz, 1div to 20Hz. AC coupled 0.3div 10Hz—2MHz 1 div, 4Hz—20MHz. **Ext.:** DC coupled 150mV to 2MHz, 600mV to 20MHz. AC coupled 150mV, 10Hz to 2MHz 600mV, 4Hz to 20MHz. **Ext. Input Impedance:** 100kΩ/10pF. **Ext. Input Protection:** 250V DC or pk AC

#### DISPLAY MODES

**Single trace:** CH1 or CH2. **Dual trace:** In Normal, Chopped or Alternate, Modes are auto selected by the t.b. switch. Between 0.5μs/div and 0.2ms/div the Alternate Mode is selected while on ranges slower than 0.2ms/div Chop is selected. The chop freq. is 500kHz (Simultaneous capture in store modes). **Add:** CH1 and CH2 Added to give the algebraic sum of the two channel inputs. (Normal mode only) **Invert CH2:** CH2 may be inverted. When used with Add mode, gives algebraic difference of two channels. **X-Y:** CH1 = X, CH2 = Y. (Normal mode only)

#### DIGITAL FACILITIES

**Store Size:** 1024 x 8-bits per channel. **Vertical Resolution:** 1 in 256 approx. 30 steps/div. **Horizontal Resolution:** 1 in 1024 approx. 100 samples/div. (0.05ms/div range on Dual is 50 samples/div). **Expansion:** X10 reduces resol. by 10, all ranges. **Sample rate:** 2MHz (0.5μs) reducing in proportion with timebase. **Dot Joining:** Linear interpolation between samples.

#### DIGITAL DISPLAY MODES

**Roll:** Stored data and display updated continually. (t.b. ranges 50sec/div to 0.05ms/div). **Refreshed:** Stored data and display updated by triggered sweep. (t.b. ranges 50 sec/div to 0.05ms/div). **Sampling:** Stored data and display updated from trigger point in armed mode. **Armed:** Freezes store at end of triggered sweep. **Hold—All:** Freezes store immediately. **Hold—CH2:** Freezes CH2 data immediately. **Pre-trigger Storage:** Roll mode only, switchable for 0%, 25%, 75% and 100% of full store pre-trigger

#### PLOT OUTPUT

**Analog output of the stored display. Y Output:** CH1 or CH2. Amplitude 100mV/div (nominal). **X Output:** X ramp via 4mm socket. Amplitude 100mV/div (nominal). **Output Sweep Rate:** Selected by Time/cm (main t.b.) range 50sec/div to 50ms/div in 1-2-5 seq. **Output Impedances:** 100Ω. **Pen Lift Output:** High output to indicate penlift. TTL open collector. Max. Voltage 15V. Max. Sink Current 8mA.

#### GENERAL

**Calibrator:** 1V ± 2% square wave at approx. 1kHz  
**Z Mod Input:** DC coupled, 2V visible mod. Sensitivity + 40V cut off sensitivity. Input impedance: 10kΩ/10pF approx. Max. input: 100V DC or pk AC. **CRT:** 8 x 10cm rectangular mono-accelerator. **Accelerating Voltage:** 2kV **Supply Selectable:** 100V, 120V, 220V, or 240V ± 10%. 45 to 400Hz, 40W approx. **Safety:** Designed for IEC 348 Cat 1. **Operating Temp. Range:** 0 to 50°C (+ 15°C to 35°C for full accuracy). **Dimensions:** 140 x 305 x 460mm. (5.5" x 12.0" x 18.1") **Weight:** 6kg approx

### ADDITIONAL SPECIFICATIONS 2521 ONLY

#### AUTOMATIC CURSOR MEASUREMENTS

**Accuracy:** Time = 0.1% of full scale for ranges 50s/div to 0.05ms/div. and ±3% of f.s. for 20μs/div to 5μs/div. Voltage 3% of rdg. ±0.5% of f.s. ±1 digit

- 20 MHz realtime bandwidth
- 20 MHz storage bandwidth
- RS-232 interface on 2521
- Automatic time and voltage measurement on 2521
- 2521 accepts 2502 waveform processor
- 2 mega-sample/sec sampling rate
- 1k memory per channel
- Equivalent time sampling
- Plot output
- Trace hold capacity
- Pre-trigger capture - 25%, 75%, 100%
- Post storage expansion of stored waveform

2520 ..... \$1990.00  
 2521 ..... 3050.00

#### DIGITAL PLOTTER INTERFACE

Output of data and range via RS423 interface to a digital plotter. **Scales:** Automatically printed. **Graticule:** Available for plotting at the completion of a plot cycle. **Colors:** Color pens automatically selected for CH1, CH2 and graticule.

#### RS423 INTERFACE

**Read and Write Functions:** Baud rate: 300, 1200 or 9600. Stored Data input/output. **Data Format:** Binary, Decimal, Octal and string length. **Timebase Range:** up to 50μs/div. Hold display and Hold CH2. **Write Only:** Arm, Release, Analog plot, Digital plot, Local, Text. **Read Only:** CH1, CH2 and Dual, Attenuator and Timebase setting current and stored.

#### ADDITIONAL OUTPUT

Line output 1V approx.

#### ACCESSORIES SUPPLIED

Instruction Manual, Schematic Diagram and Parts List, Two 10:1 Probes, Spare Fuse.

#### OPTIONAL ACCESSORIES

Front Panel Cover—LC-130, Rack Mount Kit—RM-30, Protective Carrying Case—LC-30, 10:1 Direct Probe—PR-40, Deluxe 10:1 Direct Probe—PR-37, Deluxe 100:1 Probe—PR-100

### 2502 Waveform Processor

- Optional accessory to 2521
- Signal capture functions
- Reference stores 1 to 5 permit waveforms to store/recall
- Magnify or attenuate stored waveforms
- Arithmetically manipulate stored signals
- Filters noisy signals

2502 ..... \$740.00

### SPECIFICATIONS (Model 2502)

#### SIGNAL CAPTURE FUNCTIONS

**Signal Averaging\*\*:** Up to 256 averages allowing 1, 4, 8, 16, 32, 64, 128 and 256 averages. **Capture\*:** Arms scope for signal capture. **Capture and Repeat:** Arms and automatically applies previous post-storage functions.

#### POST-STORAGE DISPLAY FUNCTIONS

CH1 x CH2†, CH1 + CH2†, CH2 CH1†, CH1 CH2†, Copy CH1 → CH2\*, Copy CH2 → CH1\*. **Trace Magnification Attenuation:** Multiplies trace from x 3.98 to x 0.06 in 250 selectable steps. Gain is displayed on screen.

**Filter\*:** 6 selectable stages/timebase range. **Invert\*, Restore, Position:** Moves trace and datum in X and Y planes and cursor in X plane. **Frequency:** Calculates and displays signal frequency measured between cursors.

#### REFERENCE STORES

**Store Number:** Select 1 of 5 stores to retrieve or save. **Save/Recall:** Save or recall selected store. **Additional Control Facilities via RS423:** \*Write only, \*\*Read and write. †zero datum referred to centre line of screen.

#### DIMENSIONS

146 x 92 x 30mm (5.75 x 9.2 x 30")

**WEIGHT** 0.23kg (0.5lbs)

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(312) 889-1448

# OSCILLOSCOPES



1590A

## 1590A 100MHz, Quad Input, Dual Independent Time Base Oscilloscope

- 1 mV sensitivity to full bandwidth
- 500  $\mu$ V/div cascade sensitivity to 70 MHz
- 23 calibrated sweeps
- Rectangular CRT with internal graticule and scale illumination
- 16 kV accelerating voltage
- V Mode—displays four signals unrelated in frequency
- Switchable input impedance
- Alternate timebase operation
- Signal delay line
- 20 MHz bandwidth limiter
- Lighted pushbutton function switching
- Voltage and current probe calibrators
- Video sync separators
- Channel 1 output

1590A . . . . . \$1886.00



1570A

## 1570A 80MHz, Quad Input, Dual Time Base Oscilloscope

- 1 mV/div sensitivity to full bandwidth
- 500  $\mu$ V/div cascade sensitivity to 40 MHz
- 22 calibrated sweeps
- Rectangular CRT with internal graticule and scale illumination
- 12 kV accelerating voltage
- V Mode—displays four signals unrelated in frequency
- Alternate timebase operation
- Signal delay line
- 20 MHz bandwidth limiter
- Lighted pushbutton function switching
- Video sync separators
- Channel 1 output

1570A . . . . . \$1464.00

### SPECIFICATIONS—Model 1590A VERTICAL AMPLIFIERS (CH 1 and CH 2)

**Deflection Factor:**  
Standard: 5 mV/div to 5 V/div in 10 ranges, 1-2-5 sequence, each with vernier adjustment. LED UNCAL reminder.  
X5 Gain: 1 mV/div to 1 V/div. LED X5 GAIN reminder.  
Cascaded: (CH 1 and CH 2): 500  $\mu$ V/div.  
**Accuracy:**  
 $\pm 3\%$  (+10° to +35°C).  
 $\pm 5\%$  (0° to +50°C).  
 $\pm 8\%$  (cascaded operation, CH 1 to CH 2).  
**Frequency Response:** (X1 or X5 vertical gain)  
DC: DC to 100 MHz (-3dB)  
DC to 120 MHz (-6dB)  
DC to 70 MHz (cascaded)  
AC: 5 Hz to 100 MHz (-3dB)  
5 Hz to 120 MHz (-6dB)  
7 Hz to 70 MHz (cascaded)  
**Rise Time** 3.5 ns or less  
**Bandwidth Limiting:** Response can be limited to approx. 20 MHz by bandwidth limit switch.  
**Input Impedance:** 1 M $\Omega$   $\pm 2\%$  shunted by 28 pF  
**CH 2 Polarity:** Normal or inverted.  
**Maximum Input Voltage:**  
400 V(DC - AC peak) or 800 VAC p-p  
**Crosstalk:** -40 dB minimum.  
**(CH 3 and CH 4)**  
**Deflection Factor:**

1:1—0.1 V/div  $\pm 2\%$ , 10:1—1 V/div  $\pm 2\%$   
**Frequency Response:** DC to 100 MHz (-3 dB)  
DC to 120 MHz (-6 dB)  
**Rise Time:** 3.5 ns or less.  
**Input Impedance:** 1 M $\Omega$   $\pm 2\%$  shunted by 22 pF  
**Input Coupling:** DC only.  
**Maximum Input Displayed:**  
1:1 DC Component— $\pm 0.5$  V.  
AC Component—1 V p-p.  
10:1 DC Component— $\pm 5$  V.  
AC Component— $\pm 10$  V p-p.  
**Maximum Input Voltage:** 400 V (DC + AC peak)  
**(CH 1 thru 4)**  
**Operating Modes:**  
CH 1—CH 1, single trace.  
CH 2—CH 2, single trace.  
DUAL—CH 1 and CH 2, dual trace.  
ADD—algebraic sum of CH 1 + CH 2, single trace (CH 1 - CH 2 with CH 2 inverted).  
QUAD—CH 1 thru CH 4, four trace.  
In DUAL and QUAD modes, alternating or chopped traces selectable with ALT and CHOP switches.  
**Chop Frequency:** Approx. 250 kHz, selectable  
**Signal Delay Time:** Approx. 10 ns visible delay.  
**Maximum Undistorted Amplitude:** 8 divisions (Full rated bandwidth).  
**SWEEP SYSTEM**  
**Modes:**  
A—A sweep.  
ALT—A sweep (intensified for duration of B sweep) and B sweep alternating.

A-INT-B—Duration of B sweep is displayed as an intensified portion of the A sweep.  
B DLY'D—Delayed B sweep.  
DUAL—Dual Sweep, A and B sweeps independent.  
X-Y—X-Y display mode.  
**A Sweep:** 20 ns/div to 0.5 s/div in 1-2-5 sequence, 23 steps. Vernier control provides fully adjustable sweep time between steps. LED UNCAL reminder.  
**B Sweep:** 20 ns/div to 50 ms/div in 1-2-5 sequence, 20 steps.  
**Accuracy:**  $\pm 2\%$  (+10° to +35°C);  $\pm 4\%$  (0° to -50°C).  
**Sweep Magnification:** 10X,  $\pm 5\%$  (+10° to +35°C),  $\pm 6\%$  (0° to +50°C).  
**Linearity:**  $\pm 3\%$ ; 10X,  $\pm 5\%$ .  
**Holdoff:** Continuously adjustable for A sweep (NORM to more than 5 times normal.)  
**Trace Separation:** 0 to 4 div. contin. adjustable.  
**Delay Method:** Continuous delay or trigger delay.  
**Delay Time:** 0.2 to 10 times A SWEEP TIME/DIV setting, continuously adjustable.  
**Time Difference Measurement Accuracy:**  
 $\pm (1\%$  of measurement  $\pm 0.1\%$  of full scale) (+10° to -35°C),  $\pm 4\%$  (0° to -50°C).  
**Delay Jitter:** 1:20,000 of full scale sweep time.  
**TRIGGERING**  
**A TRIGGER:**  
**Modes:** AUTO (free run), NORM, SINGLE/RESET, FIX (triggering level automatically set to center of waveform).



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## Specifications Continued—1590A and 1570A

**Source:** V. MODE, CH 1, CH 2, (EXT) CH 3, (EXT) CH 3 1/10, LINE.

### Coupling:

AC—20 Hz to 100 MHz  
LF Rej—30 kHz to 100 MHz  
HF Rej—20 Hz to 30 kHz  
DC—DC to 100 MHz

**VIDEO**—Trigger signal is routed through sync separator. Horizontal sync pulses selected at sweep times of 50  $\mu$ s/div and faster (LINE). Vertical sync pulses selected at sweep times of 0.1 ms/div and slower (FRAME).

**Level:**  $\pm 90^\circ$ ; permits triggering at any point on the + and - slope of the displayed waveform.

**Slope:** Sweep can be set to trigger on the + or - going slope on the trigger waveform.

**LED Indicator:** Sweep A TRIG'D.

### B TRIGGER:

**Modes:** Starts after delay. Triggerable after delay.  
**Source:** CH 1, CH 2, (EXT) CH 4, (EXT) CH 4 1/10, starts after delay.

### Coupling:

AC—20 Hz to 100 MHz  
LF Rej—30 kHz to 100 MHz  
HF Rej—20 Hz to 30 kHz  
DC—DC to 100 MHz

**Level:**  $\pm 90^\circ$ ; permits triggering at any point on the + and - slope of the displayed waveform.

**Slope:** Sweep can trigger on the + or - going slope on the trigger waveform.

**LED Indicator:** Sweep B TRIG'D.

**Trigger Jitter:** 0.5 ns maximum at 100 MHz at 2 ns/div sweep rate (X10 MAG on).

### Trigger Sensitivity (A and B):

COUPLING	BANDWIDTH	INT	EXT
DC	DC—20 MHz	0.5 div	50 mV
	DC—50 MHz	1.0 div	100 mV
	DC—100 MHz	1.5 div	210 mV
AC	Same as DC except lower limit is 20 Hz		
HF Rej	Same as AC except increased attenuation above 30 kHz.		
LF Rej	Same as AC except increased attenuation below 30 kHz.		
VIDEO	FRAME	0.5 div	50 mV
	LINE	0.5 div	50 mV
AUTO	Same as AC except lower limit is 50 Hz.		
FIX	40 Hz-20 MHz	1 div	100 mV
	40 Hz-80 MHz	1.5 div	210 mV

### HORIZONTAL AMPLIFIER (Input thru CH 2 input)

**Deflection Factor:** Same as vertical channel 2.

**Accuracy:** Same as vertical channel 2.

### Frequency Response:

DC: DC to 5 MHz (-3 dB).

DC to 6 MHz (-6 dB).

AC: 5 Hz to 5 MHz (-3 dB).

5 Hz to 6 MHz (-6 dB).

**Input Impedance:** Same as vertical channel 2.

**Maximum Input:** Same as vertical channel 2.

**X-Y Operation:** CH 2 = X axis, CH 1 = Y axis.

**X-Y Phase Difference:**  $3^\circ$  or less at 100 kHz.

### Z-AXIS INPUT (Intensity Modulation)

**Input Signal:** TTL level, intensity increasing with more positive levels.

**Usable Frequency Range:** DC to 10 MHz.

**Input Impedance:** Approx. 10 k $\Omega$ .

**Maximum Input Voltage:** 50 V (DC  $\Omega$  AC peak)

### VERTICAL AXIS SIGNAL OUTPUT

(CH 1 output)

**Output Voltage:** 50 mV/div (into 50-ohm load).

**Output Impedance:** Approx. 50 ohms.

**Frequency Response:** DC to 100 MHz (-3 dB), into 50-ohm load.

### CRT

**Type:** Rectangular with internal graticule.

**Accelerating Voltage:** 20 kV.

**Display Area:** 8  $\times$  10 division (1 div = 1 cm).

### OTHER SPECIFICATIONS

#### Calibration Output:

**Positive Square Wave:** 1 kHz  $\pm 3\%$

**Voltage:** 1.0 V p-p  $\pm 1\%$  ( $+10^\circ$  to  $+35^\circ$ C).

1.0 V p-p  $\pm 2\%$  ( $0^\circ$  to  $+50^\circ$ C).

**Current:** 10 mA p-p  $\pm 2\%$  ( $+10^\circ$  to  $+35^\circ$ C).

10 mA p-p  $\pm 4\%$  ( $0^\circ$  to  $+50^\circ$ C).

**Gate Outputs:** Positive gate (pulse) output coincident with A sweep and B sweep respectively, 1.5 V p-p into 500 ohms.

#### Environment:

**Trace Rotation:** Electrical, front panel adjustable.

**Beam Finder:** Pushbutton shrinks and intensifies display.

**Operating:**  $+10^\circ$  to  $+35^\circ$ C, 85% maximum relative humidity for full specifications.

$0^\circ$  to  $+50^\circ$ C, 90% maximum relative humidity, full operating range.

**Storage:**  $-20^\circ$  to  $+70^\circ$ C, 80% maximum relative humidity

**Altitude: Operating:** up to 5000 meters (16,000 ft).

**Non-Operating:** up to 12,000 meters (39,000 ft).

**Power Requirements:** 90-264 VAC, 45-400 Hz, Approx. 56 W.

**Dimensions (H  $\times$  W  $\times$  D):** 13.8  $\times$  28.4  $\times$  40 cm (5

$\frac{1}{4}$   $\times$  11 $\frac{1}{4}$   $\times$  15 $\frac{3}{4}$ "

**Weight:** 7.4 kg (16 $\frac{1}{2}$  lbs.)

### ACCESSORIES SUPPLIED WITH OSCILLOSCOPE

Two 10:1 Probes

Spare Fuses

Instruction Manual

Schematic Diagram and Parts List

Probe Holder

### OPTIONAL ACCESSORIES

Demodulator Probe—PR-32

Deluxe 10:1/direct Probe—PR-37

10:1/direct Probe—PR-40

Front Panel Cover—LC-100

Deluxe 100:1 Probe—PR-100

Probe Pouch—LC-150

### SPECIFICATIONS—Model 1570A

#### VERTICAL AMPLIFIERS (CH 1 and CH 2)

##### Accuracy:

$\pm 2\%$  ( $+10^\circ$  to  $+35^\circ$ C).

$\pm 4\%$  ( $0^\circ$  to  $+50^\circ$ C).

$\pm 7\%$  (cascaded operation, CH 1 to CH 2).

**Frequency Response:** (X1 or X5 vertical gain)

DC: DC to 80 MHz (=3 dB).

DC to 40 MHz (cascaded).

AC: 5 Hz to 80 MHz (=3 dB).

7 Hz to 40 MHz (cascaded).

**Rise Time:** 5 ns or less.

**Other Vertical Amplifier Specifications same as 1590A.**

#### (CH 3 and CH 4)

**Deflection Factor:** 0.1 V/div  $\pm 2\%$ .

**Frequency Response:** DC to 80 MHz (-3 dB).

**Rise Time:** 5 ns or less.

**Input Impedance:** 1 Megohm  $\pm 1\%$  shunted by approx. 22 pF.

**Input Coupling:** DC only.

**Maximum Input Displayed:**

DC Component— $\pm 0.5$ V.

AC Component—1 V p-p.

**Maximum Input Voltage** 400 V (DC + AC peak).

#### (CH 1 thru 4)

**Operating Modes:**

Same as 1590A.

### SWEEP SYSTEM

**Modes:** A—A sweep.

ALT—A sweep (intensified for duration of B sweep) and B sweep alternating.

A-INT-B—Duration of B sweep is displayed as an intensified portion of the A sweep.

B DLYD—Delayed B sweep.

X-Y—X-Y display mode.

**A Sweep:** 50 ns/div to 0.5 s/div in 1-2-5 sequence, 22 steps. Vernier control provides fully adjustable sweep time between steps.

**B Sweep:** 50 ns/div to 50 ms/div in 1-2-5 sequence, 19 steps.

**Other Sweep Specifications Same as 1590A.**

### TRIGGERING

#### A TRIGGER:

**Modes:** AUTO (free run), NORM, SINGLE, RESET.

**Source:** V. MODE, CH 1, CH 2, (EXT) CH 3, LINE.

#### Coupling:

AC—20 Hz to 80 MHz.

LF Rej—30 kHz to 80 MHz.

HF Rej—20 Hz to 30 kHz.

DC—DC to 80 MHz.

**VIDEO**—Trigger signal is routed through sync separator. Horizontal sync pulses selected at sweep times of 50 ms/div and faster (LINE).

Vertical sync pulses selected at sweep times of 0.1 ms/div and slower (FRAME).

#### B TRIGGER:

**Source:** CH 1, CH 2, (EXT) CH 4, starts after delay.

**Coupling:** AC only—20 Hz to 80 MHz.

**Trigger Jitter:** 1 ns maximum at 80 MHz at 5 ns/div sweep rate (X10 MAG on).

#### Trigger Sensitivity (A and B):

COUPLING	BANDWIDTH	INT	EXT
DC	DC—20 MHz	0.5 div	50 mV
	DC—80 MHz	1.5 div	210 mV
AC	Same as DC except lower limit is 20 Hz.		
HF rej	Same as AC except increased attenuation above 30 kHz.		
LF rej	Same as AC except increased attenuation below 30 kHz.		
VIDEO	FRAME	0.5 div	50 mV
	LINE	0.5 div	50 mV
AUTO	Same as AC except lower limit is 50 Hz.		

**Other Triggering Specifications Same as 1590A**

### HORIZONTAL AMPLIFIER (Input thru CH 2 input)

Same as 1590A.

### Z-AXIS INPUT: (Intensity Modulation)

Same as 1590A.

### VERTICAL AXIS SIGNAL OUTPUT

(CH 1 Output)

**Output Voltage:** 50 mV/div (into 50-ohm load).

**Output Impedance:** Approx. 50 ohms.

**Frequency Response:** DC to 80 MHz (-3 dB), into 50-ohm load.

### CRT

**Type:** Rectangular with internal graticule.

**Accelerating Voltage:** 12 kV.

**Display Area:** 8  $\times$  10 division (1 div = 1 cm).

### OTHER SPECIFICATIONS

**Calibration Output:** Positive Square Wave: 1 kHz  $\pm 3\%$ .

**Voltage:** 0.1 V p-p  $\pm 1\%$  ( $+10^\circ$  to  $+35^\circ$ C).

0.1 V p-p  $\pm 2\%$  ( $0^\circ$  to  $+50^\circ$ C).

#### Environment:

Same as 1590A

**Trace Rotation:** Electrical, front panel.

**Power Requirements:** 90-264 VAC; 45 to 400 Hz, approx. 55 W.

**Dimensions Weight:** Same as 1590A

### ACCESSORIES

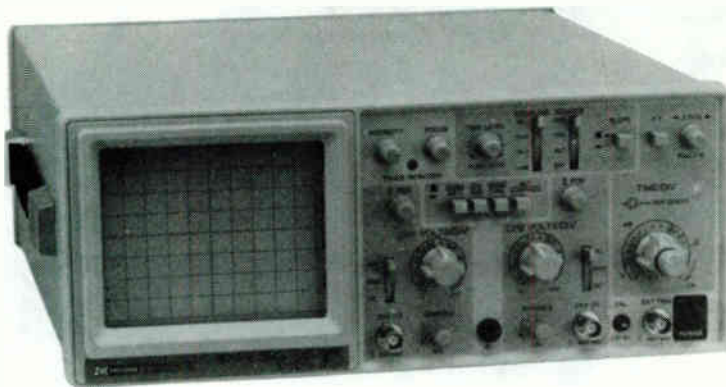
Same as 1590A



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# OSCILLOSCOPES



2120

## 2120 20MHz Dual-Trace Oscilloscope

- Dual or single trace operation
- 1 mV/div sensitivity
- 20MHz response at a true -3dB
- AUTO/NORM triggered sweep operation with AC, TVH, TVV and Line coupling
- Calibrated 18 step timebase with x10 magnifier
- X-Y operation
- Bright, sharp rectangular CRT with P31 phosphor
- Front-panel trace rotation control
- Tilt stand and soft handle
- Selectable +/- slope
- Built-in calibration source
- Compact low-profile design.

2120 .....\$479.00

### SPECIFICATIONS

#### VERTICAL AMPLIFIERS (CH 1 and CH 2)

**Sensitivity:** 5 mV/div to 5 V/div in 1-2-5 sequence, 10 steps. Vernier control provides fully adjustable gain between steps and increases maximum sensitivity to 1 mV/div (at reduced bandwidth).

**Accuracy:** ±3%.

**Input Resistance:** 1 MΩ ±2%.

**Input Capacitance:** 35 pF ±5 pF.

**Frequency Response:** 5 mV to 5 V/div (CAL): DC to 20 MHz (-3dB). 1 mV/div (uncalibrated): DC to 10 MHz (-3dB).

**Rise Time:** 17.5 ns.

**Operating Modes:** CH 1: CH 1, single trace.

CH 2: CH 2, single trace.

ALT: dual trace, alternating.

CHOP: dual trace, chopped.

ADD: algebraic sum of CH 1 + CH 2.

**Polarity Reversal:** CH 1 only.

**Maximum Input Voltage:** 400 V dc + ac peak.

**Maximum Undistorted Amplitude:**

DC to 20 MHz: 4 divisions.

DC to 10 MHz: 8 divisions.

#### TRIGGERING

**Triggering Modes:** AUTO (free run) or NORM.

**Trigger Source:** CH 1, CH 2, ALT, EXT, LINE.

**Maximum External Trigger Voltage:**

200 V dc + ac peak.

#### Trigger Coupling:

AC 30 Hz to 30 MHz.

TV H Used for triggering from horizontal sync pulses.

TV V Used for triggering from vertical sync pulses.

#### TRIGGER SENSITIVITY:

Coupling	Bandwidth	Int	Ext
AC	30 Hz-30 MHz	.5 div	500 mV
TV V	10 Hz-1.5 kHz	.5 div	500 mV
TV H	3 kHz-30 MHz	.5 div	500 mV

#### SWEEP SYSTEM

**Sweep Speed:** 0.5 μs/div to 0.2 s/div in 1-2-5 sequence, 18 steps. Vernier control provides fully adjustable sweep time between steps.

**Accuracy:** ±3%.

**Sweep Magnification:** 10x, ±6%.

#### HORIZONTAL AMPLIFIER (Input through channel 2 input)

**X-Y Mode:** Switch selectable using X-Y switch.

CH 1: Y axis. CH 2: X axis.

**Sensitivity:** Same as vertical channel 2.

**Accuracy:** Y-Axis: ±3%. X-Axis: ±6%.

**Input Impedance:** Same as vertical channel 2.

**Frequency Response:** DC to 2 MHz typical

(-3 dB).

**X-Y Phase Difference:** Approximately 3° at 50 kHz.

**Maximum Input Voltage:** Same as vertical

channel 2.

#### CRT

Type: Rectangular with internal graticule.

Display Area: 8 × 10 div (1 div = 1 cm).

Accelerating Voltage: 2 kV.

Phosphor: P31.

#### OTHER SPECIFICATIONS

**Calibrating Voltage:** 1 kHz (±10%) Positive Square Wave, 0.2 V p-p (±2%).

CH 1 Output (on rear panel):

Output Voltage: 50 mV/div (into 50-ohm load).

Output Impedance: Approximately 50 ohms.

Frequency Response: 20 Hz to 10 MHz, -3dB, into

50 Ω. 20 Hz to 20 MHz, -6dB, into 1 MΩ.

Trace Rotation: Electrical, front panel adjustable.

Power Requirements: 115 V/230 V ±10%,

50/60 Hz, approximately 35 W.

Dimensions: (WxHxD) 12.6 × 5.1 × 14.2" (320 ×

130 × 361 mm)

Weight: Approximately 15 lbs (6.75 kg)

#### ACCESSORIES SUPPLIED

Two probes. Schematic Diagram and Parts List. AC

Power Cord. Spare Fuse.

#### OPTIONAL ACCESSORIES

10:1 Probe, Model PR-46.

100:1 Probe, Model PR-100.



2125

## 2125 20MHz Dual-Trace, with Delayed Sweep Oscilloscope

- 5x Gain Control extends sensitivity to 1 mV/div
- Delayed sweep in 6 ranges and variable X1 to X10, 3 display modes
- Built-in component tester for capacitors, inductors, diodes, transistors, zener diodes.

2125 .....\$570.00

### SPECIFICATIONS:

(Except for those listed below, specifications are the same as for Model 2120)

#### VERTICAL AMPLIFIERS (CH1 and CH2)

**Sensitivity:** 5 mV/div to 5V/div in 1-2-5 sequence, 10 steps. Vernier control provides fully adjustable gain between steps. X5 Gain: Extends sensitivity to 1mV/div

**Frequency Response:** 5mV to 5V/div (CAL): DC to 20 MHz (-3dB) 5X Gain: DC to 10 MHz (-3dB)

**Rise Time:** 5mV to 5V/div: 17.5 ns. 5X Gain: 3.5 ns

#### SWEEP SYSTEM

**Delayed Sweep:** Ranges: 10ms, 1ms, 0.1ms, 10μs, 1μs, 0.1μs.

**Variable:** X1 to X10.

**Display Modes:** Normal, Delayed, Alternate

#### COMPONENT TESTER

**Test Voltage:** 8.6 VDC rms max (open circuit)

**Test Current:** 20 mA max (short circuit)

**Test Frequency:** Line frequency (50/60 hz)

**Testable Components:** Capacitors, inductors, diodes, transistors, Zener diodes, etc.

# B&K PRECISION

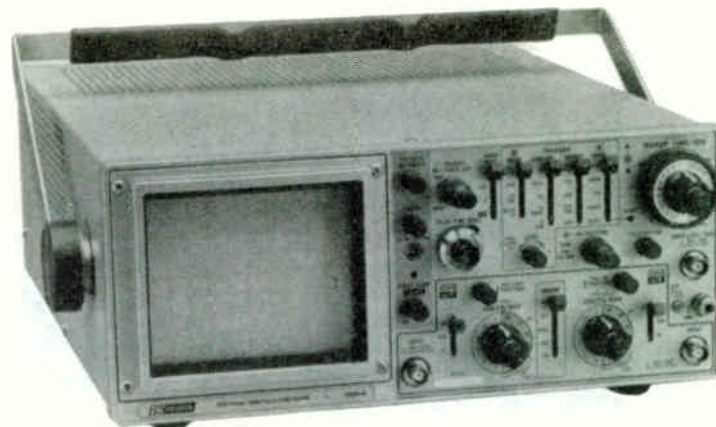
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(312) 889-1448

# OSCILLOSCOPE

## 1564 60MHz Triple Trace Dual Time Base Oscilloscope

■ 1mV/div. sensitivity ■ 22 calibrated sweeps ■ Signal delay line ■ V mode—displays three signals unrelated in frequency ■ Video sync separators ■ X-Y operation ■ Z axis input ■ 12 kV accelerating voltage ■ X10 sweep magnification ■ Delayed sweep/dual time base ■ Single sweep

1564 . . . . . \$1370.00



1564

## SPECIFICATIONS

### VERTICAL AMPLIFIERS (CH1 and CH2)

**Deflection Factor:** 1 mV/div. to 5 V/div.  $\pm 3\%$  in 12 steps. 1-2-5 sequence with vernier adjustment.

**Frequency Response:**

1 m V/div. 2 mV/div.

DC: DC to 20 MHz.—3dB

AC: 5 Hz to 20 MHz.—3dB

5 mV/div. to 5 V/div.

DC: DC to 60 MHz.—3dB

AC: 5 Hz to 60 MHz.—3dB

**Rise Time:** 5.8 ns or less (60 MHz) 17.5 ns or less (20 MHz)

**Input Impedance:**  $1M\Omega \pm 2\%$ , approx. 20 pF.

**Maximum Input Voltage:** 500 V p-p or 250 V (DC + AC peak).

**Maximum Non-Distorted Amplitude:** More than 8 dBV, DC to 60 MHz.

### CH3

**Deflection Factor:** 0.5 V/div.  $\pm 2\%$

**Frequency Response:** DC: DC to 60 MHz.—3dB

**Rise Time:** 5.8 ns or less.

**Input Impedance:**  $1 M\Omega \pm 2\%$ , approx. 20 pF.

**Maximum Input Voltage:** 50 V (DC + AC peak).

### Operating Modes:

CH1 —Single Trace

CH2 —Single Trace

ADD —CH1 + CH2 Single Trace

DUAL —CH1 and CH2 Dual Trace

TRIPLE—CH1, CH2, CH3, Triple Trace.

ALT —Dual or Triple Trace, alternating sweep.

CHOP —Dual or Triple Trace, chopped sweep.

**Chop Frequency:** Approx. 250 kHz.

**Channel 2 Polarity:** Normal or inverted.

**Crosstalk:** -40 dB minimum.

**Signal Delay Time:** Approx. 20 ns visible.

### SWEEP SYSTEM

#### Mode:

NORM —Triggered Sweep.

AUTO —Sweep free runs in absence of trigger.

FIX —Same as AUTO except trigger level is automatically fixed at center of waveform.

SINGLE—Permits viewing and photographing of one-time events.

#### Sweep Time:

A—0.05  $\mu$ s/div. to 0.5 s/div.  $\pm 3\%$  in 22 ranges, in 1-2-5 sequence with vernier adjustment.

B—0.05  $\mu$ s/div. to 50 ms/div., in 19 ranges, in 1-2-5 sequence.

#### Sweep Magnification

X10  $\pm 5\%$ , 0.5 s/div. to 0.5  $\mu$ s/div.  $\pm 8\%$ , 0.2  $\mu$ s/div. to 0.05  $\mu$ s/div.

**Linearity:**  $\pm 3\%$  all ranges,  $\pm 5\%$  on 0.2  $\mu$ s/div. and faster ranges at X10 magnification.

**Holdoff:** Continuously variable to >5X normal.

**Trace Separation:** Continuously variable, up to 4 divisions.

**Delay Method:** Continuous (Starts after delay), Trigger. Zero (delay time zero).

**Delay Time:** Continuously adjustable. 0.2 to 10 X the A sweep time setting.

**Delay Jitter:** 1/20000 of ten times of A sweep time setting.

### TRIGGERING

#### Source:

V MODE —Trigger selected by vertical MODE switch.

CH1 —Triggered by CH1 signal.

CH2 —Triggered by CH2 signal.

CH3/EXT—Triggered by CH3 signal.

LINE —Triggered by line voltage.

**Coupling:** AC, HFrej., DC, VIDEO FRAME, VIDEO LINE.

**Automatic:** Sweep is obtained without an input signal.

**Normal:** Sweep is not obtained without an adequate trigger signal.

**FIX:** Sweep is obtained without an input signal Trigger threshold is automatically set at center of trigger signal.

**Single:** Single sweep operation.

**Slope:** Sweep can be set to trigger on the positive or negative going slope on the trigger waveform.

**Level:** Fully adjustable.

**Video Sync:** Vertical and horizontal sync separator circuitry allows any portion of complex video waveform to be synchronized and expanded for viewing.

**Video Line—**Horizontal sync pulses are selected as triggers.

**Video Frame—**Vertical sync pulses are selected as triggers.

#### Sensitivity:

DC —DC-50MHz, 1 div. internal or 500 mV external 50-60 MHz, 1.5 div. internal or 800 mV external.

AC —Same as DC except lower limit is 10 Hz.

HFrej —Increased minimum level below 10 Hz and above 20 kHz.

VIDEO—FRAME or LINE: 1 div. internal or 500 mV p-p external

AUTO —Same as AC except lower limit is 50Hz.

FIX —Same as AC except lower limit is 50Hz.

### EXTERNAL TRIGGER INPUT

**Maximum Input Voltage:** 50 V (DC + AC peak).

**Input Impedance:**  $1 M\Omega \pm 2\%$ , approx. 20 pF.

### HORIZONTAL AMPLIFIER

(Input thru CH2, X10 MAG not included)

**Deflection Factor:** Same as vertical amp (CH2).

**Frequency Response:** DC: DC to 1 MHz.—3dB. AC: 5 Hz to 1 MHz.—3dB.

**Input Impedance:** Same as vertical amp (CH2).

**Maximum Input Voltage:** Same as vertical (CH2).

**X-Y Operation:** Operating mode selectable with HORIZ DISPLAY switch. CH1 = Y axis, CH2 = X axis.

**X-Y Phase Difference:**  $3^\circ$  or less at 100 kHz.

### Z-AXIS INPUT

(Intensity Modulation)

**Sensitivity:** TTL Compatible Negative Voltage increases brightness.

**Frequency Range:** DC to 5 MHz.

**Input Impedance:** Approx. 10 k $\Omega$ .

**Maximum Input Voltage:** 50 V (DC + AC peak).

### VERTICAL AXIS SIGNAL OUTPUT

(CH1 Output)

**Output Voltage:** Approx. 50 mV/div. into 50 $\Omega$ .

**Frequency Response:** 5 mV/div. to 5 V/div.: 100 Hz to 60 MHz. —3dB into 50 $\Omega$ . 1 mV/div., 2 mV/div., 100 Hz to 20 MHz. — 3 dB into 50 $\Omega$ .

### CRT

**Type:** Rectangular, with internal graticule.

**Acceleration Voltage:** 12 kV.

**Display Area:** 8  $\times$  10 div. (1 div. = 1 cm).

### OTHER SPECIFICATIONS

**Probe Adjust Voltage:** 0.5 V  $\pm 6\%$ , square wave,, positive polarity, approx. 1kHz

**Trace Rotation:** Electrical, adjustable from front panel.

**Environmental:**  $+10^\circ$  to  $+35^\circ$  C, 85% max. RH —full operation.  $0^\circ$  C to  $+40^\circ$  C, 85% max. RH —within spec.

**Power Requirements:** 100/120/220/240 VAC  $\pm 10\%$ , 50/60 Hz, approx. 61W.

**Dimensions:** (W $\times$ H $\times$ D): 14.1"  $\times$  5.7"  $\times$  17.9" (359  $\times$  145  $\times$  454 mm)

**Weight:** 20.3 lbs. (9.2 kg.)

### ACCESSORIES SUPPLIED WITH

#### OSCILLOSCOPES:

Two 10:1 probes, PR-45

Instruction Manual

Schematic diagram and parts list

#### OPTIONAL ACCESSORIES

Probe Pouch—LC-150

Demodulator Probe—PR-32

10:1 Probe—PR-45

10:1/Direct Probe—PR-40

Deluxe 10:1/Direct Probe—PR-37

Deluxe 100:1 Probe—PR-100

# B&K PRECISION

A DIVISION OF MAXTEC INT'L CORP.

6470 W. Cortland St.

Chicago, IL 60635

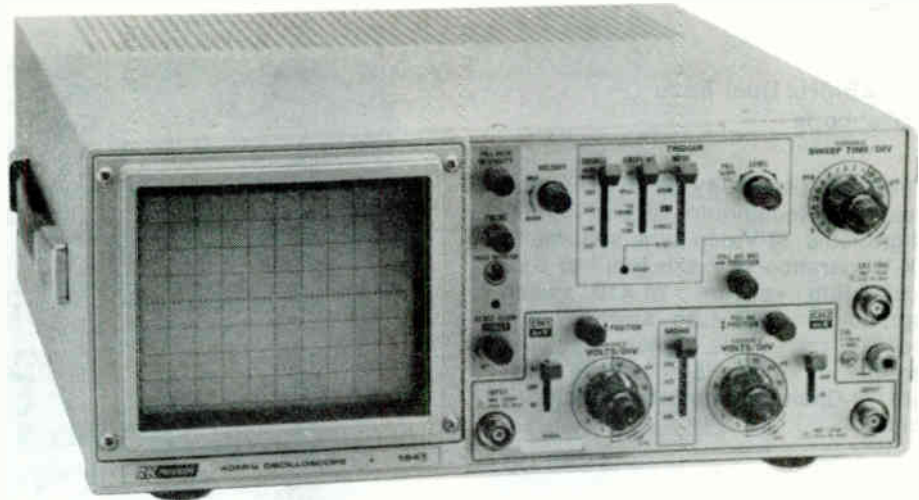
(312) 889-1448

# OSCILLOSCOPE

## 1541A 40MHz Dual Trace Oscilloscope

■ 1 mV/div sensitivity ■ 20 calibrated sweeps ■ Rectangular CRT with internal graticule and scale illumination ■ Video sync separators ■ 6 kV accelerating voltage ■ X-Y operation ■ Z axis input ■ X10 sweep magnification ■ Single sweep ■ V mode-displays two signals unrelated in frequency ■ Sum & difference capability ■ Channel 1 output ■ Includes probes

1541A .....\$845.00



1541A

### SPECIFICATIONS

#### VERTICAL AMPLIFIERS (CH1 and CH2)

**Deflection Factor:** 1 mV/div. to 5 V/div.  $\pm 3\%$  in 12 steps. 1-2-5 sequence with vernier adjustment.

#### Frequency Response:

1 mV/div. 2 mV/div.

DC: DC to 15 MHz. -3dB

AC: 5 Hz to 15 MHz. -3dB

5 mV/div. to 5 V/div.

DC: DC to 40 MHz. -3dB

AC: 5 Hz to 40 MHz. -3dB

**Rise Time:** 8.8 ns or less (40 MHz); 23.4 ns or less (15 MHz)

**Input Impedance:** 1M $\Omega$   $\pm 2\%$ . approx. 20 pF.

**Maximum Input Voltage:** 500 Vp-p or 250 V (DC + AC peak).

#### Operating Modes:

CH1 —Single Trace

CH2 —Single Trace

ADD —CH1 + CH2 Single Trace

ALT —Dual Trace, alternating sweep.

CHOP—Dual Trace, chopped sweep.

**Chop Frequency:** Approx. 250 kHz.

**Channel 2 Polarity:** Normal or inverted.

**Crosstalk:** -40 dB minimum.

#### SWEEP SYSTEM

##### Mode:

NORM —Triggered sweep.

AUTO —Sweep free runs in absence of trigger.

FIX —Same as AUTO except trigger level is automatically fixed at center of waveform.

SINGLE—Permits viewing and photographing of one-time events.

**Sweep Time:** A—0.2  $\mu$ s/div. to 0.5 s/div.  $\pm 3\%$  in 20 ranges, in 1-2-5 sequence with vernier adjustment.

**Sweep Magnification:** X10  $\pm 5\%$ ,  $\pm 8\%$  on 0.2  $\mu$ s/div.

**Linearity:**  $\pm 3\%$  all ranges,  $\pm 5\%$  on 0.2  $\mu$ s/div. at X10 magnification.

**Holdoff:** Continuously variable to more than 10 times normal.

#### TRIGGERING

##### Source:

V MODE—Trigger selected by vertical MODE switch.

CH1 —Triggered by CH1 signal.

CH2 —Triggered by CH2 signal.

EXT —Triggered by EXT TRIG signal.

LINE —Triggered by line voltage.

**Coupling:** AC, HFrej., DC, VIDEO FRAME, VIDEO LINE.

**Automatic:** Sweep is obtained without an input signal.

**Normal:** Sweep is not obtained without an adequate trigger signal.

**Single:** Single sweep operation.

**Slope:** Sweep can be set to trigger on the positive or negative going slope on the trigger waveform.

**Level:** Fully adjustable.

**Video Sync:** Vertical and horizontal sync separator circuitry allows any portion of complex video waveform to be synchronized and expanded for viewing.

**Video Line:** Horizontal sync pulses are selected as triggers.

**Video Frame:** Vertical sync pulses are selected as triggers.

##### Sensitivity:

DC —DC-40 MHz, 1 div. internal or 100 mV p-p external.

AC —10 Hz 40 MHz: 1 div. internal or 100 mV p-p external.

AC HFrej—Increased minimum level below 20 Hz and above 20 kHz.

VIDEO —FRAME or LINE: 1 div. internal or 100 mV p-p external

AUTO —50 Hz—40 MHz: 1 div. internal or 100 mV p-p external.

#### EXTERNAL TRIGGER INPUT

**Maximum Input Voltage:** 50 V (dc + ac peak).

**Input Impedance:** 1 M $\Omega$  approx. 35 pF.

#### HORIZONTAL AMPLIFIER

(Input thru CH2, X10 MAG not included)

**Deflection Factor:** Same as vertical amp (CH2).

**Frequency Response:** DC—DC to 1 MHz, -3dB;

AC—5 Hz to 1 MHz, -3dB.

**Input Impedance:** Same as vertical amp (CH2).

**Maximum Input Voltage:** Same as vertical amp (CH2).

**X-Y Operation:** Operating mode selectable with HORIZ DISPLAY switch. CH1 = Y axis, CH2 = X axis.

**X-Y Phase Difference:** 3° or less at 100 kHz.

#### Z-AXIS INPUT

(Intensity Modulation)

**Sensitivity:** TTL Compatible negative voltage increases brightness.

**Frequency Range:** DC to 2 MHz.

**Input Impedance:** Approx. 10 k $\Omega$ .

**Maximum Input Voltage:** 50 V (dc + ac peak).

#### VERTICAL AXIS SIGNAL OUTPUT

(CH1 Output)

**Output Voltage:** Approx. 50 mV/div. into 50 $\Omega$ .

**Output Impedance:** Approx. 50 $\Omega$ .

##### Frequency Response:

5 mV/div. to 5 V/div.: 100 Hz to 40 MHz.

-3dB into 50 $\Omega$ .

1 mV/div., 2 mV/div.: 100 Hz to 15 MHz.

-3dB into 50 $\Omega$ .

#### CRT

**Type:** Rectangular, with internal graticule.

**Acceleration Voltage:** 6 kV.

**Display Area:** 8  $\times$  10 div. (1 div. = 1 cm).

#### OTHER SPECIFICATIONS

**Probe Adjust Voltage:** 1 V p-p ( $\pm 3\%$ ) square wave, positive polarity, approx. 1kHz.

**Trace Rotation:** Electrical, adjustable from front panel.

**Environmental:** +10° to +35°C, 85% max. RH—full operation. 0°C to +40°C, 85% max. RH — within spec.

**Power Requirements:** 100/120/220/240 VAC  $\pm 10\%$ ,

50/60 Hz, approx. 36W.

**Dimensions:** (W $\times$ H $\times$ D): 13.4"  $\times$  5.7"  $\times$  15.0" (341

$\times$  145  $\times$  380mm)

**Weight:** 17.6 lbs. (8.0 kg.)

#### ACCESSORIES SUPPLIED WITH OSCILLOSCOPE:

Two 10:1 probes, PR-40

Instruction Manual

Schematic diagram and parts list

#### OPTIONAL ACCESSORIES

Probe Pouch—LC-150

Demodulator Probe—PR-32

10:1 Probe—PR-45

10:1 Direct Probe—PR-40

Deluxe 10:1 Direct Probe—PR-37



# B&K PRECISION

A DIVISION OF MAXTEC INT'L CORP.

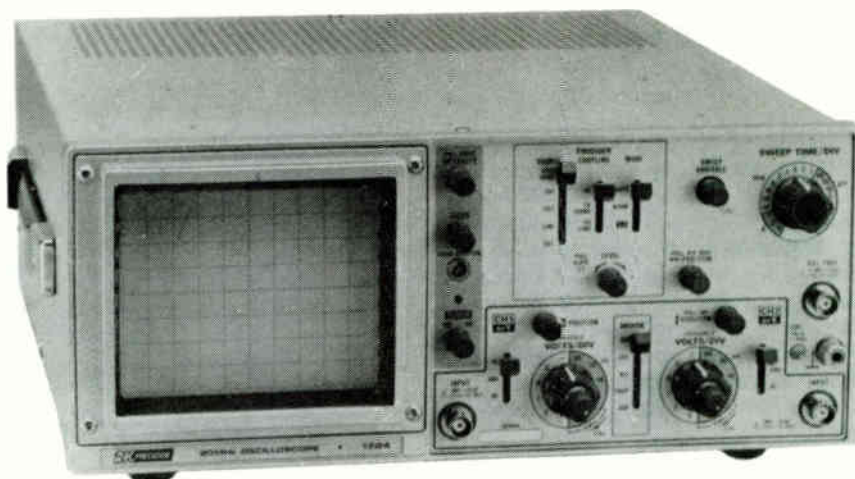
6470 W. Cortland St.  
Chicago, IL 60635  
(312) 889-1448

# OSCILLOSCOPE

## 1524 25MHz Dual Trace Oscilloscope

■ 1 mV/div sensitivity ■ 20 calibrated sweeps ■ Rectangular CRT with internal graticule ■ Video sync separators ■ X-Y operation ■ Z axis input ■ 6 kV accelerating voltage ■ X10 sweep magnification ■ Auto sweep ■ V mode—displays two signals unrelated in frequency ■ Sum & difference capability ■ Channel 1 output ■ Includes probes

1524 ..... \$828.00



1524

### SPECIFICATIONS

#### VERTICAL AMPLIFIERS (CH1 and CH2)

**Deflection Factor:** 1 mV/div. to 5V/div.  $\pm 3\%$ , in 12 steps, 1-2-5 sequence with vernier adjustment  
**Frequency Response:** 5 mV/div to 5 V/div DC: DC to 25 MHz,  $-3\text{dB}$  AC: 5 Hz to 25MHz,  $-3\text{dB}$  1mV/div, and 2 mV/div DC: DC to 10 MHz,  $-3\text{dB}$  AC: 5 Hz to 10 MHz,  $-3\text{dB}$   
**Rise Time:** 1mV/div. and 2 mV/div.—35 ns or less. 5 mV/div. to 5 V/div.—14 ns or less  
**Input Impedance:** 1 M $\Omega$   $\pm 2\%$  shunted by approx. 22 pF  
**Maximum Input Voltage:** 500 Vp-p or 250 V (dc + ac peak)

#### Operating Modes:

CH1 —Single Trace  
CH2 —Single Trace  
ADD —CH1 + CH2 Single Trace  
ALT —Dual Trace, alternate sweep  
CHOP—Dual Trace, chopped sweep  
**Chop Frequency:** Approx. 250 kHz  
**CH2 Polarity:** Normal or inverted  
**Crosstalk:**—40 dB minimum

#### SWEEP SYSTEM

**Mode:** NORM—Triggered sweep  
AUTO—Sweep free runs in absence of trigger  
**Sweep Time:** 0.2 $\mu\text{s}$ /div. to 0.5 s/div,  $\pm 3\%$  in 20 ranges, in 1-2-5 sequence with vernier adjustment  
**Sweep Magnification:** X10,  $\pm 5\%$  ( $\pm 8\%$  on 0.2 $\mu\text{s}$ /div.) Extends max. sweep rate to 20 ns/div.  
**Linearity:**  $\pm 3\%$  all ranges.  $\pm 5\%$  on 0.2 $\mu\text{s}$  range at X10 magnification

#### TRIGGERING

**Source:** V MODE—Trigger selected by vertical MODE switch

CH1 —Triggered by CH1 signal  
CH2 —Triggered by CH2 signal  
LINE —Triggered by line voltage  
EXT —Triggered by EXT TRIG signal

#### Coupling: AC, TV FRAME, TV LINE

**Automatic:** Sweep is obtained without an input signal.

**Normal:** Sweep is not obtained without an adequate trigger signal.

**Slope:** Sweep can be set to trigger on the positive or negative going slope on the trigger waveform.

**Level:** Fully variable.

**Video Sync:** Vertical and horizontal sync separator circuitry allows any portion of complex video waveform to be synchronized and expanded for viewing.

**TV LINE** —Horizontal sync pulses are selected as triggers—sweep time of .10  $\mu\text{s}$ /div.

**TV FRAME**—Vertical sync pulses are selected as triggers—2ms/div for viewing fields of video. 5 ms/div. for complete frames.

#### Sensitivity:

AC —10Hz to 25 MHz, 1 div. internal, or 100 mV external

TV —Frame or Line, 1 div internal or 100mV external

AUTO—50Hz to 25 MHz, 1 div. internal or 100 mV external

**Maximum Input Voltage:** 50 V (dc + ac peak)

**Input Impedance:** 1 M $\Omega$   $\pm 2\%$ , approx. 32 pF

#### HORIZONTAL AMPLIFIER

(X10 MAG not included)

**Deflection Factor:** Same as vertical amp.

**Frequency Response:** DC: DC to 500 kHz,  $-3\text{dB}$ ; AC: 5 Hz to 500 kHz,  $-3\text{dB}$

**Input Impedance:** Same as vertical amp.

**Maximum Input Voltage:** Same as vertical amp.

**X-Y Operation:** Operating mode selectable with TRIG MODE switch. CH1 = Y axis, CH2 = X axis

**X-Y Phase Difference:** 3° or less at 50 kHz

#### Z-AXIS INPUT

(Intensity Modulation)

**Sensitivity:** 5Vp-p minimum (TTL compatible) Negative voltage increases brightness

**Frequency Range:** DC to 2 MHz

**Input Impedance:** Approx. 10 k $\Omega$

**Maximum Input Voltage:** 50 V (dc + ac peak)

#### VERTICAL AXIS SIGNAL OUTPUT

(CH 1 Output)

**Output Voltage:** Approx. 50 mV/div. into 50 $\Omega$

**Output Impedance:** Approx. 50 $\Omega$

**Frequency Response:** ( $-3\text{dB}$  into 50 $\Omega$ ) 5mV/div. to 5V/div.: 100 Hz to 20 MHz; 1mV/div. and 2mV/div.: 100 Hz to 10 MHz

#### CRT

**Type:** Rectangular with internal graticule

**Acceleration Voltage:** 6 kV

**Display Area:** 8  $\times$  10 divisions; 1 div. = 10mm

#### OTHER SPECIFICATIONS

**Probe Adjust Voltage:** 1 Vp-p  $\pm 3\%$  square wave, positive polarity, reference level 0V. approx. 1 kHz  
**Trace Rotation:** Electrical, adjustable from front panel

**Environmental:** +10° to +35°C, 85% max. RH—full operation. 0° to +40°C, 85% max. RH—within spec.

**Power Requirements:** 100/120/220/240 VAC  $\pm 10\%$ , 50/60 Hz. approx. 32W.

**Dimensions (WxHxD):** 13.4"  $\times$  5.7"  $\times$  15.0" (341  $\times$  145  $\times$  380mm)

**Weight:** 17 lbs. (7.8 kg)

#### ACCESSORIES SUPPLIED WITH

##### OSCILLOSCOPE:

Two 10:1/direct probes Model PR-40

Instruction Manual

Schematic diagram and parts list

##### OPTIONAL ACCESSORIES:

Probe Pouch—LC-150

Demodulator Probe—PR-32

10:1 Probe—PR-45

10:1/Direct Probe—PR-40

Deluxe 10:1/Direct Probe—PR-37

# B&K PRECISION

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6470 W. Cortland St.  
Chicago, IL 60635  
(312) 889-1448



2501

## SPECIFICATIONS

**Vertical:** 2 channels, AC or DC coupled, 5 mV/div to 5 V/div in 1-2-5 sequence, Accuracy: 5%, Input Impedance: 1 megohm/25pF  
**Horizontal:** Time/div 80 s/div to 20  $\mu$ s/div  
**Trigger:** Internal—CH1 only. External—rear panel via BNC input (TTL compatible).  
**Digital Storage:** Memory—Each channel 2048 x 8 Vertical resolution—8 bit, Sampling—10 Megasam-

## 2501 Digital Storage Adaptor

■ Adds the benefits of a digital storage oscilloscope to an analog scope ■ Provides DSO capabilities at low cost ■ True dual-channel operation ■ Store and magnify waveforms ■ Plot hard copies ■ Simple 3 lead scope connection

2501 . . . . . \$795.00

ples/sec to 2.5 samples/sec. Save—halts acquisition of CH2 in Refresh, Hold—halts acquisition of CH1 and CH2 in all modes.  
**Modes:** Refresh—80 s/div to 20  $\mu$ s/div, Roll—80 s/div to 5 ms/div, Single Shot—80 s/div to 20  $\mu$ s/div  
**Pretrigger:** 0%, 50%, 100% in Single Shot  
**Rear Panel Connectors:** Ch 1 output to scope (0.2 V/div, 0 to + 2 V)

Ch 2 output to scope (0.2 V/div, 0 to + 2 V)  
Trigger output to scope—TTL negative edge to trigger external scope. Also functions as a Plotter pen lift—TTL low for pen down. External trigger input (TTL compatible). Slope set by SLOPE switch.  
**Plot Output:** CH 1 or CH 2 outputs used for signal at 0.2 V/div (Output from 0 to + 2V) Plot times selected by 10 x TIME/DIV switch setting. Pen lift—TTL high, pen up; —TTL low, pen down (front panel LED on)

## GENERAL

**External Scope Requirements:** Dual (or single) channel at 0.2 V/div. Timebase at 0.1 ms/div. External trigger input, negative slope.  
**Power Requirements:** 120/240 VAC  $\pm$  10%, 50/60 Hz, 15 W  
**Dimensions (HxWxD):** 97 x 260 x 260mm (3.82 x 10.24 x 10.24") **Weight:** 1.8 kg. (3.96 lbs.)



1420

## SPECIFICATIONS

### VERTICAL AMPLIFIER

**Deflection Factor:** 10 mV/div to 20 V/div.,  $\pm$  5% in 11 ranges each with vernier adjustment.  
**Frequency Response:** DC: DC to 15 MHz, (- 3 dB), AC: 10 Hz to 15 MHz, (- 3 dB), Rise Time: 24 ns or less. Overshoot: 3% or less.  
**Input Impedance:** 1 M $\Omega$  shunted by 26 pF.  
**Maximum Input Voltage:** 600 V p-p or 300 V (DC + AC peak).  
**Operating Modes:** CH A—Single Trace. CH B—Single Trace. A & B—Dual Trace.  
**Chop Frequency:** 100 kHz  $\pm$  20%  
**Channel Separation:** > 60 dB at 1 kHz.

### SWEEP SYSTEM

**Mode:** NORM—Triggered Sweep, AUTO—Sweep free runs in absence of trigger.  
**Sweep Time:** 1.0  $\mu$ s div to 0.5 s div.,  $\pm$  5% in 18 ranges, in 1-2-5 sequence, variable between ranges.  
**Sweep Magnification:** X10.  $\pm$  10%. Extends max. sweep rate to 100 ns. div.  
**Linearity:**  $\pm$  3%;  $\pm$  5% for X10 magnification.

## 1420 15MHz, Dual Trace, Portable Oscilloscope

■ Operates on AC, external DC or optional internal battery pack power ■ Conveniently fits into an ordinary attache case ■ Full feature design

1420 . . . . . \$919.00

### TRIGGERING

**Source:** CH A—Triggered by CH A signal. CH B—Triggered by CH B signal. EXT—Triggered by EXTernal signal (CH A in dual).  
**Coupling:** AC—20 Hz to 20 MHz.  
**Automatic:** Sweep obtained without an input signal.  
**Normal:** No sweep without an adequate trigger signal.  
**Slope:** Sweep can be set to trigger on the positive or negative going slope on the trigger waveform.  
**Level:** Continuously adjustable.  
**Video Sync.:** Vertical and horizontal sync. separator circuitry allows any portion of complex video waveforms to be synchronized and expanded for viewing VIDEO LINE and VIDEO FRAME sync switched automatically by SWEEP TIME/DIV switch. LINE—50  $\mu$ s div. to 1.0  $\mu$ s/div. FRAME—0.5 s/div. to 0.1 ms/div.  
**Sensitivity:** AUTO—20 Hz to 15 MHz; 1 div. internal or 1 p-p external.

### EXTERNAL TRIGGER INPUT

**Max. Input Voltage:** 50 V p-p or 24 V (DC + AC peak)  
**Input Impedance:** 100 k $\Omega$  35 pF (nominal).

### HORIZONTAL AMPLIFIER (input through CH B)

**Deflection Factor:** Same as vertical amp.  
**Frequency Response:** DC—DC to 1 MHz (- 3 dB). AC—10Hz to 1 MHz (- 3 dB).  
**Input Impedance:** 1 M $\Omega$   $\pm$  5%/26 pF ( $\pm$  3 pF).  
**Maximum Input Voltage:** Same as vertical amp.

## 1400 Oscilloscope Calibrator

■ Cost effective test calibrator ■ Provides time and amplitude signals ■ 0.5% amplitude accuracy ■ Can be used as signal source for testing ■ .015% Time accuracy ■ 1 ns rise time

1400 . . . . . \$499.00

**Accuracy (Into 1 M $\Omega$ ):** 23°C  $\pm$  5°C:  $\pm$  0.5%, 20 mV to 100 V range.  $\pm$  1%, 1 mV to 10 mV range.  
10°C to 40°C: Add  $\pm$  0.5% to above accuracy.  
**Rise Time:** < 5 mS. **Frequency:** 1kHz.

### TIME OUTPUT SIGNAL

**Range:** 0.5 s to 10 ns square wave in 1-2-5 sequence.

**Accuracy:** .015%  
**Amplitude:** 0.5 s to 20 ns—100 mV to 1 V peak. 10 ns—100 mV to .5 V peak. Rise Time: < 1 ns.  
**Leading Edge Aberrations:** 2% of peak-to-peak amplitude or 10 mV, whichever is greater.  
**Output:** 50  $\Omega$  nominal

### SINE WAVE OUTPUT SIGNAL

**Frequency:**  $\approx$  1 kHz  
**Amplitude:**  $\approx$  1 V peak-to-peak

### GENERAL

**Power Requirements:** 120/140 VAC, 50/60 Hz, 25 watts maximum  
**Operating Temperature:** 10°C to 40°C  
**Dimensions:** (HWD) 3x7.25x9.5" (7.6x18.4x24.1 cm).  
**Weight:** 4 lbs (1.8 kg)



1400

## SPECIFICATIONS (ALL SPECIFICATIONS TAKEN AFTER 30 MINUTE WARM-UP)

### VOLTAGE OUTPUT SIGNAL

**Range:** 1 mV to 100 V peak square wave in a 1-2-5 sequence.



# BLACKBOURN INC.

10150 Crosstown Circle  
Eden Prairie, MN 55344  
(612) 944-7010 (800) 328-6369

# VIDEO PACKAGING



Post Combo Album

Econo-Pak



Clear Display Albums



Injection Molded Combo Albums

VHS VHS Album with 4" label holder and title card. Available colors: 43701 White; 43702 Azure Blue; 43703 Red; 43705 Black; 43709 Royal Blue; 43706 Choc. Mont.; 43707 Ginger Mont. . . . . \$2.00

VHS 3-Pak Three VHS albums shrink wrapped with title cards, 43736 Choc. Mont. . . . . \$6.99

Combo Post Combo with full open trap. Unsealed at spine. 43900 White; 43905 Black . . . . . \$2.75

Deluxe Combo 3 pak 3 post combo albums foil stamped on spine. With index system. 43934 Choc. Bruno; 43938 Port Wine . . . . . \$8.99

Econo-Pak Album Economy vinyl post combo album with full open trap unsealed at spine. 43910 White; 43915 Black . . \$2.00

CDA Clear vinyl album fits a VHS or Beta cassette with movie sleeve. Full, open, trap-in and bar code aperture. 43721 Clear . . . . . \$1.79

CP-T Standard clear combo album with full open trap-in/sealed spines. 43820 Clear . . . . . \$1.99

Injection Molded Combo Album Impact resistant plastic with 3" centered label holder. With full open trap unsealed at spine  
45700 Black leather grain . . . . . \$1.99  
45706 Brown leather grain. . . . . 1.99  
45725 Black leather grain . . . . . 2.25

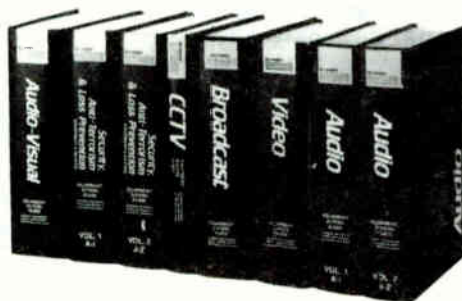
Clear Injection Molded Album with 4 Lock Cover Holds either Beta or VHS cassette. 45701 Clear Finish . . . . . \$1.89

BETA Betamax album with 3" label holder and title card. Available Colors: 43801 White; 43802 Azure Blue; 43803 Red; 43805 Black; 43806 Choc. Mont.; 43807 Ginger Mont.; 43809 Royal Blue . . . . . \$2.00

Title Cards Fits Beta, VHS or injection molded album. Bronze and White semi-gloss stock. Carton of 250 . . . . . \$6.95

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# BOGEN PHOTO CORP.

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# TRIPODS/HEADS



3020



3035



3040



3050

## 3000 Series Compact, Convertible Tripods

**3001** Tripod Ideal for 35s and medium format cameras.

Legs are made of sturdy, tubular hard-finish aluminum and each has sure-grip, quick-acting lever locks that don't foul in sand or mud.

Legs have three different separately settable click-stopped spread angles for easy leveling that allow you to get close to things like walls or tables or even boulders. Maximum elevation is 60°.

- 3000 3001 Tripod with 3025 head . . . \$ 87.95
- 3001 3001 Tripod only . . . . .69.95
- 3002 3001 Tripod with 3028 head . . . . .101.95
- 3003 3001 Tripod with 3029 head . . . . .109.95
- 3004 3001 Tripod with 3047 head . . . . .137.95

**3010 Standard** Exceptional stability that weighs under 6 lbs. with our 3025 Head.

The Basic 3011 Tripod is compact — yet it goes up to 6', and has a reversible center post that lets you shoot at almost ground level. Sturdy, tubular aluminum legs have sure-grip, quick-acting lever locks. Ideal for cameras up to medium format. Also available in black anodized finish.

- 3010 Basic 3011 Tripod with 3025 "3-D" head . . . . . \$117.95
- 3011 Basic 3011 Tripod only (Mounting stud is Euro thread) . . . . .98.95
- 3012 Basic 3011 Tripod with 3028 Super "3-D" head . . . . .130.95
- 3013 3011 Tripod with 3029 pan/tilt head . . . . .141.95
- 3014 Basic 3011 Tripod with 3047 deluxe 3-way panhead . . . . .162.95
- 3015 Basic 3011 Tripod with 3026 ball head . . . . .129.95

**3020 Convertible** Maximum shooting height is 74 1/2". The adjustable spread of the legs combined with the reversible center post, which has a removable section, lets you get as low as 14". (Even minus the center post extension, you can go up to 63", with 6 1/4" of center post travel).

- 3020 3021 Tripod with 3025 3-D head . . \$137.95
- 3021 3021 Tripod only . . . . .118.95
- 3022 3021 Tripod with 3028 super 3-D head . . . . .150.95

- 3023 3021 Tripod with 3047 deluxe 3-way pan/tilt head . . . . . \$180.95
- 3024 3021 Tripod with 3029 pan/tilt head . . . . .160.95

**3031 Dependable** Ideal for location shooting where you need a compact, sturdy tripod (the 3031 has three-section legs and a geared center post). Leg adjustment is fast and easy. Rocker arm leg lock and a spirit level on the shoulder shows you when you're on the level. Convertible cushioned spike tip legs and rigid center bracing hold everything firm.

- 3031 3033 Tripod with 3047 deluxe 3-way pan/tilt head . . . . . \$211.95
- 3033 3033 Tripod only . . . . .150.95

**3035 Work Horse** You can use this tripod at its maximum height of 7 1/2', lower it to 22" or go to virtually ground zero by opening the legs and reversing the geared center column. It maintains stability at all heights. Independent, variable-spreading leg braces allow you to obtain different angles on each leg. The three legs are continuously adjustable in relation to each other.

- 3035 3036 Tripod with 3047 deluxe 3-way pan/tilt head . . . . . \$242.95
- 3036 3036 Tripod only . . . . .179.95

**3040 Sturdy Strong** two section bi-post design, lightweight aluminum alloy construction, with exceptional sturdiness built-in. Locking knob controls extension of each leg. Geared, reversible center post offers 19" of travel, and reverses for low shots or copying. Legs are equipped with convertible cushion/spike tips. Maximum height to 73", folds to a compact 37", minimum height is 34 1/2".

- 3040 3046 Tripod with 3047 deluxe 3-way pan/tilt head . . . . . \$215.95
- 3046 3046 Tripod only . . . . .154.95

**3050 Automatic Extension** of each leg can be adjusted individually, or all three can be released simultaneously. Triggers let you move from as low as 22" (16" from base of pan head to ground), to 67 1/2" or higher, built-in spirit level on the shoulder, plus two more levels on the 3047 pan/tilt head. Auto Tripod has independent, continuously variable leg braces that set each leg at a different angle. A sturdy

geared center post with 9 1/2" of precisely controlled elevation. The legs have convertible, cushioned spike tips.

- 3050 3051 Tripod with 3047 deluxe 3-way pan/tilt head . . . . . \$302.95
- 3051 3051 Tripod only . . . . .245.95

## HEADS

**3025 "3-D" Head with Euro Socket** Separately locked movements on three axes. Perfect for 35mms, and the conical self-adjusting bearing surfaces on the tilt pivots provide more than enough strength to support Hasselblads and RBs. Thumb-screw movement locks.

- 3025 . . . . . \$25.95

**3026 and 3055 Double Action Ball Joint Heads** Separate, quick-acting locks for panning and tilting functions. You can position camera anywhere in a 180° hemisphere.

- 3026 Double action ball joint head . . . . . \$35.95
- 3055 Heavy-duty double action ball joint head . . . . .50.95

**3028 Super "3-D" Head with Euro Socket** Three axes movement system, including a pan lock. Camera platform wider for better support of larger camera bodies and a pair of ratchet-type positive locking handles that give substantial grip, yet can be rotated to any desired position.

- 3028 . . . . . \$42.95

**3029 Pan/Tilt Head** Easy-to-use pan/tilt head for cameras up to medium format. Full 3-way action with each axis movement controlled by a separate locking handle. An ideal complement to any tripod. Weighs only 2 lbs.

- 3029 . . . . . \$47.95

**3047 Deluxe 3-Way Pan/Tilt Head** Removable camera mounting plates that don't slip. Works like a chuck. Two fixed bosses seat the mounting plate, while the third opens and closes with a quick-acting, positive-locking knob lever. Mounting plate has an inlaid friction surface, and a convenient, adjustable length 1/4"-20 mounting screw.

- 3047 . . . . . \$70.95

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# TRIPODS/HEADS/ DOLLIES



## Fluid Heads

**Mini Fluid Head** Measuring just 5" x 5" x 5" (excluding handle), this lightweight, fluid-type damped tripod head pans a full 360° and features a camera platform that measures 2 3/4" x 3". The Mini Fluid Head comes with a versatile handle which is positionable on either side and can be separated into two individual segments, each 9" in length. The Mini Fluid Head can be tilted 45° up and 90° down continuously, with detent at -45°, and has separate pan and tilt locks. Vertical drag is continuously adjustable.

**3063** ..... \$133.95

**Micro Fluid Head** Only 2 lbs. including an adjustable handle. Perfect for light weight (up to 6 lbs.) VCR cameras. It measures 4 1/4" x 5 3/4" x 2 3/4" (excluding handle); pans smoothly a full 360°; can be tilted up or down 90°; has pan and tilt locks, and continuously adjustable drag. Platform has adjustable positioning slot designed so handle can be on either left or right side.

**3126** ..... \$69.95

**Cine/Video Fluid Head** This lightweight, professional quality, fluid-damped tripod head is designed for Cine and Video cameras weighing up to 22 lbs. The large, removable camera platform has a mounting stud that travels in a 3 1/2" slot and facilitates balancing at the camera's center of gravity. In addition, there are three locking detents for the platform, any of which can be used. Pans smoothly 360° and the panning drag can be adjusted by a large pawl-controlled lever. The tilting range is 60° up to 90° down. Detent can be set to limit the downward movement to 45°. Separate locks, independent of the drag system provide a positive hold in any position.

**3066** ..... \$339.00

**XL Fluid Head** Lightweight fluid head capable of handling cameras up to 9 lbs. Features a special "quick release plate" which lets you attach and detach the camera quickly and easily. The adjustable handle can be located on either the right or left side of the head.

**3160** ..... \$91.95

**Ball Camera Leveler** This is an ideal adjunct to the 3063 Mini Fluid Head. It works like a claw ball in that you mount it to your tripod, you can remove the camera and head quickly to mount on another tripod similarly equipped, and you can level your camera even if you haven't leveled the tripod. Ideal for use in the field on uneven terrain.

**3115** ..... \$39.95

## Tripods with Fluid Heads

**3170 Tripod with Micro Fluid Head** Versatile, easy to handle and sets up quickly and easily. Sturdy legs are made of tubular hard-finish aluminum and each has sure-grip lever locks. Designed for VCR cameras (our 3001) can hold up to 6 lbs.

**3170** ..... \$126.95

**3165** 3011 Tripod with 3160XL Fluid Head ..... 151.95

**3124 Tripod With Micro Fluid Head** A lightweight all-aluminum tripod (our 3011) that's sturdy, stable, versatile, easy to use and easy to carry. It weighs only 7 lbs. with our Micro Fluid Head (Order Code 3126) that features real, fluid-effect action.

**3124** ..... \$156.95

**3122** As above but in black anodized finish ..... 170.95

**3129** 3011 Tripod with 3126 Micro Fluid Head and 3127 Dolly ..... 230.95

**3145** Video Tripod Caddy ..... 31.95

**3149** 3126 Micro Fluid Head with 3211 Tripod with black anodized finish and 3127 Dolly ..... 244.95

**3163** 3160XL Fluid Head with 3011 Tripod ..... 174.95

**3164** As above plus 3127 Dolly ..... 246.95

**3046 Sturdy Tripod** All aluminum double-braced, two section design weighs only 7 lbs., 4 oz. It extends to a full 73" with the Mini Fluid Head. 19" geared center post. Folds to a compact 32 1/2" for traveling. Legs are furnished with convertible cushion/spike tips.

**3046** Cine/Video Tripod w/o head ..... \$154.95

**3140** Cine/Video Tripod with Mini Fluid head ..... 280.95

**3142** Same as above in black anodized finish ..... 295.95

**3068 Universal Cine/Video Tripod** Weighs less than 12 lbs., extends to 66". Legs are furnished with convertible cushion/spike tips. For precise positioning, there is a centerpost which permits 9" of extension. The unique variable-angle center brace system on the tripod allows minimum elevation of the tripod platform as low as 16".

**3068** ..... \$251.00

**3065** Universal Tripod with 3066 Fluid Head ..... 584.00

**3069** Universal Tripod with 3066 Fluid Head and 3067 Dolly ..... 792.00

**3118** Universal Tripod with 3063 Mini Fluid Head ..... 377.00

**3061 Heavy-Duty Cine/Video Tripod** Ideal field tripod. Closed length is only 37 1/2", extends to a full 63". It can be set as low as 12". With its built-in claw ball, the camera head can be leveled quickly under all use conditions. The Heavy-Duty Tripod weighs just 17 lbs. 2 oz.

**3061** ..... \$302.00

**3062** Heavy-Duty Cine/Video Tripod with 3066 Fluid Head ..... 633.00

**3064** Heavy-Duty Cine/Video Tripod, with 3066 Fluid Head and 3067 Dolly ..... 844.00

## Dollies

**Deluxe Cine/Video Dolly** Designed specifically for use with the Universal and Heavy-Duty Tripods. Individually braked wheels measuring 5" in diameter, and a unique leg locking system make it easy to assemble and disassemble for transporting. The tripod legs are captured in a 38" diameter circle and the doorway clearance needed for the fully assembled dolly is only 39 1/2".

**3067** ..... \$214.00

**Portable Video Dolly** Features sure-lock no rock system. Heavy-duty quick fastening rubber straps hold tripod in place. 20" radius, folds to a compact 22 1/2".

**3127** ..... \$74.95

**Variable Leg Spread Dolly** Has a special feature that allows you to adjust the radius from a max of 20" to as little as 12 1/2".

**3137** ..... \$92.95

**Auto Dollies** When you depress the centrally located foot pedal of either the Auto Dolly or the Folding Auto Dolly, you release all three wheels. When you lift the pedal, cam action raises the wheels free of the ground and the weight of the dolly and tripod rest on separate feet.

- The Auto Dolly weighs 6 lbs. • Incorporates Shepherd Casters, and is easily assembled • Spread from center to tripod leg socket is 18 1/2" • The Folding Auto Dolly features 3" wheels • Weighs 9 3/4 lbs. • Spread from center to tripod leg socket is 20" • Folds to a compact 29"

On either dolly, mounting and dismantling the tripod is accomplished by cam operated kick-locks.

**3056** Auto Dolly ..... \$123.95

**3156** Folding Auto Dolly ..... 159.95

**3254** Black Folding Auto Dolly ..... 176.95

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# BOGEN PHOTO CORP.

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# CAMERA STANDS/ ACCESSORIES



## 260/300 Super Salon Series Camera Stands

Available with 8 ft. and 10 ft. columns, the 85mm dia. chromed steel columns are mounted on heavy cast "T" bases; easy to move around because of their smooth-rolling wheels. The horizontal camera arms travel 23 in. and extend to 32 in. with precise rack and pinion drive. The camera support platform allows positioning in a 360° solid angle. The crossarm support casting features a built-in accessory tray.

### SUPER SALON 260

- Overall height: 8 ft. 7 in.
- Max. height: 8 ft.
- Min. height: 21 in.
- Arm length: 40 in.
- Horizontal arm travel: 23 in.
- Weight: 143 lbs.
- Base spread: 37-1/2"

Order Code 0840 ..... \$1062.00

### SUPER SALON 300

- Overall height: 10 ft. 5 in.
- Max. height: 10 ft.
- Min. height: 21 in.
- Arm length: 40 in.
- Horizontal arm travel: 23 in.
- Weight: 154 lbs.
- Base spread: 37-1/2"

Order Code 0850 ..... \$1177.00

## 200/260 Salon Series Camera Stands

Just slightly lighter in construction (75mm dia. col.). Available in 6 ft. and 8 ft. working heights, they feature an adjustable, counter-balanced sliding horizontal 32 in. crossarm with 15-1/2 in. travel. The camera support platform allows movements in a solid angle of 360°.

Large sized wheels in the heavy cast base and single pedal control facilitate easy positioning and quick, rock-steady locking. The crossarm support casting features a built-in accessory tray.

### SALON 200

- Overall height: 79 in.
- Max. height: 72 in.
- Min. height: 21 in.
- Arm: 32 in.
- Arm travel: 15-1/2 in.
- Weight: 106 lbs.
- Base spread: 33 in.

Order Code 0820 ..... \$853.00

### SALON 260

- Overall height: 103 in.
- Max. height: 96 in.
- Min. height: 21 in.
- Arm: 32 in.
- Arm travel: 15-1/2 in.
- Weight: 114 lbs.
- Base spread: 33 in.

Order Code 0830 ..... \$908.00

## The Mini Static Camera Stand

Mini Static can handle cameras from 35mm to 4 x 5 formats. Ideal for ID Passport work and portraiture. Pneumatically damped chrome column extends from a minimum of 37 in. to a height of 64 in. An easily mounted 21 in. extension brings maximum working height to 85 in. A 3/8 in. Euro stud on column top allows direct mounting of head. For mounting an additional camera, or an accessory tray, an accessory bracket is available.

Cast iron base has three pivoting wheels for easy movement and individual leg locks for sure holding.

- Max. height: 64 in.
- Min. height: 37 in.
- Arm: 17-1/2 in.
- Weight: 44 lbs.
- Base spread: 27 in.

Order Code 0800 ..... \$250.00

## The Mini Salon Camera Stand

Designed for medium and small format cameras, and for copying. The Mini Salon allows working heights from 9 in. to 63 in. and higher with an easily mounted 21 in. accessory extension. Column is chromed steel and is mounted on a heavy cast iron base with three pivoting wheels which lock firmly into place with individual leg locks. A double horizontal sliding bracket is fitted with two screw mounts which permit the use of an additional camera or an accessory tray.

- Max. height: 63 in.
- Min. height: 9 in.
- Arm: 17-1/2 in.
- Weight: 42 lbs.
- Base spread: 25 in.

Order Code 0810 ..... \$330.00

## Technical CS-1 Studio Camera Stand

Free-wheeling camera stand gives you great mobility for camera placement, then locks into a rock-solid stance. Rubber tipped feet take over from the casters. Fast and easy to adjust, letting you raise the camera to over six feet, or lower it to about a foot above the floor (with the cross arm reversed). Counterbalancing makes the cross arm easy to move, and the stand can handle an 11-1/2 lb. camera

- Overall height: 77 in.
- Max. height: 72 ft.
- Min. height: 12 in.
- Arm: 18 in.
- Weight: 24 lbs.
- Base spread: 36 in.

Order Code 0720 ..... \$280.00

## Camera Stand Accessories

0803	Double camera bracket .....	\$38.50
0804	Accessory tray (10-1/2 in. by 13-1/4 in.) ..	35.50
0806	Column extension (21-1/2 in.) for Mini Static and Mini Salon Stands .....	42.00
0833	Additional Counterweight (5 lbs.) for Salon Stands .....	16.00
0842	Additional Camera Support Platform for Salon and Super Salon Stands .....	88.00
0843	Support to mount additional head or accessory tray (0804) on Salon and Super Salon Stands .....	50.00
0853	Additional Counterweight (6 lbs.) for Super Salon Stands .....	16.00
0854	Adaptor for accessory side arm. Required for 0855 .....	16.00
0855	Accessory geared side arm for Salon and Super Salon .....	87.00



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# LIGHT STANDS/ ACCESSORIES



### 3079 Super Stand

The bigger your light, the more you need this strong, tall, stable stand. Made of aluminum, it's comparatively lightweight (slightly over 15 1/2 lbs.), yet will support large lighting units such as movie and TV floodlights, including 228mm sockets. Full extension is just under 12'. Standard 5/8" stud and 1/4-20 adaptor to take strobes, smaller professional Q.H. lights, and other lights. Clamp-on leveller can be ordered which keeps the Super Stand on an even footing, when the terrain isn't. For indoor use, there's an accessory set of 100mm casters.

- Closed length: 55.9" • Minimum elevation: 56.3" • Max. elevation: 143.3" • Diameter of base: 64.5" • Legs are 30mm diameter aluminum
- Sections are respectively, 50, 40, 30mm
- 3079 . . . . . \$240.00

### Accessories

**Extension Leveller** • 22mm diameter tube which clamps on to one of the legs of the Super Stand • Provides a 15" (40cm) range of adjustment so that the center column of the stand can be kept level on uneven ground.

3080 . . . . . \$48.00

**Caster Set** • 100mm (3.9") diameter casters • Provides easier movement when the stand is used indoors.

3081 . . . . . \$40.00

### Cine Stands

Designed to hold heavy lights, reflectors and scrims. The Wind-up 2 and Wind-up 3, Cine and Cine 3 Stands, as well as the Super Stand all accept 1 1/8" (28mm) bushings and supplied with adaptors for 5/8" (16mm) and 1/2" female yoke sockets. The Tall Cine accepts 5/8" bushings and female yoke sockets.

### 345 Three Section Light Stand

• Extends to 13' • Closes down to 41 1/2" • Weighs 6 lbs. 4 oz. • Will support any of four Monolite units or lights of comparable weight • The 345 comes with Shepherd casters • Mounting stud is 5/8" for standard studio strobes with 1/4-20 thread adaptor.  
3082 (345) 13' light stand with casters . . \$122.00  
3365 Same as above in black anodized finish . . . . . 129.95

### 251 The Workhorse for Portable Strobe and Q.H. Lighting

• Stable 8' stand • Weighs under 2 1/4 lbs. • Closed length is 34 1/4" • Mounting stud is 5/8" for standard studio lights with 1/4-20 thread adaptor • 42" diameter legs spread

3086 (251) 8' light stand with 1/4-20 stud . . . . . \$55.95

3361 Same as above in black anodized finish . . . . . 58.95

3088 Shepherd Casters, for use indoors . . . 29.00

### 3089 Bantam Weight Stand

• 6' light stand • Lightweight for its size and relative sturdiness • For use with small strobes and quartz lighting units • Mounting stud is 5/8" diameter • Closed length is 24 3/4" • Minimum extension is 32" • Weight 2 lbs.

3089 . . . . . \$44.50

### Accessories

3077 Wall mounting boom arm . . . . . \$89.00

3083 Clip on metal cable hooks for 3082 . . . 2.10

3084 Adaptor to convert stand tips to accommodate 3/8" sockets. . . . . 3.50

3085 Boom assembly with adjustable arm counterbalance . . . . . 90.95

3092 Plastic clip on cable clamps, set of 6 . . 2.50

3093 Plastic clip on cable clamps, set of 4 (large) . . . . . 2.20

3095 Back light stand . . . . . 24.00

3100 Broncolor adaptor . . . . . 5.95

3101 5/8" socket converter . . . . . 4.95

3102 Rapid adaptor for 3/8" socket . . . . . 8.20

3103 1/4-20 to Euro thread . . . . . 2.10

3104 Adjustable section for back light stand . . . . . 19.00

3105 Rapid adaptor for 1/4-20 socket . . . . . 8.00

CINE STANDS	Wind-Up 3	Wind-Up 2	Cine	Tall Cine	Cine-3
Order Code	3075	3070	3071	3072	3073
No. of Sections	3	2	2	3	3
Folded Length*	68 7/8"	59"	47 1/2"	61"	51"
Diameter of Base	50 3/8"	50.4"	46 3/4"	39.4"	46 3/4"
Minimum Height*	63 3/4"	53.5"	47 1/2"	57 1/2"	56"
Maximum Height*	147 5/8"	98.4"	90 1/2"	149 1/2"	128"
Approx. Load Capacity	66 lbs.	88 lbs.	66 lbs.	55 lbs.	48 lbs.
Weight	43 lbs.	37 lbs.	14 3/4 lbs.	19.6 lbs.	15 1/2 lbs.
Casters Available	(Included)	(Included)	(Included)	Use No. 3081	Use No. 3074

\*Without Casters \$604.00 \$435.00 \$160.00 \$154.00 \$152.00

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# SUPPORT EQUIPMENT

## Super Clamp with Standard Stud

Holds everything imaginable. Lightweight cast alloy, friction lined, screw operated. Safety lock will hold even if knob is not tight.

Order Code 2900 . . . . . \$25.95  
Order Code 2915 Same as above without stud. . . . . \$23.95

## Super Clamp with 3025 Head

For straight vertical or straight horizontal positioning, the 3025 pan head gives good strength, fast set-ups, plus pan lock and leveling controls. Its three movements can be adjusted separately.

Order Code 2910 Super Clamp with 3025  
Camera Mounting head . . . . . \$51.90

## Ball Joint Head for Super Clamp with Camera Platform

When you have to clamp on to a support at odd angles, the ball joint head provides a sensible solution and offers dual purpose use as well. The camera end has a reversible tip, so it can be used both with 1/4-20 and European tripod sockets. The other end fits directly into the clamp socket and locks in place. In addition, the clamp end is tapped with a European thread so it makes an excellent accessory for use with a tripod.

Order Code 2916 . . . . . \$27.00

## U-Hook Cross-Bar Holder

Plugs into super clamp socket. Ideal for cross poles when used to support background paper.

Order Code 2902 . . . . . \$6.50

## Narrow U-Hook Glass Holder

Need photos through plate glass for special effects? This is what you use. Plugs into clamp socket.

Order Code 2903 . . . . . \$7.50

## 'L' Bracket Shelf Holder

Plugs into clamp socket.

Order Code 2904 . . . . . \$10.50

## Single Background Holder Hooks

When you're traveling light, and need only one background, use this pair of single hooks which fit right into a pair of super clamps.

Order Code 2911/pair . . . . . \$14.95

## Single Background Holder Hook Set

Same pair of hooks, mounted on a pair of super clamps.

Order Code 2912/pair . . . . . \$62.50

## Background Holder Hooks (Set of 2)

Set of 2 sturdy, heavy gauge hooks, will accommodate up to 3 Expan units. These are drilled with clearance holes for #10 screws for mounting direct to your wall.

Order Code 2921 . . . . . \$25.00

## Background Holder Hook Set

Consists of 2 #2921 Cast Hooks Mounted on Super Clamps, ready to mount on Auto-Pole.

Order Code 2955/per set . . . . . \$72.00

## Swivel Umbrella Adaptor

When you have to use a light which doesn't have built-in provision for tilting or for using an umbrella, this does the trick. Plugs directly into super clamp, both ends turnable. Also works without 345 (#3082) and 251 (#3086) light stands.

Order Code 2905 . . . . . \$17.95

## Make A Boom with Joining Stud

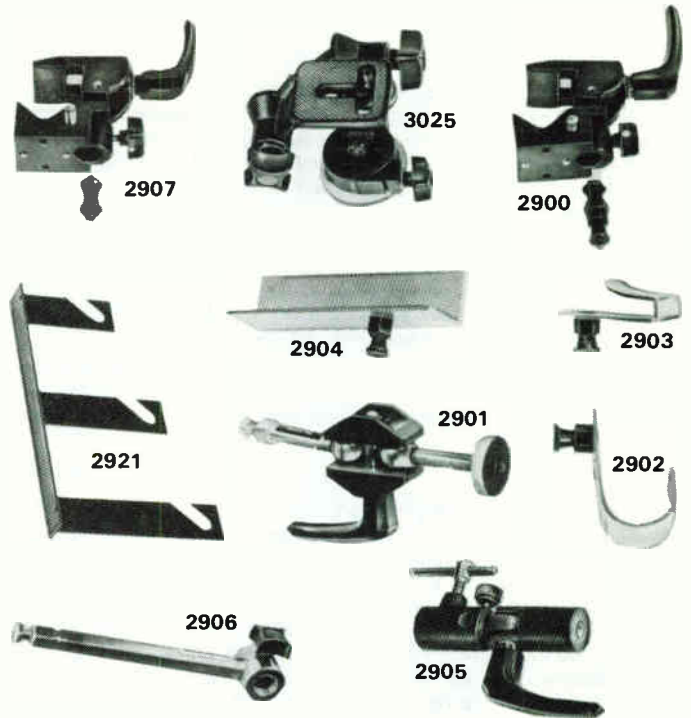
Replaces the standard stud supplied with the super clamp to permit 2 clamps to be joined at 60° angles. Ideal for constructing a super sturdy fixed position boom for lights or gobos.

Order Code 2913 . . . . . \$3.00

## Extension Arm

Want to hang a light or camera from a pole, but running into interference problems? The extension arm plugs into the Super Clamp and lets you use either the standard stud or a 5/8 dia. nipple, 6 more inches away from the problem.

Order Code 2906 . . . . . \$15.95



## Short Stud, Reversible

While the standard stud supplied with the super clamp serves adequately with small camera tilt-tops, purists will want more bearing surface between the bottom of a ball joint head and the super clamp. This short stud permits flush mounting, and it's reversible for both 1/4-20 and European camera thread.

Order Code 2907 . . . . . \$3.00

You can also order the super clamp with the short stud instead of the standard stud.

Order Code 2909 . . . . . \$25.95

## Magic Arm with Camera Platform

Fully articulated arm with 90° pivotable and 360° rotatable ends and an elbow that rotates 360°. Analogous to a human arm with a shoulder, an elbow, and a wrist except that you have considerably greater movement. In the relaxed position, you can move any of the joints to any desired position. A firm turning movement of the control handle—located at the elbow joint—locks all three joints firmly into position.

Order Code 2930 . . . . . \$70.95

Order Code 2931 Accessory Fork . . . . . \$14.95

## Auto-Pole/Expan Background System

Our background systems combine Auto-Pole support poles with the Expan drive system to create a strong, easy-to-assemble, modular and flexible way to handle a number of background paper rolls.

- 2920 Expan background paper drive set with plastic drive chain . . . . . \$ 48.95
- 2950 Auto-Pole, set of 2 . . . . . 130.00
- 2953 Mini Auto-Pole 1.0m-set of 2 (39") . . . . . 110.00
- 2956 Auto-Pole (black anodized finish), set of 2 . . . . . 142.00
- 2960 Complete Auto-Pole/Expan Kit . . . . . 340.00
- Consists of:
  - 1 - Set of Auto-Poles (2950)
  - 1 - Background Holder Hook Set (2955)
  - 3 - Expan sets (2920)
- 2961 Complete Auto-Pole/Expan Kit (same as above but with black Auto-Poles) . . . . . \$353.00

Note: Other accessories available.

# BOGEN PHOTO CORP.

17-20 Willow St.  
P.O. Box 712  
Fairlawn, NJ 07410-0712  
(201) 794-6500

# COPY STANDS

## Technal TC-1 Copy Stand System

The TC-1 features a quick position-setting handle, coupled with a rotating friction drive which can be used for fine adjustments. A flip-over locking lever holds the camera arm firmly in place wherever it's set. The camera arm length is variable to permit centering a variety of cameras over the baseboard.

For precise leveling control of small format cameras when parallelism is important, there's a removable and adjustable alignment guide on the camera arm. And with the TC-1, working with 4" x 5" technical or press cameras is as easy as using a 35, due to the spring counter-balanced elevating mechanism incorporated in its design.

- Overall Height: 43" • Baseboard Size: 20" x 27" (clear of column 23 1/2") • Working Heights (center of tripod thread): Minimum 9 3/4", Maximum 40 3/4" • Crossarm Adjustment (from column): Minimum 6 3/4", Maximum 10 1/2"

Order Code 1870 . . . . . \$310.00



TC-1

## TL-3 Copy Light Assembly for TC-1

The accessory TL-3 lighting provides four swivel arm lamp holders mounted on a folding assembly which can be adjusted over a range of positions, both for lighting on the baseboard, and for above baseboard small object photography. The lamp holders of the TL-3 accept standard reflector floodlight bulbs up to 150W. These lamps provide even more beam coverage, draw less current and are cooler than photofloods. Their color temperature is rated at 27X line voltage, so a 3200°K rating can be obtained from a line voltage of 118.5V, 126V will produce 3400°K.

- Support Arm Length: 20" adjustable from 15° above level to 60°
- Crossarm: 22" (12" between lamp centers)

Order Code 1871 . . . . . \$126.50

## Adjustable Lighting Bar Set

Designed to let you select your own illumination (such as strobe or quartz halogen) and position your lights for a variety of lighting requirements. It consists of two crossbars, 12" long, mounted on 22" long support arms. These support arms can be tilted through a 45° angle, a real benefit when illuminating large artwork. Each cross arm can move from as low as 4" to as high as 21" above the support arms, providing you even more versatility.

Order Code 1874 . . . . . \$76.00

## Movable Copy Stage

Mounted on its own spring counter-balanced carriage, the Movable Copy Stage comes with a removable opal acrylic sheet which provides a clear area of 17" x 14" for transillumination. It's perfect for photomacrography, gross specimen photography and the copying of graphics for slide making, etc.

- Overall Size: 24" x 17" • Clear area: 17" x 14"

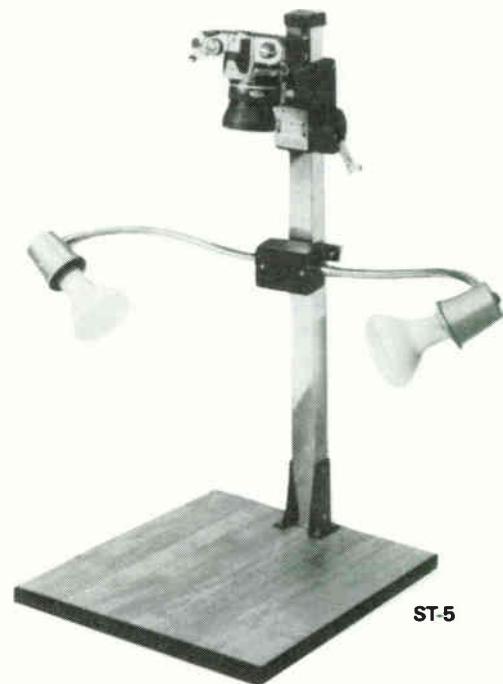
Order Code 1873 . . . . . \$180.00

## Technal ST-5 Compact Copy Stand

This is a basic copy stand with excellent features. It is compact yet sturdy and provides vibration-free camera support. With the friction elevating drive on the right side, you can raise or lower the camera with your right hand keeping the copy in focus with your left. For copying, close-up, photomacrography, and similar applications, the ST-5 is an excellent choice.

- Maximum Height of Arm (measured from camera screw): 28" • Minimum Height: 10 1/2" • Baseboard: 14 1/2" x 17 1/2" • Weight: 10 1/2 lbs.

Order Code 1890 . . . . . \$115.95



ST-5

## L-5 Light Assembly

The ideal companion unit for the ST-5 Copy Stand. Consists of two sockets mounted on gooseneck arms with a junction box and master switch clamp to the column of the Copy Stand. Position of the lights is adjustable vertically on the column by loosening two screws. Flexible goosenecks provide maximum lighting latitude. Designed for 150W reflector floodlight bulbs. U.L. listed.

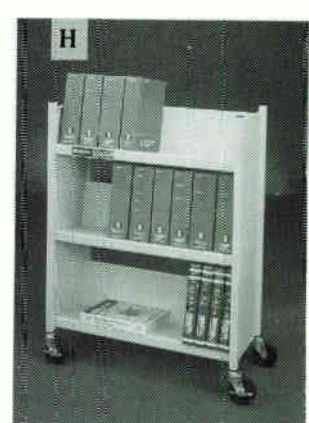
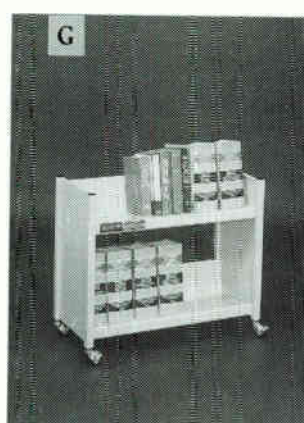
Order Code 1891 . . . . . \$72.95



# BRETFORD MANUFACTURING, INC.

9715 Soreng  
Schiller Park, IL 60176  
(312) 678-2545  
TWX: 910-227-4925  
FAX: (312) 678-0852

## MOBILE UTILITY TRUCKS



### Whether you're moving books or looking for a sensible method of transporting media materials . . .

Bretford's Mobile Utility Trucks offer the organization, accessibility and quiet mobility to do the job right. Slant shelves are perfect for books, binders, encyclopedias, reference volumes, videotapes and media kits. Flat shelves accommodate everything from computer tapes and accessories to mail baskets and small cartons. Heavy gauge steel construction; "QuietGlide" caster system and smooth round edges; 4" casters (2 with locking brakes) R227 equipped with 2" ball casters. Ships assembled.

*All Mobile Utility Carts (except L330 & R227) come in Putty Beige decorated with an accent stripe in Walnut, Blue, Red or Yellow. Specify accent stripe color when ordering.*

A. V336 Mobile Utility Truck has six slant shelves. Dimensions: top to middle shelf 11½", middle to bottom shelf 11½", shelves 36"W x 6¾"D.

B. F336 Mobile Utility Truck has three flat shelves. Dimensions: top to middle shelf 11½", middle to bottom shelf 11½", shelves 36"W x 16"D.

C. VF336 Mobile Utility Truck has four slant shelves on top and one flat shelf on the bottom. Dimensions: top to middle shelf 11½", middle to bottom shelf 11½", slant shelves 36"W x 6¾"D, flat shelf 36"W x 16"D.

D. FV336 Mobile Utility Truck has one flat shelf on top with four slant shelves underneath. Perfect as a mobile media work center. Dimensions: top to middle shelf 11½", middle to bottom shelf 11½", flat shelf 36"W x 16"D, slant shelves 36"W x 6¾"D.

E. V230 Mobile Utility Truck has four slant shelves. Dimensions: top to bottom shelf 11½", shelves 30"W x 6¾"D.

F. F230 Mobile Utility Truck has two flat shelves. Dimensions: top to bottom shelf 11½", shelves 30"W x 16"D.

G. R227 Mobile Utility Truck has two slant shelves. Ships UPS, assembled. Dimensions: top to bottom shelf 13½", shelves 27"W x 9½"D.

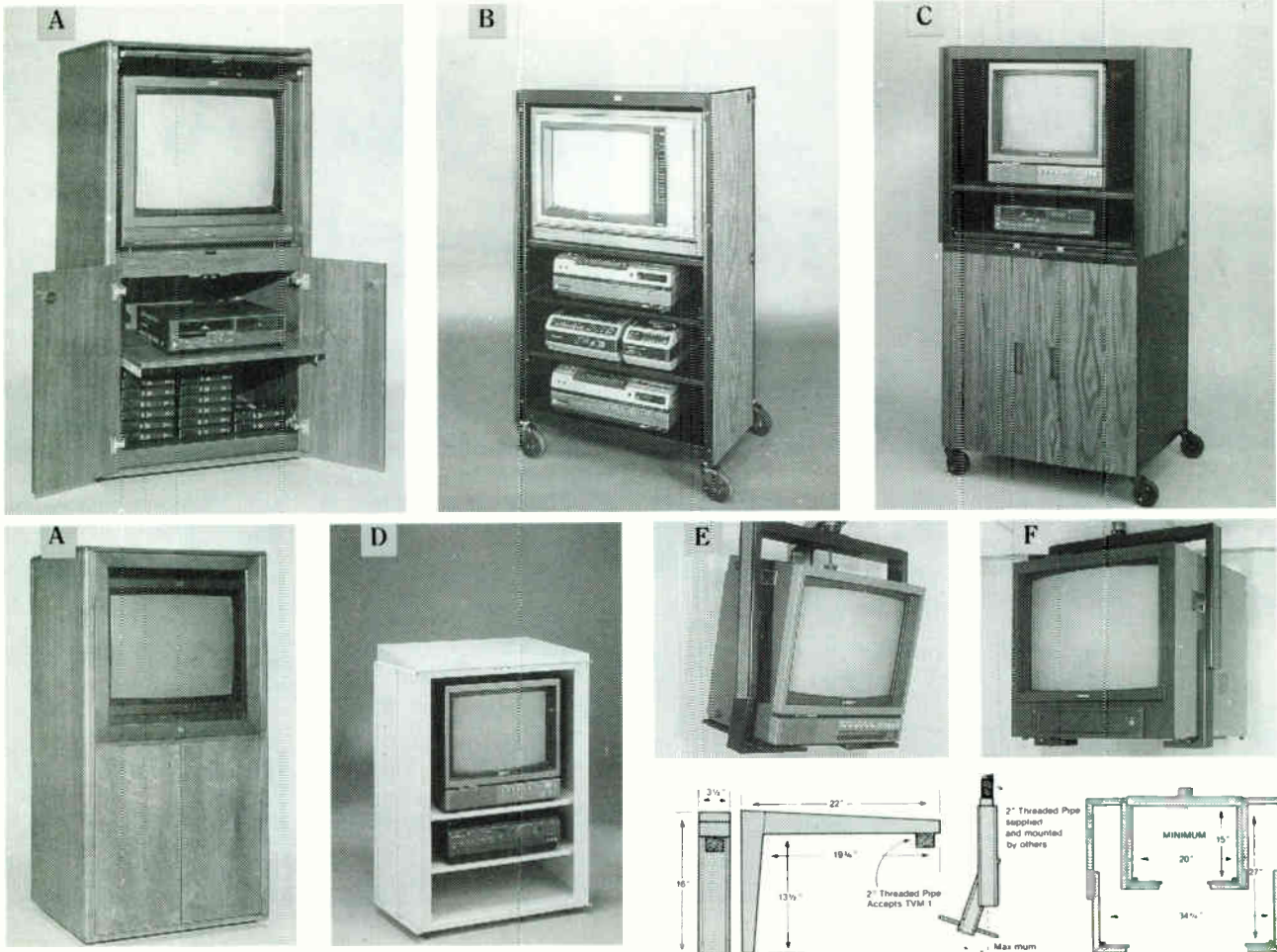
H. L330 Mobile Utility Truck has six slant shelves. Dimensions: top to middle shelf 12", middle to bottom shelf 12", shelves 30"W x 9½"D.

A	V336	37"W x 42"H x 18"D	70 lbs.	\$231.00
B	F336	37"W x 42"H x 18"D	58 lbs.	\$197.00
C	VF336	37"W x 42"H x 18"D	65 lbs.	\$231.00
D	FV336	37"W x 42"H x 18"D	66 lbs.	\$231.00
E	V230	31"W x 37"H x 18"D	44 lbs.	\$195.00
F	F230	31"W x 37"H x 18"D	40 lbs.	\$185.00
G	R227	28"W x 24½"H x 18"D	26 lbs.	\$124.00
H	L330	37"W x 42"H x 18"D	45 lbs.	\$163.00
	RC	Rigid Caster replacing 4" Caster		\$ 15.00

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# VIDEO SECURITY CENTERS



## Safely Store and Display Your Valuable Video Equipment in Lockable Security Centers

Your expensive equipment can be locked out-of-sight, yet it's always ready for use—simply unlock and open the doors—you're ready for the presentation. And your equipment is easily accessible for operation and repairs. Each center has useful features like a VCR shelf, locking doors with 2 keys, and a ventilated back panel. Heavy-duty casters let you share your system between classrooms or offices.

**A. VCR-1000 All-Wood Video Cabinet** has a rich Walnut finish with quality workmanship. A stylish way to support your video system. Features a tempered glass pullup window that locks to safeguard the TV/Monitor; sliding shelf for VCR; 3" plate-mounted casters and 170° European-style hinges so cabinet doors open fully. Recommended for use with TV/Monitor up to 26" diagonal screens. Ships assembled, (F.O.B. Corinth, MS). Dimensions: monitor cabinet—27"W x 26 1/4"H x 24"D, monitor shelf to VCR shelf—10 3/4", VCR shelf to bottom shelf—13".

**B. VTRC50E Midsize Video Security Center** has twin doors that lock cabinet from top to bottom. 3 adjustable shelves. Steel construction finished in Black, with Walnut mar-resistant laminate doors. Doors mounted on full length piano hinges to fold back against cabinet. Includes a 2-outlet electrical assembly with 20-foot grounded extension cord. Recommended for use with TV/Monitors with up to 19" diagonal screens. Ships disassembled. Cabinet Interior: 26"W x 48"H x 22D.

**C. VTRC70E Video Security Center** offers a larger cabinet with 3 adjustable shelves. 4 locking cabinet doors divide cabinet in half—monitor may be viewed from the top section while VCR and other equipment remains locked in the bottom cabinet. Includes 2-outlet electrical assembly with 20-foot grounded extension cord. Recommended for use with TV/Monitors with up to 26" diagonal screens. Ships disassembled. Cabinet Interior: 31"W x 60"H x 22"D.

**VTRC40E Video Security Center** (not shown) has 2 adjustable shelves. Recommended for use with up to 19" diagonal screens. Complete with 2-outlet electrical assembly with 20-foot grounded extension cord. Ships disassembled. Cabinet Interior: 31"W x 30"H x 22"D.

**D. VTRC420E Personal-Size Video Security Center** features two adjustable interior shelves in 2 3/4" increments, 2" hidden casters, 2-outlet electrical assembly and 20-foot grounded extension cord. Ivory finish. Cabinet Interior: 28"W x 39"H x 23"D. Recommended for use with up to 19" diagonal screens. Ships assembled.

## Universal TV Wall/Ceiling Mounting Systems . . . One Bracket Holds Any Size Monitor!

**E. TVM1 Universal Video Mounting Bracket** Lets you install monitors on the ceiling. Accepts 17" to 26" diagonal screen TVs. Formed steel construction. Black baked enamel finish with Walnut vinyl-clad steel accents. Allows a tilt factor up to 20 degrees. Ships UPS, disassembled.

**F. TVM2 Wall Bracket Adaptor** allows TVM1 to mount on wall. Ships UPS, disassembled.

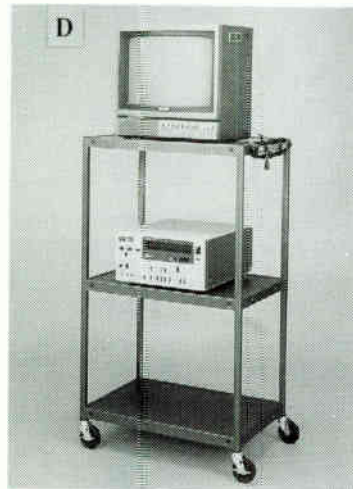
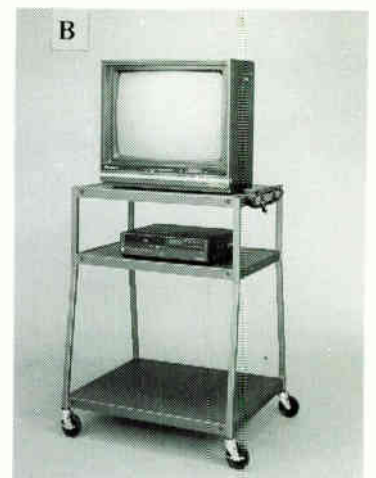
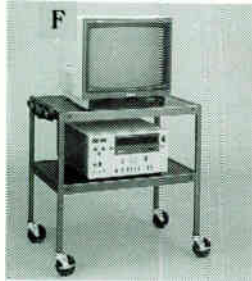
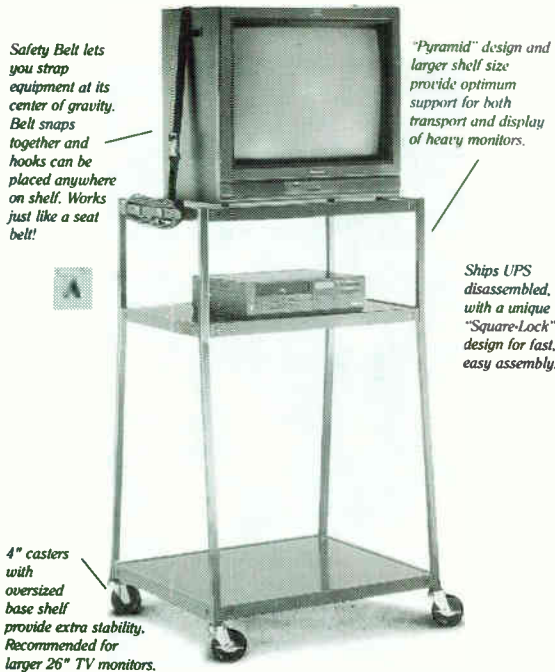
<b>A</b>	<b>VCR1000</b>	31"W x 60"H x 27"D	282 lbs.	\$1675.00
<b>B</b>	<b>VTRC50E</b>	28"W x 55"H x 23"D	171 lbs.	\$709.00
<b>C</b>	<b>VTRC70E</b>	33"W x 72"H x 24"D	208 lbs.	\$1000.00
	<b>VTRC40E</b>	33"W x 38"H x 24"D	140 lbs.	\$591.00
<b>D</b>	<b>VTRC420E</b>	28"W x 42"H x 24"D	107 lbs.	\$424.00
<b>E</b>	<b>TVM1</b>	Ceiling Bracket	27 lbs.	\$181.00
<b>F</b>	<b>TVM2</b>	Wall Bracket Adapter	10 lbs.	\$ 57.00



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# MOBILE EQUIPMENT TABLES



## Especially Designed For Your AV/Video Equipment

Feature steel construction, die-pressed shelves with smooth rounded edges, "Quiet-Glide" caster inserts, 4" casters (2 locking), "Square-Lock" design for easy assembly, and Midnite Gray finish. Slant Bar allows you to slightly tilt TV forward, eliminating glare from overhead lights. All ship UPS, disassembled.

The BB Wide-Body Mobile Equipment Tables have an oversized base shelf providing extra stability. Recommended for use with TV/Monitors with up to 26" diagonal screens such that the TV/Monitor will not overhang the shelf.

**A. BB54 Series**, 54"H with 3 shelves. Dimensions: top and middle shelves 32"W x 22"D, bottom shelf 32"W x 27"D, distance between top and middle shelves 12", middle to bottom shelf 32½".

**B. BB44 Series**, 44"H with 3 shelves. Dimensions: top and middle shelves 32"W x 22"D, bottom shelf 32"W x 27"D, distance between top and middle shelves 12", middle to bottom shelf 23".

The MP Mobile Equipment Tables come in different heights with either 2, 3, or 5 shelves. Recommended for use with TV/Monitors with up to 19" diagonal screens such that the TV/Monitor will not overhang the shelf.

**C. MP54DX Series**, 54"H with 5 shelves makes an ideal mobile videotape editing or duplicating rack. Distance between shelves 10".

**D. MP54 Series**, 54"H with 3 shelves. Dimensions: top to middle shelf 23"; middle to bottom shelf—20".

**E. MP48 Series** are 48"H tables with 3 shelves. Dimensions: top to middle shelf 17", middle to bottom shelf 20".

**F. MP30 Series**, 30"H with 2 shelves. Distance between shelves 14".

**G. Mini Pak Mobile Equipment Tables** come with 20"W x 18"D shelves, 2 shelves per table, 26"H, 34"H and 42"H. Top to bottom shelf: MP26-17", MP34-13", MP42-21".

<b>A</b>	BB54	Basic Table, 32"W x 54"H x 27"D	60 lbs.	\$173.00
	BB54E	w/E-Unit	62 lbs.	201.00
	BBS54	w/Slant Bar	65 lbs.	186.00
	BBS54E	w/E-Unit & Slant Bar	67 lbs.	214.00
<b>B</b>	BB44	Basic Table, 32"W x 44"H x 27"D	58 lbs.	\$167.00
	BB44E	w/E-Unit	60 lbs.	195.00
	BBS44	w/Slant Bar	63 lbs.	180.00
	BBS44E	w/E-Unit & Slant Bar	65 lbs.	208.00
<b>C</b>	MP54DX	Basic Table, 30"W x 54"H x 20"D	76½ lbs.	\$198.00
	MP54DXE	w/E-Unit	78½ lbs.	226.00
	MPS54DX	w/Slant Bar	81 lbs.	208.00
	MPS54DXE	w/E-Unit & Slant Bar	83 lbs.	236.00
<b>D</b>	MP54	Basic Table, 30"W x 54"H x 20"D	52 lbs.	\$155.00
	MP54E	w/E-Unit	54 lbs.	183.00
	MPS54	w/Slant Bar	56½ lbs.	165.00
	MPS54E	w/E-Unit & Slant Bar	58½ lbs.	193.00
<b>E</b>	MP48	Basic Table, 30"W x 48"H x 20"D	52 lbs.	\$149.00
	MP48E	w/E-Unit	54 lbs.	177.00
	MPS48	w/Slant Bar	55 lbs.	159.00
	MPS48E	w/E-Unit & Slant Bar	57 lbs.	187.00
<b>F</b>	MP30	Basic Table, 30"W x 30"H x 20"D	35 lbs.	\$133.00
	MP30E	w/E-Unit	37 lbs.	161.00
<b>G</b>	MP26	Basic Table, 20"W x 26"H x 18"D	26 lbs.	\$ 97.00
	MP26E	w/E-Unit	28 lbs.	125.00
	MP34	Basic Table, 20"W x 34"H x 18"D	28 lbs.	103.00
	MP34E	w/E-Unit	30 lbs.	131.00
	MP42	Basic Table, 20"W x 42"H x 18"D	30 lbs.	107.00
	MP42E	w/E-Unit	32 lbs.	135.00
<b>SB</b>	Safety Belt	1 lb.	\$ 24.50	
<b>MPS</b>	Slant Bar for MP Tables	4½ lbs.	9.50	
<b>BBS</b>	Slant Bar for BB Tables	6 lbs.	13.00	

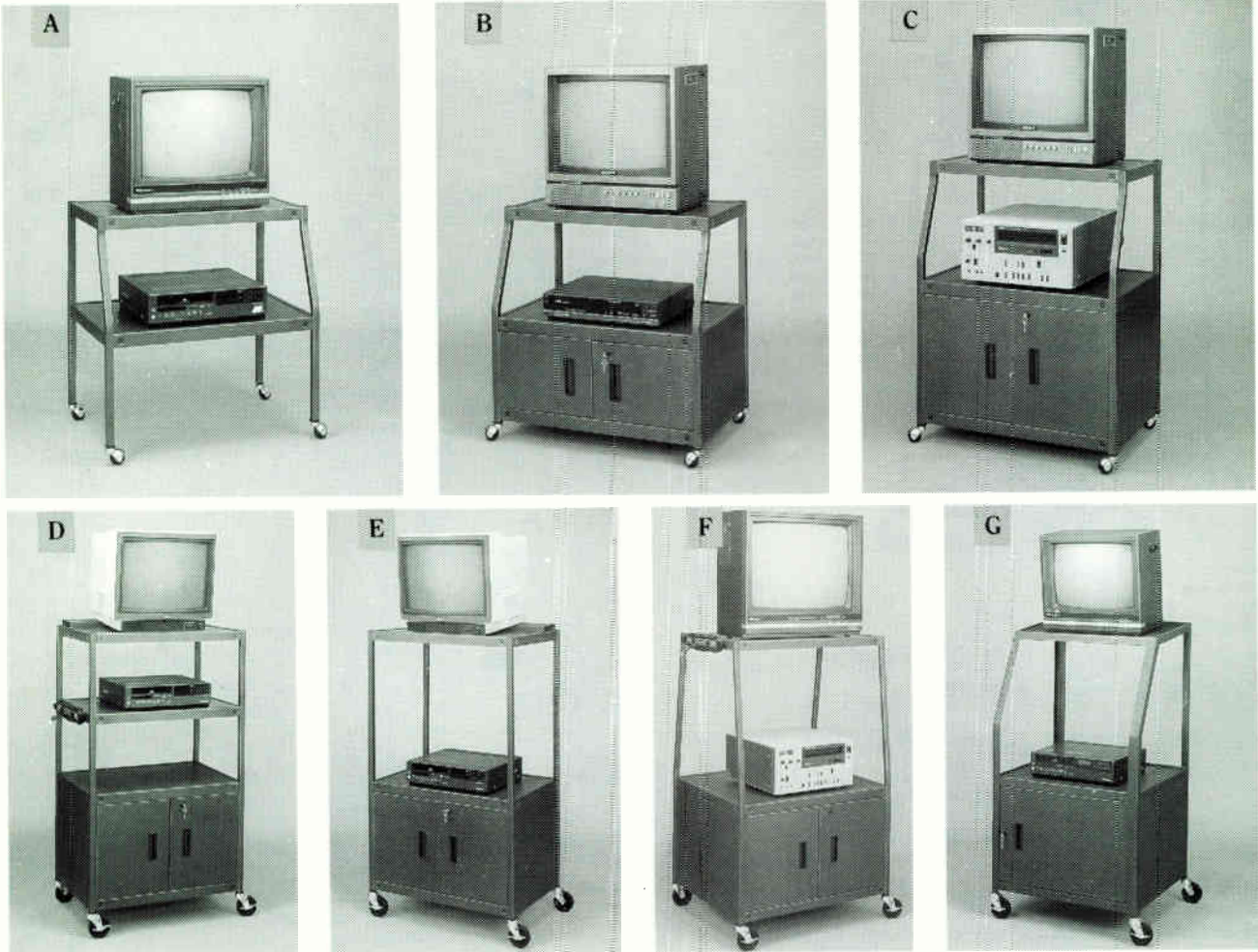
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# TV/VCR CABINETS/STANDS



## Show Your Video, And Lock Your Valuable Accessories

Bretford's TV/VCR Cabinets and Stands are designed for small and large group viewing. They feature steel construction for strength and durability, contemporary Midnite Gray enamel finish and "Quiet-Glide" caster system for 2" ball casters or 4" hard rubber casters, (2 locking) depending on the model. Cabinet models come with 2 keys. *Each cabinet or stand will support TV/Monitors with up to 19" diagonal screens such that the TV/Monitor will not overhang the shelf. BBC54E is the only cabinet stand recommended for 26" diagonal monitors such that the TV/Monitor will not overhang the shelf.* All ship UPS disassembled, (except BBC54E and VTRC54E).

*"E" Models feature a standard electrical assembly with two grounded outlets, 20 ft. grounded extension cord and a built-in cord winder.*

A. VTR20 TV/VCR Stand has a recessed top shelf, wider bottom shelf for stability. 2" ball casters. Dimensions: top shelf 30"W x 16"D, distance between shelves 13".

B. VTRC30E TV/VCR Cabinet Stand adds locking storage cabinet to VTR20 frame. Dimensions: top shelf 30"W x 16"D, cabinet interior 28"W x 10"H x 18"D.

C. MPVC40E TV/VCR Cabinet Stand is 40"H, with 2" ball casters. Cabinet has moveable shelf. Dimensions: top shelf 30"W x 16"D, distance between shelves 13", cabinet interior 28"W x 17"H x 18"D.

D. MPVC54EDX TV/VCR Cabinet Stand is 54"H, has slant bar on top shelf to reduce glare and a middle shelf for additional equipment. Complete with 4" casters (2 locking). Dimensions: distance between shelves 12½", cabinet interior 28"W x 17"H x 18"D. (Does Not Ship UPS)

E. MPVC54E TV/VCR Cabinet Stand 54"H, with slant bar and 4" casters (2 locking). Dimensions: distance between shelves 26", cabinet interior 28"W x 17"H x 18"D.

F. BBC54E Wide Body TV/VCR Cabinet Stand 54"H features a wider base for stability. Supports TV/Monitor with up to 26" diagonal screens. 4" casters (2 locking). Dimensions: top Shelf 32"W x 22"D, distance between shelves 17", cabinet interior 32"W x 16¾"H x 27"D.

G. VTRC54E TV/VCR Cabinet Stand 54"H, with slanted top shelf. 4" casters (2 locking). Ships assembled. Distance between shelves 24". Dimensions: top shelf 28"W x 17"D, cabinet interior 28"W x 17"H x 21"D.

<b>A</b>	VTR20 VTR20E	30"W x 32"H x 20"D w/E-Unit	34 lbs. 36½ lbs.	\$106.00 134.00
<b>B</b>	VTRC30E	30"W x 32"H x 20"D	66½ lbs.	\$313.00
<b>C</b>	MPVC40E	30"W x 40"H x 20"D	85 lbs.	\$338.00
<b>D</b>	MPVC54EDX	30"W x 54"H x 20"D	101½ lbs.	\$364.00
<b>E</b>	MPVC54E	30"W x 54"H x 20"D	87 lbs.	\$337.00
<b>F</b>	BBC54E	32"W x 54"H x 27"D	92½ lbs.	\$364.00
<b>G</b>	VTRC54E	28"W x 54"H x 24"D	82½ lbs.	\$337.00

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# MOBILE EQUIPMENT TABLES

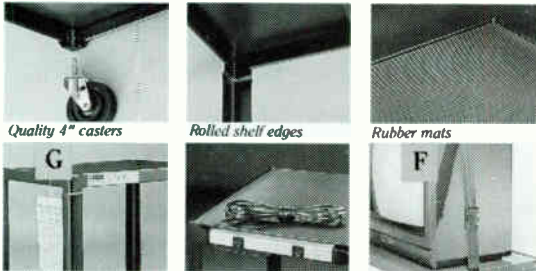
"E" Models feature an electrical assembly with two grounded outlets, a 20 ft. grounded extension cord and a built-in cord winder.

Rubber mat for top shelf helps keep equipment in its place

Die-pressed shelves with smooth, rounded edges provide greater strength and user safety

Arc-welded caster sockets and "Quiet-Glide" caster inserts offer greater strength and mobility for loads up to 460 pounds

Top shelves on all Traditional Mobile Equipment Tables have stiffeners welded on the under-side for extra strength and support



Quality 4" casters

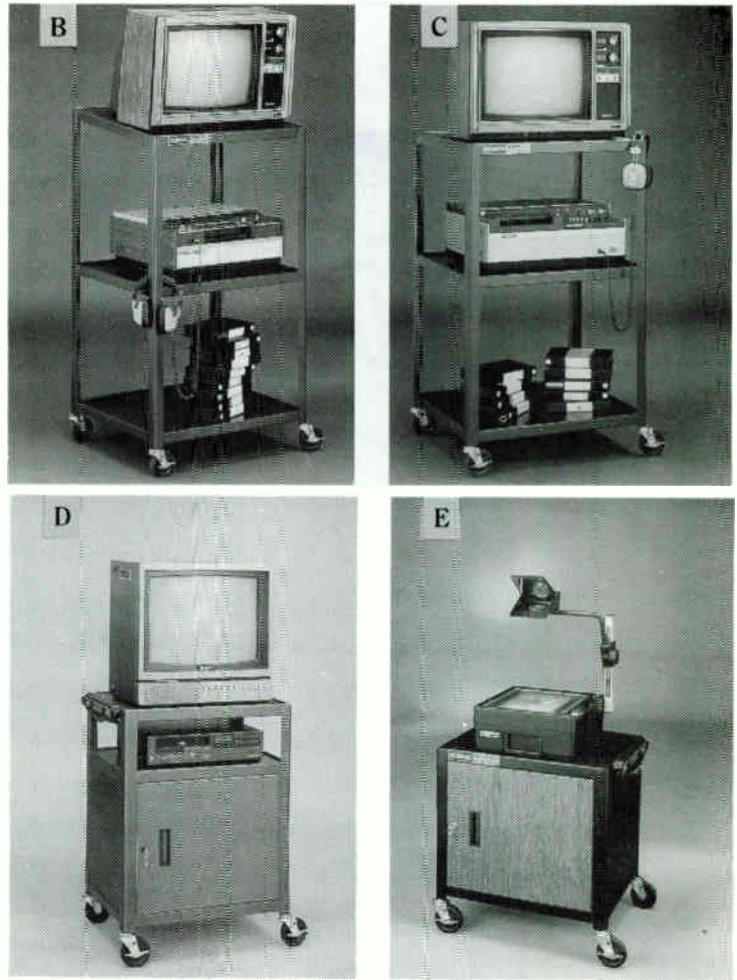


Rolled shelf edges



Rubber mats

SB Safety Belt attaches to any mobile cart—works just like a seat belt!



**From Projectors To Video Systems, These Tables Work Recommended for use with TV/Monitors with up to 19" diagonal screens such that the TV/Monitor will not overhang the shelf.**

**A. 42 Traditional Mobile Equipment Table 42"H with three shelves. Slate Gray. Distance between shelves: top to middle shelf 14½", middle to bottom shelf 17½".**

**34 Traditional Mobile Equipment Table 34"H with 3 shelves. Slate Gray. Distance between shelves: top to middle shelf 6½", middle to bottom shelf 17½".**

**26 Traditional Mobile Equipment Table 26"H with 2 shelves. Slate Gray. Distance between shelves 17½". Ships UPS.**

**16 Traditional Mobile Equipment Table 16"H with 2 shelves. Slate Gray. Distance between shelves 7½". Ships UPS.**

**The T54 Traditional TV/VCR Table 54"H with 3 shelves. Double-welded top shelf. Slate Gray. Distance between shelves: top to middle shelf 23", middle to bottom shelf 20".**

**B. TS54 Traditional TV/VCR Table, 54"H with glare-free top slant shelf, double-welded for extra security. Slate Gray.**

**C. T48 Traditional TV/VCR Table 48"H with 3 shelves. Doublewelded top shelf. Slate Gray. Distance between shelves: top to middle shelf 17", middle to bottom shelf 20".**

**TS48 Traditional TV/VCR Table, 48"H with glare-free top slant shelf, double-welded for extra security. Slate Gray.**

**T42 Traditional TV/VCR Table with 3 shelves. Slate Gray. Distance between shelves: top to middle shelf 14", middle to bottom shelf 17".**

**C42 Audio Visual Cabinet, 42"H. Midnite Gray. Distance between shelves 14". Cabinet Interior 23"W x 17"H x 17"D.**

**D. C34 Audio Visual Cabinet, 34"H. Midnite Gray. Distance between shelves: top to middle shelf 6½". Cabinet Interior: 23"W x 17"H x 17"D.**

**E. C26 Audio Visual Cabinet, 26"H. Black with Walnut door. Cabinet interior: 23"W x 17"H x 17"D.**

**VTRC29 Audio Visual Cabinet, 29"H Black with Walnut doors. Cabinet interior: 35"W x 21"H x 17"D.**

A	42	24"W x 42"H x 18"D	39 lbs.	\$135.00
	42E	w/E-Unit	41½ lbs.	163.00
	34	24"W x 34"H x 18"D	38 lbs.	\$130.00
	34E	w/E-Unit	40½ lbs.	158.00
	26	24"W x 26"H x 18"D	31 lbs.	\$117.00
	26E	w/E-Unit	33½ lbs.	145.00
	16	24"W x 16"H x 18"D	25 lbs.	\$113.00
	16E	w/E-Unit	27½ lbs.	141.00
B	T54	28"W x 54"H x 24"D	59 lbs.	\$181.00
	T54E	w/E-Unit	61½ lbs.	209.00
	TS54	Slant Top Shelf	59 lbs.	189.00
	TS54E	w/E-Unit	61½ lbs.	217.00
C	T48	28"W x 48"H x 24"D	57 lbs.	\$172.00
	T48E	w/E-Unit	59½ lbs.	200.00
	TS48	Slant Top Shelf	55 lbs.	181.00
	TS48E	w/E-Unit	57½ lbs.	209.00
	T42	28"W x 42"H x 24"D	54 lbs.	\$168.00
	T42E	w/E-Unit	56½ lbs.	196.00
	C42	24"W x 42"H x 18"D	56 lbs.	\$213.00
	C42E	w/E-Unit	58½ lbs.	241.00
D	C34	24"W x 34"H x 18"D	53 lbs.	\$210.00
	C34E	w/E-Unit	55½ lbs.	238.00
E	C26	24"W x 26"H x 18"D	46 lbs.	\$205.00
	C26E	w/E-Unit	48½ lbs.	233.00
	VTRC29	36"W x 29"H x 18"D	66 lbs.	\$281.00
	VTRC29E	w/E-Unit	68½ lbs.	309.00
F	SB	Safety Belt	1 lb.	\$ 24.50
G	SOK1	Safe Operating Kit	½ lb.	FREE

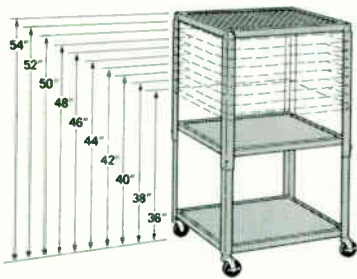
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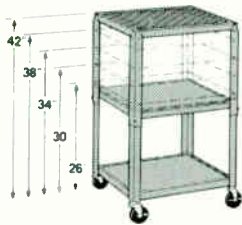
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(312) 678-2545 TWX: 910-227-4925  
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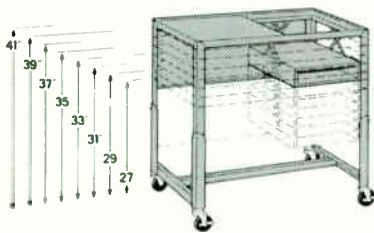
# ADJUSTABLE TABLES



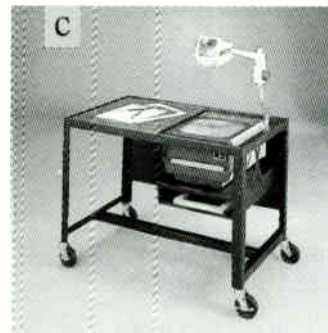
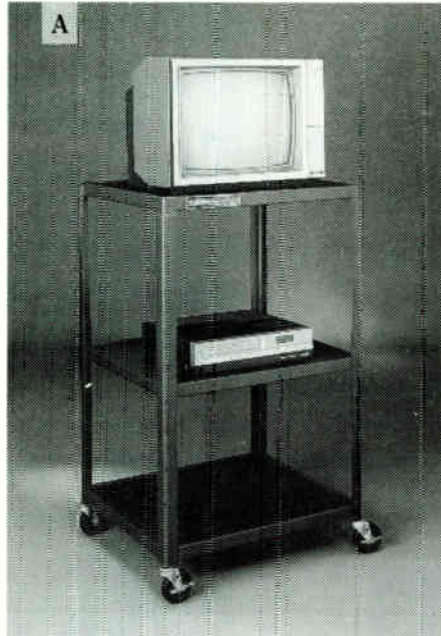
TVA3654 & TVCA3654



A2642 & A2642E



AOH2741



## You Get 5, 8 Or 10 Tables In One!

Versatility and ruggedness are built into Bretford's Adjustable Cabinets and Tables. Each has multiple height adjustments and is designed with all steel construction and die pressed shelves. Other features include the "Quiet-Glide" caster system, arc welded caster sockets for maximum stability and heavy-duty 4" casters (2 locking) for smooth transport of loads up to 460 pounds. Each unit comes with one ribbed rubber mat. *Each table or cabinet is recommended for use with TV/Monitors with up to 19" diagonal screens such that the TV/Monitor will not overhang the shelf.* Cabinet model comes with 2 keys. All ship assembled.

"E" Models feature a standard electrical assembly with two grounded outlets, 20 ft. grounded extension cord and a built-in cord winder.

A. TVA3654 Adjustable TV Table adjusts from 36" to 54" at 2" increments 10 height adjustments in all. Double-welded top shelf. Dimensions: 17 1/2"W x 24"D. Slate Gray.

B. The TVCA3654 Adjustable TV Cabinet same as TVA3654 with a security cabinet. Cabinet Interior: 25"W x 17 1/2"H x 21"D. Midnite Gray.

C. AOH2741 Adjustable Overhead Projector Table works well for stand-up or sit-down applications. Work surface adjusts from 27"H to 41"H in 2" increments, and OH platform adjusts from 6" to 10" in 1" increments. Projector Opening: 15 1/2"W x 20 1/2"D. Black with walnut vinyl writing surface.

D. A2642 Universal Projection Table adjusts to 5 heights: 26", 30", 34", 38" and 42" high by simply removing and resetting four bolts. Slate Gray.

E. CA2642 Adjustable Cabinet same as A2642, with locking cabinet. Cabinet Interior: 23"W x 15 1/2"H x 17"D. Midnite Gray.

TVS Slant Bar Accessory allows you to slightly tilt TV forward, eliminating glare from overhead lights. For use with TVA3654 and TVCA3654.

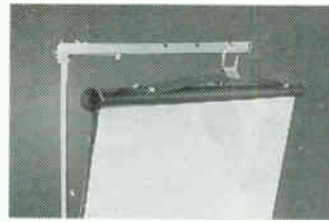
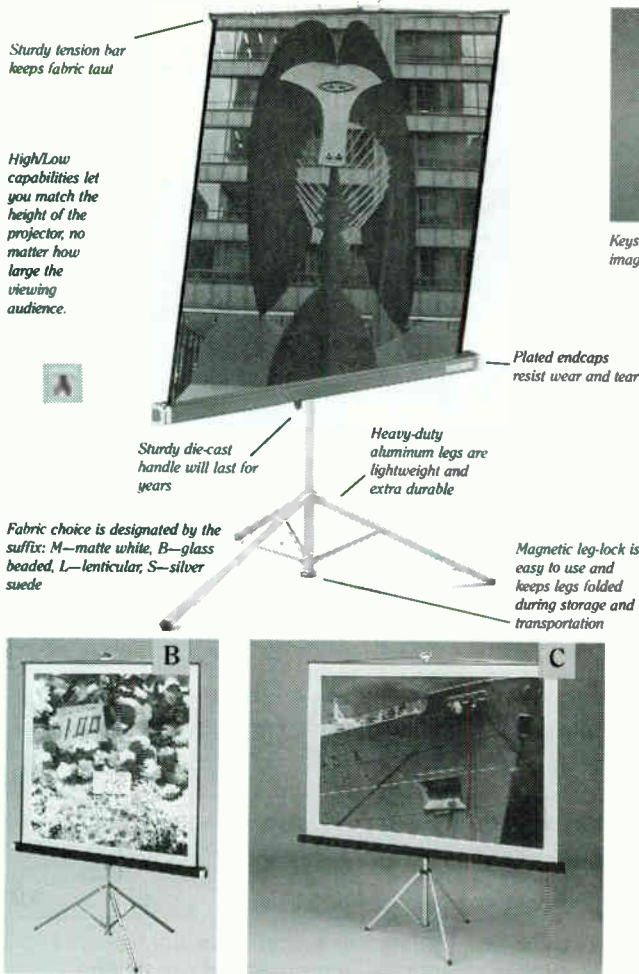
A	TVA3654	28"W x 36-54"H x 24"D	50 lbs.	\$186.00
	TVCA3654E	w/E-Unit	52 lbs.	214.00
B	TVCA3654	28"W x 36-54"H x 24"D	66 lbs.	\$315.00
	TVCA3654E	w/E-Unit	68 lbs.	343.00
C	AOH2741	37"W x 27-41"H x 22 1/2"D	59 lbs.	\$222.00
	AOH2741E	w/E-Unit	61 lbs.	250.00
D	A2642	24"W x 26-42"H x 18"D	42 lbs.	\$119.00
	A2642E	w/E-Unit	44 1/2 lbs.	147.00
E	CA2642	24"W x 26-42"H x 18"D	55 lbs.	\$213.00
	CA2642E	w/E-Unit	57 1/2 lbs.	241.00
	TVS	Slant Bar	4 lbs.	\$ 11.50



# BRETFORD MANUFACTURING, INC.

9715 Soreng  
Schiller Park, IL 60176  
(312) 678-2545 TWX: 910-227-4925  
FAX: (312) 678-0852

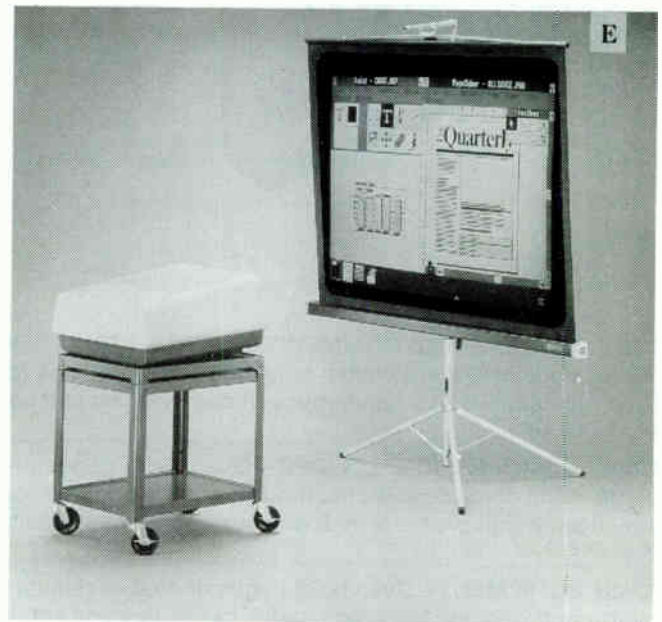
# PROJECTION SCREENS



Keystone eliminator corrects distorted images, such as overhead projection



Carrying cases for portable tripods are made of heavy vinyl with velcro closure. Center hole for tripod handle assures easy carrying.



## Present Your Best Image On These Quality Screens

### A Series 300 Spectator

Bretford's best portable tripod screen made from the finest materials.

Ships UPS.

3050 M or B	50" x 50"	22 lbs.	\$176.00
3050 L			185.00
3060 M or B	60" x 60"	26 lbs.	193.00
3060 L			201.00
3070 M or B	70" x 70"	30 lbs.	213.00
3070 L			222.00

### B Series 375 Commodore

Bretford's most economical tripod screen. Steel legs, magnetic leg lock, steel handles, high-low capability, tension bar. Ships UPS.

3750 M or B	50" x 50"	19 lbs.	\$119.00
3750 L			127.00
3760 M or B	60" x 60"	22 lbs.	146.00
3760 L			154.00
3770 M or B	70" x 70"	25 lbs.	164.00
3770 L			172.00

### C Series 450 Super Vista

Deluxe screen for large audience applications. Extruded aluminum legs, positive leg lock, steel "D" shaped case with die-cast end caps and handle. Positive plunger lock provides accurate and secure height adjustments.

4577 M or B	84" x 84"	38 lbs.	\$310.00
4588 M or B	96" x 96"	42 lbs.	386.00

### D Carrying Cases

4105	for 50" Tripod Screens	2 lbs.	\$23.00
4106	for 60" Tripod Screens	2 lbs.	27.50
4107	for 70" Tripod Screens	2 lbs.	30.50

## Video Projection Screens . . . Ready When You Are

When not in use, these screens are rolled up and protected in the case. Unlike traditional rigid video projection screens, Bretford screens do not require valuable floor space, so they're ideal for your flexible communications center. Matte White Fabric (M suffix) is traditionally the best all around viewing surface for projection with good clear definition at close viewing angles. Nominal gain at 0° axis is 1.0. Silver Suede Fabric (S suffix) is a new viewing surface designed especially for video projection. Highly reflective silver surface actually highlights and brightens the projected image. Nominal gain at 0° axis is 3.2.

### E Portable Tripod Video Screens

Provide convenience and rugged construction for years of service. Feature strong aluminum legs, positive leg-lock, die-cast handle and steel slat with tension bar. Contemporary steel case has a more durable black finish. Available in 72" or 100" diagonal sizes.

3V45 M	46" x 60"	72" diagonal	26 lbs.	\$191.00
3V45 S				207.00
4V57 M	64" x 84"	100" diagonal	38 lbs.	296.00
4V57 S				317.00

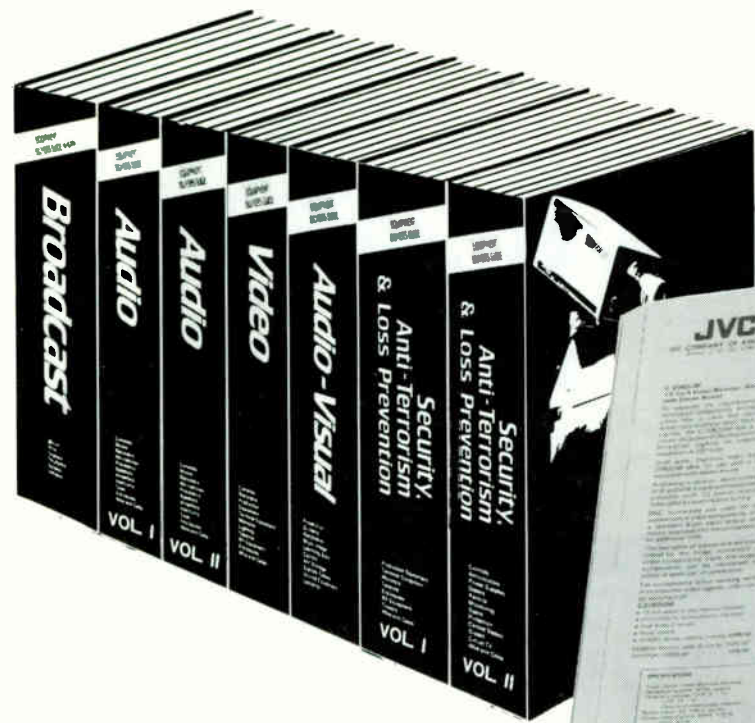
### Wall-Mounted Video Screens

Are made from the best materials. Contemporary case design has a more durable black finish and features a roller-lock which keeps the projection surface in position. Available in 72", 100", or 10' diagonal sizes.

2V45 M	46" x 60"	72" diagonal	12 lbs.	\$ 91.00
2V45 S				108.00
2V57 M	64" x 84"	100" diagonal	24 lbs.	180.00
2V57 S				201.00
2V68 M	72" x 96"	10' diagonal	25 lbs.	207.00
2V68 S				240.00

Prices and Specifications Subject to Change Without Notice.

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**TRADE REFERENCES**  
**EQUIPMENT**  
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**PROFESSIONAL AUDIO AND COMMERCIAL & INDUSTRIAL SOUND**—Over 1800 pages of studio and remote audio equipment for stage, concerts, auditoriums, stadiums and more, plus sound reinforcement, background music, paging, intercommunications, telephone and telecommunications systems and equipment. (2 Volume Set).  
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**INDUSTRIAL & PROFESSIONAL VIDEO**—Over 1300 pages of equipment information for those persons engaged in video production and communications, professionals who have operating responsibilities, purchasing and specifying authority. A reference book that presents in detail the majority of all equipment available and sold through dealers.  
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**BROADCAST EQUIPMENT**—Over 1200 pages of studio, remote and location equipment and systems for commercial and tape production, broadcast television, radio, cable, pay and satellite TV, special effects, animation and music videos.  
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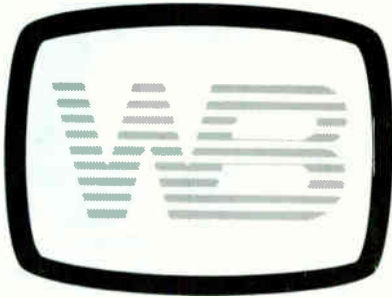
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**B D C**

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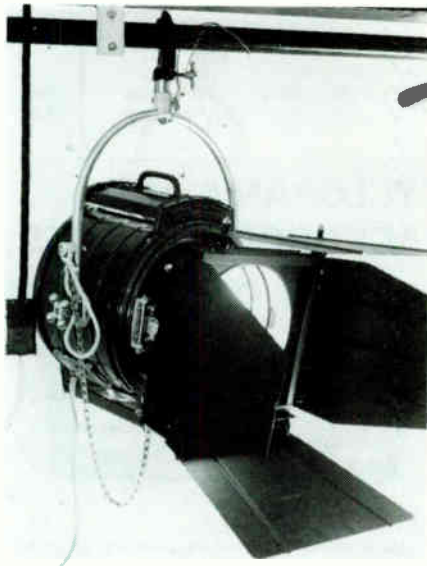
## WALTER S. BREWER CO., INC.

P.O. Box 35746  
Tulsa, OK 74153-0746  
(918) 493-7323

### COMPANY ABBREVIATIONS USED IN THIS CATALOG

A—Altman Stage Lighting Company, Inc.  
BM—Bardwell & McAlister, Inc.  
EC—Electro Controls, Inc.  
F—Frezolini Electronics, Inc.  
GE—General Electric Company  
L—Leviton, Inc.  
LL—Lowel-Light Manufacturing, Inc.  
LTM—LTM Corporation of America  
MT—Matthews  
R—Rosco Laboratories, Inc.  
SY—Sylvania (GTE Products Corp)  
TH—Thorn EMI Lighting, Inc.  
WB—Walter S. Brewer Co., Inc.  
WK—WIKO Ltd.

## KEY & BACK LIGHT



### FRESNEL

The family of fresnels are the workhorses of the industry. They provide the art in lighting for the realization of depth, modeling, and to set the mood, which is so important for that interesting picture. All are focusing.

<b>06000-BM</b>	1000W, 6" BABY KEG FOCUSING FRESNEL with GPP Plug	<b>\$358.75</b>
<b>06001-BM</b>	MOTION PICTURE MODEL as above except with Stand Mount, 25' cable with inline 20A crush proof on/off switch and plug	<b>\$362.95</b>
<b>58005-BM</b>	4-leaf Barndoor	<b>51.00</b>
<b>58010-BM</b>	4-leaf (8 way barndoor)	<b>91.50</b>
<b>49143-BM</b>	Gel/Diffusion Frame	<b>22.50</b>
<b>49104-BM</b>	"C" Clamp	<b>21.75</b>
<b>02710-WB</b>	Safety Cable	<b>6.50</b>
<b>49144-BM</b>	Scrim, single	<b>9.50</b>
<b>49145-BM</b>	Scrim, half single	<b>9.50</b>
<b>49146-BM</b>	Scrim, double	<b>10.00</b>
<b>49147-BM</b>	Scrim, half double	<b>10.00</b>
<b>10004-BM</b>	Snoot 2" dia. opening	<b>23.50</b>
<b>10005-BM</b>	Snoot 3" dia. opening	<b>23.50</b>
<b>10006-BM</b>	Snoot 4" dia. opening	<b>23.50</b>
<b>02048-BM</b>	Replacement socket, medium bi-post floating contact	<b>69.50</b>
<b>02049-BM</b>	Replacement fresnel lens	<b>25.00</b>
<b>02047-BM</b>	Replacement socket and lens kit	<b>89.00</b>

### RECOMMENDED LAMPS 120V MEDIUM BIPOST BASE 2 1/2" L.C.L. TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
EGN-TH	120	500	3200K	Clear	\$50.00
EGR-TH	120	750	3200K	Clear	70.00
EGT-TH	120	1000	3200K	Clear	75.00
<b>14006-BM</b>	2000W, 10" JUNIOR FOCUSING FRESNEL with GPP Plug				<b>\$503.50</b>
<b>14005-BM</b>	MOTION PICTURE MODEL as above except with Stand Mount, 25' cable with fixture mounted 20A switch and plug				<b>\$509.00</b>
<b>58014-BM</b>	4-leaf (8 way barndoor)				<b>114.00</b>
<b>49369-BM</b>	Gel/Diffusion Frame				<b>23.75</b>
<b>49100-BM</b>	"C" Clamp				<b>28.95</b>
<b>02710-WB</b>	Safety Cable				<b>6.50</b>
<b>10012-BM</b>	Snoot 6" dia. front opening				<b>68.50</b>
<b>10013-BM</b>	Snoot 8" dia. front opening				<b>68.50</b>
<b>10014-BM</b>	Snoot 10" dia. front opening				<b>68.50</b>
<b>49148-BM</b>	Scrim, single				<b>11.50</b>
<b>49149-BM</b>	Scrim, half single				<b>11.50</b>
<b>49150-BM</b>	Scrim, double				<b>13.50</b>
<b>49151-BM</b>	Scrim, half double				<b>13.50</b>
<b>09343-BM</b>	Replacement Socket Brass, terminal side				<b>13.50</b>
<b>09344-BM</b>	Replacement Socket Brass, clamp side				<b>10.50</b>

### RECOMMENDED LAMPS 120V MOGUL BIPOST BASE 5" L.C.L. TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
CVY-TH	120	1000	3200K	Clear	\$90.00
CXZ-TH	120	1500	3200K	Clear	115.00
CYX-TH	120	2000	3200K	Clear	120.00
<b>19005-BM</b>	5000W, 13" SENIOR FOCUSING FRESNEL 60A GPP Plug				<b>\$857.50</b>
<b>19004-BM</b>	MOTION PICTURE MODEL as above except with Stand Mount, 25' cable with fixture mounted 20A switch and plug				<b>\$887.50</b>
<b>58022-BM</b>	4-leaf (8 way barndoor)				<b>172.60</b>
<b>49391-BM</b>	Gel/Diffusion Frame				<b>27.50</b>
<b>49105-BM</b>	"C" Clamp				<b>28.95</b>
<b>02710-WB</b>	Safety Cable				<b>6.50</b>
<b>10022-BM</b>	Snoot 8" dia. front opening				<b>86.00</b>
<b>10023-BM</b>	Snoot 10" dia. front opening				<b>86.00</b>
<b>10024-BM</b>	Snoot 12" dia. front opening				<b>86.00</b>
<b>49152-BM</b>	Scrim, single				<b>14.00</b>
<b>49153-BM</b>	Scrim, half single				<b>14.00</b>
<b>49154-BM</b>	Scrim, double				<b>18.00</b>
<b>49155-BM</b>	Scrim, half double				<b>18.00</b>

### RECOMMENDED LAMP 120V MOGUL BIPOST BASE 6 1/2" L.C.L. TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
DPY-TH	120	5000	3200K	Clear	\$535.00

## BASE & FILL LIGHT



### SCOOP

These fixtures give the proper soft light source and intensity to allow the camera lens aperture to operate at a desired f-stop setting to create that brilliant picture with creative depth and sharpness. All are focusing for absolute footcandle control.

<b>02120-WB</b>	14" 1000W FOCUSING SCOOP with "C" Clamp and GPP Plug	<b>\$250.00</b>
<b>01120-WB</b>	MOTION PICTURE MODEL as above except with Stand Mount, 25' cable and inline 20A crush proof on/off switch and plug	<b>\$255.00</b>
<b>01129-WB</b>	Gel/Diffusion Frame	<b>35.00</b>
<b>02710-WB</b>	Safety Cable	<b>6.50</b>
<b>08B06-L</b>	Replacement Socket, medium prefocus base	<b>15.00</b>

### RECOMMENDED LAMP 120V MEDIUM PREFOCUS BASE 3 1/2" L.C.L. TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
EGC/EGG-GE	120	500	3200K	Clear	\$64.90
EGF-GE	120	750	3200K	Clear	72.80
EGK-TH	120	1000	3200K	Frosted	70.00
<b>02124-WB</b>	14", 2000W FOCUSING SCOOP with "C" Clamp and GPP Plug				<b>\$255.00</b>
<b>01124-WB</b>	MOTION PICTURE MODEL as above except with Stand Mount, 25' cable and inline 20A crush proof on/off switch and plug				<b>\$265.00</b>
<b>01129-WB</b>	Gel/Diffusion Frame				<b>35.00</b>
<b>02710-WB</b>	Safety Cable				<b>6.50</b>
<b>08808-L</b>	Replacement Socket, mogul screw base				<b>12.00</b>



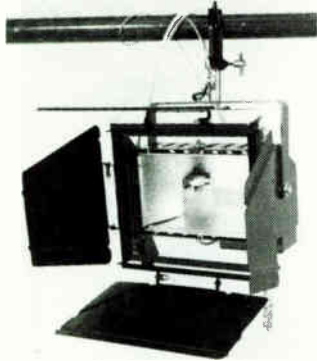
RECOMMENDED LAMP 120V  
MOGUL SCREWBASE  
5 1/4" L.C.L. TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
1500Q/CL/48-SY	120	1500	3200K	Frosted	\$176.50
BWL-TH	120	2000	3200K	Frosted	140.00

02135-WB	18"	2000W	FOCUSING SCOOP with "C" Clamp and GPP Plug		\$265.00
01135-WB	MOTION PICTURE MODEL as above except with stand mount, 25' cable and inline 20A crush proof on/off switch and plug				275.00
01139-WB	Gel/Diffusion Frame				40.00
02710-WB	Safety Cable				6.50
08808-L	Replacement Socket, mogul screw base				12.00

RECOMMENDED LAMP 120V MOGUL SCREW  
BASE 9 1/2" L.C.L.  
TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
DSE-TH	120	1000	3200K	Frosted	\$ 54.00
DSF-TH	120	1500	3200K	Frosted	62.00
BWL-TH	120	2000	3200K	Frosted	140.00



BROAD

48007-BM	1000W	FOCUSING SINGLE BROAD and GPP Plug		\$259.95	
48006-BM	MOTION PICTURE MODEL as above except with stand mount, 25' cable and fixture mounted 20A switch and plug				\$259.95
48015-BM	4-Way Barndoor				88.75
48013-BM	Gel/Diffusion Frame				15.75
02710-WB	Safety Cable				6.50
49100-BM	"C" Clamp				28.95
08815-L	Replacement Socket (2 required), recessed single contact				11.00/each

RECOMMENDED LAMPS 120V  
DOUBLE ENDED  
4 1/16" M.O.L. TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
FDN-TH	120	500	3200K	Frosted	\$32.00
EMD-TH	120	750	3200K	Frosted	40.00
FHM-TH	120	1000	3200K	Frosted	32.00
FWM-GE	120	1000	3200K	Frosted	42.00

48007/15-BM	1500W	FOCUSING SINGLE BROAD and GPP Plug		\$277.65
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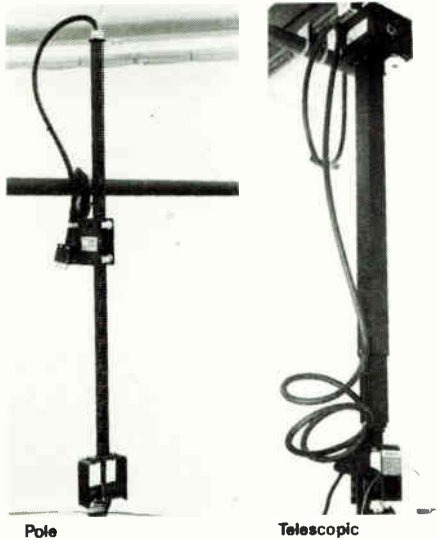
48006/15-BM	MOTION PICTURE MODEL as above except with stand mount, 25' cable and fixture mounted 20A switch and plug				\$277.65
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48015-BM	4-Way Barndoor				88.75
48013-BM	Gel/Diffusion Frame				15.75
02710-WB	Safety Cable				6.50
49100-BM	"C" Clamp				28.95
08815-L	Replacement socket (2 required), recessed single contact				\$11.00/each

RECOMMENDED LAMPS 120V  
DOUBLE ENDED  
6 9/16" M.O.L. TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
FFT-TH	120	1000	3200K	Clear	\$56.00
FGT-GE	120	1500	3200K	Frosted	72.50

LIGHT HANGERS



Pole

Telescopic

WBC manufactures the only light hanger made in the USA that is adjustable from the studio floor. Extends 5', 8', 10', & 15'. Supports 0-100 lbs.

TELESCOPING HANGER

02740-WB	*Floor adjustable telescoping hanger, extends 5', supports 0-100 lbs.	\$550.00
02742-WB	*Floor adjustable telescoping hanger, extends 8', supports 0-100 lbs.	560.00
02744-WB	*Floor adjustable telescoping hanger, extends 10', supports 0-100 lbs.	570.00
02746-WB	*Floor adjustable telescoping hanger, extends 15', supports 0-100 lbs.	580.00
02750-WB	Battery operated motor assembly with activator pole and battery charger	340.00
04040-WB	5' 2000W extension cable	**41.65
04049-WB	8' 2000W extension cable	**44.35
04055-WB	10' 2000W extension cable	**46.15
04064-WB	15' 2000W extension cable	**50.65

POLE HANGER

02771-WB	*5' Sur-Lok Pole Hanger	\$130.00
02774-WB	*8' Sur-Lok Pole Hanger	139.00
02776-WB	*10' Sur-Lok Pole Hanger	145.00
02781-WB	*15' Sur-Lok Pole Hanger	160.00
04055-WB	10' 2000W extension cable	**46.15
04064-WB	15' 2000W extension cable	**50.65
04067-WB	20' 2000W extension cable	**55.15
04076-WB	30' 2000W extension cable	**64.15

Note: \*Includes stirrup, safety cable, and other needed accessories.  
\*\*Add \$20.00 per cable for NEMA L520 Twist lock

MODULIGHT SOFT LIGHT SYSTEM



Bardwell & McAlister's portable Modulight offers the finest line of versatile and lightweight softlights on the market, in a full range of sizes. Five different sizes are available with wattages from 1,000 to 8,000 watts with more lamping, switching and plugging options than ever before. Rotating light bar provides precise control of light intensity and evenness. The frames of all Bardwell & McAlister's Modulight large aperture tubing which folds down to approximately 1/3 of operating size and fits into our convenient soft carrying case for ease in storage and transport.

Call today for complete catalog.

SOFTLIGHT



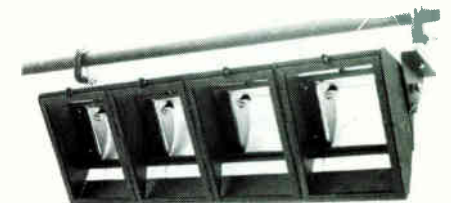
Used for virtually shadowless fill light and base light. Fabricated from aluminum for easy movement.

01185-WB	1000/4000W	FEATHERLITE SUPER SOFTLIGHT with 4, 20A fixture mounted switches, 1 1/8" stud-stand mount, and two 20A pigtails with Locking Pin Plugs (2 required)	\$785.00
04074-WB	20A, 25' cables with female 120V pin plug (2 required)		50.00
01186-WB	Gel/Diffusion Frame		60.00
63003-BM	Studio stand low, folded 28", extended 64"		193.50
49100-BM	"C" Clamp		28.95
08815-L	Replacement Socket (8 required), recessed single contact		\$11.00/each
08902-L	Replacement Switch		8.00

RECOMMENDED LAMP 120V DOUBLE ENDED  
BASE 4 1/16" M.O.L.  
TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
FCM-TH	120	1000	3200K	Clear	\$30.00

CYCLORAMA AND  
BACKGROUND LIGHTS



CYC LIGHTS

These units are available in a variety of configurations for up to 4 color cyclorama, background, set illumination and color blending. Grid or floor mounting are available with a full range of mounting hardware for any type of studio installation requirement. (Fixtures for single and four light systems listed. Other configurations available upon request.)

25013-BM	ONE LIGHT CYC LIGHT 1000W with GPP Plug	\$142.00
25013/15-BM	ONE LIGHT CYC LIGHT 1500W with GPP Plug	158.30
25050-BM	Extended Holder, One Light	68.75
25063-BM	"C" Clamp and Yoke Hanger Assembly for One Light CYC	40.75
02208-WB	"C" Clamp and Yoke Hanger Assembly for Two One Light CYCs (Used in 4-circuit system)	45.00
25051-BM	Gel Frame	18.75
02710-WB	Safety Cable (1 required)	6.50
25018-BM	FOUR LIGHT, FOUR CIRCUIT CYC LIGHT 1000/4000W with GPP Plug	384.00
25018/15-BM	FOUR LIGHT, FOUR CIRCUIT CYC LIGHT 1500/6000W with GPP Plug	400.00
25050-BM	Extended Holder, (one required)	68.75
25060-BM	Extended Holder, Three Light (one required)	130.00
25053-BM	"C" Clamp and Hanger Assembly (Pair)	67.00
08815-L	Replacement Socket (2 required), recessed single contact	11.00

**RECOMMENDED LAMPS 120V DOUBLE ENDED  
4 1/16" M.O.L. TUNGSTEN-HALOGEN QUARTZ  
(Use with 1000W Version Only)**

ANSI Code	Volts	Watts	Temp.	Type	Price
FDN-TH	120	500	3200K	Frosted	\$32.00
EMD-TH	120	750	3200K	Frosted	40.00
FHM-TH	120	1000	3200K	Frosted	32.00
FWM-GE	120	1000	3200K	Frosted	42.00

**RECOMMENDED LAMPS 120V DOUBLE ENDED  
6 9/16" M.O.L. TUNGSTEN-HALOGEN QUARTZ  
(Use with 1500W Version Only)**

ANSI CODE	Volts	Watts	Temp.	Type	Price
FFT-TH	120	1000	3200K	Clear	\$56.00
FGT-GE	120	1500	3200K	Frosted	72.50

## EFFECTS PROJECTORS



### FOLLOW SPOT

Has six color changers and dower, framing shutters iris, variable focus, stand with casters, 25' cable, fixture mounted 20A switch and blower for gels and lamp.

02642-A	FOLLOW SPOT	\$825.00
08800-L	Replacement Socket, medium two pin base	15.00



### ELLIPSOIDAL

Used for background special effect. Will project rectangles, triangles, and most any combination of straight edges. Also, will project patterns. The ellipsoidal can be purchased with an iris to control the diameter of the beam.

02612-A	6" x 9" ELLIPSOIDAL	\$175.00
02616-A	6" x 12" ELLIPSOIDAL	175.00
02621-A	6" x 16" ELLIPSOIDAL	175.00
02624-A	ZOOM ELLIPSOIDAL, 1000W, 20° to 40° beam angle	320.00
01411-WB	MOTION PICTURE ADDER for stand mounting, 25' cable with inline 20A crush-proof on/off switch and Parallel Blade Plug	\$25.00
02632-A	Gel Frame	2.50
02635-A	Pattern Holder	8.00
02636-A	Iris	50.00
09608-A	Set of B Patterns	18.00
09609-WB	Set of 10 Designer Patterns	90.00
02710-WB	Safety Cable	6.50
08800-L	Replacement Socket, medium two pin base	15.00

**RECOMMENDED LAMP 120V  
MEDIUM TWO-PIN  
BASE 2 3/8" L.C.L.  
TUNGSTEN-HALOGEN QUARTZ**

ANSI Code	Volts	Watts	Temp.	Type	Price
FEL-TH	120	1000	3200K	Clear	\$52.00

(For both Follow Spot and Ellipsodal)



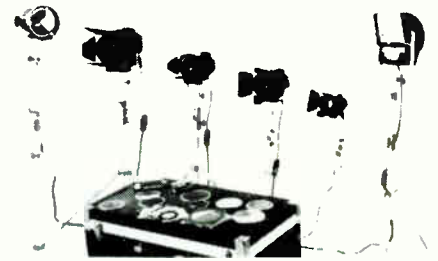
### ELLIPSOIDAL DESIGNER PATTERNS

\$9.00

Select from over 100 precision patterns. The inexpensive way to accent your picture, theme, or mood. These patterns will fit any standard brand of ellipsoidal fixture. When necessary, the special heat resistant metal can be cut to size with scissors to fit most pattern holders.

CUSTOM PATTERNS from camera ready art (first pattern) \$109.00

## LIGHTING KITS



### LTM FULL SPECTRUM KIT

- 1- Pepper 100
  - 1- Pepper 200
  - 1- Pepper 420
  - 1- Pepper 400 Soft Light
  - 1- Pepper 650
  - 1- Pepper 650 Flood
  - 4- Four-way Barndoors
  - 4- Hinged Gel Frames
  - 3- Fiber Gel Holders w/Filter Pak
  - 4- Four Piece Set of Diffusion
  - 1- 100 Pepper Snoot
  - 1- 200 Pepper Snoot
  - 1- 400 Soft Gel Frame
  - 1- #400 Egg Crate
  - 1- Pepper 100 Bulb (ESR)
  - 1- Pepper 200 Bulb (FEV)
  - 1- Pepper 400 Soft Bulb (FDA)
  - 1- Pepper 420 Bulb (EKB)
  - 2- Pepper 650 Bulbs (DYS)
  - 2- Light Pepper Stakes (Stands)
  - 2- Medium Pepper Stakes (Stands)
  - 1- Three Inch Baby Plate
  - 1- Three Inch "C" Clamp w/5/8" Pin
  - 1- Six Inch "C" Clamp w/two 5/8" Pin
  - 1- Gaffer Grip w/5/8" Pin
  - 1- Pepparella (Umbrella)
  - 1- Pepparella Adapter
  - 1- Net Set Complete
- Custom Dealer Kit Case w/Wheels & Sign \$3000.00

### LTM LIGHT RED PEPPER PAK

- 3- Pepper 650
  - 3- 4-way Barndoors
  - 2- Full Single, Double, Double/Double Scrim
  - 1- Half Single, Double, Double/Double Scrim
  - 1- Fiber Gel Holder w/Filter Pak
  - 3- Medium Pepper Stakes
  - 3- DYS Bulbs
  - 1- Custom Case (Red)
- \$1620.00

### LTM GREEN PEPPER PAK

- 4- Pepper 420
  - 4- 4-way Barndoors
  - 2- Full Single & Double Scrim
  - 1- Full Double/Double Scrim
  - 1- Half Single & Double Scrim
  - 1- Fiber Gel Holder w/Filter Pak
  - 4- Medium Pepper Stakes
  - 4- EKB Bulbs
  - 1- Custom Case (Green)
- \$1797.00

### LTM LIGHT GREEN PEPPER PAK

- 3- Pepper 420
  - 3- 4-way Barndoors
  - 2- Full Single & Double Scrim
  - 1- Half Single & Double Scrim
  - 1- Fiber Gel Holder w/Filter Pak
  - 3- Medium Pepper Stakes
  - 3- EKB Bulbs
  - 1- Custom Case (Green)
- \$1432.00

### LTM CYAN PEPPER PAK

- 2— Pepper 420
- 2— Pepper 100
- 4— 4-way Barndoors
- 3— Full Single Scrim
- 3— Full Double Scrim
- 1— Full Double/Double Scrim
- 2— Half Double Scrim
- 1— Half Single Scrim
- 2— Fiber Gel Holders w/Filter Pak
- 2— Medium Pepper Stakes
- 2— Light Pepper Stakes
- 2— EKB Bulbs
- 2— FEV Bulbs
- 1— Custom Case (Cyan) **\$1710.00**

### LTM BLUE GREEN PEPPER PAK

- 4— Pepper 200
- 4— 4-way Barndoors
- 2— Full Single & Double Scrim
- 1— Half Single & Double Scrim
- 1— Fiber Gel Holder w/Filter Pak
- 4— Light Pepper Stakes
- 4— FEV Bulbs
- 1— Custom Case (Green) **\$1604.00**

### LTM LIGHT BLUE GREEN 3000 PAK

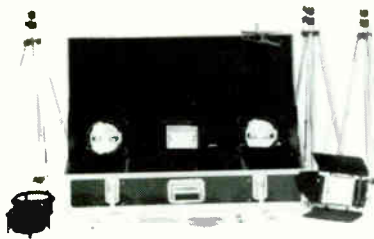
- 3— Pepper 200
- 3— 4-way Barndoors
- 1— Full Single & Double Scrim
- 1— Half Single & Double Scrim
- 3— ESS (250 Watt, 3000K, 2000 Hour Bulb)
- 3— Medium Pepper Stakes
- 1— Custom Case (Green) **\$1344.00**

### LTM BLUE PEPPER PAK

- 4— Pepper 100
- 4— 4-way Barndoors
- 2— Full Single & Double Scrim
- 1— Full Double/Double Scrim
- 1— Half Single & Double Scrim
- 1— Fiber Gel Holder w/Filter Pak
- 4— Light Pepper Stakes
- 2— ESR Bulbs
- 2— FEV Bulbs
- 1— Custom Case (Blue) **\$1454.00**

### LTM LIGHT BLUE PEPPER PAK

- 3— Pepper 100
- 3— 4-way Barndoors
- 3— Light Pepper Stakes
- 3— FEV Bulbs
- 1— Custom Case (Blue) **\$1135.00**



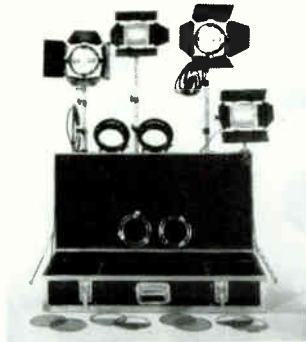
### BM MINI MAC KIT

- 2— 650W OPEN-FACE FOCUSING LIGHT
- 2— 4-way Barndoor
- 2— Accessory Holder
- 2— Single Scrim
- 2— 1/2 Single Scrim
- 2— Double Scrim
- 2— 1/2 Double Scrim
- 2— Gel/Diffusion Frame
- 2— 650W FAD Lamp, Q650T4/4CL
- 2— MINI MAC 650 BROAD-LIGHT w/4-way Barndoor
- 2— 650W FBX Lamp, Q650T4/4
- 3— Light Stand w/5/8" Adaptor
- 1— Grip Mac w/5/8" Spud
- 1— Carrying Case **\$1615.00**

### BM FLIGHT MAC KIT

- 2— 650W OPEN-FACE FOCUSING LIGHT
- 2— 4-way Barndoor
- 2— Accessory Holder
- 2— Single Scrim
- 2— 1/2 Single Scrim

- 2— Double Scrim
- 2— 1/2 Double Scrim
- 2— Gel/Diffusion Frame
- 2— 650W FAD Lamp, Q650T4/4CL
- 2— MINI MAC 1000 BROAD-LIGHT w/4-way Barndoor
- 2— 1000W FHM Lamp, Q1000T3/4
- 3— Light Stand w/5/8" Adaptor
- 1— Grip Mac w/5/8" Spud
- 1— Carrying Case **\$1615.00**



### BM PRO MAC KIT

- 2— 1000W OPEN-FACE FOCUSING LIGHT
- 2— 4-Way Barndoor
- 2— Accessory Holder
- 2— Single Scrim
- 2— 1/2 Single Scrim
- 2— Double Scrim
- 2— 1/2 Double Scrim
- 2— Gel/Diffusion Frame
- 2— 1000W FBX Lamp
- 2— MINI MAC 1000 BROAD-LIGHT w/4-way Barndoor
- 2— 1000W FHM Lamp
- 3— Light Stand w/5/8" Adaptor
- 1— Grip Mac w/5/8" Spud
- 1— Carrying Case **\$1615.00**



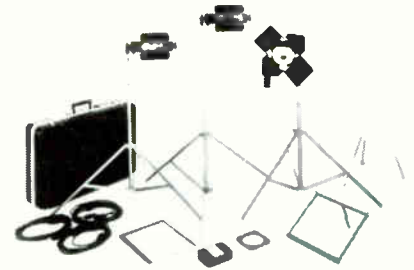
### BM SUPER MAC KIT

- 2— 1000W OPEN-FACE FOCUSING LIGHT
- 2— 4-way Barndoor
- 2— Accessory Holder
- 2— Single Scrim
- 2— 1/2 Single Scrim
- 2— Double Scrim
- 2— 1/2 Double Scrim
- 2— Gel/Diffusion Frame
- 2— 1000W DXW Lamp, Q1000T5/4CL
- 3— MINI MAC 1000 BROAD-LIGHT w/4-way Barndoor
- 3— 1000W FHM Lamp, Q1000T3/4
- 4— Light Stand w/5/8" Adaptor
- 1— Grip Mac w/5/8" Spud
- 1— Carrying Case **\$2025.00**

### BM POWER MAC KIT

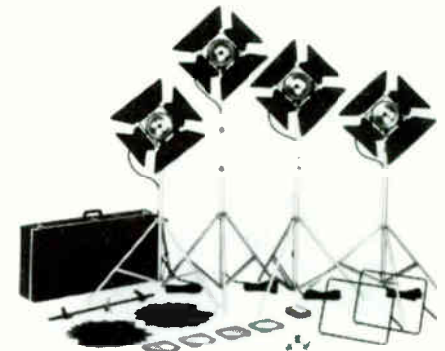
- 2— 1000W OPEN-FACE FOCUSING LIGHT
- 2— 4-way Barndoor
- 2— Accessory Holder
- 2— Single Scrim
- 2— 1/2 Single Scrim
- 2— Double Scrim
- 2— 1/2 Double Scrim
- 2— Gel/Diffusion frame
- 2— 1000W DXW Lamp, Q1000T5/4CL

- 1— MINI MAC 1000 BROAD-LIGHT w/4-way Barndoor
- 1— 1000W FHM Lamp, Q1000T3/4
- 2— SLIMLINE II 2000W BROAD-LIGHT w/4-way Barndoor
- 2— 2000W FEY Lamp, Q2000T8/4CL
- 2— Light Stand w/5/8" Adaptor
- 2— Heavy-Duty Light Stand w/5/8" Adaptor
- 1— Grip Mac w/5/8" Spud
- 1— 6" C-Clamp w/two 5/8" Spuds
- 1— Carrying Case-Lights
- 1— Carrying Case-Stands **\$2860.00**



### TO-97-LL BASICALLY 3 KIT

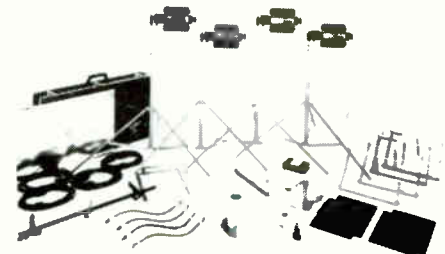
- 2— TOTA-LIGHTS, 16' Cables, (less lamps) T1-10
- 1— OMNI-LIGHT 16' Cable, #1 Reflector (less lamps) O1-10
- 1— Omni-Barndoor O1-20
- 1— Full Scrim O1-54
- 1— Tota-brella T1-25
- 1— Tota-frame T1-20
- 1— Assorted Gels T1-78
- 3— Omni-stands O1-33
- 1— Tota/Omni Lampak TO-61
- 1— Case TO-87 **\$825.00**



### D2-94-LL DP 4 KIT

Lightweight kit that is very versatile and unique. Four reflectors can be interchanged to vary the beam pattern from a soft wide angle to a narrow beam long throw fixture.

- 4— DP1000 FIXTURES with #1 reflector and 16' power cable and inline switch
- 4— DP Barndoors
- 4— KS Stands
- 1— DP Lampak
- 1— Carrying Case, partitioned, lightweight **\$1425.00**



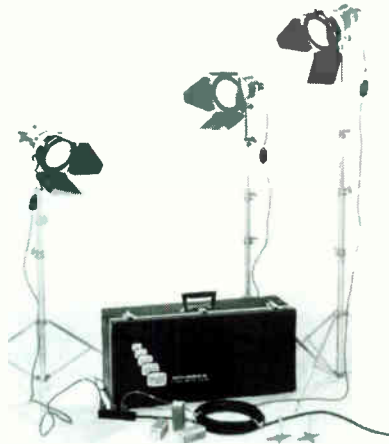
### T1-94M-LL T 4 KIT

Versatile and lightweight giving a very wide spread of light, or (by moving the reflector door into the light beam) gives a concentration of light which can be used for bounce light. The kit has a large selection of accessories.



- 4— TOTA 1000W fixtures with 16' power cable and integral two-leaf reflecting doors
- 1— Tota-brella
- 4— Tota-frames
- 2— Assorted Gels
- 1— Lightflector
- 4— Tota-flags
- 1— Tota-Flector
- 4— Flexi-shafts
- 1— Tota-tatch
- 4— Omni-stands
- 1— Tota-mount
- 1— Tota-clamp
- 1— Large Space Clamp
- 1— Gaffer tape
- 1— Tota-lampak
- 1— Case

\$1335.00



### 01640-WB SUPER 600 "ENG" KIT III

Everyone in TV or photo lighting production must have at least one ENG KIT III. Very efficient light output and lightweight.

- 3— FREZZI 600, 30VDC/125VAC Fixture
- 3— 120V Cable, 8' with on/off switch and plug
- 3— DYS 600W Quartz Lamp
- 3— Accessory Holder
- 3— Four Leaf Barndoor
- 2— Scissor Mounts
- 3— Ultra Featherweight Stands, folded 25 1/4", extended B3 1/2"
- 1— 25' Extension Cable, 3-way
- 1— Rugged Case, partitioned, roomy, lightweight

\$975.00



### 01610-WB SUPER 600 "ENG" KIT I

Designed for use when 120VAC is not available. The power is a 30VDC battery belt which generates a 250W lamp. Both power cords and lamps are included in the kit. Gives more light output per watt than any competitive fixture.

- 1— FREZZI 600, 30VDC/125VAC fixture
- 1— 120V Cable, 8' with on/off switch and plug
- 1— 30V Cable, 8' with on/off switch and plug
- 1— Accessory Holder
- 1— Rotating Barndoor
- 1— Daylight Glass Conversion Filter, 3200°K to 5400°K
- 1— Hand Grip

- 1— Micro-Featherweight Stand, folded 18 1/2", extended 78"
- 1— 30V at 4AH Battery Belt (250W-30 min) w/charger cable (charges one hour)
- 1— DYS, 600W at 3200°K Quartz Lamp
- 1— DYG, 250W at 3400°K Quartz Lamp
- 1— ENG Kit I Carrying Case

\$1015.00

01611-WB Same as 01610-WB above except includes "Fast Charge" belt, model F-30 EXFA-F in place of F-30EC-F

\$1065.00

BC-30-D-F One (1) hour fast charger for above F-30EXV-F (Charges one hour)

395.00



### MINI-FILL KITS

#### MFK1-F INCLUDES:

- 1— MF12P-F Mini-Fill
- 1— VB12-F Battery
- 1— VBC-F Charger
- 1— EYC-F or EXV-F Bulb

\$295.00

#### MFK2-F INCLUDES:

- 1— MF12P-F Mini-Fill
- 1— VB12-F Battery
- 1— VBC-F Charger
- 1— EYC-F or EXV-F Bulb
- 1— MFDF-F Dichroic Filter
- 1— FLCC-F Carrying Case

\$455.00

#### MFK3-F INCLUDES:

- 1— MF12V-F Mini-Fill
- 1— VB12-F Battery
- 1— VBCV-F Charger
- 1— EYC-F or EXV-F Bulb

\$355.00

#### MFK4-F INCLUDES:

- 1— MF12V-F Mini-Fill
- 1— VB12V-F Battery
- 1— VBCV-F Charger
- 1— EYC-F or EXV-F Bulb
- 1— MFDF-F Dichroic Filter
- 1— MFCC-F Carrying Case

\$515.00

#### MFK5-F INCLUDES:

- 1— MF4X-F Mini-Fill
- 1— VB4X-F Battery
- 1— VBCV-F Charger
- 1— EYC-F or EXV-F Bulb

\$365.00

#### MFK6-F INCLUDES:

- 1— MF4X-F Mini-Fill
- 1— VB4X-F Battery
- 1— VBCV-F Charger
- 1— EYC-F or EXV-F Bulb
- 1— MFDF-F Dichroic Filter
- 1— MFCC-F Carrying Case

\$525.00

#### MFK9-F INCLUDES:

- 3— MF4X-F (LC) Mini-Fill
- 3— MFDF-F Dichroic Filter
- 3— FLLS-102-F Short Stand
- 1— LPS-400-F Power supply
- 3— SL 1-F Stud
- 3— EYC-F Bulb
- 1— FLCC-104-F Case

\$1250.00

Other Custom-Designed Kits Available Per Your Specific Requirements.

## PORTABLE LIGHTING

### MINI-FILL

YOUR CHOICE OF POWER CONNECTOR



- A Frezzi Amp Connector
- B 2-Pin Amphenol (30V)
- C BP-90 In-Line
- D Cigarette Lighter Type
- E XLR (4 or 5 Pin)

Shown with convenient flip-up dichroic filter model MFDF-F and diffused front surface.

### UNIQUE MINI-FILL FEATURES:

- Extremely lightweight—only 12 oz.
- Compact size 2" x 4 1/4"
- Operates from any 12—14.4 or 30V battery
- Utilizes the latest high efficiency multi-mirror lamps—(20-100W)
- Completely serviceable
- Field tested
- Field proven
- Mounts on camera, pistol grip or lightstand
- Dual-lighthouse configuration from one power source
- Rugged construction—Built by Frezzolini®—The world leader in portable lighting and power

### SINGLE LIGHT CONFIGURATION (Including 100W or 75W Bulb)

- MF12P-F Mini-Fill w/Cigarette Lighter plug (Fig. D) \$149.95
- MF12C-F Mini-Fill w/BP-90-F Type Co-Ax Plug (Fig. C) 149.95
- MF12V-F Mini-Fill w/Frezzi Amp Connector (Fig. A) 149.95
- MFSV-F Mini-Fill w/Short (18") Cable & Amp Connector (Fig. A) 149.95
- MF4X-F Mini-Fill w/XLR-4-F Connector (Fig. E) 149.95
- MF5X-F Mini-Fill w/XLR-5-F Connector (Fig. E) 149.95
- MF30-F Mini-Fill w/2-pin Amphenol Connector for 30V Operation (Includes 80W Bulb) (Fig. B) \$154.95

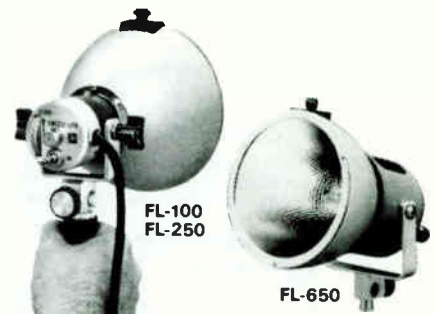
### DUAL LIGHT CONFIGURATION

- DMF12-F Twin Mini-Fill Interconnected for Power from one (1) Source. Choice of Power Connectors: Sony BP-90-F In-Line, Frezzi-Amp, XLR-4-F or Cigarette Lighter Type \$295.00
- DMF30-F Same as DMF12-F Except Wired for 30V Operation. Including 2-Pin Amphenol Connector \$298.00
- MFDF-F Mini-Fill "Flip-Up" Dichroic Filter 88.00
- MFCC-F Mini-Fill Carrying Case 80.00
- LP90-F Leather Pouch w/Belt Loops for BP-90-F 38.00
- LPS100-F AC Adaptor/Power Supply, 100W w/Cigarette Lighter Type Mating Connector 195.00
- LPS400-F 4-Channel AC Adaptor/Power Supply, 400W w/XLR4-F Connector Output 295.00
- FLLS-102-F Mini-Fill Short Stand 36.00
- CLPA-F On-Camera Power Adaptor (XLP-4-F) 125.00
- 1340-A-F Replacement Socket and Base Plate 25.00

### MINI-FILL LAMP GUIDE

Lamp Code	Volts	Watts	Life (Hrs.)	Color Temp.	Typical Center-Candle-power	Beam Spread
BA8	12	20	2000	2925°K	460	FLOOD
EKP	30	80	25	3350°K	1750	FLOOD
ESX	12	20	2000	2925°K	3300	NARROW SPOT
EXN	12	50	3000	3050°K	1500	FLOOD
EXT	12	50	3000	3050°K	9150	NARROW SPOT
EXV	12	100	50	3350°K	3300	FLOOD
EXZ	12	50	3000	3075°K	3000	NARROW FLOOD
EYC	12	75	3500	3050°K	2000	FLOOD
EYF	12	75	3500	3050°K	11500	NARROW SPOT

\* Also recommended for 13.2 & 14.4VDC operation



### KEY AND BACKLIGHTING

AC/DC Power—You need "FREZZI" high output lights, plus portable power for most all ENG production.

**MODEL FL-650-F**

- Ultra-lightweight—1 lb.
  - Built-in spare lamp holder
  - AC/DC Operation from 12V-30V-115V-220V-240V
  - 650W capability
- FL-650-F Lighthouse Only **\$165.00**  
Lamp/Cable/Handle/Mount are additional.

**MODEL FL-250-F or MODEL FL-100-F**

- Ultra-lightweight—1 lb.
  - DC operation from 12V-30V
  - Complete kits available
  - Choice of power configurations
- FL-250-F **\$195.00**  
FL-100-F **195.00**

Includes: Lamp, Attached Cable, Hand-Grip

**SWING-AWAY DICHROIC FILTER**

Model FLDF-101-F **\$95.00**

**ACCESSORY HOLDER**

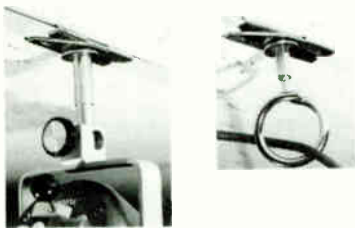
Model FLAH-101-F **\$29.00**  
For scrim and Rotating Barn Doors  
Model FLS-102-F **\$28.00**

**FREZZI BARN DOORS—Rotate 360°**

Model FLBD-102-F **\$36.00**

**HANDGRIP**

Model FLH-101-F **\$12.00**



- 2339-BM SCISSOR CLIP with 1/2" stud, used to suspend light from drop ceiling. Allows dressing of power cable along drop ceiling **\$ 6.00**
- 2339-1-BM SCISSOR HOOK, used to dress light cable across drop ceiling **10.00**
- 01510-WB Micro-Featherweight high riser light stand, folded 18 1/2", extended 78" **55.00**
- 01512-WB ULTRA-FEATHERWEIGHT HIGH RISER LIGHT STAND, folded 25 1/4", extended 83 1/2" **70.00**
- 01980-WB ENG Kit 1 Carrying Case **100.00**  
01982-WB ENG Kit 3 Carrying Case **110.00**

**FL-650 LAMPS**

- EYL-F 100W 12V (50 Hrs.)  
DYG-F 250W 30V (15 Hrs.)  
EKB-F 420W 120V (75 Hrs.)  
DYS-F 600W 120V (75 Hrs.)  
EKD-F 650W 120V (25 Hrs.)  
DYR-F 650W 220V (50 Hrs.)  
DYR-F 650W 240V (50 Hrs.)
- 1308-F Replacement Socket **\$15.00**  
1306/  
1264-F Socket Housing Assembly **19.00**

**FL-100/250-F LAMPS**

- FAV-F 100W 12V  
FBT-F 150W 30V  
FBV-F 250W 30V
- 0924-F Replacement Socket Assembly with Focus Shaft **\$28.00**

See Lamp Section Page 14, 15 for Pricing.

**FL-650-F POWER CABLES**

- Model C12-F For 12VDC operation **\$32.00**  
Model C30-F For 30VDC operation, 6 ft. **32.00**  
Model C120-F For 120VAC operation, 11 ft. **17.00**

**CAMERA MOUNTED LIGHTHEAD STUDS**

- Frezzi™ Stud Specification List
- LS1-F Lite-Stud, 3" x 1/2", 1/4—20 **\$25.00**  
LS2-F Lite-Stud, 3" x 1/2", 10-32 **25.00**  
LS3-F Lite-Stud, 3" x 1/2", 5mm **25.00**  
LS4-F Lite-Stud, 3" x 1/2", 6mm **25.00**  
LS5-F Lite-Stud, 3" x 1/2", 4mm **25.00**  
LS21-F Lite-Stud for FP-21/22-F **29.00**

- LS79-F Lite-Stud for HL-79A/D-F **\$29.00**  
LS83-F Lite-Stud for HL-83-F **38.00**  
LS95-F Lite-Stud, 1 1/2" x 1/2", 5mm **25.00**  
LSM21-F Lite/Mic Holder for FP-21/22 (Shoe Type) **65.00**  
LSM79-F Lite/Mic Holder for HL-79A/D-F **65.00**  
LSM83-F Lite/Mic Holder for HL-83-F **65.00**  
LSM95-F Lite/Mic Holder for HL-95-F **65.00**

**CAMERA-STUD REFERENCE CHART**

CAMERA	MODEL	DESCRIPTION	FREZZI P/N	PRICE
HITACHI	FP-15/21/22 & Z-31	Lite Only	LS-21-F	\$29.00
		Lite & Microphone	LSM-21-F	65.00
	HL-79	Lite Only	LS-79-F	29.00
		Lite & Microphone	LSM-79-F	65.00
		Lite Only	LS-21-F	29.00
KEGAMI	HL-79E	Lite & Microphone	LSM-21-F	65.00
		Lite Only	LS-83-F	38.00
	HL-83	Lite & Microphone	LSM-83-F	65.00
		Lite Only	LS-95-F	25.00
		Lite & Microphone	LSM-95-F	65.00
JVC	ITC-730	Lite Only	LS-4-F	25.00
		Lite & Microphone	LSM-4-F	65.00
	KY110/210/310 & KY320/950	Lite Only	LS-21-F	29.00
		Lite & Microphone	LSM-21-F	65.00
		Lite Only	LS-2-F	25.00
SHARP	KY1900/2000/2700	Lite & Microphone	LSM-2-F	65.00
		Lite Only	LS-1-F	25.00
	XC700/800/900	Lite & Microphone	LSM-1-F	65.00
SONY	All Sony Cameras	Lite Only	LS-1-F	25.00
		Lite & Microphone	LSM-1-F	65.00

**BATTERY PACKS/POWER BELTS**



**30VDC Operation with EC-30-F High-Capacity Battery Packs**

- 30VDC at 4AH
  - Operates 30V 250W DYG lamp 30 minutes
  - Fast charge capability (1 hr.)
  - Built-in overnight charger (12 hrs.)
  - Rugged steel case
  - Weight: 10 lbs.
  - Premium-grade selected NiCad cells used
- Model EC-30-F **\$645.00**  
Optional: BC-30D-F One (1) hour fast charger **395.00**

**VB-F Series 12V at 4AH "High-Tech" Battery Packs**

- Premium-grade selected NiCad cells used
  - Built-in belt clip
  - Shoulder strap provided
  - Includes VBCV-F 115V overnight charger
- VB-12-F 4AH, 12V, 7.813" x 5.10" x 1.625", 4.0 lbs. **\$165.00**  
VB-12V-F 4AH, 12V, 8.125" x 5.10" x 1.625", 4.0 lbs. **225.00**  
VB4X-F 4AH, 12V, 7.813" x 5.10" x 1.625", 4.0 lbs. **235.00**  
VBS0-F\* 4AH, 12V, 8.125" x 5.10" x 1.938", 4.0 lbs. **245.00**  
\*with additional XLR4 connector **255.00**

**Frezzi™ High Capacity 6AH Multi-Purpose Power Belts**

- Features:**
- High capacity—full 6AH (at 6A discharge rate)
  - Batteries housed in rugged aluminum cassettes mounted on a genuine leather belt
  - Built-in overnight (14 hrs.) charger
  - Fast charge (1 hr.) capability with Model BC-77U charger
  - Fuse & thermal protection
  - Low belt profile—only 4" wide
- Model F-12-EXFA **Model F-12-77**  
• 12.0V at 6AH • ± 6.0V at 6AH  
• Standard five (5)-pin XLR • HL-77 connector  
connector • Weight 8 lbs.
- Weight 8 lbs. **\$475.00** **\$475.00**  
Model F-14-EXFA **\$475.00**  
• 14.4V at 6AH  
• Four (4)-pin XLR connector  
• Weight 8.5 lbs. **\$495.00**

**Frezzi Power Belts for 30V Sun Gun 30VDC Operation with Frezzi F-30-EC-F and F-30-EXFA-F High-Capacity Battery Belts**

- Full 4AH capacity using selected NiCad cells
  - Operates 30V 250W DYG lamp for 30 minutes
  - Batteries housed in rugged aluminum cassettes which are mounted on a genuine leather belt
  - Built-in overnight charge (14 hrs.)
  - F-30-EXFA-F has fast-charge capability (1 hr.) w/ optional Frezzi 8C-30D-F fast charger
  - Fuse and circuit-breaker protection
  - Weight: 10 lbs.
- Model F-30 EC-F **\$595.00**  
Model F-30-EXFA-F **645.00**  
Model F-30/14EXFA-F Switchable 30V at 4AH, 14V at 8AH Power Belt **795.00**

**BATTERY PACKS**

**Frezzi On-Board™ Battery Packs "Superior To Camera-Manufacturer Supplied"**

- Extended life with no memory
- Battery mounts direct to camera-manufacturer-supplied Anton/Bauer bracket or optional Frezzolini™ camera battery mounting bracket
- No cables or modification required
- Full 4AH capacity—only premium selected NiCad cells used
- Custom-designed mounting brackets available
- Rugged welded aluminum case
- Lightweight 2AH models available
- Internal fuse and thermal protection—internal spare fuse included for field replacement
- Complete charge compatibility with camera-factory-supplied charge systems, or Frezzolini fast, overnight or multiple battery chargers available

- Frezzi On-Board 6P-12-F 4AH, 12V **\$455.00**  
Frezzi On-Board BP-13-F 4AH, 13.2V **475.00**  
Frezzi On-Board BP-14-F 4AH, 14.4V **495.00**  
Frezzi On-Board BP-122-F 2AH, 12V **275.00**  
Frezzi On-Board BP-132-F 2AH, 13.2V **285.00**  
Frezzi On-Board BP-142-F 2AH, 14.4V **295.00**

All battery packs have fast charge (1 Hr.) capability.

**Frezzi Premium-Grade Direct Replacement for Sony BP-90-F Battery Packs FBP-90-F and Fast Charger FBP-90FC-F**

- Full 4AH capacity using premium-grade selected NiCad cells
  - Rugged and serviceable plastic case
  - Fuse and thermal protection
  - Internal spare fuse for field replacement
  - High discharge capability to power 100W lightheads
  - Weight 3.5 lbs.
  - Complete charge compatibility with Sony BC-210 charger, Frezzi BC-124S-F overnight charger, Frezzi MBC-5-F 8-battery overnight charger, Frezzi BC-77UB-F 1 hr. fast charger with HV fast-charge adaptor cable, plus other Frezzi fast/slow multi-battery charging stations
- FBP-90-F **\$275.00**  
FBP-90FC-F **330.00**

**Battery Pack Mounting Brackets**

- HM90-F BP90-F adaptor for on-board mount **\$198.00**  
HM90B-F Same as HM90-F except for Betacam mount\* **198.00**  
HM90BWF Same as HM90B except has mount for wireless receiver\* **248.00**

\*Requires HMBVV1-F bracket



### Batacam Battery Mounting Bracket

Model: HMBVV1-F

Bracket mounts to the upper rear portion of the recorder, and accepts BP13/BP132-F batteries or BP90-F when used with HM90-F. Also accepts RPS-3-F and RPS-40-F on-board AC supply.

HMBVV1-F \$105.00

### Frezzi 2AH NiCad Replacements for

#### Lead-Acid VTR Battery Packs

Model FBP-20-F Replacement for Sony BP-20A

Model FBP-44-F Replacement for JVC PBP-1

Model FBP-44-F Replacement for Panasonic LCR-3012 VBP

Model FBP-60-F Replacement for Sony BP60

Model FNP-1-F Replacement for Sony NP-1

#### NiCad Batteries

Model B-12-F (12V at 1AH) \$125.00

Model FBP-20-F (12V at 2AH) 225.00

Model FBP-44-F (12V at 2AH) 225.00

Model FBP-60-F (12V at 2AH) 225.00

Model FNP-1HC-F (12V at 1.8AH) 75.00

### Sealed Lead Acid Battery

Model 12V 6.5AH-SGLA-F 37.50

## CHARGERS

### FREZZI SINGLE-BATTERY UNIVERSAL FAST CHARGERS MOEEL BC-77U/MOEL BC-77UB SINGLE-BATTERY UNIVERSAL FAST CHARGERS

#### General:

The line of Frezzolini Universal fast chargers were specifically designed to fast charge (1 hr.) all models of Frezzolini 12V and 14.4V 2-6AH battery packs. The Frezzi chargers also have the capability to safely fast charge Anton/Bauer 12V and 14.4V NiCad on-board battery packs. All chargers are transformer-type line-isolated and designed per European IEC-65 safety code specifications. The chargers are constructed of heavy-gauge aluminum in a compact size to withstand abuse in the field. The universal feature of this charger enables operation anywhere in the world.

Model BC-77U/BC-77UB-F \$395.00

Model BC-300-F (for use with 30V batteries with fast charge capability) 395.00

### FREZZI MULTIPLE BATTERY CHARGING STATIONS

"We custom-design per your specific charging requirements"

#### MBC-2-F (All Feature Model)

Fast-charges five (5) Frezzolini or Anton Bauer 12-14.4V NiCad battery packs in less than one (1) hour while simultaneously charging eight (8) additional Frezzolini, Sony, JVC or Panasonic VTR battery packs overnight. Universal AC inputs. Deluxe shipping case available. Weight: 45 lbs.

MBC-2-F \$2400.00

#### MBC-4-F

Fast charges (1 hr.) five (5) Frezzolini or Anton/Bauer 12-14.4V NiCad battery packs while simultaneously charging eight additional Sony BP-90 type battery packs in 14 hours. Universal AC inputs. Deluxe shipping case available. Weight: 45 lbs.

MBC-4-F \$2090.00

#### MBC-4A-F

Fast charges (5) Frezzolini or Anton/Bauer 12-14.4V battery packs. Weight: 43 lbs.

MBC-4A-F \$1595.00

#### MBC-5-F, Charges Eight (8) BP-90 Type Batteries Simultaneously

- Universal AC inputs
- Compact size
- Line-isolated
- Current-sensing LED's
- Other models available for all VTR or camera battery packs

Charge eight (8) BP-90 type battery packs simultaneously in 14 hours with MBC-5 Charging Station. Universal AC inputs. Weight: 8 lbs.

MBC-5-F \$495.00

### Overnight Trickle Chargers

- Fully charges battery packs in 14 hours
- Switchable 115-230VAC 50/60Hz input
- Miniature size
- Transformer-type line-isolated
- Current-sensing LED

Model FTC-12/13/14-F (For BP-12/13/14-F) Fig. B \$80.00

Model FTC-122/132/142-F (For BP-122/132/142-F) 90.00

Model BC-122S-F (For FBP-20/44/60-F) Fig. C 90.00

Model BC-124S-F (For BP-90/FBP-90-F) Fig. A 80.00

Model CR-1-F (Current regulated for BP-90-F, BP-12/13/14-F) 125.00

Trickle charges for VB-F series batteries 115V input only.

Model VBC-F (For VB-12-F) \$38.00

Model VBCV-F (For VB4X/VB-12V-F) 38.00

Model FTC-NP1-F (For (1) NP1) 95.00

## CHARGERS/POWER SUPPLIES

### Frezzi Dual Channel AC Adaptor and Fast Charger

The Frezzolini RPS-2-F Dual-Channel combination power supply/fast charger consists of two totally independent power sources. Each power source has the capability of either functioning as a precise regulated power supply for ENG Camera/VTR Power or switching over to a NiCad battery fast charger. Either one or two battery packs are simultaneously fast charged with automatic high-charge termination when the battery packs reach full charge.

#### Specifications

AC Input: 115/230VAC ± 10% 50/60Hz

Regulated DC Output: 13.25VDC (3.0A max. each channel)

Line Regulation: ± .05% for 10% line change

Load Regulation: ± .05% for 50% load change

Output Ripple: 5.0mV p-p maximum

Overload Protection: Automatic current limit/foldback

Fast Charge Time: 12.0V battery—75 min.

14.4V battery—180 min.

Size: 8 1/2" x 5" x 5 1/2"

Weight: 8.5 lbs.

RPS-2-F \$895.00

### Frezzi On-Board™ AC Power Supplies

#### Models RPS-3-F and RPS-40-F

Ultra lightweight, compact size, mount directly to ENG/EPF professional TV cameras with on-board battery mounts. Replacing battery with either unit allows for "continuous" operation when 120 or 240VAC 50/60Hz is available. Easy voltage selection slide switch on unit. On-off lighted switch. Advanced switching design with full RFI/EMI suppression. Supplied as OEM and replacement equipment to major manufacturers.

#### Specifications

RPS-3-F RPS-40-F

Power: 50W 40W

Output Current: 4A max. 3A max.

Output Voltage: 13VDC nominal

Output Ripple: 10mV typical

Input Line Selection SW.: 120/240VAC 50/60Hz

Line Regulation: ± 0.1% (10% line change)

Load Regulation: ± 0.2% (50% load change)

Current Limit: Output protected and fully isolated

Size: 5.0" x 4.0" x 3.4" 5.25" x 4.125" x 2.0"

Weight: 2.3 lbs. 1.8 lbs.

RPS-3-F \$595.00

RPS-40-F \$450.00

## LTM MARK III LUXARCS



### LUXARC 200

200W LTM Luxarc System Includes: \$2583.00

203 001-LTM 1 ea. Luxarc MKIII Head with 4" Fresnel

506 001-LTM 1 ea. Ballast MKIII 120V/60Hz

510 261-LTM 1 ea. Mains Cable 15'

510 189-LTM 1 ea. 4-Leaf Barndoor

410 299-LTM 1 ea. Hinged Gel Frame

#### Individual Pricing of Component Parts for the 200W Luxarc System

800 000-LTM HMI Bulb 200W \$275.00

435 200-LTM Full Single Scrim 8.00

435 201-LTM Half Single Scrim 9.00

435 202-LTM Full Double Scrim 8.00

435 203-LTM Half Double Scrim 9.00

510 259-LTM 50' Head to Ballast Extension Cable 205.00

510 261-LTM 4-Leaf Barndoor 85.00

510 299-LTM Hinged Gel Frame 35.00

203 001-LTM Luxarc 200 MKIII Head Only with 5" Fresnel 1280.00

506 001-LTM Alimarc 200 MKIII Ballast 120V/60Hz 1061.00

510 261-LTM Mains Cable 15' 122.00

553 203-LTM Head and Ballast Kit Case 205.00

386 029-LTM Beefy Baby Stand, Alum. 154.00



### AMBIARC 200

200W LTM Ambirc System Includes: \$2400.00

211 001-LTM 1 ea. Ambirc MKIII Head with 5" Clear Lens

506 001-LTM 1 ea. Ballast MKIII 120V/60Hz

510 261-LTM 1 ea. Mains Cable 15'

510 189-LTM 4-Leaf Barndoor

510 299-LTM 1 ea. Hinged Gel Frame

#### Individual Pricing of Component Parts for the 200W LTM Ambirc System

800 000-LTM HMI Bulb 200W \$275.00

435 200-LTM Full Single Scrim 8.00

435 201-LTM Half Single Scrim 9.00

435 202-LTM Full Double Scrim 8.00

435 203-LTM Half Double Scrim 9.00

510 259-LTM 50' Head to Ballast Extension Cable 205.00

510 261-LTM 4-Leaf Barndoor 85.00

510 299-LTM Hinged Gel Frame 35.00

211 001-LTM 200 MKIII Head Only with 5" Clear Lens 1097.00

506 001-LTM Alimarc 200 MKIII Ballast 120V/60Hz 1061.00

510 260-LTM Mains Cable 15' 122.00

553 203-LTM Head and Ballast Kit Case 205.00

386 029-LTM Beefy Baby Stand, Alum. 154.00





#### LUXARC 575

**575W LTM Luxarc System Includes: \$3457.00**  
 209 001-LTM 1 ea. Luxarc MKIII Head with 7" Fresnel  
 504 001-LTM 1 ea. Ballast MKIII 120V/60Hz  
 510 260-LTM 1 ea. Mains Cable 15'  
 510 465-LTM Head to Ballast Cable 33'  
 510 277-LTM 1 ea. 4-Leaf Barndoor  
 510 527-LTM 1 ea. Hinged Gel Frame

#### Individual Pricing of Component Parts for the 575W

##### LTM Luxarc System

800 001-LTM HMI Bulb 575W **\$390.00**  
 445 310-LTM Full Single Scrim **8.00**  
 445 311-LTM Half Single Scrim **8.00**  
 445 312-LTM Full Double Scrim **25.00**  
 445 313-LTM Half Double Scrim **9.00**  
 510 422-LTM 50' Head to Ballast Extension Cable **350.00**  
 510 277-LTM 4-Leaf Barndoor **86.00**  
 510 527-LTM Hinged Gel Frame **30.00**  
 209 001-LTM Luxarc 575 MKIII Head Only with 7" Fresnel & Wire Screen **1737.00**  
 504 001-LTM Alimarc 575 MKIII Ballast 120V/60Hz **1182.00**  
 510 260-LTM Mains Cable 15' **122.00**  
 510 465-LTM Head and Ballast Cable 33' **300.00**  
 553 209-LTM Head Case **265.00**  
 553 504-LTM Ballast Case **220.00**  
 386 029-LTM Beefy Baby Stand, Alum. **154.00**



#### CINEPAR 575

**575W LTM Cinepar System Includes: \$2962.00**  
 209 001-LTM 1 ea. Cinepar MKIII Head with 4 Lens Rings  
 504 001-LTM 1 ea. Ballast MKIII 120V/60Hz  
 510 260-LTM 1 ea. Mains Cable 15' with U Ground Hubbell  
 510 465-LTM 1 ea. Head to Ballast Cable 33'

#### Individual Pricing of Component Parts for 575W LTM

##### Cinepar System

800 015-LTM Cinepar Bulb with 4 Lens 575W Par A6 **\$652.00**  
 445 310-LTM Full Single Scrim 7 1/4" D **8.00**  
 445 311-LTM Half Single Scrim 7 1/4" D **8.00**  
 445 312-LTM Full Double Scrim 7 1/4" D **9.00**  
 445 313-LTM Half Double Scrim 7 1/4" D **9.00**  
 510 422-LTM 50' Head to Ballast Extension Cable **350.00**  
 555 003-LTM 150' Head to Ballast Extension Cable **700.00**  
 510 301-LTM 4-Leaf Barndoor 7 1/4" **93.00**  
 510 298-LTM Hinged Gel Frame 7 1/4" **34.00**  
 209 001-LTM Cinepar 575 MKIII Head Only with 4 Lens Rings **1158.00**  
 504 001-LTM Alimarc 575 MKIII Ballast 120V/60Hz **1182.00**  
 510 260-LTM Mains Cable 15' U Ground Hubbell **122.00**  
 510 465-LTM Head and Ballast Cable 33' **300.00**  
 553 222-LTM Head Case **300.00**  
 553 504-LTM Ballast Case **203.00**  
 386 029-LTM Beefy Baby Stand, Alum. **154.00**  
 510 500-LTM Lens Case **105.00**  
 221 052-LTM Additional Lens Rings **28.00**



#### LUXARC 1200

**1200W LTM Luxarc System Includes: \$4812.00**  
 207 001-LTM 1 ea. Luxarc MKIII Head with 10" Fresnel  
 503 001-LTM 1 ea. Ballast MKIII 120V/60Hz  
 510 260-LTM 1 ea. Mains Cable 15'  
 510 465-LTM 1 ea. Head to Ballast Cable 33'  
 510 526-LTM 4-Leaf Barndoor  
 510 528-LTM 1 ea. Hinged Gel Frame

#### Individual Pricing of Component Parts for the 1200W

##### LTM Luxarc System

800 002-LTM HMI Bulb 1200W **\$550.00**  
 445 340-LTM Full Single Scrim **11.50**  
 445 341-LTM Half Single Scrim **11.50**  
 445 342-LTM Full Double Scrim **13.50**  
 445 343-LTM Half Double Scrim **13.50**  
 510 422-LTM 50' Head to Ballast Extension Cable **350.00**  
 510 526-LTM 4-Leaf Barndoor **90.00**  
 510 528-LTM Hinged Gel Frame **45.00**  
 207 001-LTM Luxarc 1200 MKIII Head Only with 10" Fresnel & Wire Screen **2549.00**  
 503 001-LTM Alimarc 1200 MKIII Ballast 120V/60Hz **1731.00**  
 510 260-LTM Mains Cable 15' with Hubbell U Ground **122.00**  
 510 465-LTM Head to Ballast Cable 33' **275.00**  
 553 207-LTM Head Case **300.00**  
 553 503-LTM Ballast Case **231.00**  
 386 029-LTM Beefy Baby Stand, Alum. **154.00**  
 366 070-LTM Combo Stand, Alum. with Adapter (429 029) **254.00**



#### CINEPAR 1200

**1200W LTM Cinepar System Includes: \$3900.00**  
 221 001-LTM 1 ea. Luxarc MKIII Head with 4 Lens Rings  
 503 001-LTM 1 ea. Ballast MKIII 120V/60Hz  
 510 260-LTM 1 ea. Mains Cable 15'  
 510 465-LTM 1 ea. Head to Ballast Cable 33'

#### Individual Pricing of Component Parts for the 1200W

##### LTM Luxarc System

800 013-LTM HMI Cinepar Bulb with 4 Lens 120W Par 64 **\$766.00**  
 445 310-LTM Full Single Scrim 9" **8.00**  
 445 311-LTM Half Single Scrim 9" **8.00**  
 445 312-LTM Full Double Scrim 9" **9.00**  
 445 313-LTM Half Double Scrim 9" **9.00**  
 510 422-LTM 50' Head to Ballast Extension Cable **350.00**  
 555 003-LTM 150' Head to Ballast Extension Cable **700.00**  
 510 277-LTM 4-Leaf Barndoor **90.00**  
 510 527-LTM Hinged Gel Frame **30.00**  
 221 001-LTM Cinepar 1200 MKIII Head Only **1747.00**  
 503 001-LTM Alimarc 1200 MKIII Ballast 120V/60Hz **1731.00**  
 510 260-LTM Mains Cable 15' with Hubbell U Ground **122.00**  
 510 465-LTM Head to Ballast Cable 33' **300.00**  
 553 221-LTM Head Case **315.00**  
 553 503-LTM Ballast Case **320.00**  
 386 029-LTM Beefy Baby Stand, Alum. **154.00**  
 366 070-LTM Combo Stand, Alum. with Adaptor (429 029) **254.00**  
 510 499-LTM Lens Case **120.00**  
 221 050-LTM Additional Lens Rings **28.00**  
 555 001-LTM Super Wide Flood Lens **30.00**  
 555 002-LTM 5 x 1200 Par Light Ballast **9834.00**



#### LUXARC 2500

**2500W LTM Luxarc System Includes: \$7311.00**  
 205 001-LTM 1 ea. Luxarc MKIII Head with 12" Fresnel  
 502 001-LTM 1 ea. Ballast MKIII 120V/60Hz  
 510 251-LTM 1 ea. Mains Cable 15'  
 510 257-LTM 1 ea. Head to Ballast Cable 33'  
 510 119-LTM 1 ea. 4-Leaf Barndoor  
 510 148-LTM 1 ea. Hinged Gel Frame

#### Individual Pricing of Component Parts for the 2500W

##### LTM Luxarc System

800 003-LTM HMI Bulb 2500W **\$955.00**  
 435 230-LTM Full Single Scrim 15.5" D **15.00**  
 435 231-LTM Half Single Scrim 15.5" D **15.00**  
 435 232-LTM Full Double Scrim 15.5" D **18.50**  
 435 233-LTM Half Double Scrim 15.5" D **18.50**  
 510 263-LTM 50' Head to Ballast Extension Cable **575.00**  
 510 276-LTM Junction Box **215.00**  
 510 119-LTM 4-Leaf Barndoor **175.00**  
 510 148-LTM Hinged Gel Frame **45.00**  
 205 001-LTM Luxarc 2500 MKIII Head Only with 12" Fresnel, Wire Screen and Hours Counter **3485.00**  
 502 001-LTM Alimarc 2500 MKIII Ballast 120V/60Hz, with Retractable Handle **2880.00**  
 510 251-LTM Mains Cable 15' with Pigtail **200.00**  
 510 257-LTM Head and Ballast Cable 33' **430.00**  
 553 205-LTM Head Case **on request**  
 553 502-LTM Ballast Case **on request**  
 366 070-LTM Combo Stand, Alum. **235.00**



#### LUXARC 4000

**4000W LTM Luxarc System Includes: \$9580.00**  
 206 001-LTM 1 ea. Luxarc MKIII Head with 14" Fresnel  
 501 001-LTM 1 ea. Ballast MKIII 120V/60Hz  
 510 253-LTM 1 ea. Mains Cable 15'  
 510 257-LTM 1 ea. Head to Ballast Cable 33'  
 510 132-LTM 1 ea. 4-Leaf Barndoor  
 510 144-LTM 1 ea. Hinged Gel Frame

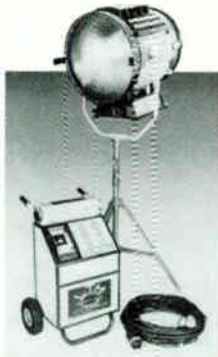
#### Individual Pricing of Component Parts for the 4000W

##### LTM Luxarc System

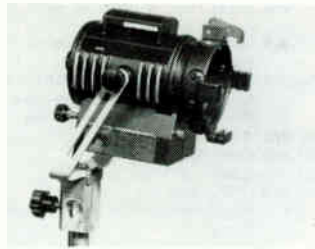
800 004-LTM HMI Bulb 4000W **\$1210.00**  
 445 351-LTM Full Single Scrim 18 3/8" D **17.00**  
 445 353-LTM Half Single Scrim 18 3/8" D **17.00**  
 445 352-LTM Full Double Scrim 18 3/8" D **18.50**  
 445 354-LTM Half Double Scrim 18 3/8" D **18.50**  
 510 263-LTM 50' Head to Ballast Extension Cable **550.00**  
 510 276-LTM Junction Box **210.00**  
 510 132-LTM 4-Leaf Barndoor **275.00**  
 510 144-LTM Hinged Gel Frame **80.00**  
 206 001-LTM Luxarc 4000 MKIII Head Only with 14" Fresnel, Wire Screen and Hours Counter **4845.00**  
 501 001-LTM Alimarc 4000 MKIII Ballast 120V/60Hz with retractable handle **3780.00**  
 510 253-LTM Mains Cable 15' with Pigtail **175.00**  
 510 257-LTM Head to Ballast Cable 33' **425.00**  
 553 206-LTM Head Case **on request**  
 553 501-LTM Ballast Case **on request**  
 366 070-LTM Combo Stand, Alum. **235.00**



- LUXARC 6000**  
**6000W LTM Luxarc System Includes:** \$18,812.00  
**210 001-LTM** 1 ea. Luxarc MKIII Head with 24" Fresnel  
**500 001-LTM** 1 ea. Ballast MKIII 120V/60Hz  
**510 520-LTM** 1 ea. 4-Leaf Barndoor  
**510 423-LTM** 1 ea. Hinged Gel Frame
- Individual Pricing of Component Parts for the 6000W LTM Luxarc System**
- 800 005-LTM** HMI Bulb 6000W \$2000.00  
**435 250-LTM** Full Single Scrim 29"D 46.00  
**435 251-LTM** Half Single Scrim 29"D 46.00  
**435 252-LTM** Full Double Scrim 29"D 49.00  
**435 253-LTM** Half Double Scrim 29"D 49.00  
**510 420-LTM** 50' Head to Ballast Extension Cable 925.00  
**510 520-LTM** 4-Leaf Barndoor 670.00  
**510 423-LTM** Hinged Gel Frame 53.00  
**210 001-LTM** Luxarc 6000 MKIII Head Only with 24" Fresnel, Wire Screen and Hours Counter \$12,441.00  
**500 001-LTM** Alimarc 6000 MKIII Ballast 120V/60Hz with Mains Cable 15' with Pigtail Head to Ballast Cable 33' 5648.00  
**553 210-LTM** Head Case on request  
**553 500-LTM** Ballast Case on request  
**387 580-LTM** Crank Stand 2290.00



- LUXARC 12000**  
**12,000W LTM HMI System Includes:** \$25,661.00  
**210 001-LTM** 1 ea. Luxarc MKIII Head with 24" Fresnel  
**507 001-LTM** 1 ea. Ballast MKIII 120V/60Hz  
**510 025-LTM** Mains Cable 15'  
**510 026-LTM** Head to Ballast Cable 50'  
**510 520-LTM** 1 ea. 4-Leaf Barndoor  
**510 423-LTM** 1 ea. Hinged Gel Frame
- Individual Pricing of Component Parts for the 12,000W LTM Luxarc System**
- 800 007-LTM** HMI Bulb 12000W \$3750.00  
**435 250-LTM** Full Single Scrim 29"D 46.00  
**435 251-LTM** Half Single Scrim 29"D 46.00  
**435 252-LTM** Full Double Scrim 29"D 49.00  
**435 253-LTM** Half Double Scrim 29"D 49.00  
**510 026-LTM** 50' Head to Ballast Extension Cable 1130.00  
**510 520-LTM** 4-Leaf Barndoor 670.00  
**510 423-LTM** Hinged Gel Frame 55.00  
**210 001-LTM** Luxarc 12,000 MKIII Head Only with 24" Fresnel, Wire Screen and Hours Counter \$13,021.00  
**507 001-LTM** Alimarc 12,000 MKIII Ballast 120V/60Hz 9780.00  
**510 025-LTM** Mains Cable 15' with Pigtail 1005.00  
**553 201-LTM** Head Case on request  
**553 507-LTM** Ballast Case on request  
**387 580-LTM** Crank Stand 2290.00



- LTM PEPPERS**  
 LTM PEPPER Fresnels are miniature quartz-halogen specifically designed for still photography or miniature sets for television. Constructed of cast aluminum for ease of handling and heat dissipation.
- 100-LTM** 1 1/8" FRESNEL 100/200W \$160.00  
 4-leaf barndoors 39.00  
 Scrims (3") full or half (Single, double or double/double) 8.30  
 Gel/Diffusion frame 18.20  
 Snoot (4/1) apertures (1 3/4", 1 3/8", 1", 5/8") 62.50
- 200-LTM** 3/8" FRESNEL 200W \$192.00  
 4-leaf barndoors 53.00  
 Scrims (4 3/16") full or half (single, double or double/double) 8.30  
 Gel/Diffusion Frame 21.50  
 Snoot (5/1) apertures (2 1/2", 2 3/16", 1 3/4", 1 3/8", 1 5/16") 69.50
- 420-LTM** 3/8" FRESNEL 420W \$217.00  
 4-leaf barndoor 53.00  
 Scrims (4 3/16") full or half (single, double or double/double) 8.30  
 Gel/Diffusion Frame 21.50  
 Snoot (5/1) apertures (2 1/2", 2 3/16", 1 3/4", 1 3/8", 1 5/16") 69.50  
 Handgrip 25.00  
 Battery Belt w/Cable POR  
 Pepperoptics (Fiberoptic lighting system) 495.00
- 650-LTM** 4 3/8" FRESNEL 650W \$288.00  
 4-leaf barndoors 57.00  
 Scrims (5") full or half (single, double or double/double) 8.30  
 Hinged Gel Frame 26.50  
 Snoot (5/1) apertures (2 1/2", 2 3/16", 1 3/4", 1 3/8", 1 5/16") 88.50
- Pepper Flood 650W** \$242.00  
 4 Leaf Barndoors 70.00  
 Scrims (6-5/8") Full Single or Half Single 6.60  
 Dichroic Filter 132.00  
 Handgrip 35.00  
 Gel Frame 23.10  
 Battery Belt w/Cable POR  
**Soft Pepper 400W** \$240.00  
 Egg Crate 82.50  
 Diffusion Frame 13.50

**RECOMMENDED LAMPS PEPPER/100/200**

ANSI Code	Volts	Watts	Temp.	Type	Price
ESR-WK	120	100	2900	Clear	\$33.20
FEV-GE	120	200	3200	Clear	32.20
FDS-GE	24	150	3400	Clear	17.02
DZM	24	250	3400	Clear	
DYG-TH	30	250	3400	Clear	30.00

**PEPPER 420/650**

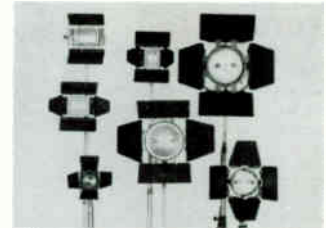
EKB-GE	120	420	3200	Clear	\$38.00
DYS-TH	120	600	3200	Clear	28.00
DYR-TH	220/240	650	3200	Clear	33.50

**Universal Pepper Accessories**

Light Pepper Stake (Stand)	\$60.00
Medium Pepper Stake (Stand)	75.00
3" Baby Plate	25.00
Drop Ceiling Butterfly Clamp	14.20
Suction Cup Mount	59.50
3" C-Clamp w/5/8" Pin	29.00
6" C-Clamp w/two 5/8" Pins	39.60
Gaffer Grip w/5/8" Pin	27.00
Pepperella	53.60
Pepperella Adaptor	29.00
Net Set (Complete w/Flexarm, Net Holder, Net & Silk)	113.00
Flag (For Net Set)	22.00

**Cases**

Custom Case Blue	\$332.00
Custom Case Red	346.00
Custom Case Green	352.00
Custom Case Cyan	381.00
Tube Stake	116.00
Full Spectrum Case	450.00



**FOCUSING OPEN-FACE LIGHTS**

- 650-BM** 650W OPEN FACE FOCUSING LIGHT with molded fiberglass housing that stays cool; comes complete with 14" rubber covered cable, inline switch, parallel blade U-grd. plug, and yoke with 5/8" mounting bracket \$138.00
- 1000-BM** 1000W OPEN-FACE FOCUSING LIGHT with molded fiberglass housing that stays cool; comes complete with 14" rubber covered cable, inline, switch, parallel blade U-grd. plug, and yoke with 5/8" mounting bracket \$138.00
- 183-BM** Accessory Holder; accepts standard 6 5/8" dia. size diffusion 38.00
- 188-BM** 4 way barndoor; attaches either directly to light or on accessory holder 30.00
- 184-BM** Dichroic Filter for daylight conversion 83.95
- SCRIMS**
- 49144-BM** 6 5/8" dia. single scrim \$8.00  
**49145-BM** 6 5/8" dia. 1/2 single scrim 8.00  
**49146-BM** 6 5/8" dia. double scrim 9.00  
**49147-BM** 6 5/8" dia. 1/2 double scrim 9.00

**RECOMMENDED LAMPS 120V/230/240 DOUBLE ENDED 3 1/8" M.O.L. TUNGSTEN-HALOGEN**

**ANSI**

Code	Volts	Watts	Temp.	Type	Price
EHP-GE	120	300	2900K	Clear	\$44.70*
EHR-TH	120	400	2900K	Clear	37.00*
FAD-TH	120	650	3200K	Clear	22.00
FBX-TH*	120	650	3200K	Frost	27.00
DXX-GE	230	800	3200K	Clear	34.45*
DXX-GE	240	800	3200K	Clear	34.45*

\*Most used 120V lamp for 650

**RECOMMENDED LAMPS 120V DOUBLE ENDED**

**3 3/4" M.O.L. TUNGSTEN-HALOGEN QUARTZ (Use with 1000W version only)**

FBY-TH	120	1000	3200K	Frost	\$39.00
DXW-TH	120	1000	3200K	Clear	38.00

- 2000-BM** 2000W OPEN-FACE FOCUSING LIGHT with sheet steel housing; comes complete with 14" rubber covered cable, heavy-duty inline switch, parallel blade U-grd. plug, and yoke with 5/8" mounting bracket \$245.00
- 222-BM** Accessory Holder; accepts 10" dia. diffusion 60.00
- 221-BM** 4 way barndoor; attaches either directly to light or on accessory holder 49.95
- 223-BM** Dichroic Filter for daylight conversion 250.00

**SCRIMS**

29304-BM	10" dia. single scrim	\$ 10.00
29306-BM	10" dia. 1/2 single scrim	10.00
29305-BM	10" dia. double scrim	12.00
29307-BM	10" dia. 1/2 double scrim	12.00

**RECOMMENDED LAMPS 120V DOUBLE ENDED 5 5/8" M.O.L. TUNGSTEN-HALOGEN QUARTZ**

**ANSI**

Code	Volts	Watts	Temp.	Type	Price
FER-GE	120	1000	3200K	Clear	\$ 70.80*
DVV-SY	120	1500	3200K	Clear	(Disc.)
FEY-TH	120	2000	3200K	Clear	110.00



## DP LIGHT & REFLECTORS

DP LIGHT and reflectors make this 1000W very versatile. There are many accessories that complete this fixture. Ask for a complete brochure.



D2-10-LL	dp light	\$ 150.00
D2-15-LL	#1 reflector	13.50
D2-17-LL	#3 reflector	13.50
D2-18-LL	#4 reflector	13.50

## DP LIGHT CONTROLS

D2-20-LL	Complete barndoor	\$ 62.50
D2-21-LL	Barndoor frame	25.00
D2-22-LL	Rectangular leaf	13.50
D2-23-LL	Triangular leaf	13.50
D2-50-LL	Diffused glass	34.00
D2-51-LL	Dichroic filter	107.50
D2-52-LL	Clear glass	30.00
D2-53-LL	Snoot	38.50
D2-54-LL	Full scrim	14.50
D2-55-LL	Half scrim	14.50
D2-56-LL	Graduated scrim	17.50
D2-57-LL	Cookaloris	14.50
D2-24-LL	dp frame	40.00

RECOMMENDED LAMP 120V  
MEDIUM TWO-PIN BASE  
2<sup>3</sup>/<sub>16</sub>" L.C.L. TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
EHC-TH 120	500	3150	Clear	\$52.00	
EHF-TH 120	750	3200	Clear	58.00	
FEL-TH 120	1000	3200	Clear	52.00	
FCV-TH 120	1000	3200	Frosted	64.00	



2000-BM Slimline II



01017-WB Gel Frame Holder

Heavy-duty key light type fixture with excellent open face barndoor capacity. The fixture is very compact and the 4 leaf barndoor is integral.

29001-8M	SLIMLINE II 1000/2000W with integral 4) Leaf Barndoors and GPP Plug	\$293.00
29000-8M	MOTION PICTURE MODEL, as above, except with stand mount, 25' cable and inline 20A crush proof on/off switch	\$299.00
01017-WB	Gel Frame Holder (For attachment to Barndoor for extension of Gel Frame)	52.00
01018-WB	Gel Frame	13.00
49100-8M	"C" Clamp	28.95
49304-8M	Scrim (10" Stainless Steel) Single	10.00
49305-8M	Scrim (10" Stainless Steel) Double	12.00

RECOMMENDED LAMPS 120V  
DOUBLE ENDED 5<sup>1</sup>/<sub>16</sub>"  
M.O.L. TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
FER-GE 120	1000	3200K	Clear	\$ 70.66	
DVV-SY 120	1500	3200K	Clear	(Disc.)	
FEY-TH 120	2000	3200K	Clear	110.00	

## PAR LAMP HOLDERS

Used for lighting of arenas, sports events, churches, etc. More light per 1000W than any other quartz fixture.

02031-WB	1000 PAR 64 WHITE, includes "C" Clamp, Color Frame and Plug	\$135.00
02032-WB	1000 PAR 64 BLACK, includes "C" Clamp, Color Frame and Plug	135.00

02033-WB	1000 PAR 64 WHITE, with Canopy, Gel Frame, and No Plug	\$120.00
02034-WB	1000 PAR 64 BLACK, with Canopy, Gel Frame, and No Plug	120.00
01034-WB	MOTION PICTURE ADDER For Stand Mounting, 25' Cable with Inline 20A Crush Proof On/Off Switch and Plug	\$25.00
01035-WB	4 Way Barndoor	52.00
01036-WB	Color frame	10.00
02710-WB	Safety cable	6.50
02705-WB	"C" clamp	19.80
08820-L	Replacement Socket, extended Mogul end prong	8.00

RECOMMENDED LAMPS 120V SINGLE ENDED,  
EXTENDED MOGUL END PRONG BASE  
TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
FFN-TH(VNS) 120	1000	3200K	Clear	\$ 92.00	
FFP-TH(NS) 120	1000	3200K	Clear	92.00	
FFR-TH(MF) 120	1000	3200K	Clear	92.00	
FFS-TH(WF) 120	1000	3200K	Clear	92.00	
FGM-TH(NS) 120	1000	5200K	Clear	190.00	
FGN-TH(MS) 120	1000	5200K	Clear	190.00	

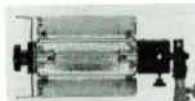
## BASE AND FILL LIGHT



Excellent heavy-duty base type light. Great for copy board lighting.

18003-8M	MINI MAC 1000 with Integral 4-leaf Barndoor and GPP Plug	\$168.95
18001-8M	MOTION PICTURE MODEL as shown above except with stand mount, 25' cable with inline 15A on/off switch and plug	\$168.95
*01112-WB	Extender holder	52.00
*01113-WB	Gel frame	13.00
01114-WB	Double scrim	8.50
01115-WB	Single scrim	8.50
02710-WB	Safety cable	6.50
49100-8M	"C" Clamp	28.95

(See Lamp Listing below Set Lights)  
\*Same as Slimline II Series Accessories



Lots of light and an even wide angle beam. Has a semi-hard light pattern that can be concentrated by the reflector doors for bounce light.

T1-10-LL	TOTA-LIGHT 1000 with Reflecting Doors and 16' Cable	\$112.00
T1-20-LL	Gel/Diffusion Frame	24.50
T1-80-LL	Replacement 16', 120V Power Cable with Inline On/Off Switch and Plug	22.50

(See Lamp Listing below Set Lights)

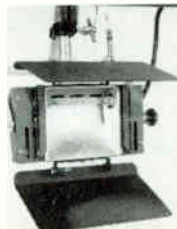


For Soft almost shadowless light. Folds to take on location.

S2-10-LL	SOFT LIGHT 2-2000 with 14' Cable with Inline On/Off Switch	\$285.00
S2-20-LL	Two Leaf Barndoor	75.00
S2-30-LL	Replacement Reflector Shell	70.00

(See Lamp Listing below Set Lights)

## SET AND BACKGROUND LIGHT



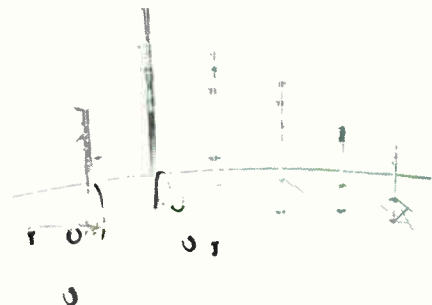
Heavy-duty wash light for backgrounds, sets or curtains up to 9' in height. They work 4<sup>1</sup>/<sub>2</sub>' from background service eliminating spill light on subject.

27001-BM	MINI SET 1000 with Integral 2-leaf Barndoors and GPP Plug	\$158.50
49100-BM	"C" Clamp	28.95
02710-WB	Safety Cable	6.50
27000-8M	MOTION PICTURE MODEL as above except with Stand Mounts, 25' Cable and Inline 15A On/Off Switch and Plug	\$167.00

RECOMMENDED LAMPS 120V  
DOUBLE ENDED  
4<sup>1</sup>/<sub>16</sub>" M.O.L. TUNGSTEN-HALOGEN QUARTZ

ANSI Code	Volts	Watts	Temp.	Type	Price
FDN-TH 120	500	3200K	Frosted	\$32.00	
EMD-TH 120	750	3200K	Frosted	40.00	
FHM-TH 120	1000	3200K	Frosted	32.00	
FCM-TH 120	1000	3200K	Clear	30.00	

(Clear Lamp used with Soft Light)



## STAND FAMILY

This family of stands will handle most fixture mounting. There are many more stands available.

01510-WB	MICRO-FEATHERWEIGHT folded extended 78"	18 <sup>1</sup> / <sub>2</sub> " \$ 55.00
01512-WB	ULTRA-FEATHERWEIGHT folded extended 83 <sup>1</sup> / <sub>2</sub> "	25 <sup>1</sup> / <sub>4</sub> " 70.00
01514-WB	FEATHERWEIGHT folded 30", extended 103"	35 <sup>3</sup> / <sub>4</sub> " 82.50
01516-WB	MEDIUM WEIGHT folded 35 <sup>3</sup> / <sub>4</sub> ", extended 127"	42" 115.00

01517-WB Caster Assembly with Brakes for 01516-WB (Set of 3) \$40.00



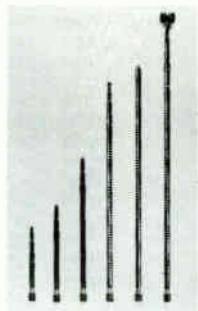
63006-8M	STUDIO STAND folded 47", extended 142 <sup>1</sup> / <sub>2</sub> "	\$240.00
63003L-8M	STUDIO STAND LOW folded 28" extended 64"	193.50



A must for positioning the light beam exactly where you want it, placing the boom stand out of the picture. A light can easily be counterbalanced equal to the weight of a 6" fresnel with accessories.

63020-8M BOOM ARM AND HEAVY-DUTY STAND \$630.50





### LTM MICROPHONE POLES

The LTM Microphone Poles are now being made of a new composite material, carbon and fiberglass, making the best microphone poles even better.

They are lighter, stronger, and extremely reliable. There is an access hole at the top if there is a need to run a wire inside the pole.

The new poles are manufactured in five sizes, ranging from 15" collapsed to 3'7" extended for the smallest pole, to 5'2" collapsed to 16'7" extended for the largest pole. The latter also has a 4'8" extension to make it a full 21'.

Code #	Designation	Weight	Price
M2 90A 412-LTM	15" to 4'1/2"	8.6 oz.	\$234.00
M2 90A 413-LTM	20" to 6'3"	9.5 oz.	235.00
M2 90A 414-LTM	31" to 9'	13.7 oz.	380.00
M2 90A 415-LTM	4'1" to 13'8"	17.6 oz.	400.00
M2 90A 416-LTM	5'2" to 16'7"	23 oz.	470.00
M2 90A 417-LTM	4'8"	9.5 oz.	298.00

### GAFFER EQUIPMENT

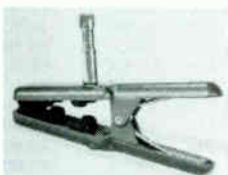


1B321/3-BM Two Position 5/8" STAND TO FIXTURE MOUNT with 1/2 Yoke Bolt \$15.80



02705-WB "C" Clamp with Hand Position Knob - 1/2" yoke bolt \$17.50

02704-WB As above. No plating, paint or hand knob - 1/2" yoke bolt \$10.00



63070-BM GAFFERS GRIP with 1/2" Safety Stud, Non-Marring \$30.95



02731-WB PANTOGRAPH STIRRUP \$16.00

02734-WB STIRRUP PIPE, two light position \$10.00



### SAND BAG

Used to weight stands for fixtures, boom, gobos and flags to assure stability and safety both on location and in the studio. These high quality lined sandbags can also be emptied and reloaded with ease.

0702B-WB SINGLE BAG - 25 lbs. \$55.00  
07029-WB SADDLE BAG - 50 lbs. 75.00



## MATTHEWS GRIP EQUIPMENT



When your video or film production calls for grip equipment, Matthew's has it! Call WBC for a complete Matthew's catalog.

## PORTABLE DISTRIBUTION



### CONNECTORS

All connectors are PHENELIC molded plastic, grounded and shipped with wire ends for the pin connectors. (All are grounded.)

04210-H	15A Parallel Blade (Fits standard recept) Female	\$17.50
04211-H	15A Parallel Blade (Fits standard recept) Male	10.00
04212-H	20A Parallel Blade, Female (Will accept 15A Male above)	21.50
04213-H	20A Parallel Blade, Male (Cannot be used with 15A Female above)	13.50
04214-UC	20A Pin Connector, Female	6.25
04215-UC	20A Pin Connector, Male	6.25
04216-H	20A Twistlock, Female	22.00
04217-H	20A Twistlock, Male	14.25
04218-H	50A Twistlock, Female	75.00
04219-H	50A Twistlock, Male	63.25
04220-UC	60A Pin Connector, Female	22.50
04221-UC	60A Pin Connector, Male	22.50
04222-UC	100A Pin Connector, Female	30.00
04223-UC	100A Pin Connector, Male	30.00
04230-UC	20A Locking Pin Connector, Male	9.30

### EXTENSION CABLE



25' NUMBER 14/3 S.O. 1000W		
04030-WB	Parallel Blade "U" Ground, 15A/120V	\$60.00
04031-WB	Grounded Pin Plug, 20A/120V	43.90
04032-WB	Grounded Twist Lock, 20A/120V	68.50
25' NUMBER 12/3 S.O. 2000W		
04073-WB	Parallel Blade "U" Ground, 20A/120V	\$62.25
04074-WB	Grounded Pin Plug, 20A/120V	47.00
04075-WB	Grounded Twist Lock, 20A/120V	72.35
50' NUMBER 14/3 S.O. 1000W		
04033-WB	Parallel Blade "U" Ground, 15A/120V	\$81.25
04034-WB	Grounded Pin Plug, 20A/120V	65.10
04035-WB	Grounded Twist Lock, 20A/120V	90.00
50' NUMBER 12/3 S.O. 2000W		
04083-WB	Parallel Blade "U" Ground, 20A/120V	\$96.00
04084-WB	Grounded Pin Plug, 20A/120V	72.00
04085-WB	Grounded Twist Lock, 20A/120V	98.00

### PIGTAILS



#### MALE TO FEMALE PIGTAIL 12/3 2000W

04112-WB	Male 15A/120V Parallel Blade "U" Ground to Female 20A/120V Grounded Pin Plug	\$29.20
04113-WB	Male 15A/120V Parallel Blade "U" Ground to Female 20A/120V Grounded Twist Lock	\$46.75



### PIGTAIL TWO-FER

#### MALE TO FEMALE 12/3 2000W

04123-WB	Male to Two Female 20A/120V Grounded Pin Plug	\$52.50
04124-WB	Male to Two Female 20A/120V Grounded Twist Lock	92.35



#### MALE TO FEMALE 1000W 15A/120V

WATER RESISTANT APPROVED BOX		
04411-WB	Parallel Blade "U" to Duplex	\$ 82.50
04412-WB	Parallel Blade "U" to Quad	100.00
04413-WB	Parallel Blade "U" to Duplex, Individually Switched-Quad Box	120.00

#### MALE TO FEMALE 2000W 20A/120V

WATER RESISTANT APPROVED BOX		
04418-WB	Parallel Blade "U" to Duplex	\$ 84.00
04419-WB	Parallel Blade "U" to Quad Box	102.00
04420-WB	Parallel Blade "U" to Duplex Individually Switched-Quad Box	110.00
04423-WB	Pin Plug to Duplex	88.00
04424-WB	Pin Plug to Quad	100.00
04425-WB	Pin Plug to Duplex, Individually Switched-Quad Box	98.00
04428-WB	Twist Lock to Duplex	88.00
04429-WB	Twist Lock to Quad	104.75
04430-WB	Twist Lock to Duplex Individually Switched-Quad Box	103.75

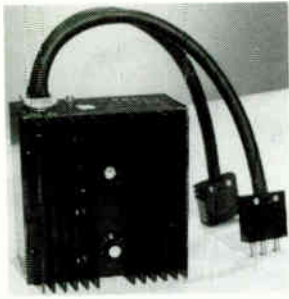
### LTM PEPPER POT DIMMER

- 40A Triac
- 1000W capacity
- Lightweight and rugged cast aluminum housing
- 10A circuit breaker
- Input surge protection

LTM's PEPPER POT is a lightweight 1000W capacity dimmer that provides a smooth and sensitive 150µs rise time, utilizing the modified square law curve.

The rugged cast aluminum housing is powder-coated for durability and has a mylar, scratch-resistant face plate.

List Price \$194.00



### 2.4kW PIGTAIL INLINE DIMMER

0600502-EC	Parallel Blade "U"	\$325.00
0600506-EC	Pin Plug	325.00
0600503-EC	Twist Lock	325.00
06006-EC	Remote Control Unit	81.00



### MAIN ENTRY POWER CONTROL BOX

Main power entry with CAM-LOK connectors to 50A 240V, 3 phase/4 wire main breaker distributed to eight 20A breaker/switches protecting two each 20A recessed plugs all housed in an approved enclosure. Box is constructed from aluminum. 150 usable amps at 125V.

04439-WB Main Entry Power Control Box \$2300.00

Note: All Portable Distribution exposed cabling is of S.D. Standards (resists oil, water, etc.). Other wire types and configurations may be Custom Fabricated upon request. (All grounded wiring).

## GAFFER SUPPLIES

### THORN LAMPS\*

Thorn, an English corporation, is one of the world's largest manufacturers of quartz lamps. The CYX, one of the most used lamps in the industry, has a stronger base than those of competitors...made from super strong glass/mica plus a high temperature metal retaining clip assures maximum strength from the base to the quartz envelope. Lamp tests show they are 50% quieter and last up to 60% longer at 3200K°, 125V.



### QUARTZ LAMPS

ANSI Code	Case Qty.	Watts	Color Temp.	Cat. Price
BAB-GE	6	20	2925K	\$20.90
BAB-TH	12	20	2925K	21.00
BAB-WK	12	20	2925K	17.60
BAH-GE	24	300	3200K	5.20
BBA-GE	24	250	3400K	4.10
BCA-GE	24	250	4800K	4.50
BEJ-GE	24	200	3075K	19.30
BEP-GE	24	300	3400K	11.40
BFA-GE	24	375	3400K	18.40
BFK/BFL-GE	24	750	3050K	49.20
BHC/DYS/ DYV-GE	24	600	3200K	30.10
BHC/DYS/ DYV-TH	24	600	3200K	28.00
BHC/DYS/ DYV-WK	25	600	3200K	23.00
BRH-GE	12	1000	3350K	59.10
BTL-GE	12	500	2950K	50.40
BTL-TH	12	500	2950K	47.00
BTL-WK	20	500	2950K	45.50
BTM-TH	12	500	3200K	47.00

ANSI Code	Case Qty.	Watts	Color Temp.	Cat. Price	ANSI Code	Case Qty.	Watts	Color Temp.	Cat. Price
BTM-WK	20	500	3200K	\$ 47.30	DWY-TH	50	650	3400K	26.00
BTN-GE	12	750	3000K	50.20	DWY-WK	25	650	3400K	\$32.00
BTN-TH	12	750	3000K	47.00	DWZ-GE	12	375	2950K	38.80
BTN-WK	20	750	3000K	50.30	DWZ-WK	25	375	2950K	28.30
BTP-GE	12	750	3200K	50.80	DXK-GE	12	650	3400K	47.60
BTP-TH	12	750	3200K	47.00	DXN-GE	24	1000	3400K	55.90
BTP-WK	20	750	3200K	50.60	DXN-TH	50	1000	3400K	37.00
BTR-GE	12	1000	3200K	57.10	DXN-WK	25	1000	3400K	42.80
BTR-TH	12	1000	3200K	52.50	DXR/DXS-GE	24	1000	3400K	22.20
BTR-WK	20	1000	3200K	56.60	DXW-GE	24	1000	3200K	45.90
BVR-GE	24	30	2860K	11.40	DXW-TH	50	1000	3200K	38.00
BVT-GE	6	1000	3050K	78.70	DXW-WK	25	1000	3200K	41.30
BVT-TH	6	1000	3050K	70.00	DYA-GE	12	1000	3200K	53.90
BVT-WK	25	1000	3050K	74.30	DYA-WK	25	1000	3200K	46.60
BVV-GE	6	1000	3200K	78.70	DYG-GE	24	250	3400K	28.70
BVV-TH	6	1000	3200K	70.00	DYG-TH	50	250	3400K	30.00
BVW-GE	6	2000	3200K	97.40	DYG-WK	25	250	3400K	26.90
BVW-TH	6	2000	3200K	88.00	DYH-GE	24	600	3200K	36.20
BWA-GE	6	2000	3200K	139.30	DYH-TH	10	600	3200K	30.00
BWA-TH	12	2000	3200K	120.00	DYH-WK	25	600	3200K	28.30
BWF-GE	6	2000	3200K	150.80	DYR-GE	24	650	3200K	50.70
BWF-SY	6	2000	3200K	186.00	DYR-TH	50	650	3200K	33.50
BWG-SY	6	2000	3200K	196.50	DYR-WK	25	650	3200K	34.00
BWL-TH	6	2000	3200K	130.00	DYS/DYV/ BHC-GE	24	600	3200K	30.15
BWG-TH	6	2000	3200K	140.00	DYS/DYV/ BHC-TH	50	600	3200K	25.00
BWM-GE	6	750	3200K	88.20	DYS/DYV/ BHC-WK	25	600	3200K	23.00
BWN-GE	6	1000	3200K	96.10	EAL-GE	24	500	3200K	17.60
CAW/CAX-GE	24	50	2050K	9.30	EBR-GE	24	375	3400K	16.50
CAW/CAX-WK	25	50	2050K	8.80	EBV-GE	24	500	3400K	4.20
CBA-GE	24	500	3200K	59.50	EBW-GE	24	500	4800K	5.70
CBA-WK	25	500	3200K	41.80	ECT-GE	24	500	3200K	4.70
CBJ/CBC-GE	24	75	2950K	18.20	EGC/EGD-GE	12	500	3200K	64.90
CBJ/CBC-WK	25	75	2950K	12.30	EGE-GE	50	500	3000K	64.90
CBX/CBS-GE	24	75	2950K	16.40	EGE-TH	12	500	3000K	58.00
CBX/CBS-WK	25	75	2950K	11.80	EGE-WK	20	500	3000K	61.00
CCM/CHD-GE	24	200	3150K	23.50	EGF-GE	12	750	3200K	72.80
CDS/CDX-GE	24	100	2975K	18.20	EGG-GE	12	750	3000K	66.00
CDS/CDX-WK	25	100	2975K	12.80	EGG-TH	12	750	3000K	66.40
CEM-GE	24	120	3000K	12.60	EGG-WK	20	750	3000K	66.40
CEM-WK	25	120	3000K	8.80	EGJ-GE	12	1000	3200K	76.30
CEW/CFC-GE	24	150	3100K	17.60	EGJ-TH	50	1000	3200K	68.00
CEW/CFC-WK	25	150	3100K	12.40	EGJ-WK	20	1000	3200K	71.80
CLS/CLG-GE	24	300	3150K	18.20	EGK-GE	12	1000	3200K	78.90
CLS/CLG-WK	25	300	3150K	12.80	EGK-TH	12	1000	3200K	70.00
CLX/CMG-GE	24	300	3150K	20.70	EGK-WK	20	1000	3200K	75.80
CLX/CMG-WK	25	300	3150K	14.60	EGN-TH	12	500	3200K	50.00
CMV/CMT-GE	24	300	3100K	29.70	EGR-GE	12	750	3200K	78.70
CMV/CMT-WK	25	300	3100K	20.90	EGR-TH	12	750	3200K	70.00
CWA-GE	24	750	3250K	38.70	EGR-WK	20	750	3200K	74.70
CWA-WK	25	750	3200K	26.90	EGT-GE	12	1000	3200K	86.60
CWZ-TH	6	1500	3200K	96.00	EGT-TH	10	1000	3200K	75.00
CXZ-GE	6	1500	3200K	127.50	EGT-WK	25	1000	3200K	91.00
CXZ-TH	6	1500	3200K	115.00	EHC/EHB-GE	12	500	3200K	58.70
CYV-GE	6	1000	3200K	100.00	EHC/EHB-TH	12	500	3200K	50.00
CYV-TH	6	1000	3200K	90.00	EHD-GE	6	500	3000K	58.70
CYX-GE	6	2000	3200K	137.40	EHD-TH	12	500	3000K	52.00
CYX-TH	6	2000	3200K	120.00	EHD-WK	25	500	3000K	54.20
DAH-GE	24	500	3000K	40.60	EHF-GE	6	750	3200K	63.70
DAH-WK	25	500	3000K	28.50	EHF-TH	12	750	3200K	58.00
DCT (XL)-SY	6	2000	3050K	192.70	EHG-GE	6	750	3000K	63.70
DEB-GE	24	500	2850K	60.50	EHG-TH	12	750	3000K	58.00
DGH-GE	24	750	3050K	59.90	EHG-WK	25	750	3000K	57.00
DGH-WK	25	750	3050K	37.80	EHM-GE	6	300	2950K	15.80
DMX-GE	24	500	3200K	28.20	EHM-TH	25	300	3000K	29.00
DMX-WK	25	500	3200K	26.10	EHM-WK	50	300	3000K	19.70
DNS-GE	24	500	3100K	54.30	EHP-GE	12	300	3000K	44.70
DNS-WK	20	500	3100K	39.20	EHP-TH	6	400	3000K	39.50
DNT-GE	24	750	3100K	57.20	EHR-TH	10	400	2900K	37.00
DNT-WK	20	750	3100K	41.20	EHT-GE	6	250	3000K	25.00
DNV-GE	24	1000	3100K	60.30	EHT-WK	25	250	3000K	30.30
DNW-GE	24	500	3050K	58.70	EHV-SY	12	325	3000K	44.70
DPY-AP	6	5000	3200K	400.00	EHZ-GE	6	300	2950K	57.90
DPY-GE	6	5000	3200K	600.00	EHZ-TH	25	300	3000K	33.00
DPY-TH	6	5000	3200K	535.00	EHZ-WK	25	300	3000K	40.80
DRC/DRB-GE	24	1000	3280K	41.70	EJG-GE	12	750	3200K	44.70
DRC/DRB-WK	25	1000	3280K	27.80	EJG-TH	10	750	3200K	35.00
DRS-GE	24	1000	3280K	35.70	EJG-WK	50	750	3200K	40.90
DRS-WK	25	1000	3280K	26.00	EKB-GE	24	420	3200K	38.00
DSE/DKE-TH	10	1000	3200K	54.00	EKB-WK	25	420	3200K	39.10
DSE/DKZ-GE	12	1000	3200K	66.30	EKD-GE	24	650	3400K	33.70
DSE/DKZ-SY	12	1000	3050K	72.00	EKD-WK	25	650	3400K	32.90
DSF/DKX-TH	10	1500	3200K	62.00	EKP-GE	24	80	3350K	36.80
DSF/DKX-GE	12	1500	3200K	70.50	EMD-GE	12	750	3200K	47.40
DSF/DKX-SY	12	1500	3150K	83.70	EMD-TH	10	750	3200K	40.00
DTA-TH	6	1500	3200K	90.00	EMD-WK	50	750	3200K	40.90
DTY-GE	1	10000	3200K	1155.30	ESL-GE	6	150	3000K	35.50
DTY-TH	6	10000	3200K	995.00	ESM-GE	6	250	3000K	37.50
DVY-GE	12	650	3200K	37.10	ESM-WK	25	250	3000K	33.20
DVY-WK	25	650	3200K	28.20	ESN-GE	6	100	3000K	38.20
DWE-GE	12	650	3200K	44.50					
DWT-GE	6	1000	3000K	92.10					
DWY-GE	24	650	3400K	39.40					



ANSI Code	Case Qty	Watts	Color Temp.	Cat. Price
ESN-WK	25	100	3000K	\$33.80
ESP-GE	6	150	3000K	35.50
ESP-WK	25	150	3000K	30.90
ESR-GE	6	100	3000K	38.20
ESR-WK	25	100	3000K	33.20
ESS-GE	6	250	3000K	25.00
ESS-WK	25	250	3000K	30.30
ESX-GE	6	20	2925K	20.90
ESX-TH	12	20	2925K	21.00
ESX-WK	12	20	2925K	17.00
ETB-GE	6	250	2900K	37.50
ETC-GE	6	150	3000K	25.00
ETD-GE	6	100	3000K	40.80
ETF-GE	6	150	3200K	36.80
ETG-GE	6	150	3000K	25.00
ETH-GE	6	150	2900K	36.80
ETH-WK	25	150	2900K	32.00
EVR-GE	6	500	3000K	35.70
EVR-TH	10	500	3000K	35.00
EXN-GE	6	50	3050K	22.30
EXN-TH	12	50	3050K	20.00
EXN-WK	12	50	3050K	16.40
EXT-GE	6	50	3050K	22.30
EXT-TH	12	50	3050K	21.00
EXT-WK	12	50	3050K	16.80
EXV-GE	24	100	3350K	40.30
EXV-WK	12	100	3350K	31.00
EXZ-GE	6	50	3075K	22.30
EXZ-TH	12	50	3075K	21.00
EXZ-WK	12	50	3075K	16.80
EYC-GE	6	75	3050K	25.30
EYC-TH	12	75	3050K	20.00
EYC-WK	12	75	3050K	24.30
EYF-GE	6	75	3050K	25.30
EYF-TH	12	75	3050K	20.00
EYF-WK	12	75	3050K	19.30
EYS-GE	6	42	3050K	21.60
EZX-GE	6	20	2925K	21.00
EZY-GE	6	42	3050K	21.60
FAD-GE	24	650	3200K	26.30
FAD-TH	10	650	3200K	22.00
FAD-WK	25	650	3200K	25.20
FAY-GE	12	650	5000K	67.60
FBD/FBG-GE	24	500	3200K	42.60
FBE-GE	12	650	5000K	69.70
FBT-SY	12	150	3400K	59.80
FBV-SY	12	250	3400K	65.00
FBV-WK	25	250	3400K	42.60
FBX-GE	24	650	3200K	34.60
FBX-TH	10	650	3200K	27.00
FBX-WK	25	650	3200K	32.00
FBY-GE	24	1000	3200K	49.30
FBY-TH	50	1000	3200K	39.00
FCA-TH	10	650	3400K	26.00
FCB-GE	12	600	3200K	35.20
FCB-TH	10	600	3250K	32.00
FCB-WK	25	600	3200K	26.90
FCL-GE	12	500	3000K	15.80
FCL-TH	25	500	3000K	29.00
FCL-WK	50	500	3000K	19.70
FCM-GE	12	1000	3200K	34.10
FCM-TH	50	1000	3200K	30.00
FCM-WK	50	1000	3200K	27.10
FCV-GE	6	1000	3200K	64.20
FCV-TH	50	1000	3200K	64.00
FCV-WK	25	1000	3200K	71.80
FCX-GE	12	650	3200K	42.00
FCZ-GE	12	500	3000K	41.40
FCZ-TH	50	500	3000K	33.00
FCZ-WK	50	500	3000K	33.20
FDB-GE	12	1500	3200K	67.90
FDB-TH	10	1500	3200K	58.00
FDG-GE	12	500	3200K	35.30
FDG-TH	10	500	3200K	31.00
FDG-WK	50	500	3200K	29.00
FDN-GE	12	500	3200K	34.70
FDN-TH	10	500	3200K	32.00
FDN-WK	25	500	3200K	29.70
FDT-GE	24	100	3300K	17.60
FDT-TH	50	100	3300K	14.00
FDT-WK	50	100	3300K	12.90
FEL-GE	6	1000	3200K	59.20
FEL-TH	12	1000	3200K	52.00
FEL-WK	25	1000	3200K	54.50
FER-GE	6	1000	3200K	70.80
FER-SY	12	1000	3200K	87.30
FEV-GE	6	200	3200K	32.20
FEV-SY	12	200	3200K	40.80
FEY-GE	6	2000	3200K	119.00
FEY-TH	10	2000	3200K	110.00
FEY-WK	20	2000	3200K	105.40
FFN-GE	6	1000	3200K	\$88.20
FFN-TH	6	1000	3200K	92.00
FFP-GE	6	1000	3200K	88.20
FFP-TH	6	1000	3200K	92.00
FFR-GE	6	1000	3200K	88.20
FFR-TH	6	1000	3200K	92.00
FFS-GE	6	1000	3200K	88.20
FFS-TH	6	1000	3200K	92.00
FFT-GE	12	1000	3200K	62.60
FFT-TH	10	1000	3200K	56.00
FFT-WK	25	1000	3200K	54.50
FFW-WK	25	2000	3200K	72.40
FGM-GE	6	1000	5200K	231.60
FGM-TH	6	1000	5200K	190.00
FGN-GE	6	1000	5200K	231.60

ANSI Code	Case Qty	Watts	Color Temp.	Price
FGN-TH	6	1000	5200K	\$190.00
FGP-TH	6	1000	5200K	190.00
FGT-GE	12	1500	3200K	72.50
FHM-GE	12	1000	3200K	36.70
FHM-TH	10	1000	3200K	32.00
FHM-WK	10	1000	3200K	34.80
FKA-TH	10	650	3000K	99.00
FKC-TH	10	1000	3050K	70.00
FKL-TH	10	650	3200K	99.00
FKV-TH	10	650	3200K	58.00
FWM-GE	6	1000	3200K	42.00
1500-Q/CL/48-SY	6	1500	3200K	176.50

### HMI LAMPS

ANSI Code	Case Qty	Watts	Color Temp.	Price
BA200-SY	1	200	5600°K	\$ 340.00
BA575-SY	1	575	5600°K	475.00
HMI575-OS	1	575	5600°K	425.00
BA1200-SY	1	1200	5600°K	670.00
HMI1200-OS	1	1200	5600°K	600.00
BA2500-SY	1	2500	5600°K	1050.00
HMI2500-OS	1	2500	5600°K	1025.00
BA4000-SY	1	4000	5600°K	1400.00
HMI4000-OS	1	4000	5600°K	1300.00
HMI6000-OS	1	6000	5600°K	2175.00
HMI12000-OS	1	12000	5600°K	4100.00

### FLUORESCENT TUBES

PREHEAT BI-PIN	T12-24-DT	24	20	3200°K	\$13.00
T8-36-DT	24	30	3200°K	14.00	

#### RAPID START BI-PIN

T12-36-DT	24	30	3200°K	15.00
T12-48-DT	24	WS-34	3200°K	14.00

(WS—Watt Saver)

#### PREHEAT & RAPID START BI-PIN

T12-48-DT	24	40	3200K	\$13.00
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#### SLIMLINE SINGLE PIN

T12-48-DT	12	38	3200°K	\$20.00
T12-72-DT	12	55	3200°K	25.00
T12-96-DT	12	WS-60	3200°K	30.00

(WS—Watt Saver)

T12-96-DT 12 75 3200°K 25.00

AP—Apollo GE—General Electric TH—Thorn

DT—Durotest SY—Sylvania WK—Wiko

Note: There will be a 10% add-on for all GE and Sylvania lamps ordered in less than case quantities.



### ROSCOLUX

The most durable color filter. Available in 103 colors and diffusers. Sold under the trade name "Supergel" overseas.

\*Sheets: 20" x 24"

1027-R	Primary Red	\$ 4.50
1080-R	Primary Blue	4.50
1091R-R	Primary Green	4.50

\*Rolls: 24" x 50'

1027R-R	Primary Red	\$116.00
1080R-R	Primary Blue	116.00
1091R-R	Primary Green	116.00
8807-R	Swatch Book	2.50

1001	Lt. Bastard Amber	1052	Light Lavender
1002	Bast. Amber	1053	Pale Lav.
1003	Dark Bast. Amber	1054	Special Lav.
1004	Med. Bast. Amber	1055	Lilac
1006	No Color Straw	1057A	Lav.
1007	Pale Yellow	1058A	Deep Lav.
1008	Pale Gold	1059	Indigo
1009	Pale Amber Gold	1060	No Color Blue
1010	Medium Yellow	1061	Mist Blue
1011	Light Straw	1062	Booster Blue
1012	Straw	1063	Pale Blue
1014	Medium Straw	1064	Light Steel Blue
1015	Deep Straw	1065	Daylight Blue
1016	Light Amber	1067	Light Sky Blue
1017	Light Flame	1068	Sky Blue
1018	Flame	1069	Brilliant Blue
1019	Fire	1070	Nile Blue
1020	Medium Amber	1071	Sea Blue
1021	Golden Amber	1072	Azure Blue
1022	Deep Amber	1073	Peacock Blue
1023	Orange	1074	Night Blue
1024	Scarlet	1075	Chroma Green

1025	Orange Red	1076	Lt. Green Blue
1026	Light Red	1077	Green Blue
1027	Medium Red	1078	Trudy Blue
1030	Lt. Salmon Pink	1079	Bright Blue
1032	Salmon Pink	1080	Primary Blue
1033	No Color Pink	1081	Urban Blue
1034	Flesh Pink	1082	Surprise Blue
1035A	Light Pink	1083	Medium Blue
1036	Medium Pink	1085	Deep Blue
1037	Pale Rose Pink	1086A	Pea Green
1038	Light Rose	1087	Pale Yel. Green
1040	Light Salmon	1088	Light Green
1041	Salmon	1089	Moss Green
1042	Deep Salmon	1090	Dark Yel. Green
1044	Middle Rose	1091	Primary Green
1045	Rose	1092	Turquoise
1046	Magenta	1093	Blue Green
1047	Lt. Rose Purple	1094	Kelly Green
1048	Rose Purple	1095	Med. Blue Green
1049	Medium Purple	1096	Lime
1050A	Mauve	1097	Light Gray
1051	Surprise Pink	1099	Chocolate

### DIFFUSION MATERIAL

3006-R	Tough Spun, 4 1/2" x 22' Roll	\$85.00
03110-W8	Tough Spun, 4 1/2" x 5 1/2' Roll	30.00

### PAINT

5710-R	Chroma Key Blue (gal.)	\$30.50
5711-R	Chroma Key Green (gal.)	30.50
5720-R	Ultimate Blue™ (gal.)	30.50
5721-R	Ultimate Green™ (gal.)	39.50

### TAPE

(2" x 60 yds. — 24 Rolls Per Case)

### DUCT TAPE

3988L-WB	Black	\$140.00
3988R-W8	Gray	115.00

(2" x 60 yds — 24 Rolls Per Case)

398-8L-W8	Black	7.75
398GR-W8	Gray	6.20
398-CLR-W8	Red, Green, Blue, Gold, Yellow, and White	8.00

(2" x 60 yds. — Per Roll)

### CAMERA TAPE

1" x 60 yds. — Per Roll \$15.30

### GAFFERS TAPE

PC-628-W8 Gray, Black, White, Red, Yellow, Blue and Olive Drab \$15.00

(2" x 60 yds. — Per Roll)

### DOUBLE SIDED TAPE

TC-19-100WB 2" x 36 yds. \$13.50

### PAPER STRIPPING/CODING TAPE

546-WB 1" x 60 yds. Red, Green, Yellow, Black, and White \$3.00

### GLOW TAPE

GLO-W8 1" x 10 yds. Yellow Glow (Variable widths available) (5 roll minimum) \$23.00

### FILAMENT SHIPPING TAPE

410-WB 3/4" x 60 yds. \$2.00

### REINFORCED PAPER

#### SHIPPING TAPE

653-WB 3" x 500' Brown \$7.50  
630-WB 3" x 500' White 8.00

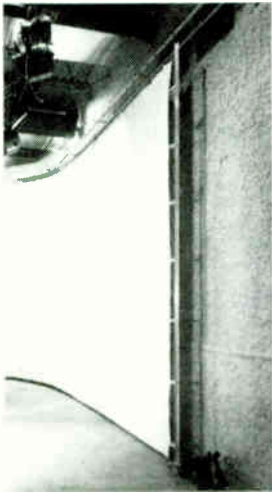


### LIGHT METERS

09010-WB	GE Incident Footcandle Meter	\$ 75.00
09011-W8	Sekonik Incident Light Meter (reads in foot-candle) Complete Kit	180.00
09012-WB	Gossen Sixticolor Color Meter (reads 2600 to 20,000K) indicating proper color	\$295.00



# CURTAINS, TRACK & ACCESSORIES



## CURTAINS — CYC

Cyclorama curtains are seamless up to 125' in length and 28' in height. The cloth is inspected before fabrication to assure against weaving flaws and sewn to our rigid specifications. These cycloramas are available in three colors — white, CBS gray, powder blue/green.

## SEAMLESS LINO-WEAVE

This curtain has a 4" heavy-duty binding at the top with spring harness snaps on one foot centers. The 2 3/4" bottom hem has a #90 lead tape weight sewn 1" above the bottom of the hem in a separate muslin pocket. The side hems have a 2" heavy-duty binding with eyelets on 2' centers for tauting the curtain. Tow cord with handle is provided for easy transporting of curtain. The curtain is flame-proofed and flawless (as per the standards of the mills and converters) and is fabricated to the highest quality workmanship. Tow cords are also furnished.

	Sq. Ft. (14'9" & under)	Sq. Ft. (14'10" & over)
07005-WB White	\$3.90	\$4.15
07006-WB CBS Gray	4.10	5.00
07007-WB Powder Blue/ Green	4.00	4.75

## SEAMLESS SCRIM

07038-WB White	\$2.20	\$2.95
07039-WB Black	2.30	3.20

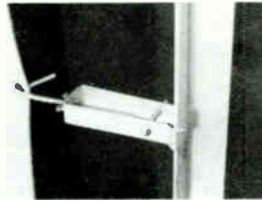
## TAUTING POLE

Tauting poles are used generally with the CYC curtain to assure proper vertical tension on the cyclorama. They stand vertical at both ends of the CYC with adjustable claws attached through the vertical eyelet on the curtain. The base is weighted with a sandbag. The curtain is then adjusted to a proper tautness by the pair of poles.

07013-WB Tauting Pole Base (one left and one right hand)	(2 req'd) \$ 50.00 ea.
07014-WB (8') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 56.00 ea.
07015-WB (9') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 63.00 ea.
07016-WB (10') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 70.00 ea.
07017-WB (11') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 77.00 ea.
07018-WB (12') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 84.00 ea.
07019-WB (13') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 91.00 ea.
07020-WB (14') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 98.00 ea.
07021-WB (15') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 105.00 ea.
07022-WB (16') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 112.00 ea.

07023-WB (17') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) \$119.00 ea.
07024-WB (18') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 126.00 ea.
07025-WB (19') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 133.00 ea.
07026-WB (20') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 140.00 ea.
07027-WB (21') Tauting Pole with Guy Wire and Turnbuckle	(2 req'd) 147.00 ea.

## EYELET CLAWS



07031-WB Eyelet Claws to attach Tauting Pole to CYC Curtain (2' centers required)	\$14.00
---	---------

## SAND BAG

07029-WB Sand Bag, 50 lb. size, non-spill saddle bag type made of heavy-duty duck with inner liner and Velcro fasteners. Used to hold base and pole in position \$75.00

## CURTAINS — BACKGROUND SPECTROCOLOR II™

The background curtains are also fabricated to rigid specifications and come in almost any color. Usually it is recommended that the first background curtain be chroma-key blue. This then permits chroma-keying and when not illuminated may be used to produce a limbo effect. Tow cords are also furnished.

(Primary)	Sq. Ft.
07058-WB Red	\$2.20
07059-WB Green	2.20
07060-WB Chroma-Key Blue	2.20
(Other)	
07061-WB Antique Gold	2.20
07062-WB Silver Haze	2.20
07063-WB Limbo Black	2.20

## VELCRO FASTENER

07068-WB 8' Velcro Fastener	\$20.00
07069-WB 9' Velcro Fastener	22.50
07070-WB 10' Velcro Fastener	25.00
07071-WB 11' Velcro Fastener	27.50
07072-WB 12' Velcro Fastener	30.00
07073-WB 13' Velcro Fastener	32.50
07074-WB 14' Velcro Fastener	35.00
07075-WB 15' Velcro Fastener	37.50
07076-WB 16' Velcro Fastener	40.00
07077-WB 17' Velcro Fastener	42.50
07078-WB 18' Velcro Fastener	45.00
07079-WB 19' Velcro Fastener	47.50
07080-WB 20' Velcro Fastener	50.00
07081-WB 21' Velcro Fastener	52.50

07083-WB SWATCH BOOK	\$2.50
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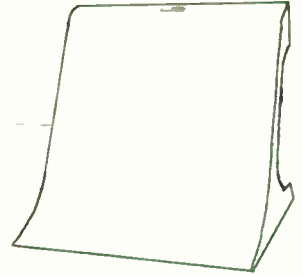


## CYC GROUND ROW

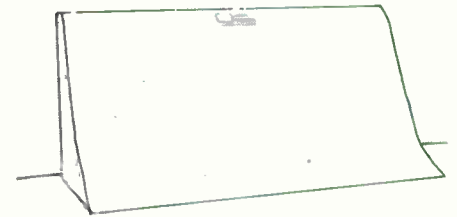
Made of fiberglass for durability and to allow compound curvatures. Color of the ground row matches the cyclorama curtain. Hides all cyclorama floor fixtures. When using top cyc lighting, the ground row is tinted with gels.

If designed, the ground row may be painted to match any color background curtain by using tempa paint and washing with water when production is complete. Works 5' from cyc curtain.

## CYC LIGHT GROUND ROW



07085-WB 4 1/2" radius corner section	\$450.00
07086-WB 8' straight section	475.00



## CYC CURTAIN GROUND ROW

07088-WB 9' radius corner section	\$425.00
07089-WB 8' straight section	375.00



## CURTAIN TRACK AND ACCESSORY HARDWARE

It is most important that the curtains be suspended properly to assure even travel at the studio floor and stability of the track system. Wall brackets are available in 6" increments from the studio wall. Suspension brackets are used where wall mounting is not possible. All brackets assure proper spacing between the tracks. Grid mounted track hangers are available for studios where the grid pipe extends to the studio wall. Hardware is available for the mounting to any type of wall, including hollow.

Track and accessories have been selected to assure a perfect installation. Curtain carriers are supplied with the proper trim chain ready to attach the cyc or background curtains. The dual track method is recommended. Track switching can be purchased upon installation or can be installed at a later date. A complete package, ready to install, includes preformed corners, assuring proper diameter for accurate corner illumination and ease of curtain travel.

01710-WB 5' section of straight cyc/background track	\$ 12.00
07111-WB 10' section of straight cyc/background track	24.00
07112-WB 15' section of straight cyc/background track	36.00
07113-WB 20' section of straight cyc/background track	48.00
07114-WB 9' radius, 1/4 circle cyc/background track	40.00
07115-WB 9' radius, crating charge	30.00
07118-WB 4 1/2' radius, 1/4 circle cyc/background corner track	26.00
07119-WB 4 1/2' radius, crating charge	18.00
07122-WB Track Switch, Right Hand	400.00
07123-WB Track Switch, Left Hand	400.00
07124-WB Inter Track Switch Assembly	800.00

07125-WB	Switching Pole	\$100.00
07127-WB	Trim Chain per foot	.55
07128-WB	Nylon Wheel Carrier with Bumper Assembly	6.00
07129-WB	Hanging Clamp	1.73
07130-WB	Ceiling Clamp	6.90
07131-WB	Splicing Clamp	5.50
07132-WB	Carrier Stop	3.75

#### WALL BRACKETS

07138-WB	4" Single Track Wall Bracket Assembly	\$16.50
07141-WB	8" Double Track Suspension Bracket Assembly	15.00
07142-WB	12" Double Track Wall Bracket Assembly	23.50
07143-WB	18" Double Track Wall Bracket Assembly	34.00
07144-WB	24" Double Track Wall Bracket Assembly	36.50
07145-WB	30" Double Track Wall Bracket Assembly	38.50
07146-WB	36" Double Track Wall Bracket Assembly	40.50
07147-WB	42" Double Track Wall Bracket Assembly	42.50
07153-WB	24" Double Track Corner Wall Bracket Assembly	37.00
07154-WB	30" Double Track Corner Wall Bracket Assembly	40.00
07155-WB	36" Double Track Corner Wall Bracket Assembly	43.00

(Can be used for monitor/shelf bracket)

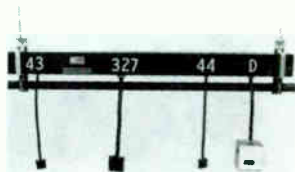
#### TRUSS OR CEILING SUSPENSION

7161-WB	Beam Attachment Assembly for 8" Suspension Bracket	\$18.50
07162-WB	Hanging Clamp Assembly for Single Track Suspension (each includes 18" x 3/8" all-thread rod)	14.00

#### GRID PIPE SUSPENSION

07163-WB	Track Suspension Bracket Top (1 1/2" ID to Track)	\$8.00
07164-WB	Track Suspension Bracket Top Corner Right Hand (1 1/2" ID Pipe)	8.00
07165-WB	Track Suspension Bracket Top Corner Left Hand (1 1/2" ID Pipe)	8.00
07167-WB	Track Suspension Bracket Bottom (1 1/2" ID to Track)	7.50
07168-WB	Track Suspension Bracket Bottom Corner Right Hand (1 1/2" ID Pipe to Track)	7.50
07169-WB	Track Suspension Bracket Bottom Corner Left Hand (1 1/2" ID Pipe to Track)	7.50
07172-WB	Accessory Suspension Bracket (with 3/8" Attachment Hole)	5.00
07171-WB	Accessory Suspension Bracket (with 3/8" Threaded Stud)	5.50
07170-WB	Accessory Suspension Bracket (with 3/8" Threaded Socket)	5.75
07177-WB	All Thread 3/8" coupling	1.00

## STUDIO DISTRIBUTION



Rigid, 16 gauge, one-piece 3 1/2" x 4 1/2" steel construction of desired length, with internal wiring to meet all electrical codes. Available with mounting hardware for any possible situation, standard 18" or 24" pigtail with connector of your choice. A unique four circuit cyc box

for powering your cyc lights. Unit available completely assembled including 1 1/2" ID pipe (not included in price below) ready to hang...saving time and cost at installation. Comes primed and painted with 3" permanent decal assuring circuit identification from the control console.

### GRID CONNECTOR STRIPS

05015-WB	10' Strip, 4 20A * Pigtails	\$404.50
05018-WB	13' Strip, 5 20A * Pigtails	500.00
05021-WB	16' Strip, 6 20A * Pigtails	617.00

Other Configurations Available  
Price on Application

\*Add \$13.75 per Circuit for 20A NEMA Twist Lock.

Note: Price for Connector Strip Bracket Assemblies, Single Pipe are included in price of Connector Strip and are completely assembled ready to install. They are shipped in a wooden crate, price included.



### WALL BOXES

Fabricated to the high standards of the above mentioned connector strip with desired number of circuits and ampacity. Ready for wall or pipe mounting.

05310-WB	Two Pigtails, 2-20A	\$102.00
05315-WB	Three Pigtails, 2-20A, 1-50A	142.00
05311-WB	Three Pigtails, 3-20A	138.00

Other Configurations Available  
Price on Application

Replacement 3", 3 color circuit numbers .50

## GRID HARDWARE

All hardware may be purchased to suspend the complete lighting grid system. Included would be load channel, for ceiling mounting positions, all thread, required nuts and bolts, beam clamps, concrete anchors, grid hardware and pipe cut to length.

05107-WB LIGHT PIPE ft./\$2.25

The heart of good lighting is the grid system. It is very important to use 1 1/2" ID light pipe.

05194-WB LIGHT PIPE Handling Charge ft./10



05109-WB GRID LOCK \$12.00

Used to fasten perpendicular 1 1/2" ID light pipe together when constructing a grid. Also used for movable light pipe to place a light at any position in the grid. The grid lock will not let the pipe torque.

05113-WB Beam clamp 3/8", attaches "Load Channel" to most types of angle iron, such as truss deck beams \$5.50

05114-WB Bolt Assembly 3/8", attaches "Load Channel" (as above) when slots are provided by truss deck beams (money savings) .75

05115-WB Sleeve Anchor 3/8" (for low PSI density concrete ceiling and floors) .55

05116-WB Wedge Anchor 3/8" (for high PSI density concrete ceiling and floors) 2.00

05117-WB	Toggle bolt 3/8" assembly for hollow wall	\$1.00
05118-WB	Load Channel, slotted sections, 20' x 3/8" x 1 1/2", 12 gauge	76.00
05112-WB	Load Channel Splicing Clamp	13.00
05119-WB	All Thread Suspension Rod, 3/8" x 12' plated	7.00
05120-WB	Locking Spring Nut	1.25
05121-WB	Square Locking Washer	1.20
05122-WB	Hex Head Nut, 3/8"	.10
05123-WB	Flat Washer, 3/8"	.05
05124-WB	Lock Washer, 3/8"	.05
05125-WB	Connector Strip Bracket Assembly, Single Pipe	22.50
05126-WB	Connector Strip Bracket Assembly, Double Pipe	28.00
05191-WB	Corner 90° Cyc Light Pipe, 4 1/2' radius, 1 1/2" ID Slip Couplings—both ends	90.00
05192-WB	Pipe Cuts, 1 1/2" ID	1.75
05193-WB	Pipe Threads, 1 1/2" ID	5.00
05195-WB	Light Pipe Coupling	4.00
05196-WB	Light Pipe Wall Flange, 1 1/2" ID	12.95
05197-WB	Movable Light Pipe, 6' x 1 1/2" ID	16.00
05198-WB	Light Pipe end plug 1 1/2" ID	1.75
05109-WB	Grid Locks, 1 1/2" x 1 1/2" for Movable Light Pipe	12.00

## STUDIO LADDERS



Designed to meet or exceed all safety standards. These ladders are manufactured to work to grid height providing a 6' reach from ladder platform to grid with a 30" safety rail. The ladder is fabricated from 1" square tubing with all joints welded. Gaffers storage chest and basket for extension cables and other frequently used studio equipment are recommended. The large casters are rubber with toe touch locking. A second ladder is recommended for larger studios. Finished with two coats of durable enamel.

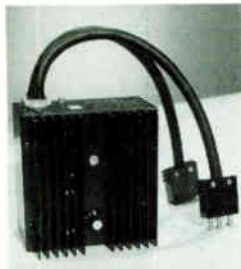
09210-WB	Studio Ladder for 8' Grid	\$ 730.00
09211-WB	Studio Ladder for 9' Grid	790.00
09212-WB	Studio Ladder for 10' Grid	865.00
09213-WB	Studio Ladder for 11' Grid	935.00
09214-WB	Studio Ladder for 12' Grid	965.00
09215-WB	Studio Ladder for 13' Grid	1030.00
09216-WB	Studio Ladder for 14' Grid	1095.00
09217-WB	Studio Ladder for 15' Grid	1160.00
09218-WB	Studio Ladder for 16' Grid	1180.00
09219-WB	Studio Ladder for 17' Grid	1245.00
09220-WB	Studio Ladder for 18' Grid	1305.00
09221-WB	Studio Ladder for 19' Grid	1370.00
09222-WB	Studio Ladder for 20' Grid	1430.00

09228-WB	Gaffers Basket	65.00
09229-WB	Gaffers Tool Box, Locking	275.00



# LIGHTING CONTROL SYSTEM

## DIMMER BANKS — PORTABLE

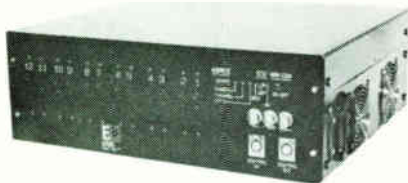


### ALPHA DIM TO INCLUDE:

(For Portable/Location Use)

Alpha Dim 2.4kW portable dimmer with integral potentiometer is used to dim 2-1000W or 1-2000W fixtures. It is used in small studios or on location. A 10' low voltage cable with remote control can be purchased.

0600502-EC Parallel Blade "U"	\$325.00
0600506-EC Pin Plug	325.00
0800503-EC Twist Lock	325.00
06006-EC Remote Control Unit	81.00



### PLAYMATE II PORTABLE DIMMER PACK TO INCLUDE:

(For Portable/Location or Small Studio Use)

Compact and flexible, Playmate can be purchased with (12) 20A, (6) 50A, or (3) 100A dimmers per each portable pack. Receptacles on dimmer outputs are (2) per 20A dimmer and (1) per 50A and 100A dimmer. Each dimmer has a single properly sized protective breaker. The *celebrity* and *Prelude* control consoles are used with the Playmate dimmer packs.

41412-_____ (12) 20A Dimmers	\$3629.00
41406-_____ (6) 50A Dimmers	4085.00
41403-_____ (3) 100A Dimmers	2570.00
41400-00-EC Daisy Chain 18"	76.00

Receptacle Code (Place after Cat. No.)

O1-EC — Terminal Output

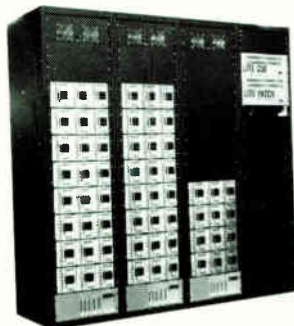
O2-EC-PBG — Parallel Blade "U" Ground (2kW Dimmers only)

O3-EC-UTLG — Twist Lock (Not in 12kW)

O6-EC — PPG Grounded Pin Plug

(Only Two Receptacles Per Dimmer)

## DIMMER BANKS Studio



## MODULAR FLOOR MOUNT CABINET

Available in four heights (43", 59", 76", 85") DCF Cabinets provide independent ventilation for each dimmer, thus preventing cross-temperature effect and increasing dimmer life. Standard 19" EIA. Dimmers are available in 10, 20, 50, 60 and 100A ratings. Contractor access is assured by removable panels on all faces.

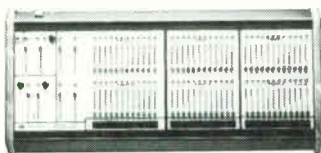
Studio dimmer racks are modular to simplify installation. This system is complete with needed dimmer plug-in modules, wiring, breakers and all other components ready to be set in its permanent location.

**NOTE: SUPPRESSION OF RADIO FREQUENCY INTERFERENCE IN DIMMERS**

SCR dimmers utilize rapid switching of electrical current for effective dimming. This rapid switching creates radio frequency interference (RFI) that causes "noise" problems in audio systems. All well-designed dimmers contain choke coils to filter most of the RFI. There is confusion, however, about the best method to describe such filtering. A common approach is to quote a total rise time, which does not consider spikes. A more accurate approach is that proposed by Motorola Semiconductor Products in their article AN-295 on RFI suppression, wherein the rate of current rise is recommended to be less than 0.35A (350mA) per  $\mu$ sec. All Electro Controls' dimmers meet or exceed these recommendations.

Custom Built — Price on Application

## CONTROL CONSOLES Manual



### PRELUDE MANUAL PRESET CONTROL CONSOLE

Designed as a powerful basic console, perfect for portable use. Also ideal for auxiliary control in large systems and is compatible with most electronic dimmers.

#### Features

- 12 to 48 channels
- 2 scene configuration
- Selectable A/B/I per controller
- 4 submasters
- Split crossfader with separate times
- Timed independent master
- Time range: Manual to 6 minutes
- Grand master
- Blackout switch
- Variable bump level
- Real-time analog output
- Adjustable output-mates with many brands of dimmers

01-7810-12 Basic Module	\$1288.00
01-7712-20 12-Two scene expansion module	496.00
01-7740-00-EC Patch module	1360.00

#### Options Include

- Digital communications — superior EC protocol
- 12 channel effects module
- Operation light
- Key switch
- Auxiliary panel/houselights, etc.
- Digital output model offers these additional options
  - Full matrix, proportional patch module
  - Handheld focus control
  - Library storage of patch data
  - Printout of patch assignments
  - Video monitor of channel outputs

POA

## CONTROL CONSOLES Manual/Memory/Patch

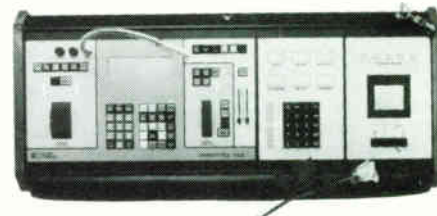


### CELEBRITY

(For use with Custom Studio Dimmer Banks and the Playmate II Portable Dimmer Pack)

Modular *celebrity* comes in many different models; in single or two-tiered designs. (There's one perfect for you.) Either 24 or 48 *celebrity* Scene Masters can be configured with up to 96 control channels, and with patch, *celebrity* controls up to 512 dimmers. Controller comes with vinyl cover, 25' control cable, and 10' power cable.

7700-10-EC Basic <i>celebrity</i> Control Console, 24 Scene 12 Channel with operator's light	\$2600.00
7720-00-EC 24 Scene Master Expansion Module	756.00
7730-00-EC 12 Channel Expansion Module	793.00
7740-00-EC Patch Module	1360.00
7700-01 Single tier console stand with casters	1020.00
7200-02 Dual tier console stand with casters	1133.00
7750-00-EC Tape Module Plus (10) Tapes	1195.00
7760-00-EC Special Effects Module	1015.00
7770-00-EC Wireless Remote Controller	2790.00
7774-00-EC Wired Remote Controller	604.00
7790-40-EC Blank Plate	40.00
7791-10-EC Wall Plug-in Box	60.00



### CELEBRITY PLUS

*celebrity plus* provides greatly enhanced memory capacity in an easy to use format. It can also be used with the *celebrity*, or as a stand-alone memory control. *celebrity plus* offers access to 250 memory cues and 125 channels through autosequencing, by means of a split wheeled A/B crossfader and a single wheeled C/D crossfader. It may be installed initially, or added to your *celebrity* console. *celebrity plus* is CRT compatible, displaying data updates in both "on-stage" and "preview" modes.

6780-25-EC Basic <i>celebrity plus</i> Control Console, 125 Channels and 200 Cues	\$6199.00
6780-64-EC Basic <i>celebrity plus</i> Control Console, 64 Channels and 250 Cues	6199.00
7740-00-EC Patch Module	1360.00
7700-01 Single tier console stand with casters	1020.00
7750-00-EC Tape Module Plus (10) Tapes	1195.00
7790-40-EC Blank Plate	40.00
7791-10-EC Wall Plug-in Box	60.00



### PREMIERE

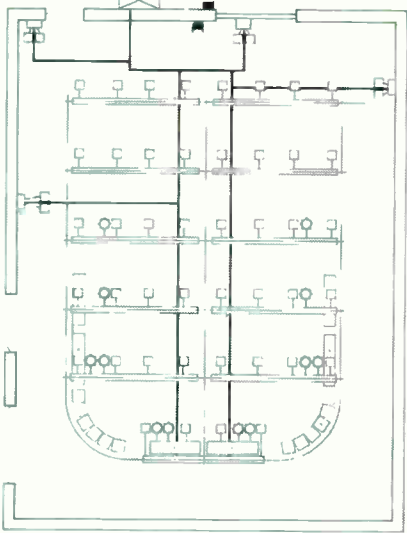
For the most sophisticated control. Ideal for large production studios where large lighting jobs have to be made manageable — fast. Up to 4000 2K or 5K dimmers patch to 500 channels with 2 to 4 color CRTs for the ultimate control available.

POA



# STUDIO PACKAGES

Sample only



30' x 40' TELEVISION STUDIO LAYOUT  
14' GRID HEIGHT 00-9130-40

## BILL OF MATERIALS

- |  |   |
|--|---|
| <b>KEY AND BACK LIGHTS</b>   | <b>LIGHTING GRID</b>  |
| 30 1000 Watt 6" Sweep Focus Fresnel  | 203 1/2" x 1/2" D steel light pipe with beam clamps, load clamps, load channel, grid locks bracket assemblies and other hardware as required for complete grid installation |
| 18 2000 Watt 10" Focusing Fresnel  |   |
| <b>BASE AND FILL LIGHTS</b>  | <b>DIMMING EQUIPMENT</b>  |
| 10 1000/2000 Watt 14" Screw Focus Scoop  | 96 20 Amp 00 Dimmers with SCR's toroidal RFI filters and System Analysis Indicators   |
| 4 1500 Watt Focusing Broad   |   |
| 2 1000/4000 Watt Featherlite Super Softlight                                       | <b>LIGHTING CONTROL</b>   |
| 16 Floor Adjustable Telescoping Hanger   | 1 24 Channel Two Scene Preset PM Board with 96 x 24 low voltage patch   |
| <b>CYCLODRAMA, SET AND BACKGROUND LIGHTS</b>                                       | 2 Wall Mount Control Receptacles  |
| 12 1000 Watt Two Light Two Circuit Cyc Light                                       |   |
| 6 1000 Watt Four Light Four Circuit Cyc Light                                      | <b>LIGHTING CONTROL</b>   |
| <b>SPECIAL LIGHTS</b>  | 1 24 Channel Two Scene Preset PM Board with 96 x 24 low voltage patch   |
| 2 1000 Watt 8" x 9" Ellipsoidal  | 2 Wall Mount Control Receptacles  |
| 1 Porta Kit 4000   |   |
| 3 Medium Duty High Riser Stand   | <b>CYCLODRAMA AND CURTAINS</b>  |
| 3 Heavy Duty Low Riser Stand   | 1 85' White Lino-wedge 13' curtain  |
| 6 Extension Cable (225)  | 2 20' Chroma Key Blue Background 13' curtain  |
| 3 Male-Female Pigtail Adapter  | 140 feet Curtain Track with 8 corners   |
| 3 Power Box  |   |
| 3 In-line 1000 Watt Dimmer   | <b>GAFFERS EQUIPMENT</b>  |
| 3 Gaffers Tape Diffusion Material  | 1 Studio Ladder with Basket and Locking Tool Box  |
| 3 Gel Primaries  | 2 Footcandle Meter  |
| <b>ELECTRICAL DISTRIBUTION</b>   |   |
| 11 Connector Strips (109) with 44 20 Amp and 12 Four Light Cyc Pigtail Receptacles |   |
| 4 Wall Boxes with 8 - 20 Amp Pigtail Receptacles                                   |   |

Note: Lamps are included for all lighting instruments and fixtures. Spare lamps are not included. Lamps are normally a supply item rather than a capital expenditure.  
\*As depicted in illustration, cyclorama lights are not shown under grid poles.

Studio lighting packages are designed to supply an excellent system for a particular size studio. The "Complete Package" has all the lighting equipment and control equipment needed to light sets and the production area of the studio. The equipment is not over specified.

The "Start Package" is assembled with the idea of getting enough equipment from the "Complete Package" (master list) to begin production and then, add from the "Complete Package" as your production needs increase.

81015-WB	10' x 15' START	POA
81115-WB	10' x 15' COMPLETE	POA
81520-WB	15' x 20' START	POA
81620-WB	15' x 20' COMPLETE	POA
82030-WB	20' x 30' START	POA
82130-WB	20' x 30' COMPLETE	POA
83040-WB	30' x 40' START	POA
83140-WB	30' x 40' COMPLETE	POA
84050-WB	40' x 50' START	POA
84150-WB	40' x 50' COMPLETE	POA
85060-WB	50' x 70' START	POA
85160-WB	50' x 70' COMPLETE	POA
86070-WB	60' x 90' START	POA
86170-WB	60' x 90' COMPLETE	POA
87500-WB	70' x 100' START	POA
87600-WB	70' x 100' COMPLETE	POA

# BASIC LIGHTING

## INTENT

This Document has been prepared to further assist the Television, Motion Picture, and Still Photographic Lighting people in the professional knowledge of basic lighting.

## SUBJECTS

- Basic Studio Lighting Technique with Related Fixtures and Accessories
- Special Application Lighting
- Location/Portable Lighting and Power Distribution
- Quartz Lamps
- Cyclorama/Background Curtains and Hardware
- Studio Grid System
- Lighting Control System
- Miscellaneous Gaffers Equipment
- Other Useful Lighting Techniques and Applications

### A. Basic Studio Lighting Technique with Related Fixtures and Accessories

To professionally use television, motion picture, and still photographic lighting equipment, you only need to remember five positions of light. As proper fixtures and accessories are located at these positions, a very good picture having brilliance, depth, excellent color rendition, no merges of tone, and sharpness will be created. This is known as Basic Lighting.

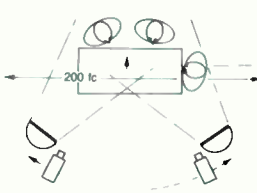
The five lighting positions are: (1) Base Light, (2) Background Light, (3) Key Light, (4) Back Light, and (5) Fill Light. Using these five positions, there are no tone mergers, no pure whites or blacks when making black and white pictures, and only one apparent direction of light. Learn the five applications of light sources, what they do, and also learn to choose the proper fixture and accessories for the job.

**1. Base Light**  
This light source has one purpose: to illuminate the whole subject area and to bring the footcandles to a working level (desired camera lens aperture opening).

In a studio situation, this level is usually about 200fc. The beam direction from the base light is approximately the same as the axis of the camera lens. The base light should be positioned just outside the camera's lens axis on the opposite side of the key light and is suspended above the camera pedestal height by a light lift. This light cleans up, but does not eliminate the shadows from the Key Light. A pleasing depth of field (the sharpest part of the picture) will be noticed once the Base Light illumination position and proper footcandles are achieved for a desired f/stop lens opening (approximately f/56).

**1-a. Base Light Hanger**  
The telescoping or pole type, floor operated, light hanger is used to position the Base Light from the light grid to just above the camera height. The motor drive for the telescoping light hanger is battery operated, and will raise or lower 100 lbs. The battery has a two hour operation time and may be charged to be at full capacity in one hour.

The pole hanger can also be operated from the studio floor but the weight of the fixture must be raised manually. The telescoping hanger works below the grid and the pole hanger must have as much height above the grid as required to raise the base light. The base light fixtures are generally scoops or broads. These both produce softer quality light.



Focusing Broad

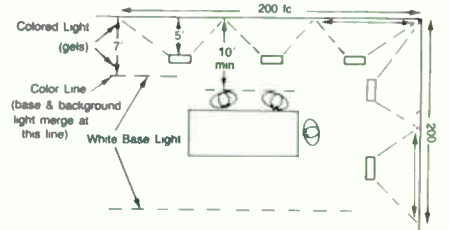


Focusing Scoop

**2. Background Light**  
Background light is a wash of even light (sometimes colored by a gel) over a vertical plane to illuminate a cyclorama, curtain, or a flat. Consider the background as a secondary subject. Its treatment is very important, since an average of fifty percent of a picture is background.

This family of lights is designed to work as close to the background as possible without spill light on the subject. For example, imagine having a primary green background color spilling on the main subject. The

illumination level is the same as the base light (200fc) and is measured only with white light (not with a gel in place).



Set Light



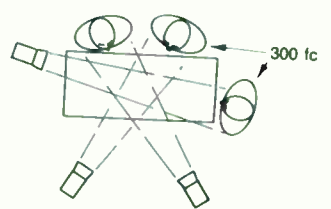
Cyc Light

By turning on both the Base and the Background lights you will get a very flat, but evenly lighted picture. It is lifeless and uninteresting. With this basic setup, we can start thinking about artistic applications to bring the picture to life and give it dimension.

**3. Key Light**  
This is the modeling light. The key light gives curves to round objects, sides to square objects, or shapes the human face. It is the apparent source of light in a picture and casts the only shadow.



10" Fresnel



Slim Face



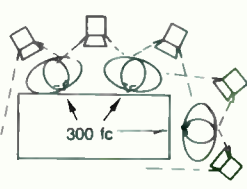
Normal Face



Gruesome Face

The subject's shadow should generally not appear on the background. The key light should project approximately one-third more light on the subject than the background light or base light. Since the base and background lights are 200fc, the key light should be 300 fc.

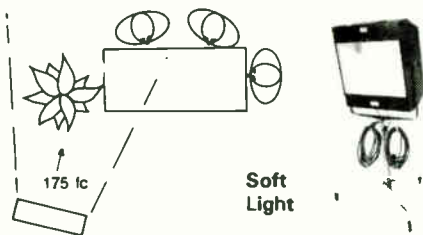
**4. Backlighting**  
Backlighting's job is to separate the subject from the background. Since a lens cannot see depth, it must be created by lighting with some help from the depth of field created by the camera lens. You have created an illusion of what the eyes (or two lenses) normally see.



6" Fresnel

Backlight should be set at an angle to allow some front spill from behind (over the shoulders and behind the arms). This creates depth, modeling, and texture. The backlight also requires about 300fc.

**5. Fill Light**  
The last light source that we will discuss is the fill light. It is usually a softer light source than the base light. It is used to define the subject washed by the base. The footcandles are close to 200fc, but never exceed it.



For example, a large dark, leafy plant is used as a prop, but it casts shadows that tend to blend with the dark leaves. Use the fill light to soften these shadows and better define the plant.

Basic Studio Lighting for television generally does not exceed a 2:1 ratio and more often a 2:3 ratio.

**Remember:**

- Background and Base Lighting . . . . .200fc
- Back and Key Lighting . . . . .300fc
- Fill Lighting . . . . .175fc

The Background, Back and Key Lighting are much harsher than the softness of the Base and Fill Lights.

If the camera and if the complete video system is working properly, you will see a handsome picture with depth and detail. The same is achieved with a photographic camera if the focus, speed and f/stop are properly set.

The key and back lights can be adjusted to increase and decrease contrast. The art of lighting is in the placement and footcandle setting of these two light sources.

A decrease will result in a flat, uninteresting picture and an increase will add modeling and interest. But, if the light is increased too much, the detail is lost in the shadow and highlight areas. Seeing the detail in all areas is important, anything less shows poor technique and is unacceptable in professional basic production lighting.

**B. Special Application Lighting**

The Ellipsoidal is used to project a pattern on a cyclorama or background curtain. The fixtures are equipped with push shutters, pattern slot, iris, and zoom capabilities. They are equipped generally with condenser type lenses for focusing.

Push Shutters—Capable of shaping light to a square, triangle, or rectangle.

Pattern Slot—Enabling patterns to be projected on a background.

Iris—Controlling the diameter of the light pattern (cuts down the footcandles).

Zoom—Controlling the diameter of the light pattern (no footcandle loss).

The Par Holder fixture is a lamp housing only, and the lamp is much like a round automobile headlight. It is very safe and efficient in footcandle output. It is used in sporting events, church lighting, and arenas. We generally use the Par 64 Quartz lamp.

The Follow Spot is an instrument used to spot the subject. It is usually the only light beam that can be both still and movable during television or motion picture production, thus the name Follow Spot.

**C. Location/Portable Lighting and Power Distribution**

There are many excellent kits available. Generally the same four lighting positions are used on location. The WBC kit family and the recommended users are as follows:

Porta Kit 6000—Designed to light and give a good quality production on a single set area of most any kind, where a demand of quality lighting is required. Consumption: 60A—7000W

Porta Kit 4000—Used for a smaller set, but not as much control. Consumption: 60A-4000W

- \* Slimline Kit 2000—Consumption: 40A-4000W
- \* Mini Mac Kit 1000—Consumption: 30A-3000W
- \* Mini Mac Kit 650—Consumption: 20A-1950W

\* These last three kits are designed individually for overall Base Lighting, but they can be used in combination to create Basic Lighting. The advantage is that they can be purchased as a single kit, which makes it more convenient budget-wise by purchasing a kit at a time, and easier to transport on location.

Super 600 ENG Kit III—This kit is lightweight and easy to take on location. At least one of these kits is a must for anyone in the video business. TV, Motion Picture Remote Production, and News people are the ones that utilize this kit. Consumption: 20A-1950W.

Super 600 ENG KIT I—Designed generally for News Production where 120V is not available, freedom from cabling is a requirement, and "getting a picture the best way you can" is the objective. Consumption: 4AH, 250W at 30VDC.

In addition to the above kits, custom kits can be designed.

There are thousands of pieces of lighting equipment for location work. The need to be aware of Bardwell & McAlister's, Frezzolini's, Lowel-Light's LTM of America's, Matthews' and Rosco's catalogs for reference is a must.

In addition to this equipment, power distribution plays a large part of portable lighting. Again, the quick reference to both studio and remote equipment used is in this Short Form Catalog.

**D. Quartz Lamps**

Tungsten Halogen Quartz lamps are the standard of the industry. They burn at 3200K, which is standard for tungsten filaments. The lamp is filled with Halogen gas, which keeps the quartz envelope clear when the lamp burns at 120V (220 to 240V are also available). The everyday incandescent lamp does not have these unique features. The quartz lamp burns more specularly, and is smaller in size. These lamps led to the newer fixture designs, such as the cyc lights.

**E. Cyclorama/Background Curtains and Hardware**

Cyclorama, scrim, and the background are the three types of curtains used in a studio. Generally the ones used most are the cyclorama and the background curtains.

The cyclorama curtain serves as infinity to the camera eye. The curtain is a seamless cloth used for background projection. The cyc curtain comes in white, black, CBS gray, and powder blue/green.

Another seamless curtain used is the scrim. The scrim weave is coarse enough to see through. With the subject behind the curtain (example: an orchestra) and not lighted, the orchestra cannot be seen. By taking the front lights down on the scrim and the orchestra lights up, the viewer can see through the scrim, thus giving a nice lighting effect. The scrim curtain comes in white and black. The black scrim is never lighted from the camera side, just the subject side is lighted.

The other most common curtains, next to the cycs, are the Spectrocolor II background curtains. These background curtains come in almost any color. It is usually recommended that the first background curtain be chroma-key blue. This allows for chroma-keying. When the curtain is not illuminated, it can also be used for a limbo effect.

The curtains are hung from double I-beam aluminum tracks. Curtain carriers are supplied with the proper trim chain ready to attach the cyc or background curtain. Dual tracks are recommended for the combined use of cyc and background. The tracks come in straight sections up to 20' and quarter circle turns of 9' or 4 1/2' radii.

The track sections are supported by wall brackets, which come in 6" increments from the studio wall. All brackets assure proper spacing of the tracks. When unable to support from the studio wall, a ceiling suspension support is available.

The cyclorama, once hung properly, has a very smooth surface. Tauting poles assure a proper vertical tension to the curtain. They stand vertically at both ends of the cyc with adjustable claws attached through eyelets along the curtain edge. The curtain can then be adjusted to proper tautness by the pair of poles. Once the poles have been positioned, a 50 lb. size, non-spill saddle-type sand bag is placed at the base of each pole to hold it in place. Even horizontal tension of the curtains is assured by continuous lead weight inside the bottom hem.

**F. Studio Grid System**

Power distribution within the grid system is achieved through rigid, 16 gauge, one piece 3 1/2" x 4 1/2" steel constructed power strips, with internal wiring meeting all electrical codes. The external electrical pigtail circuit comes in 18" or 24" lengths with the connector of your choice. The power strips are known as the connector strips. The strips are primed and painted with 3" permanent decals assuring correct circuit identification from the studio floor. The wall boxes are also fabricated to the same high standards. They are ready for wall or grid pipe mounting with usually one to three pigtail-circuits.

To support the system being installed from the existing building's absolute deck of truss beams, a "load channel" is connected to this superstructure. The load channel is then the grid system's main support. The grid connector strip brackets also support 1 1/2" light pipe. A light pipe grid can be formed by interconnecting the strips with additional light pipe. The pipe is locked securely at 90° angles, in such a way that no torque is experienced. This pipe system is known as the pipe grid. The total system, the connector strips and the pipe, is simply known as the Studio Lighting Grid System.

**G. Lighting Control Systems**

In recent years, electronic technology has brought down the cost and increased the capabilities of dimmers and controllers. This puts them in the price range for smaller studios, and makes them more applicable to sophisticated production use.

The dimmer module now has multiple dimmers built-in (up to four in a single chassis). They cost about the same

as a single chassis dimmer did a few years ago. They are very clean from audio and video noise interference. The new engineering and the economical multiple dimmers give us the ultimate in lighting, a dimmer per circuit that allows individually controlled lights, taking up less occupied space.

New controllers have the standard two scene manual presets and master modules plus additional 24 or more scene master modules. The controller's features are so expanded that they are almost unlimited. A control system adds the professional touch to your productions (particularly live ones). You can achieve some very impressive effects.

With electronic patch panels, the dimmers per circuit can be placed almost anywhere on the board. With a wireless, handheld control unit, you can turn lights on and off from the ladder. You can easily duplicate the lighting for a daily or weekly show by adding a cassette memory module. If you have a special problem, call WBC/EC, as there are many additional controller features and accessories.

Also, consider the energy savings of a control system. By setting a controller (during rehearsal or light adjustments) at a 10% voltage decrease, three things will happen: the lamp life is increased 400%; the Kelvin temperature of the light drops, generating a warmer light source; the lumen output is decreased.

Economically, you can pay for a control system in a few years with just the savings of replacement lamps. Using a control system, you can conserve electricity by dimming the lamps while not televising. Plus approximately one ton of air conditioning is saved for every 5000W/120V of light. Thus, a control system is no longer out of the budget range of a studio that is now using on/off switching. If you can afford lighting systems, grid systems, and cyclorama systems, you can justifiably afford a control system.

**H. Miscellaneous Gaffers Equipment**

While working in the studio, it is a must to have a safe ladder to perform all the needed adjustments and installations required. Our studio ladders are designed to meet or exceed all safety standards. These ladders are manufactured to work to grid height, while providing a 6' reach from the ladder's platform to the grid, with the safety of a 30" railing. The ladder is made of 1" square tubing with all welded joints. In larger studios, two of these ladders are highly recommended.

Other common items under this category are color gels, paints (ask for a Rosco catalog for more a complete listing), grip equipment (ask for a Matthew's catalog), footcandle meters, etc. This list goes on.

**I. Other Useful Lighting Techniques and Applications**

High Key—Total picture is created by light tones of gray or colors. Lack of subject contrast, high even light. Example: White home appliances against a white background and floor.

Low Key—Dark tones of grays or colors. High contrast light. Example: Night or evening scenes.

Bounce Light—Harsh, concentrated light that is reflected off a white surface which diffuses the light and makes it almost shadowless. Example: Food, portraiture and small parts.

Glass—Use medium soft light from beneath. Example: Glassware and crystal.

Texture—Use key or background light to bring texture to a normally flat surface. Example: Cloth and many man-made surfaces.

Silhouette—Use backlighting to dramatize the outline of a subject making the subject appear very dark from the front. Example: Opening scene of a news anchorman. A ship on the water.

Medical—Requires shadowless, cool lighting. For pictures that must have exact color reproduction and/or microscopic lighting. Example: Surgery, skin disorders, cell research.

Copywork—Base light both sides of copy to make an exact duplicate of any flat material. Example: Illustration or document, animation.

The only way to learn the basics of lighting is to work with it. This can be time consuming, but this experience will improve your skills and directly affect production budgets. Remember, a picture depends heavily on lighting for depth and texture; without light, you have nothing.

One of the best ways to learn how to apply lighting is to study still pictures, which might be a good painting or a photograph. Note the mood of the setting and the application of light. Is the picture flat? Does it have a lot of depth? Does the lighting tell the story? How was basic lighting applied?

Good Luck to you as we at WBC sincerely hope these few paragraphs help apply a better understanding of lighting to your next picture!



# BROADCAST VIDEO SYSTEMS LTD.

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 (416) 764-1584  
 Telex: 06-964652  
 FAX: (416) 764-7438

# GENERATOR/KEYERS

## SA-101 Safe Area Generator

- Any pattern may be added to any of 5 independent, synchronous video sources
- Safe Action and Safe Title Areas (as per SMPTE RP 27.3) displayed simultaneously
- Display can be switched on/off, black/white independently on each source from remote panel
- Center cross to locate exact picture center
- Markers inserted to show legal H & V blanking limits
- All patterns and markers digitally generated and locked to subcarrier, assuring accurate, drift-free reference for precise picture positioning
- Movable Box Generator Option—An optional plug-in PC board allows the user to generate and store in memory ten different rectangles which can be keyed into any of the five video sources, with or without the Safe Area patterns. Each rectangle can be programmed for size and position at two rates of speed from the remote panel. Recall of any of these rectangles is via a remote thumbwheel. This option is very useful for positioning graphics, news shots, chroma keys, etc.

## Specifications

<b>Electrical:</b>	115V ± 10%, 60Hz
<b>Line Standard:</b>	525
<b>Video Inputs:</b>	Five, 1V p-p, 75 ohm, terminating
<b>Ref. Input:</b>	1V p-p looping (Color black or one of video inputs)
<b>Video Outputs:</b>	Five, 1V p-p, 75 ohm
<b>Frequency Response:</b>	< ± 0.15dB to 6MHz
<b>Diff. Phase (10-90% APL):</b>	< 1°
<b>Diff. Gain (10-90% APL):</b>	< 1%
<b>Line Tilt:</b>	< 0.25%
<b>Field Tilt:</b>	< 1%
<b>Random RMS Noise:</b>	> 55dB to 5MHz
<b>Hum:</b>	> 55dB
<b>Input Return Loss:</b>	> 40dB
<b>Crosstalk:</b>	> 60dB
<b>Path Length (Each Channel):</b>	13ns
<b>Operating Temp.:</b>	0-45°C
<b>Pattern Details</b>	
<b>Safe Action Graticule:</b>	90% of scanned area
<b>Safe Title Graticule:</b>	80% of scanned area
<b>Center Cross:</b>	Selectable on/off on all five channels simultaneously
<b>Blanking Markers:</b>	Selectable on/off with center cross
<b>Horiz. Blanking:</b>	11.1, 10.8 and 10.5µs shown simultaneously
<b>Vert. Blanking:</b>	21 lines

All Graticules and Markers selectable on/off, black/white from remote panel.

SA-101 .....	\$1650.00
MBG Option .....	.810.00

## Masterkey Linear Keyer

- Switchable between linear and fast key modes
- Smooth, seamless inlay of digital effects and paint boxes
- Faithfully preserves the anti-aliased edges of modern character generators
- Variable edge softness with key slope control
- Unique key window allows masterkey to differentiate down to a 5 IRE level difference, anywhere in the gray scale
- Full key control in internal, external, normal and invert modes
- Mix to key or cut to key
- All user controls on remote panel, supplied complete with 25' cable
- Optional auto mix provides 4 selectable speeds of automatic mix to key initiated via control panel pushbutton or external GPI

Masterkey .....	\$2900.00
-----------------	-----------

## VK-900 Video Keyer Mix Amp

- Switchable between self key (internal) and external key
- Local or remote, key on/off and clip level
- Mix to key via optional fader panel or user supplied pot
- A/B mix between any two synchronous sources
- Optional auto mix gives 4 selectable speeds of automatic A/B mix or mix to key

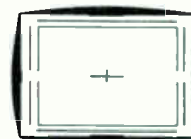
VK-900 Composite video keyer .....	\$1185.00
Single fader remote panel option .....	165.00
Auto mix option .....	525.00



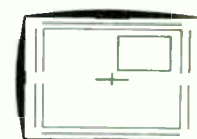
SA-101



Safe Action and Title Graticules



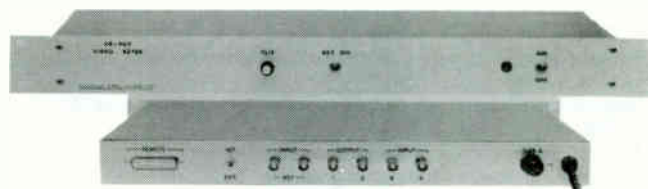
With Center Cross and Blanking Markers Enabled



With Addition of Box Generator Option



Masterkey



VK-900



CDK-1000

## CDK-1000 Downstream Keyer

- Switchable between mix or mix key mode
- B input may be switched from RGB to Y, B-Y, R-Y via remote panel
- Mix mode provides an A/B additive mix between two component signals or a component and RGB signal via the first fader handle
- Mix key mode (internal) allows the component or RGB signal on the B input to be keyed into the component signal on the A input. The dissolving in of the key is controlled by the first fader handle
- Mix key mode (external) allows a composite signal on the ext. key input to cut the hole into the component signal on the A input. The hole is filled with the RGB or component signal on the B input. The first fader controls the dissolving in of the key
- The second fader handle provides master fade to black in both mix and mix key modes
- All inputs clamped to ensure proper mixing and keying of bipolar signals
- Supplied complete with twin fader remote panel and 25' control cable
- Optional auto mix gives fully automatic operation of first fader control with 4 preset rates

CDK-1000 Component downstream keyer with fade to black .....	\$4950.00
Auto mix option .....	525.00



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# VIDEO PRODUCTS



EV-4061

## EV-4061 Combination Waveform/Vector Monitor

- Switchable between waveform and vector display modes
- Full broadcast specifications
- A/B encoded video inputs with buffered video output
- Half rack width, 5 1/4" high
- Mounts beside half rack picture monitor for complete monitor bridge
- 3 vertical and 3 horizontal sweep rates
- High brightness trace on all sweep rates
- Variable brightness illuminated graticule
- Int./Ext. reference in either mode
- Parade display

### Controls and Features Common to Both Displays

#### Front Panel Controls

- Waveform/Vector mode switch
- Power on/off toggle switch
- V and H centering
- DC restorer on/off switch
- A-B-CAL switch
- Int./Ext. reference switch
- Intensity, focus, scale illumination

#### Rear Panel Controls (screwdriver adjust)

- Trace rotation

#### Display

- 10 x 8cm rectangular flat faced CRT with P31 phosphor
- Accelerating voltage 6kV regulated

#### Power Requirements

- 108-125V, 216-238V, 50/60Hz switchable on rear panel, 35VA

#### Operating Temperature

- 0° to 45°C

#### Mechanical

- Dimensions: 5 1/4" H x 8 1/2" W x 18" L
- Weight: 18 lbs.

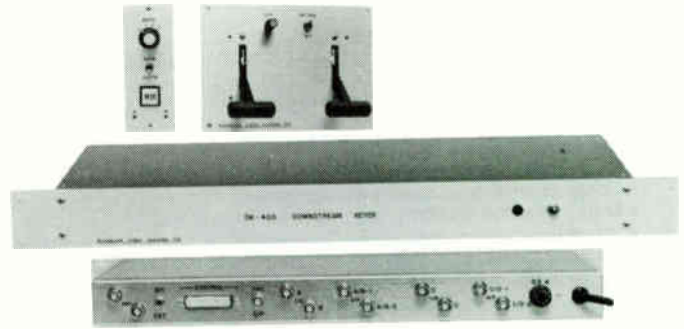
The EV-4061 can be installed beside the following half rack width picture monitors:

- Conrac SNA9/RK
- Electrohome EVM910, EVM920
- Sony PVM-8200T
- Panasonic WV5311
- Videotek VM-8PRW
- JVC TM-41AU (with BVS rackmount)

EV-4061	\$3650.00
Bench case for tabletop	75.00
Dual rackmount	285.00

V-174

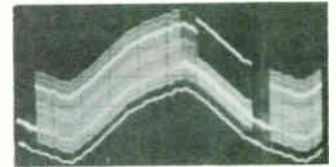
Prices and Specifications Subject to Change Without Notice.



DK-400



HB-800



Input



Output

## DK-400 Downstream Keyer

- Two independent, stand alone video mixing amplifiers in one rack unit
- Each mix amp may be operated separately or may be cascaded
- First mix amp is switchable between A/B mix and mix-to-key from remote panel
- Preview output to allow presetting of clip level
- Second mix amp allows convenient master fade to black or second A/B mix
- Switchable between self key or external key mode
- Back porch clamping on all video and key inputs
- Optional automix gives 4 selectable speeds of automatic A/B mix or mix-to-key

### Specifications

Electrical:	110/230V, 50/60Hz, 8VA
Mechanical	
Electronics:	1 rack unit (1 3/4" x 19" x 10")
Remote Panel:	5" x 7" (mating connectors supplied)
Auto Mix	
Remote Panel:	5" x 2" (mating connectors supplied)
Connectors:	BNC for video Amphenol 25-pin for control

#### Video Inputs:

#### Key Input:

#### Video Outputs:

Four, 1V p-p 75 ohm, terminating  
 1V p-p composite, looping  
 Five, 1V p-p 75 ohm, 2 outputs from each amplifier plus key prev out

DK-400 ..... \$2450.00

## HB-800 Hum Bucking Coil

Eliminate up to 6V p-p ground induced hum.

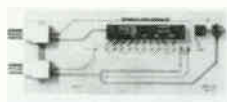
### Specifications

Dimensions:	5" x 2 1/4" x 5 1/4"
Connectors:	BNC
Flat Loss:	< 0.1dB
Freq. Response:	< 0.1dB down at 5.5MHz
Diff. Phase:	< 0.1°
Diff. Gain:	< 0.1%
Path Length:	21ns
HB-800	\$175.00

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# VIDEO AND PULSE DELAY LINES



DL-500 Series

## DL500 Series Rackmounted Video Delays

- 75 ohms equalized to 5.5MHz
- Isolated grounds between channels
- 16 cards in 3 1/2" x 19" rackmount
- > 70dB crosstalk between channels

The DL501 and DL502 are infinitely adjustable within their specified range via soldered jumpers and variable fine trim. They will mount in an FR505 frame.

Part No.	Range	Price
DL501	10-165ns	\$215.00
DL502	10-325ns	345.00

## DL505 Series Rackmounted Video Delays

- 75 ohms equalized to 5.5MHz
- Isolated grounds between channels
- 16 cards in 3 1/2" x 19" rackmount
- > 70dB crosstalk between channels

The DL505 Series, utilizing dual-in-line delays offers the widest range of video delay concurrent with small size, rigid specifications and economy. The gold contact "Bergstrip" jumpers provide quick and easy delay selection while maintaining the circuit integrity of a soldered connection. The total range of any card may be extended in the field by simply adding an additional line.

Cards are infinitely adjustable within specified range via jumpers and fine trim.

Card Type	Range	Price
DL505-1	10-165ns	\$ 239.00
DL505-2	10-245ns	289.00
DL505-3	10-455ns	430.00
DL505-4	310-745ns	618.00
DL505-5	410-845ns	651.00
DL505-6	510-945ns	657.00
DL505-7	610-1045ns	804.00
DL505-8	710-1145ns	837.00
DL505-9	810-1245ns	843.00
DL505-10	910-1345ns	878.00
DL505-11	1010-1445ns	885.00
DL505-12	1110-1545ns	1018.00
DL505-13	1210-1645ns	1065.00
DL505-14	1310-1745ns	1098.00
DL505-15	1410-1845ns	1104.00
DL505-16	1510-1945ns	1110.00

## DL605 Series Rackmounted Active Video Delays

The DL-605 Series is similar to the popular DL-505 Series with the addition of an on-board video amplifier. The thick film amplifier provides up to 10dB gain to allow unity video output level at any delay setting.

Using the dual-in-line delays, the DL-605 Series can accommodate video delay of over 1900ns with 5.5MHz equalization. Gold jumpers, combined with a fine trim section make each card infinitely adjustable throughout its specified range.

Ten cards may be housed in a 2 rack unit frame (3 1/2") complete with power supply.

Card Type	Range	Price
DL605-1	10-165ns	\$ 356.00
DL605-2	10-245ns	407.00
DL605-3	10-455ns	548.00
DL605-4	310-745ns	735.00
DL605-5	410-845ns	769.00
DL605-6	510-945ns	775.00
DL605-7	610-1045ns	921.00
DL605-8	710-1145ns	955.00
DL605-9	810-1245ns	961.00
DL605-10	910-1345ns	996.00
DL605-11	1010-1445ns	1002.00
DL605-12	1110-1545ns	1136.00
DL605-13	1210-1645ns	1183.00
DL605-14	1310-1745ns	1216.00
DL605-15	1410-1845ns	1223.00
DL605-16	1510-1945ns	1230.00

## Variable Boxed Video Delays

Part No.	Range	Price
010BV	7-15ns	\$ 90.00
165BV	15-165ns	226.00
215BV	65-215ns	330.00
265BV	115-265ns	363.00
365BV	215-365ns	403.00
465BV	315-465ns	482.00
565BV	415-565ns	540.00
665BV	515-665ns	569.00

Video Delay Lines mounted on PC board, installed in metal box, complete with BNC connectors. Infinitely variable delay within specified range by means of soldered jumpers and adjustable fine trimmer.

## Variable Boxed Pulse Delays

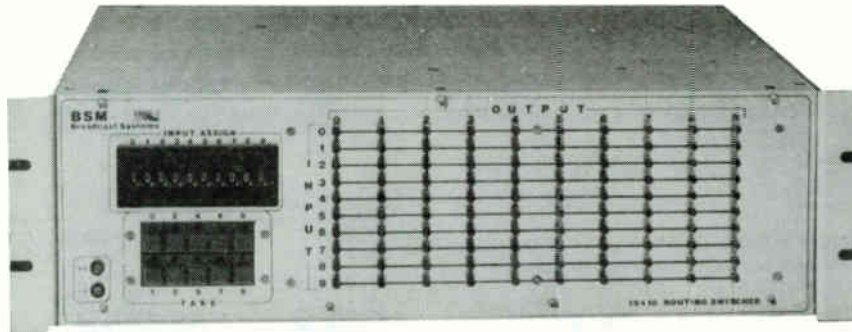
Part No.	Range	Price
<b>5ns Increments</b>		
155BP	5-155ns	\$108.00
310BP	5-310ns	117.00
775BP	5-775ns	179.00
1655BP	5-1655ns	192.00
1810BP	5-1810ns	239.00
2275BP	5-2275ns	323.00
3155BP	5-3155ns	369.00
<b>20ns Increments</b>		
620BP	20-620ns	\$121.00
1240BP	20-1240ns	206.00
3620BP	20-3620ns	382.00
<b>100ns Increments</b>		
1500BP	100-1500ns	\$167.00
3000BP	100-3000ns	298.00
4500BP	100-4500ns	429.00

75 Ohms Pulse Delay Lines mounted in metal box complete with BNC connectors. Delay sections can be connected to obtain specific delays within ranges shown.

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W. 7106 Will D. Alton Dr. #106  
 Spokane, WA 99204  
 (509) 838-0110

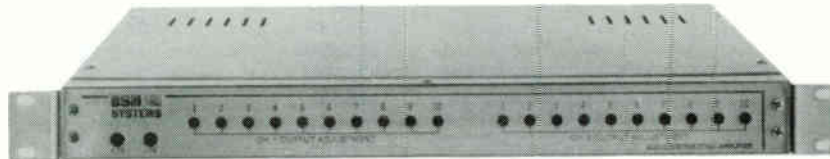
# DISTRIBUTION AMPLIFIERS/ ROUTING SWITCHERS



**10 X 10 BCD BASED ROUTING SWITCHER**



**10 X 1 VIDEO ROUTING SWITCHER**



**AUDIO DISTRIBUTION AMPLIFIER**

## VIDEO DISTRIBUTION AMPLIFIER

Self-contained, 1-3/4" x 19" rack mount, level control, standard BNC connections, power supply included.

- 2 x 12 (Dual 1 x 6's) ..... \$495.00
- 4 x 24 (Quad 1 x 6's) ..... 795.00

## 10 X 1 ROUTING SWITCHER

Direct access momentary pushbutton controls, 1-3/4" x 19" rack mount, 10 inputs/1 output, power supply included, transformer input.

- Audio**
- 110-Mono ..... \$695.00
- 120-Stereo ..... 995.00
- Video**
- 210-Video Only ..... \$1095.00
- 220-Audio Follow Video (1 level audio) ..... 1295.00
- 230-Audio Follow Video (2 level audio) ..... 1495.00

## AUDIO DISTRIBUTION AMPLIFIER

Self-contained, regulated power supply, 1-3/4" x 19" rack mount, individual front panel output level controls, shielded power supplies and transformer inputs. Available with either active or transformer outputs.

- 1 x 10-MA-Mono, Active Out ..... \$395.00
- 1 x 10-DMA-Stereo, Active Out ..... 595.00
- 1 x 10-MT-Mono, Transformer Out ..... 695.00
- 1 x 10-DMT-Stereo, Transformer Out ..... 895.00

## 10 X 10 AUDIO ROUTING SWITCHER (BCD BASED)

Thumbwheel control with LED Matrix display of active crosspoints, 5-1/4" rack mount, power supply included, remote controls available. (Please specify on order).

- 510-Mono 10 x 10 ..... \$3595.00
- 520-Stereo 10 x 10 ..... 4595.00

## THE MODULAR SERIES

A complete line of Audio and/or Video  
 Routing Switchers...Price On Request



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# DISTRIBUTION SWITCHING SYSTEMS

## TVS/TAS-2000

### Distribution Switching Systems

- Redundant control card capability • Multilevel breakaway capability
- SMPTE-422 computer control optional • Internal refresh memory with 30-day memory save • Power supply failure indicators on all boards • Power supply alarm indicators with contact closure for remote alarm • Fused power supply outputs • Redundant power supply capability • No PROM changing on crosspoint boards • Vertical interval switching of video • Clamped video inputs • Output delay trim
- Field expansion of inputs and outputs without rewire • Compact—10 x 10 matrix arrangement, 60 x 10 audio and video or 130 x 10 audio or video in 8<sup>3</sup>/<sub>4</sub>" card cage • Internal cooling fans. Fans removable during normal operation • Matrix board "in use" indicator • Computer automated system testing of audio and video through all possible signal paths • BNC video and party line connectors • Dual video outputs
- Capable of interface to TCS-1 machine control system

The TVS/TAS-2000 Distribution Switcher is a modular switching system consisting of a matrix, output and control cards. The cards—the basic building blocks of the system—are installed in rackmounted card cages which utilize pin and socket connectors to increase reliability and provide low circuit card insertion force.

Systems may be configured and interconnected to create switching systems with capabilities ranging from 10 x 10 to 450 x 150.

Redundant power supplies can be housed in each card cage.

### Control Configurations

Desktop and rackmount control panels are available for use with the TVS/TAS-2000 switcher to meet virtually any control requirement.

### Power Supplies

The PS-2000 Power Supplies provide unregulated DC voltages for on-card regulation. Because the supplies are interconnected in a redundant manner, either supply can power the card cage. Cost savings can be achieved by eliminating the redundancy and replacing the second power supply with a blank panel.

Monitor test points, a green LED indicator for each voltage and a red alarm LED, are located on the front panel of the power supplies.

### Polling Card

The CE-2000 Polling Card is the system's master controller. It polls panels for switching commands and periodically refreshes all switcher outputs.

Using a nonterminated coaxial cable, the serial bidirectional party line offers a highly efficient communications medium for system control. The CE-2000 provides four separate and identical party line outputs. A short in one party line will automatically trigger the logical removal of the shortened line, allowing the other three lines to continue normal operation.

### Card Cages

The RF-2000 Card Cages are 8<sup>3</sup>/<sub>4</sub>" (five rack units) high and 18" deep. They mount in standard 19" racks, and feature easily removable front doors for quick access to circuit boards.

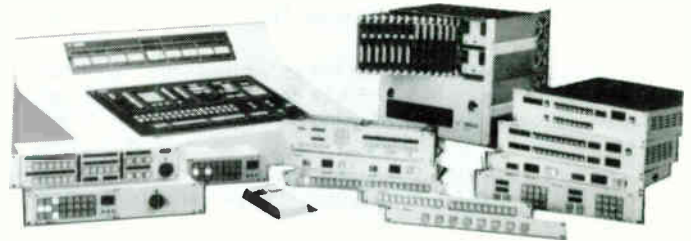
Each card cage has its own ventilation system. Air is drawn in through the front panel and exhausted through the right rear side. Fans are mounted to a removable panel on the rear of the chassis to allow replacement without turning the switcher off.

Input connections for the switcher system are located on the first card cage, and each cage in the system contains its own output connectors.

Internal cabling carries video and audio between card cages within a single rack. Plug-on cables and terminators are used to facilitate future expansion of inputs and outputs.

### Alarm Circuits

Alarm circuits are contained within all circuit boards. The loss of any power supply voltage used on any individual circuit card creates an



TVS/TAS-2000

alarm condition which is indicated by the activation of a red LED. This alarm condition is used to the power supplies where it generates a card cage alarm.

### Matrix and Output Circuit Cards

#### Video Cards

The VS-2100 Video Matrix Card has 10 input amplifiers, each with a plug-selectable sync tip clamp option. The video matrix card contains 100 solid-state crosspoints for video switching. An LED is used on each card to indicate when the card has one or more crosspoints selected.

#### Audio Cards

The AS-2100 Audio Matrix Card switches audio signals. This card has 10 solid-state bridging input amplifiers with high common-mode rejection. Balanced input signals are converted to a single-ended signal for switching by crosspoints. When the card is in use, output bus amplifiers and output crosspoints feed the matrix output bus. When the card is not in use, these are disconnected from the bus. Cards can be added to a system to supply the required number of inputs. For interchangeability, DIP switches are used to select the card addressing. An "In Use" LED indicates when one or more card crosspoints are selected.

### TVS/TAS-2000 Matrix Configurations

The TVS/TAS-2000s with internal power supplies are available in four standard configurations. Type CAV, CAA, CVV and MSO offer packages tailored to size and cost. Types CAV, CAA and CVV are the most economical but are limited to a maximum of 60 inputs. Type MSO has a higher price tag but is expandable to 130 inputs and beyond. All configurations are field expandable to their maximum capacity.

#### Type CAV: Combined Audio and Video

This configuration combines both audio and video switchers in a single 8<sup>3</sup>/<sub>4</sub>" card frame. While the unit is limited to 60 inputs, it may be ordered with (or expanded to) 100 outputs.

#### Type CAA: Combined Audio Audio

The CAA design can be configured as a dual audio switcher (channel 1 and 2) with 60 inputs to 10 outputs or as a single audio with 60 inputs to 20 outputs in each 8<sup>3</sup>/<sub>4</sub>" card frame.

#### Type CVV: Combined Video Video

Type CVV provides as many as 60 inputs to 20 outputs per 8<sup>3</sup>/<sub>4</sub>" card frame.

#### Type MSO: Multiple Chassis with Single Output Card per Chassis

These switchers are supplied with one card frame for each video output decade and a separate card frame for each audio output decade. Expansion to facilitate matrices of any size may be ordered initially or at a later date.

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# MASTER CONTROL SWITCHER

## MCS-2000 Master Control Switcher With Built-In Stereo Capabilities

### Control Panel

The MCS-2000 Master Control Switcher panel is divided into functional blocks, with each block labelled. Controls are readily located for easy use.

The control panel is microprocess-based, with all panel signals sent to the system main frame by an RS-422 data line. All rotary controls are digitized at the control panel, allowing the output to be inserted into the data stream.

Level settings and panel configuration can be entered into the switcher memory and recalled for instant setup at a later time, saving time and money.

### Monitor Controls

Audio monitoring facilities for all audio signals entering and leaving the switcher are provided for stereo or monaural speaker systems. One set of speakers receives audio from an off-air demodulator or the switcher line output. The second set of speakers is fed by the Select button row.

**DIM:** Lowers level of all control room speakers by a user-selected amount to allow conversation.

**SPRKB:** Reverses the feed to control room speakers.

**AIR:** Audio output level control for "air" channel control room speakers.

**SELECT:** Controls level to monitor speakers from any of the "select" button sources.

### Source Selector

The switcher input buttons can be assigned to any of up to 250 sources. Upon selecting a source, pressing the Send button and then pressing a preset bus button will cause the selected source to be assigned to that button. The assigned source name is displayed over each button.

If the selected source is audio-only or video-only, the LED below the preset button will light red. If a split source, the LED will light green.

Current assignments of all buttons can be saved by pressing the Save button, followed by a number from the ten-key pad. Pressing Recall and entering the same number will recall the saved setup at any time.

### Backup

A completely independent ten-in by one-out audio/video switcher is optional in case of main switcher failure. Two inputs are preassigned, one to the master control switcher on-air output and the other to one bus of the routing switcher. The master switcher is normally selected. In case of master switcher failure, the routing switcher or one of eight hard-wired sources may be selected.

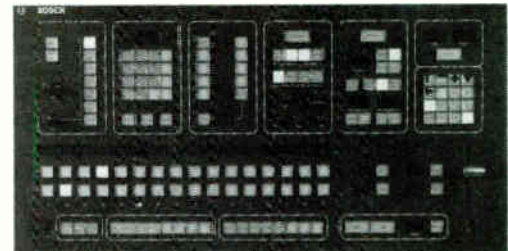
### Audio/Video Splits

Audio/video combined transitions are normally selected on the program or preset buses. An audio or video-only split is made by pressing the Audio or Video-Only button and a Source button. The video-only split is indicated by illumination of the video source button at full brightness. The audio source button is illuminated at half brightness for an audio split.

Breakaway capability is provided for auxiliary or Second Audio Program (SAP) levels of audio.

### Meter Bridge

The Meter Bridge mounts above the main control panel. A 24-hour clock and a stop clock are provided for operator convenience. Stereo analog VU meters and digital peak meters are provided for four audio channels: Select, Preset, Program, and Off-Air.



### On-Air Bypass

When Bypass is pressed, the current on-air source is locked to the on-air bus and no switcher control can affect the on-air output. The switcher is now available for production or dubbing work. When necessary to return to on-air control, the button is pressed again and the switcher is reconfigured as it was when Bypass was entered. This feature allows the sophisticated keying and mixing facilities of the switcher to be used for production work while maintaining the on-air signal.

### Transition Controls

These controls allow selection of automatic and manual transitions. Six wipes, along with fades and dissolves may be selected. Speed of transitions may be selected and automatically executed. All transitions may be executed manually with the fader arm. The six wipes are user-selectable from a library of more than 100 available patterns.

### Audio Controls

The audio controls allow the gain and balance for a particular source to be set up while on preset. When the Take button is pressed and transition occurs, the preset levels move to the program bus along with the source. This allows balance and gain adjustments to be made while on preset. Proper gains and balance are automatically remembered for all inputs currently on the switcher.

Direct control of program bus levels can be achieved by pressing the Program button and making the desired adjustment.

### Key System

Two keyers and four matte generators are provided by the switcher. The key currently on the preset bus is normally controlled by this section, allowing the key to be fully set before going on-air, even if another key is present on the program bus.

Up to 250 external key sources can be accommodated, with the proper one for a given key source automatically selected.

The proper type of key is selected automatically for the assigned source, but can be manually changed if desired.

Matte or video inserts may be selected. Saturation, luminance and hue often can be controlled independently of border saturation, hue and luminance. Video matte insert keys can also be bordered.

The switcher can also wipe or dissolve between two totally independent keys.

### Machine Control

The switcher can be interfaced to a complex machine control system such as the BTS TCS-1 Machine Control System and will provide complete full-function control of any machine selected on the preset or program bus.



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# CHARACTER GRAPHICS GENERATOR

## Vidifont Veditext II™

Veditext II is the latest in the Vidifont line of distinctive operator-oriented design systems. Providing corporate, educational and commercial users new heights in character graphics generation.

The Veditext II boasts many of the basic features of the higher-end Vidifont Graphics V™, with the capability to incorporate optional features including Animation, Time Sequential Overlays, Vidiclock™ and the Playback Sequence Controller. And Veditext II has access and compatibility with Vidifont's extensive font library, including creative services for custom graphics and logos.

## System Configuration

Veditext II's compact design invites installation in virtually any graphic environment, particularly where space is at a premium.

**Keyboard:** Combines the standard typewriter keyboard with conveniently grouped function, editing and operational keys. Special attention to detail provides an environment that is both ergonomically efficient and user-comfortable.

**Disk storage:** Each double density 5 1/4" flexible disk holds up to 20 fonts, or provides random access of up to 600 display pages. Fonts and messages can be stored on the same disk. In a two-channel system, disk formatting or duplicating can be performed simultaneously with editing and composition.

**MultiChannel:** Directory controlled, high-capacity RAM and disk memory treat each message, regardless of length, as a single page, under a single identification. Over 10 instantly available on-line from RAM. Font IDs, colors, table locations, predesignated update windows, and all other user-environment parameters are recorded as part of each message. Allows multiple off-line channels rapid access for updates and changes, while on-line use can occur simultaneously utilizing different fonts, colors, formats and messages.

## Display Characteristics

**Fonts:** Eight full-set fonts per channel, each containing up to 106 characters, may be accessed and intermixed for instant composition. Resident font memory has a capacity up to 24, with additional fonts available from flexible or hard disk.

Veditext II has complete access and compatibility with Vidifont's complete graphic and font library of over 100 typefaces and 250 sizes.

**Colors:** The color collection contains 4,096 choices. On-line you can manually select, or automatically load, any combination of 16 Color Quads. Multicolored fonts and logo graphics may be displayed in up to 48 colors per character with or without multi-colored edge.

**Backgrounds:** Can be created independently of the character plane or linked to the foreground plane, dimensioned by one of the display items, and enlarged or reduced. Background sizes range from one TV line high and two pixels wide to a full display. 32 colors may be selected from the 4,096 palette independently of those on the foreground character plane.

## Composition/Editing

**Multiplanar:** Up to 16 rows may be stacked by composing the first plane, pushing it back, composing the second, pushing it back, etc. Access to any plane is available by temporarily peeling away forward planes.

**Justification:** Veditext II provides horizontal centering, left or right and left and right justification. Veditext II suggests an initial justification point and moves the cursor to that location. You may begin to compose at that point, manually move to a new point or specify a preselected location by X and Y coordinates.

**Tabs:** Each page may contain unlimited tab locations set at any horizontal and/or vertical point and recorded as part of the message. Upon playback, information at these tab points can be accessed instantly with forward or back tabbing, then updated and rerecorded.



**Lower Thirds:** The cursor is automatically centered on the bottom row. As a message is composed, it is centered unless otherwise designated. When the operator moves the cursor to the next row, the message scrolls up and the cursor is centered for the next entry.

**Acquire/Deposit:** Font style, color and edge may be "acquired" from any character and "deposited" on any other entity (character, word, row, group or entire page). This eliminates reentry steps, saves time and encourages artistic creativity.

## Display Dynamics

**Rolls/Crawls:** Veditext II has 7 bidirectional speeds, with 224 speed/direction combinations. Roll or crawl movements may be stopped at any point, then resumed at the same or different rate.

**Ripple-On/Ripple-Off:** Provides character-by-character appearance or removal, at any of 127 different preselected rates, as fast as 1/1000 second.

**Flash:** An infinite number of flash speeds are available on a character-by-character basis. Underlines and backgrounds can be independently flashed.

## Expansion

Beyond the basic Veditext II are expansion capabilities with which to grow.

- **Animation.** Of characters, rows, pages and backgrounds
- **Time Sequential Overlays.** For frame-accurate editing of events
- **Playback Sequence Controller.** For creation of an ordered or randomly sequenced playback list
- **Vidiclock.** Provides time of day, elapsed and split time plus stop, pause and resume up or down
- **Vidivote.** Election reporting package
- **Vidicast/Vidisports.** Weather and sports package
- **GraphicStore.** Paint and library system
- **Twenty-megabyte hard disk drive.** Increases font and message storage



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## AUTOMATIC STUDIO/ FIELD CAMERA

### LDK 26A Television Camera System

- Excellent picture quality through 18mm Plumbicon tubes and optimized digital scan, shading and dynamic focus correction
- Operational flexibility. Maximum flexibility for a wide range of broadcast applications under varied weather and light conditions. The interactive computer system with operational and set-up memories allows quick set-up and smooth operation for single or multi-camera systems
- Reliable and ready for operation. Assured by digital control components, self-diagnostics and easy interchangeability of main units without the need for further adjustments. And COACH, the Philips remote control and monitoring system, gives double assurance of perfect performance
- Safety for the future. A camera that is built to last, having a transparent computer controlled system with distributed intelligence that can also accommodate future developments

#### Computer Control—For Perfect Performance

The LDK 26A System has 3 microcomputers—in the camera head, the camera processing unit and the master control panel. Each unit can converse with the others in the chain enabling constant check on status of camera performance. Each camera has its own set-up computer. Because of this "distributed intelligence" system it is possible to set up independently, simultaneously and automatically any number of camera chains. And, system units can be interchanged, without the need for resetting, checking or adjusting.

The control system is fully digital, and digital/analog converters with "pulse-pot" technology permit manual and automatic adjustment over the whole control range. Because of this system no manual preset is required for automatic set-up.

The extensive automatic control of parameters makes the LDK 26A a total automatic 18mm camera with perfect, consistent performance.

#### Memories—An Aid For Production

Every LDK 26A camera has 2 set-up and 2 lens memories as standard. Optionally, there are 6 operational memories available.

The set-up memories may be used for special creative and technical applications. Each memory can store over 700 parameters.

The lens file can store color temperature, flare, shading and registration.

Each of the operational memories stores gains, RGB, blacks, filter wheel position, color temperature, black stretch, gamma and contours.

#### COACH—Double Assurance

COACH is a tool for centralized maintenance and monitoring of the LDK 6 family of cameras. It consists of 2 components—an interface and an IBM-compatible personal computer. Simple to use, COACH provides:

- Remote control and monitoring of LDK 6 family camera systems
- Flexible retrieval, storage and control of camera data
- In depth diagnostic monitoring
- Remote access via standard modems over telephone lines

#### Status Feedback

The unique status feedback system is another important advantage of the LDK 26A.

The data transparency of the design enables access to, and retrieval from, any unit on the bus. All setting-up and operational control parameters are available for displays on the master control panel. All settings in the camera processing unit and camera head are generated by the digi-pots on the master control panel and are fed back to the alphanumeric displays and are shown by an exact percentage readout. This permits settings to be checked, at a glance, without physically measuring them.

#### Diagnostics

There is one standard diagnostic system (Diagnostics-1) and one optional system (Diagnostics-2) available for the LDK 26A.

Diagnostics-1 operates on-line, and is active whenever a camera is "on." It makes no decisions which will interfere with normal "on-air" operation. However, where important characteristics deviate from nor-



LDK 26A

mal, it warns the operator a decision is needed, and provides a readout on request.

Diagnostics-2 is a very valuable optional extra. It operates off-line, and on demand, by using signal injection techniques throughout the camera system. Messages are displayed on the picture monitor indicating probable fault location.

#### Automatic Programs

The following selectable automatic programs are available in the LDK 26A:

- Full auto set-up
- Auto daily check
- Auto white balance
- Auto black balance
- Auto lens registration calibration
- Auto lens shading, flare and color temperature calibration

These auto programs provide full automatic control not only to give ease of use, but also to produce the best results in the shortest time.

The auto lens programs can be used when the zoom lens is equipped with a built-in diascop.

After setting the back focus, it is possible to set up the camera fully automatically after tube replacement without any manual presetting. This is made possible because of the full range of computer controlled tube parameters.

#### Ahead Of Its Time

The LDK 26A camera head is smaller in size with high brightness, high resolution 5" viewfinder which makes it one of the most versatile 18mm cameras in the studio or on location. It has a number of outstanding features:

- Dynamic lens error correction
- Remote controlled scan reversal
- Integrated lens support
- Quick lens change
- Optical axis of the lens and viewfinder in one vertical plane
- A 5-position filter wheel
- A separate (controllable) auto cap
- Rotatable, tiltable and easily removable viewfinder (tilt range  $\pm 60^\circ$ )
- Extensive indicators and markers in the viewfinder
- Provision for remote facility for intercom and external viewfinder switches (e.g. on pan bars)
- Utility power e.g. for teleprompter
- Rainproof housing
- Extensive intercom facilities
- R, G and B and external video on VF display
- Unparalleled service accessibility

The LDK 26A has an integrated camera lens support which ensures correct balance of the combined camera head and lens—whatever the size of the lens being used—light or heavyweight. Then there is the flexible viewfinder for extremes of pan and tilt movement. Finally, there is a wide range of indicators and signal selectors together with full communication facilities.

For the engineer and video operator, the master control panel acts as the surveillance center for the whole system—a sort of electronic screwdriver for maintenance and diagnostics. It monitors and controls hundreds of functions. Used with the individual operational control panels, the video operator has control over the whole system.

Immediate reading of lens f/stop numbers, preprogrammed contours, etc. is possible after selection of the relevant camera by means of the MATCH knob on the operational control panel.

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# AUTOMATIC STUDIO/ FIELD CAMERA

## LDK 6A

### Television Camera System with Total Computer Control and Distributed Intelligence

#### Superb Picture Quality

Through 25mm or 30mm Plumbicon tubes and optimized digital scan, shading and dynamic focus correction.

#### Operational Flexibility

For a wide range of broadcast applications under varied weather and light conditions. The interactive computer system with operational and set-up memories allows quick set-up and smooth operation for single or multi-camera systems. The RGB triax system allows great cabling flexibility.

#### Reliable — Ready for Operation

Assured by digital control components, self-diagnostics and easy interchangeability of main units without the need for further adjustments. Tube change takes about 10 minutes. The "full auto set-up" program aligns the green channel automatically, using the diascope integral to the camera head. Red and blue are then aligned to green.

#### Future-Proof

State-of-the-art in concept and design, having a transparent computer system with distributed intelligence that can also accommodate future developments. And COACH, the Philips remote control and monitoring system, gives double assurance of perfect performance.

#### Memories — A Major Advantage

The LDK 6A camera has 6 operational, 2 set-up and 4 lens memories. All 6 operational memories can be recalled so that there is immediate access to pre-arranged special production effects or lighting conditions.

Each of these operational memories can store: • Gains RGB • Blacks RGB • Filter wheel 1 • Filter wheel 2 • Color temperature • Master black • Gain • Black stretch • Gamma • Contours • Auto-iris presets

For special creative and technical applications over 700 parameters can be stored in 2 separate selectable set-up memories.

Each LDK 6A camera can also store the complete characteristics of up to 4 lens types and recall their parameters when required. These parameters are: • Color temperature • Registration • Flare • Shading • Back focus

These lens files can also be used to store range extender characteristics and are called up automatically with servo extender selection.

#### Diagnostics

There are two comprehensive diagnostics systems in the LDK 6A. The first is an advance warning system for fault detection to avoid costly downtime. The second is able to pinpoint the location of a fault to a specific board.

Diagnostics-1 operates on-line, and is active whenever a camera is "on." It makes no decisions which will interfere with normal "on-air" operation. However, where important characteristics deviate from normal, it warns the operator a decision is needed, and provides a character display readout on the engineering monitor.

Diagnostics-2 operates off-line, and on demand, by using signal injection techniques throughout the camera system. Messages are displayed on the picture monitor indicating probable fault location.

#### Selectable Automatic Programs

Selectable automatic programs in the LDK 6A include: • Full auto set-up • Auto daily check • Auto white • Auto black • Auto shading white • Auto shading black • Auto video levels • Auto lens registration calibration • Auto tube adjustment • Auto centering • Auto registration—full range

These automatic programs provide for ease-of-use and produce the best possible results in the shortest possible time.



LDK 6A

Because of the computer-controllable back focus and the full range computer control of the tube parameters, it is even possible to set up the camera fully automatic after tube replacement without any manual pre-setting. The green channel is automatically aligned to a digital electronic test pattern, with red and blue, subsequently aligned to green.

#### COACH — Double Assurance

COACH is a tool for centralized maintenance and monitoring of the LDK 6 family of cameras. It consists of 2 components — an interface and an IBM-compatible personal computer. Simple to use, COACH provides: • Remote control and monitoring of LDK 6 family camera systems • Flexible retrieval, storage and control of camera data • In depth diagnostic monitoring • Remote access via standard modems over telephone lines • Remote video measurement. It therefore helps make more cost-effective use of engineering staff and allows contact and control at the local Philips Service Center.

#### Status Feedback

The unique status feedback system is another important advantage of the LDK 6A.

The data transparency of the design enables access to, and retrieval from, any unit on the bus. While all operation settings are displayed on the common control panel, virtually all setting-up and operational control parameters are available for display on the master control panel. All settings generated by digi-pots are fed back to the alphanumeric displays and are shown by an exact percentage readout. This permits settings to be checked at a glance, without physically measuring them.

#### The Camera Head

• Dynamic lens error correction • Remote control scan reversal • Rain-proof housing and RFI shielded • Quick lens change • 4 different lens memories • Built-in diascope • Optical axis of the lens and viewfinder in one vertical plane • Two 5-position filter wheels — one controllable by cameraman • Extensive viewfinder signal selection • Auto-iris • Momentary auto-iris by spot measurement • Auto-white balance control by spot measurement • Extensive intercom facilities • Rotatable, tiltable and removable 7" high resolution viewfinder with extreme tilt range ( $\pm 60^\circ$ ) • Extensive indicators and markers in the viewfinder • Provision for remote facility for intercom and external viewfinder switches (e.g. on pan bars) • Two audio channels • Utility power • Integrated lens support • Large, switchable tally light visible from every direction • Contours from red (option)

And it is in the camera head, not in the lens, that the diascope is located, making a wider selection of lenses available for different production situations. Full range extender facilities are maintained.



# BTS/BROADCAST TELEVISION SYSTEMS, INC.

A JOINT COMPANY  
OF BOSCH AND PHILIPS  
P.O. Box 30816  
Salt Lake City, UT 84130-0816  
(801) 972-8000  
FAX: (801) 972-6304

# FRAME TRANSFER-CCD ENG CAMERA SYSTEM

## LDK 90

### Frame Transfer-CCD ENG Camera System

Three high-resolution Frame Transfer CCDs together with a shutter give superior picture quality with perfect geometry and negligible registration error, with corner-to-corner sharpness and without any lag, burn-in, comet-tailing, smear or microphonics. The Dynamic Contrast Control (DCD) handles in excess of 500% signal level over peak white without loss of detail.

FT-CCDs continue to produce perfect pictures with no deterioration in quality and no aging. They are stable and permanent. The robust solid-state LDK 90 is built to withstand the hectic pace of ENG and on-camera recorder operation. And with no tube changing, cost of ownership is extremely low.

#### Flexibility in Operation

The LDK 90 FT-CCD camera has been designed as the precise answer for ENG use. But bearing in mind the many and varied needs of broadcast and production companies throughout the world, BTS has provided quick fit adaptors and appropriate control systems for Betacam and other standards of on-camera recording, and for EFP use.

#### No Maintenance

Having CCD sensors the camera is completely solid-state and will require no maintenance. Equally, the built-in shutter is maintenance free. Therefore, even under rigorous working conditions the camera will be extremely reliable throughout its lifetime.

#### With Ease-of-Use

Microprocessor control of automatics. Electronic color temperature control, with two presets for studio and daylight operation. An operational menu system. A very wide range of viewfinder indicators. These are some of the built-in features that help make sure the cameraman can shoot quickly and easily.

#### The CCD-FT Principle

The Frame Transfer structure has a photosensitive imaging section with 350,000 pixels PAL, 300,000 pixels NTSC located next to a storage region and connected to it by parallel shift registers.

Each separate image is transferred to storage and a completely new image takes its place. The shutter is timed to operate during the transfer to ensure that the image remains unchanged and unaffected by incoming light. Each frame of the picture is thus clean and independent of previous frames and highlights (no smear).

#### System Control

A remote control unit, which can be used up to 300m from the camera, is available for EFP or studio use with RGB, CCVS and monitoring outputs, together with a cameraman intercom facility. A very compact local control panel can be connected to the remote control unit for control of iris, masterblack level, individual gain and black level for red and blue. The LCP may also be used for ENG and on-camera recorder use.

The BTS camera with Frame Transfer-CCD offers these additional advantages over other cameras (mainly equipped with Interline CCDs):

- Higher resolution obtained by 604 PAL, 610 (NTSC) pixels
- Total elimination of smear because of the CCD/shutter combination
- Shorter picture exposure time of  $1/50^{\text{th}}$  second (50Hz) or  $1/60^{\text{th}}$  second (60Hz) rather than  $1/25^{\text{th}}$  and  $1/30^{\text{th}}$  second respectively. These shorter exposure (integration) times result in higher dynamic resolution, which is especially important when shooting moving objects (slow motion replay)
- Vertical resolution clearly better than can be obtained with tube cameras
- Future proof—special sports version with exposure control available soon

#### Higher Sensitivity

Electronic color temperature compensation eliminates the use of color conversion filters. The result is approximately one f/stop more sensitivity in daylight operations.



LDK 90

#### Four Position Gain Control

A choice of 4 positions to suit different applications.

- For applications where an extremely high (+6dB) signal-to-noise ratio is required
- 0 For normal operation (signal-to-noise ratio 56dB PAL, 58dB NTSC)
- + For low light level operation
- + + For extreme low light operation

#### Operation Memory Menu

For more demanding applications (such as extreme conditions) as well as for EFP use, a special menu control panel with a protective cover is available for the cameraman.

Its functions are: • Master black: 0, -10%, -20% • Black stretch: on/off • Gamma 1: 0.45 • Gamma 2: 0.55 or customer setting • Contour: -, nom, + • Exposure control: (provision for)

#### Local Control Panel

This special accessory is for use in the field with painting, iris and master black control.

#### Matte Box

A matte box accessory allows use of all standard bellows, filters, "french flags," etc.

This is particularly suitable for the LDK 90 in film-style applications where additional artistic and creative possibilities are required.

#### Computerized Control

A built-in microprocessor fulfills several functions including: Switch-function communication with the camera viewfinder and, if present, the Remote Control Unit (RCU), as well as auto-iris control via intelligent picture sampling methods.

#### Viewfinders

The  $1\frac{1}{2}$ " viewfinder is X-Y-Z adjustable and rotatable. There is a complete range of indicators. These include filter, color balance, gain, tape-end, rec, batt, menu, and range extender, together with tape bar, audio level, white balance window, and selectable zebra level.

A 5" viewfinder is also available for EFP/studio use.

#### Light, Compact, Efficient

Extremely light and compact, the LDK 90 weighs only 5 lbs. (2.35kg), basic camera. Visibility is extremely good. Hand grip and balance are perfect. Shoulder, flat bottom or tripod use are all designed for convenience. Power consumption is less than 11W. Battery life is long.

#### Accessories/Lenses

A full range of accessories and lenses for convenience and flexibility is outlined in the LDK 90 short form catalog, separately available.



# BUD INDUSTRIES, INC.

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 Willoughby, OH 44094 TWX: (810) 427-2604  
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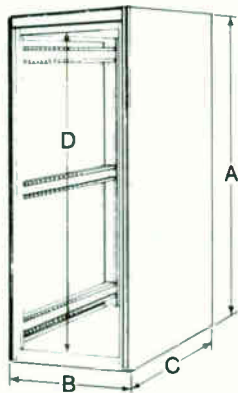
## UPRIGHT CABINET RACKS

### SHIELD-A-RACK UPRIGHT CABINET RACKS

Designed to meet FCC emission control requirements. Provides optimum flexibility of component design. Shield-A-Rak offers contemporary styling and rugged construction.

#### Design Features

- Decorative rigid vinyl trim with woodgrain inserts.
- Doors have locking handles for greater security.
- Two pairs of 12 gauge adjustable mounting rails tapped 10-32 on EIA universal spacing.
- Frame - 16 gauge steel; doors - 18 gauge. 19" panels, fit front and rear openings.
- Shipped completely assembled.

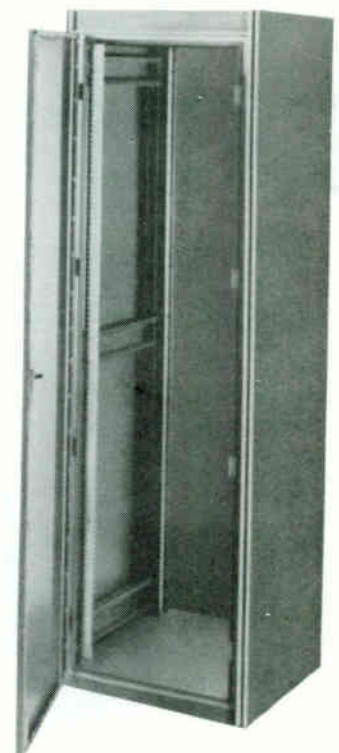
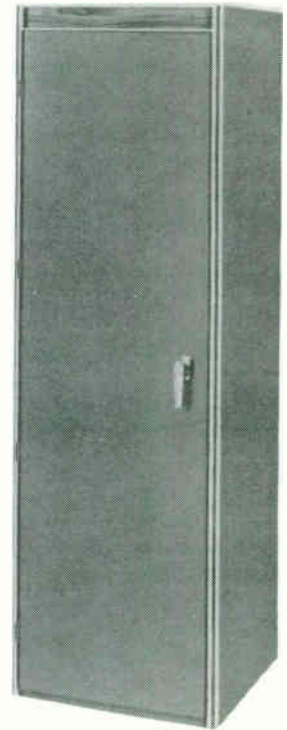
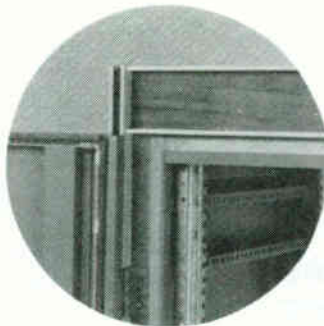


#### Bonus Features

- Most effective shielding method assures an average EMI/RFI shielding of 55 dB, up to a maximum of over 70 dB, through a frequency range from 30 to 1,000 MHz.
- Doors have wire mesh gasketing to provide best shielding. Gasket is attached with clips for easier repair or replacement.
- Heavy duty hinges and multipoint latching mechanisms on door allow uniform pressure on door gasketing for greater shielding effectiveness.

#### Finishes

- Royal blue textured (RB) and Gray textured (GT)



CATALOG NO.	HEIGHT (A)	WIDTH (B)	DEPTH (C)	PANEL SPACE (D)	WEIGHT LBS.
SAR-16301	37 <sup>15</sup> / <sub>16</sub> "	24"	22"	31 <sup>1</sup> / <sub>2</sub> "	156
SAR-16302	48 <sup>7</sup> / <sub>16</sub> "	24"	22"	42"	184
SAR-16303	58 <sup>15</sup> / <sub>16</sub> "	24"	22"	52 <sup>1</sup> / <sub>2</sub> "	209
SAR-16304	76 <sup>1</sup> / <sub>16</sub> "	24"	22"	61 <sup>1</sup> / <sub>4</sub> "	228
SAR-16305	76 <sup>7</sup> / <sub>16</sub> "	24"	22"	70"	244
SAR-16306	83 <sup>7</sup> / <sub>16</sub> "	24"	22"	77"	257

Prices and Specifications Subject to Change Without Notice.

# BUD INDUSTRIES, INC.

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 (216) 946-3200 FAX: (216) 951-4015

# UPRIGHT CABINET RACKS

## SERIES 60 UPRIGHT CABINET RACKS

- "U" braces on sides of all welded 14 gauge steel frame for durability
- Door, 20 gauge steel
- Sides and top, 18 gauge
- Front and rear panel mounting rails tapped 10-32 on EIA universal spacing
- Accommodates 19" panels
- Caster brackets pierced for RC-7758 casters
- 1" knockout holes in base

- Interiors are accessible from front and rear for easy installation and maintenance of components
- One door furnished. May be used on front or rear; mounted to open left or right
- Two pairs of adjustable mounting rails are included
- Shipped completely assembled

### Finishes

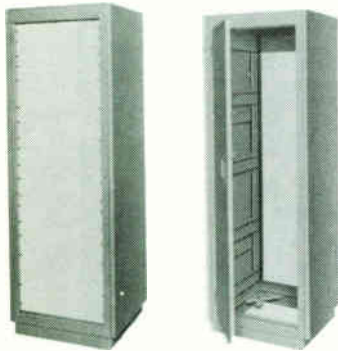
Gray textured (GT) or Royal Blue textured (RB).

These cabinet racks are quality enclosures that enhance the function, appearance and value of your

products. All Series 60 Cabinet Racks include welded frame, sides, top and rear door.

## INCLINED PANEL CABINET RACKS

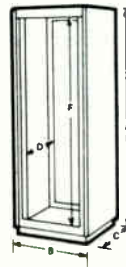
Series 60s Inclined Panel Racks are similar to the upright models in style and construction and can be used in conjunction with them. The front is divided into upright and 20° inclined panel space. Two pairs of fully adjustable mounting rails are in the front upright and sloping panel area, and one pair in the rear.



Available in either plain or louvered sides and rear door; solid top.



## SERIES 60 UPRIGHT CABINET RACKS

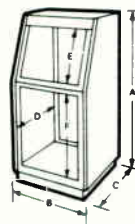


### SIDES

Catalog No.		Height	Width	Panel Space	Wgt. Lbs.
Plain	Louvered				
60-2560	60-2560	26 1/2"	22"	21"	12 1/2
60-2561	60-2581	37 1/2"	22"	31 1/2"	17 1/2
60-2562	60-2582	47 1/2"	22"	42"	21
60-2563	60-2583	58 1/2"	22"	52 1/2"	26 1/4
60-2564	60-2584	67 1/2"	22"	61 1/4"	34
60-2565	60-2585	75 1/2"	22"	70"	34
60-2566	60-2586	84 1/2"	22"	78 1/4"	38
60-2567	60-2587	26 1/2"	25 1/2"	21"	14 1/2
60-2568	60-2588	37 1/2"	25 1/2"	31 1/2"	20
60-2569	60-2589	47 1/2"	25 1/2"	42"	24
60-2570	60-2590	58 1/2"	25 1/2"	52 1/2"	29 1/2
60-2571	60-2591	67 1/2"	25 1/2"	61 1/4"	34 1/2
60-2572	60-2592	75 1/2"	25 1/2"	70"	39
60-2573	60-2593	84 1/2"	25 1/2"	78 1/4"	43 1/2

Sold in pairs only

## SERIES 60 INCLINED PANEL CABINET RACKS



### SIDES

Catalog No.		Height	Width	Vertical Panel Space	Wgt. Lbs.
Plain	Louvered				
60-2574	60-2594	47 1/2"	22"	29 1/2"	11
60-2575	60-2595	47 1/2"	22"	24 1/2"	9 1/2
60-2576	60-2596	47 1/2"	22"	22 1/2"	9

Specify "L" for left side or "R" for right side, determine when facing front of rack.

### FRONT DOORS

Catalog No.		Height	Width	Vertical Panel Space	Wgt. Lbs.
Plain	Louvered				
60-2350	60-2550	30 1/2"	18 1/2"	29 1/2"	11
60-2351	60-2551	24 1/2"	18 1/2"	24 1/2"	9 1/2
60-2352	60-2552	23 1/2"	18 1/2"	22 1/2"	9

## UPRIGHT CABINET RACKS

Catalog No. *	Catalog No. +	Outside Height (A)	Outside Width (B)	Outside Depth (C)	Clear Inside Depth (D)	Panel Space (F)	Top Opening	Wgt. Lbs.
60-2300	60-2700	29 1/2"	24 1/8"	22"	20 1/2"	21"	18 1/8" x 17"	112
60-2301	60-2701	40 1/4"	24 1/8"	22"	20 1/2"	31 1/2"	18 1/8" x 17"	137
60-2302	60-2702	50 1/2"	24 1/8"	22"	20 1/2"	42"	18 1/8" x 17"	162
60-2303	60-2703	61 1/8"	24 1/8"	22"	20 1/2"	52 1/2"	18 1/8" x 17"	189
60-2304	60-2704	69 1/2"	24 1/8"	22"	20 1/2"	61 1/4"	18 1/8" x 17"	216
60-2305	60-2705	78 1/2"	24 1/8"	22"	20 1/2"	70"	18 1/8" x 17"	227
60-2306	60-2706	87 1/2"	24 1/8"	22"	20 1/2"	78 1/4"	18 1/8" x 17"	244
60-2307	60-2707	29 1/2"	24 1/8"	25 1/2"	24"	21"	18 1/8" x 20 1/2"	123
60-2308	60-2708	40 1/4"	24 1/8"	25 1/2"	24"	31 1/2"	18 1/8" x 20 1/2"	145
60-2309	60-2709	50 1/2"	24 1/8"	25 1/2"	24"	42"	18 1/8" x 20 1/2"	170
60-2310	60-2710	61 1/8"	24 1/8"	25 1/2"	24"	52 1/2"	18 1/8" x 20 1/2"	202
60-2311	60-2711	69 1/2"	24 1/8"	25 1/2"	24"	61 1/4"	18 1/8" x 20 1/2"	216
60-2312	60-2712	78 1/2"	24 1/8"	25 1/2"	24"	70"	18 1/8" x 20 1/2"	231
60-2313	60-2713	87 1/2"	24 1/8"	25 1/2"	24"	78 1/4"	18 1/8" x 20 1/2"	263

\*Supplied with plain sides and plain rear door. +Supplied with louvered sides and louvered rear door.

## SERIES 30 (EXTRA DEEP) UPRIGHT CABINET RACKS

Catalog No.	Outside Height	Outside Width	Outside Depth	Clear Inside Depth	Panel Space	Top Opening	Wgt. Lbs.
30-2300	29 1/2"	24 1/8"	30 1/2"	29 1/4"	21"	18 1/8" x 25 1/2"	154
30-2301	40 1/4"	24 1/8"	30 1/2"	29 1/4"	31 1/2"	18 1/8" x 25 1/2"	174
30-2302	50 1/2"	24 1/8"	30 1/2"	29 1/4"	42"	18 1/8" x 25 1/2"	202
30-2303	61 1/8"	24 1/8"	30 1/2"	29 1/4"	52 1/2"	18 1/8" x 25 1/2"	225
30-2304	69 1/2"	24 1/8"	30 1/2"	29 1/4"	61 1/4"	18 1/8" x 25 1/2"	245
30-2305	78 1/2"	24 1/8"	30 1/2"	29 1/4"	70"	18 1/8" x 25 1/2"	268
30-2306	87 1/2"	24 1/8"	30 1/2"	29 1/4"	78 1/4"	18 1/8" x 25 1/2"	294

### FRONT DOORS (Rear door supplied with racks)

Catalog No.		Height	Width	Clear Inside Depth	Wgt. Lbs.
Plain	Louvered				
60-2340	60-2540	21 1/2"	18 1/8"	21"	8
60-2341	60-2541	31 1/2"	18 1/8"	31 1/2"	11 1/2
60-2342	60-2542	42 1/2"	18 1/8"	42"	15 1/2
60-2343	60-2543	52 1/2"	18 1/8"	52 1/2"	19
60-2344	60-2544	61 1/2"	18 1/8"	61 1/4"	22 1/4
60-2345	60-2545	70 1/2"	18 1/8"	70"	25 1/2
60-2346	60-2546	79 1/2"	18 1/8"	78 1/4"	29

These doors can be used as front doors on Series 60 and Concord cabinet racks. These doors are the same as rear doors supplied on Series 60, Series 2000 and Concord doors. They may be mounted to open left or right.

## INCLINED PANEL CABINET RACKS

Catalog No. *	Catalog No. +	Outside Height (A)	Outside Width (B)	Outside Depth (C)	Clear Inside Depth (D)	Inclined Panel Space (E)	Vertical Panel Space (F)	Top Opening	Wgt. Lbs.
60-2330	60-2730	50 1/2"	24 1/8"	22"	20 1/2"	10 1/2"	29 1/2"	11 1/2" x 18 1/8"	155
60-2331	60-2731	50 1/2"	24 1/8"	22"	20 1/2"	15 1/4"	24 1/2"	10" x 18 1/8"	156
60-2332	60-2732	50 1/2"	24 1/8"	22"	20 1/2"	17 1/2"	22 1/4"	9 1/4" x 18 1/8"	154

\*Supplied with plain sides and plain rear door. +Supplied with louvered sides and louvered rear door.

## SERIES 30 (EXTRA DEEP) INCLINED PANEL CABINET RACKS

Catalog No.	Outside Height	Outside Width	Outside Depth	Clear Inside Depth	Inclined Panel Space	Vertical Panel Space	Top Opening	Wgt. Lbs.
30-2330	50 1/2"	24 1/8"	30 1/2"	29 1/4"	10 1/2"	29 1/2"	20 1/2" x 18 1/8"	196
30-2331	50 1/2"	24 1/8"	30 1/2"	29 1/4"	15 1/4"	24 1/2"	18 1/2" x 18 1/8"	196
30-2332	50 1/2"	24 1/8"	30 1/2"	29 1/4"	17 1/2"	22 1/4"	18 1/8" x 18 1/8"	196

### PERFORATED TOPS

Cat. No.	Width	Depth	Fits Inclined Panel Rack with This Top Opening	Wgt. Lbs.
60-2372	21 1/2"	11 1/2"	11 1/2" x 18 1/8"	3 1/2
60-2373	21 1/2"	10"	10" x 18 1/8"	3 1/2
60-2374	21 1/2"	9 1/2"	9 1/2" x 18 1/8"	3 1/4

Order Perforated tops, sides and doors to match color of cabinet

# BUD INDUSTRIES, INC.

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Willoughby, OH 44094  
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# UPRIGHT CABINET RACKS



**SERIES 2000  
UPRIGHT**

Available in either plain  
or louvered side  
and rear door;  
solid top.

**SERIES 2000  
INCLINED PANEL**



## SERIES 2000 UPRIGHT CABINET RACKS

Here are electronic enclosures that do more than house equipment. The sheer square line of the Series 2000, its symmetrical styling is the result of experience and perception Bud designers have. All Series 2000 cabinet racks include welded frame and base, sides, top, and rear door.

### Design Features

- Anodized aluminum extrusion top trim.
- "U" braces on sides of all welded 14 gauge steel frame for added strength and rigidity.
- Door, 20 gauge steel.
- Sides and top, 18 gauge.
- Front and rear panel mounting rails tapped 10-32 on E.I.A. universal spacing.
- Accommodate 19" panels.
- Castor brackets pierced for RC-7758 casters.
- One inch diameter knockout holes in base.
- Interiors are accessible from front and rear for easy installation of and maintenance of components.
- Readily removable rear door can be mounted right or left.
- Two pairs of fully adjustable mounting rails are included.
- Shipped completely assembled.

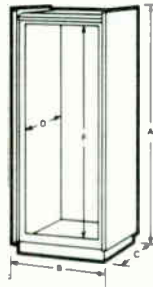
### Finishes

Gray textured (GT) or royal blue textured (RB).

## INCLINED PANEL CABINET RACKS

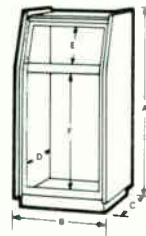
Series 2000 Inclined Panel Racks are similar to the upright models in style and construction and can be used in conjunction with them. The front is divided into upright and 20° inclined panel space. Two pairs of fully adjustable mounting rails are in the front upright and sloping panel area, and one pair in the rear.

## SERIES 2000 UPRIGHT CABINET RACKS



## SERIES 30-2000 (EXTRA DEEP) UPRIGHT CABINET RACKS

Catalog Number	Outside Height	Outside Width	Outside Depth	Clear Inside Depth	Panel Space	Wgt. Lbs.
E-30-2000	30 1/4"	24 3/16"	32 3/8"	29 1/4"	21"	150
E-30-2001	40 3/4"	24 3/16"	32 3/8"	29 1/4"	31 1/2"	175
E-30-2002	44 1/2"	24 3/16"	32 3/8"	29 1/4"	35"	180
E-30-2003	51 1/4"	24 3/16"	32 3/8"	29 1/4"	42"	217
E-30-2004	61 3/4"	24 3/16"	32 3/8"	29 1/4"	52 1/2"	248
E-30-2005	70 1/2"	24 3/16"	32 3/8"	29 1/4"	61 1/4"	259
E-30-2006	79 1/4"	24 3/16"	32 3/8"	29 1/4"	70"	303
E-30-2007	88"	24 3/16"	32 3/8"	29 1/4"	78 3/4"	307



## SERIES 2000 INCLINED PANEL CABINET RACKS

## SERIES 2000 UPRIGHT CABINET RACKS

Catalog No. *	Catalog No. *	Outside Height (A)	Outside Width (B)	Outside Depth (C)	Clear Inside Depth (D)	Panel Space (F)	Weight Lbs
E-2000	E-2016	30 1/4"	24 3/16"	23 3/8"	20 1/2"	21"	119
E-2001	E-2017	40 3/4"	24 3/16"	23 3/8"	20 1/2"	31 1/2"	141
E-2002	E-2018	44 1/2"	24 3/16"	23 3/8"	20 1/2"	35"	149
E-2003	E-2019	51 1/4"	24 3/16"	23 3/8"	20 1/2"	42"	168
E-2004	E-2020	61 3/4"	24 3/16"	23 3/8"	20 1/2"	52 1/2"	195
E-2005	E-2021	70 1/2"	24 3/16"	23 3/8"	20 1/2"	61 1/4"	216
E-2006	E-2022	79 1/4"	24 3/16"	23 3/8"	20 1/2"	70"	233
E-2007	E-2023	88"	24 3/16"	23 3/8"	20 1/2"	78 3/4"	260
E-2008	E-2024	30 1/4"	24 3/16"	27 3/8"	24"	21"	129
E-2009	E-2025	40 3/4"	24 3/16"	27 3/8"	24"	31 1/2"	154
E-2010	E-2026	44 1/2"	24 3/16"	27 3/8"	24"	35"	159
E-2011	E-2027	51 1/4"	24 3/16"	27 3/8"	24"	42"	179
E-2012	E-2028	61 3/4"	24 3/16"	27 3/8"	24"	52 1/2"	215
E-2013	E-2029	70 1/2"	24 3/16"	27 3/8"	24"	61 1/4"	234
E-2014	E-2030	79 1/4"	24 3/16"	27 3/8"	24"	70"	244
E-2015	E-2031	88"	24 3/16"	27 3/8"	24"	78 3/4"	268

\*Supplied with plain sides and plain rear door

\*Supplied with louvered sides and louvered rear door

## SERIES 2000 FRONT DOORS FOR UPRIGHT CABINETS

Catalog No. Plain	Catalog No. Louvered	Height	Fits Upright Rack With Following Panel Spaces	Wgt. Lbs
E-9000	E-9020	23 1/2"	21"	15
E-9001	E-9021	34"	31 1/2"	18
E-9002	E-9022	37 1/2"	35"	19
E-9003	E-9023	44 1/2"	42"	23
E-9004	E-9024	55"	52 1/2"	27
E-9005	E-9025	63 3/4"	61 1/4"	29
E-9006	E-9026	72 1/2"	70"	31
E-9007	E-9027	81 1/4"	78 3/4"	33

Rear door supplied with rack. For replacement rear door, use Series 60 doors.

## SERIES 2000 INCLINED PANEL CABINET RACKS

Catalog No. *	Catalog No. *	Outside Height (A)	Outside Width (B)	Outside Depth (C)	Clear Inside Depth (D)	Inclined Panel Space (E)	Vertical Panel Space (F)	Wgt. Lbs
SE-2064	SE-2067	51 1/4"	24 3/16"	23 3/8"	20 1/2"	10 1/2"	29 3/4"	163
SE-2065	SE-2068	51 1/4"	24 3/16"	23 3/8"	20 1/2"	15 3/4"	24 1/2"	161
SE-2066	SE-2069	51 1/4"	24 3/16"	23 3/8"	20 1/2"	17 1/2"	22 3/4"	164

\*Supplied with plain sides and plain rear door

\*Supplied with louvered sides and louvered rear door

## SERIES 30-2000 (EXTRA DEEP) INCLINED PANEL CABINET RACKS

Catalog No.	Outside Height	Outside Width	Outside Depth	Clear Inside Depth	Inclined Panel Space	Vertical Panel Space	Wgt. Lbs.
S-30-2064	51 1/4"	24 3/16"	32 3/8"	29 1/4"	10 1/2"	29 3/4"	223
S-30-2065	51 1/4"	24 3/16"	32 3/8"	29 1/4"	15 3/4"	24 1/2"	223
S-30-2066	51 1/4"	24 3/16"	32 3/8"	29 1/4"	17 1/2"	22 3/4"	223

## SERIES 2000 FRONT DOORS FOR INCLINED PANEL CABINET RACKS

Catalog Number	Height	Width	Fits Vertical Space of the Inclined Unit	Wgt. Lbs.	
Plain E-9008	Louvered E-9028	32 1/4"	21"	29 3/4"	11
E-9009	E-9029	27"	21"	24 1/2"	10 1/2"
E-9010	E-9030	25 1/4"	21"	22 3/4"	9

Rear door supplied with rack.

Prices and Specifications Subject to Change Without Notice.



# BUD INDUSTRIES, INC.

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# RACKS/CABINETS



VALURACK



AVS500



DELUXE RELAY RACKS



PRESTIGE RELAY RACKS

## VALURACK 30"

This cabinet rack is another of our Designer Series available for off-the-shelf delivery. It offers the distinctive styling that enhances the value of its contents. The front is attractively framed by rigid vinyl trim with black inserts and a name plate.

### Design Features

Entire interior is accessible from front to rear for installing or maintaining components. One pair of horizontally adjustable mounting rails, tapped 10-32 on E.I.A. universal spacing attach to horizontal rail supports. The 20 gauge door has cam lock and flush handle, 18 gauge sides and 16 gauge top and bottom. Mounting brackets in base drilled to accommodate Bud RC-7758 casters or RL-7768 levelers.

### Bonus Feature

Shipped unassembled in two cartons. Quick, easy, assembly. No special tools required. Hardware included. NSTA approved packaging.

### Finish

Royal Blue Textured (RB).

VALURACK CATALOG NO.	RAIL PART NO.
KDR-2852	9451
KDR-2861	9452
KDR-2870	9453
KDR-2877	9306-PMR

Note: One pair of mounting rails is provided and should meet most of your requirements. To order additional pairs of mounting rails, refer to adjacent chart.

Catalog No.	PH Panel Height	A Outside Height	B Outside Width	C Outside Depth	D Clear Inside Depth	E Clear Inside Width	Est. Weight (lbs.)
KDR-2852	52½"	58¾"	22"	32¾"	29¼"	17½"	155
KDR-2861	61¼"	66½"	22"	32¾"	29¼"	17½"	174
KDR-2870	70"	75½"	22"	32¾"	29¼"	17½"	193
KDR-2877	77"	82½"	22"	32¾"	29¼"	17½"	208

## AVS500 VCR SYSTEM CABINET

This sturdy, all welded, compact, mobile unit provides a convenient VCR center for a range of AV applications and a housing for electronic devices.

**Design Features:** Top shelf of upper section houses a monitor or display. Clear dimensions of this are 18" high, 26" wide, 22" deep. Lower shelf designed for tape deck or disc player. Overall 65½" x 30" x 24".

Lower section contains two shelves for cassette storage or other material. Top shelf slides out. Area above each shelf is 12". All steel construction.

**Bonus Features:** Front doors bifold to provide a 270° opening for maximum view when V.T.R. system is operating. Flush mounted cam locks on all doors assure tamperproof storage and maximum security. Four 2" casters are included.

**Delivered assembled:** Weight 255 lbs.

**Finish:** Black textured.

## DELUXE RELAY RACKS

Versatile, economical enclosures house a wide range of electronic equipment and control system.

**Design Features:** Well-ventilated racks take 19" panels. Rear door has two black thermoplastic catches. If casters are required, specify RC-7756. Top, bottom, sides and rear door, 16 gauge steel. **Shipped knocked down.**

**Bonus Features:** Contoured front vertical members include 7/64" panel mounting supports drilled and tapped 10-32 on E.I.A. universal spacing.

**Finishes:** Royal blue textured (RB) and Luster Gray (LG).

### DELUXE RELAY RACKS

Catalog No.	Panel Space	Height	Width	Depth	Weight
CR-1774	36¼" x 19"	42½"	22"	17½"	78 lbs.
CR-1771	42" x 19"	47½"	22"	17½"	85 lbs.
CR-1772	61¼" x 19"	66½"	22"	17½"	111 lbs.
CR-1780	70" x 19"	75½"	22"	17½"	121 lbs.
CR-1773	77" x 19"	82½"	22"	17½"	130 lbs.
CR-2074	36¼" x 19"	42½"	22"	22½"	91 lbs.
CR-2071	42" x 19"	47½"	22"	22½"	101 lbs.
CR-2072	61¼" x 19"	66½"	22"	22½"	130 lbs.
CR-2075	70" x 19"	75½"	22"	22½"	142 lbs.
CR-2073	77" x 19"	82½"	22"	22½"	151 lbs.

## PRESTIGE RELAY RACKS

**Design Features:** Units consist of framework, top, bottom, two ball-covered sides and ball-cornered door. Standard 19" panels installed on any side of framework. Top, bottom, 16 gauge. Door and sides 18 gauge steel. Take RC-7756 casters. **Shipped knocked down.**

**Bonus Features:** Easy to assemble. Front and rear panel mounting rails are tapped 10-32 on E.I.A. universal spacing. Front rails only are fully adjustable. Flush mounted handle and cam lock.

**Finish:** Luster Gray (LG).

Will accommodate standard 19" panels

### PRESTIGE RELAY RACKS

Catalog No.	Panel Space	Height	Overall Width	Weight
CR-2280	61¼"	66½"	147 lbs.	
CR-2281	66½"	71½"	153 lbs.	
CR-2282	77"	82½"	170 lbs.	

Inside clearance ..... 21½" x 21½"  
 Overall depth with door ..... 23½"  
 Overall width without side panels ..... 22"  
 Overall width with side panels ..... 24½"

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# CABINET/EXTENSION RACKS

## ADD-A-RACK SYSTEM

### FOR SERIES 60 AND SERIES 2000 CABINET RACKS

Used to combine two or more enclosures into one integral system.

**Design Features:** Assembly consists of a welded frame top, bottom and rear door. Aluminum extrusions are included for Series 2000.

**Bonus Features:** The advantage of using this system is economy. When developing a band of enclosures, costs can be dramatically reduced by using one complete unit and several Add-A-Rack assemblies to obtain the optimum width.

**Finishes:** Order the same color as the cabinet rack.

#### Add-A-Racks For Series 60 Upright Cabinet Racks

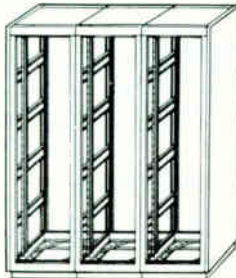
Inside Depth 20 1/2"      Inside Depth 24"      Inside Depth 29 1/4"

Catalog No.	Used To Add Same Size Unit To	Weight Lbs.	Catalog No.	Used To Add Same Size Unit To
60-2500	60-2300	92	60-2900	60-2700
60-2501	60-2301	113	60-2901	60-2701
60-2502	60-2302	115	60-2902	60-2702
60-2503	60-2303	145	60-2903	60-2703
60-2504	60-2305	148	60-2904	60-2704
60-2505	60-2305	152	60-2905	60-2705
60-2506	60-2306	158	60-2906	60-2706
60-2507	60-2307	120	60-2907	60-2707
60-2508	60-2308	132	60-2908	60-2708
60-2509	60-2309	138	60-2909	60-2709
60-2510	60-2310	142	60-2910	60-2710
60-2511	60-2311	164	60-2911	60-2711
60-2512	60-2312	168	60-2912	60-2712
60-2513	60-2313	172	60-2913	60-2713

Catalog No.	Used To Add Same Size Unit To	Weight Lbs.
30-2900	30-2300	133
30-2901	30-2301	155
30-2902	30-2302	182
30-2903	30-2303	207
30-2904	30-2304	230
30-2905	30-2305	230
30-2906	30-2306	269

#### Add-A-Racks For Series 60 Sloping Panel Cabinets

Catalog No.	Used To Add Same Size Unit To	Weight Lbs.
60-2530	60-2330	119
60-2531	60-2331	119
60-2532	60-2332	125
60-2930	60-2730	119
60-2931	60-2731	119
60-2932	60-2732	125
30-2530	30-2330	163
30-2531	30-2331	163
30-2532	30-2332	163
30-2930	30-2730	163
30-2931	30-2731	163
30-2932	30-2732	163



ADD-A-RACK

#### Add-A-Racks For Series 2000 Upright Cabinet Racks

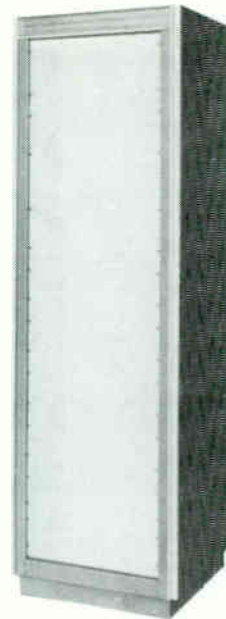
Inside Depth 20 1/2"      Inside Depth 24"      Inside Depth 29 1/4"

Catalog No.	Used To Add Same Size Unit To	Weight Lbs.	Catalog No.	Used To Add Same Size Unit To
AE-2032	E-2000	90	AE-2048	E-2016
AE-2033	E-2001	110	AE-2049	E-2017
AE-2034	E-2002	113	AE-2050	E-2018
AE-2035	E-2003	115	AE-2051	E-2019
AE-2036	E-2004	145	AE-2052	E-2020
AE-2037	E-2005	148	AE-2053	E-2021
AE-2038	E-2006	152	AE-2054	E-2022
AE-2039	E-2007	158	AE-2055	E-2023
AE-2040	E-2008	120	AE-2056	E-2024
AE-2041	E-2009	130	AE-2057	E-2025
AE-2024	E-2010	135	AE-2058	E-2026
AE-2043	E-2011	138	AE-2059	E-2027
AE-2044	E-2012	142	AE-2060	E-2028
AE-2045	E-2013	164	AE-2061	E-2029
AE-2046	E-2014	168	AE-2062	E-2030
AE-2047	E-2015	173	AE-2063	E-2031

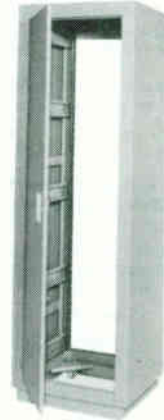
Catalog No.	Used To Add Same Size Unit To	Weight Lbs.
AE-30-2032	E-30-2000	137
AE-30-2033	E-30-2001	160
AE-30-2034	E-30-2002	187
AE-30-2035	E-30-2003	213
AE-30-2036	E-30-2004	238
AE-30-2037	E-30-2005	254
AE-30-2038	E-30-2006	275
AE-30-2039	E-30-2007	296

#### Add-A-Racks For Series 2000 Sloping Panel Cabinets

Catalog No.	Used To Add Same Size Unit To	Weight Lbs.
ASE-2084	SE-2064	115
ASE-2085	SE-2065	115
ASE-2086	SE-2066	120
ASE-2087	SE-2067	115
ASE-2088	SE-2068	115
ASE-2089	SE-2069	120
AS-30-2084	S-30-2064	190
AS-30-2085	S-30-2065	190
AS-30-2086	S-30-2066	190
ASE-30-2087	S-30-2067	190
ASE-30-2088	S-30-2068	190
ASE-30-2089	S-30-2069	190



CONCORDE SERIES



## CONCORDE SERIES UPRIGHT CABINET RACKS

Another choice of cabinet racks from Bud with a personality all their own. One that will add a unique but highly sophisticated appearance to your product. One that appeals to a marketplace looking for new and always better ideas. Concorde Cabinet Racks include welded frame, top, sides and rear door.

### Design Features

- "U" braces on 14 gauge steel frame provide assured strength and rigidity.
- Door, 20 gauge steel.
- Sides and top, 18 gauge.
- Front and rear adjustable panel mounting rails, 12 gauge, tapped 10-32 on E.I.A. universal spacing.
- Accommodate 19" panels.
- Caster brackets pierced for RC-7758 casters.
- One inch knockout holes in base.
- Clear anodized aluminum extrusion frames the cabinet. Name plate area has subtle woodgrain inset.
- Interiors are accessible from front and rear for easy installation and maintenance of components.
- Shipped completely assembled.

### Finishes

Gray textured (GT) or royal blue textured (RB).

### Accessories

Concorde Cabinet Racks are available with 24" panel space.

#### UPRIGHT CABINET RACKS

Catalog No.	Outside Height (A)	Outside Width (B)	Outside Depth (C)	Clear Inside Depth (D)	Panel Space (F)	Top Opening	Wgt Lbs
CR-16200	29 1/8"	24 1/8"	22 1/4"	20 1/2"	21"	18 3/16" x 17"	114
CR-16201	40 1/8"	24 1/8"	22 1/4"	20 1/2"	31 1/2"	18 3/16" x 17"	135
CR-16202	50 1/8"	24 1/8"	22 1/4"	20 1/2"	42"	18 3/16" x 17"	164
CR-16203	61 1/8"	24 1/8"	22 1/4"	20 1/2"	52 1/2"	18 3/16" x 17"	191
CR-16204	69 1/8"	24 1/8"	22 1/4"	20 1/2"	61 1/4"	18 3/16" x 17"	212
CR-16205	78 1/8"	24 1/8"	22 1/4"	20 1/2"	70"	18 3/16" x 17"	229
CR-16206	87 1/8"	24 1/8"	22 1/4"	20 1/2"	78 1/4"	18 3/16" x 17"	246

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# CABINET RACKS/PORTABLE CABINETS

## CLASSIC II CABINET RACKS

Refined styling, design simplicity. Rigid plastic extruded front trim frames the front - a few reasons why the Classic II sets your product apart from the conventional.

Classic II Cabinet Racks include welded frame, top, bottom, sides, rear door with flush mounted handle and cam lock.

### Design Features

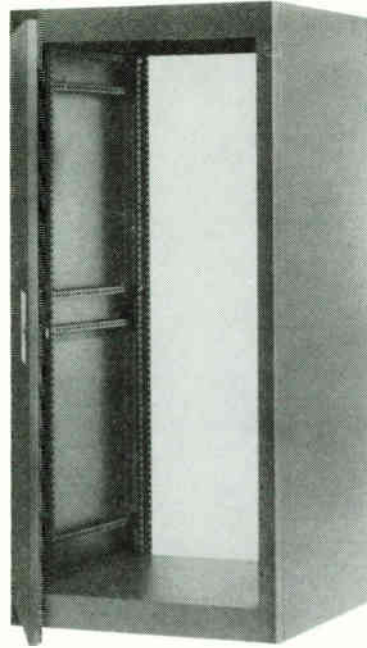
- Light weight, yet support heavier than average loads, since "U" braces on frame provide extra strength and support
- Rear door 20 gauge steel. Front door available. Can be mounted to open left or right.
- Side panels - 18 gauge steel
- Top and bottom - 16 gauge steel
- Adjustable front and rear mounting rails 12 gauge, tapped 10-32 on E.I.A. universal spacing
- 19" wide panels fit openings
- Caster brackets pierced for RC-7756 casters

### Finishes

Gray textured (GT) or royal blue textured (RB).

### Accessories

Classic II Cabinet Racks are available with 24" panel space.



CLASSIC II UPRIGHT CABINET RACKS

Catalog No.	Height (A)	Width (B)	Depth (C)	Panel Space (D)	Wgt. Lbs.
AGR-9301	36 <sup>1</sup> / <sub>16</sub> "	22"	22"	31 <sup>1</sup> / <sub>2</sub> "	119
AGR-9302	47 <sup>9</sup> / <sub>16</sub> "	22"	22"	42"	138
AGR-9303	57 <sup>1</sup> / <sub>16</sub> "	22"	22"	52 <sup>1</sup> / <sub>2</sub> "	154
AGR-9304	66 <sup>9</sup> / <sub>16</sub> "	22"	22"	61 <sup>1</sup> / <sub>4</sub> "	172
AGR-9305	75 <sup>9</sup> / <sub>16</sub> "	22"	22"	70"	182
AGR-9306	82 <sup>9</sup> / <sub>16</sub> "	22"	22"	77"	196

(clear inside depth, 21<sup>1</sup>/<sub>4</sub>" )



### FRONT DOORS

(Rear doors included with rack.)

Catalog No.	Fits Rack	Wgt. Lbs.
AGD-931	AGR-9301	16
AGD-932	AGR-9302	20
AGD-933	AGR-9303	23
AGD-934	AGR-9304	26
AGD-935	AGR-9305	28
AGD-936	AGR-9306	31

(Order door to match color of rack.)

## CLASSIC II PORTABLE CABINETS

Whether used independently or as a companion to the Classic II cabinet rack, the design of this distinctive cabinet harmonizes perfectly with the most sophisticated systems. While it's portable, it is equally effective for permanent installations.

### Design Features

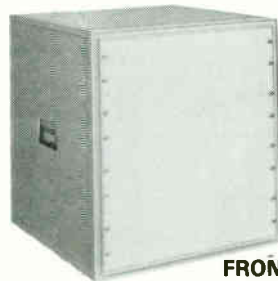
- Top, bottom and side panels .060 aluminum. Frame, 6063T aluminum extrusions
- Accomodate 19" panels
- Doors and panels not included but are available
- 1/8" aluminum alloy doors attach to mounting rails
- Black thermoplastic flush-type latch

### Bonus Features

- Recessed brushed chrome handles are attached to two steel flanges extending the length of the cabinet. This added support assures carrying safety.
- Two 16 gauge steel vertically adjustable chassis supports included
- Shipped completely assembled

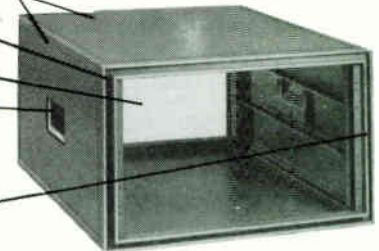
### Finishes

Gray textured (GT) or royal blue textured (RB).



FRONT

Top, bottom, side panels .060 aluminum.  
 Frame 6063-T5 aluminum extrusions.  
 Cabinets accommodate standard 19" panels.  
 Recessed handles swing out for portability.  
 Two 16 gauge vertically adjustable chassis supports.  
 Front and rear mounting rails tapped 10-32 W.E. spacing.  
 Clear inside depth, panel to panel 20 9/16" overall depth, 21 7/16".



### CLASSIC II CABINETS

Catalog No.	Height (A)	Panel Space (B)	Wgt. Lbs.
AGC-9267	7 <sup>1</sup> / <sub>16</sub> "	5 <sup>1</sup> / <sub>4</sub> "	28
AGC-9268	8 <sup>1</sup> / <sub>16</sub> "	7"	30
AGC-9269	10 <sup>9</sup> / <sub>16</sub> "	8 <sup>3</sup> / <sub>4</sub> "	32
AGC-9270	12 <sup>3</sup> / <sub>16</sub> "	10 <sup>1</sup> / <sub>2</sub> "	33
AGC-9271	14 <sup>1</sup> / <sub>16</sub> "	12 <sup>1</sup> / <sub>4</sub> "	34
AGC-9272	15 <sup>3</sup> / <sub>16</sub> "	14"	35
AGC-9273	17 <sup>9</sup> / <sub>16</sub> "	15 <sup>3</sup> / <sub>4</sub> "	36
AGC-9274	19 <sup>9</sup> / <sub>16</sub> "	17 <sup>1</sup> / <sub>2</sub> "	37
AGC-9275	21 <sup>1</sup> / <sub>16</sub> "	19 <sup>1</sup> / <sub>4</sub> "	39
AGC-9276	22 <sup>1</sup> / <sub>16</sub> "	21"	40
AGC-9277	24 <sup>9</sup> / <sub>16</sub> "	22 <sup>3</sup> / <sub>4</sub> "	41
AGC-9278	26 <sup>9</sup> / <sub>16</sub> "	24 <sup>1</sup> / <sub>2</sub> "	42
AGC-9279	28 <sup>1</sup> / <sub>16</sub> "	26 <sup>1</sup> / <sub>4</sub> "	43
AGC-9280	29 <sup>3</sup> / <sub>16</sub> "	28"	45

(Clear inside depth, 20<sup>9</sup>/<sub>16</sub>" Overall depth, 21<sup>7</sup>/<sub>16</sub>" )

### CLASSIC II CABINET DOORS

(Fit front or rear.) (No doors supplied)

Catalog No.	Height	Fits Cabinet	Wgt. Lbs.
AGD-367	5 <sup>1</sup> / <sub>4</sub> "	AGC-9267	1 <sup>3</sup> / <sub>4</sub>
AGD-368	7"	AGC-9268	2
AGD-369	8 <sup>3</sup> / <sub>4</sub> "	AGC-9269	2 <sup>3</sup> / <sub>4</sub>
AGD-370	10 <sup>1</sup> / <sub>2</sub> "	AGC-9270	3
AGD-371	12 <sup>1</sup> / <sub>4</sub> "	AGC-9271	3 <sup>1</sup> / <sub>2</sub>
AGD-372	14"	AGC-9272	4
AGD-373	15 <sup>3</sup> / <sub>4</sub> "	AGC-9273	4 <sup>3</sup> / <sub>4</sub>
AGD-374	17 <sup>1</sup> / <sub>2</sub> "	AGC-9274	5
AGD-375	19 <sup>1</sup> / <sub>4</sub> "	AGC-9275	5 <sup>1</sup> / <sub>2</sub>
AGD-376	21"	AGC-9276	6 <sup>1</sup> / <sub>4</sub>
AGD-377	22 <sup>3</sup> / <sub>4</sub> "	AGC-9277	6 <sup>3</sup> / <sub>4</sub>
AGD-378	24 <sup>1</sup> / <sub>2</sub> "	AGC-9278	7 <sup>1</sup> / <sub>4</sub>
AGD-379	26 <sup>1</sup> / <sub>4</sub> "	AGC-9279	7 <sup>1</sup> / <sub>2</sub>
AGD-380	28"	AGC-9280	8

Doors available in white textured (WH) only.



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## RACKS

### OPEN RELAY RACKS

Ideal for installations where easy access to components is a top priority. Each built for years of solid, trouble-free service, as well as obvious ease of service where frequent attention is desired (i.e. telephone switching systems, etc.).

#### RR-1260 SERIES

**Design Features:** Exceptionally strong structure made up of chassis-type base and supporting angles. Uprights,  $\frac{7}{16}$ " steel channels, 3" deep; top plate,  $1\frac{1}{8}$ " x  $3\frac{1}{8}$ ". Rails tapped 10-32 on E.I.A. universal spacing. Base is  $19\frac{3}{4}$ " x 22" and drilled for RC-7756 casters. Shipped knocked down.

**Finish:** Luster Gray (LG) and Black Textured (BT).

Catalog No.	Panel Space	Height	Weight
RR-1263	31 $\frac{1}{2}$ " x 19"	35 $\frac{5}{8}$ "	36 lbs.
RR-1363	36 $\frac{3}{4}$ " x 19"	40 $\frac{7}{8}$ "	37 lbs.
RR-1264	66 $\frac{1}{2}$ " x 19"	70 $\frac{5}{8}$ "	46 lbs.
RR-1364	71 $\frac{3}{4}$ " x 19"	75 $\frac{7}{8}$ "	47 lbs.
RR-1366	77" x 19"	81 $\frac{1}{8}$ "	49 lbs.

#### RR-1265

**Design Features:** Heavy-duty rack usually bolted to floor. Base, two  $\frac{1}{4}$ " steel angles,  $3\frac{1}{2}$ " x  $4\frac{7}{8}$ " x  $20\frac{3}{8}$ ", cross bars,  $\frac{1}{8}$ " x  $2\frac{3}{32}$ " x  $1\frac{9}{16}$ " steel angles. (Uprights, 3" x  $1\frac{9}{32}$ "). Panel mounting holes drilled and tapped 12-24. Base is  $20\frac{3}{8}$ " x  $12\frac{3}{4}$ ". Shipped knocked down.

**Finish:** Black Textured (BT).

Catalog No.	Panel Space	Height	Weight
RR-1265	66 $\frac{1}{2}$ " x 19"	72 $\frac{1}{4}$ "	64 lbs.

#### RR-1360 SERIES

**Design Features:** Extra-sturdy racks made of 14 gauge steel. Eight-inch deep welded "U" member and triangular bracket hold uprights to base (12 GA.). Panel mounting rails tapped 10-32 on E.I.A. universal spacing. Chassis type base,  $20\frac{7}{8}$ " x 26", drilled for RC-7756 casters. Racks may be bolted together in Add-A-Rack fashion. Shipped knocked down.

**Finish:** Luster Gray (LG) and Black Textured (BT).

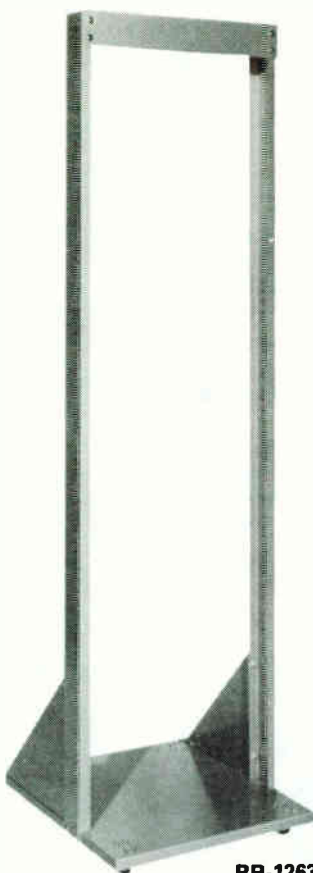
Catalog No.	Panel Space	Height	Base Width	Weight
RR-1367	61 $\frac{1}{4}$ " x 19"	64 $\frac{5}{8}$ "	20 $\frac{7}{8}$ "	74 lbs.
RR-1368	70" x 19"	73 $\frac{3}{8}$ "	20 $\frac{7}{8}$ "	77 lbs.
RR-1369	77" x 19"	80 $\frac{3}{8}$ "	20 $\frac{7}{8}$ "	81 lbs.

#### RR-1240 SERIES

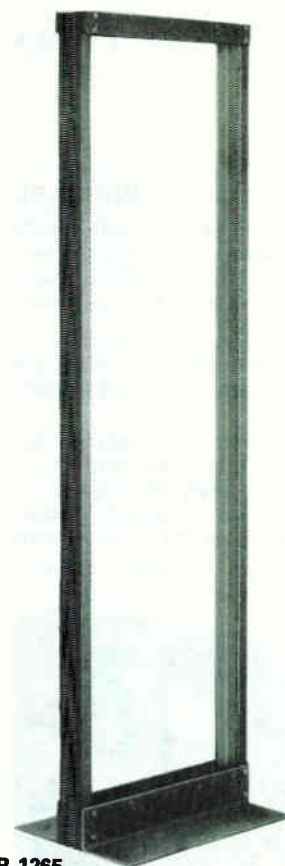
**Design Features:** Chassis-type base holds heavy components for table mounting applications. Supporting angles provide strength, rigidity. Panel mounting rails tapped 10-32 on E.I.A. universal spacing. Standard 19" panel fits flush with front. Base,  $20\frac{3}{8}$ " x 12". Shipped knocked down.

**Finish:** Luster Gray (LG) and Black Textured (BT).

Catalog No.	Panel Space	Height	Weight
RR-1248	21"	24"	14 $\frac{1}{4}$ lbs.
RR-1249	28"	31"	16 $\frac{3}{4}$ lbs.



RR-1263



RR-1265



RR-1367



RR-1248

# BUD INDUSTRIES, INC.

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# CABINETS/CABINET RACKS

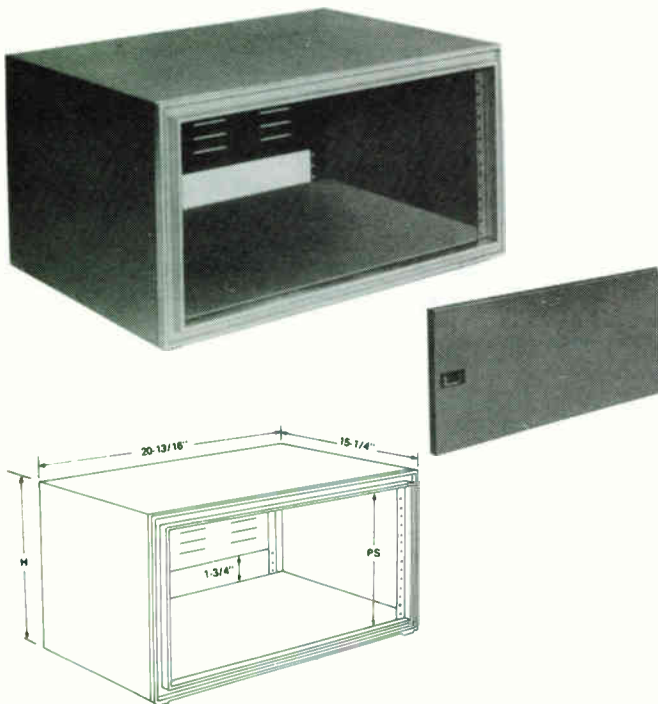
## THE STYLIST HEAVY-LOAD-BEARING CABINETS

Decorative rigid vinyl trim with woodgrain insert frames the front of this cleanly designed cabinet. Square corners enhance the unit's contemporary styling and, in turn, enhance the appearance and marketability of your product.

**Design Features:** 16 gauge steel. Rear fitted with louvered panel; 1 3/4"-high opening for cable access. Front and rear openings accept 19" panels or Stylist doors. Self-adhesive feet furnished.

**Bonus Features:** Full-width box flanges at top and bottom eliminate tilt and sway even when unit is loaded to its full 500-pound capacity. Cold-rolled steel structure is self supporting, no internal framework. Bustle-type door allows placement of panel behind door for meters, knobs, etc.

**Finishes:** Royal blue textured (RB) or gray textured (GT).



### THE STYLIST

Catalog No.	Overall Height	Panel Space	Wgt. Lbs.
S-1639	7 1/8"	5 1/4"	23
S-1640	8 1 3/8"	7"	24
S-1641	10 9/16"	8 3/4"	26
S-1642	12 5/8"	10 1/2"	28
S-1643	14 1/8"	12 1/4"	30
S-1644	15 3/8"	14"	32
S-1645	17 9/16"	15 3/4"	34

(Overall width, 20 13/16"; overall depth, 15 1/4"; clear inside depth, 14 3/8")

### DOORS

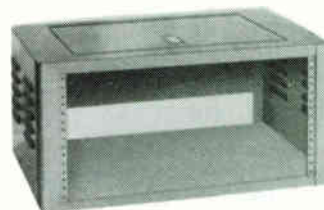
Catalog No.	Height	Fits Wgt. Lbs.	Cabinet
SD-539	5 1/4"	3 1/2"	S-1639
SD-540	7"	4 3/4"	S-1640
SD-541	8 3/4"	5 1/2"	S-1641
SD-542	10 1/2"	6 1/4"	S-1642
SD-543	12 1/4"	7"	S-1643
SD-544	14"	7 3/4"	S-1644
SD-545	15 3/4"	8 1/2"	S-1645

Order door to match color of cabinet.

## CABINET RACKS

### DELUXE

**Design Features:** All-welded 16 gauge steel construction. Front uprights are contoured. Ten sizes. All models have hinged top with sliding flush latch. Top cover clearance, 10 2 1/32" x 15 1/2". 19" wide panel space. Mounting rails tapped 10-32 on E.I.A. universal spacing. Finish: Luster Gray (LG).



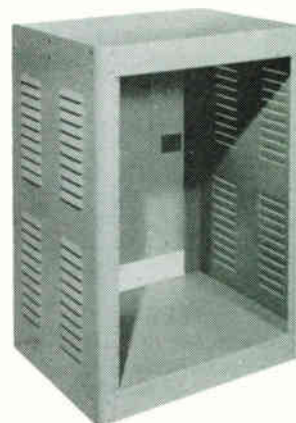
### DELUXE CABINET RACKS

Catalog No.	Overall Height	Panel Space	Wgt. Lbs.
CR-1726	8 1 3/8"	7"	23
CR-1741	10 9/8"	8 3/4"	25
CR-1740	12 5/8"	10 1/2"	27
CR-1742	14 1/8"	12 1/4"	28
CR-1739	15 3/8"	14"	30
CR-1743*	19 5/8"	17 1/2"	34
CR-1727*	22 3/8"	21"	38
CR-1744*	28 1/8"	26 1/4"	42
CR-1728*	33 5/8"	31 1/2"	47
CR-1745*	36 1/8"	35"	50

Clear Inside Depth, 14 3/8". \*These sizes have rear doors.

### HEAVY-DUTY

**Design Features:** Solidly-built, all-steel. Panel mounting rails are part of sides for easier assembly. Mounting rails tapped 10-32 on E.I.A. universal spacing. Hinged rear door has flush catch. Take 19" panels. Racks may be joined, utilizing Bud's Add-A-Rack method. Shipped knocked down. Finish: Luster Gray (LG).



### HEAVY-DUTY CABINET RACKS

Catalog No.	Overall Height	Panel Space	Wgt. Lbs.
CR-1736	24 1/2"	19 1/4"	49
CR-1737	31 1/2"	26 1/4"	57
CR-1738	40 1/4"	35"	69

Clear inside depth, 16 1/8".

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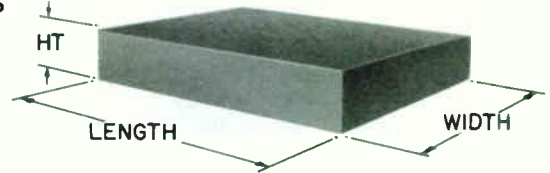
# CHASSIS

## ALUMINUM CHASSIS

From Bud, the widest selection of aluminum chassis in the industry: 63 sizes. Each is welded at stress points for assured, maximum strength and rigidity. Sides folded in at bottom for additional support. Bottom plate easily attached. Natural finish.

## CHASSIS BOTTOM PLATES

Fits all chassis sizes. Used to protect wiring or components, or as dust covers on underside of chassis.



### ALUMINUM CHASSIS

Catalog No.	Width	Length	Height	Gauge	Weight
AC-1401	2½"	4½"	1"	.040	⅛ lb.
AC-1402	3½"	4½"	1"	.040	⅛ lb.
AC-1403	3½"	5½"	1"	.040	⅛ lb.
AC-1404	4"	5"	2"	.040	¼ lb.
AC-1405	4"	6"	1½"	.040	¼ lb.
AC-430	4"	6"	3"	.040	⅓ lb.
AC-431	4"	6"	2"	.040	¼ lb.
AC-1406	4"	8"	2"	.040	¼ lb.
AC-432	4"	17"	3"	.050	1 lb.
AC-1407	4½"	8"	1½"	.040	¼ lb.
AC-402	5"	7"	2"	.040	⅓ lb.
AC-429	5"	7"	3"	.040	½ lb.
AC-1408	5"	9"	1½"	.040	⅓ lb.
AC-1409	5"	9½"	1½"	.040	⅓ lb.
AC-403	5"	9½"	2"	.040	½ lb.
AC-401	5"	9½"	2½"	.040	½ lb.
AC-421	5"	9½"	3"	.040	⅝ lb.
AC-404	5"	10"	3"	.040	⅝ lb.
AC-422	5"	13"	3"	.040	¾ lb.
AC-1410	5"	13½"	2½"	.040	¾ lb.
AC-1411	5½"	5½"	1"	.040	⅓ lb.
AC-1412	5½"	9½"	1½"	.040	⅓ lb.
AC-1413	6"	8"	2"	.040	⅓ lb.
AC-1414	6"	14"	3"	.050	1 ⅛ lbs.
AC-433	6"	17"	3"	.050	1 ¼ lbs.
AC-405	7"	7"	2"	.040	½ lb.
AC-406	7"	9"	2"	.040	½ lb.
AC-407	7"	11"	2"	.040	⅝ lb.
AC-408	7"	12"	3"	.040	⅞ lb.
AC-409	7"	13"	2"	.040	¾ lb.
AC-1415	7"	15"	2"	.050	1 lb.
AC-411	7"	15"	3"	.050	1 ¼ lbs.

## ALUMINUM PANEL CHASSIS

Fasten to mounting rail in racks. Can be used as a vertical chassis where depth is limited or where front service is required. Panel depth 5 9/32". Made of .057 aluminum alloy. Natural finish.



### PANEL CHASSIS

Catalog No.	Height	Weight
CB-1370	1¾"	¾ lb.
CB-1371	3½"	1 ¼ lbs.
CB-1372	5¼"	1 ½ lbs.
CB-1373	7"	2 lbs.
CB-1374	8¾"	2 ¼ lbs.
CB-1375	10½"	2 ¾ lbs.
CB-1376	12¼"	3 lbs.
CB-1377	14"	3 ¼ lbs.

### CHASSIS BOTTOM PLATES

Aluminum Natural Finish Catalog No.	Fits Chassis Width	Chassis Length	Wgt in Ozs.
BPA-1501	2½"	4½"	1
BPA-1502	3½"	4½"	1
BPA-1503	3½"	5½"	2
BPA-1504	4"	5"	2
BPA-1505	4"	6"	2
BPA-1506	4"	8"	2
BPA-1532	4"	17"	4
BPA-1507	4½"	8"	3
BPA-1589	5"	7"	2
BPA-1508	5"	9"	3
BPA-1590	5"	9½"	2
BPA-1591	5"	10"	4
BPA-1509	5"	13"	4
BPA-1510	5"	13½"	4
BPA-1511	5½"	5½"	2
BPA-1512	5½"	9½"	3
BPA-1513	6"	8"	3
BPA-1514	6"	14"	5
BPA-1515	6"	17"	6
BPA-1592	7"	7"	3
BPA-1593	7"	9"	4
BPA-1594	7"	11"	4
BPA-1595	7"	12"	5
BPA-1596	7"	13"	8
BPA-1516	7"	15"	8
BPA-1517	7"	17"	8
BPA-1518	8"	10"	4
BPA-1519	8"	12"	6
BPA-1520	8"	17"	8
BPA-1521	8½"	15"	8
BPA-1522	9"	15"	8
BPA-1523	10"	12"	8
BPA-1524	10"	14"	8
BPA-1597	10"	17"	10
BPA-1525	10"	23"	14
BPA-1526	11"	17"	12
BPA-1527	12"	12"	10
BPA-1528	12"	17"	12
BPA-1598	13"	17"	14
BPA-1529	14"	17"	15
BPA-1530	15"	17"	16
BPA-1531	17"	17"	17

Prices and Specifications Subject to Change Without Notice.



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# ACCESSORIES

## ACCESSORIES

For Series 2000, Series 60, Valurack, Concorde Series Upright Cabinet Racks.

The following key will indicate the cabinet rack on which the accessories shown on these pages may be used: Valurack (A), Classic II (B), Series 2000 (C), Series 60 (D), Concorde (E). Match the key letter under the accessory with the proper cabinet rack designation.

### POWER OUTLET STRIPS



Power outlet strips can be used in cabinets, on walls or along work or test benches. Silver gray housings; no loose wires can come into contact with conductor wires. Strips snap into adjustable mounting clips. Grounding type 15 amp., 125 volt receptacles .15 amp thermal-type circuit breaker with reset. Models 6 and 66 have 14 gauge 3 wire power cord, others have 12 gauge solid conductor. Both have 6 ft. cords. All components U.L. approved.

#### A-B-C-D-E

Catalog No.	Number of Outlets	Length	Weight
POS-4	4	17½"	2 lbs.
POS-6	6	12¼"	1¾ lbs.
POS-66*	6	12¼"	1¾ lbs.
POS-7	7	48"	3½ lbs.
POS-9	9	60"	4¼ lbs.
POS-11	11	72"	4¾ lbs.

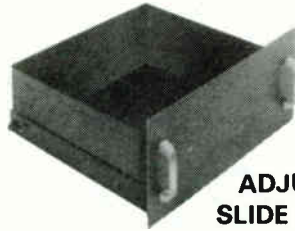
\*Surge Suppressed

### SURGE SUPPRESSOR



#### A-B-C-D-E

Provides protection to data or word processing equipment and other sensitive electrical equipment from sudden "spikes" or high energy voltage. Prevents equipment damage, lost or distorted data. Clamps transient impulses in 10 Nanoseconds. Maximum "spike" current 2000 amps. 15 amp thermal type, circuit breaker with reset. 14 gauge, 3 wire, 6 foot power cord, all components U.L. approved.



### ADJUSTABLE SLIDE DRAWER

Fit cabinets with 19" panel space. Adjustable slides. Support heavy loads even when fully extended. Silver anodized handles.

#### Panel Finishes

White textured (WH) and Luster Gray (LG)  
 H-9355 Handle only for drawer.

#### A-B-C-D-E

Cat. No.	Size Inside	Panel Height	Wgt.
D-1721	16¾" x 6¾" x 16¾/16"	8¾"	23 lbs.
60-2368	16¾/16" x 6¾/16" x 19¾/16"	8¾"	24 lbs.



### DESK TOP DRAWER

Front panel height, 3½". Hinged drawer top has Formica® bonded to aluminum. Front panel latch locks and releases drawer and top. Mount to "U" braces in cabinet.

Panel Finishes: White textured (WH) and Luster Gray (LG).

#### A-B-C-D-E

Cat. No.	Size Inside	Wgt.
60-2363	16¾/16" x 3 x 14 7/8"	23 lbs.



### SLIDING DESK TOP

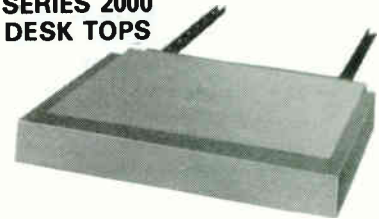
Requires only 1¾" panel space and 15½" x 17½" inside. Working area, 11" x 17½". Supports 50 lbs. Formica® surface. Mounts to uprights in Series 60 without brackets. Ball-bearing slide mechanism.

Panel Finishes: White textured (WH) and Luster Gray (LG). Top surface is antique white.

#### A-B-C-D-E

Cat. No.	Surface Area			Wgt.
	Width	Depth	Panel	
60-2361	17½"	15½"	19" x 1¾"	11 lbs.

### SERIES 2000 DESK TOPS



Supports 200 pounds. Easy to install: Just bolt pre-slotted, full-length support channels to cabinet rack's mounting rails.

Finishes: Gray textured (GT) and Royal blue textured (RB).

Catalog No.	Fits Series 2000	Supporting Channel	Wgt. Lbs.
DT-2960	With 23¾" depth	21¼"	21
DT-2962	With 27¾" depth	24¾"	21

### SERIES 60 DESK TOPS



Supports 200 pounds. Easy to install: Just bolt pre-slotted, full-length support channels to cabinet rack's mounting rails.

Finishes: Royal blue textured (RB), gray textured (GT).

Cat. No.	Fits 60 Series	Support Channel	Wgt.
60-2360	With 22" D	21¼"	21 lbs.
60-2362	With 25½" D	24¾"	21 lbs.



### SLIDING DRAWER ASSEMBLY

Aluminum open chassis. Mounting brackets fit on vertical mounting rails. Supports 50 lbs. Slide mechanism attaches to chassis, moves on ball bearings; has 11" travel. Drawer cannot be removed accidentally. Chassis size 16¾" x 14" x 3" with ½" flange top and bottom. Separate drawer plate fastens to top or bottom. Finish: Chassis and drawer plate finished in Luster Gray (LG).

#### A-B-C-D-E

Cat. No.	Description	Size	Wgt.
SD-1717	Sliding Drawer Assembly	16¾" x 14"	6 lbs.
TP-1718	Drawer Plate	16¾" x 14"	1½ lbs.

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# DOORS/ACCESSORIES

## PLEXIGLASS DOORS

Fits Series 60, Series 2000, and Concorde Racks.

1/8" smoke gray plexiglass.

Frame is 1<sup>31</sup>/<sub>32</sub>" x 1<sup>1</sup>/<sub>8</sub>" anodized aluminum extrusion with longitudinal grooves for enhanced appearance.

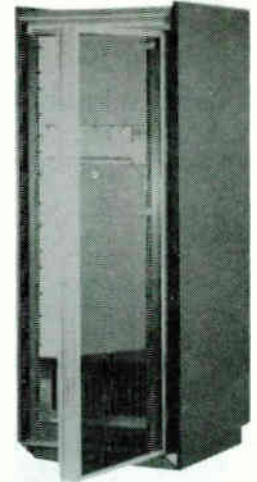
Door is magnetically held in closed position. Easily installed or removed through use of spring pin hinges.

Inner surface of door is at least 1 1/2" from front of panel.

Door clears panel space when opened 90° or more.

Installation hardware furnished.

Catalog Number	Upright Rack Vertical Panel Space	Weight Lbs.
V-9060-A	21"	11
V-9061-A	31 1/2"	16
V-9062-A	35"	17
V-9063-A	42"	19
V-9064-A	52 1/2"	20
V-9065-A	61 1/4"	23
V-9066-A	70"	24
V-9067-A	78 3/4"	31
Catalog Number	Inclined Rack Vertical Panel Space	Weight Lbs.
V-9068-A	29 3/4"	12
V-9069-A	24 1/2"	13
V-9070-A	22 3/4"	12



## SHELF ASSEMBLY

Fits Deluxe and Prestige Relay Racks. Useful as a desk or work space. Can't fall or tilt. Will support any reasonable weight. May be attached over panel or direct to panel or direct to panel mounting rails.

Triangular mounting brackets slip into channel welded to shelf bottom. Overall height 7 1/8". Hardware furnished.

Finishes: Gray texture (GT) and Royal Blue textured (RB).

Cat. No.	Depth	Width	Wgt.
SA-1719	16"	22"	13 1/4 lbs.
SA-1720	20"	22"	15 1/4 lbs.



## RACK SHELVES

Heavy gauge steel; 1" flange adds rigidity; accommodate heavy loads. Designed to rest on supporting angles.

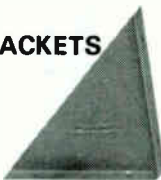
Finish: Black

Catalog No.	Width	Depth	Wgt.
CB-1976	19"	15"	6 lbs.
CB-1977	19"	12"	5 lbs.

## TRIANGULAR MOUNTING BRACKETS

Heavy gauge steel; 3/4" flanges support chassis. Sold in pairs.

Finish: Black



Catalog No.	Height	Depth	Wgt.
MB-1266	5"	5"	1/2 lbs.
MB-1267	7"	7"	1 lbs.
MB-1268	9"	9"	1 1/2 lbs.



## TURRETS

Any of the three faces may be attached to rails of Series 60 upright racks, or placed on any horizontal surface to obtain ideal viewing angle. Takes standard 19" panels.

Finishes: Royal blue textured (RB) and Gray textured (GT).

Cat. No.	Width	Depth	Height	Sloping Panel Space	Bottom Panel Space	Rear Panel Space	Wgt. Lbs.
60-2364	22 1/8"	17 1/8"	12 3/8"	17 1/2"	14"	8 3/4"	17
60-2365	22 1/8"	14 3/8"	10 3/8"	12 1/4"	10 1/2"	7"	14
60-2366	22 1/8"	20 3/8"	14 3/8"	21"	17 1/2"	10 1/2"	20



## SHELVES

Supports 200 lbs. One piece 16 gauge steel; flanged front and rear provide added support. Attach to front and back vertical panel mounting rails in cabinets.

Panel Finishes: White textured (WH) and Luster Gray (LG).

A-B-C-D-E

Cat. No.	Width	Depth	Wgt.
60-2380	17 7/8"	19 1/4"	8 lbs.
60-2381	17 7/8"	22 3/4"	8 lbs.

## CHASSIS MOUNTING BRACKETS

Supports and/or permits chassis to be mounted flush against panel. Steel construction. MB-450 and MB-451 designed for 4" high chassis. Sold in pairs.

Finish: Black



Catalog No.	Height	Depth	Weight
MB-458	6 1/2"	8"	1 1/4 lbs.
MB-448	6 1/2"	10"	1 3/4 lbs.
MB-459	6 1/2"	11"	2 lbs.
MB-449	6 1/2"	12"	2 lbs.
MB-460	6 1/2"	13"	2 1/2 lbs.
MB-450	8 1/2"	10"	2 1/4 lbs.
MB-451	8 1/2"	13"	3 lbs.



## ANTI-TILT LEGS

Prevents tipping of cabinets when top section is over balanced. Made of 1" x 2" rectangular tubing. Finished in Gray Textured (GT) or Royal Blue Textured (RB). Specify color to match that of cabinet. Equipped with stem levelers. Easily fastened to base of cabinet. Legs project 12" from front of cabinet when attached. Hardware furnished.

C-D-E

Catalog No.	Fits Cabinet with Outside Depth of	Wght. Pr.
ATL-6601	22"	6 lbs.
ATL-6602	25 1/2"	7 lbs.
ATL-6603	30 3/4"	8 1/2 lbs.

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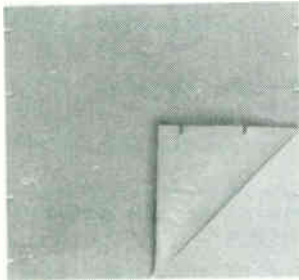
# ACCESSORIES

## STANDARD PANELS

For All Cabinets, Cabinet Racks, Relay Racks  
 And Small Enclosures, Where Applicable.

## "SURFACE SHIELD" PANELS

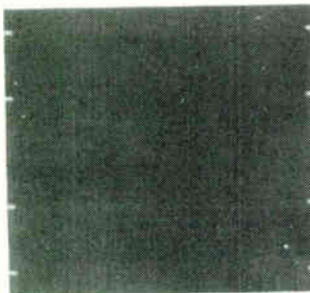
Mill finish aluminum alloy panels. White, pressure-sensitive paper on one side protects and provides surface for laying out drilling or punching position. Available in 1/8" and 3/16" thickness; 19" width.



SFA-1831-1842  
 SFA-3161-3172

## STEEL, STANDARD ALUMINUM AND HARD ALUMINUM PANELS

Available in 11 gauge steel; 1/8" and 3/16" aluminum alloy. Steel, standard and hard aluminum (2024-T3) panels come in 19" widths. Standard 1/8" aluminum panels also available in 24" width.



PA and PS SERIES

Finishes:  
 White textured (WH), and  
 Luster Gray (LG).

11 GA. STEEL		
Catalog No.	Height	Weight
PS-1250	1 3/4"	1 1/4 lbs.
PS-1251	3 1/2"	2 1/4 lbs.
PS-1252	5 1/4"	3 3/4 lbs.
PS-1253	7"	4 1/2 lbs.
PS-1254	8 3/4"	6 lbs.
PS-1255	10 1/2"	7 lbs.
PS-1256	12 1/4"	8 1/4 lbs.
PS-1257	14"	9 1/2 lbs.
PS-1258	15 3/4"	10 3/4 lbs.
PS-1259	17 1/2"	11 3/4 lbs.
PS-1260	19 1/4"	13 lbs.
PS-1261	21"	14 1/4 lbs.

## SURFACE SHIELD

### 19-INCH ALUMINUM PANELS (3003-H14)

#### 1/8" PANELS

Catalog No.	Height	Weight
SFA-1831	1 3/4"	3/8 lb.
SFA-1832	3 1/2"	3/4 lb.
SFA-1833	5 1/4"	1 1/8 lbs.
SFA-1834	7"	1 3/4 lbs.
SFA-1835	8 3/4"	2 lbs.
SFA-1836	10 1/2"	2 1/2 lbs.
SFA-1837	12 1/4"	2 3/4 lbs.
SFA-1838	14"	3 1/4 lbs.
SFA-1839	15 3/4"	3 5/8 lbs.
SFA-1840	17 1/2"	4 lbs.
SFA-1841	19 1/4"	4 1/4 lbs.
SFA-1842	21"	5 lbs.

#### 3/16" PANELS

Catalog No.	Height	Weight
SFA-3161	1 3/4"	3/4 lb.
SFA-3162	3 1/2"	1 1/4 lbs.
SFA-3163	5 1/4"	1 3/4 lbs.
SFA-3164	7"	2 1/2 lbs.
SFA-3165	8 3/4"	3 lbs.
SFA-3166	10 1/2"	3 3/4 lbs.
SFA-3167	12 1/4"	4 1/2 lbs.
SFA-3168	14"	5 lbs.
SFA-3169	15 3/4"	5 3/4 lbs.
SFA-3170	17 1/2"	6 1/4 lbs.
SFA-3171	19 1/4"	7 lbs.
SFA-3172	21"	7 1/4 lbs.

#### 2024-T-3 ALUMINUM 19" PANELS 1/8" THICK

Catalog No.	Height	Weight
PA-1131	1 3/4"	3/8 lb.
PA-1132	3 1/2"	3/4 lb.
PA-1133	5 1/4"	1 1/8 lbs.
PA-1134	7"	1 3/4 lbs.
PA-1135	8 3/4"	2 lbs.
PA-1136	10 1/2"	2 1/2 lbs.
PA-1137	12 1/4"	2 3/4 lbs.
PA-1138	14"	3 1/4 lbs.
PA-1139	15 3/4"	3 5/8 lbs.
PA-1140	17 1/2"	4 lbs.
PA-1141	19 1/4"	4 1/4 lbs.
PA-1142	21"	5 lbs.

#### ALUMINUM 24" PANELS 1/8" THICK (3003-H14)

Catalog No.	Height	Weight
PA-2401	1 3/4"	1/2 lb.
PA-2402	3 1/2"	1 lb.
PA-2403	5 1/4"	1 1/2 lbs.
PA-2404	7"	2 1/4 lbs.
PA-2405	8 3/4"	2 1/2 lbs.
PA-2406	10 1/2"	3 lbs.
PA-2407	12 1/4"	3 1/4 lbs.
PA-2408	14"	3 1/2 lbs.
PA-2409	15 3/4"	4 lbs.
PA-2410	17 1/2"	4 3/4 lbs.
PA-2411	19 1/4"	5 1/4 lbs.
PA-2412	21"	5 1/2 lbs.

## 19-INCH PANELS

#### 1/8" ALUMINUM (3003-H14)

Catalog No.	Height	Weight
PA-1101	1 3/4"	3/8 lb.
PA-1102	3 1/2"	3/4 lb.
PA-1103	5 1/4"	1 1/8 lbs.
PA-1104	7"	1 3/4 lbs.
PA-1105	8 3/4"	2 lbs.
PA-1106	10 1/2"	2 1/2 lbs.
PA-1107	12 1/4"	2 3/4 lbs.
PA-1108	14"	3 lbs.
PA-1109	15 3/4"	3 1/4 lbs.
PA-1110	17 1/2"	3 5/8 lbs.
PA-1111	19 1/4"	4 1/4 lbs.
PA-1112	21"	5 lbs.

#### 3/16" ALUMINUM (3003-H14)

Catalog No.	Height	Weight
PA-3101	1 3/4"	3/4 lb.
PA-3102	3 1/2"	1 1/4 lbs.
PA-3103	5 1/4"	1 3/4 lbs.
PA-3104	7"	2 1/2 lbs.
PA-3105	8 3/4"	3 lbs.
PA-3106	10 1/2"	3 3/4 lbs.
PA-3107	12 1/4"	4 1/2 lbs.
PA-3108	14"	5 lbs.
PA-3109	15 3/4"	5 3/4 lbs.
PA-3110	17 1/2"	6 1/4 lbs.
PA-3111	19 1/4"	7 lbs.
PA-3112	21"	7 1/4 lbs.



# BUHL OPTICAL CO.

1009 Beech Ave.  
 Pittsburgh, PA 15233  
 (412) 321-0076 Telex: 46-7223 BUHLOPTVID CI  
 (800) 245-4574 FAX: (412) 322-2640

# MULTIPLEXERS/BIPLEXER

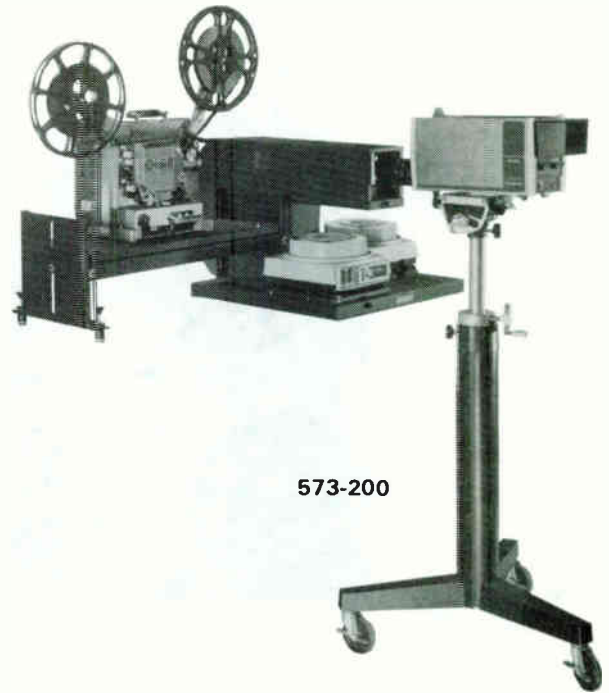
## Series 573 Mobile Multiplexer

The Series 573 Mobile Multiplexers accept input from two slide projectors and are equipped with a third input port which is usually used for 16mm input. It is not practical to use the third input for a slide projector. Buhl makes other multiplexers to handle three or more slide projectors. No projection lenses are needed for the two slide projectors because the optics are built into the multiplexer itself. The 16mm projector for the third input does require its own projection lens. The video camera uses its normal zoom lens. The camera can be mounted on a tripod but most users find the camera mount a convenient accessory. The choice of two basic models of the mobile multiplexer is determined by the diameter of the video camera zoom lens. Each of the two models can then be equipped with mounting plates to handle any of these slide projectors: Kodak Ektagaphic II, Kodak Ektagaphic III, Kodak S AV.

- 573-200 3.0" or less (camera lens diameter) . . . . . \$ 1450.00
- 573-190 4.5" or less (camera lens diameter) . . . . . 2237.00
- 573-312 Camera mount for 573 Series Multiplexers  
for semi-permanent mounting . . . . . 340.00

### Accessories

- 573-130 Kodak Ektagaphic E III Slide Projector  
(Includes brightness modifier and neutral  
density filter holder) Lens not included . . . \$ 286.00
- 575-132 Eiki 16mm telecine optical projector.  
SNT-OT. 5 bladed shutter, synchronous  
motor, diffusion device, lens not included . . 2005.00
- 575-112 Buhl projection lens for Eiki 16mm . . . . . 117.00
- 575-180 ELMO 16mm telecine optical/magnetic  
projector 16CL ETC. 5 bladed shutter,  
synchronous motor, lens not included.  
Diffusion device included . . . . . 2110.00



573-200

- 575-125 Buhl projection lens for ELMO 16mm . . . . . \$ 117.00
- 575-146 ELMO ST 180 ETC Super 8mm telecine  
projector. 15-25mm zoom lens included.  
Diffusion device included . . . . . 650.00
- 575-170 ELMO ST 180 ETC Regular 8mm telecine  
projector. 15-25mm ELMO zoom lens included.  
Diffusion device included . . . . . 700.00
- 574-100 Diffusion device for ELMO 8mm/Super  
8mm projectors. . . . . 36.00
- 573-202 Diffusion device for Eiki and ELMO  
16mm projectors. . . . . 36.00
- 574-695 Brightness modifier for Kodak III  
35mm projectors. . . . . 24.00

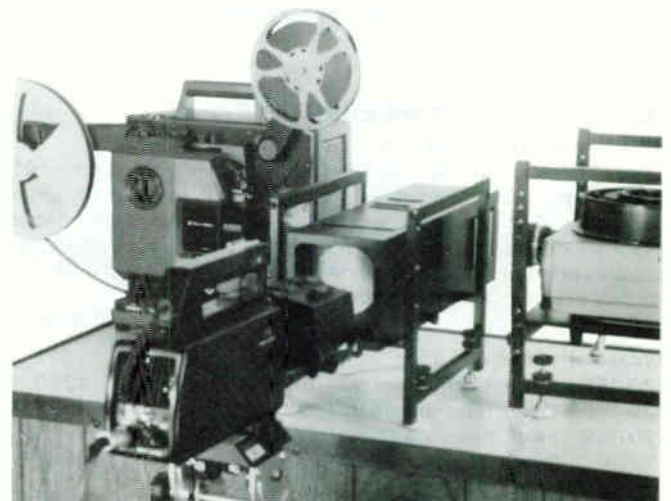
## 573-420 Modular Bipler

Modular system for film or slide transfer to video.

- 573-420 Bipler unit without projectors, accepts  
either of two inputs via a movable internal  
mirror. . . . . \$696.00

### Accessories

- 573-430 Adjustable height stand accepts either  
Kodak Ektagaphic Series II or Series III  
slide projector . . . . . \$ 105.00
- 574-066 Lens with extended barrel and ND filter  
holder for Kodak Ektagaphic slide projector,  
for slides to video via bipler . . . . . 135.00
- 575-450 Camera mount for modular bipler  
eliminates need for a tripod or dolly . . . . . 261.00
- 575-130 Kodak Ektagaphic E III slide  
projector including brightness modifier that  
adapts projector for slide to video  
transfer. Lens not included . . . . . 286.00



573-420

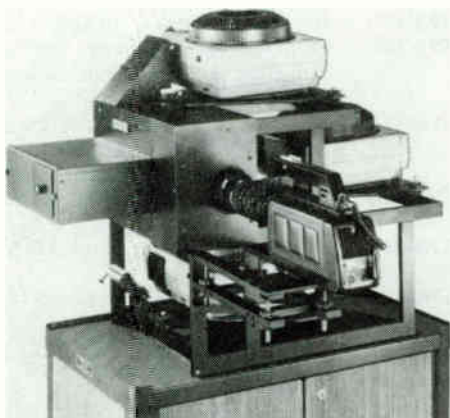
# BUHL OPTICAL CO.

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# MULTIPLEXERS



Series II  
Mobile Multiplexer



Series III  
Mobile Multiplexer

## SERIES II AND III MOBILE MULTIPLEXERS

### 620 Series Multiplexer II

Compact Mobile Multiplexer II for Ektagraphic III slide projectors and 16mm TV modified projector. Basic unit includes mounting plates to hold 16mm projector and two Ektagraphic III slide projectors. Includes optical system for both slide and 16mm projectors. Includes brightness modifiers and ND filter holders for slide projectors. Does not include projectors.

620-100 . . . . . \$3000.00

#### Accessories for 620 Series

620-150 Camera mount for 620-100 Multiplexer . . . . \$240.00  
620-160 Quick release camera mount. . . . .27.00  
620-180 Floor mounting stand for MM II with leveling feet . . . . .247.50

620-390 Rolling cabinet for MM II. . . . . \$282.00  
620-400 Ektagraphic E III for use on MM II.  
Includes brightness modifier and ND filter holder.  
When ordered with 620-100, projector will be factory installed and aligned on the multiplexer . . . . .286.00

### 630 Series Multiplexer III

Series III Mobile Multiplexers accept up to three Ektagraphic III slide projectors. Some models have a fourth input port for a 16mm projector.

The projection lenses for the slide projectors are built into the multiplexer, no additional slide projector lenses are needed.

If the slide projectors are purchased through Buhl they will be pre-mounted onto the multiplexer and equipped with special light diffusers to kill the projector filament images.

Use of the fourth input port calls for accessory support equipment and appropriate projection lenses.

The Series III is designed to work with video camera lenses of 3" diameter or smaller.

630-310 Accepts 3 Ektagraphic III slide projectors.  
No input port for 16mm. Does not include projectors . . . . . \$2925.00  
630-312 Accepts 3 Ektagraphic III slide projectors and has a fourth input port for a 16mm projector. Does not include projectors . . . . .3225.00

#### Accessories for 630 Series

630-150 Camera mount fits 630-310, 630-312, and 630-316 multiplexers. Used for mounting the video camera instead of a free-standing tripod . . . . . \$240.00  
630-160 Quick release mount used between camera and tripod or camera mount for fast, easy removal and replacement of the camera. . . . .27.00  
630-180 Floor mounting stand supports multiplexers 630-310 or 630-316 and includes leveling feet . . . . .247.50  
630-390 Rolling cabinet supports multiplexers 630-310 or 630-316. Includes lockable bottom compartment and large casters. Top surface 18" x 30". Height 27 1/2" . . . . .282.00  
630-400 Kodak Ektagraphic E III Slide Projector is equipped with light diffusing plates to kill filament image and assembled onto the Series III Multiplexer. . . . .286.00  
630-500 Support for fourth input. This assembly supports both the multiplexer and the fourth input 16mm projector. Includes 5" diameter locking wheels . . . . .697.00

#### Dissolve Control for 3 Slide Projectors.

There are many controls available through audiovisual dealers.

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# VIDEO TRANSFER SYSTEM

## Tyrone Video Transfer System

### • L-Shaped Configuration:

The L-Shaped layout makes it easy for the operator to monitor both the projector and camera adjustments during the transfer process.

### • Interchangeable Inputs:

The projector and shelf become a single unit that can be removed or replaced without losing basic adjustment.

### • Aerial Image:

Aerial image means that there is no grainy screen to degrade image quality. The video camera sees the image formed "in air". The image is made visible to the camera by the carefully engineered field lenses which are part of the Bipler's optical system.

### • Black Mirror:

The optically polished black mirror positions the image correctly for the video camera. It serves to reduce the light from the projector to levels that the video camera can handle, and is rotated by the external lever to select the input port.

### • Removable Internal Screen:

A small screen can be inserted between the field lenses so that the aerial image is visible to the naked eye during setup. The screen is removed before recording.

Developed from Buhl's original Modular Bipler, the Tyrone Video Transfer System is an integrated unit to handle 16mm, Super 8mm, 8mm or slides to video.

Designed to take up a minimum amount of floor space, the Tyrone is ideal for small labs or shopping mall kiosks where floor space is priced at a premium.

The concept is that the projector and shelf become a single unit, which once aligned, can be removed and replaced without losing the basic adjustments. This is accomplished by fitting each shelf with carefully machined locating slots, which in turn fit into precision points on the Tyrone shelf holder.

For example, a typical model might be set up to handle Super 8mm and 16mm films for transfer.

Buhl would provide a custom made shelf for the positioning and alignment of the Super 8 projector to the optical system. When the need arises for transferring 16mm films to video, a second shelf with a 16mm projector could be installed in place of the Super 8 projector in a matter of seconds.

While the basic model uses only one input window (and this preserves the L-Shape concept), it is possible to install a second shelf on the opposite side of the unit. A second shelf position, or T-Shape could be added to offer the advantage of being able to switch from one projector to another in even less time than by changing shelves.

With two identical projectors, one at each input, one projector can be loaded while the other is running.

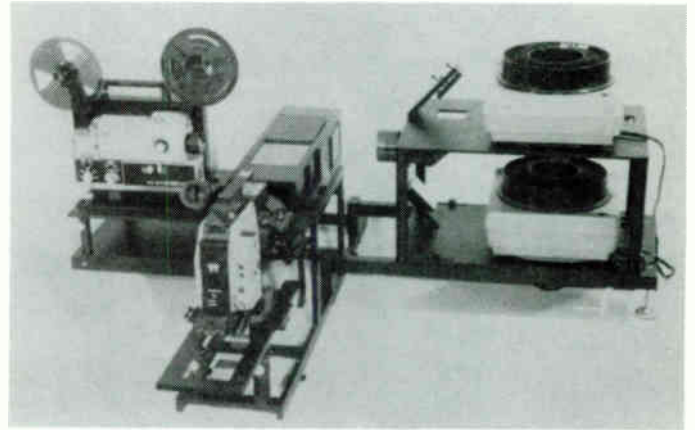
A custom package for two slide projectors in dissolve can also be added.

More than one Tyrone model allows the ability to move the camera, quickly from one to another by using quick release camera mounts.

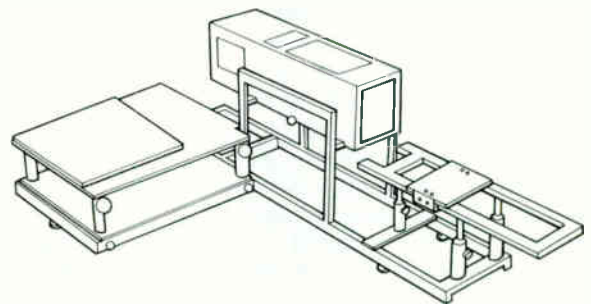
### Tyrone Video Transfer System includes:

- Optical system
- Custom alignment shelf for film or slide projector. (User must specify make and model number of projector.)
- Custom camera mount. (User must specify make and model of video camera, lens centerline height and distance from the tripod socket to the tip of the lens.)

502-100 Tyrone . . . . . \$1200.00



Tyrone T-Shaped Configuration



502-100 Basic Tyrone System

### Accessories

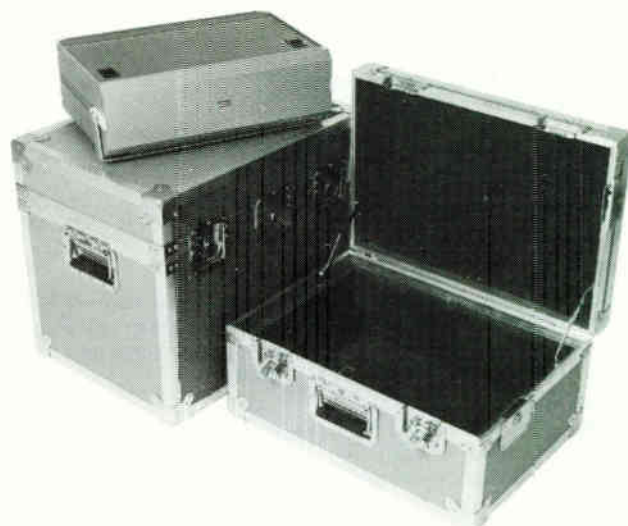
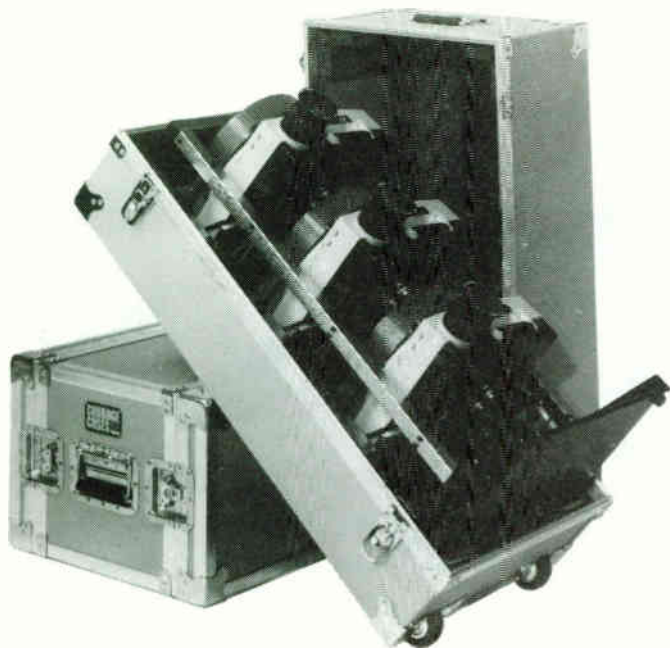
- 502-000 Additional shelf and riser. (User must specify make and model of projector) . . . . . \$150.00
- 502-001 "T" configuration add-on shelf and riser for right side. (User must specify make and model of projector) . . . . . \$315.00
- 505-100 Two projector 35mm dissolve system to hold and align two Ektagraphic III slide projectors in dissolve mode. Objective lens included. Does not include projectors or dissolve control (accepts vertical or horizontal slide format) . . . . . \$990.00



# CABBAGE CASES, INC.

1166-C Steelwood Rd.  
Columbus, OH 43212-1356  
(614) 486-2495

# CASES



Cabbage Cases is currently recognized as one of the foremost manufacturers of custom-designed electronic, scientific, and audio-visual equipment cases, anywhere.

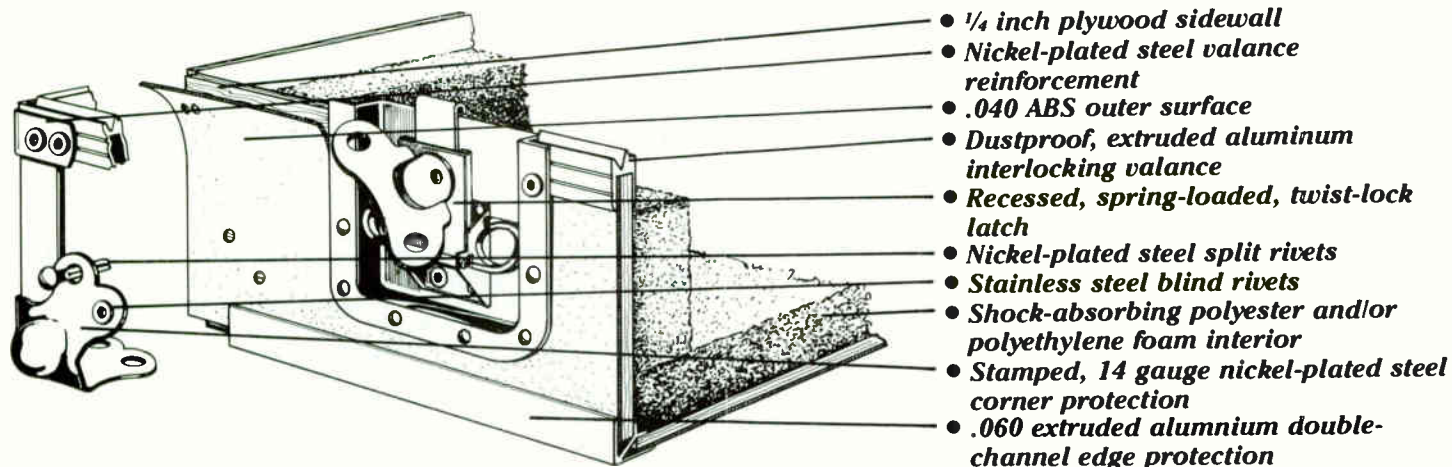
Each Cabbage Case is a custom-designed, personalized piece of equipment ... designed to satisfy your specific problems and needs. Simply supply your particular requirements ... we do the rest. There are never any surprises. Before anything is built, we will discuss your total requirements and supply complete information concerning proposed case size, weight, and shipping requirements ... including a firm price quote. Once begun, your case will be carefully constructed to the precise specifications required and will be individually serial-numbered for your convenience and protection.

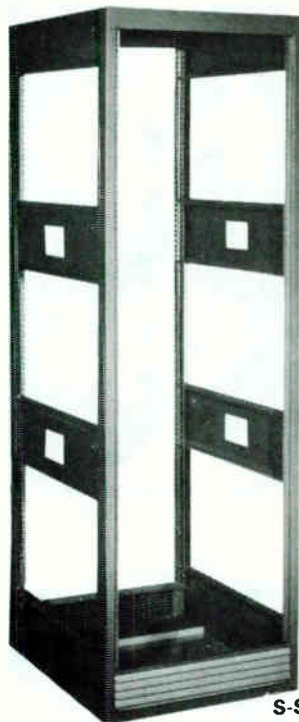
## *Heavy-Duty<sup>®</sup> and Lightflite<sup>®</sup>*

Now, choose from two, distinct lines of Cabbage Cases ... Heavy-Duty and Lightflite. Select the type most appropriate for your particular application. Both are constructed of only the finest, most durable materials, including polyester & polyethylene foam, our own dustproof aluminum valance, continuous piano hinge, nickel-plated steel corners, latches & handles, and the very finest industrial-grade adhesives.

**HEAVY-DUTY** cases are ATA style and are designed to protect items that must be shipped under the most severe conditions. Heavy-Duty cases provide maximum protection.

**LIGHTFLITE** cases are made of tough, .090 ABS plastic, thermoformed to shape without wood. While extremely rugged and durable, they are much lighter in weight. Lightflite cases are especially suited for hand carrying and shipping under most normal conditions.





**S-Series  
Rack Cabinets**

### S-Series Rack Cabinets

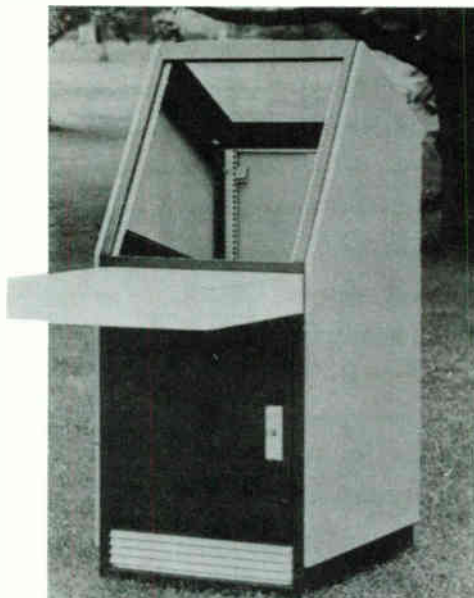
- Three panel widths
- Four cabinet depths
- Nine cabinet heights

The slim style of the Cabtron "S" Series cabinet incorporates features desired by every designer. The modular construction of every component makes it possible to join frames in any number with the  $\frac{5}{8}$ " thick side panels completing the distinctive square style.

Every "S" Series frame is constructed of prime 14 gauge steel welded into one basic modular frame and finished in one of ten standard textured vinyl finishes. Four corner gussets rigidize the frame top. The very functional weldment base has air grilles both front and rear, removable bottom panel and mounting holes for all Cabtron casters. Different types of grilles are available.

Four 11 gauge panel mounting angles are provided with each frame, the front pair being tapped for 10-32 machine screws and the rear pair have .281 diameter holes all in EIA pattern. A hardware kit is supplied with each frame, consisting of four 10-32 panel screws for every  $8\frac{3}{4}$ " of front panel space. Additional mounting angles can be attached to horizontal struts.

All "S" Series frames will accept the famous Cabtron Blower System which does not require any vertical panel space for its air intake but rather utilizes the bottom grilles for its air intake. Cabtron blowers are available in 150, 300, 500 and 800 CFM.

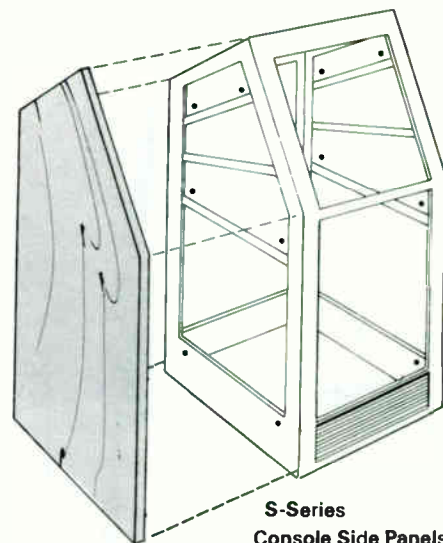


**S-Series Modular  
Electronic Cabinets**

### S-Series Modular Electronic Cabinets

Cabtron Systems has developed a complete line of modular cabinetry to meet even your most complex design applications. Our unique capabilities of complete interchangeability of components let you design a total "custom" unit with "in-stock" parts...at "in-stock" production prices, too. A complete line-up of problem-solving, cost-cutting electronic cabinets to make short work of your design needs.

Each of the seven basic cabinet series are designed for specific industry applications with the highest in quality craftsmanship. Choose from hundreds of different sizes. Add the finishing touches from our selection of ten custom vinyl textured color finishes and wide variety of stylish trim packages. There is a Cabtron cabinet that's right for you, whatever your design application is...from computer to OEM products or in-house test equipment.



**S-Series  
Console Side Panels**



**S-Series  
Bench and Rack Side Panels**

### S-Series Bench and Rack Side Panels

Cabtron S-Series Square Side Panels feature a clean square appearance that blends into the frame structure.

Constructed of prime 16 gauge steel formed  $\frac{5}{8}$ " thick and finished in any one of ten standard Cabtron System textured vinyl colors.

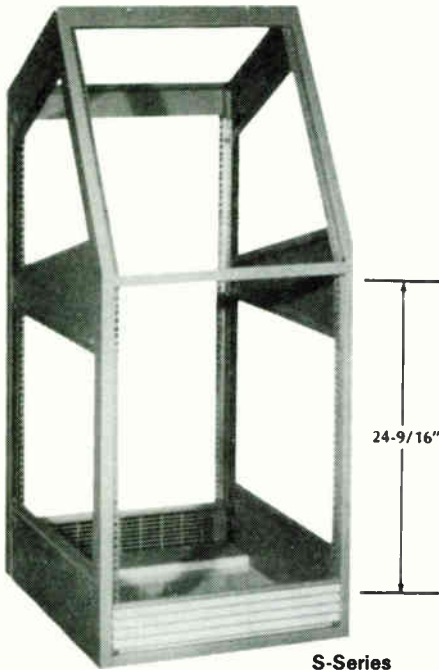
Standard side panels are bolted on from the inside of the cabinet with no screws showing on the exterior surface.

Externally removable side panels may be ordered by adding "ER" to the standard number.

Louvered side panels may be ordered by adding "LV" to the standard number.

Also available as a Flat Side Panel with attachment studs...designation SSF.





**S-Series  
Console Frames**

### S-Series Console Frames

- Three panel widths
- Three slope opening
- Four frame depths

Every "S" Series Console Frame is constructed of prime 14 gauge steel welded into one basic modular frame and finished in one of ten standard textured vinyl finishes.

The exclusive filtered base design allows complete flexibility for interchanging different types of grilles.

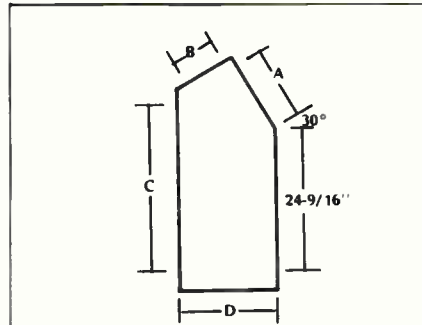
Each Cabtron Console Frame comes with slope and vertical angles in each corner that are adjustable within the frame. Front slope angles are tapped 10-32 on EIA pattern and all other angles have .281 diameter holes on EIA pattern. A hardware kit is supplied with each frame consisting of HW-201 panel mounting screws.

All filtered base frames will accept the exclusive Cabtron Blower System or base fan.

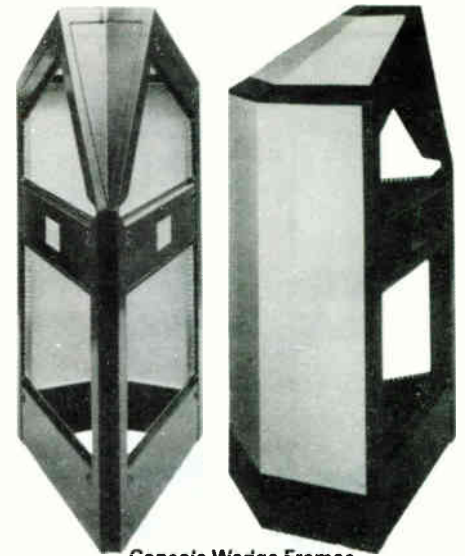
Cabtron "S" Series Console Cabinets have been designed to meet the requirements of today's industry. The modular construction of every component makes it possible to join frames in any number. Side panels complete the distinctive square style.



Illustrated with "WTA"  
Plastic Extension Top  
Side Panels & Doors



MODEL	PANEL OPENINGS			
	A	B	C	D
14-18	14-1/16	8-13/16	31-5/8	18-1/2
14-22		12-5/16	28-1/8	22
14-25		15-13/16	28-1/8	25-1/2
14-30		22-13/16	24-5/8	30-3/4
17-18	17-9/16	7-1/16	35-1/8	18-1/2
17-22		10-9/16	35-1/8	22
17-25		14-1/16	31-5/8	25-1/2
17-30		21-1/16	28-1/8	30-3/4
21-18	21-1/16	5-5/16	38-5/8	18-1/2
21-22		8-13/16	38-5/8	22
21-25		12-5/16	35-1/8	25-1/2
21-30		19-5/16	31-5/8	30-3/4



**Consoie Wedge Frames**



**Bench Frame**

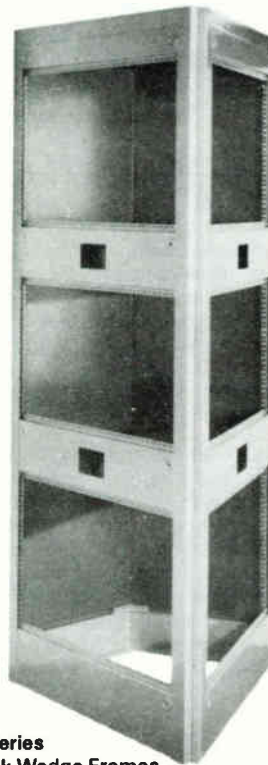
### Bench Frame

- Three panel widths
- Five panel heights
- Four frame depths

The slim style of the Cabtron "S" Series Bench Cabinet incorporates features desired by every designer. The modular construction makes it possible to join frames in any number. The 5/8" thick side panels complete the distinctive square style.

Every "S" Series Bench Frame is constructed of prime 14 gauge steel welded into one basic modular frame and finished in one of ten standard textured vinyl finishes.

Four 11 gauge panel mounting angles are provided with each frame; the front pair being tapped for 10-32 machine screws and the rear pair having .281 diameter holes, all in EIA pattern. Additional internal mounting angles available. A hardware kit is supplied with each frame, consisting of four 10-32 panel mounting screws, HW-201 for every 8 3/4" of front panel space.



**S-Series  
Rack Wedge Frames**

### S-Series Rack Wedge Frames

Cabtron System Wedge Frames are available in 30 and 45° angles for making wing or organ type assemblies.

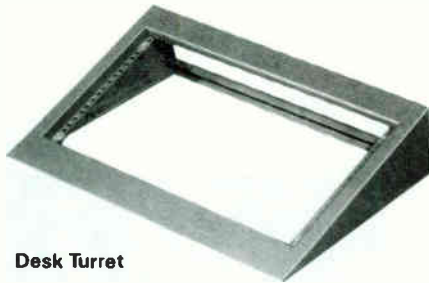
Each Wedge Cabinet consists of one frame, one rear panel and one top panel, plus aluminum top trim.

Frame construction is all 14 gauge steel and finished in any one of ten standard Cabtron Systems textured vinyl colors.



# CABTRON SYSTEMS, INC.

200 Anets Drive  
Northbrook, IL 60062  
(312) 498-6090



Desk Turret

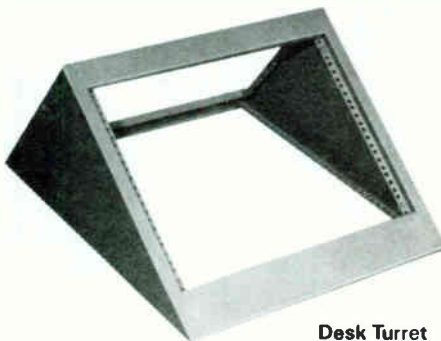
## Desk Turret Model 1-2-3 19 Degree

The square style of the Cabtron Systems "S" Series Desk Turret is designed for housing small controls atop a desk or bench assembly.

Constructed of 16 gauge steel with solid sides and fixed panel mounting angles in openings A and B. Each panel mounting angle has .281 diameter holes spaced in EIA pattern.

Finished in one of ten standard vinyl textured finishes. A hardware kit is supplied with each frame, consisting of four 10-32 panel mounting screws and clip nuts for each 3 1/2 inches of front slope panel space.

Model Number	A Front Slope	B Rear Slope
1	10-9/16	1-13/16
2	14-1/16	3-9/16
3	21-1/16	5-5/16



Desk Turret

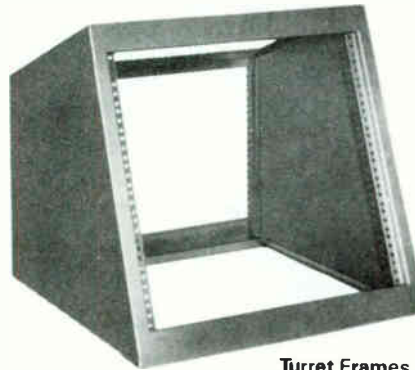
## Desk Turret Model 4-5-6 35 Degree

The square style of the Cabtron System "S" Series Desk Turret is designed for housing small controls atop a desk or bench assembly.

Constructed of 16 gauge steel with solid sides and fixed panel mounting angles in all openings. Each panel mounting angle has .281 diameter holes spaced in EIA pattern.

Finished in one of ten standard textured vinyl finishes. A hardware kit is supplied with each frame, consisting of four 10-32 panel mounting screws and clip nuts for each 3 1/2 inches of front slope panel space.

Model Number	A Front Slope	B Rear Slope	C Bottom Opening
4	10-9/16	7-1/16	14-1/16
5	14-1/16	8-13/16	19-5/16
6	21-1/16	12-5/16	24-9/16



Turret Frames

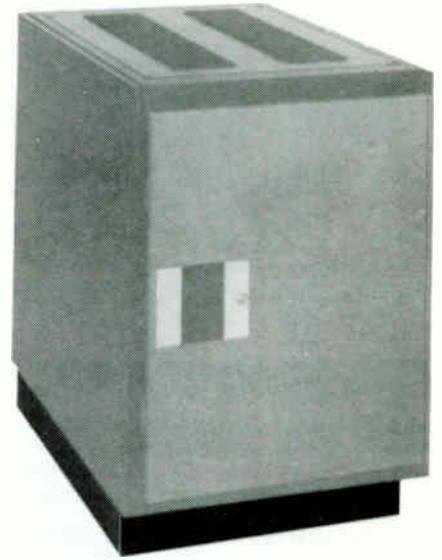
## Turret Frames 19 Degree

- Three panel widths
- Four slope openings
- Four frame depths

Construction of 16 gauge steel with solid sides and fixed panel mounting angles in openings A, B & C. Each panel mounting angle has .281 diameter holes spaced in EIA pattern.

Model	A	B	C	D	E
14-18		10-9/16	8-13/16	18-1/2	14-1/16
14-22	14-1/16	14-1/16	8-13/16	22	17-9/16
14-25		17-9/16	7-1/16	25-1/2	21-1/16
14-30		22-13/16	5-5/16	30-3/4	26-5/16
17-18		8-13/16	12-5/16	18-1/2	14-1/16
17-22	17-9/16	12-5/16	12-5/16	22	17-9/16
17-25		15-13/16	10-9/16	25-1/2	21-1/16
17-30		21-1/16	8-13/16	30-3/4	26-5/16
21-18		7-1/16	17-9/16	18-1/2	14-1/16
21-22	21-1/16	10-9/16	15-13/16	22	17-9/16
21-25		14-1/16	14-1/16	25-1/2	21-1/16
21-30		21-1/16	12-5/16	30-3/4	26-5/16
28-18		5-5/16	24-9/16	18-1/2	14-1/16
28-22	28-1/16	8-13/16	22-13/16	22	17-9/16
28-25		12-5/16	21-1/16	25-1/2	21-1/16
28-30		17-9/16	19-5/16	30-3/4	26-5/16

# TURRETS/TOE BASE



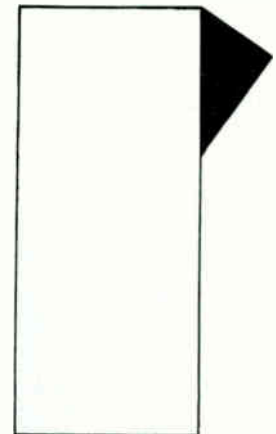
Toe Base

## Toe Base

When your operator needs additional toe clearance, for bench, rack or consoles, Cabtron's Toe Base is the answer. You can use this Toe Base as a riser when additional height is required on a bench frame. The Toe Base recesses 3" back from the front edge of cabinet and is flush on sides and rear. Welded to the frame, unless otherwise specified, the toe base has a height of 4" and a width identical to the Bench Frame to which it is fitted.

## Ordering Information

19" Panel Width	24" Panel Width	30" Panel Width
TB-1918	TB-2418	TB-3018
TB-1922	TB-2422	TB-3022
TB-1925	TB-2425	TB-3025
TB-1930	TB-2430	TB-3030



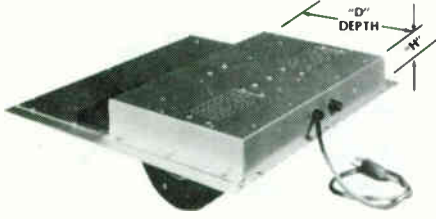
Besides standard desktop application, Turrets can be mounted to vertical frames as illustrated.

# CABTRON SYSTEMS, INC.

200 Anets Drive  
Northbrook, IL 60062  
(312) 498-6090

# BLOWERS/ AIR DUCT ASSEMBLIES/FAN

## ACCESSORIES



### Base Mounted Blowers

Cabtron Base Mounted Blowers are the exclusive design of Cabtron and are made to fit within the base of any filtered base Cabtron frame. Available in four air deliveries, 150 CFM, 300 CFM, 500 CFM and 800 CFM.

Cabtron blower units have dual outlets providing filtered air into the cabinet. For directing filtered air to certain parts of the cabinet we recommend using our "AD" air ducts.

Cabtron blower units may be mounted in either the front, rear or center positions and project above the grille per dimension "H" shown above.

All Cabtron blowers operate on 115VAC, 50-60Hz and are fused per industry standards. A 30" cord and plug is provided for easy attachment to our receptacle strips. All parts are finished in Cabtron light gray finish.

Other voltages and cycles available on special order at extra cost.

MODEL NUMBER	"H" BLOWER HEIGHT *	"D" BLOWER DEPTH
BL-150	1"	11"
BL-300	2"	11"
BL-500	3"	11"
BL-800	5"	14-1/2"

\*Mounts above bottom of panel opening

Note: Blowers are rear mounted as standard unless front or center mount is specified.

### ORDERING INFORMATION

19" PANEL WIDTH FRAMES		24" PANEL WIDTH FRAMES		30" PANEL WIDTH FRAMES		CFM	FRAME DEPTH
FRONT & REAR MOUNTED	CENTER MOUNTED	FRONT & REAR MOUNTED	CENTER MOUNTED	FRONT & REAR MOUNTED	CENTER MOUNTED		
BL-150-1918	BL-150-1918C	BL-150-2418	BL-150-2418C	BL-150-3018	BL-150-3018C	150	18-1/2"
BL-150-1922	BL-150-1922C	BL-150-2422	BL-150-2422C	BL-150-3022	BL-150-3022C	150	22"
BL-150-1925	BL-150-1925C	BL-150-2425	BL-150-2425C	BL-150-3025	BL-150-3025C	150	25-1/2"
BL-150-1930	BL-150-1930C	BL-150-2430	BL-150-2430C	BL-150-3030	BL-150-3030C	150	30-3/4"
BL-300-1918	BL-300-1918C	BL-300-2418	BL-300-2418C	BL-300-3018	BL-300-3018C	300	18-1/2"
BL-300-1922	BL-300-1922C	BL-300-2422	BL-300-2422C	BL-300-3022	BL-300-3022C	300	22"
BL-300-1925	BL-300-1925C	BL-300-2425	BL-300-2425C	BL-300-3025	BL-300-3025C	300	25-1/2"
BL-300-1930	BL-300-1930C	BL-300-2430	BL-300-2430C	BL-300-3030	BL-300-3030C	300	30-3/4"
BL-500-1918	BL-500-1918C	BL-500-2418	BL-500-2418C	BL-500-3018	BL-500-3018C	500	18-1/2"
BL-500-1922	BL-500-1922C	BL-500-2422	BL-500-2422C	BL-500-3022	BL-500-3022C	500	22"
BL-500-1925	BL-500-1925C	BL-500-2425	BL-500-2425C	BL-500-3025	BL-500-3025C	500	25-1/2"
BL-500-1930	BL-500-1930C	BL-500-2430	BL-500-2430C	BL-500-3030	BL-500-3030C	500	30-3/4"
BL-800-1918	BL-800-1918C	BL-800-2418	BL-800-2418C	BL-800-3018	BL-800-3018C	800	18-1/2"
BL-800-1922	BL-800-1922C	BL-800-2422	BL-800-2422C	BL-800-3022	BL-800-3022C	800	22"
BL-800-1925	BL-800-1925C	BL-800-2425	BL-800-2425C	BL-800-3025	BL-800-3025C	800	25-1/2"
BL-800-1930	BL-800-1930C	BL-800-2430	BL-800-2430C	BL-800-3030	BL-800-3030C	800	30-3/4"

### Air Duct Assemblies

The Cabtron Air Duct Assembly makes it possible to exhaust cool, clean filtered air directly into hot spot areas of the cabinet and around chassis and drawers.

Air Ducts may be assembled to any Cabtron Blower System mounting flush with the side of the frame. Cabtron Blower Systems have two exhaust ports which may be ducted or one port may run free and the other ducted.

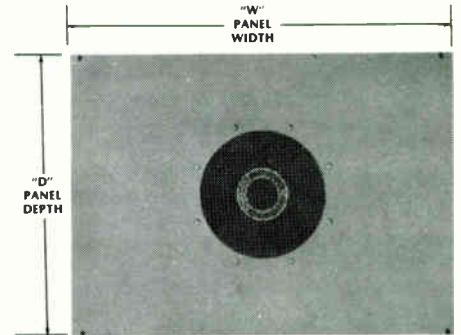
Air Ducts are supplied with 90° air deflectors directing the air towards the front of the cabinet. 50% of the exhaust ports have 90° deflectors and the balance are closed with cover plates.

Constructed of prime 20 gauge (.036) steel and finished in Cabtron's light gray finish. 1 1/2" x 5" air exhausts are spaced in 7" increments starting 1/2" from top of duct. A steel elbow is fastened to Cabtron's blower and air duct assembly.

Note: Not available for use with BL-150 blower)

### ORDERING AND DIMENSIONAL DATA

Air Ducts			Number of Exhausts	Over-All Height	Frame Panel Height
Panel Width 19"	Panel Width 24"	Panel Width 30"			
AD-1935	AD-2435	AD-3035	4	31-3/4"	35"
AD-1942	AD-2442	AD-3042	5	38-3/4"	42" & 45-1/2"
AD-1952	AD-2452	AD-3052	6	45-1/4"	52-1/2"
AD-1961	AD-2461	AD-3061	7	52-3/4"	61-1/4"
AD-1970	AD-2470	AD-3070	8	59-1/4"	70"
AD-1978	AD-2478	AD-3078	9	66-3/4"	78-3/4"
7-3/16"	9-11/16"	12-11/16"	← Dimension A		



### 400 CFM Panel Mounted Fan

Cabtron 400 CFM Panel Mounted Fan may be installed in the top panel opening of any Cabtron frame and will exhaust the air from the cabinet. These fans will provide a circulation of air throughout the cabinet and if cooling is actually required then we recommend our base mounted blower system.

All Cabtron Panel Mounted Fans operate on 115VDC, 50-60Hz.

Please specify standard Cabtron color when ordering.

### ORDERING INFORMATION

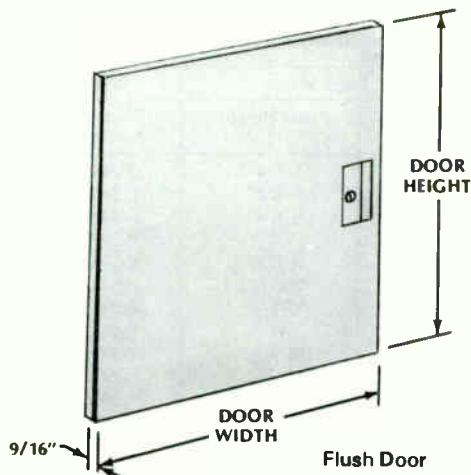
Catalog Number Exhaust	Panel Width "W"	Panel Depth "D"	Catalog Number Intake
PF-1914-EX	19"	14"	PF-1914-IN
PF-1917-EX	19"	17-1/2"	PF-1917-IN
PF-1921-EX	19"	21"	PF-1921-IN
PF-1926-EX	19"	26-1/4"	PF-1926-IN
PF-2414-EX	24"	14"	PF-2414-IN
PF-2417-EX	24"	17-1/2"	PF-2417-IN
PF-2421-EX	24"	21"	PF-2421-IN
PF-2426-EX	24"	26-1/4"	PF-2426-IN
PF-3014-EX	30"	14"	PF-3014-IN
PF-3017-EX	30"	17-1/2"	PF-3017-IN
PF-3021-EX	30"	21"	PF-3021-IN
PF-3026-EX	30"	26-1/4"	PF-3026-IN

## Flush Doors and Louvered Flush Doors

Cabtron Flush Doors and Cabtron Louvered Flush Doors provide front and rear access openings for bench, console, desk and rack frames. All Cabtron flush doors fit within the panel mounting area and feature a continuous hinge which is bolted to the frame mounting angles. The satin aluminum flush handle has a key lock as a standard feature.

All louvered doors have two rows of 5" louvers on 1" centers and provides 1 1/4 square inch of ventilation per louver.

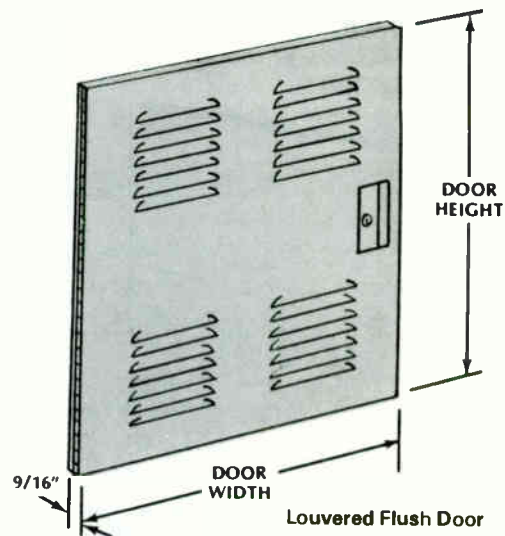
Constructed of prime 16 gauge cold rolled steel and finished in any one of ten standard Cabtron vinyl textured finishes. Specify when ordering whether the door is to be hinged left hand or right hand by adding the suffix "L" or "R" to the catalog number.



Flush Door

### ORDERING INFORMATION FLUSH DOORS

19" Door Width	24" Door Width	30" Door Width	Door Height
DF-1914	DF-2414	DF-3014	13-15/16"
DF-1917	DF-2417	DF-3017	17-7/16"
DF-1921	DF-2421	DF-3021	20-15/16"
DF-1924	DF-2424	DF-3024	24-7/16"
DF-1928	DF-2428	DF-3028	27-15/16"
DF-1931	DF-2431	DF-3031	31-7/16"
DF-1935	DF-2435	DF-3035	34-15/16"
DF-1942	DF-2442	DF-3042	41-15/16"
DF-1945	DF-2445	DF-3045	45-7/16"
DF-1952	DF-2452	DF-3052	52-7/16"
DF-1961	DF-2461	DF-3061	61-3/16"
DF-1970	DF-2470	DF-3070	69-15/16"
DF-1978	DF-2478	DF-3078	78-11/16"



Louvered Flush Door

### ORDERING INFORMATION FLUSH DOORS — LOUVERED

19" Door Width	24" Door Width	30" Door Width	Door Height	No. of Louvers
DF-1921-LV	DF-2421-LV	DF-3021-LV	20-15/16"	16
DF-1924-LV	DF-2424-LV	DF-3024-LV	24-7/16"	24
DF-1928-LV	DF-2428-LV	DF-3028-LV	27-15/16"	32
DF-1931-LV	DF-2431-LV	DF-3031-LV	31-7/16"	40
DF-1935-LV	DF-2435-LV	DF-3035-LV	34-15/16"	48
DF-1942-LV	DF-2442-LV	DF-3042-LV	41-15/16"	64
DF-1945-LV	DF-2445-LV	DF-3045-LV	45-7/16"	72
DF-1952-LV	DF-2452-LV	DF-3052-LV	52-7/16"	80
DF-1961-LV	DF-2461-LV	DF-3061-LV	61-3/16"	96
DF-1970-LV	DF-2470-LV	DF-3070-LV	69-15/16"	120
DF-1978-LV	DF-2478-LV	DF-3078-LV	78-11/16"	136

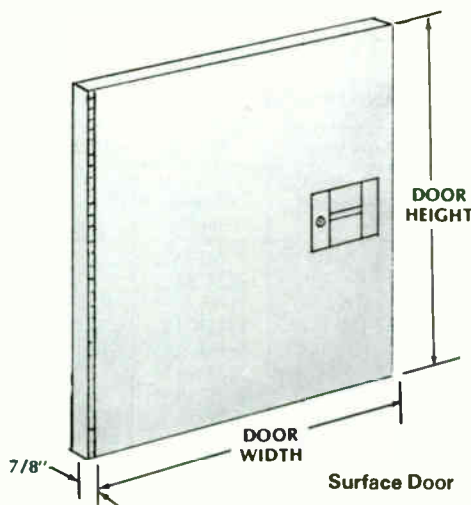
## Surface Doors and Surface Doors Louvered

Cabtron Surface Doors and Cabtron Louvered Surface Doors fit on the outside of the frame overlapping the panel mounting surface so that equipment may be installed to the frame angles and covered with the surface door.

All Cabtron Surface Doors feature a continuous hinge which is bolted to the frame surface with three 1/4-20 screws. The satin aluminum flush handle has the exclusive slide action for positive latching. Key lock is a standard feature.

All louvered doors have two rows of 5" louvers on 1" centers and provide 1 1/4 square inches of ventilation per louver.

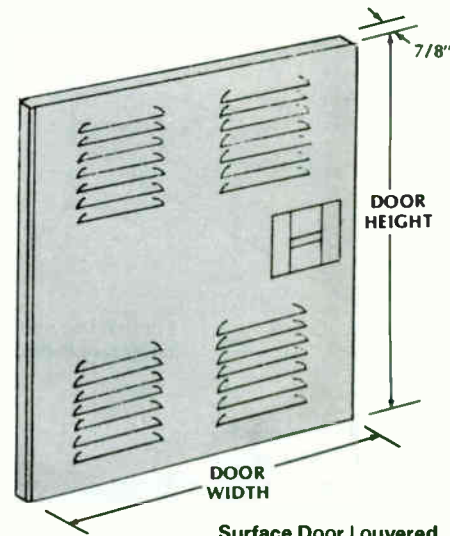
Constructed of prime 16 gauge cold rolled steel and finished in any one of ten standard Cabtron vinyl textured finishes. Specify when ordering whether the door is to be hinged left hand or right hand by adding the suffix "L" or "R" to the catalog number.



Surface Door

### ORDERING INFORMATION SURFACE DOOR

19" Door Width	24" Door Width	30" Door Width	Door Height
DS-1921	DS-2421	DS-3021	22-1/8"
DS-1924	DS-2424	DS-3024	25-5/8"
DS-1928	DS-2428	DS-3028	29-1/8"
DS-1931	DS-2431	DS-3031	32-5/8"
DS-1935	DS-2435	DS-3035	36-1/8"
DS-1942	DS-2442	DS-3042	43-1/8"
DS-1945	DS-2445	DS-3045	46-5/8"
DS-1952	DS-2452	DS-3052	53-5/8"
DS-1961	DS-2461	DS-3061	62-3/8"
DS-1970	DS-2470	DS-3070	71-1/8"
DS-1978	DS-2478	DS-3078	79-7/8"



Surface Door Louvered

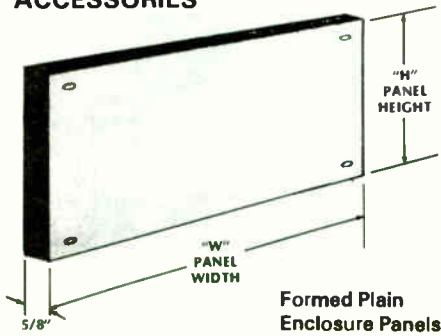
### ORDERING INFORMATION SURFACE DOOR — LOUVERED

19" Door Width	24" Door Width	30" Door Width	Door Height	No. of Louvers
DS-1921-LV	DS-2421-LV	DS-3021-LV	22-1/8"	24
DS-1924-LV	DS-2424-LV	DS-3024-LV	25-5/8"	24
DS-1928-LV	DS-2428-LV	DS-3028-LV	29-1/8"	32
DS-1931-LV	DS-2431-LV	DS-3031-LV	32-5/8"	40
DS-1935-LV	DS-2435-LV	DS-3035-LV	36-1/8"	48
DS-1942-LV	DS-2442-LV	DS-3042-LV	43-1/8"	64
DS-1945-LV	DS-2445-LV	DS-3045-LV	46-5/8"	72
DS-1952-LV	DS-2452-LV	DS-3052-LV	53-5/8"	80
DS-1961-LV	DS-2461-LV	DS-3061-LV	62-3/8"	104
DS-1970-LV	DS-2470-LV	DS-3070-LV	71-1/8"	120
DS-1978-LV	DS-2478-LV	DS-3078-LV	79-7/8"	136



200 Anets Drive  
Northbrook, IL 60062  
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## ACCESSORIES



**Formed Plain Enclosure Panels**

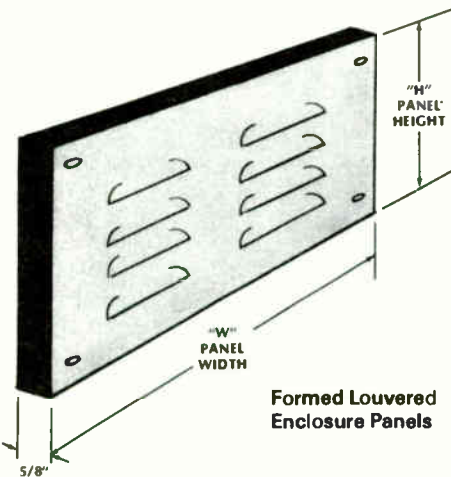
### Formed Plain Enclosure Panels

Cabtron Formed Enclosure Panels are formed with a 5/8" flange on all four sides fitting into 5/8" recesses of all Cabtron frame panel openings. Vertical dimensions are in increments of 13/4" to correspond with hole spacing on panel mounting angles on Cabtron frames which are in EIA standard increments.

Cabtron formed panels are fabricated of 16 gauge cold rolled steel and finished in any one of Cabtron's ten standard vinyl textured finishes as specified. Hardware for fastening panels to frames are provided in hardware kits supplied with frames.

## ORDERING AND DIMENSIONAL DATA

W = 19" Panel Width		W = 24" Panel Width		W = 30" Panel Width	
Catalog Number	Panel Height H	Catalog Number	Panel Height H	Catalog Number	Panel Height H
P-191	1-3/4"	P-241	1-3/4"	P-301	1-3/4"
P-193	3-1/2"	P-243	3-1/2"	P-303	3-1/2"
P-195	5-1/4"	P-245	5-1/4"	P-305	5-1/4"
P-197	7"	P-247	7"	P-307	7"
P-198	8-3/4"	P-248	8-3/4"	P-308	8-3/4"
P-1910	10-1/2"	P-2410	10-1/2"	P-3010	10-1/2"
P-1912	12-1/4"	P-2412	12-1/4"	P-3012	12-1/4"
P-1914	14"	P-2414	14"	P-3014	14"
P-1915	15-3/4"	P-2415	15-3/4"	P-3015	15-3/4"
P-1917	17-1/2"	P-2417	17-1/2"	P-3017	17-1/2"
P-1919	19-1/4"	P-2419	19-1/4"	P-3019	19-1/4"
P-1921	21"	P-2421	21"	P-3021	21"
P-1922	22-3/4"	P-2422	22-3/4"	P-3022	22-3/4"
P-1924	24-1/2"	P-2424	24-1/2"	P-3024	24-1/2"
P-1926	26-1/4"	P-2426	26-1/4"	P-3026	26-1/4"
P-1928	28"	P-2428	28"	P-3028	28"
P-1931	31-1/2"	P-2431	31-1/2"	P-3031	31-1/2"
P-1935	35"	P-2435	35"	P-3035	35"
P-1938	38-1/2"	P-2438	38-1/2"	P-3038	38-1/2"
P-1942	42"	P-2442	42"	P-3042	42"
P-1945	45-1/2"	P-2445	45-1/2"	P-3045	45-1/2"
P-1952	52-1/2"	P-2452	52-1/2"	P-3052	52-1/2"
P-1961	61-1/4"	P-2461	61-1/4"	P-3061	61-1/4"
P-1970	70"	P-2470	70"	P-3070	70"
P-1978	78-3/4"	P-2478	78-3/4"	P-3078	78-3/4"



**Formed Louvered Enclosure Panels**

### Formed Louvered Enclosure Panels

Cabtron Formed Louvered Enclosure Panels are formed with a 5/8" flange on all four sides fitting into 5/8" recesses of all Cabtron frame panel openings. Vertical dimensions are in increments of 13/4" to correspond with hole spacing on panel mounting angles of Cabtron frames which are in EIA standard increments.

Louvered are in two full length columns and are 5 1/8" long, 3/4" high, 1/4" open with 1/4" between louvers. Each louver provides 1 1/4" square inch opening for ventilation.

Cabtron formed louvered panels are fabricated of 16 gauge cold rolled steel and finished in any one of Cabtron's ten standard vinyl textured finishes as specified.

## ORDERING AND DIMENSIONAL DATA

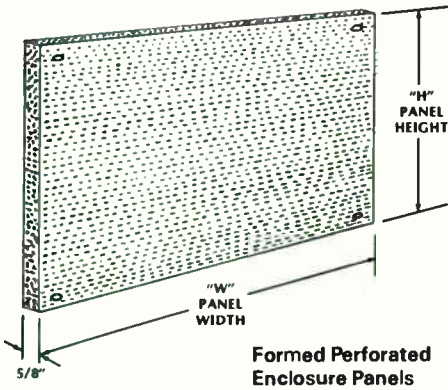
W = 19" Panel Width		W = 24" Panel Width		W = 30" Panel Width		Number of Louvers	Total Sq. In. Opening
Catalog Number	Panel Height H	Catalog Number	Panel Height H	Catalog Number	Panel Height H		
P-195-LV	5-1/4"	P-245-LV	5-1/4"	P-305-LV	5-1/4"	4	5.0
P-197-LV	7"	P-247-LV	7"	P-307-LV	7"	8	10.0
P-198-LV	8-3/4"	P-248-LV	8-3/4"	P-308-LV	8-3/4"	12	15.0
P-1910-LV	10-1/2"	P-2410-LV	10-1/2"	P-3010-LV	10-1/2"	16	20.0
P-1912-LV	12-1/4"	P-2412-LV	12-1/4"	P-3012-LV	12-1/4"	20	25.0
P-1914-LV	14"	P-2414-LV	14"	P-3014-LV	14"	24	30.0
P-1915-LV	15-3/4"	P-2415-LV	15-3/4"	P-3015-LV	15-3/4"	24	30.0
P-1917-LV	17-1/2"	P-2417-LV	17-1/2"	P-3017-LV	17-1/2"	28	35.0
P-1919-LV	19-1/4"	P-2419-LV	19-1/4"	P-3019-LV	19-1/4"	32	40.0
P-1921-LV	21"	P-2421-LV	21"	P-3021-LV	21"	36	45.0
P-1922-LV	22-3/4"	P-2422-LV	22-3/4"	P-3022-LV	22-3/4"	40	50.0
P-1924-LV	24-1/2"	P-2424-LV	24-1/2"	P-3024-LV	24-1/2"	40	50.0
P-1926-LV	26-1/4"	P-2426-LV	26-1/4"	P-3026-LV	26-1/4"	44	55.0
P-1928-LV	28"	P-2428-LV	28"	P-3028-LV	28"	48	60.0
P-1931-LV	31-1/2"	P-2431-LV	31-1/2"	P-3031-LV	31-1/2"	56	70.0
P-1935-LV	35"	P-2435-LV	35"	P-3035-LV	35"	68	85.0
P-1938-LV	38-1/2"	P-2438-LV	38-1/2"	P-3038-LV	38-1/2"	68	85.0
P-1942-LV	42"	P-2442-LV	42"	P-3042-LV	42"	76	95.0
P-1945-LV	45-1/2"	P-2445-LV	45-1/2"	P-3045-LV	45-1/2"	84	105.0
P-1952-LV	52-1/2"	P-2452-LV	52-1/2"	P-3052-LV	52-1/2"	96	120.0
P-1961-LV	61-1/4"	P-2461-LV	61-1/4"	P-3061-LV	61-1/4"	116	145.0
P-1970-LV	70"	P-2470-LV	70"	P-3070-LV	70"	132	165.0
P-1978-LV	78-3/4"	P-2478-LV	78-3/4"	P-3078-LV	78-3/4"	152	190.0

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# PANELS/ PANEL SPACERS

## ACCESSORIES

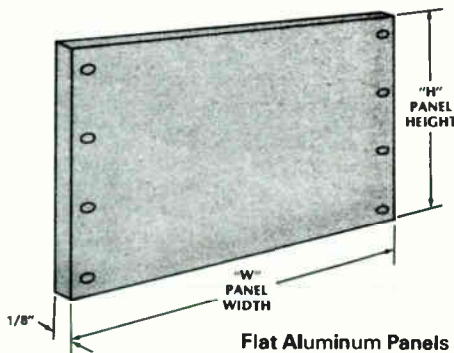


### Formed Perforated Enclosure Panels

Cabtron Formed Perforated Enclosure Panels are formed with a 5/8" flange on all four sides fitting openings. Vertical dimensions are in increments of 1 3/4" to correspond with hole spacing on panel mounting angles of Cabtron frames which are in EIA standard increments.

Cabtron "PR" Panels are perforated with 5/64" diameter holes in staggered rows on 1/8" centers; 76 holes per square inch; 36% open.

Cabtron Formed Perforated Panels are fabricated of 16 gauge cold rolled steel and finished in any one of Cabtron's ten standard vinyl textured finishes as specified. Hardware for fastening panels to frames are provided in hardware kits supplied with frames.



### Flat Aluminum Panels

Cabtron Flat Aluminum Panels are fabricated of 6061-T6 aluminum 1/8" thick and supplied unfinished with gummed paper on one side. For painted panels add the suffix "PD" after the catalog number.

Vertical dimensions are in increments of 1 3/4" to correspond with hole spacing on mounting angles of Cabtron frames. Hardware for fastening panels to frames are provided in hardware kits supplied with frames.

When it is desired to have 1/8" panels flush with surface of frame, use one pair of Cabtron panel spacers per panel — code letters "PS".

## ORDERING AND DIMENSIONAL DATA

W = 19" Panel Width		W = 24" Panel Width		W = 30" Panel Width	
Catalog Number	Panel Height H	Catalog Number	Panel Height H	Catalog	Panel Height
P-191-PR	1-3/4"	P-241-PR	1-3/4"	P-301-PR	1-3/4"
P-193-PR	3-1/2"	P-243-PR	3-1/2"	P-303-PR	3-1/2"
P-195-PR	5-1/4"	P-245-PR	5-1/4"	P-305-PR	5-1/4"
P-197-PR	7"	P-247-PR	7"	P-307-PR	7"
P-198-PR	8-3/4"	P-248-PR	8-3/4"	P-308-PR	8-3/4"
P-1910-PR	10-1/2"	P-2410-PR	10-1/2"	P-3010-PR	10-1/2"
P-1912-PR	12-1/4"	P-2412-PR	12-1/4"	P-3012-PR	12-1/4"
P-1914-PR	14"	P-2414-PR	14"	P-3014-PR	14"
P-1915-PR	15-3/4"	P-2415-PR	15-3/4"	P-3015-PR	15-3/4"
P-1917-PR	17-1/2"	P-2417-PR	17-1/2"	P-3017-PR	17-1/2"
P-1919-PR	19-1/4"	P-2419-PR	19-1/4"	P-3019-PR	19-1/4"
P-1921-PR	21"	P-2421-PR	21"	P-3021-PR	21"
P-1922-PR	22-3/4"	P-2422-PR	22-3/4"	P-3022-PR	22-3/4"
P-1924-PR	24-1/2"	P-2424-PR	24-1/2"	P-3024-PR	24-1/2"
P-1926-PR	26-1/4"	P-2426-PR	26-1/4"	P-3026-PR	26-1/4"
P-1928-PR	28"	P-2428-PR	28"	P-3028-PR	28"

## ORDERING AND DIMENSIONAL DATA

W = 19" Panel Width		W = 24" Panel Width		W = 30" Panel Width	
Catalog Number	Panel Height H	Catalog Number	Panel Height H	Catalog Number	Panel Height H
P-191-A2	1-23/32"	P-241-A2	1-23/32"	P-301-A2	1-23/32"
P-193-A2	3-15/32"	P-243-A2	3-15/32"	P-303-A2	3-15/32"
P-195-A2	5-7/32"	P-245-A2	5-7/32"	P-305-A2	5-7/32"
P-197-A2	6-31/32"	P-247-A2	6-31/32"	P-307-A2	6-31/32"
P-198-A2	8-23/32"	P-248-A2	8-23/32"	P-308-A2	8-23/32"
P-1910-A2	10-15/32"	P-2410-A2	10-15/32"	P-3010-A2	10-15/32"
P-1912-A2	12-7/32"	P-2412-A2	12-7/32"	P-3012-A2	12-7/32"
P-1914-A2	13-31/32"	P-2414-A2	13-31/32"	P-3014-A2	13-31/32"
P-1915-A2	15-23/32"	P-2415-A2	15-23/32"	P-3015-A2	15-23/32"
P-1917-A2	17-15/32"	P-2417-A2	17-15/32"	P-3017-A2	17-15/32"
P-1919-A2	19-7/32"	P-2419-A2	19-7/32"	P-3019-A2	19-7/32"
P-1921-A2	20-31/32"	P-2421-A2	20-31/32"	P-3021-A2	20-31/32"
P-1922-A2	22-23/32"	P-2422-A2	22-23/32"	P-3022-A2	22-23/32"
P-1924-A2	24-15/32"	P-2424-A2	24-15/32"	P-3024-A2	24-15/32"
P-1926-A2	26-7/32"	P-2426-A2	26-7/32"	P-3026-A2	26-7/32"
P-1928-A2	27-31/32"	P-2428-A2	27-31/32"	P-3028-A2	27-31/32"

## ORDERING AND DIMENSIONAL DATA

Catalog No.	Dim. A	Catalog No.	A
PS-1	1-3/4"	PS-12	12-1/4"
PS-3	3-1/2"	PS-14	14"
PS-5	5-1/4"	PS-15	15-3/4"
PS-7	7"	PS-17	17-1/2"
PS-8	8-3/4"	PS-19	19-1/4"
PS-10	10-1/2"	PS-21	21"

One Pair Required Per Panel

### Panel Spacers For 1/8" Flat Panels

Cabtron Panel Spacers are designed to make 1/8" flat panels fit flush with the frame surface. One pair per panel is required.

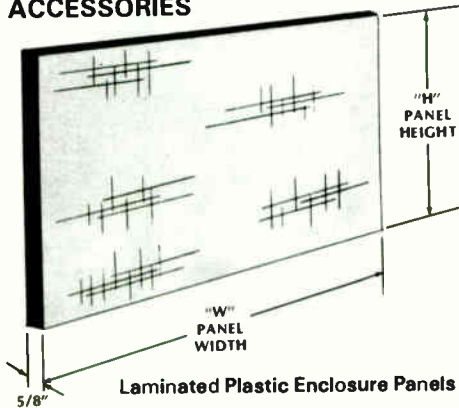
Constructed of 16 gauge steel and cadmium plated per QQ-P-416a Type II Class 2.

# CABTRON SYSTEMS, INC.

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# PANELS/SHELVES/ CABLE CARRIER & RUNWAY

## ACCESSORIES



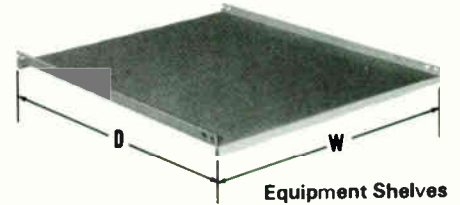
Laminated Plastic Enclosure Panels

### Laminated Plastic Enclosure Panels

Cabtron Plastic Lined Panels are bonded to extra strong core having an over-all thickness of  $\frac{5}{8}$ " fitting into  $\frac{5}{8}$ " recess of all Cabtron frame panel openings.

Ideal usage is with Cabtron extension frames or desk and counter frames. Plastic tops resist abrasion, heat, acids and alkalines and are supplied in light gray.

Vertical dimensions are in increments of  $1\frac{3}{4}$ " to correspond with hole spacing on panel mounting angles of frames. A complete hardware kit is supplied with each panel for fastening panel from underside.



Equipment Shelves

### Equipment Shelves

Shelves may be installed in all Cabtron cabinets at any desired height, bolting to the four cabinet panel mounting angles.

Fabricated of prime 16 gauge cold rolled steel and finished in Cabtron's light gray.

**CAUTION:** If cabinet has either air ducts, receptacle strips or ground strips—full depth shelves may not be used. Shorter depth shelves may be used by ordering an additional pair of mounting angles.

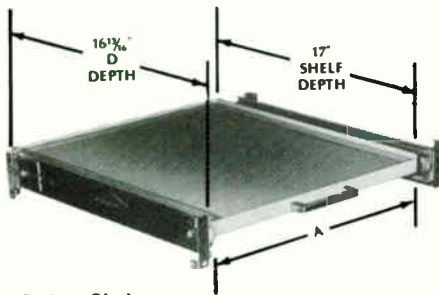
## ORDERING AND DIMENSIONAL DATA

W = 19" Panel Width		W = 24" Panel Width		W = 30" Panel Width	
Catalog Number	Panel Height H	Catalog Number	Panel Height H	Catalog Number	Panel Height H
P-1910-FO	10-1/2"	P-2410-FO	10-1/2"	P-3010-FO	10-1/2"
P-1914-FO	14"	P-2414-FO	14"	P-3014-FO	14"
P-1917-FO	17-1/2"	P-2417-FO	17-1/2"	P-3017-FO	17-1/2"
P-1921-FO	21"	P-2421-FO	21"	P-3021-FO	21"
P-1926-FO	26-1/4"	P-2426-FO	26-1/4"	P-3026-FO	26-1/4"

Additional sizes available on special order.

## ORDERING AND DIMENSIONAL DATA

Catalog No.	W — Width	D — Depth	Used On
19" Panel Width			
SH-1918	19-11/32"	16-13/16"	18-1/2" Depth Frame
SH-1922	19-11/32"	20-5/16"	22" Depth Frame
SH-1925	19-11/32"	23-13/16"	25-1/2" Depth Frame
SH-1930	19-11/32"	29-1/16"	30-3/4" Depth Frame
24" Panel Width			
SH-2418	24-11/32"	16-13/16"	18-1/2" Depth Frame
SH-2422	24-11/32"	20-5/16"	22" Depth Frame
SH-2425	24-11/32"	23-13/16"	25-1/2" Depth Frame
SH-2430	24-11/32"	29-1/16"	30-3/4" Depth Frame
30" Panel Width			
SH-3018	30-11/32"	16-13/16"	18-1/2" Depth Frame
SH-3022	30-11/32"	20-5/16"	22" Depth Frame
SH-3025	30-11/32"	23-13/16"	25-1/2" Depth Frame
SH-3030	30-11/32"	29-1/16"	30-3/4" Depth Frame



Sliding Shelves

### Sliding Shelves

Sliding shelves may be installed in all Cabtron cabinets at any desired height in increments of  $1\frac{3}{4}$ ". Steel slides allow equipment to be removed from shelves with ease. Maximum loading capacity is 50 lbs.

Fabricated of 16 gauge cold rolled steel and finished in Cabtron light gray.

## ORDERING AND DIMENSIONAL DATA

Catalog No.	A (Inside)	Used On
SHS-19	16-3/4"	All 19" Panel Width Cabinets
SHS-24	21-3/4"	All 24" Panel Width Cabinets
SHS-30	27-3/4"	All 30" Panel Width Cabinets

### Cable Carrier No. CC-30

The Cabtron Cable Carrier provides support for cable harness which are attached to a sliding out chassis.

Attached to the rear mounting angle with  $\frac{1}{4}$ "—20 hardware the Cabtron Cable Carrier will extend a maximum of 30".

Constructed of 12 gauge steel and cadmium plated per QQ-P-416a, Type II, Class 2.

### Cable Runway

Cabtron Cable Runways are used to run wiring vertically within the cabinet. With Cabtron Cable Runways it is now possible to run wiring from one chassis to another without having to cable lace and if changes are required, it is a simple matter to remove the cover and make the change.

It is recommended that the Cabtron Cable Carrier "CC-30" be used in conjunction with the Cable Runway for trouble free chassis operation.

Cabtron Cable Runways are constructed of durable plastic and fastened to the frame with #10 hardware. Unless otherwise specified the Cabtron Cable Runway will be installed at the left rear corner when viewed from the front of the cabinet.

Catalog No.	Dim. "H"
CR-21	16-1/2"
CR-28	23-1/2"
CR-35	30-1/2"
CR-42	37-1/2"
CR-45	41"
CR-52	48"
CR-61	56-3/4"
CR-70	65-1/2"
CR-78	74-1/4"



# CABTRON SYSTEMS, INC.

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# CASTERS/ CASTER PLATE & DOLLIES



Castors

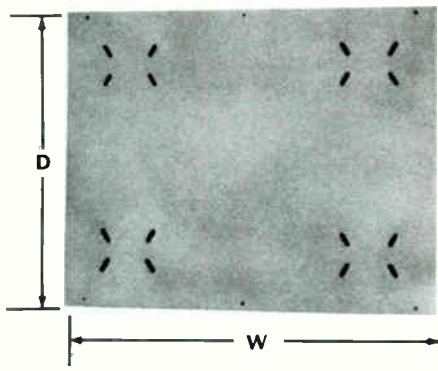
## Castors

Cabtron Castors come equipped with all mounting hardware.

Castors attach directly to C, S, and H Series frames and consoles.

## ORDERING AND DIMENSIONAL DATA

Caster Number	Wheel Dia.	Wheel Width	Load Cap. Each	Over-All Height	Swivel	Rigid	Plain Bearing	Swivel Ball Bearing	Extends Below Filtered Base
CA-100	3"	1/2"	100	3-1/4"	X		X		Desk Cabinet Only
CA-500	2"	1-5/8"	125	2-13/16"	X			X	1-15/16"
CA-600R	4"	1-5/16"	150	5-1/16"		X		X	4-1/16"
CA-600S	4"	1-5/16"	150	5-1/16"	X			X	4-1/16"
CA-600SB	4"	1-5/16"	150	5-1/16"	X			X	4-1/16"
CA-800	2-1/2"	1-1/8"	200	3-1/4"	X		X		2-3/16"
CA-2000	3"	1-13/16"	500	4-5/16"	X			X	3-5/16"



## Caster Plate for Bench Frames

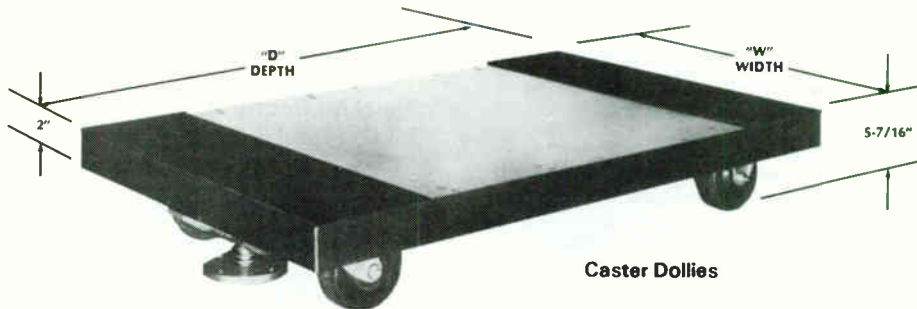
Cabtron Caster Plates are to be used on Cabtron Bench Frames only. (Not required on other models.)

Constructed of prime 11 gauge steel plate and has hole provisions for any of the Cabtron castors shown above. Castors are not provided with this item and must be ordered as a separate item.

Finished in light gray.

## ORDERING INFORMATION

"W" = 21"	"W" = 26"	"W" = 32"	Cabinet Depth	"D" Depth
19" Panel Width	24" Panel Width	30" Panel Width		
CP-1918	CP-2418	CP-3018	18-1/2"	18-3/8"
CP-1922	CP-2422	CP-3022	22"	21-7/8"
CP-1925	CP-2425	CP-3025	25-1/2"	25-3/8"
CP-1930	CP-2430	CP-3030	30-3/4"	30-5/8"



Caster Dollies

## Caster Dollies For C and S Series Cabinets

Cabtron Caster Dollies provide an extended base for additional stability and heavy load carrying capacities. Constructed of prime 14 gauge steel with two 12 gauge channel supports across casters and finished in any one of Cabtron's ten standard vinyl textured finishes.

Rack frames may be mounted midway between front and rear of dolly or flush with the back. The midway position provides a 6" ledge both front and rear and the rear position provides 12" of front extension. All top ex-

posed surfaces are covered with long-wearing black rubber mat. Furnished as illustrated.

Two ball bearing 4" diameter swivel casters and two ball bearing 4" rigid casters are included as standard parts of the dolly. A foot lock may be added to the dolly by adding the letters "FL" to the dolly number. All swivel casters may be ordered by adding the suffix "AS" (All Swivel) after the catalog number.

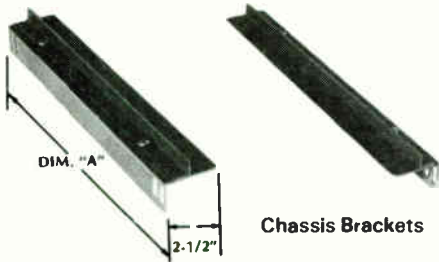
Filtered base frames are bolted directly to caster dolly using 3/8" - 16 hardware. Assembly hardware is included with each dolly.

## ORDERING AND DIMENSIONAL DATA

19" Panel Width		24" Panel Width		30" Panel Width		
Catalog Number	"W" Width	Catalog Number	"W" Width	Catalog Number	"W" Width	"D" Depth
CD-1918	21-1/16"	CD-2418	26-1/16"	CD-3018	32-1/16"	30-1/2"
CD-1918-FL	21-1/16"	CD-2418-FL	26-1/16"	CD-3018-FL	32-1/16"	30-1/2"
CD-1922	21-1/16"	CD-2422	26-1/16"	CD-3022	32-1/16"	34"
CD-1922-FL	21-1/16"	CD-2422-FL	26-1/16"	CD-3022-FL	32-1/16"	34"
CD-1925	21-1/16"	CD-2425	26-1/16"	CD-3025	32-1/16"	37-1/2"
CD-1925-FL	21-1/16"	CD-2425-FL	26-1/16"	CD-3025-FL	32-1/16"	37-1/2"
CD-1930	21-1/16"	CD-2430	26-1/16"	CD-3030	32-1/16"	42-3/4"
CD-1930-FL	21-1/16"	CD-2430-FL	26-1/16"	CD-3030-FL	32-1/16"	42-3/4"

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Chassis Brackets

## Chassis Brackets

Cabtron chassis brackets are capable of supporting heavy loads and relieving stress to front panel mounted equipment.

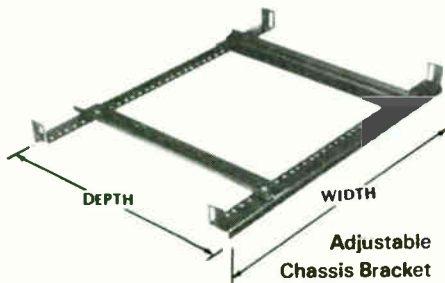
Consisting of two parts, the lower angle is fabricated of 16 gauge cold rolled steel. All parts are cadmium plated per QQ-P-416a Type II, Class 2. The lower angle is adjusted vertically along the cabinet panel mounting angles and the top angle is adjustable to the chassis width. All mounting hardware supplied.

When full cabinet depth chassis brackets are not required, shorter chassis brackets may be used by ordering an additional pair of panel mounting angles.

CAUTION: If cabinet has either air ducts, receptacle strips or ground strips — full depth chassis brackets may not be used. We suggest either shorter chassis brackets or using the adjustable chassis brackets (CBA).

### ORDERING AND DIMENSIONAL DATA

Catalog No	A	Used On
CB-18	16-13/16"	18-1/2" Depth Frame
CB-22	20-5/16"	22" Depth Frame
CB-25	23-13/16"	25-1/2" Depth Frame
CB-30	29-1/16"	30-3/4" Depth Frame



Adjustable Chassis Bracket

## Adjustable Chassis Bracket

Cabtron Adjustable Chassis Brackets are capable of supporting heavy loads and relieving stress to front panel mounted equipment affording maximum adjustability.

Consisting of four parts, two support brackets bolted across the front and rear panel mounting angles. The two chassis guides bolt across the two support brackets. All parts are fabricated of prime 12 gauge cold rolled steel and cadmium plated per QQ-P-416a, Type II, Class 2.

Chassis supports are adjustable vertically along the panel mounting angles and the chassis guides are adjustable horizontally along the chassis supports to any chassis width.

When using chassis brackets in sloped opening of console frames, it is necessary to order 2 — MA 21 mounting angles.

### ORDERING AND DIMENSIONAL DATA

19" Panel Width Frames			
Catalog No	D — Depth	W — Width	Used On
CBA-1918	16-13/16"	19-11/32"	18-1/2" Depth Frame
CBA-1922	20-5/16"	19-11/32"	22" Depth Frame
CBA-1925	23-13/16"	19-11/32"	25-1/2" Depth Frame
CBA-1930	29-1/16"	19-11/32"	30-3/4" Depth Frame
24" Panel Width Frames			
CBA-2418	16-13/16"	24-11/32"	18-1/2" Depth Frame
CBA-2422	20-5/16"	24-11/32"	22" Depth Frame
CBA-2425	23-13/16"	24-11/32"	25-1/2" Depth Frame
CBA-2430	29-1/16"	24-11/32"	30-3/4" Depth Frame
30" Panel Width Frames			
CBA-3018	16-13/16"	30-11/32"	18-1/2" Depth Frame
CBA-3022	20-5/16"	30-11/32"	22" Depth Frame
CBA-3025	23-13/16"	30-11/32"	25-1/2" Depth Frame
CBA-3030	29-1/16"	30-11/32"	30-3/4" Depth Frame

## Panel Mounting Angles for C, H and S-Series Cabinets

Additional Cabtron Panel Mounting Angles may be mounted anywhere within the frame affording complete flexibility.

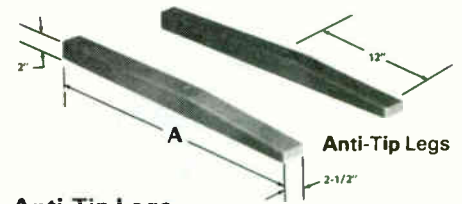
Angles are fabricated of 11 gauge (.120) cold rolled steel and cadmium plated per QQ-A-416a, Type II, Class 2, available in two styles, one with 9/32" diameter holes on both legs and the other style is tapped 10.32 on one leg and 9/32" diameter holes on the other leg. All panel mounting holes are spaced in EIA pattern, 5/8" — 5/8" — 1/2" and all lengths are in increments of 13/4".

NOTE: All Cabtron Frames are equipped with four panel mounting angles, one in each corner. Front mounting angles tapped.

### ORDERING AND DIMENSIONAL DATA

Panel Mounting Angle 9/32" Dia. Holes — Both Legs	Over-All Length	Panel Mounting Angle Tapped 10.32 One Leg & Other Leg 9/32" Dia.
MA-8	8-3/4"	MA-8T
MA-10	10-1/2"	MA-10T
MA-12	12-1/4"	MA-12T
MA-14	14"	MA-14T
MA-15	15-3/4"	MA-15T
MA-17	17-1/2"	MA-17T
MA-19	19-1/4"	MA-19T
MA-21	21"	MA-21T
MA-24	24-1/2"	MA-24T
MA-28	28"	MA-28T
MA-31	31-1/2"	MA-31T
MA-35	35"	MA-35T
MA-38	38-1/2"	MA-38T
MA-42	42"	MA-42T
MA-45	45-1/2"	MA-45T
MA-52	52-1/2"	MA-52T
MA-61	61-1/4"	MA-61T
MA-70	70"	MA-70T
MA-78	78-3/4"	MA-78T

# BRACKETS/ MOUNTING ANGLES/ ANTI-TIP LEGS & BASES



Anti-Tip Legs

## Anti-Tip Legs

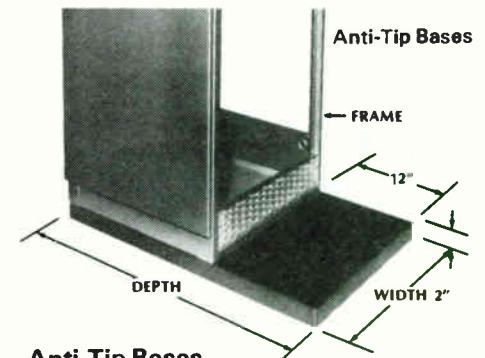
Anti-Tip Legs will support the cabinet when equipment is extended out from the cabinet.

Cabtron Anti-Tip Legs are constructed of 11 gauge cold rolled steel and finished in any one of ten Cabtron standard vinyl textured finishes.

Cabtron Leveling Pads (HW-125) may be added to the Anti-Tip Legs.

### ORDERING INFORMATION (FURNISHED IN PAIRS)

Anti Tip Leg Catalog Number	Overall Depth "A"	Used with Cabinet Depth
ATL-18	30-1/2"	18-1/2"
ATL-22	34"	22"
ATL-25	37-1/2"	25-1/2"
ATL-30	42-3/4"	30-3/4"



Anti-Tip Bases

## Anti-Tip Bases

Anti-Tip Bases provide additional stability when heavy equipment is extended beyond the frame.

Constructed of prime 14 gauge steel and finished in any one of ten Cabtron standard vinyl textured finishes. Extended surface is covered with long wearing black rubber matting bonded to base.

Filtered base frames bolt directly to the anti-tip base using 3/8" — 16 hardware.

### ORDERING INFORMATION

Catalog Number	Width	Depth	Used On Frames	
BA-1918	21-1/16"	30-1/2"	19" Panel Width	18-1/2" Depth
BA-1922	21-1/16"	34"		22" Depth
BA-1925	21-1/16"	37-1/2"		25-1/2" Depth
BA-1930	21-1/16"	42-3/4"		30-3/4" Depth
BA-2418	26-1/16"	30-1/2"	24" Panel Width	18-1/2" Depth
BA-2422	26-1/16"	34"		22" Depth
BA-2425	26-1/16"	37-1/2"		25-1/2" Depth
BA-2430	26-1/16"	42-3/4"		30-3/4" Depth
BA-3018	32-1/16"	30-1/2"	30" Panel Width	18-1/2" Depth
BA-3022	32-1/16"	34"		22" Depth
BA-3025	32-1/16"	37-1/2"		25-1/2" Depth
BA-3030	32-1/16"	42-3/4"		30-3/4" Depth

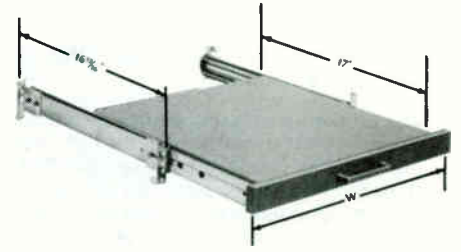
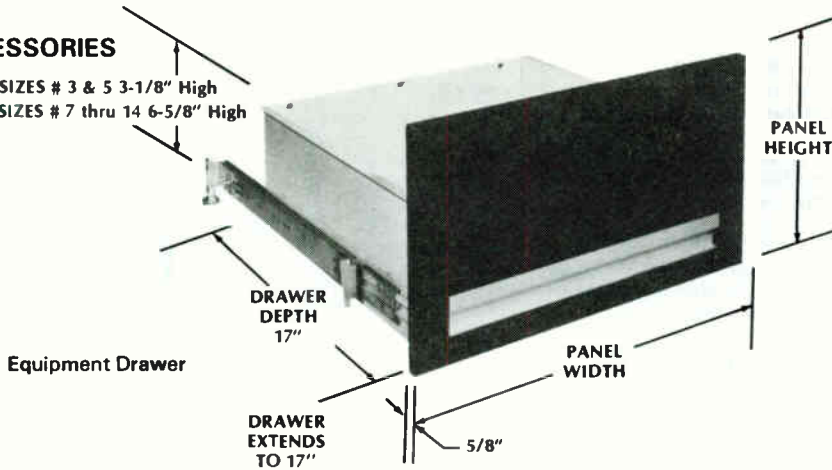
# CABTRON SYSTEMS, INC.

200 Anets Drive  
Northbrook, IL 60062  
(312) 498-6090

# DRAWERS/ WRITING TOP

## ACCESSORIES

SIZES # 3 & 5 3-1/8" High  
SIZES # 7 thru 14 6-5/8" High



Pull-Out Writing Top

## Equipment Drawer

Cabtron Equipment Drawers are designed for use as storage drawers for cables, test equipment, papers, etc. and drawer front is the same size as a standard panel, therefore, it can be used at any vertical location in the cabinet.

Cabtron drawers feature a full width flush pull and steel slides providing full access to the 17" deep drawer. All drawers are constructed of prime steel and the drawer body is finished in Cabtron light gray and the drawer front is

finished in any one of ten Cabtron standard vinyl textured finishes. Recommended maximum carrying weight is 50 lbs.

Locks are available on drawer models, 5, 8, 10, 12 and 14 ONLY. To order locks add the suffix "LK" after the catalog number.

**CAUTION:** If cabinet has either air ducts, receptacle strips or ground strips — full depth drawers may not be used. Shorter depth drawers may be used by ordering an additional pair of mounting angles.

## Pull-Out Writing Top

Cabtron Pull Out Writing Tops provide easy access to a temporary writing or work surface and when not required, it will slide back into the cabinet.

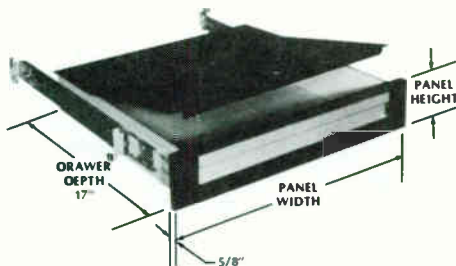
Light gray finish. Maximum load carrying capacity is 50 lbs.

## ORDERING AND DIMENSIONAL DATA

19" Panel Width		24" Panel Width		30" Panel Width	
Catalog Number	Panel Height	Catalog Number	Panel Height	Catalog Number	Panel Height
DR-193	3-7/16"	DR-243	3-7/16"	DR-303	3-7/16"
DR-195	5-3/16"	DR-245	5-3/16"	DR-305	5-3/16"
DR-197	6-15/16"	DR-247	6-15/16"	DR-307	6-15/16"
DR-198	8-11/16"	DR-248	8-11/16"	DR-308	8-11/16"
DR-1910	10-7/16"	DR-2410	10-7/16"	DR-3010	10-7/16"
DR-1912	12-3/16"	DR-2412	12-3/16"	DR-3012	12-3/16"
DR-1914	13-15/16"	DR-2414	13-15/16"	DR-3014	13-15/16"

## ORDERING AND DIMENSIONAL DATA

Catalog Number	Dim. "W" Panel Width	Used On
PWT-191	18-15/16"	All 19" Panel width cabinets
PWT-241	23-15/16"	All 24" Panel width cabinets
PWT-301	29-15/16"	All 30" Panel width cabinets



Writing Top Drawer

## Writing Top Drawer

Cabtron Writing Top Drawers are designed for use in standard vertical panel spaces of all Cabtron frames and provide an ideal pull-out writing surface.

Cabtron Writing Top Drawers feature a full width flush pull and steel slides providing full access to the 17" deep writing top. The

hinged black plastic top fits flush with top of drawer and allows the inside to be used for miscellaneous items.

Constructed of prime steel and the drawer body is finished in Cabtron light gray and the drawer front is finished in any one of ten Cabtron standard vinyl textured finishes. Recommended maximum carrying weight is 50 lbs.

19" Panel Width		24" Panel Width		30" Panel Width	
Catalog Number	Panel Height	Catalog Number	Panel Height	Catalog Number	Panel Height
DRW-193	3-7/16"	DRW-243	3-7/16"	DRW-303	3-7/16"
DRW-197	6-15/16"	DRW-247	6-15/16"	DRW-307	6-15/16"



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## ACCESSORIES

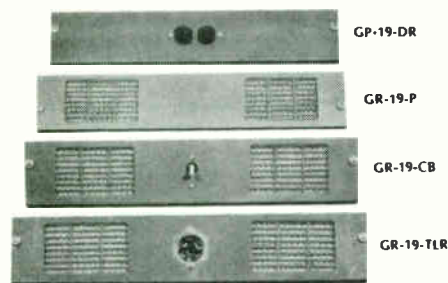
### Receptacle Strip

Cabtron Receptacle Strips are Three Wire, single circuit, A.S.A. Standard (third wire bare copper grounding) with 15A, 125V, receptacles on 6" centers.

Receptacle Strips mount vertically on the frame struts and are installed at the right rear of the cabinet unless otherwise specified. Each Receptacle Strip is equipped with an entrance fitting which is positioned at the bottom of the Receptacle Strip unless otherwise specified.

#### ORDERING AND DIMENSIONAL DATA

Receptacle Strip Number	"L" Overall Length	Number of Receptacles	Cabinet Vertical Panel Height
RS-21	17-3/4"	3	21"
RS-28	24-3/4"	4	28"
RS-35	31-3/4"	5	35"
RS-42	38"	6	42"
RS-45	42-1/4"	7	45-1/2"
RS-52	49-1/4"	8	52-1/2"
RS-61	58"	10	61-1/4"
RS-70	66-3/4"	11	70"
RS-78	75-1/2"	12	78-3/4"



Base Mounted Grilles

### Base Mounted Grilles

The Cabtron Filtered Base Frame brings new flexibility to the electronic cabinet by offering a selection of base grilles to fit your requirements.

Shown at the right is a typical rear grille with optional grilles below which may be used in place of the standard GR-19-S grille.

All optional grilles are finished in a vinyl finish, same as frame, unless otherwise specified.

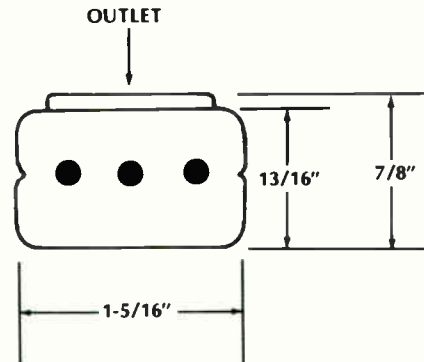
Grilles are constructed of prime 16 gauge steel, formed 9/16" thick, 327/32" high, and the panel width of the frame.

### Grounding Strip

Cabtron Grounding Strips allow equipment to be grounded Independent of the cabinet.

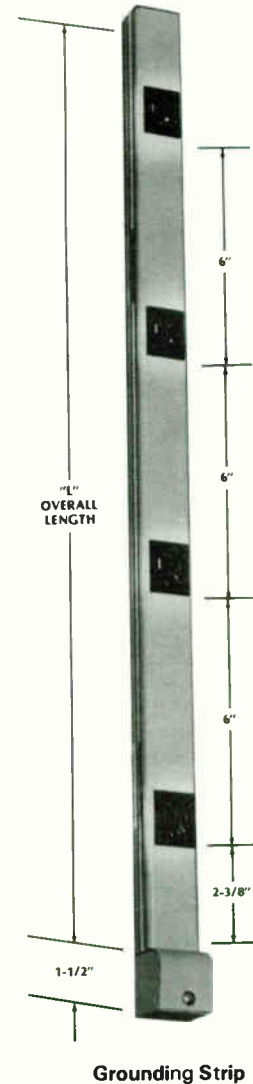
Cabtron Grounding Strips are 1/4" x 3/4" copper bus bar having 10-32 tapped holes spaced on 3 1/2" centers the full length.

All Grounding Strips mount vertically, on insulating hardware to the frame struts and are installed to the right rear of the cabinet unless otherwise specified.



#### ORDERING AND DIMENSIONAL DATA

Rack Cabinet Ground Strips		
Catalog Number	"L" Over-All Length	Vertical Panel Space
CS-21	16-1/2"	21"
CS-28	23-1/2"	28"
CS-35	30-1/2"	35"
CS-42	37-1/2"	42"
CS-45	41"	45-1/2"
CS-52	48"	52-1/2"
CS-61	56-3/4"	61-1/4"
CS-70	65-1/2"	70"
CS-78	74-1/4"	78-3/4"



Grounding Strip

## GRILL SELECTION

19" Panel Width	24" Panel Width	30" Panel Width	Description
GP-19	GP-24	GP-30	Solid panel grill
GP-19-DR	GP-24-DR	GP-30-DR	Solid panel grill with duplex recept.
GR-19-P	GR-24-P	GR-30-P	Solid center grill
GR-19-DR	GR-24-DR	GR-30-DR	Solid center grill with duplex recept.
GR-19-CB	GR-24-CB	GR-30-CB	Solid center grill with 15 A. breaker
GR-19-TLR	GR-24-TLR	GR-30-TLR	Solid center grill with twist lock recept.
GR-19-TLR/W	GR-24-TLR/W	GR-30-TLR/W	Solid center grill with twist lock recept. wired to "RS" strip.
CRD-72-TLR	72" Cord Assembly To Mate With Above TLR Grill		

# CABTRON SYSTEMS, INC.

200 Anets Drive  
Northbrook, IL 60062  
(312) 498-6090

# EXTENSION TOPS/ DESKTOP

## ACCESSORIES

### "WTA" Plastic Extension Tops, with Radius Front

Cabtron "WTA" Plastic Extension Tops have a radius front with square corners providing a smooth continuous work surface for any Cabtron rack or console frame. Constructed of .062 light gray or gunstock walnut plastic top sheet bonded to 3/4" exterior plywood.

Tops are supported by means of a top support panel which is bolted to the mounting angles and is the same height as the plastic top (3 1/2"). Top support panels are supplied with the plastic top (one for each frame) and are painted light gray.

When used with "H" series frames add 2" to dimension "A" for each frame and the suffix "H" to the extension top number (WTAH).

### Plastic Desktop

Cabtron Plastic Desktops are ideally suited for use with the "C" series desk frames described in section C, or may be used across the top of any Cabtron rack or bench frame.

Cabtron desktops are fastened to the frame from the under side and predrilled holes are not supplied unless dimensions for same are provided. Constructed of 1/16" top and bottom plastic sheets bonded to 1 1/8" flakeboard with an over-all thickness of 1 1/4". Available in light gray or walnut. Special colors, patterns and sizes are quoted on request.

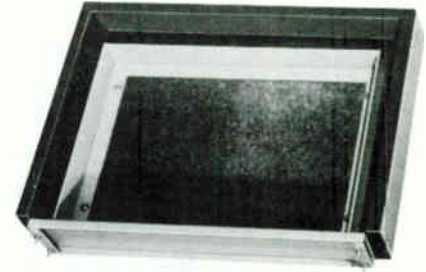
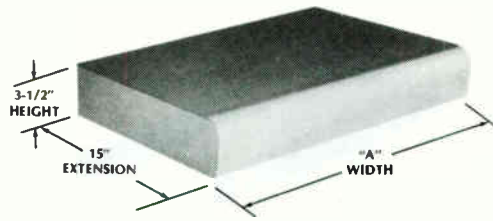
When ordering special sizes, simply specify the standard size listed below which must be made larger than the size desired and also specify actual dimensions required.

### "WTC" Plastic Extension Tops One-Piece Console For 30° and 45° Assemblies

Cabtron one-piece plastic extension tops provide a smooth continuous work surface for the fronts of Cabtron rack or console front frames that are joined in a "console" or "wing type" arrangement and which utilize two 30° or 45° wedge assemblies as illustrated. Constructed of .062 light gray or gunstock walnut plastic top sheet bonded to 3/4" exterior plywood.

Cabtron plastic tops are supported from the frame by means of a 12 gauge steel top support assembly which is capable of supporting heavy loads and is bolted to the frame panel mounting angles with #12 hardware. All top supports are supplied as part of the plastic top, one for each frame and finished in light gray.

For "H" series assemblies add the suffix "H" after the part number.



### ORDERING AND DIMENSIONAL DATA

19" Panel Width		24" Panel Width		30" Panel Width		Number of Frames
Extension Top Number	Dimension A	Extension Top Number	Dimension A	Extension Top Number	Dimension A	
WTA-119	20-3/4"	WTA-124	25-3/4"	WTA-130	31-3/4"	1
WTA-219	41-13/16"	WTA-224	51-13/16"	WTA-230	63-13/16"	2
WTA-319	62-7/8"	WTA-324	77-7/8"	WTA-330	95-7/8"	3
WTA-419	83-15/16"	WTA-424	103-15/16"	WTA-430	127-15/16"	4
WTA-519	105"	WTA-524	130"	WTA-530	160"	5
WTA-619	126-1/16"	WTA-624	156-1/16"	WTA-630	192-1/16"	6
WTA-719	147-1/8"	WTA-724	182-1/8"	WTA-730	224-1/8"	7
WTA-819	168-3/16"	WTA-824	208-3/16"	WTA-830	256-3/16"	8

NOTE: When 19", 24" or 30" frames are joined together the above numbers cannot be used. When ordering supply layout of assembly.

### ORDERING AND DIMENSIONAL DATA

Catalog Number	D	L	Catalog Number	D	L	Catalog Number	D	L	Catalog Number	D	L
WTD-2424	24"	24"	WTD-3036	30"	36"	WTD-3636	36"	36"			
WTD-2436	24"	36"	WTD-3048	30"	48"	WTD-3648	36"	48"	WTD-4848	48"	48"
WTD-2448	24"	48"	WTD-3060	30"	60"	WTD-3660	36"	60"	WTD-4860	48"	60"
WTD-2460	24"	60"	WTD-3072	30"	72"	WTD-3672	36"	72"	WTD-4872	48"	72"
WTD-2472	24"	72"	WTD-3096	30"	96"	WTD-3696	36"	96"	WTD-4896	48"	96"
WTD-2496	24"	96"	WTD-30120	30"	120"	WTD-36120	36"	120"	WTD-48120	48"	120"
WTD-24120	24"	120"	WTD-30144	30"	144"	WTD-36144	36"	144"	WTD-48144	48"	144"

### ORDERING AND DIMENSIONAL DATA (30° ASSEMBLIES)

19" Panel Width			24" Panel Width			30" Panel Width			Number of Frames
Catalog Number	A	B	Catalog Number	A	B	Catalog Number	A	B	
WTC-31930	23-1/16"	22"	WTC-32430	28-1/16"	27"	WTC-33030	34-1/16"	33"	3
WTC-41930	44-1/8"	22"	WTC-42430	54-1/8"	27"	WTC-43030	66-1/8"	33"	4
WTC-51930	65-3/16"	22"	WTC-52430	80-3/16"	27"	WTC-53030	98-3/16"	33"	5
WTC-61930	86-1/4"	22"	WTC-62430	106-1/4"	27"	WTC-63030	130-1/4"	33"	6
WTC-71930	107-5/16"	22"	WTC-72430	132-5/16"	27"	WTC-73030	162-5/16"	33"	7
WTC-81930	128-3/8"	22"	WTC-82430	158-3/8"	27"	WTC-83030	194-3/8"	33"	8

### ORDERING AND DIMENSIONAL DATA (45° ASSEMBLIES)

19" Panel Width			24" Panel Width			30" Panel Width			Number of Frames
Catalog Number	A	B	Catalog Number	A	B	Catalog Number	A	B	
WTC-31945	23-1/16"	22"	WTC-32445	28-1/16"	27"	WTC-33045	34-1/16"	33"	3
WTC-41945	44-1/8"	22"	WTC-42445	54-1/8"	27"	WTC-43045	66-1/8"	33"	4
WTC-51945	65-3/16"	22"	WTC-52445	80-3/16"	27"	WTC-53045	98-3/16"	33"	5
WTC-61945	86-1/4"	22"	WTC-62445	106-1/4"	27"	WTC-63045	130-1/4"	33"	6
WTC-71945	107-5/16"	22"	WTC-72445	132-5/16"	27"	WTC-73045	162-5/16"	33"	7
WTC-81945	128-3/8"	22"	WTC-82445	158-3/8"	27"	WTC-83045	194-3/8"	33"	8

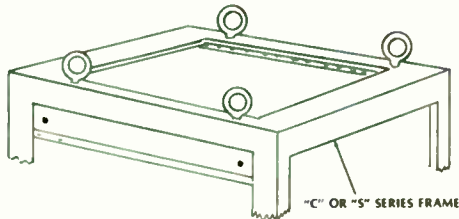
NOTE: When 19", 24" or 30" frames are joined together the above numbers cannot be used. When ordering supply layout of assembly.

# CABTRON SYSTEMS, INC.

200 Anets Drive  
Northbrook, IL 60062  
(312) 498-6090

# HARDWARE

## ACCESSORIES



## Hardware

### LAS-2000

Set of four lifting eyes with 1" ID and threaded into 1/2 x 3/4 steel support bar. Capable of lifting 2000 lbs.

### LAS-3000

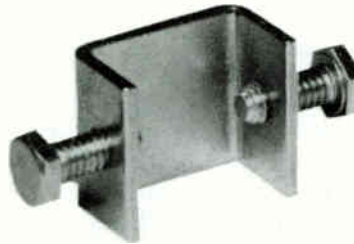
Set of four lifting eyes with 1 3/16 ID and threaded into 3/4 x 3/4 steel support bar. Capable of supporting 3000 lbs.

## Replacement Hardware



**Drawer Slides**  
**S-100-16**  
Slide Travel 16"  
**HW-120 Handle**

Used on SHS & PWT Assy.



### HW-150 Joining Clip

Cabtron Joining Clips are used to join one frame to another, back to back or turret to rack frame. Constructed of 12 gauge steel and nickel plated. Two (2) 1/4-20 bolts are supplied with clip.



**HW-117 Drawer Lock**



**HW-118 Surface Door Lock**

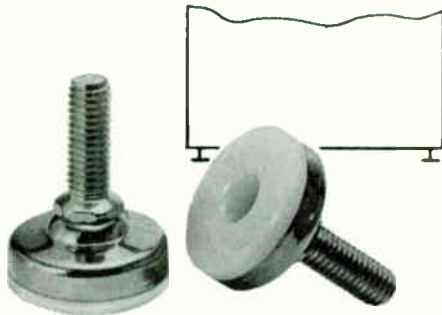


**HW-119 Flush Door Lock**

## Mounting Hardware



**HW-201** **HW-200** **HW-230-10** **HW-160** **HW-404** **HW-402** **HW-313** **HW-324** **HW-323**



### HW-125 Leveling Pad

Cabtron Leveling Pad may be installed to any Cabtron frame. Packaged individually, specify quantity.

### HW-201

Panel Screw w/Nylon Washer, Phillips Washer Head, 10-32 Thread 1 1/8" Long, Nickel Plated

### HW-200

Panel Screw w/Nylon Washer, Phillips Washer Head, 10-32 Thread 5/8" Long, Nickel Plated

### HW-235-12

Hex Head Cap Screw, 5/16-20 Thread, 3/4" Long, Cadmium Plated & Diechromate

### HW-230-10

Hex Head Cap Screw, w/Washer, 1/4-20 Thread, 5/8" Long, Cadmium Plated & Diechromate

### HW-212-8

Machine Screw, Slotted Head, 10-32 Thread, 1/2" Long, Cadmium Plated & Diechromate

### HW-160

Special Flat Head Screw, Used On "C" Series Trim, 10-32 Thread 1/2" Long, Cadmium Plated & Diechromate

### HW-161

Special Flat Head Screw Used On Desk Legs and XA Cabinets 1/4-20 Thread 3/4" Long, Cadmium Plated & Diechromate

### HW-405

Flat Washer, #5/16 Size, Cadmium Plated & Diechromate

### HW-404

Flat Washer, #1/4 Size, Cadmium Plated & Diechromate

### HW-402

Flat Washer, #10 Size, Cadmium Plated & Diechromate

### HW-313

Keys Hex Nut, 5/16-18 Thread, Cadmium Plated & Diechromate

### HW-312

Keys Hex Nut, 1/4-20 Thread, Cadmium Plated & Diechromate

### HW-310

Keys Hex Nut, 10-32 Thread, Cadmium Plated & Diechromate

### HW-325

"U" Type Clip Nut, 10-32 Thread, .075 to .120 Gap, Cadmium Plated & Diechromate

### HW-324

"U" Type Clip Nut, 1/4-20 Thread, .125 Gap, Cadmium Plated & Diechromate

### HW-323

"U" Type Clip Nut, 1/4-20 Thread, .075 Gap, Cadmium Plated & Diechromate



### LP-900 24-Channel Controller

• 6-channel chaser • Grand master with illuminated black-out switch • A, B and C submasters on the X and preset scenes • 12 preset scenes with pin matrix • Trimmable control voltage range • Bump buttons with selectable add and solo modes • Split dipless crossfader between X scene and preset scenes • Male 27-pin "Jones-type" with a P-327-CCT mating cable connector supplied with console • Alps 60mm travel, viscous damped faders • 37<sup>5</sup>/<sub>8</sub>" H x 30<sup>7</sup>/<sub>8</sub>" W x 18<sup>1</sup>/<sub>4</sub>" D • 26 lbs.

LP-900 ..... \$1995.00

### LP-1000 2-Scene 24-Channel Controller/ LP-1001 2-Scene 12-Channel Expander

• 6-channel chaser • Grand master with illuminated black-out switch • A, B and C submasters on the X, Y and preset scenes • 12 preset scenes with pin matrix • Trimmable control voltage range • Bump buttons with selectable add and solo modes • Split dipless crossfader between X and Y scenes • Expandable to 48 control channels • Alps 60mm travel, viscous damped faders • 47<sup>1</sup>/<sub>8</sub>" H x 29<sup>5</sup>/<sub>16</sub>" W x 25<sup>3</sup>/<sub>8</sub>" D (LP-1000), 47<sup>1</sup>/<sub>8</sub>" H x 12<sup>1</sup>/<sub>2</sub>" W x 25<sup>3</sup>/<sub>8</sub>" D (LP-1001) • 40 lbs. (LP-1000) • 15 lbs. (1001)

### LP-1001 Expander

• 2-scene 12-channel controller • Complete with bump buttons • Submaster assign switches • Output level LEDs • 12 x 12 diode pin matrix, with no mastering or power supply • An LP-1000 controller may be expanded from a 2-scene 24-channel to a 2-scene 36 or 48-channel controller by adding one or two LP-1001s and the appropriate cabling. (25 diode pins are included with each expander) • The expander may be permanently attached and internally wired to the main console, or left unattached and externally wired via a Master Slave Interconnect Cable • In the latter case, the main console must have a Master Slave Harness installed

### Master Slave Option

• Allows one or more LP-1000s or LP-900s to be slaved to a master LP-1000 or 900 to increase control channel capability • In the slaved mode the grand master, submasters, preset master, preset controllers and crossfader of the slave unit are overridden by those controls on the master console • The pin matrix on the slave console is used to assign its channel controllers to the master console's preset scene controllers • Individual operation is restored to normal by disconnecting the external interconnect cable

One Master Slave Harness per console and one External Interconnect Cable per interconnect are required for master/slaving LP-1000s or LP-900s.

LP-1000 2 x 24 channel with 12 presets and 27-pin Male control connector ..... \$2695.00  
LP-1001 2 x 12 channel with 21 preset matrix-expander for LP-1000 and 15-pin Male control connector ..... 1245.00

### Controller Accessories

IH LP-1000 Internal Master Slave Harness, with master and slave connectors ..... \$145.00  
EH LP-1000 External Master Slave Interconnect Cable ..... 95.00  
BO Charge for bolting expander to master frame, incl. internal wiring ..... 55.60  
DI Diode pin ..... 1.86

### Flight Cases

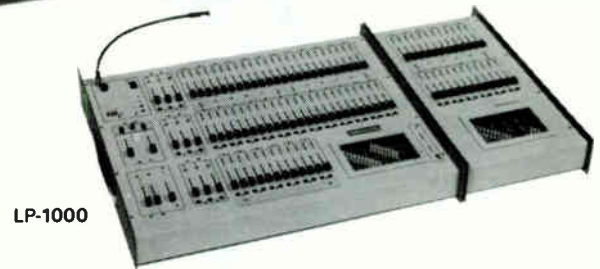
FC1 LP-1000 ATA Style Case ..... \$279.00  
FC2 LP-1000 with 1 LP-1001 ATA Style Case ..... 343.00  
FC3 LP-1000 with 2 LP-1001's ATA Style Case ..... POA  
FC4 LP-900 ATA Style Case ..... 255.00

### Control Cables

1505 50' 15-pin F control connector on both ends ..... \$ 91.00  
1510 100' (for use with LP-1001) ..... 148.00  
1515 150' ..... 205.00  
1520 200' ..... 264.00  
3005 50' 27-pin F control connector on both ends ..... 139.00  
3010 100' (for use with LP-1000 and LP-900) ..... 223.00  
3015 150' ..... 307.00  
3020 200' ..... 394.00



LP-900



LP-1000

### Control Cable Spreader Options

801 36" 8-pin M to 8-pin F control connector ..... \$23.00  
1502 36" 15-pin M to two 8-pin F control connector (for LP-1001) ..... 55.00  
1532 36" 15-pin F to two 8-pin F control connector (for LP-1001) ..... 50.00  
3004 36" 27-pin M to four 8-pin F control connector (for LP-1000 and LP-900) ..... 80.00  
3034 36" 27-pin F to four 8-pin F control connector (for LP-1000 and LP-900) ..... 79.00

NOTE: Male spreader (801, 1502, 3004) connects to controller via cable; Female spreader (1532, 3034) connects directly to controller

### Basic Dimmer Packs with 8 CJC Control Input

(Not including power or load panels)

LD-1200 6 channels at 1.2kW per channel 7.2kW pack total ..... \$ 895.00  
LD-2400 6 channels at 2.4kW per channel 14.4kW pack total ..... 1195.00

### Power Panel Options (Power Input)

TP Terminal strip plug-in panel with cover box ..... \$ 74.50  
UP U-ground plug-in panel ..... 41.50  
HP Twist-lock plug-in panel ..... 107.00  
BP Blank plug-in panel—14" wire tails ..... 36.00  
PP Patch bay powerlock plug-in panel ..... 94.00  
DP Direct plug-in connector with handle and cover plate ..... 24.50

### Load Panel Options (Power Output)

TL Terminal strip plug-in panel with cover box ..... \$ 97.50  
UL U-ground plug-in panel (2 connectors per channel—12 total) ..... 67.50  
SL Stage pin plug-in panel (1 connector per channel—6 total) ..... 118.50  
8L Blank plug-in panel—14" wire tails ..... 43.00  
PL Patch bay powerlock plug-in panel (4 hot connectors per channel—24 total) ..... 65.00  
DL Direct plug-in connector with handle and cover plate ..... 29.00

### Control Input Panel Options

8C Blank plug-in panel ..... \$17.00  
RCC Ribbon cable plug-in panel Male 10-pin IDP Series ..... 39.50  
10 CJC Single 10-pin M C-J plug-in panel with input filtering ..... 36.00  
8 CJC Dual 8-pin M-F C-J plug-in panel (included with basic dimmer pack) ..... 27.50

### Dimmer Pack Accessories

RBK Rear rack brace kit (1 pr.) ..... \$19.00  
PBP Patch bay patchcord (36" length, 12 ga. with one end terminated in a 30A powerlock connector, specify red, green or white) ..... 96  
HTL Cable mount female twist-lock connector (mates with HP panel-Hubbell #2713) ..... 55.50

# CAE, INC.

## LEPRECON PROFESSIONAL LIGHTING EQUIPMENT

P.O. Box 430  
10087 Industrial Dr.  
Hamburg, MI 48139  
(313) 231-9373

# LIGHTING CONTROL

### Control Consoles

Leprecon controllers feature easy to remove and repair printed circuit cards made of G-10 FR glass epoxy, fader slots with dust seals, snappy light-touch bump buttons, and highly reliable ribbon cable and connectors—all in a carefully designed, easy-to-service package.

Control Console Features	LP-250 6-channel 1 scene	LP-255 12-channel 1 scene	LP-500 12-channel 2 scene	LP-505 18-channel 2 scene	LP-510 24-channel 2 scene	LP-515 36-channel 2 scene	LP-750 18-channel 2 scene	LP-755 24-channel 2 scene	LP-760 36-channel 2 scene
Chase	X	X	X	X	X	X	X	X	X
Bump Buttons with Add and Solo modes	X	X	X	X	X	X	X	X	X
Split Dipless Crossfader between X & Y Scenes			X	X	X	X	X	X	X
Master/Independent Select Switches on each Control Channel			X	X	X	X	X	X	X
Control Voltage Max. and Min. Trimmable	X	X	X	X	X	X	X	X	X
Gooseneck Worklamp			X	X	X	X	X	X	X
Delay Crossfade Timer with Progress Meters							X	X	X
	\$375.00	\$460.00	\$765.00	\$995.00	\$1215.00	\$1630.00	\$1145.00	\$1390.00	\$1795.00



LP-750

### LD-360 Tree-Mount Dimmer

- Dual SCR's • Full magnetic circuit breakers • No fuses to replace
- All components are on a G-10 FR circuit board • Minimum wiring
- Line noise filtering that eliminates buzz and interference with sensitive audio equipment • Can handle 2400W total pack power if the parallel blade U-ground power plug is replaced with a plug rated to handle 20A, and the pack is connected to a suitable outlet • Six parallel blade U-ground receptacles • 25A per channel • One each male and female 8-pin Jones connector, with a mating cable connector

LD-360 ..... \$369.00



LD-360

### LD-1200/LD-2400 6-Channel Dimmer Packs

- EIA 19" rackmountable package • 3 1/2" H x 12" D • < 30 lbs. • Magnetic circuit breaker, locking full on switch, input power, drive, power output and no load indicators on each channel • Automatic shutdown with flashing indicators for overvoltage and overtemperature • Six dual SCR modules • Efficient cooling system with integral fan • Air enters through sides and exhausts out front • Units may be stacked with no heat build up • Effective, low-voltage drop inductors minimize RFI and lamp filament singing • Plug-in power input and output panels (U-ground, twistlock, stagepin or terminal strip) • Minimum selectable 0 or 2V • Maximum trimmable from +5 to 24V

LD-1200 1.2kW per channel, total 7.2kW, one magnetic 10A breaker per channel ..... \$ 895.00

LD-2400 2.4kW per channel, total 14.4kW, one magnetic 20A breaker per channel ..... 1195.00

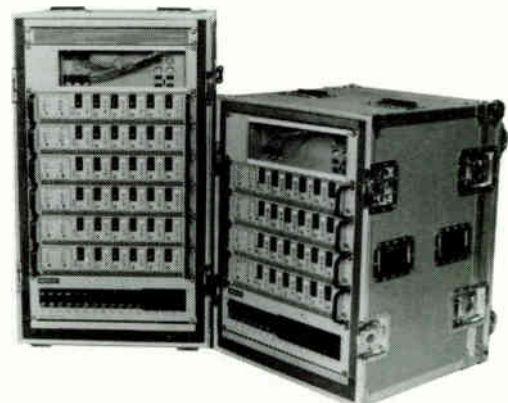


LD-2400

### Rack Systems

- Powerlock patchbay system • Rack load panels • Three sets of rack rails • Dimmer packs are mounted to the front rail and are secured at their rear via the second rail with rear rack braces • Back of the rack features a third rail which will accept any Leprecon rack panels • ATA style road rack or permanent installation rack • Panels available with direct, patch or metal wiring options • Accessories available

Rack Systems ..... POR



Dimmer Rack

# CAE, INC.

P.O. Box 430  
10087 Industrial Dr.  
Hamburg, MI 48139  
(313) 231-9373

# GOOSENECK LAMPS/ ACCESORIES

## LITTLITE SETS

High intensity Littlite has a 5W bulb with a finned hood. Low intensity has a 2.4W bulb with a smooth tubular hood.

"L" Series sets come complete and ready for easy surface mounting. All sets include bulb, mounting base and fully adjustable dimmer. Sets also include a 6' cord, 2-piece snap mount, screws for permanent mounting and a wall plug-in transformer. "A" versions do not include the transformer, and can be powered by any available 12V supply.

### Low Intensity Series

#### Detachable Lamp with Base

L-1/6	6"	\$49.95	L-1/6A	6"	\$40.95
L-1/12	12"	49.95	L-1/12A	12"	40.95
L-1/18	18"	49.95	L-1/18A	18"	40.95

#### Attached Lamp with Base

L-2/6	6"	\$39.95	L-2/6A	6"	\$30.95
L-2/12	12"	39.95	L-2/12A	12"	30.95
L-2/18	18"	39.95	L-2/18A	18"	30.95

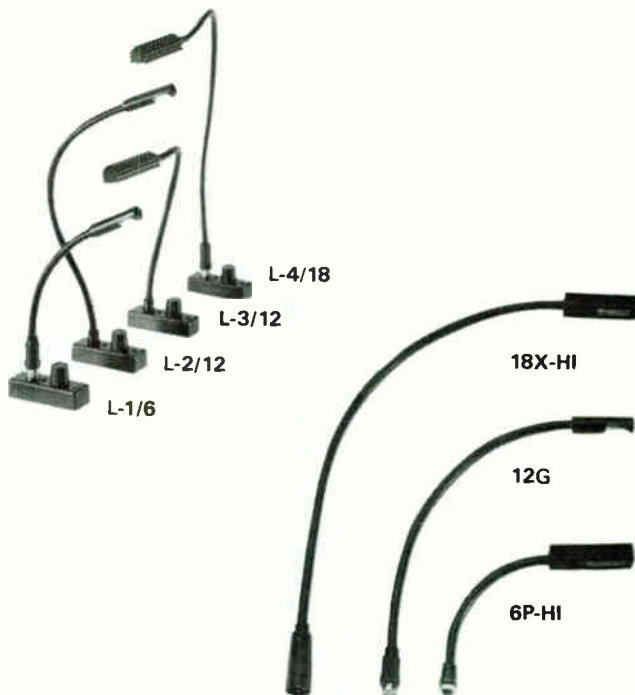
### High Intensity Series

#### Attached Lamp with Base

L-3/6	6"	\$49.95	L-3/6A	6"	\$40.95
L-3/12	12"	49.95	L-3/12A	12"	40.95
L-3/18	18"	49.95	L-3/18A	18"	40.95

#### Detachable Lamp with Base

L-4/6	6"	\$59.95	L-4/6A	6"	\$50.95
L-4/12	12"	59.95	L-4/12A	12"	50.95
L-4/18	18"	59.95	L-4/18A	18"	50.95



## Individual Gooseneck Lamps

Littlite "P", "G" and "X" Series lamps can be built into any device that requires lighting.

"G" Series Goosenecks have a BNC type swivel connector

"P" Series Goosenecks have a 3/8" diameter (1/8" NPT) threaded end with ground lug and nut.

"X" Series Goosenecks have a 3-pin male "XLR type" connector.

Individual Permanent Mount Lamp		Individual Permanent Mount Lamp			
6P	6"	\$16.00	6P-HI	6"	\$26.00
12P	12"	18.00	12P-HI	12"	28.00
18P	18"	20.00	18P-HI	18"	30.00

Individual Detachable Lamp		Individual Detachable Lamp			
6G	6"	\$23.00	6G-HI	6"	\$33.00
12G	12"	25.00	12G-HI	12"	35.00
18G	18"	27.00	18G-HI	18"	37.00

Individual Detachable Lamp (XLR)		Individual Detachable Lamp (XLR)			
6X	6"	\$25.00	6X-HI	6"	\$35.00
12X	12"	27.00	12X-HI	12"	37.00
18X	18"	29.00	18X-HI	18"	39.00

## Accessories

### DM Dimmer Rheostat

Varies the intensity of P, G, or X Series Goosenecks. Will dim two low intensity or one high intensity lamps . . . . . \$5.00

### PS Panel Socket

Mates with the G Series Gooseneck Swivel Connector. Mounts in a 3/8" hole in material 1/8" or less thick, or in an MP . . . . . \$2.40

### WB Weighted Base

A heavy metal plate that is screwed onto the bottom of the light allowing an L model to become a movable free-standing light source . . . \$6.00

### MP Mounting Plate

A 1 1/4" square metal plate with a 3/8" hole in its center . . . . . \$3.00

### HIC High Intensity Conversion Set

A high intensity hood and Q-5 bulb to convert low intensity lamps to high intensity. Simply remove the old hood and bulb, insert the Q-5 bulb and slip on the HI hood . . . . . \$15.00

### CL Adjustable Clip

Adjusts to clamp on edges from 1/16" to 3/4" thick. Included are a mounting bracket, springplate, screws, and washers . . . . . \$4.00

### 1815 Bulb

12V, 230mA, 2.4W bulb for the low intensity lamps . . . . . \$1.00

### Q-5 Bulb

12V, 380mA, 5W tungsten halogen bulb for the high intensity lamps . . . . . \$7.00

### WXF Wall Transformer

Plugs into a 110VAC outlet and supplies 12VAC up to 930mA . . \$12.00

### SM Snap Mount

A pair of self-adhesive pads used whenever you need quick easy placement and removal of an L-series lamp . . . . . \$2.00

### CF Color Filter

For use with the high intensity Gooseneck lamps, which have a slot in the hood for the filters. They come in a set of four colors: dark and light red, amber and blue. . . . . \$3.00

### CP Cigarette Lighter Plug

Used to power a lamp from a cigarette lighter outlet . . . . . \$3.00

### LV Low Voltage Hookup Kit

Included parts and instructions for wiring lamps into a 12V system. Included fuse and holder, connectors and line taps . . . . . \$6.50

### SC Storage Clips

Use to secure Littlites for transit or storage. Includes two mounting screws . . . . . \$1.00



# CALAWAY ENGINEERING

DIVISION OF QUANTA CORP.

49 S. Baldwin Ave.

Sierra Madre, CA 91024

(818) 355-2094 FAX: (818) 355-0652

# VIDEO EDITING SYSTEMS

## CED Series Computer Assisted Video Editing Systems

• CED MKII offers direct control of a mix of up to 6 Ampex and Sony protocol machines as standard • SCED is compatible with Calaway Engineering Translators and Sony BVH 2000, BVU-800/820, and BVW-10/40 machines • CED series offers standard RS-422 direct switcher control of popular audio and video switchers

### Features Common to All Models

• NTSC (PAL available) • Compatible with CMX and GVG  
• Optional 8" disc • Numeric keypad with double zero • Motion controller: Variable speed, Frame advance, Mark in/out keys • Preview Switcher: Audio/Video Previews, Sync Generator NTSC w/Genlock, Black Burst Generator NTSC, GPI Pulse  
• Video and Audio Switcher Control: Cross Point Selection w/Aux and Black, Transition Setup, Transition Execution  
• Frame Accurate • Color framed • Preview Field Select • Full Range Synchronizer • Save Editor Setup to disc • Save A/V switcher assignments • Save macro set • Save GPI labels/mode • Error/Help Messages • Automatic Assembly - Sequential and Checkerboard • Sync Roll • Previews: VVV, VVB, VBW • Replay • Edit Types: Video, Audio 1, Audio 2  
• Transitions: Cuts, Wipes, Dissolves • Split Edits • Trim Times • Set Times • Move Times • Constants: 8 • Master Slave • Saved to list • Looping and Branching • English Display of Macros • Transport Controls: FFW, FREV, Play, Stop, Slow Cue, Cue to In-point, 2X Play Very Slow, and More • Mark Keys • List Functions: Compatible with CMX, GVG/ISC, Conversion between Formats, Notes, Insert Edits/Notes, Delete Edits/Notes, Replace Edits/Notes, Shift Times, Renumber, Move, Ripple, Load EDL from Disc, Save EDL to Disc, Save EDL to Printer, Multiple Lists on Each 5 1/4" Disc, Seek for Event by Event Number, Seek Event by Record in Time, Scroll List Up/Down by Page, Jump to Head/End of List • List Sort: Event Number, Modified Record In, As Stored, Change Mode at Any Time

### All Models Include:

• Motion controller • Power cord • Installation manual • Operation manual • Software: edit program and diagnostics • Edit support card • upPV preview switcher

**CED upPV Preview Switcher:** Provides preview switching and synchronizing signals for the basic editing system (Composite sync and black burst). It also provides an output pulse at the start of a transition which can be used to trigger an external device.

### SCED + MK-II Six VTR Editor

• 6 VTRs standard • Fast 80286 computer • GPI w/E-MEM and Slo-Mo • All software options • Mixed Sony/Ampex Control • Powerful macros • Multiple record

### Includes

• Rackmount electronics chassis with: 80286 processor with serial and parallel printer ports • GPI card • Two 4-channel serial cards • Floppy disc interface • Monochrome display adaptor • Single 5 1/4" drive • Desktop green screen monitor • Extended color-coded keyboard • MS-DOS

**SCED + MK-II Editor for Serial VTR Control . . . \$22,495.00**



CED Series

### SCED + Six VTR Editor

• 6 VTRs standard • A/B mix standard • User supplied computer • Variety of switchers/mixers • Optional control of Ampex VTRs

### Includes

• Two 4-channel serial cards • Extended color coded keyboard

**SCED + Six VTR Editor . . . . . \$16,995.00**

SCED + requires either the Calaway Engineering MK-I computer or the Compaq Deskpro I, II or 20. The computer must have one 360K floppy disc drive, 640K of memory MS-DOS or compatible operating system version 3.0 or later. SCED + requires 3 free slots in the computer.

### SCED Four VTR Editor

• 4 VTRs standard • User supplied computer • A/B mix standard • Powerful off-line system • Variety of switchers/mixers

### Includes:

• 4-channel serial card • Color coded keyboard

**SCED Four VTR Editor . . . . . \$12,495.00**

SCED requires either the Calaway Engineering MK-1 computer, the IBM PC/XT, or the Compaq Deskpro I, II or 20. The computer must have one 360K floppy disc drive, 512K of memory MS-DOS or compatible operating system version 3.0 or later. SCED requires 2 free slots in the computer.

# CALAWAY ENIGEERING

DIVISION OF QUANTA CORP.

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Sierra Madre, CA 91024

(818) 355-2094 FAX: (818) 355-0652

# EDITING ACCESSORIES

## SCED + MK-II SIX VTR EDITOR ACCESSORIES

### 8" Disc Option

MK-II Disc Includes: Rackmounted 8" drive, 50 pin interconnect cable, Power cable, Format program . . . . . \$2,495.00

### Floppy and Hard Disc Options

CE-525	5 1/4" floppy disc *	. . . . . \$295.00
CE-350	3 1/2" floppy disc drive*	. . . . . 295.00
CE-20M	20M byte hard disc drive.	. . . . . 995.00

\* Room for only one extra floppy drive in the MK-II. This may be either the 5 1/4" or the 3 1/2" drive.

### RGB-Preview Switcher

RGB-PVW Includes: upPV-RGB preview switcher (video only, three 3 x 1 channels), power cord, 6' interconnect cable . . . . . \$2,795.00

### Interconnect Cables

RS-422	SCED to VTR, 25'	. . . . . \$120.00
SWCH	SCED to Switcher/Mixer, 25' **	. . . . . 300.00
MK-II-CG	MK-II to Character Generator, 25'	. . . . . 120.00
MCXTR	Motion Control extension, 50'	. . . . . 150.00
KDXTR	Keyboard/display extension, 50'	. . . . . 350.00

\*\*The SWCH switcher control cable includes 3 cables, 1 for the preview switcher and 1 each for the audio and video switchers.

### Special Length Cables:

RS-422X	\$100.00 plus \$1.00 per foot, max. 150'
SWCHX	\$250.00 plus \$3.00 per foot, max. 150'
MK-II-CGX	\$130.00 plus \$1.00 per foot, max. 150'

Allow extra time when ordering for fabrication of non-standard length cables.

## SCED + SIX VTR ACCESSORIES

### Hardware Option

GPI + General Purpose Interface. Includes: Software upgrade, connector, diagnostic software . . . . . \$2,695.00

Note: GPI + requires one free slot in computer.

### Software Options

Mixed Mixed control of Sony/Ampex allows control of Ampex VPR-3, VPR-6, VPR-80 and Abekus A-62 . . . . . \$1,995.00

Film Film entry mode . . . . . 495.00

SCED-CG Character generator control, specify Quanta Q8 or QCG-500 . . . . . 2,495.00

## SCED FOUR VTR

## AND SCED + SIX VTR EDITOR ACCESSORIES

### Hardware Options

GPI General Purpose Interface. Includes: Software upgrade, connector, GPI card . . . . . \$2,295.00

Note: GPI requires one free slot in computer.

SCED-Disk 8" Disc Option. Includes: 8" rackmounted disc drive, Formatting software, Power cord, 50 pin interconnect cable, Replacement disc controller. . . . . \$3,175.00

Note: When used with the Compaq Deskpro, you will lose the parallel printer port supplied with the Deskpro.

### upST Series Translators

000 Cabinet. Includes: Cabinet, Power cord, Power supply, Sync separator . . . . . \$2,300.00

210 Sony Sony VO-5850. Includes: Framing kit. . . . . 1,550.00

223 Hitachi HR-230 (Must have time code reader.) . . . . . 1,550.00

Note: The upST series translators are used to translate the commands required by the particular machine (serial or parallel) into an RS-422 format compatible with the SCED direct control format. Machines equipped with the upST translators may be intermixed with a Sony machine on a system. There is room in each cabinet for up to four translator cards.

Each upST includes the control cable and an internal play speed time code reader.

## SCED FOUR VTR AND

## SCED + SIX VTR EDITOR ACCESSORIES (Continued)

### Hardware Options (Continued)

SCED-MK-I Computer Includes: Fast 8088 processor card with 640K memory, RS-232 interface card, Parallel printer port, Floppy disc controller card, Case, Desktop green screen monitor, Power cord, Monochrome display adaptor, Software: MS-DOS, Single 5 1/4" floppy drive. . . . . \$2,595.00

Note: Delivery of MK-I Computer is not expected before first quarter of 1988.

### Floppy and Hard Disc Options for MK-I Computer

CE-525	5 1/4" floppy disc *	. . . . . \$295.00
CE-350	3 1/2" floppy disc drive *	. . . . . 295.00
CE-20M	20M byte hard disc drive.	. . . . . 995.00

\* Room for only one extra floppy drive in the MK-I. This may be either the 5 1/4" or the 3 1/2" drive.

### RGB-Preview Switcher

RGB-PVW Includes: upPV-RGB preview switcher (video only, three 3 x 1 channels), Power cord, 6' interconnect cable . . . . . \$2,750.00

### Interconnect Cables

RS-422	SCED to VTR, 25'	. . . . . \$120.00
SWCH	SCED to Switcher/Mixer, 25' **	. . . . . 300.00
CED-CG	MK-II to Character Generator, 25'	. . . . . 120.00
MCXTR	Motion Control extension, 50'	. . . . . 150.00
KDXTR	Keyboard/Display extension, 50'	. . . . . 350.00

\*\*The SWCH switcher control cable includes 3 cables, 1 for the preview switcher and 1 each for the audio and video switchers.

### Special Length Cables:

RS-422X	\$100.00 plus \$1.00 per foot, max. 150'
SWCHX	\$250.00 plus \$3.00 per foot, max. 150'
CED-CGX	\$130.00 plus \$1.00 per foot, max. 150'

Allow extra time when ordering for fabrication of non-standard length cables.

## CALAWAY EDITOR ACCESSORIES

### Edit List Processing Software

KLEAN	Edit list cleaning package . . . . . \$750.00
KEEN	Edit list tracing software* . . . . . 750.00

Note: KLEAN and KEEN will operate on any IBM compatible computer. \*Delivery of KEEN is not expected before second quarter of 1988.

### Time Code Equipment

TCPC Time Code Phase Indicator. Includes: TCPC phase indicator, Power supply with cord, Instruction manual. . . . . \$495.00

## SCED UPDATES AND UPGRADES

### SCED Software Update Option

SCED	. . . . . \$375.00
SCED +	. . . . . 500.00
SCED + MK-II	. . . . . 675.00

Note: The first update released after purchase of a Calaway Editor will be provided to the user at no charge.

To receive subsequent software updates, the user must purchase the software update option. With this option, they will receive all software updates for one year. (There will be at least one update released each year.) If the user skips one or more years, the cost of the update will be the total of the years missed plus the current year.

### SCED Upgrades

SCED to SCED +	. . . . . \$ 5,175.00
SCED to SCED + MK-II	. . . . . 11,500.00
SCED + to SCED + MK-II	. . . . . 6,325.00
GPI to GPI +	. . . . . 460.00

Note: The upgrade includes any necessary hardware and software to upgrade the user's current system to the desired system.



# CALZONE CASE CO.

225 Black Rock Avenue  
Bridgeport, CT 06605  
(203) 367-5766  
(800) 243-5152  
FAX: 203-336-4406

## CASES

From initial design to finished product, every case we make is treated as an architectural structure. Some manufacturers build a simple wooden box, add some hardware to the exterior, and call it a "flight case." We build Calzone cases from the inside out. One-of-a-kind Calzone design innovations, like our patented Interlocking Double Angle Construction, allow us to create an internal structural framework to provide exceptional durability, long life and unmatched protection for your valuable equipment.

In addition to our concept of an internal substructure, we also use the finest quality furniture-grade plywood, metal-to-wood-to-metal riveting, our patented Deep Grooved Aluminum Valance and heavy grade laminate external shells. Calzone's high density polyfoam interiors can be custom shaped to accommodate any type of equipment—from electric guitars and keyboards to computers, video cameras and specialized government testing equipment.

### Escort®

- Shock dispersion ball corner • High density polyester foam
- Flushmounted recessed spring-loaded handle for easy access and handling
- Large spring-loaded catch to secure lid to mainframe, locking catches optional
- Interlocking double angle 1/4" or 1/2" forms sub-frame structure
- Corner structure brace, double or triple rivet
- Extruded .093 gauge interlocking valance
- Heavy gauge full length piano hinge
- Industrial grade high pressure, impact resistant laminate on 1/4" or 1/2" furniture grade plywood in a variety of colors, aluminum and fiberglass laminate optional

### Pro Line II

- Full length piano hinge • Shock absorbent polyether foam • Form fit corner
- Spring-loaded handle with rubber grip
- Small recessed spring-loaded catch
- Corner brace protects corner of valance
- Custom extruded interlocking valance
- Custom double angle, internally riveted
- Poly tolene laminate on 1/4" plywood (gray or black)

### Convoy®

- Double angle construction where applicable
- Nickel plated butt hinge
- Nickel plated flat stock corner with self-standing foot
- Attache style catch with lock
- Plastic molded, color coordinated, easy grip handle
- 1/8" custom extruded valance
- Foam lined protection
- 1/8" ABS plastic molded and precision formed
- Optional shoulder strap

### Ultima Series

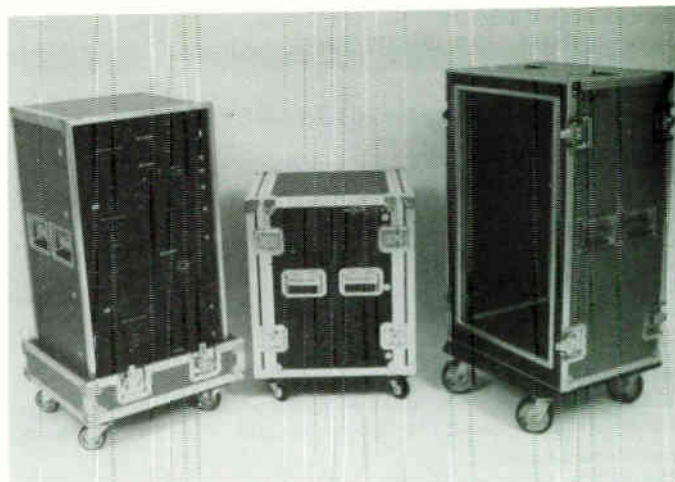
- Lightweight
- Durable • 1/4" plywood top and bottom with an exterior gray tolex laminate
- High density polyether foam lining
- Full length piano hinge
- Nickel plated hardware
- Lockable latches
- Metal reinforced handle for carrying ease

### Video/Cinematography Cases

Whether you're shooting a live remote, music video, feature length film, or making an audio/video presentation, you often have to travel with equipment worth thousands of dollars. Considering the delicate nature of cameras, projectors, recorders, editing and lighting gear, mikes, etc., the relative cost of the Escort and Convoy cases is a small price to pay to insure the complete protection and long life of your gear. We custom build cases designed around the way you work to save you time and money on location. We build a variety of standard cases along with special custom order models to handle any type of equipment imaginable.

High quality Escort wardrobe, drawer and utility cases come in a wide selection of standard sizes and can be custom built to handle any kind of stage costumes, make-up, wigs, related clothing and accessories.

Escort and Convoy audio visual cases come in all standard sizes and can be built to carry projectors, stands, screens, slides and accessories. Everything you need to take your multimedia show on the road without worrying about damage.



Standard and Custom Rackmount Cases



Cinematography



Video/Broadcast

Expensive and fragile recorders, monitors, projectors, editing/processing equipment and communications gear deserves the kind of extra protection provided by durable and easy to handle Escort and Convoy cases. All cases are available in video sizes and formats, or can also be custom built to your requirements.

Get your equipment to the location without any worries about road-shock. Our standard and custom cases for cameras, lenses, magazines, lights, stands and power packs represent the ultimate in protection and ease of handling. They can also help organize your equipment for complicated and remote location shoots.

The Ultima Series offers today's musicians an attractive streamlined case to protect their keyboards, mixers, recorders, and drum machines during local transport. Our custom aluminum shell makes it an extremely lightweight case providing maximum protection at nearly half the price of related A.T.A. type cases.



# CAMBRIDGE PRODUCTS CORP.

244 Woodland Ave.  
Bloomfield, CT 06002  
(203) 243-1761 (800) 243-8814

# COAXIAL CONNECTORS

## BNC, N, and TNC Fastfit® Coaxial Connectors



CP 88



CPFI UG88



CP 89



CPFI UG89



CPFI TNC



CP TNC



CPM TNC



CPMC TNC

### BNC Plugs

#### Fastfit/Crimp-On-CP 88

Two piece connector construction, with crimpless, solderless captive center contact and crimped outer braid.

#### Fastfit/Twist-On-CPFI UG88

One piece connector construction, with both crimpless and solderless center conductor/ braid connections. Requires no tools.



N-Type

### N-Type Crimp Style Plugs

#### N-Type Crimp Style

Quick crimp, low-cost 50 ohm impedance all brass construction.

### BNC Jacks

#### CP 89 Fastfit Crimp-On

Jack cord connector. Two piece connector construction with crimpless, solderless captive center contact and crimped outer braid.

#### CPFI UG89 Fastfit Twist-On

Jack cord connector. One piece connector construction with both crimpless and solderless center conductor/braid connections. Requires no tools.

### TNC Plugs

#### Fastfit/Twist-On-CPFI TNC

One piece connector construction, with both crimpless and solderless center conductor/ braid connections. Requires no tools.

#### Fastfit/Crimp-On-CP TNC

Two piece connector construction, with crimpless, solderless captive center contact and crimped outer braid.

#### Mini-Coax/Crimp-On-CPM TNC

Crimped center contact and outer braid. Designed for miniature coaxial cables.

#### COMM-MIL Crimp-On-CPMC TNC

Cost effective version of the crimp type (category "C") MIL-C-39012/16 series of plugs.

### Electrical Characteristics

Working Voltage: 500VRMS at sea level

Contact Resistance Outer Contact: 2m ohms

Center Contact: 1.5m ohms

Insulation Resistance: 5000M ohms minimum

Dielectric Withstanding Voltage: 1500VRMS at sea level

RG/U CABLE SIZE	FASTFIT® TWIST-ON CPFI UG88	FASTFIT TWIST-ON CPFI TNC	FASTFIT TWIST-ON CPFI UG89	FASTFIT CRIMP CP 88	FASTFIT CRIMP CP 89	FASTFIT CRIMP CP TNC	MINI CRIMP CPM 88	MINI CRIMP CPM TNC	COMM/MIL CRIMP CPMC 88	COMM/MIL CRIMP CPMC TNC	N-TYPE CRIMP
MATV 6/U	CPFI UG88-5	CPFI TNC-5	CPFI UG89-5								
55											
58	CPFI UG88-1	CPFI TNC-1	CPFI UG89-1	CP 88-1	CP 89-1	CP TNC-1			CPMC 88-55	CPMC TNC-55	
59	CPFI UG88-2	CPFI TNC-2	CPFI UG89-2	CP 88-2	CP 89-2	CP TNC-2			CPMC 88-58	CPMC TNC-58	CPN-58
MATV 59/U	CPFI UG88-4	CPFI TNC-4	CPFI UG89-4	CP 88-4	CP89-4	CP TNC-4			CPMC 88-59	CPMC TNC-59	CPN-59
62	CPFI UG88-2	CPFI TNC-2	CPFI UG89-2	CP 88-2	CP 89-2	CP TNC-2			CPMC 88-59M	CPMC TNC-59M	
TFE 62/U	CPFI UG88-10	CPFI TNC-10	CPFI UG89-10						CPMC 88-62	CPMC TNC-62	CPN-62
8/U											
122											CPN-8
140									CPMC 88-122	CPMC TNC-122	
141									CPMC 88-140	CPMC TNC-140	
142									CPMC 88-141	CPMC TNC-141	
174									CPMC 88-142	CPMC TNC-142	
179							CPM 88-174	CPM TNC-174			
180							CPM 88-179	CPM TNC-179			
187									CPMC 88-180	CPMC TNC-180	
188							CPM 88-187	CPM TNC-187			
195							CPM 88-188	CPM TNC-188			
210									CPMC 88-195	CPMC TNC-195	
223									CPMC 88-210	CPMC TNC-210	
303				CP 88-7	CP 89-7	CP TNC-7			CPMC 88-223	CPMC TNC-223	
316									CPMC 88-303	CPMC TNC-303	
400							CPM 88-316	CPM TNC-316			
TIMES MI 2040				CP 88-6	CP 89-6	CP TNC-6			CPMC 88-400	CPMC TNC-400	
BELDEN 8281	CPFI UG88-3	CPFI TNC-3	CPFI UG89-3								

FOR MATV 6/U CABLE WITH A NOMINAL JACKET DIA. OF .270 DIA.

FOR USE WITH MATV 59/U CABLE WITH #20 AWG CENTER CONDUCTOR, FOR MATV 59/U CABLE WITH #22 AWG CENTER CONDUCTOR, USE THE - 2 MODELS

CONSULT FACTORY FOR STRANDED WIRE VERSIONS FOR THE FASTFIT SERIES.

Prices and Specifications Subject to Change Without Notice.

# CANON U.S.A., INC.

One Canon Plaza  
Lake Success, NY 11042-9979  
(516) 488-6700

# BROADCASTING TV ZOOM LENSES

For 2/3" Tube and CCD Color TV Cameras

Specifications Lens	Application	Zoom Ratio	Range of Focal Length	With Extender	Maximum Relative Aperture	Angular Field of View
<b>J45X9.5B IE</b>	Field	45X	9.5-430mm	-	1:1.7 at 9.5-201mm 1:3.0 at 430mm	49.7°X38.1° at 9.5mm 1.2°X0.9° at 430mm
			19-860mm	2X	1:3.4 at 19-402mm 1:6.0 at 860mm	26.1°X19.7° at 19mm 0.59°X0.45° at 860mm
<b>J40X9.5B IE</b>	Field	40X	9.5-380mm	-	1:1.4 at 9.5-240mm 1:2.0 at 380mm	49.7°X38.3° at 9.5mm 1.3°X1.0° at 380mm
			19-760mm	2X	1:2.8 at 19-480mm 1:4.0 at 760mm	26.1°X19.7° at 19mm 0.66°X0.5° at 760mm
<b>J25X11.5B IE</b>	Field	25X	11.5-288mm	-	1:1.6 at 11.5-219mm 1:2.1 at 288mm	41.9°X32° at 11.5mm 1.8°X1.3° at 288mm
			17.3-433mm	1.5X	1:2.4 at 17.3-329mm 1:3.15 at 433mm	28.5°X21.6° at 17.3mm 1.2°X0.9° at 433mm
			23-576mm	2X	1:3.2 at 23-439mm 1:4.2 at 576mm	21.6°X16.3° at 23mm 0.9°X0.7° at 576mm
			28.8-720mm	2.5X	1:4.0 at 28.8-549mm 1:5.25 at 720mm	17.4°X13.1° at 28.8mm 0.7°X0.5° at 720mm
<b>J20X8.5B IE</b>	Studio	20X	8.5-170mm	-	1:1.6 at 8.5-129.5mm 1:2.1 at 170mm	54.7°X42.4° at 8.5mm 3°X2.2° at 170mm
			17-340mm	2X	1:3.2 at 17-259mm 1:4.2 at 340mm	29°X22° at 17mm 1.5°X1.1° at 340mm
<b>J15X8.5B IE</b>	Studio	15X	8.5-128mm	-	1:1.6 at 8.5-128mm	54.7°X42.4° at 8.5mm 3.9°X3° at 128mm
			17-256mm	2X	1:3.2 at 17-256mm	29°X22° at 17mm 2°X1.5° at 256mm



**J45 x 9.5B IE**



**J40 x 9.5B IE**



**J25 x 11.5B IE**

<b>J40X9.5B IE</b>	Field	40X	9.5-380mm	-	1:1.2 at 9.5-190mm 1:2.0 at 380mm	49.7°X38.3° at 9.5mm 1.3°X1.0° at 380mm
			19-760mm	2X	1:2.4 at 19-380mm 1:4.0 at 760mm	26.1°X19.7° at 19mm 0.66°X0.5° at 760mm
<b>J18X8B IE</b>	Field/ Studio	18X	8-144mm	-	1:1.2 at 8-123mm 1:1.4 at 144mm	57.6°X44.8° at 8mm 3.5°X2.6° at 114mm
			12-216mm	1.5X	1:2.4 at 16-246mm 1:2.8 at 288mm	40.3°X30.8° at 12mm 2.3°X1.8° at 216mm
			16-288mm	2X	1:2.4 at 16-246mm 1:2.8 at 288mm	30.8°X23.3° at 16mm 1.8°X1.3° at 288mm
<b>J14X9B IE</b>	Studio	14X	9-126mm	-	1:1.2 at 9-126mm	52.1°X40.3° at 9mm 4.0°X3.0° at 126mm
			13.5-189mm	1.5X	1:1.8 at 13.5-189mm	36.1°X27.5° at 13.5mm 2.7°X2.0° at 189mm



**J18 x 8.5B IRS**

<b>J18X8.5B IRS</b>	ENG/EFP	18X	8.5-153mm	2X	1:1.7 at 8.5-113mm 1:2.3 at 153mm	54.7°X42.4° at 8.5mm 3.3°X2.5° at 153mm
			17-306mm	2X	1:3.4 at 17-226mm 1:4.6 at 306mm	29.6°X22.0° at 17mm 1.6°X1.2° at 306mm
<b>J14X8B IRS</b>	ENG/EFP	14X	8-112mm	2X	1:1.7 at 8-91mm 1:2.1 at 112mm	57.6°X44.8° at 8mm 4.5°X3.4° at 112mm
			16-224mm	2X	1:3.4 at 16-182mm 1:4.2 at 224mm	30.8°X23.3° at 16mm 2.3°X1.7° at 224mm
<b>J13X9B IRS IIA</b>	ENG/EFP	13X	9-117mm	2X	1:1.6 at 9-99mm 1:1.9 at 117mm	52.1°X40.3° at 9mm 4.3°X3.2° at 117mm
			18-234mm	2X	1:3.2 at 18-198mm 1:3.8 at 234mm	27.5°X20.8° at 18mm 2.2°X1.6° at 234mm
<b>J8X6B IRS</b>	ENG/EFP	8X	6-48mm	2X	1:1.7 at 6-33mm 1:1.9 at 48mm	72.5°X57.6° at 6mm 10.5°X7.9° at 48mm
			12-96mm	-	1:3.4 at 12-66mm 1:3.8 at 96mm	40.3°X30.8° at 12mm 5.2°X3.9° at 96mm
<b>J8X6B KRS</b>	ENG/EFP	8X	6-48mm	-	1:1.7 at 6-33mm 1:1.9 at 48mm	72.5°X57.6° at 6mm 10.5°X7.9° at 48mm
<b>J15X9.5B KRS</b>	Semi-Professional	15X	9.5-143mm	-	1:1.8 at 9.5-112mm 1:2.3 at 143mm	49.7°X38.3° at 9.5mm 3.5°X2.6° at 143mm
<b>J12X10B KRS</b>	Semi-Professional	12X	10-120mm	-	1:1.7 at 10-101mm 1:2.0 at 120mm	47.5°X36.5° at 10mm 4.2°X3.2° at 120mm



**J15 x 9.5 KRS**



**J14 x 8B IRS**

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# BROADCASTING TV ZOOM LENSES

## FOR 2/3" TUBE AND CCD COLOR TV CAMERAS (Cont'd)

Specifications Lens	Minimum Object Distance (M.O.D.)	Object Dimensions at M.O.D.	Optical Back Focal Distance	Operation System	Remarks
<b>J45X9.5B IE</b>	1.8m	148X111cm at 9.5mm 3.3X2.5cm at 430mm	42.0mm in air	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 2X
		75.9X56.9cm at 19mm 1.7X1.3cm at 860mm			
<b>J40X9.5B IE</b>	2.5m	205X154cm at 9.5mm 5X3.8cm at 380mm	48.9mm in air	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 2X
		103X77cm at 19mm 2.6X2cm at 760mm			
<b>J25X11.5B IE</b>	1.5m	101.9X76.5cm at 11.5mm 4.1X3.1cm at 288mm	48.2mm in air	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 1.5X, 2X, 2.5X
		68.5X51.3cm at 17.3mm 2.8X2.1cm at 433mm			
		51.3X38.4cm at 23mm 2.1X1.6cm at 576mm			
		41.0X30.7cm at 28.8mm 1.7X1.2cm at 720mm			
<b>J20X8.5B IE</b>	0.6m	82.1X60.4cm at 8.5mm 3.9X3cm at 170mm	47.9mm in air	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 2X
		40X29.8cm at 17mm 2X1.5cm at 340mm			
<b>J15X8.5B IE</b>	0.6m	81.9X60.3cm at 8.5mm 5.2X4cm at 128mm	47.9mm in air	Zoom/Focus: Servo/Manual Iris: Servo	Built-in Extender 2X
		41X30.2cm at 17mm 2.6X2cm at 256mm			
<b>J40X9.5B IE</b>	2.5m	205X154cm at 9.5mm 5X3.8cm at 380mm	41.7mm in air	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 2X
		103X77cm at 19mm 2.6X2cm at 760mm			
<b>J18X8B IE</b>	0.6m	87.7X65.8cm at 8mm 4.7X3.5cm at 144mm	41.9mm in air	Zoom/Focus: Servo/Manual Iris: Servo	Built-in Extender 1.5X, 2X
		58.5X43.9cm at 12mm 3.1X2.3cm at 216mm			
		43.9X32.9cm at 16mm 2.4X1.8cm at 288mm			
<b>J14X9B IE</b>	0.7m	89.1X66.8cm at 9mm 6.2X4.7cm at 126mm	41.9mm in air	Zoom/Focus: Servo/Manual Iris: Servo	Built-in Extender 1.5X
		59.4X44.6cm at 13.5mm 4.1X3.1cm at 189mm			
<b>J18X8.5B IRS</b>	0.9m	86.2X64.6cm at 8.5mm 4.9X3.6cm at 153mm	48.2mm in air	Zoom: Servo/Manual Focus/Manual Iris: Auto/Remote/ Manual	Built-in extender 2X
		43.1X32.3cm at 17mm 2.4X1.8cm at 306mm			
<b>J14X8B IRS</b>	0.7m	87.8X65.9cm at 8mm 6.1X4.6cm at 112mm	40.1mm in air	Zoom: Servo/Manual Focus/Manual Iris: Auto/Remote/ Manual	Built-in extender 2X
		43.1X32.3cm at 16mm 3.1X2.3cm at 224mm			
<b>J13X9B IRS IIA</b>	0.8m	72.2X54.2cm at 9mm 5.6X4.2cm at 117mm	41.7mm in air	Zoom: Servo/Manual Focus/Manual Iris: Auto/Remote/ Manual	Built-in extender 2X
		36.1X27.1cm at 18mm 2.8X2.1cm at 234mm			
<b>J8X6B IRS</b>	0.3m	51.3X38.5cm at 6mm 6.4X4.8cm at 48mm	40.2mm in air	Zoom: Servo/Manual Focus/Manual Iris: Auto/Remote/ Manual	Built-in extender 2X
		25.7X19.2cm at 12mm 3.2X2.4cm at 96mm			
<b>J8X6B KRS</b>	0.3m	51.3X38.5cm at 6mm 6.4X4.8cm at 48mm	41.9mm in air	Zoom: Servo/Manual Focus/Manual Iris: Auto/Remote/ Manual	—
<b>J15X9.5B KRS</b>	1m	86.2X64.7cm at 9.5mm 5.7X4.3cm at 143mm	41.9mm in air	Zoom: Servo/Manual Focus/Manual Iris: Auto/Remote/ Manual	—
<b>J12X10B KRS</b>	1.1m	89.8X67.3cm at 10mm 7.6X5.7cm at 120mm	41.0mm in air	Zoom: Servo/Manual Focus/Manual Iris: Auto/Remote/ Manual	—



**J15 x 8.5B IE**



**J18 x 8B IE**



**J14 x 9B IE**



**J45X9.5B IE**



**J8 x 6B KRS**



**J12 x 10B KRS**

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# CANON U.S.A., INC.

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# BROADCASTING TV ZOOM LENSES

## For 1 1/4" Tube Color TV Cameras

Lens	Application	Zoom Ratio	Range of Focal Length	With Extender	Maximum Relative Aperture	Angular Field of View
<b>P40X18B IE</b>	Field	40X	18-720mm	-	1:2.3 at 18-360mm 1:3.8 at 720mm	50.7°X39.1° at 18mm 1.4°X1° at 720mm
			36-1440mm	2X	1:4.6 at 36-720mm 1:7.6 at 1440mm	26.7°X20.2° at 36mm 0.7°X0.5° at 1440mm
<b>P18X15B IE</b>	Field/Studio	18X	15-270mm	-	1:2.1 at 15-210mm 1:2.7 at 270mm	60.4°X47.1° at 15mm 3.7°X2.7° at 270mm
			22.5-405mm	1.5X	1:3.1 at 22.5-315mm 1:4.0 at 405mm	42.4°X32.4° at 22.5mm 2.4°X1.8° at 405mm
			30-540mm	2X	1:4.2 at 30-420mm 1:5.4 at 540mm	32.4°X24.6° at 30mm 1.8°X1.4° at 540mm
<b>P14X16.5B IE</b>	Studio	14X	16.5-231mm	-	1:2.1 at 16.5-231mm	54.8°X42.4° at 16.5mm 4.2°X3.2° at 231mm
			24.75-346.5mm	1.5X	1:3.15 at 24.75-346.5mm	38.1°X29° at 24.75mm 2.83°X2.12° at 346.5mm
			33-462mm	2X	1:4.2 at 33-462mm	29°X22° at 33mm 2.12°X1.6° at 462mm
<b>P12X18B IE</b>	Studio	12X	18-216mm	-	1:2.1 at 18-216mm	50.8°X39.1° at 18mm 4.5°X3.4° at 216mm
			27-324mm	1.5X	1:3.1 at 27-324mm	35.1°X26.7° at 27mm 3°X2.3° at 324mm
			36-432mm	2X	1:4.2 at 36-432mm	26.7°X20.2° at 36mm 2.3°X1.7° at 432mm



## For 1" Tube Color TV Cameras

Lens	Application	Zoom Ratio	Range of Focal Length	With Extender	Maximum Relative Aperture	Angular Field of View
<b>PV40X13.5B IE</b>	Field	40X	13.5-540mm	-	1:1.7 at 13.5-270mm 1:2.8 at 540mm	50.7°X39.1° at 13.5mm 1.4°X1° at 540mm
			27-1080mm	2X	1:3.4 at 27-540mm 1:5.6 at 1080mm	26.7°X20.2° at 27mm 0.7°X0.5° at 1080mm
<b>PV18X11B IE</b>	Field/Studio	18X	11-200mm	-	1:1.6 at 11-159mm 1:2.0 at 200mm	60.4°X47.1° at 11mm 3.7°X2.7° at 200mm
			16.5-300mm	1.5X	1:2.4 at 16.5-238mm 1:3.0 at 300mm	42.4°X32.4° at 16.5mm 2.4°X1.8° at 300mm
			22-400mm	2X	1:3.2 at 22-317mm 1:4.0 at 400mm	32.4°X24.6° at 22mm 1.8°X1.4° at 400mm
<b>PV14X12.5B IE</b>	Studio	14X	12.5-175mm	-	1:1.6 at 12.5-175mm	54.2°X42° at 12.5mm 4.2°X3.1° at 175mm
			18.75-262.5mm	1.5X	1:2.4 at 18.75-262.5mm	37.6°X28.6° at 18.75mm 2.8°X2.1° at 262.5mm
			25-350mm	2X	1:3.2 at 25-350mm	28.7°X21.7° at 25mm 2.1°X1.6° at 350mm
<b>PV12X14B IE</b>	Studio	12X	13.5-162mm	-	1:1.6 at 13.5-162mm	50.8°X39.1° at 13.5mm 4.5°X3.4° at 162mm
			20.3-243mm	1.5X	1:2.4 at 20.3-243mm	35.1°X26.7° at 20.3mm 3°X2.3° at 243mm
			27-324mm	2X	1:3.2 at 27-324mm	26.7°X20.2° at 27mm 2.3°X1.7° at 324mm

## For 1/2" Tube and CCD Color TV Cameras

Lens	Application	Zoom Ratio	Range of Focal Length	With Extender	Maximum Relative Aperture	Angular Field of View
<b>PH13X6.6B IRS IIA</b>	Portable/ENG	13X	6.6-86mm	-	1:1.4 at 6.6-86mm	51.7°X40° at 6.6mm 4.3°X3.2° at 86mm
			13.2-172mm	2X	1:2.8 at 13.2-172mm	27.3°X20.6° at 172mm 2.1°X1.6° at 172mm
<b>PH15X7B KRS</b>	Portable/ENG	15X	7-105mm	-	1:1.4 at 7-87mm 1:1.7 at 105mm	49.1°X37.8° at 7mm 3.5°X2.6° at 105mm



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# BROADCASTING TV ZOOM LENSES

## For 1 1/4" Tube Color TV Cameras (Cont'd)

Lens	Minimum Object Distance (M.O.D.)	Object Dimensions at M.O.D.	Optical Back Focal Distance	Size WxHxL	Weight (Approx.)	Operation System	Remarks
P40X18B IE	2.5m	211X158cm at 18mm 5.3X4cm at 720mm	73.9mm in air	280X309X648mm	30kg	Zoom, Focus: Servo/manual control Iris: Servo control	Built-in extender 2X
		106X80cm at 36mm 2.7X2cm at 1440mm					
P18X15B IE	0.6m	92.2X69.2cm at 15mm 4.9X3.7cm at 270mm	75.3mm in air	260X285X636mm	27kg	Zoom, Focus: Servo/manual control Iris: Servo control	Built-in extender 1.5X, 2X
		60.9X45.7cm at 22.5mm 3.3X2.5cm at 405mm					
		45.8X34.4cm at 30mm 2.5X1.9cm at 540mm					
P14X16.5B IE	0.7m	96.5X72.4cm at 16.5mm 6.7X5cm at 231mm	75.22mm in air	250X245X500mm	21kg	Zoom, Focus: Servo/manual control Iris: Servo control	Built-in extender 1.5X (2X)
		64.3X48.3cm at 24.75mm 4.5X3.3cm at 346.5mm					
		48.25X36.2cm at 33mm 3.35X2.5cm at 462mm					
P12X18B IE	0.9m	75.5X56.7cm at 18mm 6.5X4.9cm at 216mm	78.27mm in air	284X321.5X433mm	20kg	Zoom, Focus: Servo/manual control Iris: Servo control	Built-in extender (1.5X) 2X
		50.3X37.8cm at 27mm 4.3X3.3cm at 324mm					
		37.8X28.4cm at 36mm 3.3X2.4cm at 432mm					



## For 1" Tube Color TV Cameras (Cont'd)

Lens	Minimum Object Distance (M.O.D.)	Object Dimensions at M.O.D.	Optical Back Focal Distance	Size WXHXL	Weight (Approx.)	Operation System	Remarks
PV40X13.5B IE	2.5m	211X158cm at 13.5mm 5.3X4cm at 540mm	62.8mm in air	280X309X648mm	30kg	Zoom, Focus: Servo/manual control Iris: Servo control	Built-in extender 2X
		106X80cm at 27mm 2.7X2cm at 1080mm					
PV18X11B IE	0.6m	92.2X69.2cm at 11mm 4.9X3.7cm at 200mm	62.79mm in air	260X277.5X710mm	27kg	Zoom, Focus: Servo/manual control Iris: Servo control	Built-in extender 1.5X, 2X
		60.9X45.7cm at 16.5mm 3.3X2.5cm at 300mm					
		45.8X34.4cm at 22mm 2.5X1.9cm at 400mm					
PV14X12.5B IE	0.7m	96X72cm at 12.5mm 6.7X5cm at 175mm	62.9mm in air	250X245X500mm	21kg	Zoom, Focus: Servo/manual control Iris: Servo control	Built-in extender 1.5X (2X)
		64X48cm at 18.75mm 4.5X3.3cm at 262.5mm					
		48X36cm at 25mm 3.4X2.5cm at 350mm					
PV12X14B IE	0.9m	75.5X56.7cm at 13.5mm 6.5X4.9cm at 162mm	63.22mm in air	284X321.5X433mm	20kg	Zoom, Focus: Servo/manual control Iris: Servo control	Built-in extender (1.5X) 2X
		50.3X37.8cm at 20.3mm 4.3X3.3cm at 243mm					
		37.8X28.4cm at 27mm 3.3X2.4cm at 324mm					



## For 1/2" Tube and CCD Color TV Cameras (Cont'd)

Lens	Minimum Object Distance (M.O.D.)	Object Dimensions at M.O.D.	Optical Back Focal Distance	Size WXHXL	Weight (Approx.)	Operation System	Remarks
PH13X6.6B IRS IIA	0.8m	72.3X54.2cm at 6.6mm 5.6X4.2cm at 86mm	33.1mm in air	137X96X171.5mm	1.45kg	Zoom: Servo/manual Focus: Manual Iris: Auto/remote/manual	Built-in extender 2X
		36.5X27.3cm at 13.2mm 2.9X2.2cm at 172mm					
PH15X7B KRS	1m	85.5X64.1cm at 7mm 5.6X4.2cm at 105mm	35.7mm in air	125X95X176.2mm	1.5kg	Zoom: Servo/manual Focus: Manual Iris: Auto/remote/manual	



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# SUPPORT EQUIPMENT

## MC-200 and MC-300 Pedestals

- The innovative Modular Cassette Counterbalance (MCC) System highlights the Easy To Balance Pedestal Column • The MCC System reduces the total weight of the unit, resulting in light maneuverable camera operation • Needle bearings incorporated in the casters help to reduce rotational friction and resistance • Specially designed rubber wheels and axles guarantee smooth starting and running operation • Sturdy adjustable cable guards are made of special 3-layer structure material to absorb shock and noise

### MC-200 Specifications

**Min. Height:** 24.0" (61cm)  
**Max. Height:** 49.2" (125cm)  
**Min. Width:** 31.1" (79cm)  
**Max. Width:** 34.3" (87cm)  
**Dead Weight:** 363 lbs. (approx. 165kg)  
**Mounting Weight:** 66 ~ 286 lbs.  
 (30 ~ 130kg)

MC-200 ..... \$13,500.00

### MC-300 Specifications

**Min. Height:** 22.8" (58cm)  
**Max. Height:** 60.6" (154cm)  
**Min. Width:** 31.1" (79cm)  
**Max. Width:** 34.3" (87cm)  
**Dead Weight:** 374 lbs. (approx. 170kg)  
**Mounting Weight:** 66 ~ 242 lbs.  
 (30 ~ 110kg)

MC-300 ..... \$16,500.00

## Tripods and Dolly

### TR-60 Tripod Specifications

**Max. Height:** 45.3" (115cm)  
**Min. Height:** 20" (51cm)  
**Loading Capacity:** 132 lbs. (60kg)  
 (When used together with CD-10.....198 lbs. (90kg))  
**Dead Weight:** 16.5 lbs. (7.5kg)

TR-60 ..... \$1,240.00

### TR-90 Tripod Specifications

**Max. Height:** 47.6" (121cm)  
**Min. Height:** 25.6" (65cm)  
**Loading Capacity:** 264 lbs. (120kg)  
**Dead Weight:** 24.2 lbs. (11kg)

TR-90 ..... \$1,700.00

### CD-10 Dolly Specifications

**Loading Capacity:** 286 lbs. (130kg)  
**Dead Weight:** 17.6 lbs. (8kg)  
**Dimensions:** 25 x 114 x 114.8cm

CD-10 ..... \$1,460.00

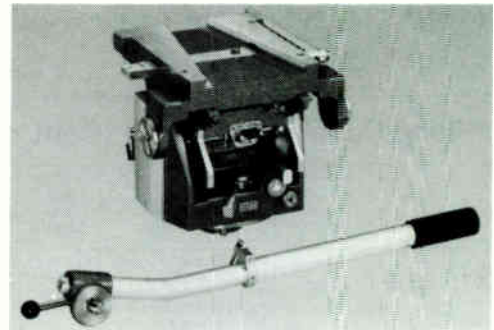
MC-300



TR-90



SC-15



### SC-15 and SC-05 Cam Heads

- Weight of the camera is balanced by a cam system  $\pm 50^\circ$  of tilt angle
- Total sliding adjustment of 16.5cm for front to rear camera balance
- V-Shaped wedge plate for easy camera mounting

### Specification Chart

Cam Head:	SC-05	SC-15
Pan Rotation:	360°	360°
Tilt Angle:	$\pm 50$	$\pm 50$
Dead Weight:	25 lbs. (11.5kg)	31 lbs. (14kg)
Load Capacity:	130 lbs. (60kg)	330 lbs. (150kg)
Cam Material:	Stainless	Steel
Price:	\$4,680.00	\$4,060.00

### Complete Accessories for Cam Head

Male Wedge Plate for SC-15	\$160.00
Female Wedge Adaptor for SC-15	480.00
V Wedge Plate (TA74) for SC-05	160.00
Pan Bar Clamp/SC-15	80.00
Pan Bar Clamp/SC-05	80.00
Full Size Pan Bar	220.00
Short Pan Bar (1 1/8" dia.)	80.00
Sleeve Handle	140.00
Long Pan Bar (1 1/8" dia.)	80.00
Utility Pan Bar (7/8" dia.)	80.00
Cam Plate/SC-15	340.00
Cam Plate/SC-05	340.00
Cam Head Case (wooden)	380.00
Tripod/Dolly/Cam Head Case (wooden)	880.00
Tripod Case (plastic case, lightweight)	280.00



# CANON U.S.A., INC.

One Canon Plaza  
Lake Success, NY 11042-9979  
(516) 488-6700

# STILL VIDEO CAMERA

## RC-701 Still Video Camera

Unlike conventional cameras using chemical-based films, the RC-701 changes the visual image into an electronic signal and records it instantly on a standard 2" video floppy disk. Up to 50 images can be recorded on each disk. Since images are stored in the form of electronic signals, conventional photo processing is out of the picture. Recorded images can be viewed immediately on a monitor TV, printed out in full color, or even sent around the world via ordinary telephone lines.

### High-Resolution CCD

The high resolution CCD (charge-coupled device) image sensor is only 2/3", it boasts 780 horizontal lines and 490 vertical lines. Pure and precise color is obtained through the high-performance RGB stripe filter, resulting in crisp images and realistic color.

### 6x Zoom Lens with Ultra-Fast f/1.2 Aperture

The 11-66mm (35mm lens conversion: 44-264mm) 6x zoom lens provides a maximum aperture of f/1.2, and features a single focus-push/pull zooming ring for smooth, swift zoom operation. A bayonet mount ensures positive transmission between the lens and camera body. Close-ups as near as 2 3/8" (60mm) are possible.

The FD lens adaptor lets you use Canon's entire line of FD lenses for photo possibilities as endless as your imagination.

### Swift, Silent Shooting at up to Ten Images per Second

The RC-701 features four shooting speeds. In addition to the single image, you can shoot 2, 5, or 10 images per second to capture every bit of the action. Winding noise is greatly reduced for virtually silent operation.

### High-Precision Silent Shutter

Unlike shutters on conventional 35mm cameras, the high-precision slit shutter incorporates a magnetic charge rotary design and a feather-touch shutter button. Since operation is totally electronic, shutter noise and vibration are dramatically reduced.

### Auto White Balance for Natural Color

In the automatic mode, the white balance control assures that color pickup is exactly as you see it. For creative special effects, you can also select manual operation, with 9 positions available.

### Increased Photo Possibilities with 6-mode AE and Manual Exposure

You can choose from 6 different AE modes depending on where and what you're shooting. When using SV lenses: 1) shutter priority AE, 2) P: standard program AE, 3) PT: teleprogram AE (automatic 1.5X sensitivity increase at lowest light limit for modes 1-3), 4) PH: high-speed program AE (high-speed shutter priority through increased sensitivity), and 5) flash AE. Position 6) stopped-down AE is for when Canon FD lenses are used, while position 7) enables manual exposure setting. In particular, the automatic 1.5X sensitivity boost increases your shooting possibilities in low light.

### Highly Precise Light Metering

Built into the focusing screen is an advanced MBS (micro beam splitter) which splits the incoming light between the focusing screen and the highly sensitive SPC element. When SV lenses are used in AE mode, incoming light is measured as the average of the entire frame, with an emphasis on the center portion, resulting in virtually perfect exposures every time.

### Brilliant Viewfinder and Centralized Data Display

The viewfinder makes use of a bright laser-matte incorporated into a split image design. A compact prism has been adopted for a clear, brilliant viewfinder image. Also in the viewfinder are LED indicators for program AE mode, flash ready, AE lock, manual white balance, manual aperture for FD lenses, as well as a 2-digit 7-segment LED data display that indicates (using numerals, letters and symbols) exposure information, remaining battery power, and floppy disk status.



RC-701

### Changing Video Floppy Disks in Seconds

Just remove the floppy disk with a single touch, insert another, and shoot on. The video floppies are only 2" square and light as a feather.

### Easy-to-follow Data Display

All the information you need during shooting is shown clearly on the centralized liquid crystal data display.

### Automatic Data Recording Makes Filing Easy

Along with the image, specific data can be recorded on each track: 1) year/month/day, 2) hour/minute/second, 3) shutter speed and aperture value of the photo taken, and 4) a four-digit number (code number: synchronization with the track counter can be switched On/Off). This data can also be shown on the TV monitor for later reference.

### Quick 1-hour Charge High-Capacity NiCad Battery

Using the battery charger, you can recharge camera power in just one hour. Fully charged, the high-capacity NiCad battery pack holds enough power for shooting approx. 250-350 frames (5-7 video floppy disks).

### Specifications

<b>Type:</b>	SLR-type still video camera
<b>Pickup element:</b>	Frame transfer type CCD image sensor (780 pixels horizontally) Equivalent to 2/3"
<b>CCD format:</b>	Eye-level type with Exclusive Canon roof prism;
<b>Viewfinder:</b>	Field of view: Horizontal 94%, Vertical 94%
<b>Light metering system:</b>	TTL full aperture, using SPC; center-weighted average metering
<b>Shutter:</b>	2 rotary blades, focal-plane shutter
<b>Shutter speed:</b>	1/2000 sec. - 1/8 sec.
<b>Flash sync speed:</b>	1/80 sec.
<b>Sensitivity:</b>	Equivalent to ISO 200 (ISO 600 in high sensitivity mode)

RC-701 .....	\$2725.00
11-66mm Zoom f/1.2 .....	.730.00
50-150mm f/2.8 .....	.835.00

### Accessories

- System Case HC-701 (Optional) • Remote Switch RS-RC (Optional)
- Battery Pack BP-7N • Battery Charger BC-60N (Optional) • Neck-strap NS-RC • FD Lens Adaptor LA-RC (Optional) • Video Floppy Disk VF-50 (Optional) • Eyecup EC-RC (Optional) • Camera Body Cap DC-RC (Optional) • Rear Lens Cap SV (Optional) • Dioptic Adjustment Lenses (type S: for A-series SLR) (Optional) • A- and T-Series Speedlites (Optional)

Prices and Specifications Subject to Change Without Notice.

# CANON U.S.A., INC.

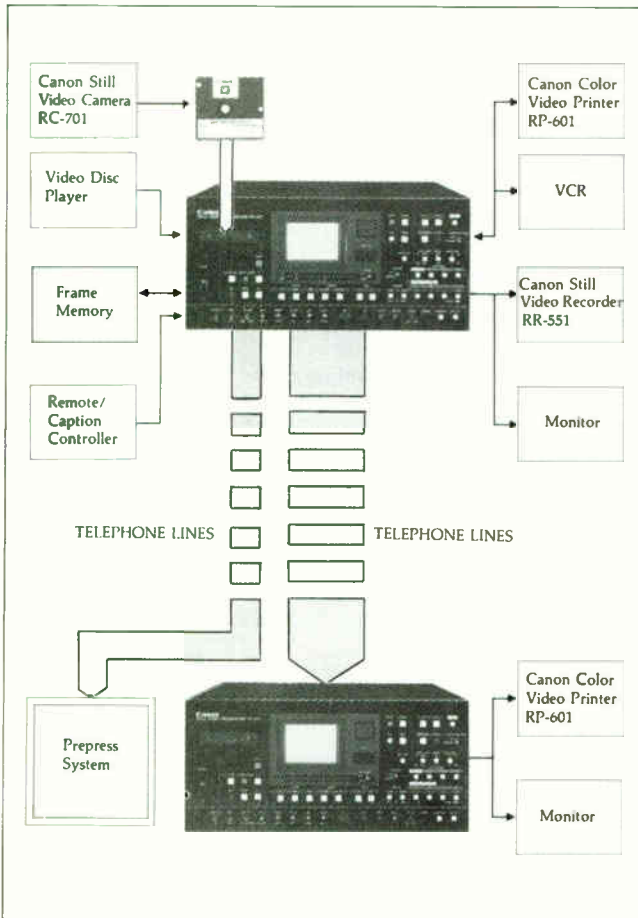
One Canon Plaza  
Lake Success, NY 11042-9997  
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# STILL VIDEO TRANSCEIVER

## RT-971 Still Video Transceiver

### Send Color Images Around The World by Telephone In Minutes

Convert any image into a video signal, input it into the RT-971, and you can send it through ordinary telephone lines to another RT-971 anywhere in the world. In just minutes, high quality color still images with vivid color and crisp resolution can be sent, with operation as simple as any facsimile machine. In addition, the RT-971 also records still images on a 2" video floppy disk which can then be viewed on the monitor. And in combination with an SV camera, you can take pictures to send around the world in just 3 minutes. By putting together a variety of video components, an ideal still video system can be constructed to suit specific applications in such diverse fields as photojournalism, medicine, construction, and management.



RT-971

### Automatic Reception of up to 50 Images

Real time image reception and recording are automatic. Just insert the floppy disk and transmissions are recorded as they are received, just like a facsimile machine. In the field mode, up to 50 images can be received consecutively.

### Stable Image Playback

The playback signal from the floppy disk is momentarily held in a memory circuit for extremely stable image playback while shortening head contact time to reduce wear.

### Frame Memory for Free Composition

The frame memory function enables multi-freeze composition of up to 4 images of your choice in any configuration you desire, with positive and negative reversal also possible. For greater efficiency, the 4 reduced images may be stored or sent as a single frame.

### Multifunction Interface Versatility

With 4 different interfaces, the RT-971 can be used in a variety of ways.

- **Memory I/F**—The memory contents of the RT-971 can be transferred to an external frame memory unit, etc.
- **Modem I/F**—By using a modem, the contents of the image memory can be sent at up to 64K bit/sec. to another RT-971 or CTS computer
- **Printer I/F**—A color printer can be connected through the 36P terminal
- **Remote/Caption**—The Remote/Caption Controller CS-RT can be used to add captions or control the RT-971 from a distance up to 10' away

### Multiple Analog Input/Output Terminals

Analog terminals for video, audio, and telephone use (modular jack) are built-in. A video camera, VCR, TV tuner, monitor TV and other video equipment, as well as microphones and Modems, can all be connected. Flexible system expansion to suit your needs makes the RT-971 an excellent business investment.

- **As a color facsimile:** RT-971 + Canon RP-601 Color Video Printer (to print out transmitted images)
- **As an image editor:** RT-971 + Canon RR-551 Still Video Recorder + monitor TV (for dubbing and editing video images stored on a floppy disk)

RT-971 ..... \$20,900.00

### Analog and Digital Transmission Mode Compatibility

The RT-971 is compatible with both analog (AM, FM) and digital (external modem necessary) transmission modes to enable you to select the one best suited to your telephone system (2 line or 4 line type) for the lowest noise transmission.

### Four Color Modes

Color images can be sent anywhere in the world in 3 minutes (RT-971 to RT-971 in field mode) in 2-color mode, while monochrome images can be sent in just a minute and a half in B & W mode. Also, there are 3- and 4-color modes, with masking and UCR coefficient setting possible. By adjusting both the white balance and black balance, ideal color can be obtained.

# CANON U.S.A., INC.

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# COLOR VIDEO CAMERA MODULE

## Ci-10 CCD Color Video Camera Module

- **Pickup**
  - Element: CCD image sensor
- **Number of**
  - Pixels: 780 horizontally x 490 vertically
- **Filter:** An RGB pure color stripe filter with full space sampling
- **Image Size:** Equivalent to that of a 2/3" image pickup tube (8.8mm width x 6.6mm height)
- **TV System:** NTSC (15.75kHz/60Hz/VS 1.0V p-p 75 ohms)
- **Synchronization:** Internal
- **Resolution**
  - Horizontal: 300 TV lines
  - Vertical: 320 TV lines
- **S/N Ratio:** 43dB or better
- **Sensitivity**
  - Standard: 200 lux at f/2.8
  - Minimum: 20 lux at f/1.4 (with high gain)
- **White Balance:** Continuously variable (with illumination mark)
- **Lens Mount:** C mount
- **Power Supply:** 9VDC, ± 20 (0.45 A max.)
- **Operating**
  - Temperature: 14 to 113°F (-10 to 45°C)
- **Overall**
  - Dimensions: 4" H x 2 1/2" W x 1 1/2" D (102 x 63 x 37mm)
- **Weight:** Approximately 10 1/4 oz. (290 grams)



### Ci-10 Applications

#### As a versatile monitor camera

The Ci-10 can be the perfect module for use in banks, financial institutions, computer rooms, supermarkets, grocery stores, OA business offices, medical clinics and hospitals, small plants and large factories, modern transport terminals—to single out only a few essential practical applications.

#### As an image processing input camera

For clinic X-ray rooms, patient control centers, fiberoptic or microscope laboratories, computer adjuncts, communication centers, printing houses, editorial bureaus.

#### As an inspection unit or measurement image sensor

Use the Ci-10 to determine material object dimensions, shapes, colors, volume, and so forth.

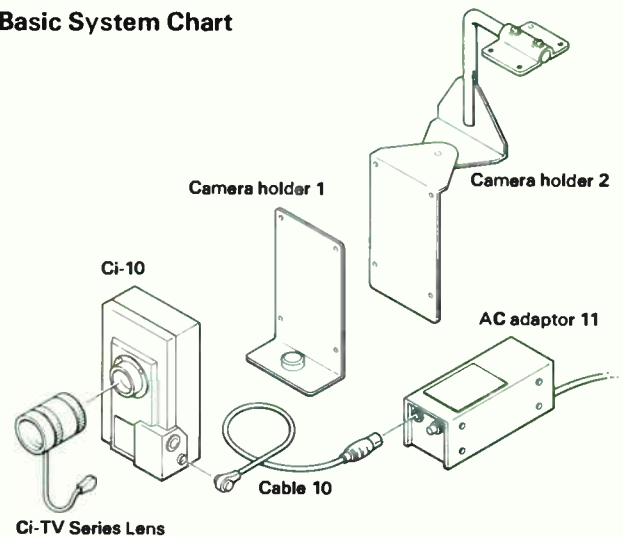
#### As an image sensor for industrial robots

Put the Ci-10 to work with industrial robots, unattended vehicles, wireless remote-controlled cranes or bulldozers, or any other forefront applications of advanced factory automation.

#### As a camera for door-phone with monitor

Install the Ci-10 as a monitor module for residential homes and apartments or in business offices.

### Basic System Chart



Code No.	Description	Price
C81-0011-002	CCD Camera Ci-10 body only . . . . .	\$ 1699.00
C86-0012-201	AC adaptor 11 . . . . .	.118.00
C86-0041-001	Cable 10 . . . . .	.40.00
C87-0011-001	Ci-TV lens 8.5mm f/1.5 . . . . .	.149.00
C87-0021-001	Ci-TV lens 16mm f/1.4 . . . . .	.110.00
C87-0031-001	Ci-TV lens 25mm f/1.4 . . . . .	.146.00
C87-0012-001	Ci-TV lens 8mm f/1.4 ea. . . . .	.450.00
C87-0022-001	Ci-TV lens 16mm f/1.4 ea. . . . .	.378.00
C87-0032-001	Ci-TV lens 25mm f/1.4 ea. . . . .	.472.00
C86-0061-011	Camera holder 1 . . . . .	.48.00



# CANON U.S.A., INC.

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# STILL VIDEO SYSTEM

## RE-550 Video Visualizer

The RE-550 takes any visual source—notes, charts, color pictures, or even actual objects—and instantaneously flashes it on your monitor. There's no processing, and no delay. In addition to the camera input, the unit connects to any of the SV (Still Video) System components, such as the RR-551 SV Recorder, and handles input from VCRs, video disk players, or any video source.

### RE-550's Quality Components Deliver High Resolution Color

This virtually maintenance-free CCD Color Video Camera Module puts 380,000 picture elements (780 horizontally x 490 vertically) to work to assure a highly detailed picture. The camera unit itself has an RGB pure color stripe filter and an RGB separation output system. Use with the optional lighting system to project a stable image with maximum clarity.

### Send the Image of Your Choice Straight to the Monitor

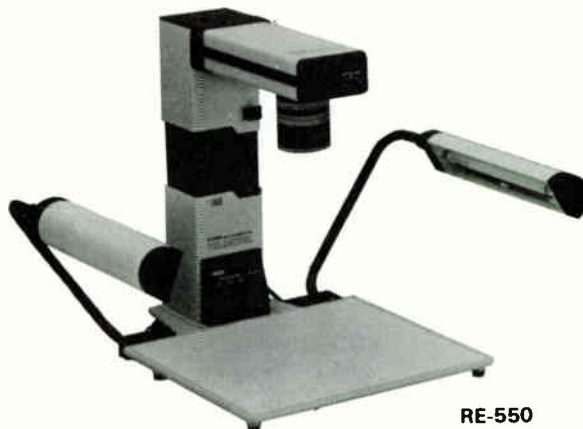
Whether it's a 2-dimensional manuscript or an actual object, you can manipulate and project the source of your choice to show your audience clearly—even in a well-lit room.

### The Macro Zoom Lets You Make a Mountain out of a Mole Hill

The f/1.2 zoom lens with macro lets you adjust the image size to suit your presentation. The flexible unit can handle documents ranging from A4 (8<sup>1</sup>/<sub>4</sub>" x 11<sup>1</sup>/<sub>16</sub>"") to A7 (2<sup>1</sup>/<sub>16</sub>" x 4<sup>1</sup>/<sub>8</sub>"") size. The sliding stanchion and arm allow you to move the camera up and down, and back and forth, in order to achieve the exact effect you wish to project.

### Choose Your Source with the Handy Built-in Selector

The built-in selector switch lets you choose your video input. Use the Canon RR-551 SV Recorder, the RT-971 SV Transceiver, a VCR, a video disk player, or any video source and simply flick a switch. Mix and



match for the most dynamic presentation possible. A touch of a button sends the video image to a monitor TV, a video projection screen, or the Canon RP-601 Color Video Printer. The built-in microphone allows for sound mixing as well.

RE-550 .....\$2830.00

### Accessories

- AC Adaptor PA-12 • PIN Cable AV KE-AVI • PIN Cable AV KE-AVII
- Shade SH-RE • Lens Cap C-58 • Carrying Case (Option)

## RR-551 Still Video Recorder

The RR-551 Still Video Recorder is a versatile machine that records and plays back images from a wide variety of video sources on a 2" floppy disk. Connect Canon's Color Video Printer and print out full color hard copies of these images in minutes. Unwanted images can be erased and re-recorded, saving trouble, time and money.

### High Resolution, High Reliability Through Advanced Technology

A specially developed CCD (charge-coupled device) comb filter, auto tracking control, and a PLL (phase-locked loop) circuit work together to ensure that images are accurately recorded without rainbows or "color bleed". To help reduce head wear, an exclusive Air Film head/media interface and pad release mechanism are adopted, while a brushless direct drive motor assures optimum accuracy.

### Versatile Recording and Playback Modes

**Interval Recording/Playback Mode:** This mode allows you to set the time interval (from 1 to 99 seconds) between image display to match the tempo of your presentations, or to record at timed interval.

**Programmed Playback Mode:** Display up to 50 recorded images in any order you like. The unit can be quickly re-programmed for variations of the same presentation.

**Direct Access Mode:** Using the 10-key pad, simply punch in the number of the image you wish to display.

**High Speed Recording/Playback Mode:** Three speeds can be selected to record or play back: 2, 5, or 10 images a second. Not only does this feature enable action to be simulated, it also is handy for quick image search.

### Multifunction Convenience From Your Directors' Chair

Turn on the power and insert a video floppy disk, and the wireless controller allows direct access or programmed playback operation from the comfort of your seat up to 23' (7 meters) away.

### Twin Mode Field/Frame Recording and Playback

The RR-551 is equipped with two recording/playback modes. Use the frame mode (25 images per disk) for excellent quality prints and high resolution image reproduction on a large monitor. You can also choose the field mode, which allows you to record up to 50 images on a single



floppy disk. For more convenience, you can mix modes on the same disk, with mode selection upon recording. During playback, the mode is automatically matched to the recorded mode used during recording of each image.

### Identify Each Image

The month/day/year and any ID designation up to 11 digits long, can be recorded on the image for future reference and greater filing convenience. ID designations or data recorded in field mode by the Canon RC-701 SV camera can also be displayed.

### Record From a Wide Variety of Video Sources

The RR-551 is equipped with Video and RGB terminals, allowing you to record video images from an ordinary television, VCR, video disc player, or video camera, in addition to the images taken with the RC-701 SV Camera.

RR-551 .....\$2830.00

### Accessories

- Wireless Controller WL-55 (with two size AAA batteries) • RF Cable KE-FF • RF Cable KE-FO • F Connector CN-75/300 • PIN Cable KE-PIN (2) • Antenna Selector AN-SE • RGB Cable KE-P4 (optional) • Head Cleaning Disk VF-CD (optional)

# CANON U.S.A., INC.

One Canon Plaza  
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(516) 488-6700

# COLOR PRINTER



FP-510

## FP-510 Full Color Printer

- Built-in masking circuit
- For ultra fine computer graphics
- 160 pixels per inch
- 64-step gradation
- High resolution printer
- Ink-jet printing method

### High-Quality Image

The FP-510 achieves high-quality images by using an ink-jet printing method which produces vivid color reproduction, controlling each color to 64 gradations, providing high-density images of 160 Dot Per Inch (DPI) comprised of one dot corresponding to one picture element.

### Intelligence

Image processing circuits such as UCR and masking are built in to achieve faithful and beautiful color reproduction in response to input signals. Programming for color phase correction, which is very difficult and time consuming, is no longer necessary. Much simpler program produces a color print faithful to the original.

### Low Maintenance

Reliability has been further improved by incorporating an electromotive pumping mechanism and an auto-capping mechanism to prevent ink head block.

### Outstanding Operability and Practicality

With a front loading system for roll paper, a single layout with all the control buttons concentrated at the front panel, and a built-in automatic paper cutter, operability is improved and the external design simplified. This color printer is easy for anyone to use.

### Wide Range of Applications

RGB, CMY, color pallet, or B/W modes can be selected as image data so that the printer can be used for anything from complex computer graphics to simple monochromatic graphics.

### Optional Print Size

#### And Enlargement Function

Print size can be easily programmed (up to 203mm; 8" W and 999mm; 39<sup>5</sup>/<sub>16</sub>" L). Also there is an integer multiple function, making possible print enlargement by up to nine times.

### Exclusive Ink and Roll Paper

Water soluble ink, outstanding for preservation and color reproduction, is used. Gradation has been improved by providing cyan and magenta colors in three types of ink differentiated by density: thick, medium and light. Moreover, the roll paper is an exclusive coated paper developed for outstanding ink absorption and color reproduction.

### Fully Augmented Interface

An interface complying with Centronics specifications has been provided as standard, but in consideration of the printer's broad range of applications, a GP-IB (IEEE-488) interface board has been provided as an option for connection with various peripheral units (e.g., all types of meters) so that the system can be upgraded in the future.

The FP-510 achieves high-density images and abundant gradations by using analog modulation through dot diameter variation and by light and dark ink.

### Light/Dark Ink

In order to obtain even richer expressions of color tone, three tonal versions of cyan and magenta ink are used: dark, medium and light.

### Analog Modulation Method

There are two methods of producing tonal gradation. One is to alter the number of dots recorded within a specific area without changing the diameter of the individual dots. This method is called digital modulation because there are only two possibilities: dot present or dot absent. The other method is to alter the diameter of the individual dots while leaving the number of dots within a specific area unchanged. The outstanding feature of analog modulation can be understood by comparing the two methods of expressing "light" in the above illustrations. Digital

modulation requires one whole dot to obtain a single color gradation. In the illustrations there are four dot areas, so four gradations can be expressed. This means that one picture element requires four dot areas to represent four gradations. The analog method, on the other hand, can represent many gradations with a single dot because it can change the dot diameter. (One dot corresponds to one picture element.) In the above illustration, therefore, one picture element needs only one dot area to represent numerous gradations. So, in representing the same gradation, analog modulation can yield an image of much higher density. The FP-510, for instance, provides a high density image of 160 pixels/inch with 64 gradations, but if it employed digital modulation to represent this many color tones, each picture element would have to be extremely large because 64 dots would be needed, and the picture would be quite rough in appearance.

## Specifications

**Printing Method:**

Drop-on-demand type ink-jet printing

**Recording Density:**

6.3 PEL (6.3 pixels/mm); 160DPI One dot corresponds to one picture element

**Gradation:**

64 gradations

**Color**

**Representation:**

260,000-color; 2-color, 4-color, 16-color, 256-color (pallet)

**Gamma Correction:**

Optional setting by user or selection of built-in correction formula

**Palette Selection:**

RGB 16-color mode (gamma correction present) RGB 256-color mode (gamma correction present) CMY 16-color mode (no correction)

**Ink:**

Exclusive ink (all-color simultaneous exchange cartridge system) Break-down Yellow...1 color; Cyan...3 colors; Magenta...3 colors; Black...1 color

**Print Paper:**

Exclusive coating paper (USA, Canada) Letter size roll paper (8<sup>1</sup>/<sub>2</sub>" W x 88<sup>9</sup>/<sub>16</sub>" L). (Other regions) A-4 size roll paper (width 210mm x length 27m) Can be set freely by program: Maximum width: 8" (203mm); (1,280 dots); Maximum length: 39<sup>5</sup>/<sub>16</sub>" (999mm); (6,294 dots)

**Print Size:**

Can be set freely by program: Maximum width: 8" (203mm); (1,280 dots); Maximum length: 39<sup>5</sup>/<sub>16</sub>" (999mm); (6,294 dots)

**Print Start Position:**

Can be set freely by program

**Print Speed:**

Approx 8 min., 36 sec. for 8" x 6" (203mm x 152mm); Approx 2 min., 36 sec. for 4" x 3" (102mm x 76mm)

**Paper Feed:**

Roll paper friction feed

**Paper Cutting**

**Mechanism:**

Auto paper cutter built in

**Data Input:**

CMY, RGB, B/W, pallet; 1, 2, 4, and 8 bits each

**Interface:**

Standard: Centronics type, 8-bit parallel interface. Option: GP-IB (IEEE-488)

**Operating**

**Temperature/Humidity:**

50-95°F/30-85% (10-35°C)

**Power Source:**

(USA, Canada) 120V ± 10%, 60Hz, 0.4A (Europe) 220V ± 10%, 50Hz, 22W (UK) 240V ± 10%, 50Hz, 22W

**Dimensions:**

5<sup>7</sup>/<sub>8</sub>" H x 16<sup>5</sup>/<sub>16</sub>" W x 14<sup>3</sup>/<sub>4</sub>" D (150 x 430 x 375mm)

**Weight:**

Main unit only: 26.4 lbs. (12kg)

FP-510 .....POR

# CANON U.S.A., INC.

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# VIDEO PRINTER/LAMINATOR

## RP-601 Color Video Printer

The RP-601 is the color video printer that receives still images from video floppy disks, VCR's, or video disks and delivers authentic color reproduction. The specially developed ink-jet printing method offers prints far surpassing conventional color printer performance. Five types of IC assure superior quality and reliability, and also make the printer compact and energy efficient. Used in conjunction with the Canon SV (Still Video) Recorder RR-551, a video camera, TV, or the SV Camera RC-701, the application possibilities are practically infinite. Coupled with the RT-971 SV Transceiver you can print out photographs from halfway around the world.

**Advanced Technology Provides Amazing Picture Quality**  
Starting with ink-jet printing, a wide variety of rich, realistic colors, the RP-601 also uses analog modulation recording, a masking circuit to reproduce true-to-life colors and automatic gradation controls to adjust subtle nuances in hues and shading.

### All Your Needs, Large or Small

To suit a variety of needs, the RP-601 has a choice of two sizes. A large print (3 5/8" x 4 15/16") takes 4.5 minutes, while a small print (2 3/4" x 3 5/8") takes only 3 minutes.

### Practical, Functional Design

The special print paper loads automatically. The simple front panel features only main controls, such as the print switch. Auxiliary functions for occasional access only, such as manual picture adjustment, are tucked away to avoid complication.

### Paint the Prettiest Picture Possible

Utilizing ink that ejects smoothly, reproduces colors accurately, and performs consistently in a variety of environmental conditions. To match, the coated print paper has a high absorption rate and is completely compatible with the analog modulation of the RP-601.

### Reliable High Resolution Ink-jet System

In addition to the auto-capping mechanism that protects the ink heads, the electric pumping mechanism resolves ink head block by a one touch recovery operation. Good



RP-601

color reproduction, characteristic of ink-jets, is consistent with reliability and relatively low maintenance.

### Specifications

Type:	Pictorial full color video printer
Printing Method:	Drop-on-demand ink-jet printing
Ink:	8 colors, cartridge replacement system
Picture quality adjustment:	Auto (auto-half tone setting), manual (sharpness, color density, hue, brightness)
Recording density:	6.7 dots/mm <sup>2</sup>
Gradation:	64 gradations
Input/Output:	Video (pin jack), Analog RGB (13-pin connector)
Power source:	120V ± 10%, 60Hz
Power consumption:	35W
Dimensions:	12 5/16" H x 15 3/4" W x 6" D
Weight:	21.2 lbs.
Working environment:	Temperature: 50° ~ 95°F (10° ~ 35°C), Humidity: 30 ~ 85%

RP-601 . . . . . \$3,995.00

### Accessories

- PIN Cable KE-PIN
- Printer cable 13 KE-13P
- Color Paper RP-B6 (200 sheets)
- Ink Cartridge IK-8C
- Laminating Film (option)

## RL-303 Laminator

Use the RL-303 Laminator to put a protective film on RP-601 color prints to preserve your best still images and retain their bright colors.

### Specifications

Lamination method:	One-side lamination by heat-pressure method
Warm-up time:	With 60 seconds at 68°F (20°C).
Laminating Speed:	11.4mm/sec.
Paper feed width:	8 1/2" x 11" (letter size)
Power source:	120V, 60Hz
Power consumption:	1kW (max.)
Dimensions:	5 5/16" H x 19 5/16" W x 8 1/16" D
Weight:	18.9 lbs.
Working environment:	Temperature: 50° ~ 95°F (10 ~ 35°) Humidity: 30 ~ 85%

RL-303 . . . . . \$835.00



RL-303



# CANON U.S.A., INC.

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# CAMERAS/RECORDERS

## VC-50A PRO Color Video Camera

- f/1.4 10X power zoom lens with macro • Parallax-free Active Auto-focus • 2/3" 6MHz Saticon tube that allows unsurpassed color reproduction with high S/N ratio of over 47dB • Horizontal resolution better than 420 lines • EVF data checklist of camera and recorder functions appears in the viewfinder • Rotating eyepiece on the electronic viewfinder • Enhanced sensitivity provides optimum results in light as dim as 10 lux • Microphone permits either stereo or super-directional sound recording • Built-in character generator—for seven-color titling, scrolling and more

The VC-50A PRO gives you the touch of a pro, at the touch of a button. It's a magnificent camera for user convenience. A 10X power zoom lens with macro capability gives you more reach for bringing distant subjects in close. The 6MHz Super High-band Saticon tube ensures accurate color reproduction with horizontal resolution of over 420 lines and greatly improved signal-to-noise ratio. Enhanced sensitivity allows available-light recording in light as low as 10 lux. The VC-50A PRO comes with a sensitive super-directional microphone for superior sound recording.

**VC-50A PRO** ..... \$1495.00



VC-50A

## VM-E2N 8mm Camera and Recorder

- f/1.2 6X power zoom lens with macro • Advanced CCD image sensor with 250,000 pixels • Flying erase head for noise-free transitions • Active autofocus, manual focusing possible • Fully automatic white balance • AFM Hi-Fi sound • 2-hour recording capability • Pushbutton auto fade • Comprehensive system accessories • Unidirectional electret condenser microphone • EIA standard television system with 525 lines, 60 fields, NTSC color signal • 2 hours recording time with P6-120 video cassettes • Low light capability • Sepia button for special color effects

**VM-E2N** ..... \$1699.00



VM-E2N

## VR-HF730 Hi-Fi Videocassette Recorder

- HQ video • Y/C separation comb filter • 1/2" VHS tape format • 4-head alternating azimuth reproduction • Depth multiplex Hi-Fi recording • Full 20Hz to 20,000Hz frequency response • Bar-code programming • 8 program/1 month timer and one touch timer recording • Effort saving automatic functions • MTS 93 channel tuner • Video horizontal resolution: more than 230 lines • Liquid bearing DD cylinder • 90dB dynamic range • Switchable MPX filter • Linear time counter • Index search • Intro scan • Memory search • Wireless controller timer programming • Double speed and reverse playback • Still playback and frame advance • S/N ratio: Video: > 41dB • Dimensions: 3 1/4" H x 16 15/16" W x 13 7/8" D • Weight: 13 lb. 11 oz.

**VR-HF730** ..... \$925.00



VR-HF730

## VR-HF800 Hi-Fi Videocassette Recorder

- Same features as VR-HF730 plus: • 9 screen digital effects • 2 screen viewing • Digital video effects • On-screen timer programming and displays • Multi-mode wireless controller • Audio/video insert recording • Independent level controls and peak meters • Blue-back display • Double speed play with sound • Dual A/V outputs • 4 5/16" H x 16 15/16" W x 13 13/16" D • Weight: 17 lb. 5 oz.

**VR-HF800** ..... \$1299.00



VR-HF800

Prices and Specifications Subject to Change Without Notice.



47" x 108" "Carter Cartop" (on 1983 VW Vanagon)

## The "Carter Cartop" Camera Platform For the Industrial, News, Motion Picture or Television Photographer

- Features quality materials and workmanship throughout
- Provides a sturdy cartop platform of distinctive and pleasing appearance as well as the utmost in utility
- Engineered for light weight and load supporting ability
- Self-adjusting supports, fits any roof contour, and distributes the load evenly
- Stainless steel tie-down clamps hold "Carter Cartop" securely to the car with turnbuckle fastenings
- Easily installed, completely detachable

All models shipped assembled for ease of installation. Send year, make and model of your car, station wagon, van or carryall with your order. Also, send total width of top from rain gutter to rain gutter, and from crown of roof to crown of other side. Patented, self-adjusting pads distribute the weight over roof contour.

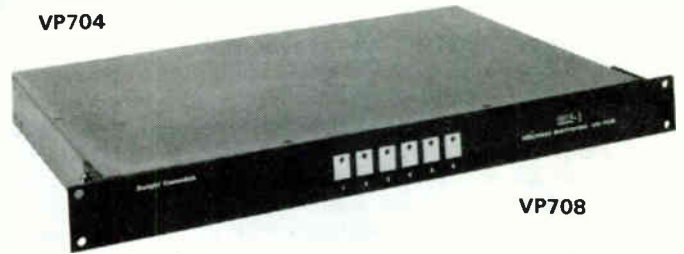
Width	Length	# Men	Price
42" or 47"	60"	1	\$ 995.00
42" or 47"	90"	1-2	1350.00
42" or 47"	108"	2-3	1650.00
42" or 47"	126" or 144"	3	1995.00

(32" or 52" width available, allow 3-4 weeks)

All prices include a sturdy ladder trimmed to match the "Carter Cartop", either side entry or tailgate type (deduct \$75.00 if no ladder is desired).



VP704



VP708

**VP702-01/02**

**Video/Audio Distribution Amplifiers 1 x Ten**

- 1 x 10 distribution of video and two audio channels in one module
- Loopthrough on video and audio inputs
- Switchable selection of balanced or unbalanced audio input
- Internal audio gain adjustment, accessible from rear
- Switchable equalization to compensate for video cable losses
- Isolated outputs for short-circuit protection
- Small size, 1 U-high and 19" rackmounting

Both units feature 10 isolated outputs of stereo sound and video. The VP702-02 has loopthrough facility which enables daisy-chaining of audio inputs. Video inputs also loopthrough.

Suited to a wide variety of applications, the units feature low power consumption, a designed bandwidth of 6.5MHz and equalization switchable in 1.5dB steps.

The VP702-01 has XLR connectors for its balanced input.

The VP702-02 has 5-pin DIN connectors with the added feature of loopthrough on its balanced input. Both versions also have unbalanced phono inputs with loopthrough.

- VP702-01 .....\$465.00
- VP702-02 .....465.00

**VP704 Automatic Signal Switcher-10 Way**

- Small size, 1 U-high, 19" rackmounting
- Switching of 10 video inputs
- Manual selection of any input
- Automatic sequencing of all 10 inputs
- Skip facility in auto mode
- Dwell time adjustment
- Vertical interval switching
- Very low crosstalk
- Switching capability for time code or other data signals
- Can be configured as 10 in—1 out or 1 in—10 out

For recording applications, surveillance monitoring or situations where clean switching is important, the VP704 provides vertical interval switching between inputs which are synchronized.

- VP704 .....\$650.00

**VP705 Audio Distribution Amplifier**

- Low noise, flat frequency response, low distortion and high overload margin
- Especially suited to professional Hi-Fi audio distribution in Video Tape Duplication systems
- Isolated outputs offer short circuit protection
- Loopthrough on audio inputs enabling daisy-chaining for economic audio distribution
- Switchable selection of balanced or unbalanced audio input
- Internal gain adjustment, accessible from rear
- Small size, 1 U-high and 19" rackmounting
- Low power consumption

- VP705 .....\$360.00

**VP708 Six x 1 Routing Switcher**

- 6 loopthrough video inputs
- 6 loopthrough audio inputs, 3 balanced and 3 unbalanced (or 6 unbalanced)
- Two video outputs and two stereo audio outputs
- Audio outputs balanced or unbalanced
- Audio signal-to-noise ratio > 112dB (ref. +24dBu)
- +24dB audio headroom (ref. 0dBu balanced signals)
- Audio crosstalk > 80dB, 20Hz to 20kHz
- Low audio distortion < 0.05%
- Vertical interval switching
- Solid-state switching of both video and audio
- Momentary press buttons with LED indications
- Compact one rack unit, 19" mounting or free-standing

A rear panel connector allows for external remote control from a distance of up to 20 meters.

Facilities are provided for connection of an audio follower module to allow switching of two extra audio channels.

By daisy-chaining, the unit can be configured to produce 11 x 1, 16 x 1, 21 x 1 or, by matrix connecting, the built-in expansion capability lets the VP708 be a 6 x 2, 6 x 3, 6 x 4, 6 x 5, or 6 x 6 matrix switcher.

- VP708 .....\$975.00

**VP709 Stereo Audio Monitor**

- Simultaneous VU monitoring of four audio channels
- Simple pushbutton selection for A/B stereo audio signal comparisons
- Two headphone jacks, one mono and one stereo
- Built-in loudspeaker with volume control
- Line-out of selected stereo signal for external monitoring
- Built-in power supply

The VP709, designed primarily for video cassette duplication applications, provides comprehensive monitoring of stereo audio (or 2-channel audio) signals from two sources.

The panel has a good quality loudspeaker, stereo and mono headphone jacks and VU metering.

The monitor panel fulfills a variety of applications, typically the A/B comparison of stereo audio signals from two VCR sources, such as the master and slave in a video cassette duplication system. Another application is the monitoring of the two linear audio and two Hi-Fi audio signals from a Hi-Fi VCR.

- VP709 .....\$700.00



# DWIGHT CAVENDISH DEVELOPMENTS LTD.

2117 Chestnut Ave.

Wilmette, IL 60091

(312) 256-0937 Telex: 28-6897 VIDEO UR

# CHANGEOVER MODULE/ AUDIO SWITCH/MIXERS/ CONTROL SYSTEM

## VP700 Automatic VCR Changeover Module

- Built-in cue-tone generator enables cue-tones to be placed onto the existing audio track
- Switching of video, RF (off-tape), balanced or unbalanced audio CH1 and CH2
- Auxiliary signal input which can be addressed manually
- Electronic control interlock to prevent inadvertent switching in the auto sequence
- Vertical interval switching
- Integral power supply
- Professional XLR connectors
- VCR playing sequences switchable 1-2-1, 1-2-3 or continuous 1-2-1 option
- Dub switcher option available

The VP700 VCR changeover module is designed to automatically control the playing sequence of two or three hi-band or low-band U-Matic video cassette recorders. Both audio tracks are switched.

The module operates in any of three modes—Manual, Prewind or Fully Auto.

In **Manual** operation, independent control of three VCRs is possible for the front panel. The **Prewind** start enables the exact position of each prerecorded sequence on each tape to be found automatically prior to starting the program sequence. In **Fully Auto**, after the prewind sequence, the unit automatically generates the required control outputs which, for example, may be used to put slave recorders into the Record sequence, as applied to mass duplication applications. At the end of the sequence all three VCRs are rewound. Leads are provided to suit the VCR type.

**VP700** ..... \$1600.00

## VP710 Audio Level Adjust—5 Group

- Flexible signal switching—input stereo channels can be reversed, mixed or re-routed to both or individual channels
- 5 audio stereo inputs—balanced or unbalanced
- 2 x 5 audio stereo outputs with individual channel level adjustment
- 5-group dual bargraph Peak Program Meter display
- 10 channels of continuous PPM monitoring
- PPM incorporates a precision full-wave peak detector
- 8 meter sensitivity ranges (-12dBu to +8dBu), measurement range +20dBu to -27dBu
- 1kHz calibrated tone signal
- Dynamic range 120dB
- Crosstalk between audio groups 100dB, 20Hz to 20kHz
- > +27dB headroom
- Flat frequency response ±0.1dB, 20Hz to 20kHz
- Signal-to-Noise ratio > 120dB (ref +24dBu), 20Hz to 20kHz
- Compact module 3.5" (2U) and standard 19" rackmount
- XLR input connectors, locking 5-pin DIN output connectors

The VP710 is a five-group audio switch/mixer designed for use with video cassette duplicators where master tape audio signals need moving, mixing, matching, mono-ing or level-adjusting. By flexible switching of input stereo channels they can be reversed, mixed or re-routed to one or both channels and the audio level on each channel can be individually adjusted.

The module will accommodate five stereo audio input groups, either balanced or unbalanced

**VP710** ..... \$1600.00



VP-710



VP-716



VS-615

## VP716 Audio Level Adjust—2 Group

- Flexible signal switching—input stereo channels can be reversed, mixed or re-routed to both or individual channels
- 2 audio stereo inputs—balanced or unbalanced
- Dual bargraph PPM display
- Auxiliary stereo inputs and line-outs
- Additional group 1 and 2 line-outs for extra monitoring
- XLR balanced input connectors, locking 5-pin DIN balanced output connectors
- Dynamic range 108dB
- Crosstalk between audio groups 90dB, 20Hz to 20kHz
- 24dB headroom
- Signal-to-noise ratio > 108dB (ref +24dBu), 20Hz to 20kHz
- Flat frequency response ±0.2dB, 20Hz to 20kHz
- Compact module, 1.75" (1U)H and standard 19" rackmount

This switch/mixer module will accommodate two stereo audio input groups, either balanced or unbalanced. The level of each individual channel can be adjusted and displayed on the PPM bargraph LED display. Two channels (one stereo) of PPM monitoring are provided, switchable to select group 1, group 2 or auxiliary outputs.

**VP716** ..... \$595.00

## VS-615 Machine Control System—5 Group

- Selection of slave group(s) G1 to G5 for simultaneous remote control of up to 1000 slave VCRs
- Full 7-function remote control of Eject, Rewind, Fast-Forward, Stop, Play, Record and Pause
- Individual group status memory display of Play, Record and Pause
- Lock button to override function buttons and so prevent accidental operation
- Master eject facility
- Momentary press buttons with LED indication
- Operation of any type of remotely-controllable VCR
- Compact one rack unit, 19" mounting

The VS-615 Machine Control System provides full 7-function remote control of up to five groups of slave VCRs in a video cassette duplication system. The modules have been designed to provide an inexpensive solution to the user who wishes to tailor his own customized systems.

**VS-615** ..... \$700.00

# DWIGHT CAVENDISH DEVELOPMENTS LTD.

2117 Chestnut Ave.  
Wilmette, IL 60091  
(312) 256-0937 Telex: 28-6897 VIDEO UR

# AUTOMATIC VIDEOCASSETTE SYSTEM

## CS811 Automatic Video Cassette System

- Very simple to use • No software or cueing tones on tapes
- Versatile expandable modular system • Single or multi-channel configuration • Stand-alone modules with 19" rackmounting cabinet option • Automatic VCR mains switch-off when not in play, also monitor mains if required • Change-over from one VCR to another or continuous repeat play mode
- Optional text generator during VCR down-time • Adjustable pre-roll timing for each VCR • Internal or external UHF modulator • 24-hour real time clock with weekday indicator • Programmable memory allowing clock to play VCRs up to 20 times per day • Four independent clock outputs • Short mains interrupt protection • Mains failure battery back up for clock • Will operate domestic VCRs which have wired remote control of play/stop/rewind • Loss of video detector

The CS811 budget system is ideal for playing video programs or text for a wide variety of commercial applications. The system is very simple to operate and does not need any special software or cueing tones on the tapes. It uses only two module types and can be simply configured to customer requirements in any combination from the minimum system (one automatic video controller and one VCR) to an expanded system with optional cabinet.



CS811

### Minimum System

This system requires only one module to control the VCR in either of two modes:

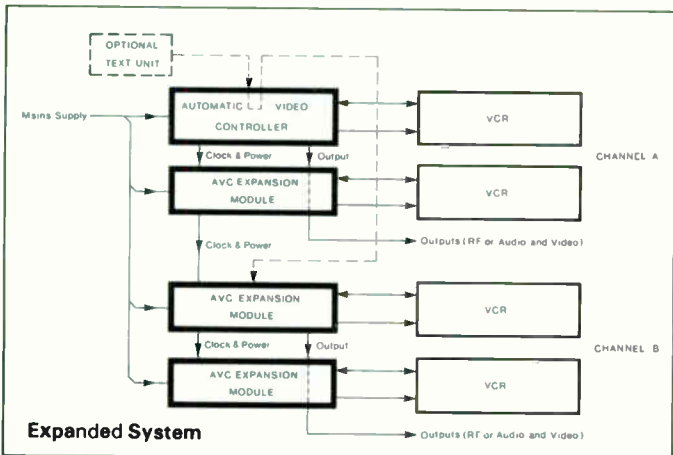
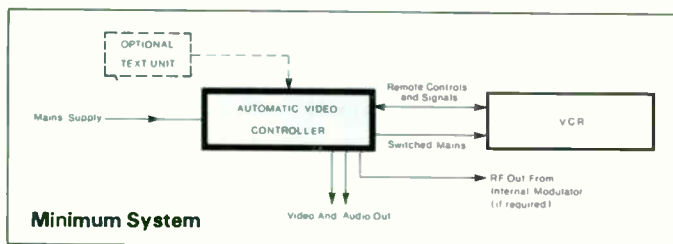
Each play is started by the clock, stopped and rewound automatically or each play is continually repeated after rewind.

An optional text unit can be incorporated to display text between video programs

### Expanded System

This system shows two channels with two VCRs per channel. Within each channel, automatic changeover occurs from one VCR to the other.

The two channels can be played completely independently. When each VCR has finished playing, its mains supply is switched off automatically. The maximum expanded system can control 6 VCRs.



## Specifications

### Inputs

- VCR Video:** 1V p-p, 75 ohm BNC
- Text Video:** 1V p-p, 75 ohm BNC, switched loopthrough
- VCR and Text Audio:** -5dBm / > 10K ohm, unbalanced, phono

Note: In some configurations text input is output from previous module.

### Outputs

- Video:** 1V p-p, 75 ohm, BNC
- Audio:** -5dBm, unbalanced, phono
- RF (only if mod. used):** Nominally channel 30 to 39 (adjustable, 3mV, 75 ohm)

**Remote:** Lead supplied to suit customer VCR model used

### Power

**Voltage:** 220VAC to 240VAC, 50/60Hz (110V/120V on request)

**Consumption:** 12W (24W with three VAC Expansion Modules)

### Control Clock

24 hour format with day of week, 20 memories, 4 independent outputs, battery back-up for 12 hours

### Dim.

### (HxWxD) & Weight

- Auto Video Cont.:** 87 x 440 x 330mm, 6.5kg approx.
- AVC Expansion Module:** 45 x 440 x 330mm, 4.5kg approx.

# CEL ELECTRONICS LTD.

DISTRIBUTED EXCLUSIVELY BY  
**JAMES L. GRUNDER & ASSOC., INC.**

5925 Beverly  
 Mission, KS 66202  
 (913) 831-0188 FAX: (913) 831-3427

# DIGITAL EFFECTS SYSTEMS/ EDITING SYSTEMS

## MS101 (Maurice Minor) Zoom Effects Controller

Consists of:

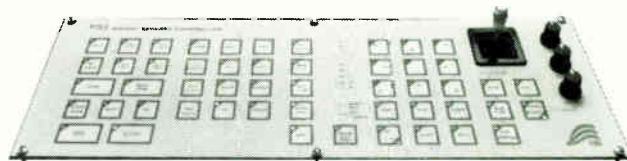
P147-30 TBC/frame store synchronizer with NDS filter

P148/1 Serial interface with key combiner (DKC)

P153 Touch pad controller

• Joystick • Zooms • Folds • Slides • Reveals • Moves • Quarters  
 • Montages • Pixellation • False coloring • Posterization • Adjustable  
 move speed • Remote control of framestore setup

MS101 ..... \$11,995.00



P153

## MS102 (Maurice EFX-II) Single Channel Zoom System

Consists of:

P147-30 TBC/frame store synchronizer with NDS filter

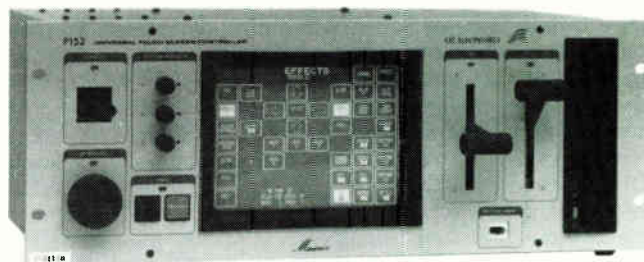
P148/1 Serial interface with key combiner (DKC)

P152 "Maurice" touch screen controller

Software disk program

• Zoom • Flip • Tumble • Border • Variable aspect ratio • Slide • Joy-  
 stick positioning • Montage • Pixellation • False color • Quantization  
 • Programmable moves • Updatable disk based software

MS102 ..... \$17,750.00



P152

## MS203 (Maurice EFX-III) Dual Channel Zoom System

Consists of:

(2) P147-30 TBC/frame store synchronizers with NDS filters

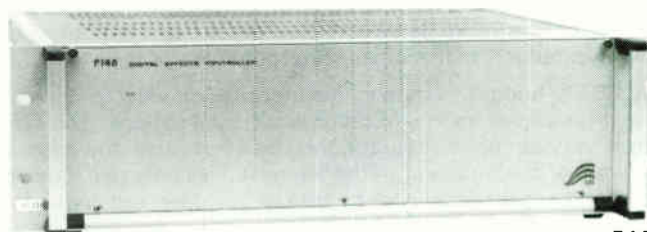
P148/2 Serial interface with key combiner (DKC)

P152 "Maurice" touch screen controller

Dual channel software disk system

• Push on/off • Reveal/conceal • Digital effects on both channels si-  
 multaneously • Up to 8 video inputs with optional P169V routing  
 switcher • Built-in dual key combiner with software controlled priority

MS203 ..... \$27,750.00



P148

## MS304 (Maurice EFX-IV)

### Dual Channel Zoom System with Mix Effects

Consists of:

(2) P147-30 TBC/frame store synchronizers with NDS filters

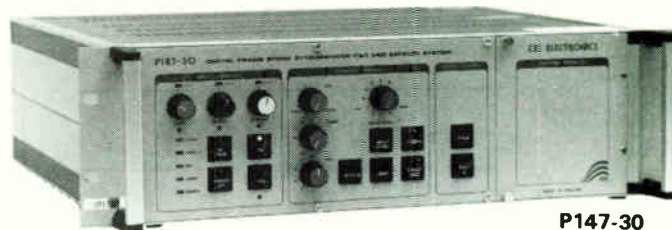
P148/3 Serial interface with mixer (SEG)/combiner (DKC)

P152 "Maurice" touch screen controller

Dual channel software disk program

• Mix • Fade • Wipe • Internal color matte generators • Multi-level  
 keying all under software control • Vignette of color matte • High  
 grade internal SPG • Programmable mix, fade and wipe

MS304 ..... \$29,990.00



P147-30

## Eric Editing System

• Expandable from basic 2 machine to 12 and beyond • Usable with  
 most VTRs/VCRs and other machines in any mix • Comprehensive jog/  
 search/cruise control of all machines • Frame accurate and full color  
 framing • Split audio facilities with auto fade • Integrated with CEL  
 Maurice system effects • Three external GPIs as standard • Edit list  
 management options • Easy trim functions • Auto preview, replay, re-  
 turn, tag, match tag, go to, timecode burn-in, readers and generators,  
 dub facilities, laser disk controllers, etc.

P158 Basic 3 machine control ..... \$3,500.00

Used with existing EFX systems

Controlled by Maurice (P152)

Eric System — Consists of P158 and P152 controller ..... \$7,995.00

## Upgrades

EFX I to MS101 (Maurice Minor) ..... \$ 4,990.00

EFX I to MS102 (EFX-II)

Includes NDS filter ..... 9,995.00

EFX I to MS203 (EFX-III)

Includes 2 NDS filters and key combiner (DKC) ..... 20,495.00

EFX I to MS304 (EFX-IV)

Includes 2 NDS filters, mixer and key combiner (DKC) ..... 21,995.00

MS101 to MS102

Includes NDS filter ..... 7,495.00

## MS101 to MS203

Includes 2 NDS filters and key combiner (DKC) ..... \$18,525.00

## MS101 to MS304

Includes 2 NDS filters, mixer and key combiner (DKC) ..... 20,945.00

## MS102 to MS203

Includes additional NDS filter and key combiner ..... 12,775.00

## MS102 to MS304

Includes additional NDS filter mixer and key combiner  
 (DKC) ..... 15,140.00

## MS203 to MS304

Includes mixer ..... 5,240.00

## Up-Grades Editing Systems with Effects Systems

### Eric System to MS102

Eric Editing System Plus

P147-30, P148/1 and software

disk program ..... \$15,375.00

### Eric System to MS203

Eric Editing System Plus

(2) P147-30, P148/2 and software disk program ..... 26,375.00

### Eric System to MS304

Eric Editing System Plus

(2) P147-30, P148/3 and software disk program ..... 28,840.00

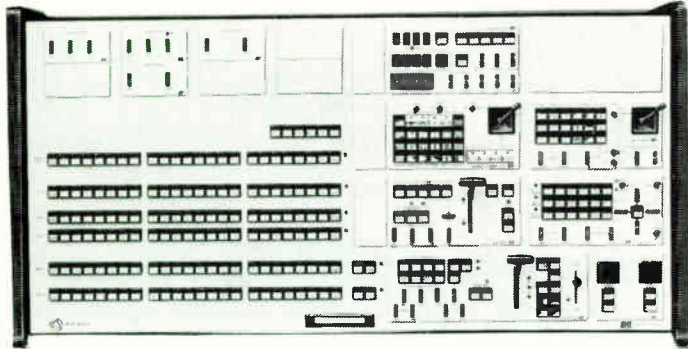




# CENTRAL DYNAMICS LTD.

147 Hymus Blvd.  
Pointe Claire, Quebec CN H9R 1G1  
(514) 697-0810

# VIDEO PRODUCTION SWITCHERS



## Series 90 Video Production Switchers

- Illuminated pushbuttons
- Unique sequential effects (SFX) processing
- Greater flexibility plus simpler operation
- Modular construction
- Full range of options
- High performance, high stability
- Available for PAL, PAL-M, NTSC

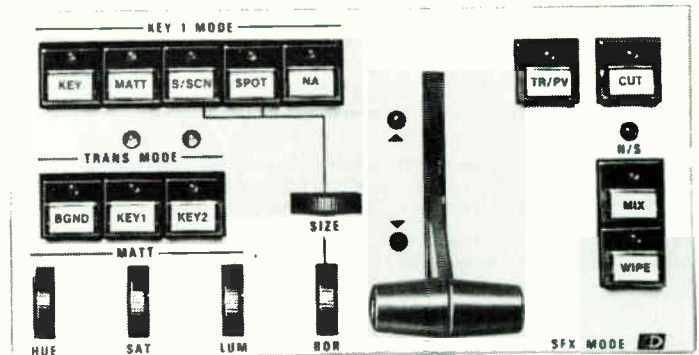
The Series 90 range represents a great advance in the field of video production switchers. Based on the SFX (Sequential Effects) group, the range offers flexibility and ease of operation.

The Series 90 and its SFX group were made possible by the development of processing and control, resulting from a complete reappraisal of the uses of video switchers and the needs of operators of present day production techniques.

Conventional video switchers suffer from severe limitations when used in complex production sequences, and frequently the whole sequence must be planned in advance to ascertain the correct point of entry into the sequence. Even with the pre-planning, some simple sequences are impossible on conventional switchers, because a "lock-out" situation is reached. A single SFX group can perform sequences impossible on even a triple Mix/Effects conventional switcher. Pre-planning is generally unnecessary, and "lock-outs" are impossible.

Three models of the Series 90 are offered, but modular construction of both electronics and control panels permits a high degree of flexibility in the choice of each system. This arrangement also enables plug-in installation by customers of additional facilities as required.

The Series 90 employs the latest techniques of circuitry and construction to ensure the highest standards of performance, stability and reliability. Each unit of the electronics is internally timed, so there are no heavy and bulky delay cables—a particular asset for mobile van installations.



## SFX Mode Module

(Part of each SFX group)

This module, shown above, provides selection of the operating mode of the SFX group.

The following controls are provided:

**Key 1 Mode Controls:** A set of five momentary action pushbuttons to select the mode of operation of Key 1. Key, Matte Key, Non-Additive Insert, Spotlight, Split Screen.

**Transition Mode Controls:** Three pushbuttons to select Background, Key 1 and Key 2 Transitions. These controls may be either momentary or alternative action. (Selection is made in the electronics unit). Above the Key 1 and Key 2 buttons are LED indicators to show when these key levels are on air.

**Matte Controls:** Three potentiometers to provide control of Hue, Saturation and Luminance of the internally generated matte signal. (An optional dual matte generator allows two separate matte signals, matte 1, matte 2, to be used simultaneously in Key 1 and Key 2. When this option is fitted, the matte controls on the SFX module are not installed.)

**Split Screen Controls:** These controls adjust the size of the split screen and the width of a border around the split screen. The size control also adjusts the size of the pattern when spot is selected.

**Fader Handle:** Used to effect dissolve or wipe transitions. Indicators are provided to show the current direction of travel.

**Mix/Wipe Controls:** Two momentary controls to select the type of transition controlled by the fader.

**Cut:** Provides an immediate cut to the effect(s) selected on preview.

**TR/PV:** Operation of the TR/PV button allows previewing of a transition without affecting on air signal.

## Series 90 Standard Modules

### Key Mode Module

(Part of each SFX group)

This module provides selection of key sources, masking, level and softness controls for the two key processors of the SFX group. Controls are also provided for the Dual Key Border Generator, which is a plug-in option to the SFX group.

The following control groups are provided:

#### Key 1 Source Controls

**Note:** In all of the modes of Key 1, except Matte Key and Spotlight, the key is filled with the video from the foreground bus.

**F** Momentary action switches select the signal to be used for UTIL keying from either the foreground or utility buses, or

**EXT** from an external input.

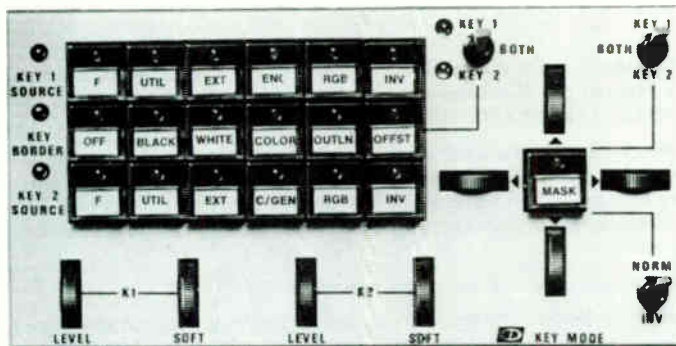
**RGB** Momentary action switch select the key signal from the optional RGB Chroma Keyer.



# CENTRAL DYNAMICS LTD.

147 Hymus Blvd.  
Pointe Claire, Quebec CN H9R 1G1  
(514) 697-0810

# VIDEO PRODUCTION SWITCHERS



## Series 90 Key Mode Module (Cont'd)

**ENC** An alternate action switch. When enabled, the keying signal is derived from the encoded chroma keyer incorporated in the SFX group. The signal video input to the keyer is selected by the F, UTIL, EXT buttons. ENC is cancelled by depressing the button a second time, or by selection of RGB.

**INV** An alternate action switch which causes the selected key signal to be inverted.

### Key 2 Source Controls

**F** Momentary action switches select the signal to be used for keying from the foreground or Utility busses, or from the external input. In all of these modes, the key is filled with the output of the color matte generator. With the optional Dual Matte Generator Key 2 may be filled with video from the Utility bus.

**RGB** Momentary action switch select the key signal from the optional RGB chroma keyer. In this mode the key is filled with the video from the Utility bus.

**C/GEN** Momentary action switch. Separate key and video fill signals are accepted from an external character generator

**INV** An alternate action switch which causes the selected key signal to be inverted.

### Level and Softness Controls

Two pairs of potentiometers provide control of the key Level (clipping level) and Softness for Key 1 and Key 2.

### Key 1/Key 2 Mask

An alternate action pushbutton enables a rectangular mask for Key 1 and Key 2 processing. A toggle switch assigns the rectangular mask to Key 1, Both, or Key 2. Four potentiometers provide full independent control of position for the four sides of the rectangle. When the mask is enabled, a brightness change on the preview output displays the masking area to permit accurate adjustment. Keying is inhibited outside the preset rectangle. A toggle switch inverts the mask i.e. —keying is inhibited outside the rectangle.

Masking of Key 1 may also be independently performed by patterns derived from the Wipe Mode Module. This function is enabled by the simultaneous operation of the KEY and S/SCN switches or MATT and S/SCN switches on the SFX mode module. When this function is enabled, a brightness change also displays the masking area in the preview output. Key 1 may be simultaneously masked by the S/SCN-KEY or S/SCN-MATT selection and by the Key Mode module rectangular MASK selection.

## Key Border Controls (Optional)

Note: These controls are operational only when the Optional Dual Key Border Generator is fitted to the SFX group. This option also includes 1 or 2 line key borders.

A toggle switch assigns border selection to Key 1, or 2, or both, and all borders may be single or double width.

Note 1: Different color and key border modes can be assigned to Key 1 and Key 2.

Note 2: 1 or 2 line borders are selected by successive depressing of the BLACK, WHITE or COLOR pushbuttons.

**BLACK** Black all around borders.

**WHITE** White all around borders.

**COLOUR** All around borders, filled with the output of the matte generator, phase shifted by 180 degrees. This facility permits colored borders around a color matte title with minimum chroma crawl effect.

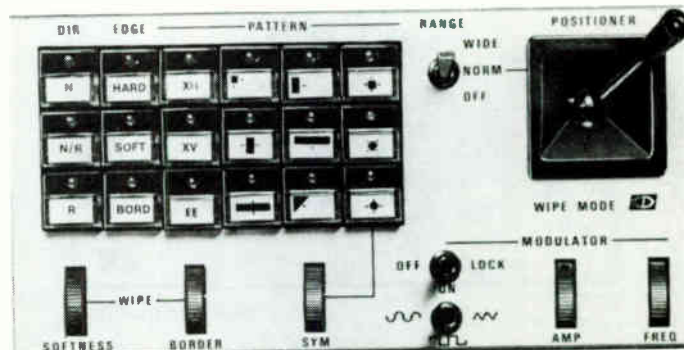
**OFFSET** An alternate action switch which displaces the border to the right and down, giving a 'drop shadow' effect.

**OUTLINE** The border only is displayed (black, white or colored, as selected).

**OFF** No border.

## Wipe Mode Module

(Part of each SFX group)



This module provides basic pattern selection and multiplication, wipe direction and edge controls, pattern modulation and positioning. The controls are also used for the SPLIT SCREEN mode of Key 1.

### Wipe Direction

Three pushbuttons provide selection of N (normal) N/R (normal/reverse) and R (reverse) direction.

### Wipe Edge Controls

Two pushbuttons provide selection of hard or soft edge wipe. A potentiometer controls the degree of softness. This button also enables the border for the SPLIT SCREEN mode of Key 1.

An alternate action pushbutton selects a wipe border, which may be used in conjunction with hard or soft wipes. The border is filled by the matte generator and a potentiometer controls the width of the border.

### Pattern Selection

A group of nine pushbuttons select the basic patterns. A symmetry control is provided for the box, diamond and circle patterns.

### Pattern Multipliers

Two pushbuttons 'X H' and 'X V' allow multiplication of the selected pattern by four horizontally, or vertically, or both. When the positioner is turned On (NORM), the multiplication ratios (horizontal and vertical) may be varied by moving the positioner.

### EE

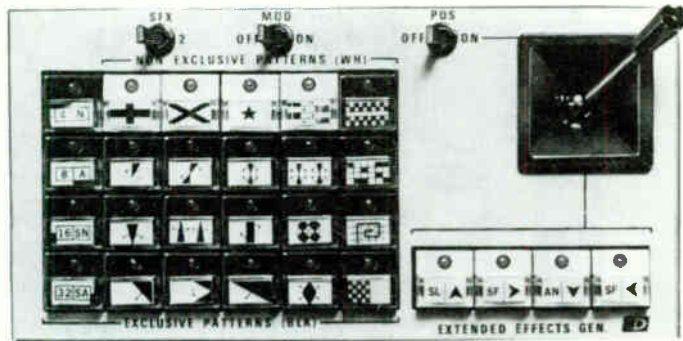
This pushbutton selects the output of the optional Extended Effects Generator in place of the standard patterns.





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Series 90  
Extended Effects Generator

## Series 90 Extended Effects Generator (Cont'd)

### Orientation Controls

Four pushbuttons select the orientation of start point of the selected rotary wipe. The same controls may be used to determine the resolution of the matrix wipe patterns (4x3, 8x6, 16x12, or 32x24), and to select normal or alternate pattern, and spin facilities on the non-exclusive patterns.

### Non-Exclusive (White Buttons)

These patterns are used in exactly the same way as those of the SFX pattern generator. They can be controlled independently by both SFX faders and can be used as split screen patterns.

Normal and alternate pattern selections are available from each button, and these patterns may be used as spin wipes.

### Pointer

Four pushbuttons control the direction of the pointer. This effect is available as a key input to each SFX group and is totally independent of all wipe functions.

These same controls are also employed to select the operational mode of spin wipes. Wipes may spin at a constant rate (free), or may rotate according to the fader arm motion (lock), or may not spin, but have their orientation changed (angle).

(A similar generator is available as a free-standing model for use with any production switcher.)

### Positioner

The positioner always controls the position of the pointer. The positioner on/off switch enables positioner control of the star and rotary patterns.

### Modulation

Modulation from the selected SFX group is available for all wipes (except matrix) and is controlled by the modulation on/off switch. When using an exclusive pattern it is possible to perform an unmodulated wipe to a modulated split screen.

NOTE: A second Extended Effects Module may be installed on 1090 so that each SFX has exclusive use of extended effects.

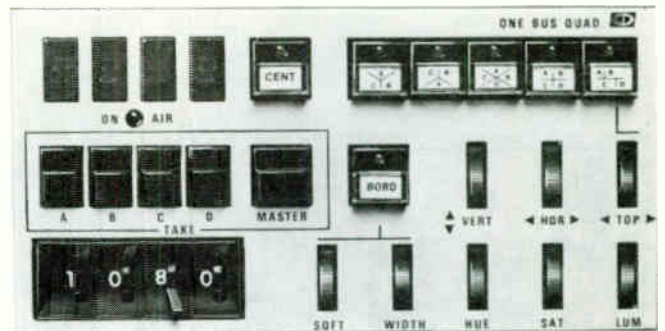
## Digital Video Effects Interface

Each SFX provides, as a standard feature, outputs for key and wipe signals used by digital effects units. A video input for the digital effects unit may be provided by either the utility bus, an auxiliary bus of the Series 90 1090, or by an optional auxiliary bus.

The DVE Key output is usually made available to the switcher as one of the inputs of an RGB output switching system (in place of one of the chroma keys).

Consult CDL's Marketing Services office for application information and details for interfacing to particular digital effects units.

# VIDEO PRODUCTION SWITCHERS



One Bus Quad

## One Bus Quad

This module provides quadplexer effects for all Series 90 switchers.

There are 5 selectable patterns which produce a composite picture derived from either 3 or 4 sources selected from 10 available video input signals.

The 5 patterns include 2 rectangular quad splits, 1 diagonal quad split, and 2 "Y" splits.

Patterns can be positioned horizontally and vertically, and edges may be soft bordered and colored.

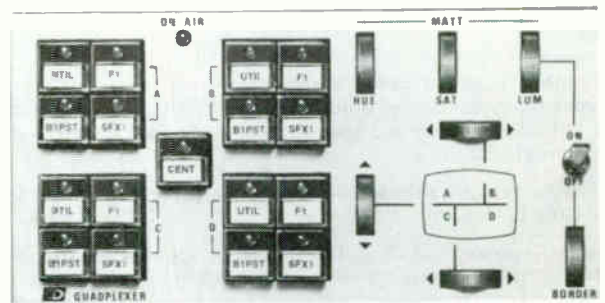
### Other Features

Quadrant preselections can be aired simultaneously or in any sequence.

Quad output can be fed to another switcher input not used for Quad inputs.

Quad color border matte can be fed directly to the 10<sup>th</sup> input and used as a quadrant fill. It is 180° out of phase with the border matte and can therefore be used when colorizing pattern borders.

(Also available as a free-standing VQ2170 model for use with any production switcher.)



## Quadplexer

This module provides "Quad Split" facilities, with SFX re-entry, and can be fitted to 690 and 1090.

A 4x4 input switcher allows selection of sources to the four corners of the split. The four sources provided are normally the utility bus, the SFX 1 foreground and preset background buses and the output SFX 1 (utility 2 replaces preset background on 1090).

Three potentiometers provide control of the horizontal split position, and independent control for the two vertical splits. These controls are disabled if the alternate action "Center" control is operated. In this mode, the Quadplexer provides a conventional quartering of the picture area.

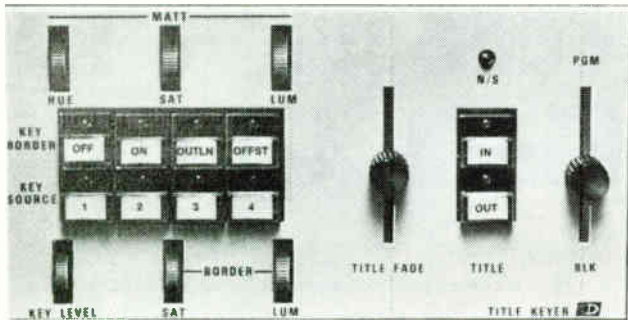
A border of variable width is enabled by a toggle switch, and the integral Border Colorizer provides a color matte output to fill the border.

Special configurations using auxiliary buses allow a greater range of effects to be entered into the Quad. Contact CDL Marketing Service for details and recommendations.

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# VIDEO PRODUCTION SWITCHERS



Title Keyer

## Series 90 Title Keyer

This unit is designed to key color matte titles in program video. A Key Border module is fitted to provide a variety of edging effects. One or 2 line key borders are standard.

The unit accepts the following inputs:

Input video  
Color black

For Key signal inputs. (One input may be strapped to accept separate feeds of key and video from a character generator.)

The internal color matte generator is locked to the incoming video, and no pulse feeds are required. An output of separated syncs is provided, and if this feed is used to drive a caption camera or character generator, this unit may be used to title over non-synchronous sources. Keying is inhibited if the selected key signal is not synchronous with the video.

### Controls

**Pushbuttons:** Illuminated

**Matte Controls:** Hue, Saturation, Luminance

**Key Border Controls:** Border on/off; Outline (the border only is displayed). Offset (the border is displaced to the right and down to give a drop shadow effect).

1 or 2 line borders are selected by successive depressing of the On, Outln or Offst pushbuttons.

**Key Source Controls:** 1, 2, 3, 4. Key input 1 is normally fed from the utility bus of the switcher for maximum flexibility. Input 4 may be strapped to accept separate key and video from a character generator.

**Title Fader:** Allows the title to be faded into or out of the program video.

**Title In/Out:** Allows the title to be cut into or out of the program video.

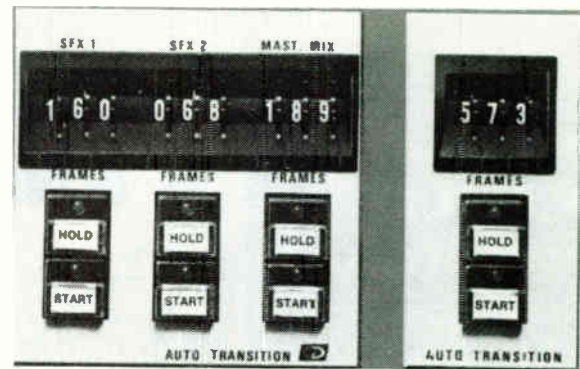
**Master Fade:** Fades the output of the keyer to black, and can be used with synchronous or non-synchronous video. A cut to local color black will occur at the end of the fader travel.

**Key Level:** Adjusts the "clipping level" of the keying circuits. Softness is preset to minimize edge crawl effects.

**Border Fill Controls:** The border is filled with the output of the matte generator, phase shifted by 180°. This permits color edges to colored titles with minimum crawl and differential saturation effects. Separate saturation and luminance controls are provided for the border signal, and permit black, white, gray or colored edges to be selected.

**Preview:** Three outputs of the preview signal are provided. This always displays the title keyed into the video, irrespective of the settings of the faders and in/out controls.

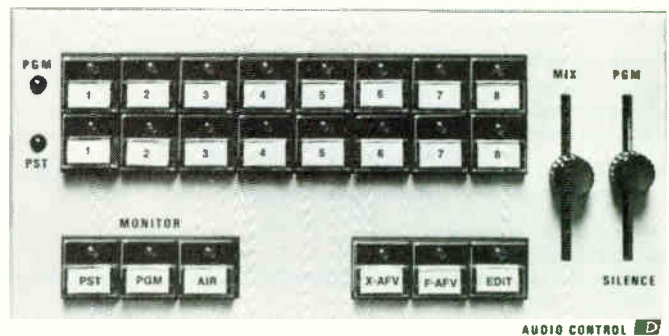
(Also available as a free-standing DK 2160 model for use with any production switcher).



Auto Transitions

## Auto Transitions

Smooth, accurate transitions can be made for each SFX and the Program Processor Amplifier. Rates from one frame up to 999 frames can be selected. A transition can be stopped and restarted at any time.



Audio Follow Switcher

## Audio Follow Switcher

Either mono or stereo systems may be installed in any Series 90 switcher.

The system includes an 8 x 2 audio switching matrix for dissolve, fade-to-silence and A/B/output switching. The two audio buses follow the program background and preset background buses of an SFX.

There are 3 control modes: Manual, Editor and Follow Switcher.

In the Follow Switcher mode, independent selection is provided for Follow Crosspoints and Follow Faders. When Follow Fader is selected, the dissolve will follow the SFX fader when a background transition is performed. The fade-to-silence follows the fade-to-black of the Title Keyer (when this option is installed).

NOTE: Title Keyer facilities are standard on 690 and 1090.

The system includes a 4" x 8" control panel (standard Series 90 Switcher Control Panel Module) and Rack Electronics (6 RU).

## Utility and Auxiliary Buses and Re-entry

A variety of options are available for installing buses to a Series 90 Switcher.

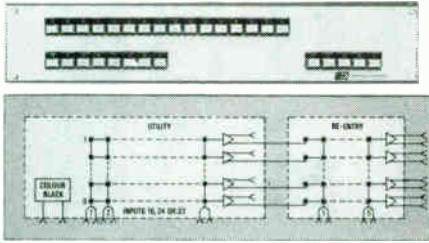
**4800 Series Buses** may be added to the basic switcher electronics; i.e., additional rack space is not required. Models are available with primary only inputs, primary and secondary inputs, and timed to the switcher output or untimed. The following number of buses may be added to Series 90 Switchers, 2 to 690 and versions of the 1090 may have up to 6.



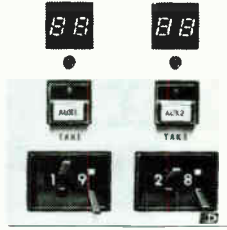
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# VIDEO PRODUCTION SWITCHERS



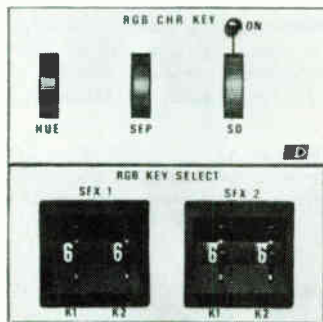
UM8



AM2

## Utility and Auxiliary Buses and Re-Entry (Cont'd)

UM8 and AM2, 8 and 2 Series Bus Expansion Systems may be added to Series 90 switchers to provide timed (UM Series), or untimed (AM Series) buses. They may also be used for general purpose vertical interval switching. The UM Series includes primary and secondary inputs. The AM Series has only primary inputs. These systems require additional rack space.



RGB Chroma Key Systems

## RGB Chroma Key Systems

The RGB chroma keyer developed for the Series 90 Switchers is designed for optimum performance under a wide range of keying conditions. Controls are provided for Hue selection and "Separation" of the keying signal, and shadow level. The shadow output is used to modulate the background signal to obtain realistic shadows in the keyed composite.

NOTE: The shadow facility is only available on Key 1 of the SFX group. Selection facilities can be provided for input or output of the chroma keyers.

1) For a single chroma keyer, a 6 x RGB input selector is available. For two chroma keyers a dual 6 x RGB input selector is available (See Figure 1).

2) For greatest flexibility, one chroma keyer per RGB source (up to a maximum of six) may be fitted, together with 6 x 2 output selectors. A 6 x 1 or 6 x 2 shadow output selector may also be provided, as appropriate (See Figure 2).

Both of these systems are controlled by the RGB Key Select panel, fitted with the correct number of switches. Each selector may be switched to any of the RGB sources (1-6) or to follow the selection of the appropriate foreground video.

For 690, a special 4 x RGB Follow Only Input Selector is available as an option. Either a single or dual version can be installed in the switcher rack electronics. (No additional rack space is required).

Figure 1. Input Switching System

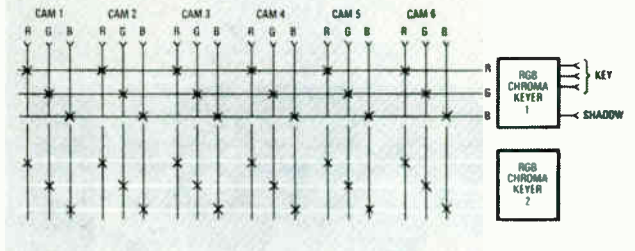
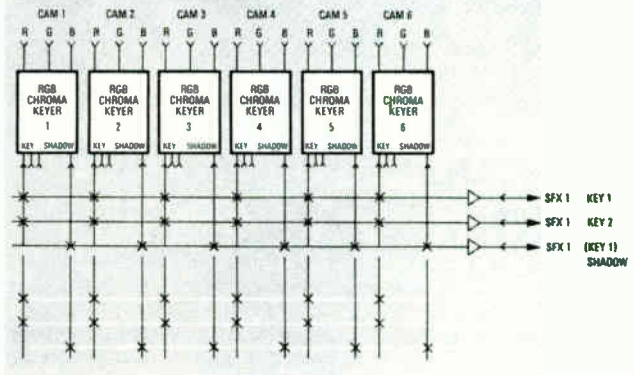


Figure 2. Output Switching System



## Special Chroma Keying Systems

Two systems are available for cameras which produce preprocessed single line key signals, rather than RGB, and can also be used to select key signals from digital video effects units. The systems provide manual/follow switching of the key signals.



Encoded Chroma Keyers

## Encoded Chroma Keyers

Encoded chroma keyers may be fitted to each SFX amplifier. The standard option is a one line delay type keyer and does not affect systems timing. "Zero delay" encoded chroma keyers are also available for the most critical application.

## Edit Controller Interfaces

All Series 90 Switchers are designed to be controlled by video tape edit controllers.

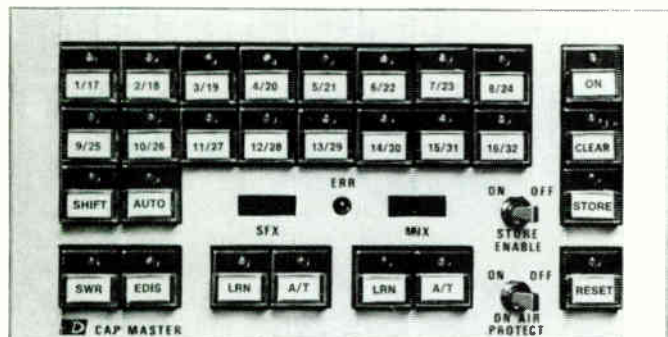
In some cases, the edit controller manufacturer supplies the interface; in others, CDL supplies the interface.

Consult CDL's Marketing Services for application information and details for interfacing to a particular editing system.

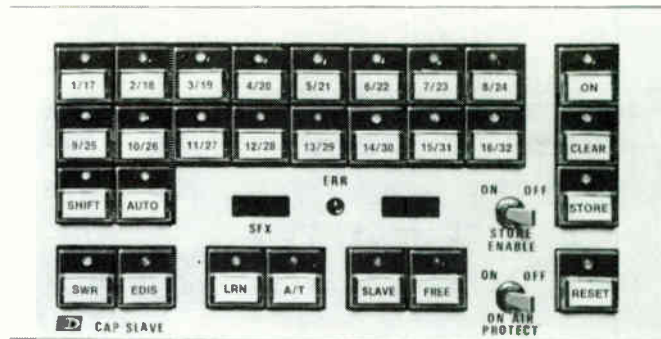
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# VIDEO PRODUCTION SWITCHERS



CAP Master



CAP Slave

## SFX/MEM (CAP)

### CAP Features

- Can be added to any Series 90 production switcher
- Memorizes all crosspoint selections, mode selections and potentiometer settings for a complete Series 90 SFX processor system
- Effects dissolve dynamically transfers static analog potentiometer settings from the setup of one event to a second event, over a period of time defined by the Auto Transition Module
- Integral memory for 32 or 64 switcher setups
- Ten minute memory for all Learn events; 120 sec. Learn duration for any single event
- Memorizes auto transition rates
- Instantaneous random access to any event
- Event editing permits changing contents of any event, such as a transition, without affecting the switcher setup
- Permanent storage of memory contents on optional floppy disk

CAP is the advanced technology Computer Assisted Production option designed specifically for Series 90 video production switchers.

The Series 90 lends itself to Computer Assisted Production due to the unique design of its SFX amplifier which permits extremely complex production sequences to be performed with one fader handle.

CAP is an invaluable aid to fast moving production sequences.

Complex scenes involving multiple sources, keys, SFX amplifier mode, etc. can be preloaded into CAP's memory, and recalled randomly or sequentially, and accurately executed during real-time production.

This gives the operator full control of the dynamic transitions necessary for artistic expression and the desired effect.

Full manual control of all functions is maintained to allow last minute manual overrides of any CAP selection.

### CAP Models

The CAP Master can be used with any Series 90 switcher. CAP Slave can only be used with 1090.

Switchers with one SFX System require only the CAP Master Module.

Switchers equipped with two SFX Systems normally use both Master and Slave Modules. If only CAP Master is supplied, then selection of CAP control for either SFX-1 or SFX-2 must be specified on order.

When CAP Slave is supplied, the Master Module controls SFX-2 and the Slave Module controls SFX-1.

### Floppy Diskette Option

The diskette and its Control Module permit the stored events in CAP to be transferred off-line to a diskette. The diskette can be filed for later use, or sent to another production center equipped with a Series 90 CAP.

Data from CAP Master and CAP Slave Modules can be quickly stored on the diskette, and retrieved, with the operation of two pushbuttons.

The Slave panel is identical to the Master except for two keys. Because the Slave Module is used only for the SFX-1 Processor System, the MIX-LRN and A/T functions are replaced with Slave and Free. The Slave key either "ties" the Slave Module to the Master or permits it to operate independently.

When the two modules are used independently, CAP has a capacity of 64 events with information for different sections of the switcher. When "tied" the capacity is 32 events, with each module containing information for the entire switcher.

### Operation

The two basic operation modes are storing and recalling events manually or automatically.

To use CAP the following simple steps are performed:

1. Set up the switcher for an event's sources, keys, effects, etc.
2. Store the event information in the CAP memory.
3. Repeat steps 1 and 2 for each new event, or recall an event to reset the switcher to that previous event setup.

The following types of events are easily handled by CAP:

- Switcher status (SWR)
- Auto transition rates (A/T)
- Fader Learn (LRN)
- Simultaneous auto transition from one set of analog values to another, excluding fader values (E DIS)
- A combination of the above

Each CAP control panel has two 4-character information displays and control keys with status indicators. The keys are used for:

1. Event selection for the current production sequence (Numeric keys with/without shift)
2. Select switcher sections that are to be memorized: SWR, E DIS (Effects Dissolves), SFX-LRN (Learn), MIX-LRN (Master Mix Learn), and Auto Transitions (A/T)
3. Mode Controls: Auto, Reset, Store Enable, On-Air Protect

### Installation

CAP Control Modules are mounted on panels which can be installed into spare 4" x 8" switcher panel slots, or in a matching switcher extension tub. Control panel extension is always required if the floppy diskette option is to be fitted. All CAP models can be added to any installed Series 90 switcher.

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# VIDEO PRODUCTION SWITCHERS

## Series 90 Optional Modules and Systems

	690	1090	Add'l. Rack Space
16 Input Switcher	690-16	1090-16	Std.
24 Input Switcher	690-24	1090-24	0
32 Input Switcher	N/A	1090-32	0
Single Key Border (SFX)	SKB	SKB	0
Dual Key Border (SFX)	DKB	DKB	0
Fade-to-Black	N/A Note 1	N/A Note 1	1
Title Key Border (Program Processor)	TKB	TKB	0
2nd Background Generator	BG-2	BG-2	0
Dual Matte Generator (SFX)	DMG	DMG	0
Digital Video Effects Interface	DI	DI	0
Extended Effects (Spin, Matrix, Rotary, Star)	EE	N/A	0
Extended Effects (Spin, Matrix, Rotary, Star)	N/A	EE Note 2	3
One Bus Quad	OBQ	OBQ	2
Quadplexer	N/A	Q	0
Title Keyer	N/A Note 1	N/A Note 1	3
Auto Transition (SFX1)	N/A	N/A	0
Auto Transition (SFX1, Mix)	AT-2	N/A	0
Auto Transitions (SFX1, SFX2, Mix)	N/A	AT-3	0
Auto Transition (PGM Fade-to-Black)	N/A	AT-4	0
Audio Follow Switcher (8x2 Mono)	AFM	AFM	6
Audio Follow Switcher (8x2 Stereo)	AFS	AFS	6
1 RGB with 4 x RGB Input Switcher	SRK	N/A	0
2 RGB with Dual 4 x RGB Input Switcher	DRK	N/A	0
1 RGB with 6 x RGB Follow/Manual Input Switcher	RKS-1	N/A	3
2 RGB with Dual 6 x RGB Follow/Manual Input Switcher	RKS-2	N/A	3
6 x RGB with 6 x 3 Follow/Manual Output Selector	RKS-3	N/A	3
6 x RGB with 6 x 6 Follow/Manual Output Selector	RKS-6	RKS-6	3
4 RGB with Quad 6 x RGB Follow/Manual Input Switcher	N/A	RKS-4	3
Encoded Chroma Keyer	EK-0	N/A	2
Encoded Chroma Keyer	N/A	EK-0	4
Encoded Chroma Keyer	EK-1	EK-1	0
Edit Controller Interface	EIF	EIF	3

### Note

- 1) Title Keyer and Fade-to-Black facilities are standard on 690 and 1090 and are integral to the Program Processor Module.
- 2) Two Extended Effects Generators may be installed on 1090. (One assigned to each SFX.)

### Typical Specifications

#### Video Inputs

16, 24 or 32 inputs, 1V p-p synchronous or non-synchronous.  
75 ohm loopthrough: return loss > 40dB to 5MHz

#### Video Outputs

2 Program outputs  
2 Preview outputs (Utility/Preview)  
1 Auto preview output for each SFX group.  
All outputs are 1V p-p composite; return loss > 34dB to 5MHz

#### Pulse Inputs

All are 75 ohm loopthrough, 2V p-p or 4V p-p  
Sync  
Blanking  
Burst Gate (PAL only)

#### Subcarrier Input

75 ohm loopthrough: 1V p-p or 2V p-p

#### Frequency Response

1-5MHz  $\pm 0.1$ dB  
5-7MHz  $\pm 0.2$ dB -0.5dB  
Steady roll off above 7MHz

#### K Rating

$K_p \frac{1}{4} \% K - K_p - b \frac{1}{4} \% K - K_b \frac{1}{2} \% K$

#### Linearity:

> 1% 10-90% APL

#### Tilt

Line and field (standard window)  
< 1%

#### Chrominance/Luminance Inequalities

Gain: < 1%  
Delay: < 10ns

#### Non-Linear Distortion:

(10-90% APL)  
Dynamic Gain: < 1%  
Diff. Gain: < 1%  
Diff. Phase: < 1°

#### Crosstalk:

One adjacent input hostile.  
All paths energized except path under test > -56dB

#### Path Delay, typical:

690: 350ns  
1090: 600ns

#### Path Length Inequality:

< 1° at subcarrier frequency

#### Signal-to-Noise Ratio:

> 60dB unweighted relative to 0.7V

#### Power Input:

(50/60Hz) 117V  $\pm 10\%$  - 234V  $\pm 10\%$

#### Power Requirements, typical:

690: 550VA  
1090: 900VA

#### Tally Outputs:

Two independent tally outputs are provided, each providing one "make" contact to a common for each input. Contact rating 2A, 40VA resistive

#### Permissible Ambient Temp. Range:

0-50°C

Within this range the performance specification will be maintained for changes of  $\pm 10^\circ\text{C}$ , about the ambient temperature at which the equipment was set up

#### Standards:

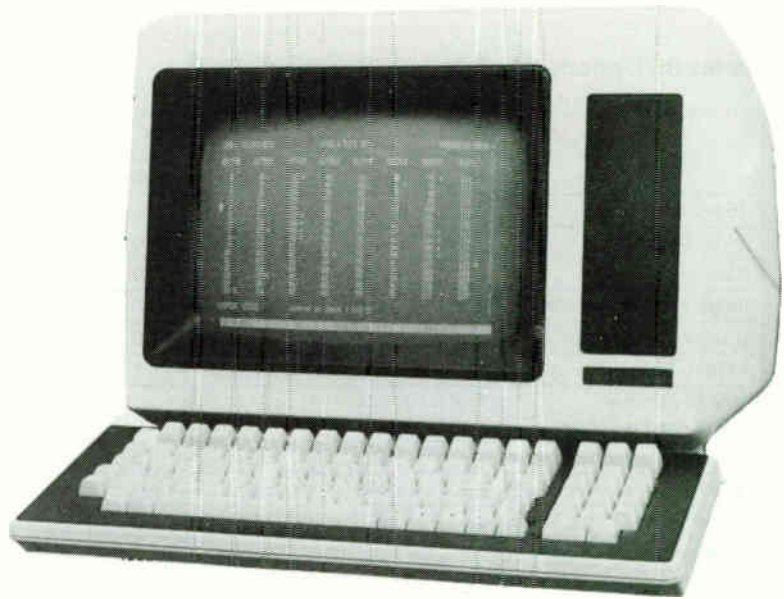
Switchers can be supplied for NTSC, PAL, PAL-M operation. Please specify at time of order.



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# SIGNAL DISTRIBUTION SYSTEM



## SDS-2 Signal Distribution System

**System Architecture...**the basic system's architecture is a modular straightforward simplistic design to assure extremely high performance and reliability regardless of system size.

**This design approach also provides:**

- Flexibility...microprocessor controlled and 4 levels of switching
- Extremely Hi-Density 2048 crosspoint array
- Expandable...from 32 x 32 up to 512 x 512

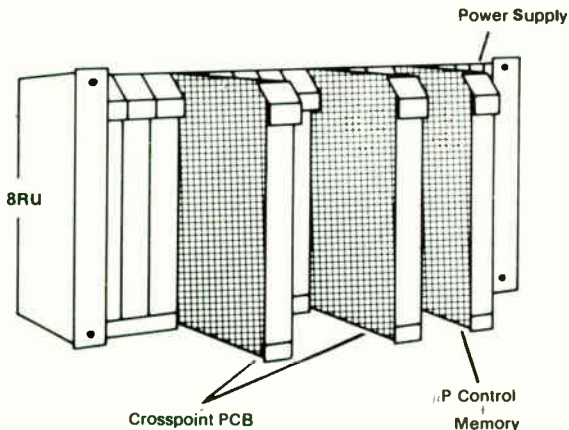
## RS-2000 Switching Array

RS-2000 Hi-Density switching array features the latest state-of-the-art circuitry and packaging techniques in the audio and video domains.

The basic RS-2000 Switching Array contains 2048 crosspoints, the control board, a power supply...all in a rack frame that is only 14" high and 15" deep...8 RUs.

The control board includes the master intelligence system that uses the Intel 8085 microprocessor which has the capacity and speed to control a system using more than one RS-2000 array. The power supply has the capacity to power any two RS-2000 frames; therefore, providing redundant power supply capacity.

RS-2000 Array



The basic array configuration is 32 inputs by 32 outputs and a variety of switching array types are available.

	64 x 32	32 x 32
Audio Only	X	
Data Only	X	
AFV		X
Dual Audio		X
Video Only		X
Video + Data		X
Audio + Data		X
Dual Data		X

The basic system is configured for up to 4 signal levels and any combination of the above arrays may be combined. As an example...a system could include 1 video, dual audio and 1 data level. The latter could be used for SMPTE Time Code, digital control signals or data lines connecting peripheral computer hardware to various host computer systems. All 4 levels can be controlled in a Follow mode or separately at the discretion of the user.

The SDS-2 has been designed to accommodate arrays as large as 512 x 512 with up to 4 levels.

**Examples:** Space requirements for SDS-2 systems using RS-2000 Hi-Density arrays.

32 x 32 AFV	8 RU	14"
64 x 32 Audio Only	8 RU	14"
<b>3 Level</b>		
64 x 32 AFV		
64 x 32 Audio Only	24 RU	42" (3 RS-2000 arrays)
<b>1 Level</b>		
96 x 96 Video Only	72 RU	126" (9 RS-2000 arrays) (Less than 2 std. racks)

## MicroPatch™ Control System

MicroPatch is the computer software operating program that puts the intelligence into SDS-2's control scheme. MicroPatch is highly sophisticated, flexible and includes a variety of software application programs.

**Among the programs included with MicroPatch are:**

- Salvo Take
- Security Loc
- System Alert
- MacroPath
- Quick Switch
- SysConfig

An exclusive feature of the SDS-2 MicroPatch control software is the ability to initiate up to eight Salvo Takes automatically using the systems on-board clock. This feature permits users to define various matrix configurations that are used on a daily basis and have the system select them at a predetermined time. Each of these Salvos can be of any size from one crosspoint to 512 crosspoints with all switches occurring in the vertical interval.

MicroPatch also includes Help and extensive Diagnostic software routines.

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# SIGNAL DISTRIBUTION SYSTEM

## SDS-2 Signal Distribution System (Cont'd)

Diag. 1 is used for Microprocessor/Memory/Control maintenance. Diag. 2 tests the switching array(s) to verify that the routing switcher is operating properly. Individual crosspoints, tally, latches, all inputs to a specific output, a specific input to all outputs are all separate diagnostic routines...as is a check which cycles through all the crosspoints.

Self-Test routines are also included and are transparent to the operating system as are the other tests.

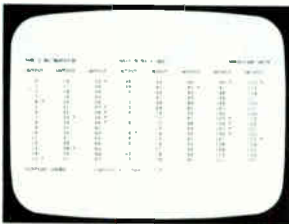
The above represent a sampling of the available programs. Software development will continue through Central Dynamics Computer Labs and a formal Central Dynamics Users Group. Testing, documenting and debugging will be conducted by Central Dynamics to assure that all programs developed by Users are compatible and available to other interested users.

MicroPatch also includes programs that permit communicating with the outside world. The ports are compatible with RS-422/423 and RS-232.

### Control Hardware

The control system is based on the Intel 8085 microprocessor which communicates to all control panels and switching arrays. The array's frame control board communicates to the matrices within the array. Example: If the array is configured into a 32 x 32 Video Only matrix and a 32 x 32 Audio Only matrix, the control board would talk to each path separately making it possible to independently control each half of the frame. This board also has sufficient RAM to store operating data so all the application programs can be executed efficiently; programs such as Salvo Take, Security Loc, etc.

Memory is also backed up with battery power that can protect the memory for a minimum of 15 days.



**MICROPATCH CRT STATUS DISPLAY**

A CRT control console is standard equipment and is used for defining the basic system operating parameters and as a master control center for the system. Besides providing control, it is used to monitor the status of all input and output signals. Other status displays include input and output Lock configurations and Salvo Take tables.

When installing the SDS-2 system, reconfiguring the switching arrays or expanding the system, the terminal is used to define the control panel types used, their priorities, and the basic system operating parameters, i.e., audio follow video, stereo audio, digital control, etc.

In addition to the CRT control console, the user may select any number of a wide variety of discrete and multi-function numeric or alphanumeric control panels...up to a maximum of 512. The panels communicate with the 8085 microprocessor via eight coax serial control loops.



### Video System

The SDS-2 switcher RS-2000 uses the latest state-of-the-art video switching technology. The basic design of the crosspoint is a high speed analog multiplexer developed by Central Dynamics expressly for the SDS-2. Each video crosspoint board contains 16 multiplexers; each one under microprocessor control. This permits selecting a crosspoint and receiving a confirming tally, via a return signal from the matrix, that verifies that the selected crosspoint is latched.

Each video input amplifier PCB contains 16 unity gain wideband video amplifiers that distribute each video signal to a maximum of 32 multiplexers. The video output card contains 16 video output amplifiers which receive outputs from a maximum of 8 multiplexers. The unique Central Dynamics designed output switching amplifier eliminates the requirement for "combiners" when expanding a SDS-2 system. This output switching amplifier concept permits expanding the inputs by simply connecting the output of each frame to the output of another frame...via a standard 75 Ohm coax cable.

This unique design not only reduces rack space when expanding, but assures maintaining and optimizing the system's signal distribution transparency and timing.

### Audio System

The SDS-2 utilizes a Central Dynamics design that closely simulates the characteristics of a manual patch panel.

This is achieved by processing all audio signals in a balanced configuration. Each input signal is routed through two separate, isolated input buffers; therefore, two parallel crosspoint paths.

All audio switching uses highly reliable, standard CMOS analog switches. Packaging design for the input crosspoints and output amplifier cards achieves the same density as the video matrix.

# CENTRAL DYNAMICS LTD.

147 Hymus Blvd.  
Pointe Claire, Quebec CN H9R 1G1  
(514) 697-0810

# SWITCHERS

## VAS-1010 Audio/Video Utility Switcher

### General Description

The VAS-1010 is a self-powered, modular utility switcher that features an advanced design video crosspoint and processing all audio differentially. The switcher is available in the following 10 x 1 configurations:

- Video Only
- Audio Only
- Audio Follow Video
- Audio/Video Breakaway
- Stereo Option

### Other Features

- Any of the configurations may be remotely controlled
- A switcher configuration may be upgraded in the field to a more sophisticated switcher. Example: A "Video Only" may be converted to an "Audio/Video Breakaway"

### Video System

The system is based on a 10 x 1 crosspoint matrix with loop through inputs. Each input has a sync tip clamped unity gain buffered stage. These 10 input amplifiers feed the 10 x 1 matrix which is switched during the vertical interval from a synchronous pulse derived from the selected video source. The matrix output feeds an output amplifier stage which features a  $\pm 2$ dB gain adjustment, a backporch clamp and drives two 75 ohm loads.

### Audio System

The system is based on a 16 x 1 analog switch, two of which are used for the 10 x 1 matrix. This design permits processing all audio differentially. The matrix output feeds the output stage which features a  $\pm 2$ dB gain adjustment and is capable of driving either two 150 ohm or 600 ohm loads.

### Video Specifications

#### Inputs

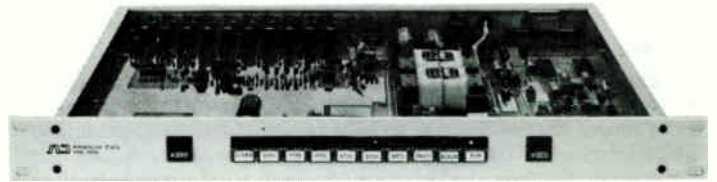
Number	10 loop through
Signal Level	1V p-p nominal, 2V p-p maximum
Impedance	75 ohm
Return Loss	Better than 40dB to 5MHz

#### Outputs

Number	2 internally isolated
Signal Level	1V p-p nominal
DC Level	Less than 50mVDC
Impedance	75 ohm; source terminated
Return Loss	Better than 40dB to 5MHz
Isolation	Better than 36dB to 5MHz

#### Performance

Gain	Unity, $\pm 1$ dB adjustable
Frequency Response	100kHz to 5MHz, $\pm 0.1$ dB 5MHz to 8MHz, +0.1dB to -0.2dB 8MHz to 10MHz, 0dB to -5dB
Differential Gain	Better than 1%, 10%-90% APL
Differential Phase	Better than 1°, 10%-90% APL
K Rating	Better than 0.2% kpb
Line Tilt	Better than 0.5%
Field Tilt	Better than 0.5%
Crosstalk	Better than -60dB referenced to 1V p-p at 5MHz
Signal-to-noise ratio	Better than 65dB
Path length uniformity	Less than $\pm 1^\circ$
Switching time	Vertical interval of fast selected output
Connectors	BNC, Inputs and Outputs



### Control System

The control system is contained on a PCB mounted to the front panel. It controls all audio and video crosspoints either separately or in the Follow mode. Two variations are available: (1) AFV that controls 10 pushbuttons and latches, (2) same as AFV PCB plus 2 additional and separate controls for audio and video breakaway pushbuttons and latches.

These panels can be removed by simply removing from the frame and mating with a supplied interconnecting cable. Also supplied is a blank panel to cover the front of the rackmounted frame.

The VAS-1010 is self-powered and can be operated on 110/220 VAC, 50/60Hz.



Connector panel on rear of VAS-1010 electronics frame

### Audio Specifications

#### Inputs

Number	10 balanced or unbalanced
Signal level	+8dBm nominal, +24dBm max., at 600 or 150 ohms

#### Impedance

Common mode rejection	Better than 70dB at 60Hz
Maximum DC level	$\pm 15$ VDC

#### Outputs

Number	2, balanced to ground reference
Signal level	+24dBm at 600 or 150 ohms
DC level	Less than 50mVDC
Impedance	Less than 50 ohms, capable of driving 150 or 600 ohm load

#### Performance

Gain	Unity, $\pm 1.5$ dB, adjustable
Frequency response	$\pm 0.1$ dB, 20Hz to 20kHz
Total harmonic distortion	Better than 0.1%, 20Hz to 20kHz at +24dBm

#### Crosstalk

Signal-to-noise	Better than 70dB, 20Hz to 20kHz
Connector	90dB referenced to 8dBm 37-pin-D, subminiature



# CENTURY PRECISION OPTICS

10713 Burbank Blvd.  
N. Hollywood, CA 91601  
(818) 766-3715 Telex: 06-62419 CENT OPTICS  
FAX: (818) 505-9865

# VIDEO CAMERA ACCESSORIES

## Achromatic Diopters

- 86mm thread to fit most lenses
- Original lens maintains all zoom capabilities
- Edge-to-edge sharpness
- Lack of chromatic aberration
- Excellent contrast
- No light loss
- Highly corrected 2-element design
- Glass elements fabricated to strict mil spec standards
- Hard anti-reflection coated elements
- 86mm thread with adaptors to most lenses
- May be stacked for additional magnification

AD-8616	+ 1.6 Achromatic Diopter	.....	\$325.00
AD-8620	+ 2.0 Achromatic Diopter	.....	325.00
AD-8626	+ 2.6 Achromatic Diopter	.....	325.00
<b>Step-Up Rings For Century Achromatic Diopters</b>			
FA-6786	67mm to 86mm screw-in type	.....	\$37.50
FA-7286	72mm to 86mm screw-in type	.....	37.50
FA-7786	77mm to 86mm screw-in type	.....	37.50
FA-8086	80mm slip-on to 86mm	.....	37.50

## Video Duplikins For Economical 35mm Slide To Video Transfer

- Superior multi-element lens
- Slide holder providing vertical, horizontal and rotational adjustments
- Slide-in holder for 2 x 2 filters
- Hinged swing-away diffusion plate for even illumination
- Black anodized aluminum housing
- 2 focusing mounts for variable magnification, (2:1), and adjustable back focus
- Designed to work with many of the Sony, Sharp, Panasonic, NEC, JVC, Hitachi, etc. cameras. (Please specify camera model when ordering).

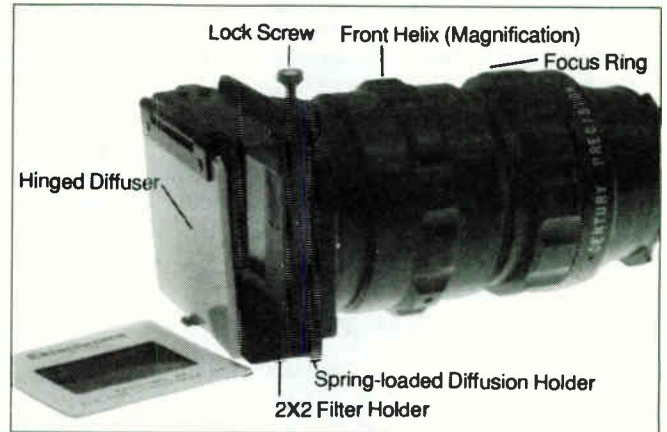
Video Duplikins let you incorporate 35mm slides into video productions in your studio without using costly transfer equipment. This stand-alone system easily attaches to the lens port of your 2/3", 3-tube or CCD professional camera. The Video Duplikin lets you control cropping or add effects filters to increase creativity.

CD-323C	Duplikin III in "C" Mount for 2/3" Cameras	.....	\$750.00
CD-323S	Duplikin III in Sony Mount	.....	750.00
	Designed to work with many of the Sony, Sharp, Panasonic, NEC, JVC, Hitachi, etc. cameras. (Please specify camera model when ordering.)	.....	750.00
CD-323I	Duplikin III in Ikegami Mount for HL-79	.....	750.00

## Wide Angle Adaptors For 2/3" Video And 16mm Macro Zoom Lenses

- Precision construction
- Aluminum alloy housing
- Glass elements yield high definition low distortion images and resist scratches
- Lightweight
- No light loss to the taking lens
- Easy to use: Mount to the front of the lens, set the lens focus at infinity, and adjust the macro setting until the picture is sharp. Lenses without a macro feature require back focus adjustment
- Adaptors available to fit most popular 2/3" video zooms
- Custom accessories available

WA-7X52X	.5X and .7X Wide Angle Adaptor Set	.....	\$695.00
WA-7X93	.7X Wide Angle Adaptor	.....	345.00
WA-5X45	.5X Super Wide Angle Adaptor. Must be used with .7X to yield a total of 50% additional coverage to the original zoom lens	.....	445.00



Duplikin

## Step-Up Rings For Wide Angle Adaptors

FA-7X67	67mm screw-in type	.....	\$37.50
FA-7X72	72mm screw-in type	.....	37.50
FA-7X75	75mm slip-on type	.....	37.50
FA-7X77	77mm screw-in type	.....	37.50
FA-7X80	80mm slip-on type	.....	37.50
FA-7X86	86mm screw-in type	.....	37.50
FA-7X90	90mm slip-on type	.....	37.50
FA-5X98	Slip-on adaptor ring for Kinoptic 9.8mm	.....	75.00
	Allows adaptation of .5X wide angle adaptor to 9.8mm Kinoptic	.....	75.00

## Video Lens Adaptors

### Optical Relay Systems

LA-CSY0	C to Sony (optical relay system)	.....	500.00
	Allows use of C mount lenses on many of the Sony, Sharp, Panasonic, NEC, JVC, Hitachi, etc. cameras. (Please specify camera model when ordering. Note: image inverted and re-verted).	.....	500.00
LA-CSYP	C to Sony (optical relay system)	.....	1250.00
	with prism for proper image orientation	.....	1250.00
<b>Mechanical Adaptors</b>			
LA-CSYM	C to Sony (mechanical) (For close-up work only. Does not allow infinity focus.)	.....	125.00
LA-A8EC	Arri Bayonet to Ikegami EC35 (requires slight camera modification).	.....	495.00

## Periscope V16

- Highest professional optical and mechanical quality
- 1:1 Relay system. (Field of view same as for objective lens alone.)
- Accepts standard C mount lenses with adaptors to fit most professional 2/3" format lenses. Other lenses may be used with Century C-mount Adaptors
- Fast T3.2, f/2.5
- Accepts Century Interchangeable Mount System for use with most 2/3" three-tube and CCD video cameras
- Adjustable back-focus
- Custom systems available
- Weighs 2.5 lbs.

V16 Periscope establishes a standard in optical relay systems. Ideal for 2/3" three-tube and CCD cameras, the lightweight and economical V16 promises to get into tight corners, up to new highs and down to new lows, increasing the effectiveness of your shots.

Century Periscopes require Interchangeable Camera Adaptors (TM Series).

PR-1125	Periscope V16, with case. Accepts C mount lenses directly and Century C Mount Adaptors	.....	\$3450.00
PR-1128	V35 Periscope, with case. Requires Periscope Interchangeable Lens Adaptors	.....	6750.00

# CERTRON CORP.

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 TWX: 910-593-1611 CERTRON ANH

# VIDEO CASSETTES



## T-120 VHS/L-750 BETA

Certron high performance video cassettes have been tested and re-tested and tested again to make sure they will perform taping after taping. Certron cassettes run smoothly and deliver fantastic color stability and color delineation. They have been formulated — from shell to tape — to provide longer tape life, brilliant color, smooth operation, improved scan performance and for complete satisfaction taping after taping.

	SPECIFICATIONS	VHS	BETA
<b>Physical Properties</b>	1 Tape Width (in.)	4980 ± .0004	1980 ± .0004
	2 Yield Strength (lbs.)	5.3	5.3
	3 Surface Resistant (ohms per sq.)	1 x 10 <sup>9</sup>	1 x 10 <sup>9</sup>
<b>Magnetic Properties</b>	4 Coercivity Hc (Oersteds)	720	720
	5 Retentivity Br (Gauss)	1330	1330
	6 B-H Squareness (Br/Bm Ratio)	.85	.85
<b>Video Properties*</b>	7 Optimum Recording Current (dB)	0	0
	8 Video RF Output (dB)	+2.0	+1.5
	9 Video Signal-to-Noise (dB)	+1.5	+1.5
	10 Chroma Output (dB)	+1.0	+1.5
	11 Chroma Signal-to-Noise (dB)	+2.0	+2.0
	12 Stop Motion (min.)	>60	>60
<b>Audio Properties*</b>	13 Audio Sensitivity (dB)	+1.5	+2.0
	14 Uniformity (dB)	±0.5	±0.5
	15 Erasability (dB)	70	70

\* Above Values are relative to VHS and Beta reference specifications.

### REFERENCE NOTES:

1. TAPE WIDTH — measured using a 20X profile projector.
2. YIELD STRENGTH — force necessary to produce a 5% elongation of the tape.
3. SURFACE RESISTANCE — electrical resistance of the tape per half inch square measured when 500V is applied between two metal electrodes.
4. COERCIVITY — is a measure of the magnetizing force required to record, erase, or otherwise cause a change in the remnant field strength of a magnetic tape.
5. RETENTIVITY — is a measure of the magnetic strength retained in a magnetic tape per unit magnetizing force.
6. SQUARENESS — is an index of the magnetic efficiency, and is a measure of particle alignment.
7. OPTIMUM RECORDING CURRENT — that current necessary to obtain the maximum playback output level from a reference tape on which a 4.0 MHz signal is recorded.
8. VIDEO RF OUTPUT — playback level obtained after recording a 4.0 MHz signal at the reference optimum recording current.
9. VIDEO SIGNAL-TO-NOISE — the difference in gray level from the

reference tape, after recording a 50% gray signal from the reference tape and then measuring the noise through a 10 kHz high base filter and a 4.0 MHz low base filter.

10. CHROMA OUTPUT — the difference between the playback output of a color bar test signal recorded on the test tape and the reference tape.
11. CHROMA SIGNAL-TO-NOISE — the difference in chrome level from the reference tape after recording a monochrome test signal and measuring AM noise through a 10 kHz high pass filter and a 500 kHz low pass filter.
12. STOP MOTION — capacity to withstand still picture degradation and is measured by observing a still picture stair-step signal for one hour.
13. AUDIO SENSITIVITY — the difference in playback output level between the test tape and the reference tape at 1 kHz.
14. UNIFORMITY — the variation in output within the tape expressed as the highest and lowest output levels.
15. ERASABILITY — the difference in playback output level of a 1 kHz signal recorded at 10dB over reference level & the residual playback output level of an erased portion.

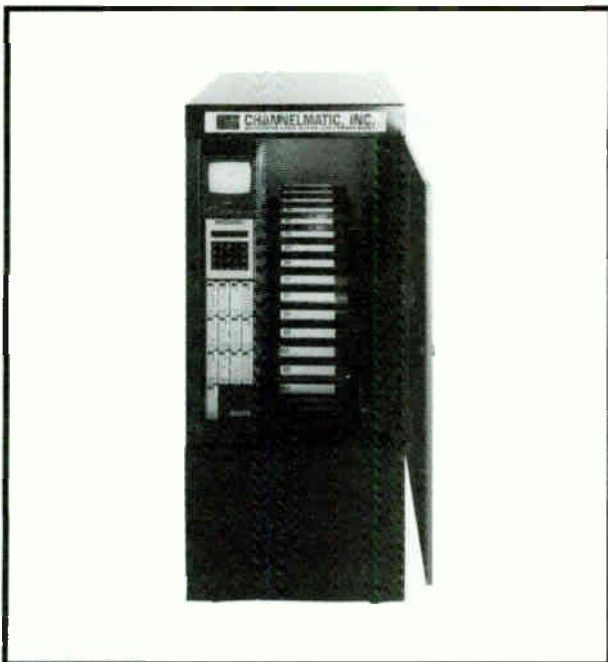
VHS Qty ..... 1-49 \$8.99 ea.  
 ..... 50+ 7.99 ea.

BETA Qty ..... 1-49 \$8.99 ea.  
 ..... 50+ 7.99 ea.

# CHANNELMATIC, INC.

821 Tavern Rd.  
Alpine, CA 92001  
(619) 445-2691 (800) 231-1618

# AUTOMATIC VIDEOCASSETTE CHANGER



## **BROADCASTER II™** **Automatic Videocassette** **Changer** **New and Improved**

### Features

- Random access of up to 15 videocassettes
- Total microcomputer control
- Easy 7-day programming with 100 events per day
- No VCR modification required
- Computerized stepper motor drive—indexing accuracy within 0.005 inch
- Minimal moving parts for high reliability and long service life
- Units may be cascaded for additional capacity
- Will play multiple sequential segments on each tape
- Built-in vertical interval switching
- Automatic switch to auxiliary source during cassette change
- Automatic record/delayed playback optional
- Optional electronic modules can add numerous features
- More cost-effective than multiple VCR systems

The Broadcaster II is a stand-alone, highly reliable videocassette changer mechanism. Totally microprocessor-controlled, the unit can randomly access from its internal storage trays any of fifteen standard  $\frac{3}{4}$  inch videocassettes.

The unit is designed to be used in broadcast television stations, CATV systems, LPTV studios, hospitals, schools, hotels, and other facilities where high quality video programming must be originated automatically on a pre-determined weekly time schedule. Available options allow the Broadcaster II to serve as a self-contained record/delayed playback system, a versatile editing suite library, or as part of an automated commercial insert system.

### System Operation

The Broadcaster II can randomly access from a library of up to fifteen standard  $\frac{3}{4}$  inch videocassettes, insert them into an unmodified Sony Type 5 videocassette machine (VCR), and cue the pre-encoded tapes automatically.

At an operator-programmed time, or upon receipt of a "start" command, the Broadcaster II prerolls the tape to speed and switches it on-air during the vertical blanking interval of network (or other "auxiliary" source) video. With a sync-locked VCR (Sony Type 5 equipped with a Channelmatic HANDIMOD I sync-lock accessory module), clean, glitch-free, broadcast quality video transitions occur.

At the end of the tape program, audio and video output are returned to the network or auxiliary source. The tape is rewound and removed (if so programmed) or simply removed in a "played" condition and replaced in its storage slot.

### Operator Programming

All system commands are microcomputer controlled and are entered by the operator on an integral display/keyboard module, the CCU-1A. A full seven day schedule consisting of up to 100 events per day may be entered by the operator at one time.

The 20-pushbutton keypad and large 12-digit LED display allow not only simple schedule entry, but quick and easy error checking, schedule editing (including event insertion or deletion), and the ability to copy entire schedules from day-to-day.

Events may be scheduled to occur at pre-determined times or as sequential occurrences. The operator may choose whether to automatically rewind individual videocassettes either before or after they air, or to rewind all previously aired videocassettes at the end of the programming day.

Additional scheduling functions allow audio/video switching, message generator page turning, and limited external equipment control.

### Videocassette Retrieval and Insertion

The Channelmatic Radial Retrieval and Insertion Mechanism (patent pending) has been designed for the utmost in reliability with a minimum of wear-prone moving parts. A computer controlled stepper motor working through a teflon-coated, hardened steel lead screw, maintains vertical drive to an accuracy of  $\pm .005$  inch. A special one-turn motor inserts and retracts cassettes.

The mechanical components contain no wear-prone gears, chains or belts and only minimal adjustments should ever be required. All sensors are a long-life infrared beam type, eliminating the need for micro-switches and their inherent adjustment problems.

Patent Pending



## **Broadcaster II™ (cont'd)**

### **Videocassette Machine Interface**

Videocassette machine installation consists of moving the floor of the mounting tray to the proper height corresponding to the particular model of VCR and sliding the VCR into the tray. A spring latch is then engaged, pushing the VCR into perfect alignment. No modifications need to be made to the VCR itself, and it is readily accessible for required routine maintenance and head cleaning.

### **Physical Attributes**

The Broadcaster II is mounted in an attractive steel cabinet which is casted for ease of movement and equipped with large front and rear doors for easy access to the mechanism and control panel. The front door is provided with a large plexiglas window for observation and interior lighting is standard.

### **Optional Equipment**

Options allow the Broadcaster II to perform such varied functions as DTMF tone decoding, built-in color message generation, automatic recording, and external VCR control. Two or more Broadcaster II units may be cascaded together for continuous programming. Other Channelmatic control, function and interface modules are available to adapt the Broadcaster II to perform many other desired functions.

- Automatic Sync Lock:** The Handimod I can be added to automatically sync lock the VCR, assuring broadcast vertical-interval switching.
- Video Monitoring:** A panel is provided for the addition of a 5" monochrome video monitor to allow monitoring of the system video output. Pulse-cross is also available optionally.
- Character Generator:** The CMG-3008A Color Message Generator module and related CSG-3001A Sync Generator module can be added to provide a built-in 8-page/8-line per page alternate video source to fill time during cassette change or to provide a backup in event of VCR malfunction.
- Tone Decoding:** Various tone decoder modules may be added to allow control of Broadcaster II to be initiated by tones fed through a telephone or other voice-grade audio path or by satellite service cue tones.
- Distribution:** Channelmatic 1x6 video, audio, and pulse distribution amplifier modules may be added to enable Broadcaster II to provide multiple isolated outputs.
- Cascading:** Two or more Broadcaster II units may be interfaced together electronically to increase the capabilities of the system.
- Backup Source:** The VPD-3001A Universal Signal Presence Detector module may be added to enable Broadcaster II to automatically switch to a secondary video source if output video is lost for any reason.
- Installed VCR:** An installed and tested Sony VP-5000 is optionally available.
- Record and Play:** Electronics may be added to enable automatic recording and delayed playback of programming.
- Balanced Audio:** The UAA-3031A audio amplifier module may be added to provide balanced audio inputs and outputs for broadcast interface.
- External VCR Control:** A VCR-3001 videocassette controller module enables an external VCR to provide fill programming during cassette changing.

### **Electronic Components**

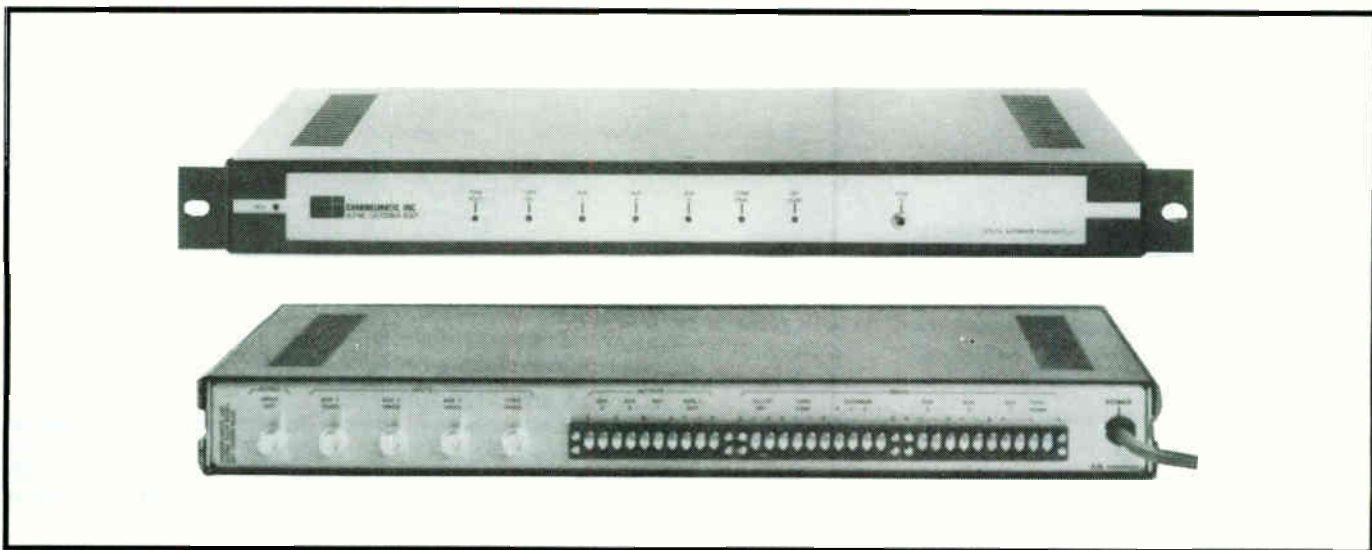
All internal electronic components are mounted in a slide-out electrical enclosure for easy removal. Function modules are standard Channelmatic 3000 Series units, and all CCU-1A microcomputer components are 5000 Series units. These modules may be removed and replaced from the front of the unit without even removing the enclosure assembly.

### **Summary**

Field proven in many installations around the world, the Broadcaster II offers up to 15 hours of automatic programming without the need for operator intervention of any kind. The unit is an economical alternative to multiple videocassette machine sequencing systems of the same capacity. Full seven day scheduling ability makes the Broadcaster II a valuable addition to any television system.

### **Specifications**

- Inputs**  
**Video:** 1.0V p-p, 75 ohm terminated  
**Audio:** 0dBm nominal, 150 ohm unbalanced
- Outputs**  
**Video:** 1.0V p-p, 75 ohm  
**Audio:** 0dBm nominal, 150 ohm unbalanced  
**VCR Control:** Compatible with Sony Type 5 or Type 7 Series VCRs
- Power Requirements**  
**Operating:** 115VAC, 60Hz, 15A  
**Memory Backup:** Lithium Battery (built-in) maintains clock and program memory for 30 days without AC power applied
- Physical Size**  
**Height:** 51" (including casters)  
**Width:** 22.25"  
**Depth:** 38.5" actual (An additional 24" behind the cabinet and 48" in front of the cabinet are recommended for ease of operation and maintenance.)
- Floor Loading:** Approximately 167 psi at four caster contact points
- Tape Requirements:** Type KCA videocassettes (for Type KCS videocassettes equipped with Sony Type KA-1 adaptors or equivalent). Tapes must be pre-encoded with DTMF cues before use to permit automatic operation.



## **ATS-1A Automatic Tone Switcher**

### **Features**

- Microcomputerized DTMF Tone Decoder
- Programmable tone selection
- Front panel status indicators
- Vertical interval switching
- Low cost—highly versatile
- Maximum time override for reliability

The ATS-1A Automatic Tone Switcher is a fully automatic, microprocessor-controlled integrated circuit DTMF tone decoder and vertical interval audio/video switching system.

The unit decodes DTMF tones from a satellite channel, a local tone generator, or a standard dial-up telephone circuit when equipped with the optional built-in automatic answering device.

Upon receipt of the desired tone code, the ATS-1A automatically switches channel to audio and video to one of four sources such as satellite receivers, local character generators, or videocassette players. All switching is performed by integrated circuits and occurs during the vertical blanking interval for a clean, broadcast-quality transition. A time delay between the receipt of a valid tone code and the A/V switch may be easily programmed.

Operator programming of the microcomputer is accomplished by means of any standard 16-digit DTMF tone generator connected either directly or (optionally) via dial-up telephone line. Program memory is protected against periods of AC power outage by a 1.0 Farad capacitor.

The ATS-1A also features an open collector-type control output for each of the three auxiliary channels. The control outputs may be programmed for independent delay times.

The unit also accepts control inputs on four discrete lines which, when grounded, cause an immediate (or optionally delayed) vertical interval A/V switch to the associated input.

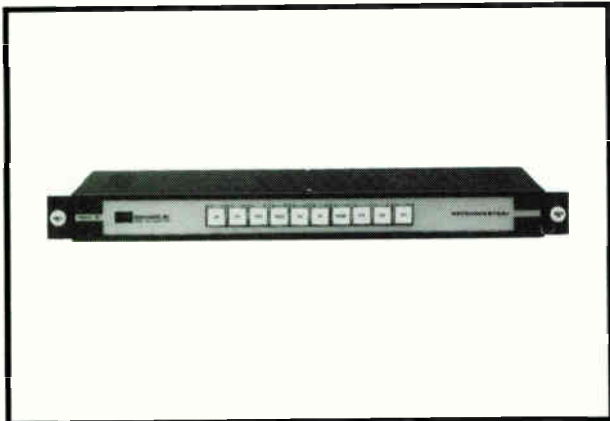
### **Specifications**

<b>Inputs</b>	
<b>Tone:</b>	0dBm nominal, 600 ohms unbalanced
<b>Audio:</b>	0dBm nominal, 600 ohms balanced
<b>Video:</b>	1V p-p, 75 ohms
<b>Control:</b>	Ground switches input On
<b>Outputs</b>	
<b>Audio:</b>	0dBm nominal, 600 ohms balanced
<b>Video:</b>	1V p-p, 75 ohms
<b>Control:</b>	Open collector, low when On
<b>Connectors</b>	
<b>Audio and Control:</b>	Screw terminal strip
<b>Video:</b>	BNC
<b>General</b>	
<b>Size:</b>	1.75" H x 19" W x 8" D, rackmounting
<b>Power:</b>	120VAC, 60Hz
<b>Memory Backup:</b>	One Farad capacitor on +5VDC line

# CHANNELMATIC, INC.

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# ROUTING SWITCHER



## AVS-10A PATCHMASTER™

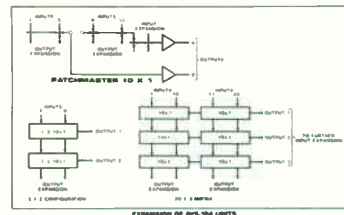
### Features

- Low cost, high performance
- Optional stereo switching
- High impedance, low capacitance bridging inputs
- Convertible 10 x 1 or two 5 x 1
- Vertical interval switching
- Integrated circuit crosspoints
- Secondary switching for input expansion
- Built-in audio termination block for easy audio impedance matching
- Dual-tracking power supply—short circuit proof and thermal protected
- Built-in lithium battery memory backup
- Local or remote control
- Illuminated field-legendable pushbuttons with replaceable lamps
- Expansion is possible to any practical input-output configuration
- Time-of-day clock controller available for preprogrammed real time switching

The Patchmaster is a broadcast-quality bridging audio-follow-video routing switcher which will satisfy a variety of switching requirements. Configured as a 10 input by 1 output switcher, the moving of internal jumper plugs converts the unit to two independent 5-input by 1-output switchers. By externally looping the input signals a 5-input by 2-output matrix is a third option. Switching is vertical interval as referenced to the output signal.

Both input and output expansion provisions are included in the switcher. The extremely high impedance, low capacitance bridging inputs cause negligible line loading, therefore, many switchers may be looped together for expansion to any desired number of outputs. Expansion in increments of ten inputs is provided with automatic secondary switching to eliminate crosstalk degradation.

Connections are also provided for remote switcher control. The combination of input/output expansion and remote control will satisfy many requirements where modular switch matrices are too complex and expensive. The switcher is housed in an attractive 1.75 by 19" rackmounting package and has an internal lithium battery, capable of maintaining switch memory for days. Large field-legendable illuminating pushbuttons are utilized and the lamps are easily replaced from the front panel. The switches are momentary and provided with electronic interlocking.



### Accessories

#### AVS-10AS

The AVS-10AS version offers two-channel audio for those installations requiring stereo or subcarrier audio capability.

#### ACP-10A and ACP-10AS

These accessories bring all audio, sync and control connections out from the rear panel of a Patchmaster switcher and put them on an expanded barrier strip panel for easy installation and movement of audio connections. A cable is included to facilitate panel mounting at the rear of a standard rack.

### Specifications

#### Video

**Inputs:** 10 or 5 x 2, plus expansion in increments of 10  
**Input Impedance:** High impedance looping, greater than 60K ohms  
**Return Loss:** Greater than 50dB at 5MHz  
**Input Level:** 0.5 to 2.0V p-p for 1V p-p output  
**Outputs:** 2 (10 x 1) or (each 5 x 1); 75 ohms source-terminated  
**Output Level:** 4V p-p maximum  
**Gain:** Factory set to unity; front panel adjustable from -6 to +12dB

**Frequency Response:** ± 0.05dB to 5MHz; ± 0.1dB to 10MHz

#### Worst Case

**Crosstalk Rejection:** Greater than 60dB at 3.58MHz  
Greater than 50dB at 5.00MHz

#### Adjacent Channel

**Crosstalk Rejection:** Greater than 65dB at 3.58MHz

**Differential Gain:** Less than 0.1%

**Differential Phase:** Less than 0.1°

**Tilt:** Less than 0.5%

**Hum and Noise:** Better than -70dB, referenced to 1V p-p output

#### Control

##### Inputs:

Parallel-type, logic level 0-12V; logic low activates switch, Resets others  
When switch is Set, set line is held Low for 12VDC 80mA lamp drive. Voltage supplied by AVS-10A  
Rear panel 25-pin male "D" connector  
Channelmatic model RCP-10A

##### Lamp Drive:

##### Interface:

##### Remote Control Panel:

##### Audio

##### Inputs:

10 or 5 x 2, plus expansion in increments of 10  
High impedance balanced or unbalanced bridging, look ohms; internal termination block provided for low-impedance inputs

**Input Levels:** + 8dBm nominal, + 12dBm maximum

**Outputs:** 2 (10 x 1) or 1 (each 5 x 1); 600 ohms balanced

**Output Level:** + 19dBm maximum

**Gain:** Factory set to unity, front panel adjustable

**Frequency Response:** ± 0.05dB, 20Hz to 20kHz

**Crosstalk:** Greater than 70dB at 20kHz

**THD:** Less than 0.2%, 20Hz to 20kHz

**Hum and Noise:** Better than -70dB referenced to + 18dBm

##### General

**Size:** 1.75" x 19" x 8", rackmounting

**Power:** 120VAC, 60Hz

**Connectors:** Video—BNC

**Power Backup:** Internal lithium battery



## SAV-1A Stereo Audio/Video Distribution Amplifier

### Features

- Complete 6 output distribution of video and stereo audio
- Wide bandwidth integrated amplifiers
- Attractive self-contained package
- Front panel input and output test points
- Front panel gain adjustments
- Low cost—broadcast performance

The SAV-1A is a self-contained, broadcast quality video/stereo audio distribution amplifier providing six independent output channels.

The audio section provides six isolated stereo (twelve mono) 600 ohm balanced outputs from a single stereo (dual mono) high impedance bridging input.

The video section provides six independent source-terminated 75 ohm outputs from a single high impedance looping input.

Outputs are independent precision integrated amplifiers for accurate balance. Gain is adjusted with front panel 25-turn potentiometers. Input and output test points are also brought out to the front panel for easy initial adjustment and periodic testing.

The amplifier components have been specially chosen and the circuitry specifically designed for flat response, low distortion, maximum reliability and good long-term stability. The video amplifiers contain automatic DC offset circuitry to minimize output drift.

The unit contains an integral regulated power supply and is housed in a single 1.75 x 19" rackmounting package.

### Specifications

#### AUDIO SECTION

##### Inputs:

0dBm nominal, +8dBm maximum; transformerless 200K ohm balanced or unbalanced bridging (may be terminated in any desired lower impedance)

##### Outputs:

6 stereo (12 mono) 600 ohm balanced or 12 stereo (24 mono) 150 ohm unbalanced (half in-phase, half out-of-phase); Outputs may be terminated in any desired impedance higher than 150 ohms without affecting frequency response or distortion

##### Gain:

25dB, continuously variable from full Off with front panel control

##### Frequency Response:

± 0.5dB, 10Hz to 30kHz

##### Hum and Noise:

-80dB at 20dBm output

##### Output Isolation:

Greater than 50dB

##### Distortion:

0.1% or less

##### Connectors:

Barrier strips

#### VIDEO SECTION

##### Input:

0.5 to 2.0V p-p, 50K ohm looping

##### Outputs:

6, source terminated in 75 ohms, 3V p-p maximum output

##### Frequency Response:

± 0.1dB to 5MHz; ± 0.2dB to 10MHz

##### Diff. Gain:

Less than 0.1%, 10 to 90 APL

##### Diff. Phase:

Less than 0.1°, 10 to 90 APL

##### Tilt:

Less than 1% (DC coupled)

##### Hum and Noise:

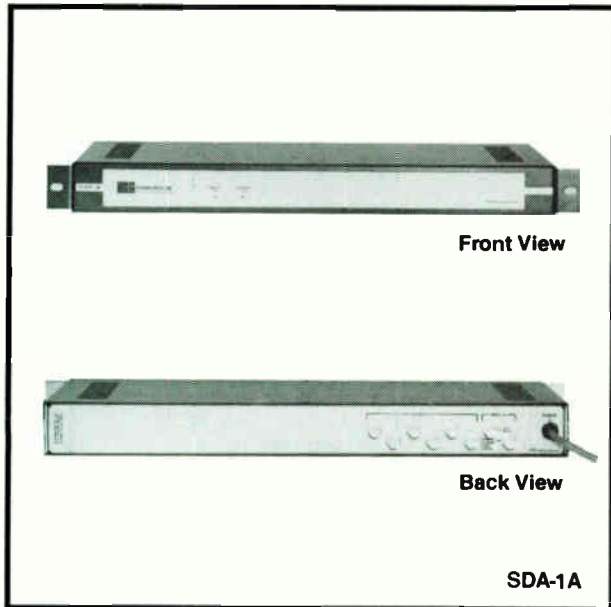
60dB below 1V p-p output

##### Output Isolation:

Greater than 45dB at 3.58MHz

##### Connectors:

BNC



Front View

Back View

SDA-1A

## SDA-1A Sync Stripping Pulse Distribution Amplifier

### Features

- Looping Hi-Z input
- Built-in sync stripper
- Wide bandwidth integrated drivers
- 6 isolated 75 ohm source-terminated outputs
- Front panel input and output test points
- Attractive self-contained package

The SDA-1A is a self-contained sync stripping and sync pulse distribution amplifier with six source-terminated 75 ohm outputs and one high impedance looping input. The unit can take an input of composite video or sync and deliver six outputs of -4 volts of clean composite sync.

The SDA is ideal for locking videocassette machines to a video source for clean vertical interval switching. It is a great mate to Channelmatic's Universal Audio Amplifier when interfacing VTRs to a commercial insertion system.

### Specifications

<b>Inputs:</b>	0.5 to 8.0V p-p, 75K ohm looping
<b>Outputs</b>	
<b>Number:</b>	6
<b>Impedance:</b>	Source-terminated in 75 ohms
<b>Level:</b>	4.0V p-p, ± 5%
<b>Isolation:</b>	Greater than 35dB
<b>Tilt:</b>	Less than 1%
<b>Rise Time:</b>	Less than 250ns
<b>Propagation Delay:</b>	Less than 250ns
<b>Signal-to-Noise:</b>	Greater than 70dB at 4.0V p-p
<b>Power:</b>	115V ± 10%, 60Hz A/C
<b>Connectors:</b>	BNC
<b>Size:</b>	1 3/4" H x 19" W x 8" D

# CHANNELMATIC, INC.

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# PROGRAMMABLE CONTROLLER

## **PCM-3000A SUPERCLOCK Programmable Controller Module**

### Features

- Locator optional remote control
- Totally programmable operation
- Basic clock has 8 open collector (30V, 40mA sink) outputs (NC, NO, or pulsed)
- Expandable memory/expandable outputs
- Controls up to 99 functions at a single time and up to 10,000 devices
- Simple keypad programming with full editing capabilities and cursor prompting
- Attractive modular rackmount package
- Programming security built-in
- Provision for battery backup power
- Optional hard-copy printout
- Optional Telco remote control
- Optional custom software

The PCM-3000A Programmable Controller is a microprocessor-based 7-day clock module for the Channelmatic Series 3000 frame. It has a 1 min. resolution and a large memory for storage of program events. The system is bus-oriented and provisions are included for expansion of memory, input-output capability, and addition of a multitude of special control interfaces. The basic system has eight programmable closure-type outputs which can be preprogrammed to open or close on any desired weekly time schedule.

The PCM-3000A is designed to be used in any application where local or remote control of equipment is required on a 7-day schedule. By adding appropriate modules, it can be used to control almost any electrical or electronic device, including satellite receivers, videocassette machines, audio-video switchers, relays, IF switching, message generators, solenoids, motors, etc. A professional 80-column printer is also available for the PCM-3000A; it prints out the operator program and all events as they occur. By adding a TRC-3016A Transmit Modem option, the system can be upgraded to remote control a variety of functions over a standard telephone line or any voice-grade audio path.

A UAD-3000A Unattended Telephone Answering Device module and related CTD-3001A DTMF Decoder Module can be added to a clock-controller subsystem enabling it to be operated over standard telephone lines.

The PCM-3000A Clock-Controller must be initially programmed by the user. This operation consists of "loading" instructions into its random-access memory (RAM) which later are used by the microcomputer as a guide in giving proper commands to the peripheral equipment under control. This operator-program function is performed with the 16-button keypad and related 12-digit display while the unit is in the Program mode.

The multifunction 12-digit LED readout can be placed into any one of four display modes by pressing the appropriate pushbutton: in the Run mode, it displays the day, AM or PM, and the time; in the PGM mode, it displays the day, AM or PM, the time or a 4-digit code which corresponds to the event function; in the Man mode, it displays any manually activated events as they are entered from the keypad.

A means of disabling the keypad has been incorporated into the system. This feature prevents the operator program, which is stored in random access memory, from being altered by tampering or inadvertent operation of the keypad pushbuttons. A "secret code" has been assigned in software to allow the keypad to be locked and unlocked. This lock-unlock function can only be performed when the PCM-3000A is in the Run



**PCM-3000A 7-Day Clock-Controller  
with Telephone Over-Ride**

mode. The keypad may be locked only by entering the two digits in proper sequence. It is unlocked in the same manner. When locked, pressing any digits other than the proper code will have no effect on the unit. The secret code can be easily changed in the field.

PCM-3000A Clock-Controllers are supplied for operation with 120VAC, 60Hz power, with a 12VDC standby power source. Screw terminals are provided on the rear panel of the unit for connection of the standby power source. The standby power should be supplied from a battery which is maintained in a fully-charged state by an automatic charger. Battery powering the unit in this fashion will assure maintenance of memory during periods of power failure.

The PCM-3000A is designed for compatibility with all other Series 3000 modules, allowing systems of almost any configuration or complexity to be easily assembled.

### Options

2. Eight Form "A" (SPST) Relay Output
4. Memory Expansion (increases number of events per week to 6300, worst-case)
7. Printer and Drive Circuitry/Software (80-line printer to printout program in memory, events as they occur including date, time, and equipment operation)
8. Communications Board (provides input and output port expansion)



## LCC-1A Li'l Ben™ Clock Controller

### Features

- Simple easy to use, four-key keypad
- Four-digit LED display
- One second resolution
- 7 day programmability
- 100 event capacity
- Power backup
- 8 open collector outputs
- Optional relay outputs
- Optional 2 x 1 stereo audio/video switcher
- Optional 4 x 1 stereo audio/video switcher

Li'l Ben is a low-cost seven day clock controller. The basic unit has eight outputs which may be individually programmed to turn On or Off up to 100 times. Output events are controlled with one second resolution.

Human interface consists of a four-key keypad for input and a four-digit multiplexed LED display with 16 indicators for output. Eight indicators are used to guide the user through the various modes of operation. The remaining eight are used to show circuit status.

The hardware consists of a CMOS microcontroller, a CMOS EPROM for program storage, a CMOS RAM for temporary system and user parameter storage, and a 1.0F double layer capacitor for momentary power failure carry-over. Provisions are made for connection of an external user-supplied battery for long term carry-over.

LCC-1A is the basic version of the Li'l Ben Clock Controller. Its eight control outputs are FET "pull-to-ground" type with the capability of sinking up to 100mA when On. An externally applied voltage of up to 30V is allowed when Off. An RC snubber network is provided to protect the FET from instantaneous high current transients such as those produced by inductive loads or electrostatic discharge.

LCC-2A is a version of the Li'l Ben Clock Controller with eight single form C relay outputs.

LCC-3A is a version of the Li'l Ben Clock Controller with a built-in 2 x 1 stereo audio follow video switcher. Two of the control outputs are internally wired to control the audio/video switches. The remaining six FET outputs are still available for controlling external devices.

LCC-4A is a version of the Li'l Ben Clock Controller with a built-in 4 x 1 stereo audio follow video switcher. Four of the control outputs are internally wired to control the audio/video switches. The remaining four FET outputs are still available for controlling external devices.

### Specifications

#### Control Outputs

FET: 8 open-drain FET 100mA max sink current  
+30VDC, -2VDC max

Relay: Single form C

#### Optional Audio/Video

##### Video

Inputs: 2 or 4 BNC, 75 ohm terminating  
Input Level: 4V p-p max  
Gain: Unity  
Outputs: 1 BNC, 75 ohm source terminating  
Response:  $\pm 0.05\text{dB}$  to 5.0MHz,  $\pm 0.1\text{dB}$  to 10MHz  
Crosstalk:  $> 60\text{dB}$  at 3.58MHz  
Differential Gain:  $< 0.1\%$ , 10-90% APL  
Differential Phase:  $< 0.1^\circ$ , 10-90% APL  
Tilt:  $< 0.5\%$   
Hum and Noise: -70dB reference to 1V p-p

##### Audio

Inputs: 2 or 4 stereo 600 ohm balanced, or 300 ohm unbalanced  
Input Level: 8dBm nominal; 12dBm max  
Output Level: 18dBm max  
Gain: Unity  
Response:  $\pm 0.05\text{dB}$  20Hz to 20kHz  
Crosstalk:  $> 70\text{dB}$  at 20kHz  
Harmonic Distortion:  $< 0.2\%$  20Hz to 20kHz  
Hum and Noise:  $< -70\text{dBm}$ , reference to +18dBm

##### Physical

Size:  $1\frac{3}{4}'' \times 19''$  in rackmounting enclosure

##### Power Requirements

Primary: 115VAC, 60Hz  $\pm 10\%$   
Backup: +4.5VDC, 5mA

##### Clock Accuracy

Dependent on power line frequency. Regulated to the National Bureau of Standards.

During power-fail mode, accuracy better than 3 seconds per hour.



# CHANNELMATIC, INC.

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# TEST SWITCHER



## **BBX-1A BILLIBOX™** **Bypass and** **Test Switcher**

### Features

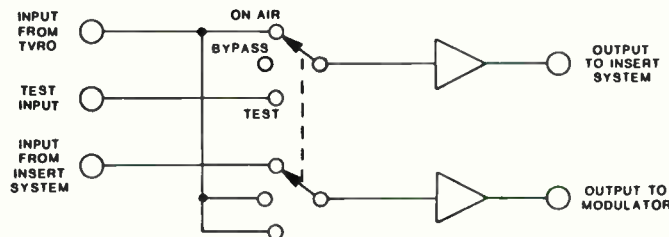
- Automatic bypass
- Manual bypass
- Preview bus
- Test signal bus
- High speed DTMF tone encoder
- Digit-by-digit steppable tone generator
- Sync loss annunciator
- Vertical interval switching
- Front panel LED status indicators
- Adjustable missing pulse detector
- Automatic recovery after two minutes
- High performance specifications
- Compact one rack unit package
- Preview monitor output
- Sync loss output
- Annunciator output
- Stereo processor interface
- Wide bandwidth integrated amplifiers

The Billibox is a universal accessory for use with any commercial insert system. It can automatically bypass the commercial insert system by switching the TVRO audio and video signals directly to your modulator if it senses loss of sync from your video tape players. An audible alarm sounds when sync is lost notifying an operator of a failure.

When in the test mode the operator is able to switch audio and video test signals thru the commercial insertion system for checking performance specs. Also internally generated audio DTMF cue tones can be sent to the tone decoders for testing and calibrating purposes.

You can also manually bypass your system for preview or test purposes. When in the preview mode the insert system can function normally but the commercials will not be sent out to the modulator. The Billibox is

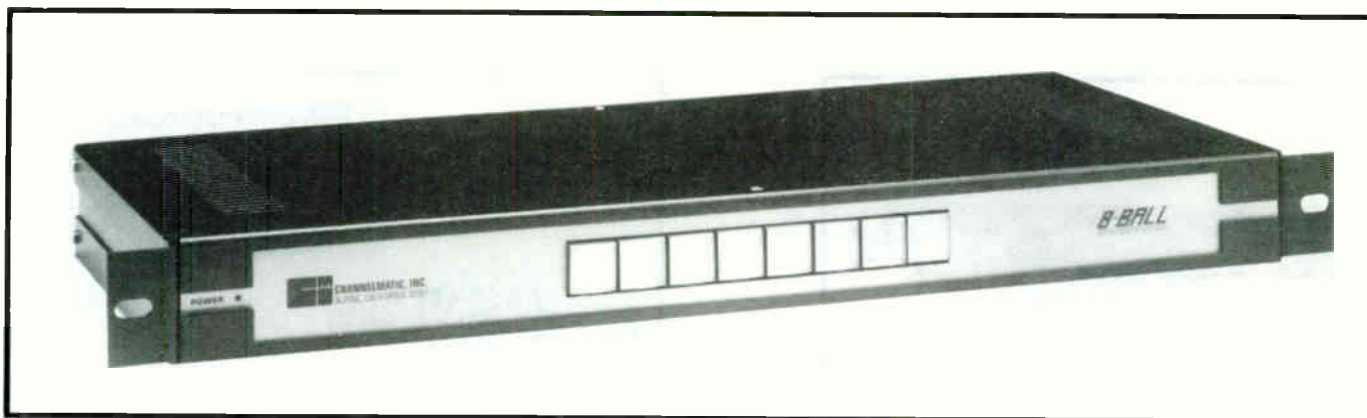
designed to interface with stereo processors and with both kinds of cue tone transmission formats. All switching is done in the vertical interval to insure a clean switch.



BBX-1A BLOCK DIAGRAM

### Specifications

<b>Video Inputs</b>	
TVRO Video In:	1V p-p, 75 ohm terminated
Test Signal In:	1V p-p, 75 ohm terminated
Insert System In:	1V p-p, Looping Hi-Z
<b>Video Outputs</b>	
Output to Modulator:	Source-terminated in 75 ohms
Output to Insert System:	Source-terminated in 75 ohms
<b>Video General</b>	
Frequency Response:	± .01 dB to 5Mhz
Gain:	Unity
Differential Gain:	Less than 0.1%
Differential Phase:	Less than 0.1°
Tilt:	Less than 0.5%
<b>Hum and Noise:</b>	-70dB at 1V p-p
<b>Audio Inputs</b>	
TVRO Audio In:	75K ohm balanced, -6dB to +6dB
Test Signal In:	75K ohm balanced, -6dB to +6dB
Insert System In:	75K ohm balanced, bridging
TVRO Cue Tone In:	75K ohm unbalanced
<b>Audio Outputs</b>	
Output to Modulator:	600 ohm balanced, -6dB to +6dB
Output to Insert System:	600 ohm balanced, -6dB to +6dB
DTMF from TVRO Audio:	300 ohm unbalanced
DTMF to Insert System:	300 ohm unbalanced
<b>Audio General</b>	
Frequency Response:	± 0.05dB, 20Hz to 20kHz
Gain:	Unity
THD:	Less than 0.2%, 20Hz to 20kHz
<b>Hum and Noise:</b>	-70dB referenced to +6dB
<b>Control</b>	
Start Pulse In:	Relay, open/close
Start Pulse Out:	Relay, open/close
Stereo Control In:	Relay, open/close
Stereo Control Out:	Relay, open/close
Alarm Out:	+5V on, 0V off
No Sync Out:	+5V sync, -5V no sync
<b>General</b>	
Size:	1 3/4" x 19" x 8" rackmounting
Power:	115V, ± 10%, 60Hz
Connectors:	Video-BNC, Audio-TBC
<b>Front Panel</b>	
Power Indicator:	Red LED on
Test:	Test signals to insert system
Preview/Bypass:	Insert system bypass
On Air:	Insert system is on line
D1, D2, D3:	DTMF digit selectors
Step:	Single digit select
Start:	DTMF tone sequence send start
End:	DTMF tone sequence send end



## 8-BALL Monitor Switcher

### Features

- Low cost—high performance
- Stereo switching
- Vertical interval switching
- Integrated circuit crosspoints
- Dual tracking power supply—short circuit proof and thermal protected
- Built-in capacitive memory backup
- Large, high-quality, illuminated, field-legendable push buttons with replaceable lamps
- If more inputs, outputs, or remote control are needed, the AVS-10A Patchmaster is available

The 8-Ball is an instrument quality 8 x 1 stereo audio/video monitor switcher that features unity gain on both audio and video sections so the switched signal is unaffected in any manner by the switcher itself. It is essentially transparent to the signal sources and to the destination monitor to which the signal is directed.

The 8-Ball switcher offers electronically-interlocked vertical interval switching, stereo audio capability, and high quality front panel switches that have break-before-make gold contacts, bright long-life bulbs, and field-legendable caps. An integral capacitor provides a memory back-up function to restore switching configuration once power comes back on after a power outage.

### Specifications

#### Video

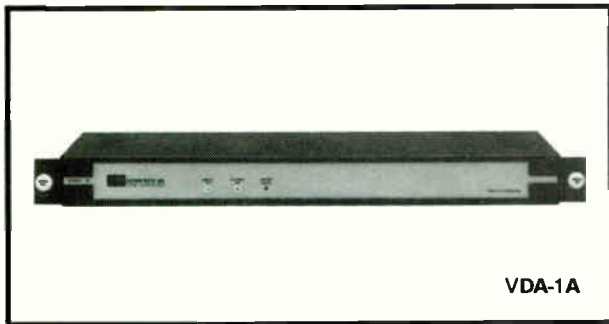
- Inputs:** Eight, terminated in 75 ohm  
**Input Level:** 0.5V p-p to 2.0V p-p  
**Outputs:** One, 75 ohm source terminated  
**Output Level:** 4V p-p maximum  
**Gain:** Factory set to unity, adjustable from -6dB to +12dB  
**Frequency Response:** ± 0.5dB to 5.0MHz; ± 0.1dB to 10.0MHz  
**Worst-Case Crosstalk Rejection:** > 60dB at 3.58MHz  
**Adjacent Channel Crosstalk Rejection:** > 65dB at 3.58MHz

- Differential Gain:** < 0.1%, 10-90APL  
**Differential Phase:** < 0.1°, 10-90APL  
**Tilt:** < 0.5%  
**Hum and Noise:** > -70dB referenced to 1V p-p output
- Audio Inputs:** Eight stereo or sixteen mono; 600 ohm balanced or 300 ohm unbalanced  
**Input Level:** 8dBm nominal; 12dBm maximum  
**Output:** One 600 ohm balanced or two 300 ohm unbalanced  
**Output Level:** 18dBm maximum  
**Gain:** Factory set to unity, adjustable  
**Frequency Response:** ± .05dB 20Hz to 20kHz  
**Crosstalk:** > 70dB at 20kHz  
**Total Harmonic Distortion:** < 0.2% 20Hz to 20kHz  
**Hum and Noise:** > -70dBm referenced to + 18dBm
- General Switching:** Both audio and video use state-of-the-art multiplexer integrated circuitry throughout. Vertical interval video with audio (stereo) follow
- Pushbutton Switches:** Premium-quality momentary switches with gold contacts, incandescent illumination, and large field-legend area. Lamps and legends changed easily from front panel
- Size:** 1.75" x 19" x 8" standard rackmount  
**Power:** 120VAC, 60Hz  
**Connectors:** Video: BNC; audio: quick connect terminal strip  
**Power Backup:** Internal capacitor provides long-term memory retention

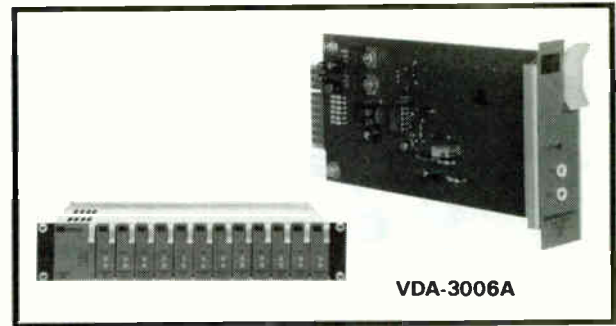
# CHANNELMATIC, INC.

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# DISTRIBUTION AMPLIFIERS



VDA-1A



VDA-3006A

## VDA-1A, VDA-2A, VDA-3A Video Distribution Amplifiers

### Features

- Wide bandwidth integrated amplifiers
- Attractive self-contained package
- DC output coupling
- Looping Hi-Z input
- Six isolated 75 ohm source-terminated outputs
- Models available with one, two or three 1 x 6 amplifiers
- Low-cost—broadcast performance
- Front panel: -3dB to +12dB gain adjust
- Front panel input and output test points
- Auto DC offset

The VDA-1A is a self-contained broadcast-quality video distribution amplifier with 6 source-terminated 75 ohm outputs and 1 high impedance looping unit. Components and circuit design were carefully chosen to provide flat response, low signal distortion, maximum reliability and good long-term stability. Front panel mounted gain control and test points are provided. New circuitry provides automatic DC offset control on the outputs.

The 1.75 by 19" rackmounting package is available with either one, two or three independent amplifiers with a common power supply. Amplifiers may be operated with separate inputs or looped together to provide as many as eighteen outputs from a single source.

VDA-1A	One Amplifier
VDA-2A	Two Amplifiers
VDA-3A	Three Amplifiers

### Specifications

<b>Inputs:</b>	0.5 to 2.0V p-p, 50K ohm looping
<b>Outputs:</b>	6, source-terminated in 75 ohms, 3V p-p maximum
<b>Frequency Response:</b>	$\pm 0.10\text{dB}$ to 5MHz $\pm 0.20\text{dB}$ to 10MHz
<b>Differential Gain:</b>	Less than 0.1%, 10 to 90 APL
<b>Differential Phase:</b>	Less than 0.1%, 10 to 90 APL
<b>Tilt:</b>	Less than 1% (DC coupled)
<b>Hum and Noise:</b>	60dB RMS below 1V p-p output
<b>Output Isolation:</b>	Better than 45dB at 3.58MHz
<b>Connectors:</b>	BNC
<b>Size:</b>	1 $\frac{3}{4}$ " H x 19" W x 8" D

## VDA-3006A Video Distribution Amplifier

### Features

- Wide bandwidth integrated amplifiers
- Attractive modular rackmount package
- DC coupling throughout
- Looping low-capacitance Hi-Z input
- 6 isolated 75 ohm source-terminated outputs
- Low-cost—broadcast performance
- Front panel mounted -3dB to +12dB gain adjust
- Front panel mounted input and output test points
- Up to 12 modules in 3.5 by 19" rackmount frame
- Auto DC offset

The VDA-3006A is a modular broadcast-quality video distribution amplifier with six source-terminated 75 ohm outputs and 1 high impedance looping unit. Components and circuit design were carefully chosen to provide flat response, low signal distortion, maximum reliability and good long-term stability. Front panel mounted gain control and test points provided. New circuitry provides automatic DC offset control on the outputs.

Up to 12 VDA-3006A modules fit in the CMF-3000B 3.5 by 19" rackmount frame. Amplifiers may be operated with separate inputs or bridged together to provide more than six outputs from a single source.

### Specifications

<b>Inputs:</b>	0.5 to 2.0V p-p, 50K ohm looping
<b>Outputs:</b>	6, source-terminated in 75 ohms, 3V p-p maximum
<b>Frequency Response:</b>	$\pm 0.10\text{dB}$ to 5MHz $\pm 0.20\text{dB}$ to 10MHz
<b>Differential Gain:</b>	Less than 0.1%, 10 to 90 APL
<b>Differential Phase:</b>	Less than 0.1%, 10 to 90 APL
<b>Tilt:</b>	Less than 1% (DC coupled)
<b>Hum and Noise:</b>	60dB RMS below 1V p-p output
<b>Output Isolation:</b>	Better than 45dB at 3.58MHz
<b>Connectors:</b>	BNC
<b>Size:</b>	3.5" H x 19" W x 10.5" D



# CHIEF MFG., INC.

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Burnsville, MN 55337  
(612) 894-6280

# PROJECTOR STAND/ UTILITY TABLE

## VSU-1S Vida-Set™ Projector Stand

- **Multi-Projector Versatility:** Width adjustment allows Vida-Set to be used with Sony, Panasonic, AquaStar, Arcturus, Barco, Bell & Howell and other popular projectors
- **Counterbalanced Height Adjustment:** From 27<sup>3</sup>/<sub>16</sub>" to 38<sup>3</sup>/<sub>16</sub>" accomplished by lifting or pushing down the upper module and is made easy through the assistance of a gas spring\* in the pedestal module to counterbalance the weight of the projector. A foot pedal release leaves hands free for this adjustment
- **Fast Image/Screen Alignment:** Roll, pitch and yaw adjustments are accomplished easily with convenient knob and lever controls
- **Modular Concept:** The VSU-1 (stand module) and VSU-1P (pedestal module) are sold separately or together to meet your specific needs
- **Compact and Portable Design:** Legs fold and upper module collapses in width for convenient storage or transport
- **Heavy-Duty 5" Locking Casters:** Two fixed and two swiveling wheels make system roll easily yet lock up securely. Special brakes lock swiveling as well as wheel rotation for stable projection
- **Positive Projector Hold Down:** Special rubber-padded brackets which adjust to various projector dimensions, secure your video projector to the VSU-1 stand
- **Steel and Aluminum Construction:** Provides optimum combination of strength and weight for high performance and long service

<b>VSU-1S</b>	
System (1 VSU-1 and 1 VSU-1P) . . . . .	<b>\$787.00</b>
<b>VSU-1</b>	
Table Stand . . . . .	<b>389.00</b>
<b>VSU-1P</b>	
Pedestal . . . . .	<b>398.00</b>



**VSU-1S**

### Accessories

<b>EK-10 Extender Kit</b> raises the VSU-1 an additional 9 <sup>13</sup> / <sub>16</sub> " . . . . .	<b>\$ 24.95</b>
<b>VR-1 VCR Shelf</b> . . . . .	<b>69.95</b>
<b>VB-1 Stacker Bracket</b> for stacking one VSU-1 on top of another VSU-1 . . . . .	<b>89.95</b>
<b>VCM-10S Ceiling Mount</b> for Sony video projectors . . . . .	<b>179.00</b>

\*Note: The gas spring is optimized for projectors weighing from 55 to 75 lbs. Heavier or lighter projectors will require proportionately greater effort to raise or lower.

## VS-100 Versa-Set Utility Table

- **Large Table Surface:** Accommodates a variety of equipment: 16mm projectors, video monitors, speakers, multi-image stands, slide projectors, computers, overhead projectors, amplifiers, mixers and much more. No need to rent or buy different sized tables.
- **Attached Folding Legs:** Sturdy, attached folding leg design provides fast and easy set up and prevents accidental leg detachment during transport or storage.
- **Adjustable Height Settings:** Telescoping legs can be adjusted to 10 preset heights (from 26<sup>3</sup>/<sub>8</sub>" to 56<sup>7</sup>/<sub>8</sub>" ) in seconds. Simplifies set up, saves time and effort
- **Roto-Lock System:** Legs slide to desired position then rotate to lock snap button in proper hole. Provides positive, visible locking for safe support of valuable equipment.
- **Strong Elastic Leg Straps:** Secure legs in hold-down position and allow easy transport and storage.
- **Heavy-Duty Carrying Handle:** Provides secure, comfortable, and convenient transport.
- **Construction:** Lightweight, sturdy aluminum, offers heavy-duty service with easy portability.
- **Color and Design:** Handsome style in dual brown-tones with nickel accent complements decor of offices, meeting rooms, classrooms and conference rooms.
- **Locking Accessory Shelves:** Heavy-duty Versa-Mate™ shelves in two sizes attach easily for full system support of video recorders, audio recorders, dissolvers and other auxiliary equipment.
- **AC Power Attachment:** Four outlets, switch, 12' cord and mounting/wrap bracket attach directly to table.

<b>VS-100 Utility Table</b> . . . . .	<b>\$209.00</b>
---------------------------------------	-----------------

### Accessories

**VM-1 Small Versa-Mate Accessory Shelf** with locking fasteners provides accessory space for audio recorders, dissolvers and other miscellaneous auxiliary equipment. (Tools not required) . . . . . **\$59.95**

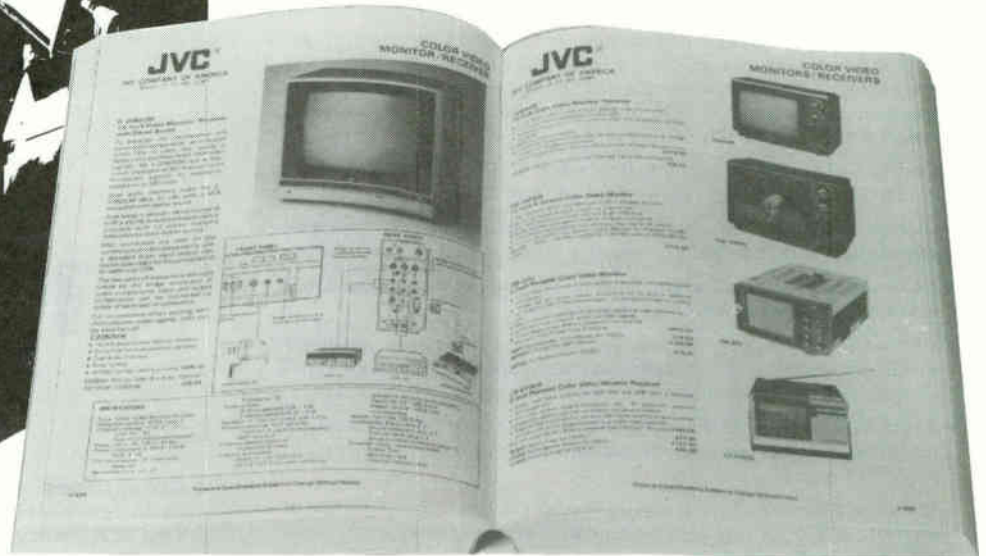
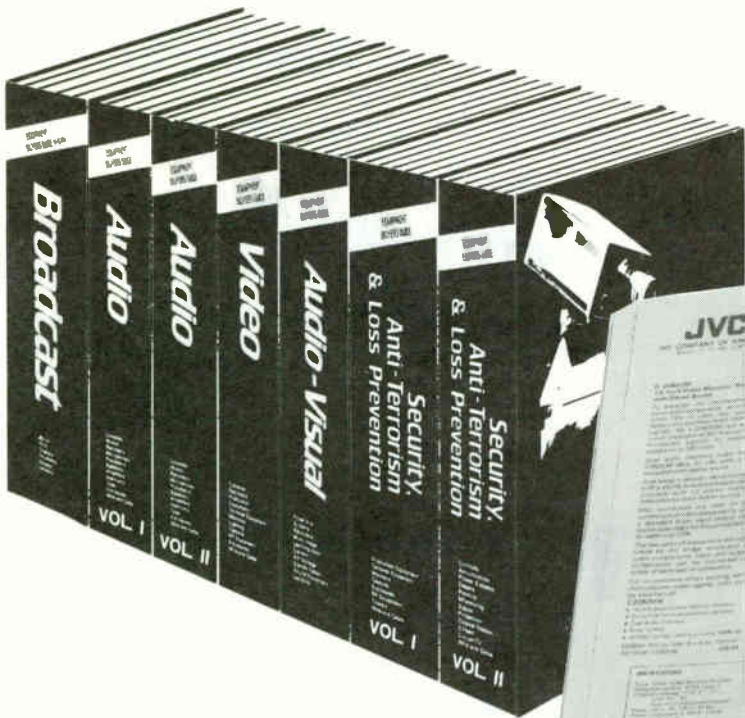


**VS-100**

**VM-2 Large Versa-Mate Accessory Shelf** with locking fasteners provides heavy-duty accessory space for large video recorders, amplifiers, mixers and other miscellaneous equipment. (Tools not required) . . . . . **\$79.95**

**AC-4TK AC Power Attachment** with four outlets, switch, 12' cord and mounting/cord-wrap bracket, attaches directly to table. Only one main power cord to connect . . . . . **\$49.95**

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**TRADE REFERENCES**  
**EQUIPMENT**  
**BUYERS GUIDES.**



**PROFESSIONAL AUDIO AND COMMERCIAL & INDUSTRIAL SOUND**—Over 1800 pages of studio and remote audio equipment for stage, concerts, auditoriums, stadiums and more, plus sound reinforcement, background music, paging, intercommunications, telephone and telecommunications systems and equipment. (2 Volume Set).  
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**INDUSTRIAL & PROFESSIONAL VIDEO**—Over 1300 pages of equipment information for those persons engaged in video production and communications, professionals who have operating responsibilities, purchasing and specifying authority. A reference book that presents in detail the majority of all equipment available and sold through dealers.  
**ISSN# 0747-6183** **\$95.00**

**BROADCAST EQUIPMENT**—Over 1200 pages of studio, remote and location equipment and systems for commercial and tape production, broadcast television, radio, cable, pay and satellite TV, special effects, animation and music videos.  
**ISSN# 0882-5688** **\$95.00**

**CLOSED CIRCUIT VIDEO SURVEILLANCE & ANTENNA SYSTEMS EQUIPMENT**—Provides a comprehensive review with over 700 pages of video surveillance and master antenna distribution systems. This book provides the product information necessary to design, specify and purchase video surveillance and signal distribution equipment from single camera/monitor to multi-camera sequential switching systems with time-lapse alarm activated recorders—from single antenna/TV set to thousands of TV outlets.  
**ISSN# 0885-5463** **\$69.50**

**SECURITY AND LOSS PREVENTION EQUIPMENT & DEVICES**—A must for any security executive's desk. Features over 2300 pages of surveillance systems, loss prevention, residential, personal and vehicle protection, electronic counter-measures, radio and communication equipment, and fire detection systems. (2 Volume Set).  
**ISSN# 0747-6205** **\$195.00**

**EDUCATIONAL, TRAINING, PRESENTATION & PHOTOGRAPHIC EQUIPMENT**—300 plus manufacturers of the equipment and devices used in presentations from classrooms to boardrooms. This reference features the industry's products from film cameras to electronic blackboards. If your interest is in expanding and improving communication methods through effective use of audio-visual, multi-image and photographic media, this book contains most of the products available.  
**ISSN# 0747-6167** **\$95.00**

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**BILL DANIELS CO., INC.**

P.O. BOX 2056 Shawnee Mission, KS 66201



## PLATINUM SERIES

SNAP-ON-TYPE NICKEL-CADMIUM BATTERIES

### KS SERIES CAMERA BATTERIES

#### FEATURES

- Nickel cadmium
- Universal snap-on-type mount.
- Compatible with all major ENG and EFP battery mounts, including Betacam
- Greater reliability
- 20-minute charge cycle with the patented CASP

### ER SERIES VTR BATTERY PACKS

#### FEATURES:

- Direct replacement for Sony BP90
- Nickel-cadmium
- 20-minute fast charge with patented CASP

EQUIPMENT MODEL	KS SERIES SNAP-ON TYPE BATTERY	REPLACES	SNAP-ON TYPE MOUNT	RUN TIME (Minutes)	
AMPEX	FPC10	KS12	PRDPAC14	BUILT-IN	115
	BCC-20	KS12	PRDPAC14	BUILT-IN	80
BOSCH	KCF1	KS12	SAFT	QR-F1	90
HARRIS	TC90	KS12	FBP14	BUILT-IN	110
HITACHI	FP15	KS11	DP40	CB15	120
	FP21/22	KS12	DP40	CB21	105
	SK81/91	KS12	DP40	CB31	115
	SK97	KS12	DP40	CB37	110
Z31	KS11	DP40	CB31	135	
IKEGAMI	HL79D	KS12	QPY-9N	BUILT-IN	100
	HL79E	KS12	QPY-9N	BUILT-IN	100
	HL83	KS12	QPY-9N	BUILT-IN	110
	HL95	KS12	QPY-9N	BUILT-IN	110
	ITC730	KS12	QPY-9N	BUILT-IN	100
ITC730A	KS12	QPY-9N	BUILT-IN	110	
JVC	KY-2000	KS11	320	Q27 MOUNT	110
	KY-2700	KS11	320	Q27 MOUNT	135
	KY-1900	KS11	320	Q19 MOUNT	135
	KY-210	KS12	DC-C50U	Q21 ADAPTER	120
	KY-310	KS12	DC-C50U	Q95 INCLUDED	120
	KY-320	KS12	DC-C50U	Q95 INCLUDED	120
	KY-900	KS12	DC-C50U	Q95 INCLUDED	105
KY-950	KS12	DC-C50U	Q95 INCLUDED	105	
NEC	SP3A	KS12	PRDPAC14	QR-NEC-3	200
PANASONIC	VW555	KS11	VW-PS36	VW-PS35S	115
	VW888	KS11	WB-PS36	VW-PS35S	105
	AK30	KS12	PRDPAC14	BUILT-IN	125
	B100	KS12	PRDPAC14	BUILT-IN	110
PHILIPS	LDK14	KS12	FBP14	BUILT-IN	120
RCA	CCD1	KS12	PRDPAC14	BUILT-IN	115
	TK76B,C*	KS12	14V BELT	HM76B/C	60
	TK86	KS12	PRDPAC14	BUILT-IN	75
SHARP	XC700	KS12	BP14	BUILT-IN	120
	XC800	KS12	BP14	BUILT-IN	120
	XC900	KS12	BP14	BUILT-IN	140
SONY	DXC-M3	KS12	DC-7/8P-60	DC65AN/M3	160
	DXC-M3A	KS12	DC-8/NP1	DC309AN	160
	BVP150	KS12	BP-65AN	DC305AN	140
	BVP300	KS12	BP-65AN	DC305AN	130
	BVP330	KS12	BP-65AN	DC305AN	115
	BVP3	KS12	BP-65AN	DC305AN	125
	BVP30	KS12	BP-65AN	DC305AN	125
	BVV1	KS11	NP-1	DC306AN	115
	BVV3	KS11	NP-1	DC307AN	85
	BVV1/BVV3**	ER6	NP-1	HM90A	75
	THOMPSON	MC601	KS12	-	HM300

NOTE: Consult Christie for cameras not shown.

EQUIPMENT MODEL	ER SERIES BATTERY	REPLACES	RUN TIME (Minutes)	
AMPEX	VPR20	11BB40A3†	60	
SONY	BVU50	ER6	BP90	240
	BVU110	ER6	BP90	240
	BVH500	ER6 (TWO)	BP90 (TWO)	100
	VO4800	ER8	BP60	145

†Available through Ampex Corp.

### KR SERIES CAMERA BATTERIES

#### FEATURES:

- Nickel cadmium
- Compatible with:
  - All Ikegami
  - Ampex BCC-20
  - Hitachi FP21/22 & SK81/91
  - JVC KY-2700
  - RCA TK76B,C & TK86
  - Sharp XC700 & XC800
  - Sony BVP150, BVP300, BVP330, BVP3 & BVP30
- 20-minute charge cycle with patented CASP and many other cameras

### HR SERIES BATTERY PACK FOR PORTABLE LIGHTS

#### FEATURES:

- Nickel-cadmium
- Replaces any 30 or 14-volt packs
- Complete with comfortable leather belt
- Reliable
- 20-minute charge cycle with patented CASP
- Weighs just 5 pounds, 8 ounces
- Discharges at 14.4 volts for up to 25 minutes
- Well ventilated

VOLTAGE	WATTS	HR SERIES BATTERY	REPLACES	CABLE	OPERATE TIME (Min.)
30 VOLT	250	HR1 (TWO)	30V BELT	BE7	24
14 VOLT	80	HR1	14V BELT	BE12	25



## CASP

CHARGER—ANALYZER—SEQUENCER—POWER SUPPLY  
all-in-one

#### IT CONSISTS OF:

- a front microcomputer module
- a rear switcher type power module
- an optional printer module which fits in between the front & rear modules

#### IT IS:

- universal—will charge & analyze any type of rechargeable battery
- ageless—can never become obsolete
- ultra-fast—full charge in 15 to 20 minutes with Christie reFLEX batteries
- very easy to use
- small & light

#### IT HAS:

- 6 channels for processing 6 different batteries, or powering 6 pieces of dc equipment
- automatic battery recognition
- a unique 4-way sensing system
- wide input voltage & frequency capability, with optional dc input



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# CHARACTER & GRAPHICS GENERATOR/ VIDEO PRINTER/PAINT SYSTEM

## VP-2 Plus Character and Graphics Generator

- **Character Resolution:** 35ns resolution, equivalent to 1510 pixel elements
- **Colors:** 512 color choices available 16 per page for characters, edges, and backgrounds
- **Fonts:** Six full fonts (upper and lower case) on line selectable from a library of 43 Chyron face styles with international fonts available. Custom font and logo compose service is also available (3 fonts standard)
- **Character Planes:** Full horizontal and vertical overlap of characters, symbols, and logos to any depth
- **Background Editing Capabilities:** Color every two raster lines, copy and fill function
- **Auto Display (Read from Disk):** Display selected graphics pages from disk memory in any sequence at variable rates
- **Palette Animation:** Cycle color in graphic images at selected multiples of video frame rate
- **Edge Types:** The three edge types for any font—full drop shadow, character offset, and bordered edge—can be varied in extent, direction, and color
- **Menus:** Complete menus and prompting displays to guide you through graphics composition
- **Composition and Control Features:** Cursor commands: up, down, right, left, backspace, return, home. Insert, delete, or move characters, words, lines. Select fonts, character colors, palette edge types, edge colors, key color. Set tab, clear tab, right justify, center page, line or column. Italicize a font (left or right), and display menu. Change character, word, line, color, font, edge, or edge color
- **Software enhancement installed**
- **Extended Roll Buffer**

VP-2 Plus Includes software enhancement and three standard fonts . . . . . \$7,195.00  
 VP-2 Plus With multifont . . . . . 8,115.00

## Multifont Option for VP-2

Allows VP-2 to use up to six font styles in six sizes, providing up to 36 fonts on-line. Each multifont chip contains one typestyle in scanline sizes: 18, 24, 30, 36, 42 and 48. Available as a field-installable kit, or as an option on new VP-2 systems.

**Multifont Upgrade**  
 Field Installable Kit . . . . . \$920.00  
 Option on new VP-2 . . . . . 920.00

**Multisize Fonts**  
 Placed into sockets on new Font Board . . . . . ea./150.00

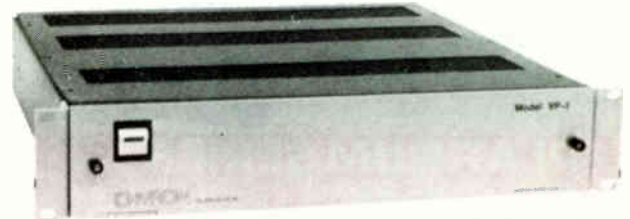
## VP-1SG Video Printer

- **Fonts:** Six full fonts (upper and lower case) on line selectable from a library of 43 Chyron face styles with international fonts available. Custom font and logo compose service is also available (3 fonts standard)
- **Hardware:** Microprocessor controlled—dual 32K byte frame store memory—ROM Program—4000 bytes of message memory—internal sync generator with genlock and NTSC video generation
- **Color Select:** Any 1 of 8 colors may be assigned to backgrounds, characters or edge
- **Color Table:** Any 8 of 512 colors
- **Sync:** Genlock to external sync or composite video from a stable source. (VCR may not be a stable source)
- **Keying:** Full downstream keying included
- **Output:** NTSC composite video (Optional RGB)
- **Commands:** Select background color, character color, edge type, edge color, font type. Skip scan lines (push down), center line, center page, roll display, page delay, repeat message, end of page, horizontal and vertical margin control. Adjust character spacing, italicize, set color table. New line. Character shift left, right, up, down. Repeat message. End of message
- **System:** Microprocessor based with ROM program
- **Interface:** Multibaud rate serial RS-232 interface. Max 9600 Baud
- **Frame Store:** 32K bytes of run length encoding. 2 frame stores to provide sequential picture generation. (35ns resolution)

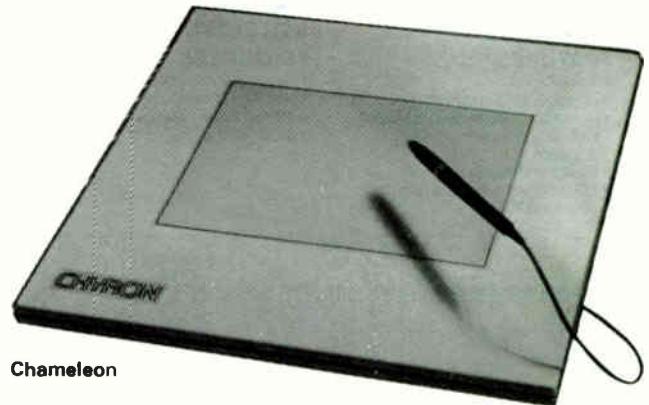
The VP-1SG accepts serial data from an RS-232C communications interface. Imbedded format commands within the data will be detected and executed and will cause the generation of a high resolution video picture (35ns increments). The video memory is organized as a dual frame buffer which allows one page to be displayed while the next page is being created.



VP-2 Plus



VP-1SG



Chameleon

This unit can be driven by any computer system with text processing capability and a serial communication port. This includes most personal as well as larger computer systems.

VP-1SG Includes software enhancement and 3 standard fonts . \$3,995.00

## Chameleon Paint System

- Easy to use icon-oriented Human interface
- Full set of drawing tools (plus free-hand drawing)
- Line
- Circle (outline or filled)
- Rectangle (outline or filled)
- Closed figure
- Area fill
- Multiple brushes
- User-definable brushes
- Cut and paste, with resizing
- Layout grid and drawing aid
- 16-level zoom with pan
- Flexible color selection and modification
- 768 x 482 resolution (582 lines for PAL)
- 256 colors displayable out of 4,096 possible
- Digitizing tablet with pen
- 10M byte removable hard disk
- Internal keyer configurable for downstream or upstream
- Simultaneous RGB and NTSC or PAL available with optional RGB board
- 256 levels of gray camera capture (option)

High resolution stand-alone paint system with digitizing tablet and pen, 10M byte removable hard disk, internal genlock with keyer.

Chameleon Includes RGB and camera capture . . . . . \$11,900.00

# CHYRON CORP.

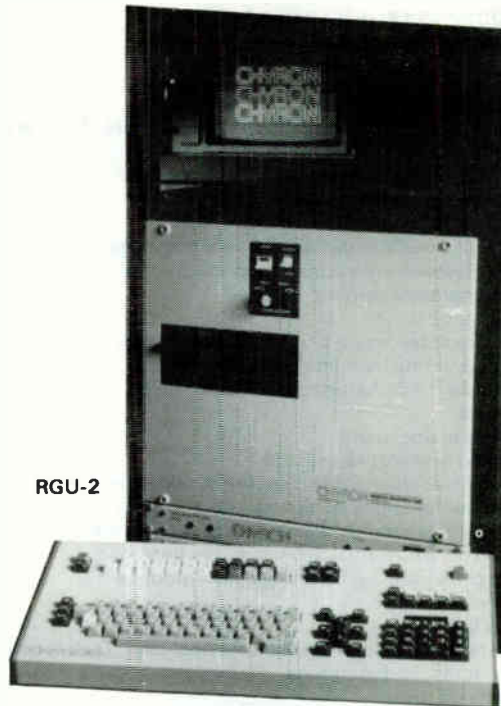
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Melville, NY 11747  
(516) 845-2022 FAX: (516) 249-3342  
Telex: 47-58418 CHYRON MELV

# GRAPHICS & TITLING SYSTEM/ SPECIAL EFFECTS GENERATOR

## RGU-2 Graphics and Titling System

- For studio and mobile production
- Incorporates many features of the Chyron IV
- Character Resolution is defined in 27ns increments
- Font Library. Character width and spacing is proportional for each character. Fonts contain upper and lower case alphas, numerics, punctuation, symbols, circumflexes, and diacritical marks
- Font Storage can hold 4 complete fonts at once. The standard Chyron RGU-2 memory has a capacity of over 32,000 16 bit words
- Color for Characters/Background is available when using the optional Chyron Color Encoder. A choice of 8 colors at a time, selectable from a 64-color palette. Background colors can range in size from full screen height to as small as 8 TV lines
- The Logo Compose Feature permits composition of custom graphics and fonts from artwork via keyboard entry
- The Character Display Area is defined by a visible safe title area on the Edit monitor. It will accommodate up to 62 characters per row, depending on their width and up to 20 rows per page, depending on their height
- Vertical Interval Change allows next messages to be displayed without black areas between messages
- Edging allows characters and graphics to be displayed with symmetrical "surround" edging, non-symmetrical "dropshadow" edging, or no edging
- Vertical Roll is selectable in five speeds, including pause. Roll may be used in two modes: roll from full screen, and roll from erased screen. Up to 2000 rows of standard text may be rolled continuously. An end-of-roll vertical tab—recorded at composition time—automatically pauses the roll at the desired screen location
- Horizontal Crawl is selectable in five speeds, including pause. An automatic end-of-crawl pause may be recorded at composition time
- Slow Reveal allows titling and graphics to be displayed character-by-character with a staccato typewriter-like effect in a choice of 5 rhythms
- Centering
- Flashing is provided on a character basis to dramatize titling and graphics, and is recordable on Vididisc
- Horizontal and Vertical Shift allows individual characters or rows to be moved under control of the cursor, in both the horizontal and vertical direction. Horizontal movement is in 112ns increments allowing adjacent character tuck. Vertical movement is in increments of one scan line pair
- The Font Compose Unit (optional) enables RGU users to create high quality custom fonts, logos, and other graphics according to their own requirements. In addition, fonts may be italicized and re-sized
- Program Animation is achieved with the Program Sequence Controller (PSC), a standard feature that transforms the Chyron RGU-2 into a graphics animation machine. A series of function keystrokes—recorded at composition time—establishes the appearance, sequence, and dwell time of displays. All system functions can be captured by PSC, including color, flash, roll, and crawl to further enhance the effect animation. In addition to action graphics displays, PSC can provide automatic recall of non-sequential messages, instant interchange of fonts for the same message compositions, automated keyboard operations for recall sequences, and easy programming of repetitive operations
- Auto Color/Font Change
- Tabs can be selected from 256 possible locations. Eight may be selected in a single page display
- Lower Third allows messages to be keyed into the lower third display area without pre-programming
- Insert and Delete are keystroke functions

Single Channel RGU-2 w/color encoder and downstream keyer . . . . . \$15,990.00  
Dual channel RGU-2 w/2 color encoders w/downstream keyers . . . . . \$20,190.00



RGU-2

## Options

Full-function second channel . . . . .	\$4,800.00
Color Encoder . . . . .	3,000.00
Downstream Keyer . . . . .	500.00
Multiple Keyboards . . . . .	ea. 2,500.00
Multiple Vididisc Transports Single remote . . . . .	ea. 2,100.00
Diagnostic Panel . . . . .	590.00
Factory Logo Compose Service (already created) . . . . .	ea. 100.00
Factory Font Compose Service (custom created) . . . . .	ea. 750.00
Channel Control Module (CCM) (Mixes, Wipes) . . . . .	1,950.00
Sports Scoreboard 4 bank . . . . .	975.00
Camera Font Compose . . . . .	3,650.00

## MOTION Special Effects Generator For RGU-2

- Multiple effects including spin, flip, rotate, zoom, compress, and image splitting can be created instantaneously
- Position and time duration of effect are operator selectable
- Key manipulation can be background or foreground relative to Chyron characters
- 100 Matrix wipe patterns
- Standard broadcast rackmounted
- All trigonometric computations are implemented in hardware with pipeline processing under direction of a microprocessor controller
- NTSC and PAL compatible
- Special effect sequences can be stored within Chyron messages and recalled at will
- A manual operation is available for effect formatting and testing
- Provides an external key signal for integration into your system

The Motion Special Effects Generator provides the RGU-2 with a powerful new low-cost modular option. The Motion will provide exciting special visual effects through digital video manipulation of Chyron generated graphics.

Combinations of effects may be individually customized. The speed of performance along with number repetitions can also be controlled from the Chyron keyboard. All functions operate in real time and provide smooth transitions between steps. Motion will support up to 15 colors at one time from the palette provided by the Chyron system. The Motion image may be keyed as a background effect behind Chyron characters or as a foreground effect over the characters. It can also be manipulated as a background to foreground, or reverse transaction, to produce a three dimensional effect. A Motion Control Module is required on an RGU-2 System.

Motion . . . . . \$15,000.00

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# CHARACTER GENERATOR

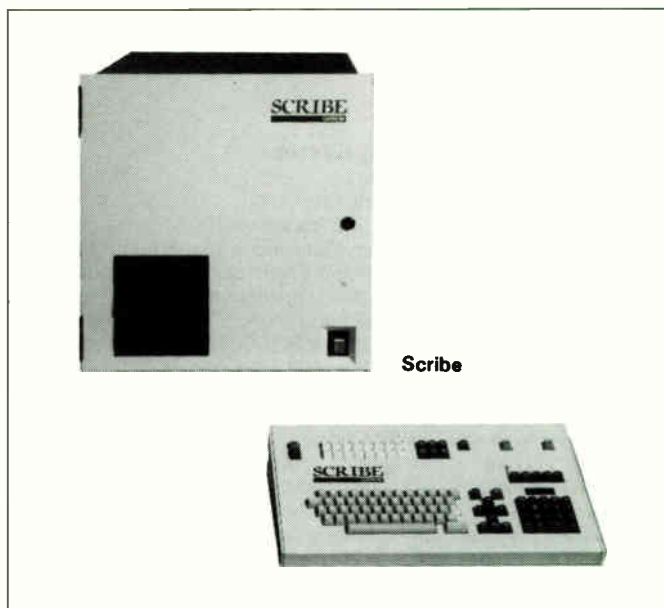
## Scribe Text Generator

- Unsurpassed print quality resolution with 16 levels of anti-aliasing
- 1500 master typeface library
- Automatic font resizing from 10 to 400 scan lines
- 512K font memory expandable to 4M bytes
- Eight font loading positions
- Alternate fonts loadable during message compose
- Automatic playback with recorded fonts
- Automatic character kerning
- Row swap
- Unlimited character, word, or row underlap or overlap
- Automatic centering horizontal and/or vertical
- Squeeze/Expand for characters, words, or row
- Cut and paste
- Adjustable safe title area
- Color Encoder and soft keyer/fader
- 16.7 million color choices for characters, edges, and backgrounds
- Multiple character edges in variable size and color
- Multicolored log/character display including metallic
- Background colors selectable on scan line basis
- Automatic color ramping for shaded backgrounds
- Color/font pickup
- Dual frame buffer
- 1.2M byte floppy disk plus 20M byte Winchester Disk for storage of messages, fonts, and programs
- Insert/delete controls
- Right/left/center justification
- 256 tab positions
- Multiple speeds of roll/crawl
- Programmable timed roll
- Multiple speeds of slow reveal
- Programmable function keys
- Clock/event timer
- Built-in sync generator with genlock
- Programmable directory for operators includes auto font loads, with color palettes, tab, edges
- Software intensive
- Remote event triggering

## Options

- Font memory expansion to 4M bytes in 512K byte increments
- Disk storage expandable by 280M bytes with lomega cartridge backup
- Additional keyboards
- Capability to accommodate up to 10 disk drives
- Utility software for custom shaded or metallized fonts, italics, X, Y, Z rotation, glows, neons, embossed, auras, and light sources
- International character set
- RGB or YIQ component outputs
- Logo compose for customized creation of anti-aliased logos from artwork
- Dynamic Read Effects — flips, tumbles, wipes and slides with variable speed control
- Preview/offline edit channel allows simultaneous composition and update of messages while main channel remains on-air
- Networking permits multiple systems to have shared access to all pages, fonts and files
- Expanded General Purpose Interface for external control of execution of pre-programmed sequences on Scribe

Scribe is a revolutionary, high performance text generator featuring print quality display and offering unlimited choice of type styles. Add to this unlimited overlays, positioning, sizing, coloring, and shading, along with an array of functions and controls which make the Scribe the most sophisticated text generator available.



## Offset Characters

The Scribe can offset characters in eight directions. With this feature you can create many variations to a single master font and also enlarge your typeface library to include styles and sizes that you find most useful without additional expense.

## Drop Shadows

Experiment with drop shadows in various sizes, directions, and colors. Create attention-getting impact with letterforms that Scribe's versatility and resolution make available for the first time. Now you are free to explore new typographic directions with confidence and ease.

## Detailed Lettering

Scripts, cursives, and calligraphic styles can lend great distinction to your text display. Now you can show them off to their best advantage because Scribe's high resolution will show every detail of the delicate twists and turns that characterize these most graceful and expressive typestyles.

## Italics

Italics, because they contrast so definitely with regular roman typefaces, can be very useful to a graphic designer. And Scribe can italicize in 1° increments to produce right leaning type or left leaning type.

## Kerning Programs

Kerning is a very important feature of the Scribe. All of the master fonts come with a kerning program that automatically adjusts the space between certain letter combinations for a more efficient and esthetically pleasing display. You can also make your own kerning adjustments when the requirements of your message call for it.

## Bordering

Making borders or outlines for a typeface can quite often add to its character and heighten its visibility. With Scribe you have the option of making borders from 1 to 100 lines thick. And with Scribe's color capabilities, you have almost unlimited choices of border variations.

**Scribe** . . . . . \$28,900.00



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(516) 845-2022 FAX: (516) 249-3342  
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# BACKGROUND GRAPHICS/ PAINT SYSTEM

## 4200 Character/Graphics Generator

- Motion-special effects generator
- Motion-channel control module CCM (mixes, wipes, fades)
- 27ns resolution
- Automatic character kerning
- Software controlled
- RS232 computer interface
- Software diagnostics
- 512 color choices
- Versatile multi-font library
- Proportionally-spaced characters
- Background stripes and solids
- True character overlay
- Choice of character edging (style and color)
- See-through characters
- Auto-color/font change
- Diagonal typing
- Multi-color character/logo display
- Font loading positions
- Programmed animation (PSC)
- Multiple roll and crawl speeds
- Adjustable video window during roll
- Slow reveal
- Automatic centering
- Mini-computer programming
- Automatic Instruction Displays (AID)
- Flexible VIDIDISC magnetic storage system
- Disk duplication
- Flash
- Automatic lower third display
- Visibly-bordered safe title area
- Operator controlled margin release of safe title area
- Left and right justification
- Insert and delete controls
- 256 tab positions
- Auto pause and rolls and crawls
- Modular design

4200

- Clock/event timer
- Automatic kerning
- Word or row squeeze, or stretch
- Row swap

### Options

- International fonts
- Right-to-left writing
- Subtitling interface
- SMPTE time code interface
- Advanced camera font compose
- Multimode Graphics Module (MGM)
- Full-function second channel
- Color encoder
- Down stream keyer
- Multiple keyboards
- Multiple VIDIDISC transport
- Large capacity Winchester hard disk
- Drawing tablet (electronic painting system)
- Sports scoreboard
- Weather service interface
- Custom font/logo compose service
- Election reporting system

4200 Priced from \$41,000.00 to \$90,000.00 depending on configuration.



## Multimode Graphics Module (MGM)

### Option For Chyron IV

- Standard RS170 input
- 512 color palette
- Full screen display capability
- Accepts drawing tablet input
- Resizing of graphics
- Cut and paste
- Standard geometric library
- Infinite montaging of multiple graphics
- Montaging of text channels
- Area fill
- Custom brush compose
- Palette animation
- Satellite weather service interface

The Multimode Graphic Module (MGM) provides a multitude of graphic abilities never before associated with a character generator. In addition to standard camera font compose, the MGM offers an advanced camera font compose that is unparalleled in the industry today.

An important extra dimension is added by the MGM's background graphics abilities. High resolution background graphics (1024 x 512 pixels) can be created either from standard black-and-white camera input or hand drawn with an optional digitizing tablet. Up to 16 colors may be selected from a 512 color palette, as well as a wide variety of brush sizes and styles, color fill, color pick-up, etc. Circles, rectangles and other graphic primitives are automatically drawn at the touch of a key. Completed portions of the background graphic can be cut and

pasted and varied in size. Backgrounds can also be montaged over other backgrounds for an unlimited layered effect. Palette animation is an important function of the MGM. The colors of the background graphics can be animated for exciting effects such as glow glitter, neon and color trails.

Weather service interface of the MGM can accept and display high resolution weather graphics from Weather Service International (WSI) or Environmental Satellite Data, Inc. (ESDI). The weather graphics are transmitted over telephone line\* to the Chyron IV and stored on Chyron's Winchester disk for subsequent display on command.

\*Data terminal and modem are required.

In foreground mode, the MGM provides an extremely advanced form of camera font compose that will quickly and easily create standard and multicolor graphics. Fonts can be automatically modified and added to your font library.

When background graphics are created with the MGM, they can be displayed as a single graphic or combined with text and other graphics on Chyron IV's channel one or two and stored as a single message on Winchester disk.

MGM . . . . .	\$8000.00
Digitizing Tablet . . . . .	1900.00

# CINE 60, INC.

630 Ninth Ave.  
New York, NY 10036  
(212) 586-8782 FAX: (212) 459-9556  
Telex: 69-73262

Cat. No.	Volts/ Amps	Connectors	Charge Rate	Fast Charge Rate With Fast Charger	Weight	Price
<b>12V Battery Belts</b>						
6307	12V- 4AH	5-Pin XLR	Overnite		5 1/2 lbs.	\$ 412.00
8307FC	12V- 4AH	5-Pin XLR	Fast Charge*	1 Hr.	5 1/2 lbs.	456.00
7007	12V- 7AH	5-Pin XLR	Overnite		7 1/2 lbs.	555.00
7007FC	12V- 7AH	5-Pin XLR	Fast Charge*	2 Hrs.	7 1/2 lbs.	596.00
6327	12V- 8AH	5-Pin XLR	Overnite		10 lbs.	628.00
8327FC	12V- 8AH	5-Pin XLR	Fast Charge*	1 Hr.	10 lbs.	672.00
7027	12V-14AH	5-Pin XLR	Overnite		13 lbs.	979.00
7027F	12V-14AH	5-Pin XLR	Fast Charge*	2 Hrs.	13 lbs.	1010.00

## 13.2V Battery Belts. For 10% more run time vs. 12V Battery Belts

6308	13.2V- 4AH	5-Pin XLR	Overnite		6 lbs.	\$ 437.00
8308FC	13.2V- 4AH	5-Pin XLR	Fast Charge*	1 Hr.	6 lbs.	480.00
7008	13.2V- 7AH	5-Pin XLR	Overnite		8 lbs.	565.00
7008FC	13.2V- 7AH	5-Pin XLR	Fast Charge*	2 Hrs.	8 lbs.	606.00
6328	13.2V- 8AH	5-Pin XLR	Overnite		11 lbs.	661.00
8328FC	13.2V- 8AH	5-Pin XLR	Fast Charge*	1 Hr.	11 lbs.	700.00
7028	13.2V-14AH	5-Pin XLR	Overnite		14 lbs.	1007.00
7028F	13.2V-14AH	5-Pin XLR	Fast Charge*	2 Hrs.	14 lbs.	1044.00

## 14.4V Battery Belts. For 20% more run time vs. 12V Battery Belts

6306	14.4V- 4AH	5-Pin XLR	Overnite		6 lbs.	\$ 462.00
8306FC	14.4V- 4AH	5-Pin XLR	Fast Charge*	1 Hr.	6 lbs.	506.00
6306B	14.4V- 4AH	4-Pin XLR	Overnite		6 lbs.	468.00
8306BFC	14.4V- 4AH	4-Pin XLR	Fast Charge*	1 Hr.	6 lbs.	512.00
7006	14.4V- 7AH	5-Pin XLR	Overnite		8 lbs.	572.00
7006FC	14.4V- 7AH	5-Pin XLR	Fast Charge*	2 Hrs.	8 lbs.	616.00
7006B	14.4V- 7AH	4-Pin XLR	Overnite		8 lbs.	585.00
7006BFC	14.4V- 7AH	4-Pin XLR	Fast Charge*	2 Hrs.	8 lbs.	627.00
6326	14.4V- 8AH	5-Pin XLR	Overnite		11 lbs.	695.00
8326FC	14.4V- 8AH	5-Pin XLR	Fast Charge*	1 Hr.	11 lbs.	727.00
6326B	14.4V- 8AH	4-Pin XLR	Overnite		11 lbs.	700.00
8326BFC	14.4V- 8AH	4 & 5-Pin XLR	Fast Charge*	1 Hr.	11 lbs.	760.00
7026	14.4V-14AH	5-Pin XLR	Overnite		15 lbs.	1034.00
7026FC	14.4V-14AH	5-Pin XLR	Fast Charge*	2 Hrs.	15 lbs.	1078.00
7026B	14.4V-14AH	4-Pin XLR	Overnite		15 lbs.	1034.00
7026BFC	14.4V-14AH	4 & 5-Pin XLR	Fast Charge*	2 Hrs.	15 lbs.	1078.00

## ± Voltage Battery Belts

8314FC	± 7.2V- 4AH	5-Pin XLR	Fast Charge*	1 Hr.	6 lbs.	\$ 506.00
7014FC	± 7.2V- 7AH	5-Pin XLR	Fast Charge*	2 Hrs.	8 lbs.	638.00
7014BFC	± 7.2V- 7AH	4-Pin XLR	Fast Charge*	2 Hrs.	8 lbs.	649.00
8324FC	± 7.2V- 8AH	5-Pin XLR	Fast Charge*	1 Hr.	11 lbs.	754.00
8324BFC	± 7.2V- 8AH 4 &	5-Pin XLR	Fast Charge*	1 Hr.	11 lbs.	765.00
7024FC	± 7.2V-14AH	5-Pin XLR	Fast Charge*	2 Hrs.	15 lbs.	1085.00
7024BFC	± 7.2V-14AH 4&	5-Pin XLR	Fast Charge*	2 Hrs.	15 lbs.	1085.00
8313FC	± 9.6V- 4AH	5-Pin XLR	Fast Charge*	1 Hr.	8 1/2 lbs.	635.00
7013FC	± 9.6V- 7AH	5-Pin XLR	Fast Charge*	2 Hrs.	11 lbs.	925.00
8311FC	± 12V - 4AH	5-Pin XLR	Fast Charge*	1 Hr.	10 lbs.	655.00
7011FC	± 12V - 7AH	5-Pin XLR	Fast Charge*	2 Hrs.	14 lbs.	995.00
8315FC	± 14.4V- 4AH	5-Pin XLR	Fast Charge*	1 Hr.	11 1/2 lbs.	725.00
7015FC	± 14.4V- 7AH	5-Pin XLR	Fast Charge*	2 Hrs.	15 lbs.	1078.00

\*Require Fast Charger. 115V Overnite Charger built-in.

All Battery Belts have a 115V Overnite Charger built-in. For 220 or 115/220V built-in Overnite Chargers, the following Options are available:

8994 220V Charger built into any Battery Belt in lieu of the 115V Charger . . . . . \$22.00

6994 115/220V Charger. Only built into Overnite Charge Type Battery Belts . . . . . \$44.00

Not available for Fast Charge Type Battery Belts.

# VIDEO BATTERY BELTS



4 Amp.-Hr.  
3 1/2" width



7 Amp.-Hr.  
4 3/4" width



8 Amp.-Hr.  
5 3/4" width



14 Amp.-Hr.  
6 1/4" width

These unique Battery Belts replace On-Camera Batteries, BP-90, NP-1, and any other built-in or attached Battery Packs. Used world-wide by entrepreneurial professional ENG/EFP Camera Persons and Broadcast News Persons, Cine 60 Battery Belts offer more reliability, more power, more mobility, better balance with more comfort and greater economy with obsolete-proof versatility.

- **Most economical.** Longer life gives more hours of power per dollar than any other type NiCad battery
- **Lifetime investment.** Never discarded. All components of the battery purchasable to replace those that wear out
- **Most convenient.** Charger and Charge Cable built-in means less equipment to keep track of
- **More comfort.** Worn, not carried like 5 lb. On-Camera Batteries
- **Cameras and Betacams** become easier to handle, lighter to carry without On-Camera Battery
- **Undisturbed balance,** unimpeded movement from uniformly distributed weight around waist
- **Universal use.** Runs any equipment, lights, cameras, monitors, microwave devices. Run two or more devices simultaneously

# CINE 60, INC.

630 Ninth Ave.  
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(212) 586-8782 FAX: (212) 459-9556  
Telex: 69-73262

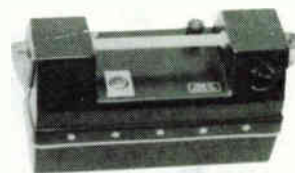
# VIDEO BATTERY PACKS



12V, 4AH Style; 2" x 5 1/2" x 7". With built-in belt loops, shoulder strap.



12V, 7AH; 13.2/14.4V, 4AH Style; 2" x 6 1/2" x 8". With built-in belt loops, shoulder strap.

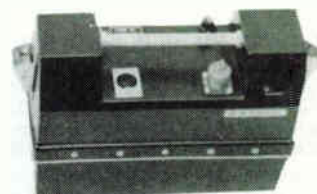


13.2V/14.4V, 7AH, 8AH Style; 4 1/2" x 6" x 10". With built-in handgrip, shoulder strap.

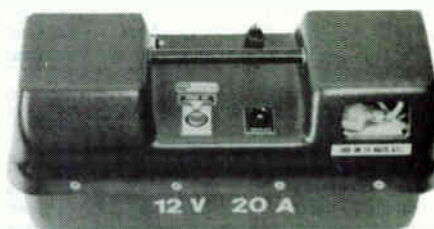
Rugged, compact housings designed to withstand ENG/EFP field abuse and provide optimum portability possible. Utilizes the same components, cells and chargers used in Cine 60 Battery Belts.

Cat. No.	Volts/Amps.	Connectors	Charge Rate	Fast Charge Rate With Fast Charger	Weight	Price
<b>12V Battery Packs</b>						
9107	12V, 4AH	5-pin XLR	Overnite		4 lbs.	\$ 450.00
9107FC	12V, 4AH	5-pin XLR	Fast Charge*	1 hr.	4 lbs.	495.00
9707	12V, 7AH	5-pin XLR	Overnite		6 lbs.	596.00
9707FC	12V, 7AH	5-pin XLR	Fast Charge*	2 hrs.	6 lbs.	627.00
9127	12V, 8AH	5-pin XLR	Overnite		9 lbs.	665.00
9127FC	12V, 8AH	5-pin XLR	Fast Charge*	1 hr.	9 lbs.	710.00
9727	12V, 14AH	5-pin XLR	Overnite		13 lbs.	979.00
9727FC	12V, 14AH	5-pin XLR	Fast Charge*	2 hrs.	13 lbs.	1020.00
20-120/2	12V, 20AH	(2)5-pin XLR	Overnite		22 lbs.	1615.00
<b>13.2V Battery Packs</b>						
9108	13.2V, 4AH	5-pin XLR	Overnite		6 lbs.	\$ 465.00
9108FC	13.2V, 4AH	5-pin XLR	Fast Charge*	1 hr.	6 lbs.	515.00
9708	13.2V, 7AH	5-pin XLR	Overnite		8 lbs.	612.00
9708FC	13.2V, 7AH	5-pin XLR	Fast Charge*	2 hrs.	8 lbs.	639.00
9128	13.2V, 8AH	5-pin XLR	Overnite		10 lbs.	695.00
9128FC	13.2V, 8AH	5-pin XLR	Fast Charge*	1 hr.	10 lbs.	735.00
9728	13.2V, 14AH	5-pin XLR	Overnite		14 lbs.	1017.00
9728FC	13.2V, 14AH	5-pin XLR	Fast Charge*	2 hrs.	14 lbs.	1049.00
20-130/2	13.2V, 20AH	(2)5-pin XLR	Overnite		24 lbs.	1675.00
<b>14.4V Battery Packs</b>						
9106	14.4V, 4AH	5-pin XLR	Overnite		5 1/2 lbs.	\$ 470.00
9106FC	14.4V, 4AH	5-pin XLR	Fast Charge*	1 hr.	5 1/2 lbs.	522.00
9106B	14.4V, 4AH	4-pin XLR	Overnite		5 1/2 lbs.	476.00
9106BFC	14.4V, 4AH	4-pin XLR	Fast Charge*	1 hr.	5 1/2 lbs.	522.00
9706	14.4V, 7AH	5-pin XLR	Overnite		8 lbs.	625.00
9706FC	14.4V, 7AH	5-pin XLR	Fast Charge*	2 hrs.	8 lbs.	649.00
9706B	14.4V, 7AH	4-pin XLR	Overnite		8 lbs.	638.00
9706BFC	14.4V, 7AH	4-pin XLR	Fast Charge*	2 hrs.	8 lbs.	649.00
9126	14.4V, 8AH	5-pin XLR	Overnite		10 lbs.	730.00
9126FC	14.4V, 8AH	5-pin XLR	Fast Charge*	1 hr.	10 lbs.	755.00
9126B	14.4V, 8AH	4-pin XLR	Overnite		10 lbs.	730.00
9126BFC	14.4V, 8AH	4- and 5-pin XLR	Fast Charge*	1 hr.	10 lbs.	755.00
9726	14.4V, 14AH	5-pin XLR	Overnite		14 lbs.	1034.00
9726FC	14.4V, 14AH	5-pin XLR	Fast Charge*	2 hrs.	14 lbs.	1078.00
9726B	14.4V, 14AH	4-pin XLR	Overnite		14 lbs.	1034.00
9726BFC	14.4V, 14AH	4- and 5-pin XLR	Fast Charge*	2 hrs.	14 lbs.	1078.00
20-140/2	14.4V, 20AH	(2)5-pin XLR	Overnite		26 lbs.	1735.00
20-140B/2	14.4V, 20AH	(2)4-pin XLR	Overnite		26 lbs.	1735.00
<b>± Voltage Battery Packs</b>						
9114FC	± 7.2V, 4AH	5-pin XLR	Fast Charge*	1 hr.	5 1/2 lbs.	\$ 522.00
9714FC	± 7.2V, 7AH	5-pin XLR	Fast Charge*	2 hrs.	8 lbs.	682.00
9714BFC	± 7.2V, 7AH	4-pin XLR	Fast Charge*	2 hrs.	8 lbs.	682.00
9124FC	± 7.2V, 8AH	5-pin XLR	Fast Charge*	1 hr.	10 lbs.	792.00
9124BFC	± 7.2V, 8AH	4- and 5-pin XLR	Fast Charge*	1 hr.	10 lbs.	792.00
9724FC	± 7.2V, 14AH	5-pin XLR	Fast Charge*	2 hrs.	14 lbs.	1095.00
9724BFC	± 7.2V, 14AH	4- and 5-pin XLR	Fast Charge*	2 hrs.	14 lbs.	1095.00
9113FC	± 9.6V, 4AH	5-pin XLR	Fast Charge*	1 hr.	8 1/2 lbs.	685.00
9713FC	± 9.6V, 7AH	5-pin XLR	Fast Charge*	2 hrs.	11 lbs.	968.00
9111FC	± 12V, 4AH	5-pin XLR	Fast Charge*	1 hr.	9 lbs.	726.00
9711FC	± 12V, 7AH	5-pin XLR	Fast Charge*	2 hrs.	13 lbs.	1034.00
9115FC	± 14.4V, 4AH	5-pin XLR	Fast Charge*	1 hr.	10 lbs.	770.00
9715FC	± 14.4V, 7AH	5-pin XLR	Fast Charge*	2 hrs.	14 lbs.	1090.00

\*Require Fast Charger. 115V Overnite Charger supplied.  
All Battery Packs have a 115V Overnite Charger.



14AH Style; 4 1/2" x 8" x 10". With built-in handgrip, shoulder strap.



20AH Style; 6 1/2" x 6 1/2" x 14 3/4". With built-in handgrip.

Properly cared for, Cine 60 Battery Belts and Packs provide many years of reliable service. Due to many variations in possible use, the number of re-cycles or life expectancy cannot be stated exactly. There are so many factors to consider which will influence battery life, such as high discharge, low discharge, temperature, environment, charging modes, etc. For instance, a battery constantly used at high discharge will not have as many re-cycles as a battery used for low discharge applications. Life expectancy can vary from 500 to 20000 re-cycles. But from our 26 year experience in making and selling batteries, we have seen batteries out of service after 4 years and we have seen batteries in use after 10 years. Again, the above mentioned factors will apply to the disparity in re-cycle life for any battery.



# CINE 60, INC.

630 Ninth Ave.  
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Telex: 69-73262

## 30V Battery Belts/Packs

For Cine 60 Sun-Guns, Lowel, Colortran, Frezzi, Anton-Bauer, Mole-Richardson, Cinema Products, De Sisti, Kobold, lanero, and other battery lights. 4AH capacity operates 30V 250W lamp 26 minutes. 7AH capacity operates 250W lamp 42 minutes. 2-pin Amphenol connector and 5-pin XLR on fast charge models, 2-pin Amphenol on Overnite models.

Cat. No.	Volts/Amps	Charge Rate	Fast Charge Rate With		Price
			Fast Charger	Weight	
6304	30V, 4AH	Overnite		11 lbs.	\$ 633.00
8304FC	30V, 4AH	Fast Charge *	1 hr.	11 lbs.	673.00
7004	30V, 7AH	Overnite		15 lbs.	1012.00
7004FC	30V, 7AH	Fast Charge *	2 hrs.	15 lbs.	1062.00

Same as 30V Battery Belts but in a battery pack style.

9104	30V, 4AH	Overnite		10 lbs.	\$ 665.00
9104FC	30V, 4AH	Fast Charge *	1 hr.	10 lbs.	710.00
9704	30V, 7AH	Overnite		14 lbs.	1045.00
9704FC	30V, 7AH	Fast Charge *	2 hrs.	14 lbs.	1072.00

## 30V/14.4V/13.2V All-Purpose Battery System

Cine 60's versatile power for most portable equipment and Sun-Guns. The Battery provides 14.4V and 30V. With an in-line plug-in voltage converter, it becomes a 13.2V battery. And with a power adaptor, it will power both a Sun-Gun and camera simultaneously. 13.2V mode limited to applications drawing under 48W. Equipped with 2-pin Amphenol and 5-pin XLR connectors. A complete system requires the battery, voltage converter, and power adaptor, plus 1 or more video cables.

Applications for the All-Purpose Battery System are virtually unlimited. It will power all 13.2V cameras, VTRs, Betacams, and other similar systems, all 14.4V cameras, most 12V cameras, VTRs, plus all 14.4V and 30V battery lights and Sun-Guns.

All-Purpose Battery Belts. Require the Voltage Converter for 13.2V operation.

3014	30V, 4AH/14.4V, 8AH	Overnite		11 lbs.	\$ 712.00
3014FC	30V, 4AH/14.4V, 8AH	Fast Charge *	1 hr.	11 lbs.	760.00
3017	30V, 7AH/14.4V, 14AH	Overnite		15 lbs.	1090.00
3017FC	30V, 7AH/14.4V, 14AH	Fast Charge *	2 hrs.	15 lbs.	1140.00

All-Purpose Battery Packs. Require the Voltage Converter for 13.2V operation.

9014	30V, 4AH/14.4V, 8AH	Overnite		10 lbs.	\$ 712.00
9014FC	30V, 4AH/14.4V, 8AH	Fast Charge *	1 hr.	10 lbs.	760.00
9017	30V, 7AH/14.4V, 14AH	Overnite		14 lbs.	1090.00
9017FC	30V, 7AH/14.4V/14AH	Fast Charge *	2 hrs.	14 lbs.	1140.00
1430	30V, 10AH/14.4V, 20AH	Overnite		26 lbs.	1815.00

VRX Voltage Converter. Plugs in between battery and video cable. Converts 14.4V to 13.2V. Allows battery to power all 13.2V cameras, VTRs, Betacams. Maximum 48W. 5-pin male XLR input, 5-pin female XLR output. . . . . \$45.00

6400-Y Power Adaptor. Allows battery to run a battery light and camera simultaneously. Plugs in between battery, video cable, and light cable. 5-pin male XLR input, two 5-pin female XLR outputs. With the VRX plugged into one output to power a 13.2V Betacam or camera, and the second output providing 14.4V to operate a 14.4V, 70W battery light, excellent battery utilization is assured. . . . . \$49.00

\*Requires Fast Charger. Overnite charger built-in.

## Kwik-Charge Battery Belts/Packs

Same as Fast Charge Belts and Packs but with built-in dual-rate Kwik-Charger that allows fully charging 4 and 8AH batteries in 4 hrs., and 7 and 14AH batteries in 7 hrs. Then trickle charge circuit safely maintains fully charged battery indefinitely. Can also be fast charged with Cine 60 Universal Fast Chargers Models 9400, 9400-U and Model 94DC30 Mobile Fast Charger.

8327KFC	12V, 8AH, 4 hr. Kwik-Charge Battery Belt, 1 hr. Fast Charge *	\$ 792.00
7027KFC	12V, 14AH, 7 hr. Kwik-Charge Battery Belt, 2 hr. Fast Charge *	1130.00
9127KFC	12V, 8AH, 4 hr. Kwik-Charge Battery Pack, 1 hr. Fast Charge *	830.00
9727KFC	12V, 8AH, 4 hr. Kwik-Charge Battery Pack, 1 hr. Fast Charge *	1140.00

8328KFC	13.2V, 8AH, 4 hr. Kwik-Charge Battery Belt, 1 hr. Fast Charge *	\$ 820.00
7028KFC	13.2V, 14AH, 7 hr. Kwik-Charge Battery Belt, 2 hr. Fast Charge *	1164.00
9128KFC	13.2V, 8AH, 4 hr. Kwik-Charge Battery Pack, 1 hr. Fast Charge *	855.00
9728KFC	13.2V, 14AH, 7 hr. Kwik-Charge Battery Pack, 2 hr. Fast Charge *	1169.00

8326KFC	14.4V, 8AH, 4 hr. Kwik-Charge Battery Belt, 1 hr. Fast Charge *	\$ 847.00
8326BKFC	14.4V, 8AH, 4 hr. Kwik-Charge Battery Belt, 1 hr. Fast Charge *	880.00
7026KFC	14.4V, 14AH, 7 hr. Kwik-Charge Battery Belt, 2 hr. Fast Charge *	1198.00
7026BKFC	14.4V, 14AH, 7 hr. Kwik-Charge Battery Belt, 2 hr. Fast Charge *	1198.00

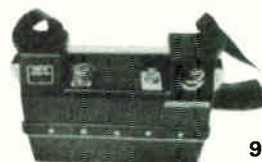
8304KFC	30V, 4AH, 4 hr. Kwik-Charge Battery Belt, 1 hr. Fast Charge *	\$ 793.00
7004KFC	30V, 7AH, 7 hr. Kwik-Charge Battery Belt, 2 hr. Fast Charge *	1182.00
9104KFC	30V, 4AH, 4 hr. Kwik-Charge Battery Pack, 1 hr. Fast Charge *	830.00
9704KFC	30V, 7AH, 7 hr. Kwik-Charge Battery Pack, 2 hr. Fast Charge *	1192.00

\*Requires Fast Charger. Kwik-Charger built-in.

# BATTERY BELTS/PACKS/ BATTERY SYSTEM



7004FC



9704FC



3014FC



VRX

6400-Y



9128KFC



8328KFC

# CINE 60, INC.

630 Ninth Ave.  
New York, NY 10036  
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Telex: 69-73262

# MOTION PICTURE CAMERA BATTERY BELTS AND PACKS

These batteries are the standard power source for the motion picture industry and are equipped with connectors to interface with the motion picture camera manufacturer's power cables.

**Universal. Overnight Charge types for Arri, Aaton, and Eclair Cameras.**

Cat. No.	Volts/Amps	Weight	Price
<b>6305 Battery Belt</b>	8.4V, 8AH/12V/16.8V, 4AH, with Banana Jacks, 3- and 4-pin XLR, switch	7 lbs.	\$545.00
<b>9105 Battery Pack</b>	8.4V, 8AH/12V/16.8V, 4AH, with 5-pin XLR switch	6 lbs.	\$55.00
<b>7005 Battery Belt</b>	8.4V, 14AH/12V/16.8V, 7AH, with Banana Jacks, 3- and 4-pin XLR, switch	10 lbs.	710.00
<b>9705 Battery Pack</b>	8.4V, 14AH/12V/16.8V, 7AH, with 5-pin XLR, switch	9 lbs.	765.00

Note 1. Above battery belts can be supplied with 4- and 5-pin in place of 3- and 4-pin XLR, on request.

**For Arri 168L, 16SR, 358L, 358I-3, 35-III, 35-2C, Eclair, and Aaton Cameras.**

<b>9805 Battery Pack</b>	12V, 8AH/16.8V, 8AH, with Banana Jacks, 4-pin XLR, Overnight Charge	9 lbs.	\$795.00
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**For Arri 16S, 16M Cameras**

<b>6301 Battery Belt</b>	8.4V, 4AH, with Banana Jacks, Overnight Charge	4 1/2 lbs.	\$325.00
<b>9301FC Battery Belt</b>	8.4V, 4AH, with 5-pin XLR, Fast Charge*	4 1/2 lbs.	370.00
<b>9101 Battery Pack</b>	8.4V, 4AH, with 5-pin XLR, Overnight Charge	3 lbs.	377.00
<b>9101FC Battery Pack</b>	8.4V, 4AH, with 5-pin XLR, Fast Charge*	3 lbs.	410.00

**For Arri 16S, 16M, 35-2C Cameras.**

<b>6302 Battery Belt</b>	8.4V, 8AH/16.8V, 4AH, with Banana Jacks, Switch, Overnight Charge	7 lbs.	\$490.00
<b>8302FC Battery Belt</b>	8.4V, 8AH/16.8V, 4AH, with 5-pin XLR, Switch, Fast Charge*	7 lbs.	545.00
<b>9102FC Battery Pack</b>	8.4V, 8AH/16.8V, 4AH, with 5-pin XLR, Switch, Fast Charge*	6 lbs.	578.00

**For Arri 16S, 16M, 16SR, 168L, 35-III, 35BL-3 Cameras.**

<b>6307WBJ Battery Belt</b>	8.4V/12V, 4AH, with Banana Jacks, 5-pin XLR, Overnight Charge	5 1/2 lbs.	\$415.00
<b>9107-S Battery Pack</b>	8.4V/12V, 4AH, with 5-pin XLR, Overnight Charge	4 lbs.	450.00
<b>7007WBJ Battery Belt</b>	8.4V/12V, 7AH, with Banana Jacks, 5-pin XLR, Overnight Charge	7 1/2 lbs.	562.00
<b>9707-S Battery Pack</b>	8.4V/12V, 7AH, with 5-pin XLR, Overnight Charge	6 lbs.	596.00

**For Eclair NPR, ACL, Arri 16S, 16M, 16SR, 168L, 35BL and Aaton Cameras.**

<b>6303 Battery Belt</b>	8.4V/12V, 4AH, with Banana Jacks, 3- and 4-pin XLR, Overnight Charge	5 1/2 lbs.	\$435.00
<b>7003 Battery Belt</b>	8.4V/12V, 7AH, with Banana Jacks, 3- and 4-pin XLR Overnight Charge	7 1/2 lbs.	590.00

**For Eclair NPR, ACL, Arri 16SR, 16BL, 35BL-3, 35-III Cameras.**

<b>8303FC Battery Belt</b>	12V, 4AH, with 4-pin XLR, Fast Charge*	5 1/2 lbs.	\$456.00
<b>7003FC Battery Belt</b>	12V, 7AH, with 4-pin XLR, Fast Charge*	7 1/2 lbs.	596.00
<b>9103 Battery Pack</b>	12V, 4AH, with 3- and 4-pin XLR, Overnight Charge	4 lbs.	473.00
<b>9103FC Battery Pack</b>	12V, 4AH, with 4-pin XLR, Fast Charge*	4 lbs.	495.00
<b>9703 Battery Pack</b>	12V, 7AH, with 3- and 4-pin XLR, Overnight Charge	6 lbs.	605.00
<b>9703FC Battery Pack</b>	12V, 7AH, with 4-pin XLR, Fast Charge*	6 lbs.	627.00

**For 24V Cameras. These batteries are equipped with the 5-pin XLR connector.**

<b>6310 Battery Belt</b>	24V, 4AH, Overnight Charge	10 lbs.	\$ 622.00
<b>8310FC Battery Belt</b>	24V, 4AH, Fast Charge*	10 lbs.	655.00
<b>7010 Battery Belt</b>	24V, 7AH, Overnight Charge	14 lbs.	968.00
<b>7010FC Battery Belt</b>	24V, 7AH, Fast Charge*	14 lbs.	1012.00
<b>9110 Battery Pack</b>	24V, 4AH, Overnight Charge	9 lbs.	682.00
<b>9110FC Battery Pack</b>	24V, 4AH, Fast Charge*	9 lbs.	752.00
<b>9710 Battery Pack</b>	24V, 7AH, Overnight Charge	13 lbs.	1008.00
<b>9710FC Battery Pack</b>	24V, 7AH, Fast Charge*	13 lbs.	1041.00
<b>10-224 Battery Pack</b>	24V, 10AH, Overnight Charge	22 lbs.	1595.00

**For 28V cameras. These batteries equipped with AN-3102-12S-3S 2-pin connector.**

<b>6312 Battery Belt</b>	28V, 4AH, Overnight Charge	11 lbs.	\$ 633.00
<b>8312FC Battery Belt</b>	28V, 4AH, 5-pin XLR, Fast Charge*	11 lbs.	675.00
<b>7012 Battery Belt</b>	28V, 7AH, Overnight Charge	14 1/2 lbs.	1015.00
<b>7012FC Battery Belt</b>	28V, 7AH, 5-pin XLR, Fast Charge*	14 1/2 lbs.	1062.00
<b>9112 Battery Pack</b>	28V, 4AH, Overnight Charge	10 1/2 lbs.	665.00
<b>9112FC Battery Pack</b>	28V, 4AH, 5-pin XLR, Fast Charge*	10 1/2 lbs.	710.00
<b>9712 Battery Pack</b>	28V, 7AH, Overnight Charge	13 1/2 lbs.	1045.00
<b>9712FC Battery Pack</b>	28V, 7AH, 5-pin XLR, Fast Charge*	13 1/2 lbs.	1072.00
<b>10-228 Battery Pack</b>	28V, 10AH, Overnight Charge	25 lbs.	1750.00

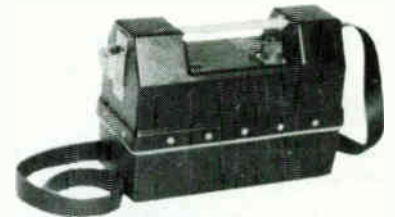
\*Requires Fast Charger. Overnight Charger built-in.



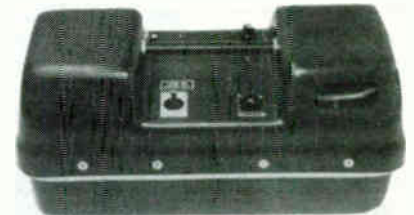
6305 Universal Belt with 6401-8L Cable connected



8.4, 12, and 16.8V battery packs. Supplied with Overnight Charger. Shoulder strap. Has belt loops. 8.4V, 4AH, 2" x 5 1/2" x 6". 12V, 4AH, 2" x 5 1/2" x 7". 12, 7AH, 16.8V, 4AH, 2" x 6 1/2" x 8"



16.8V, 7AH and 8AH, 24V and 28V, 4AH and 7AH battery packs. With shoulder strap, handgrip, and built-in Overnight Charger. 4AH size 4 1/2" x 6" x 10". 7AH and 8AH size 4 1/2" x 8" x 10"



24V and 28V, 10AH Battery Packs. With handgrip, and built-in Overnight Charger. Size 6 1/2" x 6" x 14 1/4"

**Approx. Footage per Charge for 4 and 7AH Batteries**

Arri 16S:	4AH	7AH
8.4V w/o mag., w/var. and const. spd. mtr.	3500'	5600'
W/torque mtr. and mag.	2400'	3900'
<b>Arri 168L:</b>		
W/uni or gov'r contr. mtr.	4000'	6400'
As above w/1200' mag.	2600'	4200'
W/xtal sync mtr., 1200' mag.	3600'	5800'
As above w/400' mag.	6400'	10600'
<b>Arri 16M:</b>		
W/torque mtr. and mag.	2400'	3900'
W/1200' mag.	1800'	3000'
<b>Arri 16 SR</b>	6400'	10600'
W/Video viewfinder	4500'	7500'
<b>Arri 358L:</b>		
Type II, 12V w/400' mag.	5200'	8400'
As above w/1000' mag.	4500'	7400'
Arri 35-2C, 16.8V	6800'	11000'
<b>Eclair:</b>		
ACL w/200' mag.	6000'	9800'
As above w/400' mag.	5600'	9100'
NPR w/Beala/Cirpi mtr. 400' mag.	2800'	5200'

Prices and Specifications Subject to Change Without Notice.

V-271

# CINE 60, INC.

630 Ninth Ave.  
New York, NY 10036  
(212) 586-8782 FAX: (212) 459-9556  
Telex: 69-73262

# BATTERIES/CHARGERS

## Cine 60's 12V 4AH

### Replacement Batteries for Sony's BP-90

Built to Cine 60 standards with fish paper-insulated, deep welded NiCad cell modules protected by precision "Lifeguard" cell sensors for cooler, more efficient fast charging. Housed in a rugged molded case, it utilizes Sony's original non-shorting split connector and has an autoreset circuit breaker protecting the battery against external shorts while eliminating fuses.

**BP-912S.** Charges overnight with all BP-90 chargers.  
May be fast charged with Sony's BC-210 or other 2-wire fast chargers. . . . . \$230.00

**BP-912FC.** As above but also may be fast charged with all  
Cine 60 Fast/Lifeguard/Quik Chargers. Requires BPA charge adaptor . . . . . 255.00

**BP-2C Dual BP-90 Battery Charger.** Charges 2 BP-90 batteries (any brand) overnight. In molded housing 1 1/2" x 2 7/8" x 4 3/8". Wt. 8 oz. 115V. . . . . 105.00

**BP-2C-220.** As above but 220V . . . . . 105.00

**BP-612S.** 13.2V 2AH NiCad replacement battery for Sony's BP-60 lead-acid battery. Higher voltage and NiCad reliability assure long life and run time. With autoreset circuit breaker. . . . . 195.00

**BP-25C Dual Battery Charger.** Charges 2 BP-612s overnight. Size and weight same as BP-2C. 115V . . . . . 105.00

**BP-25C-220.** As above but 220V . . . . . 105.00

**BP-512S.** 12V 2.5AH NiCad replacement battery for Sony's BP-20, -20A lead-acid batteries. Equipped with an autoreset circuit breaker. Charge with BP-25C dual overnight charger. . . 195.00

**NP-1.** 12V 1.5AH replacement battery for Sony's NP-1. Charge with Sony's NP-1 chargers . . 60.00

**CBP-2J5S.** 12V 2.5AH NiCad replacement battery for JVC/Panasonic PBP-1 lead-acid battery. Equipped with an autoreset circuit breaker. Charge with CBP-2J charger . . . . . 195.00

**CBP-2J Dual Battery Charger.** Charges 2 CBP-2J5S batteries overnight. Size and weight same as BP-2C. 115V . . . . . 105.00

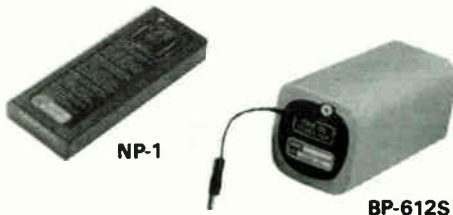
**CBP-2J-220.** As above but for 220V . . . . . 105.00

For "Hitch-Hiker"™ and OEM types Anton-Bauer Snap-on® batteries (with BP3XF charge adaptor), Cine 60 BP-912FC battery (with BPA charge adaptor), Cine 60 "OB" batteries directly. All Lifeguard chargers feature a manual start 1A charge rate and an automatic start of a 150mA. Lifeguard rate permitting batteries to be fully charged in 4 hours and then safely maintained in a "ready" condition indefinitely. Sensing circuits and visual indicators provide continual monitoring of battery condition. Equipped with 5-pin XLR connector. Can also be used for other types of 2, 4 and 7AH 12 to 14.4V NiCad batteries which have a 3rd wire cell sensing circuit.

**LC-914 Lifeguard 4 Hour Charger.** One position 4 hour Quik charger. Line-isolated, line and load regulated. Requires BP3XF charge adaptor for "Hitch-Hiker" and OEM camera batteries, BPA charge adaptor for Cine 60 BP-912FC battery. Lightweight, small size, 1 1/2" x 2 7/8" x 4 1/4". Wt. 10 oz. 115/220V, 50/60Hz. . . . . \$235.00

**LC2-914 Lifeguard Two Position 4 Hour Charger.** Two independent positions charge 2 batteries in 4 hours. Equipped with "Hitch-Hiker" and OEM camera battery connector. Line isolated and line and load regulated. Lightweight, small size. 2 1/2" x 6 1/4" x 8". Wt. 1 3/4 lbs. 115/220V, 50/60Hz . . . . . \$485.00

**LC4-914 Lifeguard Four Position Fast Charger.** Four independent positions charge 4 batteries in 4 hours. A unique parallel patching circuit permits increasing the charge rate of the "Master's" position to 4A to charge 1 battery in 1 hour. Requires BP3XF charge adaptor for BP-912FC Cine 60 BP-90 battery. Line isolated, line and load regulated. Lightweight, small size. 4 1/2" x 6 5/8" x 7 1/2". Wt. 4 lbs. 115/220V, 50/60Hz . . . . . \$695.00





# CINE 60, INC.

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# BELTS/PACKS/CABLES

**Universal Sofbelts** feature highest quality, high drain, long-life, fishpaper-insulated NiCad cells, matched and deep-welded into battery modules encased in thickwalled, precisely sized module boxes designed to protect cells and intercell connections against harsh field abuse. Module boxes are mounted on a flexible, soft, body-molded, foam-cushioned belt that assures lifetime comfort. Universal sofbelts are available in two types, standard (cannot be fast charged), and Fast Charge. Both are equipped with a Lifetime Warranty built-in high efficiency Overnite Charger, and Auto-reset Circuit Breaker. Fast Charge types feature precision cell sensors of ceramic, hand-calibrated to an accuracy of  $\pm 5\%$  assuring a full, safe, fast charge. Sofbelt weight is evenly distributed around the waist for excellent balance and comfort.

## Universal Sofbelts

Cat. No.	Volts/Amp. Rating	Charge Rate	Weight	Price
1314304	13.2V/14.4V-8AH/30V-4AH	Overnite	11 lbs.	\$ 772.00
1314304FC	13.2V/14.4V-8AH/30V-4AH	Fast Charge*	1 Hour 11 lbs.	820.00
1314307	13.2V/14.4V-14AH/30V-7AH	Overnite	15 lbs.	1150.00
1314307FC	13.2V/14.4V-14AH/30V-7AH	Fast Charge*	2 Hours 15 lbs.	1195.00

**Universal Battery Packs** utilize the same components and incorporate the same features as the Universal Sofbelts. The housings are rugged thick-walled enclosures designed to accept the heavy-duty encountered in the field. The 8AH and 14AH versions are styled for carrying with a padded shoulder strap (supplied) or a tubular metal handle in the housing. The 20AH Model is equipped with a metal handle for portability.

## Universal Battery Packs

Cat. No.	Volts/Amp. Rating	Charge Rate	Price
901314	13.2V/14.4V-8AH/30V-4AH	Overnite	10 lbs. \$ 772.00
901314FC	13.2V/14.4V-8AH/30V-4AH	Fast Charge*	1 Hour 10 lbs. 820.00
901317	13.2V/14.4V-14AH/30V-7AH	Overnite	14 lbs. 1150.00
901317FC	13.2V/14.4V-14AH/30V-7AH	Fast Charge*	2 Hours 14 lbs. 1195.00
90131430	13.2V/14.4V-20AH/30V-10AH	Overnite	26 lbs. 1815.00

\*Require Fast Charger. 115V Overnite Charger built-in.

All Universal Sofbelts and Battery Packs have a 115V Overnite Charger built-in. For 220V or 115/220V built-in Overnite Chargers, the following options are available:

8994	220V Charger. Built into Universal Sofbelt or Battery Pack in lieu of the 115V Charger . . .	\$22.00
6994	115/220V Charger. Built into Overnite Charge type Universal Sofbelts or Battery Packs. Not available for Fast Charge types . . .	\$44.00

## Video Equipment Battery Cables

Coiled cable, 1' retracted, 6' extended. Supplied with 5-pin XLR connector and OEM's mating connector.

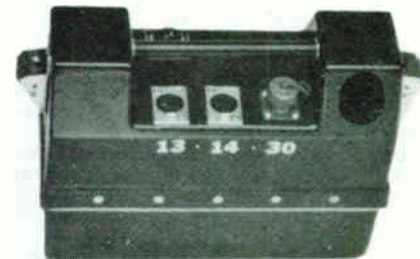
Cat. No.	Application	Price
6400IKE	Ikegami TM-10R-9H Monitor . . . . .	\$ 59.00
64020E	Open end cable for customer's installation of equipment's connector . . . . .	39.00
6406	All Hitachi "FP" and "SK" Cameras, Z-31 Camera . . . . .	59.00
6408	Ampex Betacam, ARC-10, FPC-10, FRC-10 . . . . .	59.00
	Cinema Products Camera Prompter	
	JVC CR-4700U, CR-4900U, CY-8800U, all "KY" Cameras	
	Panasonic AG-6400, AU/AK100, AU-220, AU-400, AU-500, AK-30	
	BTS-700N, NV-9450, WV-V3, WV-555, WV-777, WV-888, WV-890, WV-6000, N-3	
	Sharp XCA1, XC-800, XC-900	
	Thompson MC-301, 501, 601, 701, Betacams, TTV-1623, TTV-1624	
6421	Hitachi HR-100 Recorder . . . . .	59.00
6431	Ampex VPR-20 Recorder . . . . .	59.00
6471	Ikegami HL-78, HL-79A, D, L, E, HL-95, ITC-350, ITC-730 . . . . .	59.00
6473	Ampex BCC-14, BCC-20/Philips LDK-14, LDK-54 . . . . .	72.00
6475	Sony Betacams, BVH, BVM, BVP, BVU, BVW Equipment, DXCM3A, DXC3000, VO-6800, DXC-M2 . . . . .	59.00
6476	RCA TK 76 . . . . .	155.00
6477	Ampex VPR-5 Recorder . . . . .	65.00
6478	Panasonic AK-710, 750, 760, WV3600, 3700, 3800, 3900, 3890, 3990 . . . . .	59.00
6483	Ikegami HL-83 . . . . .	72.00
6486	RCA TK-86 . . . . .	72.00

## 13/14/30V Universal Batteries

- Triple Voltage:  
13.2V for cameras  
14.4V for lights  
30V for lights
- Simultaneously runs 13.2V camera and 14.4V light
- 2 and 3 times more power than any camera battery
- Comfortable Sofbelt or compact battery pack styles



1314304FC 8AH  
Universal Sofbelt



901317 14AH Universal  
Battery Pack  
Size 4 1/2" x 8" x 10"

901314 8AH Universal  
Same style as 14AH Pack  
Size 4 1/2" x 6" x 10"



90131430 20AH  
Universal Pack  
Size 6 1/2" x 6 1/2" x 14 3/4"

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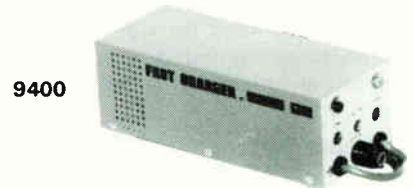
# CHARGERS/BATTERY DEMEMORIZER/ ADAPTORS

## Universal Fast Chargers

**One Hour Fast Chargers for 4 and 8AH batteries. Two Hour for 7 and 14AH batteries.**

Used for charging all Cine 60 Fast Charge Battery Belts and Packs. Can also be used for Hitch-Hiker™, and OEM Camera Batteries (Require BP3XF Charge Adaptor), and Cine 60 BP-912FC Battery (Requires BPA Adaptor). Two charge rates, Fast, Trickle. Size 2 3/4" x 3 3/4" x 8". Wgt. 3 lbs. 9400-U, 9400-UB Size 2 3/4" x 4 1/2" x 8 3/4".

9400	115V Fast Charger with 5-pin XLR connector .....	\$315.00
9400B	As above but with 4-pin XLR connector .....	.315.00
9422	220V Fast Charger with 5-pin XLR connector .....	.315.00
9422B	As above but with 4-pin XLR connector .....	.315.00
9400-U	115/220V Fast Charger with 5-pin XLR connector .....	.395.00
9400-UB	As above but with 4-pin XLR connector .....	.395.00



## Mobile Fast Chargers

**One Hour Mobile Fast Chargers.** Designed for safely and fully charging Fast Charge Batteries in the vehicle with the engine running. Equipped with LED indicators for DC input and Charge Mode, Charge Current Ammeter, Start Button, On-Off Switch, Back Up Automatic Cut Off of Fast Charge if battery's sensing circuit fails to operate. Can be used to charge other similarly rated batteries equipped with 3rd wire cell sensing circuits. Operates on 10.5-14VDC.

**94DC12 Mobile 10 to 12 Cell Fast Charger.** For charging 12, 13.2 and 14.4V, 4AH batteries in one hour, 7AH in two hours. Equipped with 5-pin XLR connector. Requires BP3XF Charge Adaptor for Hitch-Hiker™, and OEM Camera Batteries, BPA Charge Adaptor for BP-912FC Battery, size 4 3/4" x 4 3/4" x 6 3/4". Wgt. 4 lbs..\$395.00

**94DC30 Mobile 20 to 24 Cell Fast Charger.** For charging 12, 13.2 and 14.4V, 8AH and 14AH, and 24 to 30V, 4AH and 7AH batteries. Charge time 1 hour for 4 and 8AH batteries, 2 hours for 7 and 14AH batteries. Size 3 1/2" x 5" x 10 1/2". Wgt. 8 lbs. ....\$495.00



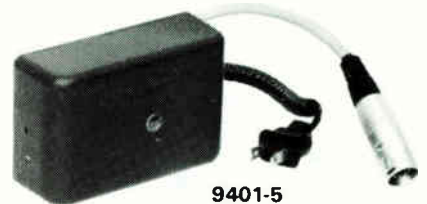
## Overnite Chargers

**9401-5 14-16 Hour Overnite Charger.** For Hitch-Hiker and OEM types Anton-Bauer Snap-On® Batteries (with BP3XF charge adaptor). Cine 60 "OB" batteries directly. Line-isolated, line and load regulated. LED indicator, 5-pin XLR. Lightweight, small size. 1 1/2" x 2 7/8" x 4 1/4". Wgt. 8 oz. Operates on 115V, 50/60Hz. . . \$105.00

9402-5. As above but for 220V operation.

Note: Available with 4-pin XLR. Specify 9401-4 & 9402-4.

(For OB14-4 battery) . . . . . \$105.00



## Battery Dememorizer

**DM1214.** Equipped with current drain device, voltage sensor, automatic voltage cut off, voltmeter, voltage selector, start switch, 5-pin XLR connector, and BP-90 connector. Requires BP3XFM Charge Adaptor for OEM and Hitch-Hiker On-Camera Batteries. NiCad battery "memory" is created by the build-up of excess crystals in the cell. Repetitive long periods of overcharging and shallow discharging can bring about this condition which is apparent by a loss of capacity. The Dememorizer, properly used will break down the excess crystals in the cell thereby restoring the lost capacity. In the process it will also re-balance the cells. It will "dememorize" 12V, 13.2V, and 14.4V 1.5 to 20AH NiCad batteries. Size 3 1/4" x 5 1/2" x 7 1/4". Wgt. 2 lbs. ....\$236.00



## Charge Adaptors

**BPA Charge Adaptor.** Connects BP-912FC Battery to any Cine 60 Fast/Lifeguard/Quick Chargers . . . \$42.00

**BP3XF Hitch-Hiker Charge Adaptor.** Connects Hitch-Hiker or OEM Camera Batteries to any Cine 60 Fast/Lifeguard/Quick Chargers. .... .45.00

**BJ3XM "OB" Battery Charge Adaptor.** Connects "OB" Camera Battery to Anton-Bauer OEM Battery Chargers .....

**BP-1C Tektronix Charge Cable.** Connects Tektronix BP-1 Battery to Cine 60 9400-U .....

**4F-5M Charge Adaptor.** Connects 4-pin XLR Charger to 5-pin XLR battery .....

**5F-4M Charge Adaptor.** Connects 5-pin XLR charger to 4-pin XLR battery .....

# CINE 60, INC.

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## Sun-Gun System

For ENG/EFP 12 to 30VDC Soft, Wide-Angle Focusing Light.  
Ideal camera mounted. Double wall aluminum construction.

- 6201-A Sun-Gun. With integral 8' cable terminated in 2-pin Amphenol connector, removable handle, and bulb. (Specify which bulb) ..... \$198.00
- 6202 Swing-Away Dichroic Filter. Converts Sun-Gun light to daylight ..... .85.00
- 6203 Swing-Away Diffusion Filter. Softens Sun-Gun light. Lowers output by f/stop ..... .65.00
- 6204 Swing-Away Safety Glass. For extra safety when Diffusion or Dichroic Filters are not used ..... .55.00
- SG-6510 Power Cable Adaptor. Connects to Sun-Gun's cable converting it to 5-pin XLR to run Sun-Gun with 12 or 14.4V battery. 12 or 14.4V bulb required ..... .40.00
- Sun-Gun Mounting Brackets. Two piece, machined sleeve, machined stud. Allows rapid mounting of Sun-Gun on camera ..... .45.00
- A-1/2. For all cameras with accessory shoe ..... .45.00
- B-1/2. For all cameras with 1/4-20 threaded accessory hold ..... .45.00
- B-1/26. For Ikegami ITC-730 Camera ..... .45.00
- B-1/25. For JVC KY-1900 Camera ..... .45.00
- B-1/216. For all cameras with 3/8-16 threaded accessory hole ..... .45.00
- C-1/2. For RCA TK-76 Camera ..... .45.00
- D-1/2. Universal. For most cameras. Clamps onto the camera's handle ..... .45.00
- E-1/2. For Ikegami HL-79A-D ..... .45.00
- F-1/2. For RCA TK76B, TK76C, TK-86 ..... .45.00
- Stud only. (Specify which type). ..... .27.00
- Sleeve only..... .27.00

Bulbs For Sun-Gun:		Run Time With Various Capacities Of Batteries							
Cat. No./Code	Volts	Watts	4AH	7AH	8AH	10AH	14AH	20AH	Price
6208/F8T	30V	150W	45 min.	1.2 hrs.		2 hrs.			\$35.00
6209/FBV	30V	250W	26 min.	42 min.		1.2 hrs.			38.00
6210/FBW	30V	350W	19 min.	30 min.		50 min.			42.00
6211/FAV	12V	100W	26 min.	42 min.	52 min.		80 min.	24 hrs.	32.00
6212/FLP	14.4V	70W	49 min.	74 min.	1.5 hrs.		2.46 hrs.	4.1 hrs.	36.00

- 6207B. Heavy-duty carrying case. Customized for Sun-Gun, Battery Belt, and Accessories. Size 11 1/8" x 19" x 7 1/4" ..... \$110.00
- 6207P. As above, but for Battery Pack ..... .110.00
- APC. Heavy-duty carrying case. Customized for Sun-Gun, Battery Belt, and Accessories. Size 22 3/4" x 17 1/2" x 8 3/4" ..... .185.00

## All-Purpose Sun-Gun Kits

**APSGK-8 All Purpose Sun Gun Kit.** Combines the Cine 60 Sun-Gun to provide 14.4 and 30V portable lighting with a versatile Battery Belt system that runs virtually all portable equipment including 12, 13.2, and 14.4V cameras, VTRs, and TV monitors. The belt can be charged in one hour with a Mobile Fast Charger operating from most vehicles or a Universal 115/220V Fast Charger. This unique kit is a complete working system requiring only one or more of the video cables for connecting the Battery Belt to the manufacturer's equipment. .... \$1995.00

### Includes:

- 6201-A Sun-Gun
- 6202 Dichroic Filter; 6203 Diffusion Filter; 6204 Safety Glass
- 6212 14.4V, 70W Bulb; 6209 30V, 250W Bulb
- SG-6510 Power Cable Adaptor
- A-1/2 Sun-Gun Mounting Bracket; B-1/2 Stud only
- 3014FC 30V, 4AH/14.4V, 8AH Fast Charge Battery Belt with built-in 115V Overnite Charger
- 6400-Y Power Adaptor. Allows Battery Belt to run Sun-Gun (with 14.4V bulb installed) and a 14.4V camera simultaneously
- VRX Plug-In Voltage Converter. Connects in-line between 6400-Y Power Adaptor and Video Cable. Allows Battery Belt to run Sun-Gun (with 14.4V bulb installed) and 13.2 or 12V camera simultaneously. Maximum drain 48W
- 94DC30 Mobile Fast Charger. Operates from car battery (with engine running)
- 9400-U Universal Fast Charger. Operates from 115/220V, 50/60 cycles
- APC All-Purpose Sun-Gun Kit Carrying Case

**APSGK-14 All-Purpose Sun-Gun Kit.** As above but with 30V, 7AH/14.4V 14AH Battery Belt that can be charged in two hours ..... \$2385.00

# SUN-GUN SYSTEM/KITS



Sun-Gun with Dichroic Filter



Sun-Gun Mounting Brackets



SG-6510 Power Cable Adaptor



APSGK-8 All-Purpose Sun-Gun Kit



# CINE 60, INC.

630 Ninth Ave.  
New York, NY 10036  
(212) 586-8782 FAX: (212) 459-9556  
Telex: 69-73262

# SUN-GUN KITS

## Complete Lighting Kits Consisting of:

- 6201-A Sun-Gun with Bulb (specify which bulb), Handle, Integral Cable
- 6202 Swing-Away Dichroic Filter
- Battery Belt or Pack with 115V Overnight Charger
- 6207 Heavy-Duty Customized Carrying Case
- 9400 Fast Charger is included in Fast Charge Sun-Gun Kits
- SG-6510 Power Cable Adaptor is included in 12V, 14.4V and 30V/14.4V Sun-Gun Kits
- 6212 FLP 14.4V Bulb is included in 30V/14.4V Sun-Gun Kits

Note: Sun-Gun Mounting Bracket not included in kits. May be ordered separately.

### 30V Sun-Gun Kits

SGK-6304PS	Overnite Charge, 30V 4AH, Battery Belt . . . . .	\$ 941.00
SGK-8304FC	Fast Charge, 30V 4AH, Battery Belt . . . . .	1270.00
SGK-7004PS	Overnight Charge, 30V 7AH, Battery Belt . . . . .	1270.00
SGK-7004FC	Fast Charge, 30V 7AH, Battery Belt . . . . .	1607.00
SGK-9104PS	Overnight Charge, 30V 4AH, Battery Pack . . . . .	968.00
SGK-9104FC	Fast Charge, 30V 4AH, Battery Pack . . . . .	1302.00
SGK-9704PS	Overnight Charge, 30V 7AH, Battery Pack . . . . .	1299.00
SGK-9704FC	Fast Charge, 30V 7AH, Battery Pack . . . . .	1616.00

### 30V/14.4V Sun-Gun Kits:

SGK-3014PS	Overnight Charge, 30V 4AH, 14.4V 8AH, Battery Belt . . . . .	\$ 1080.00
SGK-3014FC	Fast Charge, 30V 4AH, 14.4V 8AH, Battery Belt . . . . .	1416.00
SGK-3017PS	Overnight Charge, 30V 7AH, 14.4V 14AH, Battery Belt . . . . .	1408.00
SGK-3017FC	Fast Charge, 30V 7AH, 14.4V 14AH, Battery Belt . . . . .	1746.00
SGK-9014PS	Overnight Charge, 30V 4AH, 14.4V 8AH, Battery Pack . . . . .	1080.00
SGK-9014FC	Fast Charge, 30V 4AH, 14.4V 8AH, Battery Pack . . . . .	1416.00
SGK-9017PS	Overnight Charge, 30V 7AH, 14.4V 14AH, Battery Pack . . . . .	1408.00
SGK-9017FC	Fast Charge, 30V 7AH, 14.4V 14AH, Battery Pack . . . . .	1746.00

### 14.4V Sun-Gun Kits:

SGK-6306PS	Overnight Charge, 14.4V 4AH, Battery Belt . . . . .	\$ 828.00
SGK-8306FC	Fast Charge, 14.4V 4AH, Battery Belt . . . . .	1160.00
SGK-7006PS	Overnight Charge, 14.4V 7AH, Battery Belt . . . . .	924.00
SGK-7006FC	Fast Charge, 14.4V 7AH, Battery Belt . . . . .	1255.00
SGK-9106PS	Overnight Charge, 14.4V 4AH, Battery Belt . . . . .	835.00
SGK-9106FC	Fast Charge, 14.4V 4AH, Battery Pack . . . . .	1175.00
SGK-9706PS	Overnight Charge, 14.4V 7AH, Battery Pack . . . . .	970.00
SGK-9706FC	Fast Charge, 14.4V 7AH, Battery Pack . . . . .	1284.00

### 12V Sun-Gun Kits:

SGK-6307PS	Overnight Charge, 12V 4AH, Battery Belt . . . . .	\$ 784.00
SGK-8307FC	Fast Charge, 12V 4AH, Battery Belt . . . . .	1116.00
SGK-7007PS	Overnight Charge, 12V 7AH, Battery Belt . . . . .	908.00
SGK-7007FC	Fast Charge, 12V 7AH, Battery Belt . . . . .	1238.00
SGK-6327PS	Overnight Charge, 12V 8AH, Battery Belt . . . . .	972.00
SGK-8327FC	Fast Charge, 12V 8AH, Battery Belt . . . . .	1304.00
SGK-7027PS	Overnight Charge, 12V 14AH, Battery Belt . . . . .	1276.00
SGK-7027FC	Fast Charge, 12V 14AH, Battery Belt . . . . .	1596.00
SGK-9107PS	Overnight Charge, 12V 4AH, Battery Pack . . . . .	818.00
SGK-9107FC	Fast Charge, 12V 4AH, Battery Pack . . . . .	1156.00
SGK-9707FC	Fast Charge, 12V 7AH, Battery Pack . . . . .	1264.00
SGK-9707PS	Overnight Charge, 12V 7AH, Battery Pack . . . . .	944.00
SGK-9127PS	Overnight Charge, 12V 8AH, Battery Pack . . . . .	1005.00
SGK-9127FC	Fast Charge, 12V 8AH, Battery Pack . . . . .	1336.00
SGK-9727PS	Overnight Charge, 12V 14AH, Battery Pack . . . . .	1276.00
SGK-9727FC	Fast Charge, 12V 14AH, Battery Pack . . . . .	1605.00



SGK-8304FC Sun-Gun Kit



SGK-9704FC Sun-Gun Kit

**VRX Voltage Converter.** For using 14.4V batteries to power all 13.2V cameras, VTRs, Betacams. Converts 14.4V to 13.2V maximum 48W. Plugs in between battery and video cable. 5-pin male XLR input, 5-pin female XLR output. . . . . \$45.00

**6400-Y Power Adaptor.** Allows battery to power a light and camera simultaneously. Plugs in between battery, video cable, and light cable. 5-pin male XLR input, two 5-pin female XLR outputs. . . . . \$49.00

# CINE 60, INC.

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New York, NY 10036  
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Telex: 69-73262

# VIDEO CABLE/ EQUIPMENT RUN TIME CHART

Required Video Cable for connecting Cine 60's Battery Belt or Pack to the manufacturer's equipment. Cables with an (s) are 6' straight type, with a (c) coiled type, 1' retracted, 6' extended. The 1<sup>st</sup> number in the Run Time Chart, 4, 7, 8, 14, and 20 is the battery's Amp.-Hr. capacity. The number alongside it is the approximate hours of equipment run time using that battery capacity.



Equipment	Video Cable		Price	Approximate Hours of Run Time					
<b>Ampex</b>									
ARC-10 Camcorder 13.2V	640B	(c)	\$59.00	4 1.0	7 1.7	8 2.0	14 3.4	20 5.7	
BCC-4 Camera ± 9.6V	6404AMP	(c)	72.00	4 1.4	7 2.2			10 4.0	
BCC-14 Camera 14.4V	6473	(c)	72.00	4 1.5	7 2.5	8 3.0	14 5.0	20 8.5	
BCC-20 Camera 14.4V	6473	(c)	72.00	4 1.5	7 2.5	8 3.0	14 5.0	20 8.5	
FPC-10 Camera 14.4V	640B	(c)	59.00	4 3.2	7 5.2	8 6.4	14 10.0	20 16.0	
FPR-10 Recorder 13.2V	640B	(c)	59.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
VPR-5 Recorder 14.4V	6477	(c)	65.00	4 1.3	7 2.1	8 2.6	14 4.3	20 7.2	
VPR-20 Recorder 14.4V	6431	(c)	59.00	4 0.7	7 1.1	8 1.4	14 2.3	20 3.8	
<b>ASACA</b>									
ASW-100 Switcher 12V	6402OE	(c)*	\$35.00	4 0.5	7 0.86	8 1.0	14 1.7	20 3.0	
ACC-2000 Camera ± 7.2V	6403OE	(c)*	39.00	4 1.6	7 2.5	8 3.2	14 5.0	20 9.1	
ACC-3000 Camera ± 14.4V	6403OE	(c)*	39.00	4 1.4	7 2.4			10 4.0	
*These ASACA Connecting Cables are open-ended and require the ASACA DC Connector.									
<b>CEI</b>									
310 Camera 14.4V	6412	(c)	\$59.00	4 0.6	7 0.8	8 1.1	14 1.7	20 2.8	
330 Camera 14.4V	6412	(c)	59.00	4 0.6	7 0.8	8 1.1	14 1.7	20 2.8	
340 Camera 14.4V	6412	(c)	59.00	4 0.8	7 1.1	8 1.6	14 2.3	20 4.0	
<b>CP</b>									
MNC-71CP Camera ± 7.2V	6417-4	(c)	\$72.00	4 1.6	7 2.5	8 3.2	14 5.0	20 9.1	
MNC-81A Camera 12V	6420	(c)	59.00	4 2.0	7 3.0	8 4.0	14 6.0	20 10.0	
Camera Prompter 12V	640B	(c)	59.00	4 2.3	7 3.6	8 4.7	14 7.2	20 11.9	
<b>Fernseh</b>									
BCN-5 Recorder 12V	6422	(s)	\$59.00	4 1.4	7 2.24	8 2.8	14 4.5	20 7.4	
BCN-20 Recorder 12V	6430	(s)	49.00	4 0.7	7 1.0	8 1.4	14 2.0	20 3.8	
BCN-21 Recorder 12V	6400BCN	(s)	72.00	4 1.7	7 2.9	8 3.3	14 5.7	20 9.5	
KCA-90 Camera ± 7.2V	6423	(c)	59.00	4 1.6	7 2.5	8 3.2	14 5.0	20 8.0	
KCA-100 Camera 12V	6424	(c)	59.00	4 1.6	7 2.5	8 3.2	14 5.0	20 8.0	
KBF-1 Camcorder 14.4V	6400KBF	(s)	72.00	4 1.3	7 2.0	8 2.6	14 3.9	20 6.6	
KCF-1 Camcorder 14.4V	6400KBF	(s)	72.00	4 1.7	7 2.6	8 3.5	14 5.2	20 8.7	
KCN-1 Camera ± 14.4V	6400KCN	(s)	59.00	4 0.75	7 1.25			10 2.2	
<b>Harris</b>									
TC-90 Camera 14.4V	648B	(c)	\$59.00	4 2.0	7 3.0	8 4.0	14 6.0	20 10.0	
<b>Hitachi</b>									
FP-5 Camera 12V	6406	(c)	\$59.00	4 5.7	7 8.5	8 11.4	14 17.1	20 28.5	
FP-7 Camera 12V	6406	(c)	59.00	4 4.4	7 7.7	8 8.9	14 13.4	20 22.2	
FP-10 Camera 13.2V	6406	(c)	59.00	4 3.0	7 5.2	8 6.1	14 10.5	20 17.6	
FP-11 Camera 13.2V	6406	(c)	59.00	4 3.3	7 5.0	8 6.7	14 10.0	20 16.7	
FP-15 Camera 13.2V	6406	(c)	59.00	4 2.6	7 4.4	8 5.1	14 8.8	20 14.7	
FP-20S Camera 13.2V	6406	(c)	59.00	4 2.3	7 3.4	8 4.6	14 6.8	20 11.4	
FP-21 Camera 14.4V	6406	(c)	59.00	4 2.5	7 3.8	8 5.0	14 7.5	20 12.5	
FP-22 Camera 14.4V	6406	(c)	59.00	4 2.3	7 3.4	8 4.6	14 6.8	20 11.4	
FP-40S Camera 13.2V	6406	(c)	59.00	4 2.8	7 4.3	8 5.7	14 8.6	20 14.3	
FP-1020 Camera 12V	6406	(c)	59.00	4 2.2	7 3.3	8 4.4	14 6.7	20 11.1	
FP-3030 Camera 12V	6407	(c)	59.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
FP-3060A Camera 12V	6406	(c)	59.00	4 3.0	7 4.6	8 6.1	14 9.2	20 15.4	
FP-3060G Camera 12V	6406	(c)	59.00	4 3.0	7 4.6	8 6.1	14 9.2	20 15.4	
GP-7 Camera 12V	6406	(c)	59.00	4 5.3	7 8.0	8 10.7	14 16.5	20 27.0	
HR-100 Recorder 12V	6421	(c)	59.00	4 0.7	7 1.0	8 1.25	14 2.0	20 3.6	
SK-70 Camera ± 14.4V	Special			4 1.3	7 2.0			10 3.3	
SK-80 Camera ± 14.4V	6405	(s)	59.00	4 1.7	7 2.5			10 4.1	
SK-80A Camera ± 12V	6405	(s)	59.00	4 2.6	7 4.0			10 6.7	
SK-81 Camera 14.4V	6406	(c)	59.00	4 2.8	7 4.3	8 5.7	14 6.7	20 14.2	
KS-90 Camera 13.2V	6406	(c)	59.00	4 1.3	7 2.0	8 2.7	14 4.0	20 6.7	
SK-91 Camera 14.4V	6406	(c)	59.00	4 2.8	7 4.3	8 5.7	14 8.6	20 14.2	
SK-97 Camera 14.4V	6406	(c)	59.00	4 2.2	7 3.3	8 4.4	14 6.7	20 14.2	
SV-340 Recorder 12V	6400JVC	(s)	49.00	4 3.0	7 4.7	8 6.0	14 9.4	20 17.0	
V-059B Oscilloscope 12V	6459	(s)	49.00	4 5.0	7 8.0	8 10.0	14 15.6	20 25.0	
V-089 Vectorscope 12V	6489	(s)	49.00	4 1.6	7 2.6	8 3.2	14 5.0	20 8.0	
V-099 Waveform Monitor	6489	(s)	49.00	4 1.6	7 2.6	8 3.2	14 5.0	20 8.0	
Z-31 Camera 13.2V	6406	(c)	59.00	4 2.4	7 3.6	8 4.8	14 7.2	20 12.0	

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Required Video Cable for connecting Cine 60's Battery Belt or Pack to the manufacturer's equipment. Cables with an (s) are 6' straight type, with a (c) coiled type, 1' retracted, 6' extended. The 1<sup>st</sup> number in the Run Time Chart, 4, 7, 8, 14, and 20 is the battery's Amp.-Hr. capacity. The number alongside it is the approximate hours of equipment run time using that battery capacity.



Equipment	Video Cable		Price	Approximate Hours of Run Time									
<b>Ikegami</b>													
EC-35 Camera 14.4V	6485	(c)	\$59.00	4	1.6	7	2.4	8	3.2	14	4.8	20	8.0
HL33/HL35 Camera ± 12V	6410	(c)	59.00	4	1.0	7	1.0					10	2.9
HL-37 Camera ± 7.2V	6400IKE	(c)	59.00	4	1.0	7	1.6	8	2.0	14	3.2	20	5.7
HL-51 Camera ± 12V	6472	(c)	59.00	4	1.0	7	1.6					10	2.9
HL-77 Camera ± 7.2V	6400IKE	(c)	59.00	4	1.0	7	1.6	8	2.0	14	3.2	20	5.7
HL-78 Camera 14.4V	6471	(c)	59.00	4	2.0	7	3.0	8	4.0	14	6.0	20	10.0
HL-79A, D, L, E	6471	(c)	59.00	4	2.0	7	3.0	8	4.0	14	6.0	20	10.0
HL-83 Camera 14.4V	6483	(s)	72.00	4	2.2	7	3.4	8	4.3	14	6.8	20	12.0
HL-95/CA95 Camera 14.4V	6483	(c)	72.00	4	2.0	7	3.0	8	4.0	14	6.0	20	10.0
HL-95/Betacam 13.2V	6475	(c)	59.00	4	1.7	7	2.7	8	3.3	14	5.3	20	8.5
ITC-350 Camera 14.4V	6471	(c)	59.00	4	2.5	7	4.2	8	5.0	14	8.4	20	14.2
ITC-730 Camera 14.4V	6471	(c)	59.00	4	2.2	7	3.4	8	4.3	14	6.8	20	12.0
TM-10-R9H Monitor 12V	6400IKE	(c)	59.00	4	1.0	7	1.5	8	2.0	14	3.0	20	5.0
<b>JVC</b>													
BR-6200-U Recorder 12V	6401J8	(s)	\$59.00	4	4.5	7	7.0	8	8.8	14	13.3	20	23.5
CR-4400-LU Recorder 12V	6411	(c)	59.00	4	3.0	7	4.7	8	6.0	14	9.4	20	17.0
CR-4400-U Recorder 12V	6400JVC	(s)	49.00	4	3.0	7	4.7	8	6.0	14	9.4	20	17.0
CR-4700-U Recorder 12V	6408	(c)	59.00	4	2.2	7	3.6	8	4.5	14	7.2	20	12.0
CR-4900-U Recorder 12V	6408	(c)	59.00	4	2.2	7	3.6	8	4.5	14	7.2	20	12.0
CY-8800-U Camera 12V	6408	(c)	59.00	4	1.3	7	2.0	8	2.5	14	4.0	20	7.2
HR-2200-U Recorder 12V	6401J7	(s)	59.00	4	4.5	7	7.0	8	8.8	14	13.3	20	23.5
HR-2650-U Recorder 12V	6401J8	(s)	59.00	4	4.5	7	7.0	8	8.8	14	13.3	20	23.5
HR-4100-U Recorder 12V	6400JVC	(s)	49.00	4	4.5	7	7.0	8	8.8	14	13.3	20	23.5
HRC3U/GZ-S3 (separated) 12V	6401J3	(s)	59.00	4	2.4	7	4.1	8	4.8	14	8.1	20	12.0
GX-S700 Camera 12V	6401J3	(s)	59.00	4	5.0	7	8.1	8	10.0	14	15.6	20	26.0
KY-210-U Camera 12V	6408	(c)	59.00	4	2.8	7	4.3	8	5.7	14	8.6	20	14.3
KY-310-U Camera 12V	6408	(c)	59.00	4	2.2	7	3.4	8	4.5	14	6.8	20	11.4
KY-320-U Camera 12V	6408	(c)	59.00	4	2.4	7	3.6	8	4.8	14	7.2	20	12.0
KY-900-U Camera 12V	6408	(c)	59.00	4	1.8	7	2.7	8	3.3	14	4.5	20	9.0
KY-950-U Camera 12V	6408	(c)	59.00	4	1.8	7	2.7	8	3.3	14	4.5	20	9.0
KY-1900-U Camera 12V	6408	(c)	59.00	4	2.8	7	4.8	8	5.6	14	9.6	20	14.0
KY-2000-U Camera 12V	6408	(c)	59.00	4	2.0	7	3.5	8	4.0	14	7.0	20	12.0
KY-2700-U Camera 12V	6408	(c)	59.00	4	2.5	7	4.0	8	5.0	14	8.0	20	12.5
S-62-U Camera 12V	6401PV2	(s)	49.00	4	3.1	7	5.0	8	6.8	14	10.0	20	16.7
S-100-U Camera 12V	6401PV2	(s)	49.00	4	3.1	7	5.0	8	6.8	14	10.0	20	16.7
TM-R9-U Monitor 12V	6402OE*	(s)	35.00	4	1.8	7	2.7	8	3.6	14	5.4	20	9.1
TM-22-U Monitor 12V	6401J7	(s)	59.00	4	1.6	7	2.6	8	3.3	14	5.3	20	8.0
TM-41A-U Monitor 12V	6400JVC	(s)	49.00	4	3.0	7	5.4	8	6.0	14	10.8	20	18.2
TM-63-U Monitor 12V	6401J7	(s)	59.00	4	1.6	7	2.6	8	3.3	14	5.3	20	8.0
*6402OE Connecting Cable is open-ended and requires the TM-R9-U.D.C. Connector.													
<b>NEC</b>													
MNC-60/61A Camera ± 9.6V	6404AMP	(c)	\$72.00	4	1.4	7	2.2					10	4.0
MNC-71CP Camera ± 7.2V	6417-4	(c)	72.00	4	1.6	7	2.5	8	3.2	14	5.0	20	9.1
MNC-80/81A Camera 12V	6420	(c)	59.00	4	1.75	7	2.8	8	3.5	14	5.6	20	10.0
SP-3/SP-1AD Camera 12V	64SP3	(s)	72.00	4	4.0	7	6.0	8	8.0	14	12.0	20	20.0
SP-3/Betacam 12V	6475	(c)	59.00	4	2.0	7	3.0	8	4.0	14	6.0	20	10.0
SP-3A Camera 12V	64SP3	(s)	72.00	4	3.7	7	5.5	8	7.4	14	11.0	20	18.5
<b>Philips</b>													
LDK-11 Camera ± 12V	8CAM	(s)	\$59.00	4	1.5	7	2.4					10	4.0
LDK-14 Camera 14.4V	6473	(c)	72.00	4	1.5	7	2.5	8	3.0	14	5.0	20	8.5
LDK-14SL Camera 14.4V	6473	(c)	72.00	4	2.1	7	3.1	8	4.2	14	6.4	20	10.6
LDK-54 Camcorder 14.4V	6487	(c)	72.00	4	1.6	7	2.5	8	3.3	14	5.0	20	8.3
Video 80 Camera ± 12V	6414-4	(c)	72.00	4	1.9	7	3.1					10	5.5
<b>Toshiba</b>													
PK-39 Camera 14.4V	6474	(c)	\$59.00	4	1.5	7	2.5	8	3.0	14	5.0	20	8.5
PK-60 Camera 14.4V	64748	(c)	59.00	4	2.8	7	4.2	8	5.6	15	8.3	20	14.0
<b>Videotek</b>													
VM5A/RM5A Monitors 12V	6401KVG	(s)	\$59.00	4	2.7	7	4.0	8	5.4	14	8.5	20	14.3
VMB/RMB Monitors 12V	6400KVG	(s)	59.00	4	1.2	7	2.0	8	2.4	14	4.0	20	6.7



# CINE 60, INC.

630 Ninth Ave.  
New York, NY 10036  
(212) 586-8782 FAX: (212) 459-9556  
Telex: 69-73262

# VIDEO CABLE/ EQUIPMENT RUN TIME CHART

Required Video Cable for connecting Cine 60's Battery Belt or Pack to the manufacturer's equipment. Cables with an (s) are 6' straight type, with a (c) coiled type, 1' retracted, 6' extended. The 1<sup>st</sup> number in the Run Time Chart, 4, 7, 8, 14, and 20 is the battery's Amp.-Hr. capacity. The number alongside it is the approximate hours of equipment run time using that battery capacity.



Equipment	Video Cable		Price	Approximate Hours of Run Time					
<b>Panasonic</b>									
AG-100 Recorder 12V	6400AG1	(s)	\$ 49.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
AG-2400 Recorder 12V	6400AG4	(s)	49.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
AG-6400 Recorder 12V	6408	(c)	59.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
AU-400 Camcorder 13.2V	6408	(c)	59.00	4 3.3	7 5.0	8 6.7	14 10.0	20 16.7	
AU-500 Recorder 13.2V	6408	(c)	59.00	4 1.8	7 2.6	8 3.5	14 5.2	20 8.7	
WV-V3 Camera 13.2V	6408	(c)	59.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
AK-30 Camera 13.2V	6408	(c)	59.00	4 2.4	7 3.6	8 4.8	14 7.2	20 12.0	
AK-710 Camera 13.2V	6478	(c)	59.00	4 2.5	7 3.7	8 5.0	14 7.5	20 12.5	
AK-750 Camera 13.2V	6478	(c)	59.00	4 2.3	7 3.5	8 4.7	14 7.0	20 11.7	
AK-760 Camera 13.2V	6478	(c)	59.00	4 2.3	7 3.5	8 4.7	14 7.0	20 11.7	
AU/AK100 Camcorder 13.2V	6408	(c)	59.00	4 1.0	7 1.7	8 2.0	14 3.4	20 5.7	
AU-220 Rec./Player 13.2V	6408	(c)	59.00	4 2.1	7 3.1	8 4.2	14 6.3	20 10.5	
BTS-700N Monitor 12V	6408	(c)	59.00	4 1.1	7 1.7	8 2.2	14 3.3	20 5.5	
CT-500V Monitor 12V	6401TS2	(s)	49.00	4 3.7	7 5.5	8 7.4	14 11.1	20 18.5	
CT-700 Monitor 12V	6401TS2	(s)	49.00	4 1.0	7 1.8	8 2.0	14 3.6	20 6.1	
NV-8400 Recorder 12V	6400JVC	(s)	49.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
NV-8410 Recorder 12V	6400JVC	(s)	49.00	4 4.6	7 7.0	8 9.3	14 14.0	20 23.0	
NV-8420 Recorder 12V	6400NV2	(s)	49.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
NV-9400 Recorder 12V	6400JVC	(s)	49.00	4 3.0	7 4.7	8 6.0	14 9.4	20 17.2	
NV-9450 Recorder 12V	6408	(c)	59.00	4 2.5	7 3.7	8 5.0	14 7.5	20 12.5	
WV-555 Camera 13.2V	6408	(c)	59.00	4 2.4	7 3.5	8 4.7	14 7.0	20 11.7	
WV-555B/N-3 Camera 13.2V	6408	(c)	59.00	4 2.4	7 3.5	8 4.7	14 7.0	20 11.7	
WV-777 Camera 13.2V	6408	(c)	59.00	4 2.4	7 3.5	8 4.7	14 7.0	20 11.7	
WV-888 Camera 13.2V	6408	(c)	59.00	4 2.4	7 3.5	8 4.7	14 7.0	20 11.7	
WV-890 Camera 13.2V	6408	(c)	59.00	4 2.4	7 3.5	8 4.7	14 7.0	20 11.7	
WV-3060/NV-8420 12V	6400NV2	(s)	49.00	4 2.8	7 4.6	8 5.7	14 9.2	20 14.2	
WV-3070/NV-8420 12V	6400NV2	(s)	49.00	4 2.8	7 4.6	8 5.7	14 9.2	20 14.2	
WV-3180/NV-8420 12V	6400NV2	(s)	49.00	4 2.7	7 4.3	8 5.3	14 8.4	20 13.4	
WV-3230/NV-8420 12V	6400NV2	(s)	49.00	4 2.7	7 4.3	8 5.3	14 8.4	20 13.4	
WV-3400/NV-8420 12V	6400NV2	(s)	49.00	4 2.7	7 4.3	8 5.3	14 8.4	20 13.4	
WV-3600 Camera 12V	6478	(c)	59.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
WV-3700 Camera 12V	6478	(c)	59.00	4 2.8	7 4.2	8 5.7	14 8.5	20 14.3	
WV-3800 Camera 12V	6478	(c)	59.00	4 3.0	7 4.6	8 6.1	14 10.7	20 15.4	
WV-3900 Camera 12V	6478	(c)	59.00	4 3.0	7 4.6	8 6.1	14 10.7	20 14.4	
WV-3890 Camera 13.2V	6478	(c)	59.00	4 3.3	7 5.0	8 6.7	14 10.0	20 16.7	
WV-3890B Camera 13.2V	6408	(c)	59.00	4 3.3	7 5.0	8 6.7	14 10.0	20 16.7	
WV-3990 Camera 13.2V	6478	(c)	59.00	4 3.3	7 5.0	8 6.7	14 10.0	20 16.7	
WV-3990B Camera 13.2V	6478	(c)	59.00	4 3.3	7 5.0	8 6.7	14 10.0	20 16.7	
WV-6000 (S-1) 13.2V	6408	(c)	59.00	4 2.8	7 5.0	8 6.7	14 10.0	20 16.7	
<b>RCA</b>									
CCD-1 Camera 14.4V	6408-8	(c)	\$ 59.00	4 2.4	7 3.6	8 4.8	14 7.2	20 12.0	
HC-1 Camera 14.4V	6486	(s)	72.00	4 2.1	7 3.1	8 3.7	14 6.3	20 10.5	
HC-2 Camera 14.4V	6486	(s)	72.00	4 2.1	7 3.1	8 3.7	14 6.3	20 10.5	
HCR-1 Camcorder 14.4V	6400-R	(s)	85.00	4 1.4	7 2.1	8 2.7	14 4.3	20 7.1	
HCR-2 Camcorder 14.4V	6400-R	(s)	85.00	4 1.4	7 2.1	8 2.7	14 4.3	20 7.1	
HR-1 Recorder 14.4V	6408-8	(c)	59.00	4 4.4	7 6.6	8 8.8	14 13.2	20 22.0	
HR-1020 Recorder 12V	6411	(c)	59.00	4 3.0	7 4.7	8 6.0	14 9.4	20 17.0	
TH-50R Recorder 12V	6475	(c)	59.00	4 0.9	7 1.4	8 1.8	14 2.8	20 5.0	
TK-76 Camera 14.4V	6476	(c)	155.00	4 1.7	7 2.5	8 3.3	14 5.0	20 8.3	
TK-768 Camera 14.4V	6476	(c)	155.00	4 1.3	7 2.06	8 2.7	14 4.1	20 7.0	
TK-76C Camera 14.4V	6476	(c)	155.00	4 1.1	7 1.7	8 2.2	14 3.4	20 5.7	
TK-86 Camera 14.4V	6486	(s)	72.00	4 1.7	7 2.5	8 3.3	14 5.0	20 8.3	
TK-710 Camera 13.2V	6478	(c)	59.00	4 2.6	7 3.9	8 4.9	14 7.9	20 13.2	
<b>Sharp</b>									
XA-600PA Recorder 12V	6460	(s)	\$ 49.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
XA-900PA Recorder 12V	6469	(s)	49.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0	
XC-A1 Camera 14.4V	6408	(c)	59.00	4 2.7	7 4.0	8 5.3	14 8.0	20 13.4	
DC300/XC500 Cameras 12V	6418	(s)	49.00	4 1.5	7 2.2	8 3.0	14 4.4	20 7.5	
XC320/XC520/XC530 12V	6409	(c)	59.00	4 1.8	7 2.6	8 3.6	14 5.2	20 9.0	

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Required Video Cable for connecting Cine 60's Battery Belt or Pack to the manufacturer's equipment. Cables with an (s) are 6' straight type, with a (c) coiled type, 1' retracted, 6' extended. The 1<sup>st</sup> number in the Run Time Chart, 4, 7, 8, 14, and 20 is the battery's Amp.-Hr. capacity. The number alongside it is the approximate hours of equipment run time using that battery capacity.



Equipment	Video Cable		Price	Approximate Hours of Run Time				
<b>Sharp</b>								
XC-700 Camera 14.4V	6XC700	(c)	\$59.00	4 2.2	7 3.4	8 4.4	14 6.8	20 11.0
XC-800 Camera 14.4V	640B	(c)	59.00	4 3.0	7 4.5	8 6.0	14 9.0	20 15.0
XC-800II Camera 14.4V	640B	(c)	59.00	4 3.6	7 5.4	8 7.2	14 10.8	20 18.0
XC-900 Camera 14.4V	640B	(c)	59.00	4 2.4	7 3.4	8 4.8	14 6.8	20 12.0
XC-900D Camera 14.4V	640B	(c)	59.00	4 2.7	7 4.2	8 5.4	14 8.4	20 13.5
<b>Sony</b>								
BVH-500 Recorder 12V	6475	(c)	\$59.00	4 0.8	7 1.3	8 1.6	14 2.6	20 4.0
BVM-4050 Monitor 12V	6475	(c)	59.00	4 2.6	7 4.3	8 5.3	14 8.6	20 13.3
BVP-1/CA3 Camera 14.4V	6475	(c)	59.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0
BVP-3/CA3 Camera 14.4V	6475	(c)	59.00	4 2.7	7 4.4	8 5.4	14 8.5	20 13.7
BVP-5 Camera 14.4V	6475	(c)	59.00	4 5.1	7 7.8	8 10.3	14 15.5	20 25.0
BVP-30 Camera 14.4V	6475	(c)	59.00	4 2.7	7 4.4	8 5.4	14 8.5	20 13.7
BVP-110 Camera 14.4V	6475	(c)	59.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0
BVP-150 Camera 14.4V	6475	(c)	59.00	4 2.8	7 4.2	8 5.7	14 8.5	20 14.2
BVP-250 Camera 14.4V	6475	(c)	59.00	4 2.7	7 4.4	8 5.4	14 8.5	20 13.7
BVP-300 Camera 14.4V	6475	(c)	59.00	4 2.7	7 4.4	8 5.4	14 8.5	20 13.7
BVP-330 Camera 14.4V	6475	(c)	59.00	4 2.3	7 3.5	8 4.7	14 7.0	20 11.8
BVU-50 Recorder 12V	6475	(c)	59.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0
BVU-100 Recorder 12V	6400VOB	(s)	49.00	4 2.0	7 3.0	8 4.0	14 6.0	20 10.0
BVU-110 Recorder 12V	6475	(c)	59.00	4 4.0	7 6.0	8 8.0	14 6.0	20 20.0
BVU-150 Recorder 12V	6475	(c)	59.00	4 3.3	7 5.0	8 6.6	14 10.0	20 16.6
BVV-1/VA3 Recorder 13.2V	6475	(c)	59.00	4 4.8	7 7.8	8 9.5	14 15.0	20 24.0
BVW-1 Betacam 13.2V	6475	(c)	59.00	4 2.4	7 3.8	8 4.7	14 7.5	20 12.0
BVW-2 Betacam 13.2V	6475	(c)	59.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0
BVW-3 Betacam 13.2V	6475	(c)	59.00	4 1.7	7 2.7	8 3.3	14 5.3	20 8.5
BVW-20 Player 13.2V	6475	(c)	59.00	4 1.9	7 3.0	8 3.7	14 5.9	20 9.3
BVW-25 Recorder 13.2V	6475	(c)	59.00	4 2.2	7 3.3	8 4.4	14 6.6	20 11.0
BVW-30 Betacam 13.2V	6475	(c)	59.00	4 2.4	7 3.6	8 4.7	14 7.0	20 11.8
BVW-105 Camcorder 13.2V	6475	(c)	59.00	4 2.5	7 3.7	8 5.0	14 7.5	20 12.5
DXC-M3 Camera 13.2V	6400M3	(s)	49.00	4 2.9	7 4.7	8 5.8	14 9.5	20 14.6
DXC-M3A Camera 13.2V	6475	(c)	59.00	4 2.9	7 4.7	8 5.8	14 9.5	20 14.6
DXC-1600 Camera 12V	6400DXC	(s)	49.00	4 2.0	7 3.4	8 4.0	14 6.8	20 11.4
DXC-1610 Camera 12V	6400VOB	(s)	49.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0
DXC-1640 Camera 12V	6400VOB	(s)	49.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0
DXC-1800 Camera 12V	6400M3	(s)	49.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0
DXC-1820 Camera 12V	6400M3	(s)	49.00	4 3.4	7 5.2	8 6.8	14 10.2	20 17.1
DXC-1840 Camera 12V	6400M3	(s)	49.00	4 3.4	7 5.2	8 6.8	14 10.2	20 17.1
DXC-3000 Camera 13.2V	6475	(c)	59.00	4 5.7	7 8.6	8 11.4	14 17.1	20 28.6
DXC-6000 Camera 12V	6400M3	(s)	49.00	4 2.0	7 3.2	8 4.0	14 6.5	20 10.0
KV-8000G Monitor 12V	6400KVG	(s)	59.00	4 1.0	7 1.8	8 2.0	15 3.6	20 5.7
PVM-4000 Monitor 12V	6400W	(s)	59.00	4 2.6	7 4.3	8 5.3	14 8.6	20 13.3
PVM-8000 Monitor 12V	6400KVG	(s)	59.00	4 1.0	7 1.8	8 2.0	14 3.6	20 5.7
PVM-8020 Monitor 12V	6400VOB	(s)	49.00	4 1.8	7 2.7	8 3.5	14 5.3	20 8.9
SLO-340 Recorder 12V	6400DXC	(s)	49.00	4 2.0	7 3.4	8 4.0	14 6.8	20 11.4
VO-3800 Recorder 12V	6400VOB	(s)	49.00	4 1.6	7 2.6	8 3.2	14 5.2	20 9.1
VO-4800 Recorder 12V	6400DXC	(s)	49.00	4 4.0	7 6.0	8 8.0	14 12.0	20 20.0
VO-6800 Recorder 12V	6475	(c)	59.00	4 3.0	7 4.5	8 6.0	14 9.0	20 15.0
<b>Thompson</b>								
MC-301 Camera 12V	640B	(c)	\$59.00	4 2.5	7 4.0	8 5.0	14 8.0	20 12.5
MC-501 Camera 14.4V	6475	(c)	59.00	4 2.7	7 4.4	8 5.4	14 8.5	20 13.7
MC-601 Camera 14.4V	6475	(c)	59.00	4 2.0	7 3.4	8 4.0	14 6.8	20 10.0
MC-602 Camera 14.4V	6475	(c)	59.00	4 2.0	7 3.4	8 4.0	14 6.8	20 10.0
MC-611 Betacam 13.2V	6475	(c)	59.00	4 2.4	7 3.8	8 4.7	14 7.5	20 12.0
MC-613 Betacam 13.2V	6475	(c)	59.00	4 1.7	7 2.7	8 3.3	14 5.3	20 8.5
MC-614 Betacam 13.2V	6475	(c)	59.00	4 2.6	7 4.0	8 5.3	14 8.0	20 13.3
MC-701 Camera 14.4V	6475	(c)	59.00	4 2.0	7 3.4	8 4.0	14 6.8	20 10.0
TTV-1623 Camera 14.4V	6475	(c)	59.00	4 2.8	7 4.3	8 5.7	14 8.6	20 14.3
TTV-1624 Camera 14.4V	6475	(c)	59.00	4 2.6	7 4.0	8 5.3	14 8.0	20 13.3

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# ACCESSORIES

## Accessories

ED-18 Cell Module, 4.8V, 4AH. Used in 30V, 4AH and all 8AH belts. BP-90 and Hitch-Hiker camera batteries . . . . .	\$ 59.75
1/2ED-18 Cell Module, 2.4V, 4AH. Used in BP-90 and 13.2V, 8AH belts . . . . .	.30.75
BD-17 Cell Module, 2.4V, 4AH. Used in 8 to 16V, 4AH belts . . . . .	.29.75
TD-35 Cell Module 3.6V, 4AH. Used in 4 and 8AH softbelts, OB batteries. . . . .	.44.50
AA-69 Cell Module 1.2V, 4AH. Used in 8 and 13V, 4AH batteries. . . . .	.14.75
F-1 Cell Module 1.2V, 7AH. Used in all 7 and 14AH belts and packs . . . . .	.23.95
SF-1 Cell Module 1.2V, 10AH. Used in all 10 and 20AH packs . . . . .	.59.25
PB-88 ED-18 cell module box . . . . .	.4.50
PB-77 BD-17 cell module box . . . . .	.4.50
PB-2F F-1 cell module box. (For 2 F-1 Cell Modules) . . . . .	.4.50
NRT-1 Non-resettable thermal fuse . . . . .	.4.50
TS-1 Precision ceramic cell sensor . . . . .	.22.50
MRCB Manual reset circuit breaker . . . . .	.10.00
ARCB Autoreset circuit breaker . . . . .	.10.00
TOS1 Toggle switch . . . . .	.22.00
CIL-1 Charger indicating light . . . . .	.4.50
2AMP 2-Pin Amph. receptacle for 30V batteries . . . . .	.13.00
2CNN Cap and chain assembly for #2 Amp receptacle . . . . .	.8.00
C5F 5-pin XLR receptacle . . . . .	.12.00
C4F 4-pin XLR receptacle . . . . .	.12.00
RBBJ Red or black banana jack . . . . .	.4.50
RBBC Red or black insulating cap . . . . .	.1.00
RA4F 4-pin pre-wired connector for OB4-14 Camera Battery. . . . .	.21.00
RA5F 5-pin pre-wired connector for OB5-14 Camera Battery. . . . .	.21.00
C4MC 4-pin cable connector, male, XLR . . . . .	.8.00
C5MC 5-pin cable connector, male, XLR . . . . .	.8.00
C4FC 4-pin female cable connector, XLR. . . . .	.12.00
C5FC 5-pin female cable connector, XLR. . . . .	.12.00
CP2M 2-pin male cable connector for Sun-Gun . . . . .	.15.00
115C4 Replacement 115V built-in charger for 4AH and 8AH batteries. . . . .	.105.00
115C7 Replacement 115V built-in charger for 7AH and 14AH batteries. . . . .	.115.00
220C4 Replacement 220V built-in charger for 4AH and 8AH batteries. . . . .	.105.00
220C7 Replacement 220V built-in charger for 7AH and 14AH batteries. . . . .	.115.00
1120C4 Replacement 115/220V built-in charger for 4AH and 8AH batteries . . . . .	.150.00
1120C7 Replacement 115/220V built-in charger for 7AH and 14AH batteries . . . . .	.160.00
BD-6 7.2 to 8.4V, 4AH replacement battery belt housing, 6-pocket . . . . .	.125.00
BD-7 9.6 to 12V, 4AH replacement battery belt housing, 7-pocket . . . . .	.125.00
BD-8 13.2 and 14.4V, 4AH replacement battery belt housing, 8-pocket . . . . .	.125.00
BD-9 16.8V, 4AH replacement battery belt housing, 9-pocket . . . . .	.125.00
F-7 7.2 to 12V, 7AH replacement battery belt housing, 7-pocket . . . . .	.135.00
F-8 13.2 and 14.4V, 7AH replacement battery belt housing, 8-pocket . . . . .	.135.00
F-9 16.8V, 7AH replacement battery belt housing, 9-pocket. . . . .	.135.00
ED-8 30V, 4AH, 12 to 14.4V, 8AH replacement battery belt housing, 8-pocket . . . . .	.150.00
HTCH Replacement Hitch-Hiker™ camera battery housing only . . . . .	\$ 95.00
(Does not include Anton/Bauer battery connector and stud base)	
HOB Replacement Hitch-Hiker "OB" type battery housing complete with Cine 60 Stud Base and 5 or 4-pin XLR (specify) . . . . .	.150.00

Note 1. For a complete listing of replacement parts refer to Cine 60's Repair Parts Schedule.

Note 2. When ordering replacement parts, it is necessary to furnish with the part number, the catalog number of the battery belt or pack in which the part is used.



ED-18



1/2ED-18



AA-69



F-1



TD-35



BD-17

High drain, long life NiCad cell modules. Insulated with porous fish-paper to radiate cell heat more efficiently than plastic promoting longer life. Assembled with deep-seated spot welds to minimize "break-away" open circuits. Selected, graded, and matched.



Built-in charger. Precisely matches cell's impedance allowing more efficient conversion of charge current to stored energy in the cell rather than heat. This superior charge acceptance assures fully charged cells. Less heat promotes longer cell life.

Cine 60 Cells and Chargers are designed and matched to each other to provide optimum performance. Use of replacement cells other than Cine 60's is not recommended.



Battery belt housing. Multi-pocket design results in superior cell heat radiation. Allows cells to charge and discharge more efficiently than when clustered together in a block or pack battery. Also lengthens cell life.



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# ACCESSORIES

## Snaplok Mount

**6700 Single-Action Snaplok**, instantly and safely mounts camera antenna, or any portable device to a tripod, shoulder pod, stand, truck, any flat surface. Double pushbutton release permits instant removal. Complete Snaplok Mount includes a precision machined aluminum alloy base, mating camera plate, two 3/8-16, one 1/4-20 mounting screws. Size 3/4" x 3 1/8". Wt. 17 oz. . . . . \$180.00

**6700B** Snaplok base only . . . . . 160.00  
**6700A** Snaplok camera plate only . . . . . 33.00  
**67SS1** 3/8-16 Mounting screw . . . . . 4.00  
**67SS2** 1/4-20 Mounting screw . . . . . 4.00  
**6701** Same as 6700 but smaller size (5/8" x 1 1/2" x 4 1/4", Wt. 8 oz.)  
 Double action type mount then "push to lock". . . . . 160.00

**6701B** Base only . . . . . 144.00  
**6701A** Plate only . . . . . 27.00

## Arri Camera Accessories

**Battery Cables**. Coiled, 1' (6' extended). Supplied with original molded plug and mating connectors to O.E.M. specifications.

**6401S** For Arri 16S. With 2 prong molded battery connector . . . . \$ 52.00  
**6401S5** For Arri 16S. With 5-pin XLR battery connector . . . . . 69.00  
**6401M** For Arri 16M. With 2 prong molded battery connector . . . . . 59.00  
**6401M5** For Arri 16M. With 5-pin XLR battery connector . . . . . 79.00  
**6401BL** For Arri 16BL. With 4-pin XLR battery connector . . . . . 93.00  
**6401BL5** For Arri 16BL. With 5-pin battery connector . . . . . 95.00  
**6401SR** For Arri 16SR, 35BL, 35-III cameras . . . . . 95.00  
**6402V** For Arri 35, variable speed motor. With 2 prong molded connector . . . . . 52.00  
**6402V5** For Arri 35, variable speed motor. With 5-pin XLR connector . . 69.00  
**6402C** For Arri 35, constant speed motor. With 2 prong molded connector . . . . . 52.00  
**6402C5** For Arri 35, constant speed motor. With 5-pin XLR connector . . 69.00  
**6900** **Offset Motor Base** for Arri 35 III C or IIB. A gear box providing a flat camera base and low center of gravity. Essential for professional tripod mounting. Mounts constant or variable speed motor . . . . . 600.00

**6900A** As above but with built-in contacts for automatic clapstick . . 656.00  
**6504** **Focusing Device** for Arri 35. For uninterrupted easy follow focusing by camera man or assistant. Includes 3 lens scales and 3 gears. . . . . 742.00

**6910'C'** **Lens Mount Adaptor**. Precision machined lens mount permitting the use of Arri mounted lens on cameras with "C" mounts. . . . . 192.00

**6910B** As above but for cameras with "Bayonet" mounts . . . . . 192.00

## Arri Camera Batteries

**12V/2A. 2AH Arri SR Camera Battery**. Totally compatible. No adaptor, special mounting or connections required. 2AH cells provided a 30% increase in run time. Can be charged with Arri SR Battery Charger or Cine 60 Dual Charger. Size 2 1/2" x 3 5/8" x 4 1/2". Wt. 2 lbs. . . . . \$325.00

**D-Nc2000 Dual Charger**. Charges two 12V/2A batteries in 8 hours. Independent charge circuit and LED indicator for each channel. Automatic 115/220V operation. Size 2" x 3 1/2" x 4 1/2". Wt. 1 1/2 lbs. . . . . \$325.00

**9707AOB Arri 35BL-3 "Flat Pack" Camera Battery**. Slim 12V 7AH battery designed to mount inside the Arri Geared Head. Features two 5-pin XLR output connectors, Autoreset Circuit Breaker; Built-in 115V Overnight Charger; Charger Cable (in compartment): Charge Indicator, Charge/Operate Switch. Size 1 1/2" x 6 5/8" x 9 5/16". Wt. 7 lbs. . . . . \$695.00

Note 1. 9707AOB can be supplied with 4-pin XLR connectors on request.

**9727HLSP Arri 35-III "Double Pack" Camera Battery**. Provides two 12V 7AH outputs switchable at the camera to 24V for high speed operation. This battery is 2 complete and independent 12V 7AH battery systems totaling 14AH combined in one housing. Each with a 115V Overnight Charger which automatically disconnects each battery when full charge is reached; Charge indicator, and Autoreset Circuit Breaker to protect each battery against external shorts. With padded shoulder strap and hand grip. Size 4 1/2" x B" x 10". Wt. 14 lbs. . . . . \$1017.00

**9727FCHLSP** As above but capable of being fast charged in 2 hours with 9400 Series Fast Chargers . . . . . 1107.00

Note 2. 9727HLSP can be supplied with 4-pin XLR connectors on request.

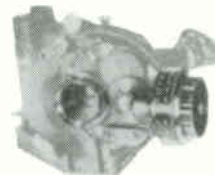
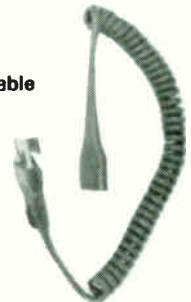
**9727HLSP Arri/Panavision "Double Pack" Camera Battery**. Higher capacity model of 9727HLSP. Has two 12V 10AH 5-pin XLR outputs, switchable, total 20AH and two 24V 10AH 3-pin XLR outputs (not switchable) to run Panaflex Camera and associated video assist. Size 6 1/2" x 6 3/4" x 14 3/4". Wt. 22 lbs. . . . . \$1795.00

Note 3. 20-120HLSP can be supplied with 4-pin XLR connectors on request.

## 6900 Offset Motor Base



## 6401S Cable



## 6504 Focusing Device

## Moviecam Batteries

The original equipment batteries for the Moviecam Camera. Equipped with 4-pin XLR, Selector Switch for 12V and 24V operation, built-in 115V Overnight Charger, Charge Indicator, Charge Cable, and Autoreset Circuit Breaker. Padded shoulder strap and hand grip supplied with battery pack.

**6316** Battery Belt, 12V 8AH/24V 4AH Wt. 10 lbs. . . . . \$ 640.00  
**7016** Battery Belt, 12V 14AH/24V 7AH Wt. 14 lbs. . . . . 968.00  
**9116** Battery Pack, 12V 8AH/24V 4AH Wt. 9 lbs. . . . . 670.00  
**9716** Battery Pack, 12V 14AH/24V 7AH Wt. 13 lbs. . . . . 1005.00  
**12-224** Battery Pack, 12V 20AH/24V 10AH Wt. 22 lbs. . . . . 1595.00

## Direct Replacement for the OEM Anton/Bauer Snap-On® Batteries.

This premium quality battery features a rugged housing with air vents for life-extending lower charge/discharge temperatures, precision "Lifeguard" ± 5% cell sensors for more accurate charge control, and Cine 60 quality long-life NiCad cells. A built-in Autoreset Circuit Breaker protects the battery against external shorts. Mounts instantly without cables or connectors. Side-ribs in the housing assure non-slip handling. Can be charged directly with OEM Chargers. May also be charged with all Cine 60 Slow, Quick, and Fast Chargers (with BP3XF Adaptor).

**Hitch-Hiker™ H-14 14.4V 4AH Camera Battery** . . . . . \$495.00  
**Hitch-Hiker H-13 13.2V 4AH Camera Battery** . . . . . 485.00  
**Hitch-Hiker H-12 12V 4AH Camera Battery** . . . . . 475.00

**BP3XF Charge Adaptor**. Snaps onto Hitch-Hiker or OEM's battery to permit charging with Cine 60 Chargers. . . . . 45.00

**Direct Replacements for Cine 60 "OB" Newspak Batteries**. Same features as "Hitch-Hiker" Camera Batteries but require "Shorty Cable" for connecting to the camera. Mounts onto Cine 60 "NMB" or Anton/Bauer Snap-On® OEM brackets. Can be charged directly with all Cine 60 chargers. May also be charged with OEM chargers (with BF3XM Charge Adaptor).

**OB14-5** 14.4V 4AH Camera Battery. Replaces all OB5-14 type Batteries . . . . . \$435.00  
**OB14-4** As above but replaces OB4-14 Battery . . . . . 435.00  
**OB-13** 13.2V 4AH Camera Battery. Replaces all OB5-13 Battery . . . . . 425.00  
**OB-12** 12V 4AH Camera Battery. Replaces OB5-12 type Batteries . . . . . 412.00

"Shorty" Cables. Required for connecting the OB Battery to the camera

**SHB-6XC7** For Sharp XC-700 Camera . . . . . 44.00  
**SHB-6400IKE** For Ikegami HL-77 Camera . . . . . 44.00  
**SHB-6406** For all Hitachi Cameras . . . . . 44.00  
**SHB-6408** For all JVC "KY" and Sony BVP Cameras, Betacams . . . . . 44.00  
**SHB-6471** For Ikegami HL79A-E, ITC-730 Cameras . . . . . 44.00  
**SHB-6473** For Ampex BCC-14, BCC-20, Philips LDK-14 Cameras . . . . . 66.00  
**SHB-6476** For RCA TK-76, -A, -B, -C . . . . . 143.00  
**SHB-6483** For Ikegami HL-83, HL-95 Cameras . . . . . 59.00  
**NMB** "OB" Battery Mounting Bracket. (Specify for which camera). . . . . 75.00  
**BJ3XM** Charge Adaptor. Connects "OB" Batteries to Anton/Bauer OEM Chargers . . . . . 45.00

®Snap-On is the registered trademark of Anton/Bauer Inc.

# CINEMA PRODUCTS CORP.

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# FILM/VIDEO

# CAMERA PROMPTING SYSTEMS

## CAMRAPROMPTER

### Complete Camera Prompting System For 16mm Cine and ENG/EFP Video Cameras

- Bright, easy-to-read script information. Copy "frame" size: \*can be typed (bulletin-style) or handprinted on matte-finish 6 1/4" W x 5" H plastic rolls (7" W x 25" L)
- Small remote control unit (with 10' detachable cable) provides continuously variable speed control (forward or reverse)
- Ultra-silent, miniaturized motor drive
- Power supplies: standard 12V battery packs or belts, as well as AC mains (with a 12V regulated power supply). 1.75A max. \*\*
- Side-mounted light source utilizes two standard fluorescent lamps (GEF4T5-CW)
- Weight: Camraprompter unit (complete with universal camera mounting plate, adjustable bracket, remote control, scroll and cables) weighs approximately 9 lbs. 8 oz. (4.3kg.)
- \*\*Power supplies not included.

Mounted in a matte box-type enclosure, the Camraprompter\* utilizes a clear acrylic optical flat set at a 45° angle in front of the camera lens. The optical flat acts as a mirror reflecting the bright, easy to read script to the subject being photographed, with virtually no light loss to the lens.

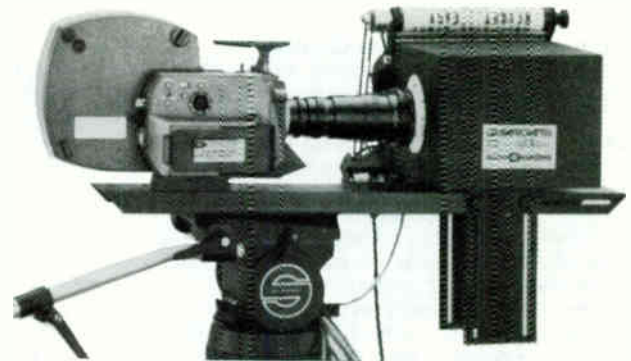
A side-mounted light source is used to back-light the script "scroll." The script copy can be hand-printed or typed (bulletin-style) onto the matte-finish clear plastic 25-foot roll which is advanced by means of an ultra-silent, miniaturized motor drive. (Optional script board/roller unit available for convenient and legible hand-printing).

A compact remote control unit provides continuously variable speed control (forward or reverse). The remote control unit may be operated by the "on camera" subject or by the person in charge of pacing the sequence (who is viewing the script roll from the side of the Camraprompter unit).

Camraprompter can be operated—tripod-mounted or handheld—with most portable motion picture and ENG/EFP cameras currently in use. (It can also be mounted and operated independently on its own stand).

Camraprompter is the ideal prompting system for news/documentary, educational or industrial assignments, as well as TV commercials and other applications shot on location.

\*Patents pending.



Camraprompter

5P001	Camraprompter (complete camera prompting system for film and video cameras). Includes universal camera mounting plate . . . . .	\$2875.00
5P000	Script "Scroll" (plastic, 7" x 25'). Spare roll . . . . .	11.50
5P011	Script "Scroll" (vellum 7" x 60'). Replacement roll . . . . .	13.00
5P003	Lamp (replacement fluorescent lamp, GE F4T5-CW) . . . . .	12.00
5H020	Carrying case, for Camraprompter (only) . . . . .	200.00
5P009	Scriptboard unit. (Script scroll feed roller assembly is not included) . . . . .	145.00
5P008	Script scroll feed roller assembly, complete. Includes Spool (5P007) and Spindle (5P006), as spares . . . . .	185.00
5P007	Script spool, as spare . . . . .	65.00
5P006	Script feed roller spindle, as spare . . . . .	120.00
5P005	Clear acrylic optical flat, as spare . . . . .	30.00
5P004	Base plate with hardware, as spare . . . . .	265.00
5J008	Extension cable (25'), for speed control box . . . . .	110.00
5P010	Speed control box with 8' cable, as spare . . . . .	175.00
5J009	Power cable (supply end uncommitted), as spare . . . . .	70.00

## CAMRAPROMPTER "L"

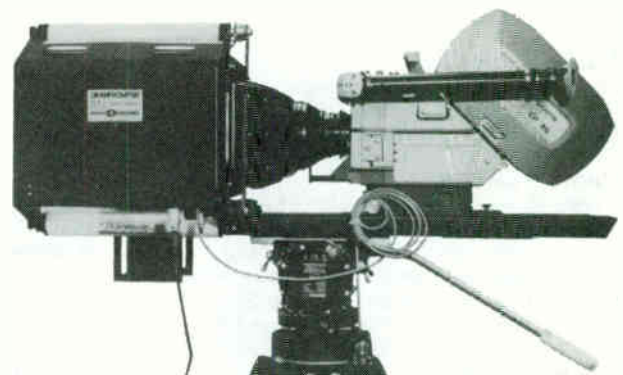
### Complete Camera Prompting System For 16mm and 35mm Cine and Studio Video Cameras

- Quick to set up and easy to operate
- Large, clear 8 1/2" x 11" script viewing area
- Matte finish plastic roll, 12 1/8" W x 25" L, on which copy can be typed, handwritten or computer printed
- Compact remote control unit (with detachable cable) provides continuously variable speed control (forward or reverse)
- Silent, miniaturized motor drive
- 6" x 6" Filter and matte holder
- Power supplies (not included): 12V battery packs or belts, as well as AC mains (with a 12V regulated power supply). Under 2A
- Side-mounted light source uses two standard fluorescent lamps (GE F8T5-CW)
- Weight: Camraprompter "L" unit (complete with Universal "L" Mounting Plate Assembly, remote control, script scroll, scroll roller assembly, and cables) weighs approximately 21 lbs. (9.5kgs)
- Unit may be quickly disassembled into three pieces which pack into a compact case (purchased separately)

The Camraprompter "L" is designed to accommodate larger camera systems than the original Camraprompter. Lighter, more portable and lower cost than conventional prompting systems, it operates easily with handheld 35mm film and electronic cinematography cameras, as well as 16mm film and ENG/EFP and compact studio video cameras.

The clear acrylic optical flat is set at a 45° angle in front of the camera lens in a mattebox-type enclosure. The subject being photographed can easily read the script on the flat which acts like a mirror, clearly reflecting the text.

The script "scroll" is available in a 25-foot matte finish plastic roll, or a lighter gauge material, such as vellum, may be used. It is back lighted by a side-mounted light source. Script copy can be hand-printed, typed with a prompting typewriter, or computer printed onto the scroll. A silent, miniaturized motor drive advances the script "scroll".



Camraprompter "L"

5P300	Camraprompter "L" (Complete camera prompting system). Includes Universal "L" mounting plate . . . . .	\$3600.00
5P305	Script "Scroll" (plastic, 11 7/8" x 35'). Spare roll . . . . .	18.00
5P012	Script "Scroll" (vellum 11 7/8" x 60') . . . . .	25.00
5H300	Carrying case for Camraprompter "L" system . . . . .	250.00

NOTE: Power supplies are not included. Camraprompters require a standard 12V battery pack or belt, or 12VDC regulated power supply.

Prices and Specifications Subject to Change Without Notice.



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# ZOOM CONTROL SYSTEMS

## J-6 Joystick Power Zoom Control

- Compatible with major professional 16mm, 35mm film cameras, the EC-35 electronic cinematography system, and several EFP video cameras
- Operates off internal 12V rechargeable battery or external power of 10VDC-35VDC from the camera head
- Provides variable zoom rates from 2 seconds to 30 minutes
- Highly responsive Joystick-type sliding thumb control provides logarithmic speed variation (from zero to maximum) in direct response to thumb position
- Gradual start/stop system permits extremely smooth precision feathering of the zoom throughout the speed range
- Speed rate dial; limits maximum rate of the zoom motor from 2 seconds to 3 minutes per revolution
- Field serviceable. The J-6 is easily tested with a standard voltage meter. All parts are standard. I.C.'s (in plug-in sockets) can be replaced without a soldering iron
- A pair of zoom direction LEDs blink for positive indication when operating at very slow zoom rates up to 30 minutes
- 20X speed fast return button provides for quick return to mark
- Direction-reversing toggle switch assures easy motor mounting and realignment with sliding thumb control
- Bright LEDs indicating: Low voltage and motor on/off
- Convenient camera run on/off switch
- Optional VTR start/stop, and return video switches
- Highly reliable solid-state electronics featuring LVD transformer (a ceramic core moving within a magnetic coil) eliminates all microswitches, cams and pots. No potted "mystery" modules
- Plug-in cables for easy replacement
- Highly rugged contoured aluminum case with all controls and connectors recessed
- Perfect partner for J-4 and J-5 Zoom Motors

- 2C302** J-6 Joystick/J-5 Motor Power Zoom Control package complete with J-6 self-contained joystick control with rechargeable battery, battery trickle charger, J-5 Zoom Servo Motor, and J-6 Control to J-5 Motor Cable. . . . . **\$2,625.00**
- 2C300** J-6 Joystick Power Zoom Control, as spare. Complete with built-in rechargeable NiCad battery, and J-6 Battery Trickle Charger . . . . . **1,750.00**
- 2C162** J-6 Battery Trickle Charger, as spare. Recharges internal NiCad battery in 14 hrs. Capable of either 120VAC or 240VAC, 50/60Hz operation . . . . . **90.00**
- 2C320** J-6 Service Tool Kit . . . . . **100.00**
- 2E263** Tripod handle mounting clamp. Clamps to J-6 to tripod pan handle. . . . . **180.00**

## J-6 Motor Cables

- 2J223** J-6 control to J-4 motor cable . . . . . **\$135.00**
- 2J224** J-6 control to J-5 motor cable . . . . . **135.00**
- 2J225** J-6 control to Heden motor cable . . . . . **135.00**

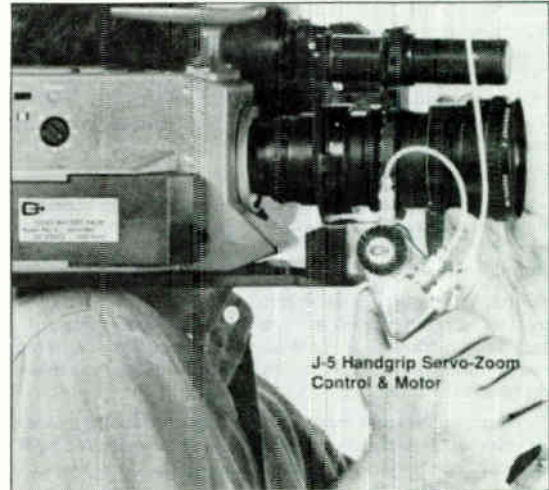
## J-6 Camera Cables

Note: The J-6 may be powered either by its own internal battery, or from the camera battery. Unless otherwise indicated, cables listed below provide 2 functions, auxiliary power for the J-6 from the camera, and camera remote start/stop from a button on the J-6.

- 2J230** J-6 Camera Cable for Arri 35BL, 35III, and 16SR, (11-pin Fischer connector) . . . . . **\$150.00**
- 2J231** J-6 Camera Cable for Arri 16SR, and 35III, (4-pin custom connector) . . . . . **165.00**
- 2J232** J-6 Camera Cable for Arri 35BL, (6-pin Lemo connector) . . . . . **160.00**
- 2J233** J-6 Camera Cable for Moviemcam . . . . . **160.00**
- 2J234** J-6 Camera Cable for FX35 . . . . . **140.00**
- 2J235** J-6 Camera Cable for CP-16R, GSMO . . . . . **140.00**
- 2J236** J-6 Camera Cable, unterminated . . . . . **120.00**
- 2J237** J-6 Auxiliary Power Cable, with Banana connector . . . . . **120.00**



J-6



J-5 Handgrip Servo-Zoom Control & Motor

## J-5 Handgrip Power Zoom Control

- 2G105** J-5 Handgrip Servo-Zoom Control and Motor for GSMO and CP-16R. Includes power cable (2J119) and motor cable (2J218). Note: For use with GSMO, add 1L009 Mounting Plate . . . . . **\$1,850.00**
- 2J218** J-5 Motor Cable, as spare (Note: Can also be used as a spare for CL-3 Cable 1J160) . . . . . **120.00**
- 2J219** J-5 Power Cable, as spare . . . . . **120.00**
- 2J222** J-5 Remote Operation Cable Set (4 1/2', includes 2J220 and 2J221 Power and Motor cables) . . . . . **275.00**
- 2J220** J-5 Long Power Cable, for remote operation (4 1/2') as spare . . . . . **140.00**
- 2J221** J-5 Long Motor Cable, for remote operation (4 1/2'), as spare. . . . . **140.00**
- 2G132** J-5 Control-to-J-4 Motor Adaptor. Permits J-5 Control Handle (2G225) on CP-16R to drive J-4 Motor (2C123). Requires J-5 Motor Cable (2J218). . . . . **70.00**

## J-5 Motor Bracketry (Motor to Lens)

- 2H133** J-5 Bracketry for Angenieux 10-150mm . . . . . **\$275.00**
- 2H115** J-5 Bracketry for Angenieux 9.5-95mm or 12-120mm . . . . . **275.00**
- 2H125** J-5 Bracketry for Angenieux 9.5-57mm . . . . . **275.00**
- 2H145** J-5 Bracketry for Angenieux 12-240mm . . . . . **300.00**
- 2H100** J-5 Bracketry for Angenieux 17.5-70mm . . . . . **240.00**
- 2H232** J-5 Bracketry for Zeiss 10-100mm T2 . . . . . **300.00**

## J-5 Zoom Motors and Accessories

- 2C123** J-4 Servo Motor, as spare (without D clamp) . . . . . **\$950.00**
- 2G146** J-5 Servo Motor, as spare . . . . . **825.00**

NOTE: Bracketry is not included with J-5 or J-6 zoom controls, or with J-5 motor. The same servo motor can be used with different lenses by ordering the appropriate bracketry.



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# STABILIZING SYSTEM

## Steadicam Camera Stabilizing Systems (Universal Model III) for Film and Video Cameras

• Total mobility and portability • Double-jointed stabilizer support arm freeing the arm to move 360° horizontally from the elbow • Cameraman can change support arm from one side of the vest's front plate to the other, allowing left or right hand operation • Operator safety ensured by pin and cone quick-release system • Single Steadicam can be used interchangeably with most handheld 35mm, 16mm and video cameras with no interface

### All Steadicam (Universal Model III) systems include:

• Operator's vest • Stabilizer support arm (adjusted for an average camera weight load) • Camera mounting assembly (featuring a 3<sup>3</sup>/<sub>4</sub>" high-intensity adjustable viewing monitor) • Camera mounting platform • Two (2) NC-12 NiCad battery packs • Two (2) NCC-12 chargers • West docking bracket • Three cases (accommodating the camera operator's vest, stabilizer support arm, camera mounting assembly, and related accessories)

- 3C015** Steadicam (Universal Model III) with adjustable standard-load stabilizer arm. For use with film and video cameras weighing up to 40 lbs. . . . . **\$37,000.00**
- 1C007** Steadicam (Universal Model III) with adjustable light-load stabilizer arm. For use with film and video cameras weighing up to 30 lbs. . . . . **\$36,500.00**

NOTE: For most 16mm cameras and EFP video cameras use 1C007. To use Steadicam interchangeably in all formats substitute or adjust the stabilizer support arm and servo control system.

## Steadicam Stabilizer Support Arms

- 1L144** Adjustable standard-load stabilizer arm, as spare. May be adjusted in the field. For use with cameras weighing up to 40 lbs. Features include: adjustable springs, articulated elbow, and quick right/left hand connecting system. . . . . **\$12,500.00**
- 1L151** Adjustable light-load stabilizer arm, as spare. Features are same as adjustable standard-load arm (1L144) but for cameras weighing up to 30 lbs. . . . . **\$12,000.00**

## Power Supplies For All Versions Of

### Steadicam (Universal Model)

- 1K216** Battery pack — NC-12 . . . . . **\$ 525.00**
- 1K217** Charger — NCC-12, for above. Overnight charge . . . . . **.425.00**
- 5K214** Quick charger — NCQC-12. Charges NC-12 battery pack (S/N #709000 and above) in approximately 35 minutes. NCQC-12 Quick Charger is supplied in integral carrying case which features 2 charge wells . . . . . **.4,000.00**
- NOTE: The NCQC-12 Quick Charger will charge NC-12 Battery Packs (with serial numbers below #709000) overnight.

## 35mm Modifications and Accessories

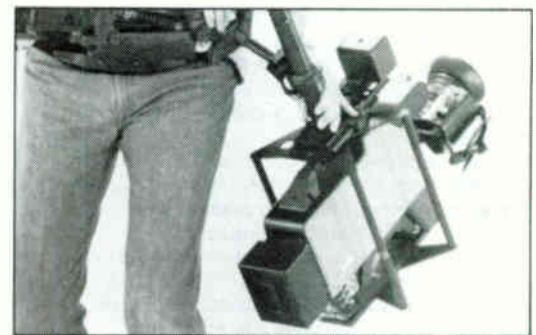
- 3G141** CP/Arri 400' magazine modification, for customer supplied magazine . . . . . **\$1,950.00**
- 3J184** Power cable for CP/Arri 35 2C, as spare . . . . . **.400.00**
- 3J185** Power cable for Arri 35 III, 35BL, and 16SR. . . . . **.400.00**
- 3H100** Case for 2 CP/Arri 400' magazines, as spare. . . . . **.200.00**
- 3J183** Switch cable, for Arri 35BL/Steadicam, as spare . . . . . **.200.00**

## Accessories for Steadicam

- 3L140** Steadicam Universal Model III Camera Operator's Vest. Features removable washable pads and "pin-and-cone" parachute-style, quick-release system . . . . . **\$4,250.00**
- 3M000** Low mode cage, for use with most portable film or video cameras and existing Steadicam . . . . . **.550.00**
- 3M005** Low mode bracket, for use with Arri 35BL and existing Steadicam. . . . . **.550.00**
- 3M007** Robings J Bracket, required for use with low mode cage (3M000 or 3M005) and existing Steadicam. . . . . **.150.00**
- 1L260** Camera mounting plate for CP-16R/Steadicam, as spare . . . . . **100.00**
- 3M001** Camera mounting plate for Moviecam/Steadicam, as spare . . . . . **.385.00**



**Steadicam**



**3M000**

- 3M003** Camera mounting plate for Arri 16SR/Steadicam, as spare . . . . . **\$ 100.00**
- 3M004** Camera mounting plate for Aaton/Steadicam, as spare . . . . . **100.00**
- 3M002** Camera mounting plate for Sharp XC-700/Steadicam, as spare . . . . . **.300.00**
- 3M010** Camera mounting plate, multi-purpose for many portable video cameras . . . . . **100.00**
- 3M008** West Docking Bracket, permits camera mounting platform portion of Steadicam to be mounted on existing lighting stand (5/8" stud) when not in use by operator . . . . . **.225.00**
- 3M009** Wheelchair Mount, permits Steadicam arm to be mounted to moveable or fixed objects . . . . . **.800.00**
- 1L417** "Compact Vehicle" Kit Model III — Ideal for use with Steadicam while shooting in tight quarters, inside a vehicle (helicopter, small airplane and boat, compact car, etc.) . . . . . **.675.00**
- 5L100** Garfield Adaptor, mounts existing Steadicam arm to dolly or tripod . . . . . **.750.00**
- 1J273** Ground Strap (for camera mounting plate), as spare . . . . . **10.00**
- 1J240** Coaxial Cable, 30' length, with terminations to power supply unit and monitor . . . . . **.40.00**
- 3M020** Steadiworm accessory. Facilitates precision left/right balance of camera mounting assembly. Provides fingertip control for rotation of the electronics module. . . . . **.675.00**
- 3M011** Clamp plate assembly for Arri 35BL . . . . . **.300.00**
- 3M022** Clamp plate assembly for Ikegami HL-79 . . . . . **.475.00**
- 3M024** Standard clamp plate assembly, as spare . . . . . **.300.00**

## Steadicam Cases

- 3H300** Hard case for Steadicam camera mounting platform . . . . . **\$475.00**
- 3H302** Soft case for stabilizer support arm. Conveniently made to fit inside of vest case . . . . . **.60.00**
- 3H301** Soft case for Steadicam vest . . . . . **150.00**

# CINEMA PRODUCTS CORP.

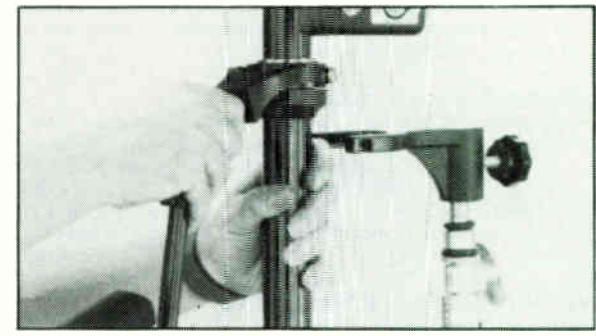
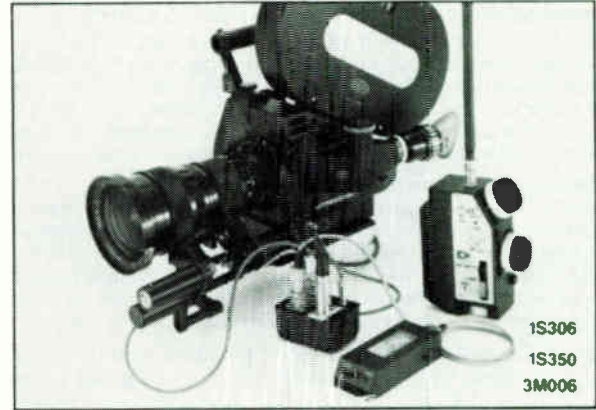
3211 S. La Cienega Blvd.  
 Los Angeles, CA 90016-3112  
 (213) 836-7991 Telex: 68-31828 CINPD  
 FAX: (213) 836-9512

# SERVO-CONTROL SYSTEMS

## WRC-3A Wireless Lens Control System

• Provides convenient radio control of focus, iris and zoom functions on motion picture and video zoom lenses • Battery powered system eliminates the need for physical contact between the camera assistant and camera, enhancing flexibility of shooting positions • Ideal for dolly, crane, or Steadicam shots • Handheld transmitter features individual dual control knobs • JB-3 junction box mounts on the shooting camera and permits use of the WRC-3A system when not being used in conjunction with Steadicam • Universal motor mounting bracketry allows WRC-3A servo-motors to be mounted off of the Steadicam Camera Mounting Plate, so that the lens is free of the motor weight • This system of support tubes and clamps may be used with most camera/lens combinations

- 1S306 3-Channel Wireless Servo-Control System**  
 Includes WRC-3A 3-channel wireless servo-control transmitter (1S300); RCR-3A 3-channel receiver (1S301); RCR-3A to programmer cable (1J200); NC-4 battery pack (1K152); NCC-6 charger (1K161)  
 NOTE: Add appropriate Motors/Bracketry Kit . . . \$4,000.00
- 5S306 3-Channel Wireless Servo-Control System for Video Cameras**  
 Please specify Fujinon, Canon or Angenieux Lens. Same components as 1S306. . . . . 4,125.00
- 1S350 Universal Motors/Mounting Bracketry Kit**  
 (Video or film cameras). Includes: two (3S400) LM-3 servo motors; two (1S351) long Motor Mounting Brackets for 1/2" rods; two (1S358) 1/2" Main Support Rods. NOTE: For use with wireless or cable operated servo control systems. . . . . 3,000.00
- 5S350 Universal Motor/Mounting Bracketry Kit**  
 (Video or film cameras). Includes: one (3S400) LM-3 servo motor; one (1S351) long Motor Mounting Bracket for 1/2" rod; one (1S358) 1/2" Main Support Rod. NOTE: For use with wireless cable operated servo control systems . . . . . 1,500.00
- 1S300 3-channel wireless servo-control transmitter, as spare. Model WRC-3A (includes antenna) . . . . . 900.00**
- 3M006 Junction Box (JB-3), permits WRC-3A 3-channel wireless control to be used with most film camera/lens combinations when Steadicam is not in use . . . . . 450.00**
- 3S400 CP LM-3 Servo Motor, high-torque with two operating ranges. Includes: installed idler gear, servo assembly potentiometer and cable . . . . . 1,400.00**
- 1S345 Heden Servo Motor. Includes: installed idler gear, servo assembly and potentiometer with cable (1J260) . . . . . 1,850.00**
- 1J260 Cable, for focus, zoom or iris motor. NOTE: For use with Cinema Products' servo motors only . . . . . 120.00**
- 1S347 Heden Motor Kit for focus, iris, or zoom. Provides Idler gear and potentiometer so that customer may convert existing motor to be used with Cinema Products WRC-3A. Does not include mounting bracketry or lens gears . . . . . 1,000.00**
- 1K152 Battery pack — NC-4 . . . . . 160.00**  
**1K161 Battery charger — NCC-6 (for use with NC-4 battery pack) . . . . . 70.00**



## Servo-Control Universal Motor Mounting Bracketry, (as spares)

- 1S358 Universal main support rod, 1/2" . . . . . \$ 40.00**  
 Mounts onto Steadicam clamp plate
- 1S351 Motor support bracket, long. Clamps around motor and 1/2" rod . . . . . 140.00**
- 1S352 Motor support bracket, short. Clamps around motor and 1/2" rod . . . . . 110.00**
- 1S353 Parallel rod clamp. Permits "stacking" of 2, 1/2" tubes . . . . . 110.00**
- 1S354 Parallel rod adaptor clamp. Adapts 5/8" rod to 1/2" . . . . . 110.00**
- 1S355 Parallel rod adaptor clamp. Adapts 15mm rod to 1/2" . . . . . 110.00**
- 1S356 Parallel rod. 2" long, 1/2" dia. . . . . 30.00**  
**1S357 Parallel rod. 4" long, 1/2" dia. . . . . 30.00**

# CINEMATOGRAPHY ELECTRONICS, INC. SPEED CONTROL EQUIPMENT

1625 Stanford St.  
Santa Monica, CA 90404  
(213) 829-1811

## Mini Crystal Control—MC<sup>2</sup>

- Ultralight, ultra small unit • Over 120 crystal speeds • State-of-the-art electronics • Versatile and compact • Advanced digital switch pad for selecting crystal speeds • LED tach • LED ft./meter counter • On/off switch • Battery indicator • Rugged construction • Compatible with many cameras including: 35BL, 35BL-2, 35BL-3, 35BL-4, 16SR, 16SR HS

Mini Crystal Control MC<sup>2</sup> .....\$2700.00

## Crystal High Speed Control

- Replaces the riser block used below the ARRI 35-3 • 132 crystal speeds, from 1 fps to 130 fps, in 1 frame increments • TV speeds of 29.97 fps and 23.97 fps for filming with 180° and 144° shutter angles respectively • Continuously variable speed knob is presettable with a range of 3 to 125 fps • Efficient speed ramp that automatically accelerates the camera to the pre-selected speed without pausing or shifting • Allows high speed filming with Arriflex 1000' magazines without the worry of film jamming or breakage • Two "tri-colored" (red, yellow, green) LED battery condition monitors • LED tach • Footage counter • Two 11-pin connectors for "zoom control" power or other accessories • Can be used with HMI lamps of either 50 or 60 cycle line frequency

Crystal High Speed Control (for ARRI-3) .....\$3125.00  
Follow Focus Bracket (for CHSC) .....75.00

## 16 SR Speed Control

- Adds performance and features to the Arriflex 16 SR camera • 75 crystal speeds from 1 fps to 75 fps in 1 frame increments, and 150 crystal speeds in 1 frame increments for the High Speed SR camera • Digital LED tach • Footage/meter counter with reset • Red and green LED battery condition monitor • Out-of-sync beeper and volume control • Machined out of two solid blocks of aluminum • Anodized to a satin finish with engraved lettering • Integral sliding door provides protection from accidental bumping to the digit switches • 7 oz. (200g) • Attached in place of the exposure meter • Shape provides full use of the rotating eyepiece, even with the finder extension • Electrical connection is made through a special wire harness internal to the camera, leaving the camera exterior free from cumbersome cables and wire • Flicker-free filming with either 50 cycle or 60 cycle line frequency

16 SR Speed Control .....\$2700.00

## Precision Speed Control

- For filming computer/video monitors, projectors, or HMI lights • Over 50,000 different crystal speeds are possible, from 1 through 50 fps in .001 fps increments • Speed changes are easily accomplished with 5 pushbutton switches which also display the actual camera speed • Phase shift button can be used to slightly alter the film speed while the camera is running, synchronizing the film to a flickering image • Adjustable clamp for easy attachment to a camera or pan/tilt handle • Electrical connection is made through a single plug on a 4' coiled cord • Ideal for eliminating the scan-line while filming

Precision Speed Control .....\$1400.00

## HMI and TV Crystal Control

- Will remove the irritating TV scan line and allow flicker-free HMI filming at various frame rates • Will crystal control many cameras, including ARRIFLEX 35-3, 35BL, 16SR, and with an optional adaptor all Aaton, Gizmo, and Mitchell Fries cameras • Flicker-free results at the following crystal speeds: 7.5, 15, 24, 30, 40, 60 and 120 fps • European filming • Selectable speeds are 6.24, 12.5, 20, 25, 33.3, 50 and 100 fps

HMI and TV Crystal Control (with auxiliary connector) .....\$700.00

## Cine-Check Optical Tach

- Small, handheld optical tach made especially for the film-video industry • Easily reads AC line frequency by simply pointing the sensor at a HMI or incandescent lamp • Will also read video or computer flicker scan rates directly from a monitor • Reading is in frames per second (accurate to .01 fps)

Cine Check (with carry case) .....\$600.00



Precision Speed Control



Crystal High Speed Control

## Intervalometer

- A relatively slow-changing event can be recorded on film and then projected over a few seconds or minutes • Can be used with most 16 and 35mm cine and still cameras including Arriflex, Mitchell, Nikon and Canon • 300 highly accurate crystal interval settings from 1 sec. to 100 hours • LED digital counter with reset that displays the number of frames of film that have been exposed • Manual trigger button for special intervals or testing • For cameras that cannot furnish the proper voltage (12-40V) an additional auxiliary battery cable is available • Will trigger the camera with either a shorting contact or a positive trigger pulse and is not polarity sensitive

Intervalometer .....\$600.00  
Cable, Intervalometer .....75.00

## Single Frame Modification Kit

- For Arriflex-3, 35BL and 16SR cameras • 1/3 second exposure • No external power necessary • Compatible with Cinematography Electronics Intervalometer • Can be controlled from a handheld pushbutton • No mechanical modification is required to the camera

Single Frame Modification Kit .....\$200.00

## Strobe Sync Control

- Will synchronize an electronic flash to the shutter of any ARRI-3, 35BL, or 16SR camera • Will trigger a flash once per frame, also can be set to trigger every 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>...16<sup>th</sup> frame • Will flash for the eyepiece, this allows the cameraman to view the special strobe effect while filming • Can be used at any speed up to 250 fps • Will trigger most popular strobes

Strobe Sync Control .....\$900.00  
Cable, Strobe-Unilux .....75.00

## Aaton/Gizmo/Fries Adaptor

- Can be used with the Cinematography Electronics Precision Speed Control or HMI TV crystal controls • Crystal filming speeds of 30 fps and 29.97 fps along with 50,000 other crystal speeds are easily attainable with this handy adaptor. Simply plug adaptor between camera and speed control

Aaton/Gizmo/Fries Adaptor .....\$ 400.00  
Cable, Adaptor (specify camera) .....75.00  
Video Sync Control .....3600.00



# CIPHER DIGITAL, INC.

P.O. Box 170  
 Frederick, MD 21701  
 (301) 695-0200 Telex: 27-2065

# TIME CODE PRODUCTS

## CDI-716A

### Microprocessor-Based Time Code Generator

• Microprocessor-based for future upgrades • Operational parameters and preset easily loaded via front panel • Generates SMPTE, EBU or film code formats • All frame rates • Multi-function jam-sync • Jam-sync coding with user selectable offsets • Generates 4-field NTSC RS-170A or 8-field PAL color code • Internal time of day clock • Selectable SMPTE "Phase Bit" • Programmable operation modes from front panel • Non-volatile memory on user presets and set ups

### Specifications

**Video Input**  
 Loopthrough: .5V to 2V, 75 ohm not terminating  
 Black burst composite sync

**Color Field ID:**  
 Field ref pulse line 3 to line 20 field 1

**Tachometer Input**  
**Frame Rate:** X1 through X256 per frame

**Code Output**  
**SMPTE/EBU or Film Standards:**  
 .5V to 2V p-p, factory set  
 1V p-p

**Jam Code Input**  
**SMPTE/EBU or Film Standards:**  
 300mV to 10V p-p

**Rate Output**  
**2X Frame Rate Tone:**  
 .5V to 2V p-p  
 Factory set 1V p-p

**Power:** 115V/230V, 50/60Hz  
**Dimensions:** 1 3/4" H x 19" W x 14" D  
 Rackmounting ears

CDI-716A .....\$2650.00

## CDI-735L Time Code Reader With Front Panel LED Display

• Decodes 30-frame SMPTE and 25-frame EBU code formats • Eight-digit front panel display selectable for time or user data • Error bypass eliminates faulty readings by replacing defective code with sequentially correct code • Frames-delete function for uncluttered viewing • Hold for capture of edit points • Wide range decoding and high sensitivity front end • LED time or user data readout • Single rack unit

### Specifications

**Code Input**  
**Amplitude:** 10mV to 10V p-p  
**Bandwidth:** 1/30 to 80X play speed  
**Impedance:** 10K ohm, balanced, 3-pin XLR connector

**Reshaped Code Output**  
**Format:** Same as input, reshaped  
**Amplitude:** +4dBm in 600 ohm, 3-pin XLR connector

**Risetime:** Selectable 25µsec/50µsec  
**Controls:** Time/user select  
 Display freeze  
 Frames delete

**Indicators:** Drop frame  
 Color frame  
 Data present  
 Error

**Options:** Serial RS-232/422 data output  
 Parallel BCD data output

**Power:** 115V or 230V  
**Dimensions:** 1 3/4" H x 19" W x 14" D

CDI-735L .....\$1595.00  
 -300 RS-232 Serial Data Output option .....260.00  
 -400 RS-422 Serial Data Output option .....260.00  
 -500 BCD Data Output option .....240.00



CDI-735L

## CDI-735CD Time Code With 8-Channel Coincidence Detector

• Error Bypass eliminates faulty readings by replacing defective code with sequentially correct code • Decodes all frame rate formats • 8-digit LED display of time or user data • Built-in coincidence detector with 8 controlled outputs • 3 modes for programming coincident times — Front panel numeric keypad for event times input — Stores capture value on-the-fly from incoming code — Optional remote programming via RS-232/422 serial data port • All set up parameters and event values stored in nonvolatile memory

### Specifications

**Code Input**  
**Amplitude:** 10mV to 10V p-p  
**Bandwidth:** 1/30 to 80X play speed  
**Impedance:** 10K ohm balanced, 3-pin XLR connector

**Restored Code Output**  
**Format:** Same as input, reshaped  
**Amplitude:** +4dBm into 600 ohm 3-pin XLR connector

**Risetime:** Selectable 25µsec/50µsec  
**Coincidence Detector:** Coincidence times programmable via front panel controls or optional serial data (RS-422) input

**Outputs:** Eight controlled outputs with 1 sec. TTL pulse (Form C relays optional)

**Options:** Opto isolator  
 "Form C" relay  
 Parallel BCD output

**Power:** 115V or 230V, 50/60Hz  
**Dimensions:** 1 3/4" H x 19" W x 14" D  
 Rackmounting ears

CDI-735CD .....\$2160.00  
 -040 Opto-Isolator Output option .....120.00  
 -050 Form C Relay Contact Output option .....140.00  
 -300 RS-232 Serial Data Output option .....260.00  
 -390 RS-232 Serial Programming Port option .....460.00  
 -400 RS-422 Serial Data Output option .....260.00  
 -490 RS-422 Serial Programming Port option .....490.00  
 -500 BCD Data Output option .....240.00

# CIPHER DIGITAL, INC.

P.O. Box 170  
Frederick, MD 21701  
(301) 695-0200 Telex: 27-2065

# TIME CODE SYSTEM/ SYNCHRONIZER CONTROLLER

## CDI-750 Time Code System

- Extended sync source selection • Reads longitudinal time code from 1/30<sup>th</sup> to 80 times play speed • Built-in time-of-day clock • Microprocessor based, software controlled • Programmable jam sync mode operation • Instant selection of 24, 25, 30 or Dropframe Time Code • Two 8 digit LED displays showing reader and generator time code • Clustered Key Switches "operator friendly" • Memory Retention of set-up on power loss • Fully positionable video inserter • Meets both SMPTE and EBU longitudinal time code specifications, including time date, user data, status bits and drop frame or color frame indicators • Accepts color field I.D. pulse required for color video editing • Recognizes 4-field NTSC and 8-field PAL encoding standards • Time base selectable between external video sync or internal crystal reference • Generates a two-times frame rate sine wave output for resolver applications • Generates "burst" and "continuous" time code formats • Full-featured video keyer with two separate outputs and four character sizes • Configured with opto-isolators or optional Form C relays • 16 programmable, time code operable general purpose interfaces control studio or special effects equipment with frame-accurate timing • Communicates with or controlled by a computer via its RS-232/422 computer interface • Fully compatible with the SOFTOUCH™ Audio Editing System

The reader and generator can be individually tailored to immediate needs, while the system's state-of-the-art software controls make it readily adaptable to future enhancement.

## Specifications

### CODE INPUT

**Amplitude:** 10mV to 10V p-p  
**Bandwidth:** 80 bps to 192K bps  
**Impedance:** 10K ohm balanced on 3-pin XLR connector

## CDI-4800

### Shadow II Synchronizer Controller

- Typically interlocks in a two to four seconds in play • Exclusive chase mode maintains strict interlock even when the master machine is in fast forward or rewind • Wide Band reader assures time code readability from 1/50<sup>th</sup> to 80 times normal play speed • At higher wind speeds, the Shadow II utilizes available tach pulses to maintain synchronization until head contact is made again • Interchangeably locks to code, video sync and 50/60Hz tone • A unique software "filter" can eliminate wow and flutter transfer for the smoothest, most stable lock possible in any application • Specifically designed for direct computer interface • RS-232C/RS-422 interface control makes it compatible with video/audio editing systems, mixdown consoles and virtually any computer device, including personal computers

Its powerful internal microprocessor enables the Shadow II to dynamically learn the control characteristics using SMPTE/EBU standard time code as the reference, optionally augmented by an external sync signal, the Shadow II continually adjusts a transport's capstan speed to keep it accurately synchronized to another transport within 1/100<sup>th</sup> of a frame (1/3000<sup>th</sup> of a second). When multiple Shadow IIs are connected in a series, numerous transports can be interlocked to a Master transport.

Use a Softouch or Shadowpad controller with Shadow II, for additional power of transport control. Along with standard transport motion and autolocation commands, this power includes offsets up to 24-hours, selection of the speed and type of transport interlock, subframe-accurate record and mute commands, time code and offset memory.

## Specifications

### SYNCHRONIZATION TOLERANCES

**Accuracy:** ± 50µs  
**Resolution:** ± 0.5µs  
**Transport Speed:** 1/50<sup>th</sup> to 80 times play speed  
**Normal Lock Rate:** 1/2 play speed or 2x play speed  
**Slow Lock Rate:** 18 subframes/sec. to 15 frames/sec., selectable  
**Typical Lock-Up Time from Stop:** 2-5 sec.



CDI-750

### RESTORED CODE OUTPUT

**Format:** Same as input, reshaped, retimed  
**Amplitude:** + 4dBm into 600 ohm 3-pin XLR connector  
**Risetime:** Selectable 25µs/50µs (internal selection)  
**Amplitude:** Preset 1V p-p, adj. .5V to 2V p-p

### VIDEO INPUT

**Format:** NTSC, PAL, SECAM composite video  
**Level:** 0.5V to 2.0V p-p  
**Impedance:** Non-terminated, bridging, BNC connector

### CODE OUTPUT

XLR connector, SMPTE/EBU standards, Factory set 10PK to PK, adj. .5V to 2V

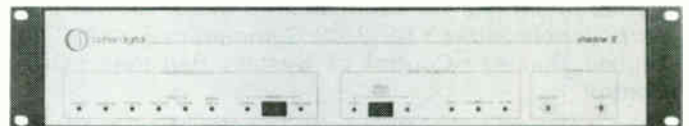
### RATE OUTPUT

2x XLR connector, Frame rate (Format C), SMPTE/EBU standards, Factory set 1V p-p, adj. .5V to 2V p-p

### VIDEO OUTPUTS (2)

**Format:** Same as input with Time/User characters from reader, generator or both  
**Level:** 1.0V p-p (adjustable)  
**Impedance:** 75 ohm unbalanced, BNC connectors, Keyer black & white, Level internally adjustable

CDI-750 . . . . . \$3995.00



CDI-4800

### INPUTS

#### MASTER AND SLAVE

**Time Code:** 24/25/30 frames/sec. and Drop Frame  
**Auxiliary:** 50/60Hz  
**Command Indication (tallies):** Active low/variable threshold  
**Direction Sense:** Floating logic input  
**Tach Frequency Range**  
**Play:** > 4Hz  
**Maximum Wind Speed:** < 2.5kHz

### OUTPUTS

#### MASTER AND SLAVE

**Commands:** Opto-isolated open collector

#### SLAVE ONLY

**Capstan Speed Override**  
**Voltage Output (1x):** 12V max. swing within ± 12V range

#### OUTPUTS

#### SLAVE ONLY

**Voltage Output (2x):** 30V, 15V max. swing within ± 30V range (user supply required)  
**Frequency Output:** 45Hz-40kHz floating TTL compatible

### SPECIAL INPUTS

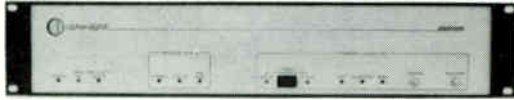
**Video Reference Input:** Nominal impedance—1M ohm or 75 ohm, switch selectable  
**Video Reference Types:** Composite sync, vertical drive, black burst, color bars, composite video

CDI-4800 Shadow II Transport Synchronizer . . . . . \$3395.00

# CIPHER DIGITAL, INC.

P.O. Box 170  
 Frederick, MD 21701  
 (301) 695-0200 Telex: 27-2065

# EDITOR INTERFACES



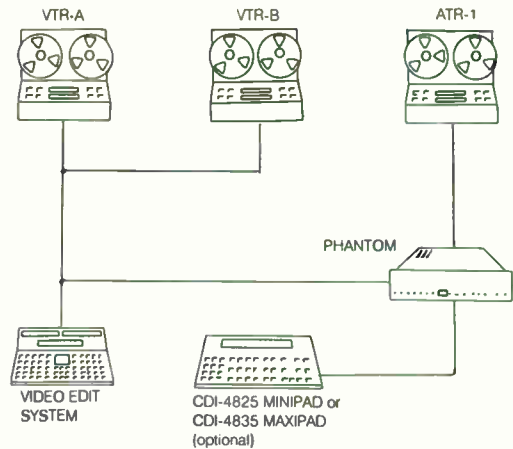
CDI-4810

### CDI-4810 Phantom VTR Emulator

- Interfaces Video Editing Systems to Audio Transports
- RS-422 in • Parallel out • Compatible with Ampex, Sony and other protocols (Selectable from an externally accessible dip switch)
- Event Controller (x4 Events)
- Interface with Shadowpad Mini and Shadowpad Maxi

The Phantom Emulator accepts information from the video editing system via the RS-422 interface and provides parallel information to the audio transport. In addition, you can use it to control U-Matic type VCRs to video editing systems designed for 1" VTRs.

Designed around a high speed microprocessor, the Phantom also provides control of up to four events. It can interface with the 4835 Shadowpad-Maxi to provide event control and offset entry as well as external control of the slave transport if required.



### Specifications

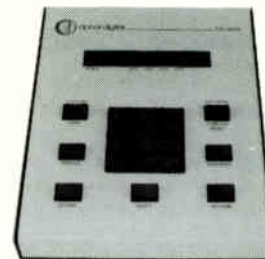
- Mechanical:** Dimensions: 3 1/2" H x 17" W x 13" D, rack-mountable  
 Weight: 16 lbs.
- Electrical:** Voltage—115/230, switch selectable  
 Frequency—50/60Hz  
 Power—40W (typical)
- Standard Accessories:** Power Cord  
 Instruction Manual
- CDI-4810 ..... \$2550.00

### CDI-4825 Shadowpad-Mini Offset Controller

- Enter offset register information to the Shadow II Transport Synchronizer
- RS-232 Communications
- Highly Legend Display
- Control of System Registers
- Offset Control

The Shadowpad-Mini allows you to enter offset register information and recall and modify system register information. Plus it enhances the power of the Shadow II Transport and can be used with both the 4700 and 4800 Shadows.

Primarily developed to control offset between transports, the Minipads keyboard display provides status information of the Shadow II and transports connected to it. The Minipad keyboard allows such features as trim, recall, retard, store, advance, message, and display modes.



CDI-4825

### Specifications

- Mechanical:** Dimensions: 2 3/4" H x 6 1/2" W x 8 1/2" D  
 Weight: 2 lbs.
- Electrical:** +8VDC from Shadow II
- Standard Accessories:** 20' Interconnect Cable  
 Instruction Manual
- CDI-4825 ..... \$695.00

### CDI-4835 Shadowpad-Maxi Controller

- Team it with the Shadow II Transport Synchronizer
- RS-232 Communications
- Independent Transport Control
- Highly Legend Display
- Control of System Registers
- Full Function Keypad
- Offset Control

The 4835 gives the operator complete control of the Shadow II's information display. Plus the full function keypad displays status and operation of the Shadow II and transports connected to it.

Independent transport control, speed, type of interlock and modification of slave offset parameters are just a few of its extended features.



CDI-4835

### Specifications

- Mechanical:** Dimensions: 2 3/4" H x 11" W x 8 1/2" D  
 Weight: 2 lbs.
- Electrical:** +8VDC from the Shadow II
- Standard Accessories:** 20' Interconnect Cable  
 Instruction Manual
- CDI-4835 ..... \$995.00



# CIPHER DIGITAL, INC.

P.O. Box 170  
Frederick, MD 21701  
(301) 695-0200 Telex: 27-2065

# AUDIO EDIT CONTROLLER/ TC GENERATOR/READER

## CDI-4890 Softouch-PC Audio Editing Controller

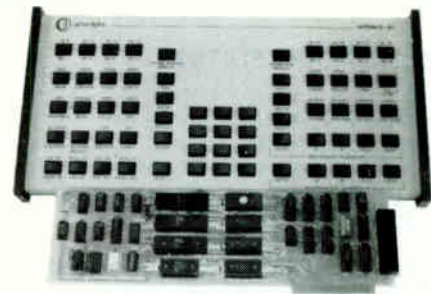
- Simplifies and controls time-code applications. Facilities generating or reading both SMPTE and EBU standard longitudinal or VITC code in choice of 24, 25, or 30 drop-frame format
- Regenerating code or jam syncing code eliminates drop-outs or "patch work" code easily and quickly
- Allows optional triggering of events with frame-accuracy, so special effects cart machines and other studio equipment can be easily brought into the editing process
- Supplies a time-adjustable beep tone for cueing talent
- Permits "hot" or preprogrammed record "punch in" for frame-accurate "on the word" edits and overdubs
- The preview function is a valuable tool, enabling review of edit decisions without recording

The Softouch-PC's power comes from its ability to streamline the audio editing process. Its range of memory functions speeds up editing sessions and helps eliminate costly errors.

Sixteen Softkeys™ permit repetitive or intricate pre- and post-production editing routines to be executed at the touch of a single key. Any command or routine that can be executed manually on the Softouch keyboard can be done automatically with Softkeys. Set up each Softkey to perform a single task, string together multiple tasks or multiple Softkeys, even perform calculations and carry messages and prompts for the operator. Plus, the Softkey sequences can be modified, erased or replaced at any time.

Loop Memory provides the flexibility to define, modify and save all pre- and post-roll data, beep-tone setting, trim, mark in/out and record in/out data for up to 100 loops at one time. Choose to cycle through any individual loop, or execute complex assemblies with a minimum of keystrokes. Additional "scratch-pad" memory (to store edit points) is yet another feature of Softouch's intelligence. A virtually maintenance-free internal battery preserves the programmed keys when the unit is shut off.

As more powerful microprocessors and memory modules become available, Softouch will support them. Standard personal computer operating systems techniques are also employed to allow for integration of a wide variety of future studio-related products. The Softouch-PC's architecture ensures that system functionality can expand at a pace consistent with the latest technical advances in sound recording, engineering, producing and editing.



Softouch-PC

### Specifications

<b>Interfaces:</b>	Four Communications Ports: 3 Shadow II (4700 or 4800) 1 CDI-750 or Cypher
<b>Electrical:</b>	All electrical supplied from Host P.C.
<b>Mechanical:</b>	Dimensions: Keyboard: 16.5 x 8.25 x 2.5 P.C. Board 4" x 13"
<b>Weight:</b>	Keyboard: 3 lbs. P.C. Board: 13 oz.
<b>Standard Accessories:</b>	Keyboard Cable Instruction Manual Software
<b>CDI-4890</b> .....	<b>\$2195.00</b>

## CDI-735V Time Code Reader with Video Character Inserter

- Decodes 30-frame SMPTE, 25-frame EBU and 24-frame film formats
- Frame-accurate, wide-speed decoding from 1/30<sup>th</sup> to 80 times play speed
- Multi-function video character inserter. Switchable to display time or user data. Full-raster positioning via "soft control". Multi-size characters. Remote keyer control
- Unique error bypass eliminates faulty readings by replacing defective code with sequentially correct code
- Front panel frames and mask control
- Reshaped code output to feed edit computer
- Front panel and video display of drop frame and color frame modes
- All set-up parameters stored in nonvolatile memory
- High sensitivity front end

Designed around a high speed microprocessor, this time code reader allows error-free, frame-accurate decoding of time and user data. Plus it has a multi-function integral video character inserter that supplies a monitor display of combined code information superimposed over program video.

The CDI-735V is ideal for generating "burned in" workprints.

### Specifications

#### Code Input

<b>Amplitude:</b>	10mV to 10V p-p
<b>Bandwidth:</b>	1/30 <sup>th</sup> to 80 times play speed
<b>Impedance:</b>	10K ohm balanced, 3-pin XLR connector

#### Reshaped Code Output

<b>Format:</b>	Same as input, reshaped
<b>Amplitude:</b>	+4dBm into 600 ohm, 3-pin XLR connector
<b>Risetime:</b>	Selectable 25µs/50µs



CDI-735V

#### Video Input

<b>Format:</b>	NTSC, PAL, SECAM composite video
<b>Level:</b>	0.5V to 2.0V p-p
<b>Impedance:</b>	Non-terminated, bridging, BNC connector

#### Video Outputs

<b>Format:</b>	Same as input with time or user characters
<b>Level:</b>	1.0V p-p
<b>Impedance:</b>	75 ohm unbalanced, BNC connector

#### Video Controls

Char size, H & V position, Time or User, Display delete, Frames delete, Freeze display, Mask delete

**CDI-735V SMPTE/EBU Time Code Reader w/Video Inserter . . \$1595.00**

#### Options

<b>300 RS-232 Serial Data Output Option</b> .....	<b>\$260.00</b>
<b>400 RS-422 Serial Data Output Option</b> .....	<b>.260.00</b>
<b>500 BCD Data Output Option</b> .....	<b>.240.00</b>

# CMX CORPORATION

2230 Martin Ave.  
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# EDITING SYSTEM

## CMX 100 ELECTRONIC EDITING SYSTEM

### Integrated:

#### Edit Controller/Video Switcher/Audio Switcher & Mixer

• Commercials/news/sports/promos/short segments • A/B roll with cuts/dissolves/fades • 3 lightweight, portable pieces: 3 1/2" rack electronics; console; 12" monitor

### Video:

Sources: VTRs A/B • Aux 1 and 2 • Black keying via customer supplied DSK or CGN

### Audio:

Sources: • VTRs A/B (2 channel) • Aux 1 and 2 (1 channel) — aux can be mike or line • 6 input faders • Built-in tone generator • VU type meters for 2-channel output • Audio-follow-video (user defined) or breakaway

### Console Organization:

• Track selection • REC/PVW keys • Video program/preset • Audio program/preset • VTR motion and selection keys • Keypad • Transition keys • Audio faders • 4 GPIs • 2 keyer-triggers • VU metering

### Machine Control:

• SRCH knob • Play/stop/still/jog • Allstop

### Backspace Editing or Marks

#### Assemble or Insert Editing:

• Time code or tape timer (control track)

#### Time Code/Tape Timer Numbers—Ease of Entry:

• Set in/out • Trim • Duration

### CRT Display:

• Menus • Windows • Highlighting • Edit Area: VTR position/status, edit in/out/duration • Display control: remove/display durations, unused zeros, etc.

### Keypad:

Numbers: Becomes number pad when required i.e. setting in timecode • Direct Functions: • Go to • Trigger list • Initialize • More (key): BVB preview, recall marks, match-cut calculate (into last edit) keys 1-4 become GPIs during preview or record • Set/duration/trim • CGN • Help • Replay • Open edit

### Initialization:

• Time code/timer • Lock tolerance • Fast/slow dissolve rates • Saves setup in memory • Port assignments • Audio-follow • Marks or backspace • Display control

### Trigger List (20 Triggers):

• Triggers made on-the-fly in preview or record • Trigger scroll highlights active trigger

The following can be triggered in an edit: • Track select • GPIs • Audio and video crosspoints • Motion control (speeds not saved) • Keyers 1 and 2 • Cuts/dissolves

Modify individual or all triggers (delete, trim, enable/disable); Create (pre-program) trigger.



CMX 100

### Record List (Non-Volatile Memory saves list even when powered down):

• Any of previous 50 events can be recalled with triggers • Memory can be divided into up to 9 segments • Record time, duration, tracks and segment are shown

Event	DUR	Track	Segment
1.	10:00:00:00 30:09	VI2	1
2.	10:00:30:09 10:00	VI	3

The CMX 100 is an on-line three-VTR electronic editing system aimed directly at the short segment program production market. The CMX 100 provides control of A and B source VTRs, the record VTR, two auxiliary sources and black. In addition to four General Purpose Interfaces (GPIs), two Keyer triggers are included. The CMX 100 is available in both NTSC and PAL standards.

The 100 combines into a single desktop console all of the equipment needed to do finished product (on-line) television program editing. An operator has at his or her fingertips a 5-input video switcher, a 6-input audio switcher, and motion control of 3 VTRs. There is easy access to video dissolves, cuts and fades, and audio mixing.

The 100 is specifically designed for rapid assembly of short program segments in the most efficient and economical manner. Used as an on-line tool for the effective creation of high-impact promos, commercial spots, news or sports program segments, it can perform all of the necessary editing functions without tying up an entire studio and/or editing suite.

CMX 100 . . . . . \$ 19,750.00

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# EDITING SYSTEM

## 330A and 3100 Large-Scale Editing Systems

The 330A is a high-performance, large scale editing system priced to suit the most basic budget. Designed for both offline and online needs, features include Motion Memory, Match-Cut Calculation, Autoclean, Learn Keys, Master/Slave and Sync Roll. The 330A allows for future expansion by being directly upgradeable to the CMX 3100, 3400, 3400A, or 3600.

The 3100 has an expanded keyboard and adds enhanced features and speed. This 8- to 24-port system offers multiple EDL files, Autoclean, Match-Cut Calculate, Learn Keys, and other features designed to speed the editing process. Master/Slave and Sync Roll offsets are saved in the EDL. Superkit saves space and money by interfacing three VTR/ATRs with one interface card. The 3100 may be upgraded to a CMX 3400, 3400A or 3600.

### Machine Control Functions

- Rewind • Fast forward • Play • Stop (individual devices) • Slow
- Slow reverse • Shift/retard slow • Shift/retard slow reverse • Cue (individual devices) to head of preroll • Go to (330A only) • Replay: replays any recorded event • Still frame • Jog forward • Jog reverse
- Retard jog rate • Advance jog rate • Search (with GISMO option): up to seven speeds forward and reverse • Variable speed jog (with GISMO option) • Multiple machine motion control (with GISMO option) • All-stop • Record • Automatic reset of interface communications

### Edit Transition Selections

- Cut • Split cut ("L" cut) • Dissolve from/to • Dissolve rate • Short cut dissolve (with last dissolve rate) • Wipe from/to • Wipe code
- Wipe rate • Short cut wipe (with last code and rate) • Key in (background/foreground/duration) • Key out (background/foreground/duration) • Delayed key • Key fade up from black • Key fade to black
- Key cut in • Key cut out • Open end edit • Closed end edit

### List Management Functions

Sort modes: Sort by event number, Sort by record in time, Sort off Move event(s) in EDL • Re-edit events in EDL • Insert re-edited events in EDL with list update • Exit re-edit • Single or Block Move event(s) in program with Pull Up • Record start time • Delete events with pull up • Record on/off • Renumber events Autoclean: On or off during record, Cleans overrecords, Deletes duplicate events, Cleans multi-line events, May clean entire EDL while loading from disk (3100 only) Notes: Any edit in EDL may have notes, Multiple lines available, Delete a single line, a group or all lines off a note

### Edit Decision List Display/Input/Output

- Scroll List Up • Scroll List Down • Scroll to Event Number requested (Display) • Disk On: Saves each edit to disk after record • Punch On: Saves each edit to papertape after record • Print EDL in hard copy
- Reads papertape EDL • Disk Out: Stores EDL on disk • Single event
- Range of events • All events (default) • Multiple EDL files on floppy disk • Print: Prints EDL in hard copy • Increased display of events in NDF/DF EDL • Initialize Disk: Erases EDL from disk • Autoscroll: EDL scroll with Master (Record) machine motion • Print disk file directories in hard copy

### Automatic Edit Assembly Functions

- Sequential assembly ("A" mode) • Enable for assembly (by event number) • Disable for assembly (by event number) • Resume assembly • List enabled events/List disabled events (3100 only) • Reel-by-reel assembly ("B" mode, 3100 only)



### Hardware Options

- General Purpose Interface (GPI) • Fast, direct access to relays • All information goes to disk • Eight relays controlled • Up to 16 GPI triggers per event • GISMO • Jam sync (machine dependent) • Time code reader board (available with Multi-I<sup>2</sup>) • Motion memory (M<sup>2</sup>)

### Specifications

<b>System Configuration:</b>	Distributed processing
<b>Central Controller:</b>	DEC microcomputer
<b>Device Interface:</b>	Microprocessor controllers
<b>Device Interface Memory:</b>	EPROM
<b>Communication Format:</b>	Serial/9600 Baud/RS-232
<b>Communication Protocol:</b>	CMX 8-bit binary
<b>Edit Decision List Size:</b>	500 events. 500 additional lines for ancillary data, (330A) 700 events. 1000 additional lines for ancillary data (3100)
<b>Edit Decision List Format:</b>	CMX 3400A, CMX 3400, CMX 340X, CMX 3100, CMX 336XL, CMX 330XL, CMX 50, The Edge
<b>Edit Decision List I/O Disk:</b>	8" single-sided, single density, IBM 3740 format (option on 330A)
<b>Edit Decision List Printer/Paper Tape:</b>	Serial/300-9600 Baud/RS-232
<b>CRT Display Format:</b>	80 Characters per line/25 lines/60Hz refresh rate/non-interlaced
<b>Display Monitor (option):</b>	High resolution CMX terminal/broadcast video monitor
<b>Number of Devices Assignable:</b>	8 (330A) 24 (3100)
<b>Number of Devices Controllable:</b>	5 + GPI (330A) 8 (3100)
<b>Edit Accuracy:</b>	Frame accurate, color framed, PAL-pair self-correcting or manual for 4- or 8-field correction
<b>Time Code Standards:</b>	SMPTE drop/non-drop frame, EBU
<b>Tape Timer (machine dependent):</b>	Alternative to time code with use of Multi-I <sup>2</sup>
<b>Television Standards:</b>	NTSC/PAL/SECAM
<b>User's Keyboard:</b>	Alphanumeric Color Coded (330A) Expanded/alphanumeric color coded (3100)
<b>Remote Motion Control Device (option):</b>	Rotary control for search/slow motion/frame jogging (memorized recall available)
<b>330A</b>	.....from \$17,500 to 22,000.00
<b>3100</b>	Edit controller .....21,000.00
	Interface packages start at .....7,500.00



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# EDITING SYSTEMS

## 3400/3400A/3600 Large-Scale Editing Systems

The 3400 is the industry-standard for large-scale editing systems. It offers the editor major advantages in productivity and speed including such features as Precue Auto Assembly, Auto Clean, eight user-defined keys, multiple EDL files, Match Cut Calculate, and Switcher Memory Upload/Download. The 3400 maintains versatility and plug compatibility with all CMX Intelligent Interfaces (I<sup>2</sup>s). Any CMX 330XL, 340X, 336XL, or 3100 system can be upgraded to a 3400.

The 3400A has all of the features of the 3400 and GISMO II. Expanded GPI, and Dynamic Motion Memory (DM<sup>2</sup>). DM<sup>2</sup> allows speed changes to be programmed, learned on the fly, stored to the EDL, and previous triggers may be modified. Fit/Fill mode allows 3400A to calculate expansion or compression of scenes. The 330XL, 336XL, 340X, 3100 and 3400 may be upgraded to the 3400A.

The 3600 offers the editor major advantages in productivity and speed, including such features as 4-channel audio control, Precue Auto-Assembly, Dynamic Motion Memory, Switcher Memory Upload/Download, Multiple EDL files, and Match Cut Calculate. The 3600 maintains versatility and plug compatibility with all CMX's Intelligent Interfaces (I<sup>2</sup>s). Any CMX 330XL, 336XL, 340X, 3100, 3400 or 3400A may be upgraded to a 3600 system.

### Machine Control Functions

- Rewind • Fast forward • Scan (dedicated key) • Reverse scan
- Play • Stop (individual devices) • Slow (3400A, 3600) • Slow reverse
- Shift/retard slow • Shift/retard slow reverse • Cue (individual devices) to head of preroll • GOTO (individual devices) to in-time display
- Replay: replays any recorded event • Still frame • Jog forward • Jog reverse • Retard jog rate (machine dependent 3400A, 3600) • Advance jog rate (machine dependent 3400A, 3600)
- Search (with GISMO option): up to seven speeds forward and reverse • Variable speed jog (with GISMO option) • Multiple machine motion control (with GISMO option) • ALLSTOP • Record • Automatic reset of interface communications

### Edit Transition Selections

- Cut • Split cut ("L" cut) • Dissolve from/to • Dissolve rate • Short cut dissolve (with last dissolve rate) • Wipe from/to • Wipe code
- Wipe rate • Change wipe pattern • Short cut wipe (with last code and rate) • Key-in (background/foreground/duration) • Key out (background/foreground/duration) • Delayed key • Key fade up from black • Key fade to black • Key cut in • Key cut out • Open end edit
- Closed end edit

### List Management

- **Sort Modes:** Sort by event number, Sort by record in time, Sort off
- Move Event(s) in EDL; Re-Edit events in EDL; Insert Re-edited events in EDL with list update • Exit re-edit • Resequence events in program with pull up • Record start time • Delete events with pull up • Record on/off • **EDL text editing:** Re-number events, Change A/V modes, Change reel numbers • **Autoclean:** On or off during record, cleans over-records, deletes duplicate events, cleans multi-line events, may clean entire EDL while loading from disk • **Notes:** Any edit in EDL may have notes, multiple lines available, delete a single line, a group or all lines of a note

### Edit Decision List Display/Input/Output

- Scroll list up/down • Page scroll up • Page scroll down • Autoscroll: EDL scroll with Master (record) machine motion • Display: move EDL highlight by event number; by record time code • Disk on: saves each edit to paper tape after record • Punch on: Saves each edit to paper tape after record • Punch save: punches paper tape EDL • Reader: reads paper tape EDL • Disk save: stores EDL on disk • Disk load: loads EDL from disk single event; range of events; all events (default) • Multiple EDL files on floppy disk • Print disk file directories in hard copy • Print: prints EDL in hard copy • Increased display of events in NDF/DF EDL • Choice of 3600 or downward compatible output for CMX PDP or LSI based systems (3600) • Event highlight for all lines in event (3600)



3400A

### Automatic Edit Assembly Functions

- Sequential assembly ("A mode") • Reel-by-reel assembly ("B mode") • Precue sequential assembly (looks ahead 30 events) • Precue reel-by-reel assembly (looks ahead 30 events) • Enable for assembly (by event number) • Disable for assembly (by event number)
- Resume assembly • List enabled events • List disabled events
- Enabled/disabled status saved on disk, printout (3600)

### Hardware/Options

- General Purpose Interface (GPI) (3400) • Fast, direct access to relays • All information goes to disk • Eight relays controlled • Up to 16 GPI triggers per event • GISMO (3400) GISMO II (3400A, 3600 standard) Jam sync (available with conventional I<sup>2</sup>) • Time code reader board (available with Multi-I<sup>2</sup>) • Motion memory (M<sup>2</sup>) (3400) • Dynamic Motion Memory (3400A standard) • General Purpose Interface (GPI) (3400A standard) • Fast, direct access to relays • One page relay/trigger screen • Devices activated with pulse or on/off trigger
- All information goes to EDL and floppy disk • 16 relays standard
- Additional relays (up to 64) optional • Programmable pulse duration
- Switchable TTL open collector • Up to 16 GPI triggers per event
- Printer buffer (3600)

### Specifications

<b>Central Controller:</b>	DEC microcomputer (LSI 11/73, 3600)
<b>Communication Format:</b>	Serial/9600 Baud/RS-232
<b>Communication Protocol:</b>	CMX 8-bit binary
<b>Edit Decision List Size:</b>	3000 lines/EDL; approx. 6000 additional lines available for ancillary data, (approx. 1500 additional lines, 3400)
<b>Edit Decision List Format:</b>	CMX 3400A, 3400, 3100, 336XL, 340X, 330XL, 50, The Edge
<b>Edit Decision List I/O Disk:</b>	8" single-sided, single density, IBM 3740 format (3 1/2" double-sided, double-density, IBM System 34 modified format, 3600)
<b>Edit Decision List Printer/ Paper Tape:</b>	Serial/300-9600 Baud/RS-232
<b>CRT Display Format:</b>	80 characters per line/25 lines/60Hz refresh rate/non-interlaced
<b>Display Monitor (option):</b>	High resolution CMX terminal/broadcast video monitor
<b>Number of Devices Assignable:</b>	24
<b>Number of Devices Controllable:</b>	8
<b>Edit Accuracy:</b>	Frame accurate, color framed, PAL-pair self-correcting or manual for 4- or 8-field correction
<b>Time Code Standards:</b>	SMPT E Drop/non-drop frame, EBU
<b>Television Standards:</b>	NTSC/PAL/SECAM
<b>Remote Motion Control Device (option):</b>	Rotary control for search/slow motion/frame jogging
<b>3400</b>	Edit controller. . . . . \$40,000.00
	Interface packages start at . . . . . 10,000.00
<b>3400A</b>	Edit controller. . . . . 47,000.00
	Interface packages start at . . . . . 10,000.00
<b>3600</b>	Edit controller. . . . . 47,000.00
	Interface packages start at . . . . . 10,000.00

# COAST MANUFACTURING CO.

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FAX: (212) 324-4667

# TRIPODS

## VTR-90RA Red Accent™ Professional "High Boy" Fluid Action Tripod

- Fluid action video head assembly continuous throughout the 360° pan or 180° tilt movements • Built-in camera quick release system
- Deep anodized black satin aluminum • 3-section, 32mm aluminum tubular legs with tri-brace • Oversized positive knurled grip controls for easy opening of legs—separate pan and tilt controls • Large adjustable angle handle • Retractable, spiked leg tips for no slip stability on any terrain • Folded length 29 1/2" • Opens to 77", extra tall for those extra big shots

VTR-90RA Red Accent Professional High Boy Fluid  
Action Tripod—Tubular Leg Design . . . . . \$169.00  
B-304 Quick-release platform for use with VTR-90RA  
Tripod . . . . . 8.99



VTR-90RA

## VTR-80RA Red Accent Photo/Video Tripod

- Fluid action head design with built-in camera quick release platform
- Vertical camera position with easy flip-over panhead positioning
- Dual channels in panhead accept double light arm accessory brackets (optional) for indirect lighting effects • Separate vertical tilt-tension and horizontal panhead locking knobs • Geared center column with crank featuring crank-lock arm design • Trapezoid leg design provides maximum structural stability while retaining lightweight construction
- Full, collapsible tri-brace for extra strength and stability • Easy side-mount channel leg locks • Built-in flash shoe to carry accessory items
- Rubber shoes for non-slip scuff-free use • Opens to 63", closes to 24"

VTR-80RA Red Accent Photo/Video Fluid Action  
Tripod—Trapezoid Leg Design . . . . . \$119.00

### Accessories for VTR-80RA Tripod

QS-80 Red Accent Quick Release Platform . . . . . \$ 9.95  
VTR-LB Red Accent Light Arm/Shoe Bracket . . . . . 11.95  
B-160 Universal Bounce Head . . . . . 5.99  
B-250 3-Way Deluxe Tripod Level . . . . . 18.99

## TR-8RA Red Accent "Mini" Tripod

- Folds to 8" and tucks away in its own nylon pouch • Opens to 18"
- 2-section aluminum channel legs • Deep anodized black satin finish highlighted with Red Accent trim • Perfect for table top use, in-store camera display, and 1001 other uses

TR-8RA Red Accent "Mini" complete with  
nylon carry pouch . . . . . \$34.95

## TR-6RA Red Accent Tripod With Tri-Brace

- 3-way extra large panhead • Geared center column with crank
- Sure grip handle • 3-section channel all aluminum legs with folding tri-brace • Retractable spiked feet • Opens to 58", closes to 24"

TR-6RA Red Accent Deluxe Channel Tripod . . . . . \$79.95

## VTR-40RA Red Accent "Superlite" Tripod

- 3-section all aluminum tubular leg construction with tri-brace for extra stability • 3-way, large platform panhead • Geared center column with cranklift arm • Deep anodized black satin finish with Red Accent trim • Perfect for new compact video cameras and camcorders as well as all still cameras • Opens to 58", closes to 20"

VTR-40RA Red Accent Tubular Leg Tripod with Brace . . . . . \$59.95



VTR-80

## VTR-60RA Red Accent Deluxe Video Tripod

- Spring-loaded counter-balanced panhead • Built-in spirit-level
- Heavy-duty 3-section channel legs with quick-lever locks and radial tri-brace provide optimum stability • Deep anodized black satin aluminum with Red Accent trim and details • Opens to 58", folded size 24"

VTR-60RA Red Accent Spring-loaded Video  
Tripod—Channel . . . . . \$89.95

## D-10RA Red Accent Universal Tripod Dolly

- Professional durability, reliability, and construction • Collapses to a compact 18" for easy transport • Rugged cyclac carry handle and leg clamp assembly • Unique single action leg locks • 3" diameter wheels lock individually • Adjusts to hold all tripods regardless of configuration or style • Provides that smooth, even roll for perfect videography
- Deep anodized black satin finish with Red Accent trim

D-10RA Universal Tripod Dolly—Red Accent . . . . . \$69.95

## TC-3RA Red Accent Tripod Case

- Polyfoam interior wall construction provides shock protection • Both a tripod protector and a tripod carrier • Adjustable hand or shoulder straps • Dense-weave nylon exterior is fully coated and water repellent • Silk-like red interior provides scratch-proof protection • Bumper feet on a hardsided triangle base add a further measure of protection
- Size: 29" x 6"

TC-3RA Red Accent Tripod Case . . . . . \$ 21.95

VTR-F3RA Red Accent Professional Fluid Action Tripod . . . . . 189.95

VTR-30RA Red Accent Video Camera Display Fixture . . . . . POR

# COAST MANUFACTURING CO.

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# TRIPODS/ LIGHTING EQUIPMENT

## CHROME VIDEO TRIPOD SERIES

### VTR-F2 Professional "Fluid Head" Video Tripod

- Oil fluid panhead • Large platform camera quick release system • Extra stable heavy-duty 27.5mm channel leg assembly with tri-brace
- Large camera head assembly with flip-over design • Dual channels to accept light arm bracket accessories • Separate head adjustment knob to ensure professional tilting and panning actions correlated to the weight of the camera or camcorder • Built-in bubble level • Telescopic handle zooms from 10" to 15" • Geared elevator column • Heavy-duty channel leg assembly with tri-brace for extra stability • Opens to 62" — Closes to 26"

VTR-F2 Professional fluid head tripod . . . . . \$189.95

### D-10 Universal Tripod Dolly

- Professional durability, reliability, and construction • Collapses to a compact 18" for easy transport • Rugged cyclolac carry handle and leg clamp assembly • Unique single action leg locks • 3" diameter wheels lock individually • Adjusts to hold all tripods regardless of configuration or style • Provides that smooth, even roll for perfect videography • Chrome finish

D-10 Universal tripod dolly . . . . . \$69.95

### M-1 Deluxe Monopod

- Designed for use where space limitations prohibit the use of a tripod, but where stability is a must • All aluminum construction • Opens to 57" — Closes to 20"

M-1 Deluxe monopod . . . . . \$24.95

### VTR-65 Professional Video Tripod

- Spring loaded counterbalance head • 3-section (32mm) tubular aluminum leg design • Each leg section has easy grip knurled leg locks
- Leg tips feature retractable spikes for no-slip stability on any terrain
- Radial tri-brace ensures extra stability • All aluminum castings in steel gray/satin chrome finish • Built-in spirit level • Oversized metal control knobs for positive grip and safety locking • Opens to 72" — Closes to 29 1/2"

VTR-65 Professional video tripod . . . . . \$119.95

### VTR-60 Deluxe Video Tripod

- All aluminum design • Springloaded counterbalanced panhead
- Built-in spirit level • Heavy-duty 3-section channel legs with quick lever locks and radial tri-brace provide optimum stability • Extra height with positive action geared center column adjustment • Opens to 58" — Closes to 24"

VTR-60 Deluxe video tripod . . . . . \$89.95

- TR-7 Low-level tripod—aluminum . . . . . \$4.95
- TR-7B Low-level tripod—black . . . . . \$4.95
- TR-6 Deluxe channel tripod with brace—aluminum . . . . . \$69.95
- TR-6B Deluxe channel tripod with brace—black . . . . . \$69.95
- TR-6G Deluxe channel tripod with brace—gold . . . . . \$69.95
- TR-6SL Deluxe channel tripod with brace—super-lite . . . . . \$59.95
- TR-8 The "Golden Mini" . . . . . \$34.95
- TR-9 "The Super-Lite" channel tripod . . . . . \$39.95
- TR-10 "The Super-Lite" travelpod with case . . . . . \$24.95
- TR-11 "The Super-Lite" tri-brace tripod . . . . . \$34.95

### TC-2 Video Tripod Case

- Durable water repellent gray nylon exterior with black trim • 2-way carrying (shoulder or hand) • Size: 25" x 6 1/2" (tapers to 4 1/2")

TC-2GYN Nylon tripod case—Slate Gray . . . . . \$14.95

### TC-1 The Tripod

- 3-way carrying (backpack-style, shoulder, or hand) • Rugged water repellent nylon exterior • Size: 30" x 9" (tapers to 4 1/2")

TC-1B 3-way tripod case—black . . . . . \$19.95  
VGE-T Heavy-duty matched 110/120VAC charger . . . . . \$16.95

## LIGHTING EQUIPMENT

### B-282 Universal Light Swivel Holder

- Multi-purpose bracket for light stands • Tilts 180° horizontally
- Swivels 360° (left to right) • Handles most umbrellas • Complete with adaptors to fit 3/8" and 5/8" light stands

B-282 Universal light swivel holder . . . . . \$19.95

V-296



VTR-F2

### LS-54 The Clamp

- Holds lights, cameras, flashes • 3/8" stud with 1/4" mount thread
- No scuff rubber tipped jaw • Clamps anywhere—on tripod leg—car window—chair back—tree branch—anyplace

LS-54 "The Clamp" . . . . . \$11.95

### LS-1B 4-Section Aluminum Light Stand

- All aluminum construction with anodized black satin finish • Extra wide 26" spaced legs for stability • Extends to a full 8' • Folds down to a compact 26" • Ball adaptor (Model B-51) available for accessory mounting

LS-1B 4-section aluminum light stand—black . . . . . \$29.95

B-51 Ball adaptor—all metal. . . . . \$3.99

### LS-6 Professional Duty Light Stand

- 4-section extra heavy tubular design • Easy to set cyclolac cam locks hold each section in place • Doubled rivet channel leg brace • Extra wide leg spread for extra stability • No scuff rubber leg tips • Extends to 8' — Closes to 27" • Complete with adaptor for mounting 3/8" and 5/8" lights

LS-6 Professional duty light stand . . . . . \$39.95

SB-401 Studio boom with swivel and counter weight. . . . . \$44.95

LS-KIT Light stand kit — [consisting of (2) LS-1B black lite stands, (2) 10" aluminum reflectors, and (2) cords, sockets, handles, along with hardware for mounting to lite stands. All in heavy corrugated reusable carrying box] . . . . . \$99.95

BS-1 Deluxe dual background stand . . . . . \$79.95

CBD-10 Deluxe barn door assembly (for 10" aluminum reflectors) . . . . . \$44.95

CBD-12 Deluxe barn door assembly (for 12" aluminum reflectors) . . . . . \$44.95

10-RA 10" enameled reflector assembly . . . . . \$24.95

12-RA 12" enameled reflector assembly . . . . . \$29.95

Note: Reflector assembly consists of reflector, power cord, socket and handle

10-R 10" polished aluminum reflector . . . . . \$7.95

12-R 12" polished aluminum reflector . . . . . \$11.95

U-34 Deluxe photo umbrella . . . . . \$49.95  
(34" diameter, white interior and black exterior surface)

Prices and Specifications Subject to Change Without Notice.



# COAST MANUFACTURING CO.

118 Pearl St.  
Mt. Vernon, NY 10550  
(212) 324-4656 Telex: 14-8300  
FAX: (212) 324-4667

# CARRYING CASES

## RED ACCENT™ VIDEO LUGGAGE

- 1000 denier Cordura® Nylon in a deep, rich black fabric and distinctively edged and lined in red • High density, thick, cross-linked polyfoam provides shock protection and the bright red silk-like interior lining adds a distinctive design element while providing no-scratch protection • All buckles, zippers, and rings are made of military grade thermo plastic—super strong, rustproof, and scratchproof

### R-19 Compact Video Camera Carrybag

- Holds all compact video cameras and accessories • Top loading—a single pull opens dual top zippers fully exposing roomy interior • Velcro® adjustable interior dividers for customizing interior layout • Roomy front accessory storage pocket • Rugged hand and shoulder carry straps • 13" x 8" x 5<sup>3</sup>/<sub>4</sub>" (i.d.)

R-19 Red Accent camera luggage . . . . . \$89.00

### R-20 Total System Video Carryall

- Custom designed to hold all Camcorders (8mm or VHS)—Betamovie or VHS videomovie outfits—and most video cameras and accessories • Top opening, dual zipper design providing easy access to extra large interior compartment • Equipped with three Velcro adjustable dividers for flexible and custom interior compartment layout • Front accessory storage pocket • Hand hold or shoulder carry straps • 15" x 10" x 8<sup>3</sup>/<sub>4</sub>" (i.d.)

R-20 Red Accent video carryall. . . . . \$102.00

R-21 Red Accent camcorder case. . . . . \$99.00

### R-58 Video Recorder Luggage

- Custom designed for Matsushita VCRs (Panasonic, Quasar, Canon, GE, Olympus, Magnavox) • Easy access to all controls via Velcro brand closure flaps • Large front accessory pocket for spare VHS cassette • Quick release buckle for fast, easy opening • Roomy accessory pocket for other accessories • Comfortable shoulder or backpack carry • 8<sup>7</sup>/<sub>8</sub>" x 11<sup>1</sup>/<sub>2</sub>" x 3<sup>1</sup>/<sub>2</sub>" (i.d.)

R-58 Red Accent recorder tote—black w/red trim . . . . . \$89.00

### R-59 Video Recorder Luggage

- Designed for RCA 900 Series and Hitachi VCRs and other comparably sized models • Instant access to controls via Velcro brand closure flaps • Fold down top cover and drop down front flap provide immediate access to VCR • Roomy outside accessory pocket • Comfortable shoulder or backpack carry • 9<sup>1</sup>/<sub>2</sub>" x 11" x 3<sup>1</sup>/<sub>4</sub>" (i.d.)

R-59 Red Accent recorder tote—black w/red trim . . . . . \$89.00

### R-767 Video Camera/Camcorder Carrybag

- Traditional styling with modern, high performance material and workmanship • Extra large interior chamber holds any and all video outfits—from camcorders (VHS or 8mm) to large or small video camera outfits • Shock-padded interior wrap-around acts as equipment divider and extra shock cushion • Rugged polypropylene shoulder and hand carry straps • Double-thick polyfoam walls provide another measure of extra protection for video equipment • 15<sup>3</sup>/<sub>4</sub>" x 10" x 7" (i.d.)

R-767 Red Accent video camera/camcorder carrybag . . . . . \$89.00

### R-777 Custom Video-Pro Case

- The perfect sized carryall for all camcorders, VCRs and companion video cameras with accessories, other complete video outfits and accessories • Shock-padded interior wrap-around acts as equipment divider and extra shock cushion • Double-flap front accessory pocket with easy access quick release buckles • Hand or shoulder carry • 17" x 10<sup>1</sup>/<sub>2</sub>" x 7<sup>3</sup>/<sub>4</sub>" (i.d.)

R-777 Red Accent video-pro field case . . . . . \$130.00



R-21



R-58

## PRIMERO VIDEO LUGGAGE

- 100% cotton canvas • Top grain leather

### VC-458 Video Recorder Luggage

- Custom designed for Matsushita portable VCR's (Panasonic, Quasar, GE, Olympus, Magnavox and others of similar size) • See-through front cover permits viewing recorder controls • Thick polyfoam provides "shock protection" and plush lined interior for "no-scratch protection" • Easy access to all recorder controls and compartment via Velcro brand closure flaps • Separate pocket under front flap for storing spare VHS cassette or other accessories • Comfortable shoulder carry strap • 8<sup>7</sup>/<sub>8</sub>" x 10<sup>3</sup>/<sub>4</sub>" x 3<sup>1</sup>/<sub>2</sub>" (i.d.)

VC-458B Primero canvas/leather VCR case—(black/tan) . . . \$99.00

VC-458T Primero canvas/leather VCR case (tan/tan) . . . . . \$99.00

### VC-459 Video Recorder Luggage

- Designed for RCA 900 Series VCRs, Hitachi, and other comparably sized models • See-through front cover permits viewing recorder controls • Thick polyfoam provides "shock protection" and plush lined interior for "no-scratch protection" • Easy access to all recorder controls and compartment via Velcro brand closure flaps • Separate pocket under front flap for storing spare VHS cassette or other accessories • Comfortable shoulder carry strap • 9<sup>1</sup>/<sub>2</sub>" x 11" x 3<sup>1</sup>/<sub>4</sub>" (i.d.)

VC-459B Primero canvas/leather VCR case—(black/tan) . . . \$99.00

VC-459T Primero canvas/leather VCR case (tan/tan) . . . . . \$99.00

### VC-490 Compact Video Camera Carrybag

- Holds all compact video cameras and accessories • Thick polyfoam between exterior wall and plush interior lining provides "shock protection" for valuable contents • Full length Velcro adjustable interior divider to customize roomy interior compartment • Extra-wide adjustable shoulder strap • 12" x 7" x 5" (i.d.)

VC-490B Primero canvas/leather camera case—(black/tan) . . \$89.00

VC-490T Primero canvas/leather camera case (tan/black). . . . \$89.00

### VC-495 Total System Video Carryall

- Ideal for all camcorders (8mm or VHS)—BetaMovie or VHS VideoMovie outfits—and most video cameras • Precision sewn and fabricated with finest quality "natural" materials • Tandem zippers—one pull opens both zippers simultaneously, fully exposing the extra roomy interior • Three separate dividers to custom fit and compartmentize the large interior • Dense foam interior wall construction provides optimum protection against damage to valuable equipment • Extra roomy, full body front accessory pocket with flap closure • 15" x 9<sup>1</sup>/<sub>2</sub>" x 8<sup>1</sup>/<sub>4</sub>" (i.d.)

VC-495B Primero canvas/leather camera case (black/tan) . . . \$130.00

VC-495T Primero canvas/leather camera case (tan/black). . . \$130.00

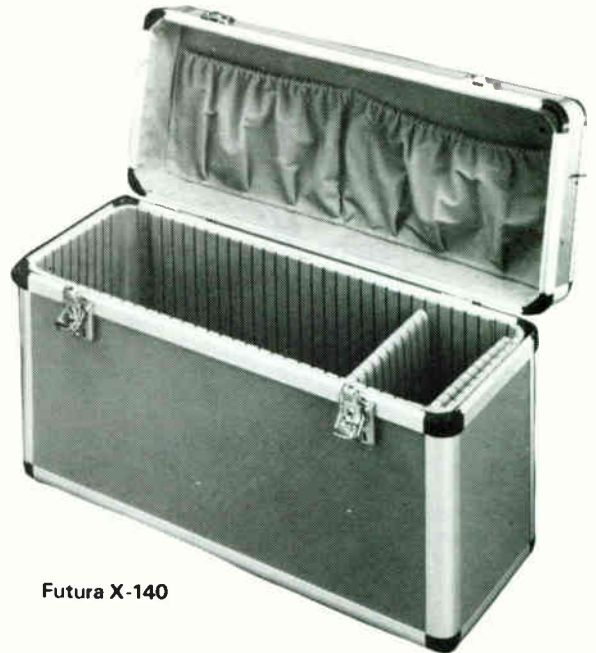
# COAST MANUFACTURING CO.

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# CARRYING CASES

## “LTD” VIDEO LUGGAGE

- **Kapelon™ Fabric**—Super tough, scuff resistant, water resistant. Unaffected by all weather conditions. Polyurethane multi-coated rear fabric surface backed with dense foam for added protection.
- **Toylon™ Shock Absorbing Padded**—Protects valuable contents against single impact and multiple shocks. Special closed cell, cross-linked polymer formulation
- **Snag-Proof Zipper and Rustproof Hardware**—Zippers are self mending nylon that won't bind or rust. Quick release Delrin™ closures are scratch resistant, lightweight and rustproof. All metal hardware double plated to military specs.
- **Superb Workmanship and Stitching**—All stress points and seams reinforced. Rigid subassembly quality control.
- **Professional Interior Design**—Velcro® adjustable padded dividers permit customized compartments to fit equipment and personal preference.
- **Registered for added protection**



Futura X-140

## VC-1205 LTD Compact Video Camera Carrier

- Modern vertical design with easy access quick release locks • Extra large and fully lined interior compartment • Complete with adjustable interior dividers and mesh accessory organizer • Roomy front flap accessory pocket • Leather hand carry handle and adjustable shoulder carry • Ideal for compact video cameras and accessories including Sony Handycam • 9" x 6<sup>3</sup>/<sub>4</sub>" x 7<sup>1</sup>/<sub>2</sub>" (i.d.)

VC-1205G Gray . . . . . \$70.00  
VC-1205N Navy . . . . . 70.00

## VC-1305 LTD Video Camera Carryall

- Super tough scuff and water resistant exterior shell with super strong polypropylene hand and shoulder straps • Thick polyfoam lining provides shock protection • Adjustable divider permits custom design of interior • Large exterior end pockets with Velcro closure flaps • The ideal carrybag for all compact video cameras (Panasonic, JVC, RCA, Sony, etc.) • 12" x 7" x 7<sup>1</sup>/<sub>2</sub>" (i.d.)

VC-1305G Gray . . . . . \$90.00  
VC-1305N Navy . . . . . 90.00

## VC-1405 LTD Video-Pro Twin Pocket

- Large interior compartment holds all low profile 8mm camcorders and video cameras • Adjustable interior compartments allow for custom designing of interior to meet personal equipment needs • Inside cover mesh accessory organizer pocket for secure storage • Two full gusset front pockets provide storage for any and all extras • Fully lined for scratch-free protection • Leather trimmed carry handle and adjustable shoulder strap • Tripod carry straps attached • 15" x 6" x 7<sup>1</sup>/<sub>2</sub>" (i.d.)

VC-1405G Gray . . . . . \$130.00  
VC-1405N Navy . . . . . 130.00  
VC-1405B Black . . . . . 130.00

## VC-1505 LTD Professional Camcorder Carryall

- Designed to carry all camcorders (8mm or VHS), all Sony Betamovie or VHS Videomovie outfits, and most large video cameras and accessories • Large interior, customized with Velcro adjustable compartments • Zipper access into interior compartment with quick release locks for extra security • Mesh accessory organizer pocket inside top lid for storage, easy access to, and instant identification of accessories • Dense polyfoam inner wall construction for shock protection • Silk-like interior lining for no scratch protection • Leather trimmed carry handle and adjustable shoulder strap • Adjustable tripod carry straps attached • 15<sup>1</sup>/<sub>4</sub>" x 9" x 9" (i.d.)

VC-1505G Gray . . . . . \$135.00  
VC-1505B Black . . . . . 135.00

## FUTURA™ X-130 and X-140 VIDEO LUGGAGE

- Old fashioned quality assembly by expert metal craftsmen • Aviation grade aluminum shell treated with a special heat tempered anodizing process for extra strength and lifetime reliability • Molded Cyclocac exterior edge guards absorb and distribute shock • Tongue and groove channeled lids matched for maximum dust and moisture thermal protection

### Futura X-130

- High density foam padded interior with precut size foam cubes for customizing interior to fit your equipment • 17<sup>3</sup>/<sub>4</sub>" x 4<sup>1</sup>/<sub>2</sub>" x 13" (i.d.)

X-130 Futura Photo/Video Luggage—Attache-style . . \$199.00

### Futura X-140

- Designed for camcorders, video cameras and other delicate equipment • High density foam padded interior with adjustable interior compartment dividers ensure snug slip free fit for your equipment • 19<sup>1</sup>/<sub>2</sub>" x 7" x 10<sup>1</sup>/<sub>2</sub>" (i.d.)

X-140 Futura Photo/Video Camcorder Luggage—Trunk-style . . . . . \$199.00

## VCR Video Recorder Carryall

- Rugged water resistant exterior shell with easy to carry handles • Shock absorbing inner wall construction plus polyfoam panels • Universal design for transporting all home VCRs—Perfect for VCR rental programs • 15" x 18" x 7" (i.d.)

VCR Video Recorder Carry and Storage Case . . . . . \$75.00

## VCR-S Video Recorder Carryall

- Same features as the VCR • Compact size for "playback only" units • 13" x 12<sup>1</sup>/<sub>2</sub>" x 5" (i.d.)

VCR-S Video Recorder Carry and Storage Case . . . . . \$55.00

## Custom Silk Screening on Outer Surface of VCR Cases

1. Size of Message: Area no larger than 6" x 8"
2. Artwork to be well-outlined and "camera ready"
3. \$50.00 one-time charge for fabrication of screen
4. Add \$1.00 to unit cost to cover set-up and handling

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# CARRYING CASES

## VC-20 Total System Video Carryall

- Top-loading, a single pull opens both zippers simultaneously exposing the extra roomy interior • Three separate dividers, to customize and compartmentalize the interior for different types of equipment • Perfect for most video cameras, all camcorders (8mm or VHS), video movie outfits (Betamovie or VHS video movie) • Thick dense foam lining for shock protection • Hand or shoulder carry • 15" x 8<sup>3</sup>/<sub>4</sub>" (interior dimensions)

**VC-20GYN** Video Carryall—Gray . . . . . \$102.00

## VC-58 Video Recorder Luggage

- Custom designed for VCRs manufactured by Matsushita • Rugged Cordura® exterior • Extra-thick foam and plush lining provide shock and no-scratch protection • Quick release buckle provides fast, easy opening • Access to all controls via Velcro® brand closure flaps • Large front pocket holds spare VHS cartridge and other accessories • Comfortable shoulder or backpack carry • 8<sup>7</sup>/<sub>8</sub>" x 11<sup>1</sup>/<sub>2</sub>" x 3<sup>1</sup>/<sub>2</sub>" (i.d.)

**VC-58BLK** VCR Case—Panasonic 5800/8500—Black . . . . . \$89.00

**VC-58GYN** VCR Case—Panasonic 5800/8500—Gray . . . . . \$89.00

**VC-54BLK** VCR Case for JVC HR-S100U—Black . . . . . \$89.00

**VC-54GYN** VCR Case for JVC HR-S100—Gray . . . . . \$89.00

## VC-59 Video Recorder Luggage

- Designed to hold RCA 900 series VCRs and others of similar size • Rugged Cordura exterior construction • Extra-thick foam inner lining and deep pile lining provide shock-proof, no-scratch protection • Easy access to VCR controls and battery via separate Velcro brand closure compartments • Top cover folds over, front flap drops down to expose entire video recorder • Front accessory pocket • Comfortable shoulder or backpack carry • 9<sup>1</sup>/<sub>2</sub>" x 11" x 3<sup>1</sup>/<sub>4</sub>" (i.d.)

**VC-59BLK** VCR Case—RCA 900/Pentax/Minolta—Black . . . \$89.00

**VC-59GYN** VCR Case—RCA 900/Pentax/Minolta—Gray . . . \$89.00

## VC-66 Video Camera Compartment Case

- Moisture-proof and mildew Cordura nylon exterior • Holds most popular video cameras with all accessories • Fully lined "shock-proof" interior protects equipment from damage • Velcro interior adjustable dividers for custom fit of contents • Large front accessory pockets with Velcro closure • Adjustable shoulder strap with padded flap-over pad • 16<sup>1</sup>/<sub>2</sub>" x 8" x 7" (i.d.)

**VC-66BLK** Video Camera Case—Black . . . . . \$102.00

**VC-66GYN** Video Camera Case—Gray . . . . . \$102.00

## VC-67 Video Camera Compartment Case

- All the features of our VC-66, but designed to accommodate cameras and camcorders with extra high viewfinders and components • Perfect size for VHS camcorders and accessories as well as all video cameras • 15<sup>1</sup>/<sub>4</sub>" x 9<sup>1</sup>/<sub>2</sub>" x 8" (i.d.)

**VC-67BLK** Video Camera Case—Black . . . . . \$102.00

**VC-67GYN** Video Camera Case—Gray . . . . . \$102.00

## VC-68 Video System Carryall

- Compartmentalized interior plus the large front pocket combined will handle movie unit plus all accessories • Rugged Cordura nylon exterior with "hard-sided" thick padded interior shell • Fully-lined interior provides shock protection to equipment • Velcro brand adjustable dividers • Large front accessory pocket • Adjustable shoulder strap • 16<sup>1</sup>/<sub>2</sub>" x 8" x 7" (i.d.)

**VC-68BLK** Beta/JVC Movie Case—Black . . . . . \$102.00

**VC-68GYN** Beta/JVC Movie Case—Gray . . . . . \$102.00



VC-86



VC-77

## VC-77 Video Carryall Luggage

- Shock-absorbing interior wall construction • Custom designed field case carries VCR and camera equipment (extra power supply cables, cartridges, etc.) • "Shock-proof" fully lined interior with adjustable dividers • Two extra-wide gusset front pockets with Velcro closures • Hand or shoulder carry, adjustable strap with pad • 17" x 12<sup>3</sup>/<sub>4</sub>" x 7<sup>1</sup>/<sub>2</sub>" (i.d.)

**VC-77BLK** Video Carryall—Black . . . . . \$135.00

**VC-77GYN** Video Carryall—Gray . . . . . \$135.00

## VC-80 Video Movie System Luggage

- Holds camera as well as all accessories and extra cartridges • Hard sided with a high tech silver Mylar Durahyde™ exterior or a Cordura nylon exterior • Lined with a handsome no-scratch pile fabric • Shock absorbing interior wall construction • Adjustable dividers enable custom design of interior compartment to accommodate all types of cameras and camcorders • 15<sup>1</sup>/<sub>2</sub>" x 9<sup>1</sup>/<sub>4</sub>" x 8" (i.d.)

**VC-80** Beta/JVC Movie Compartment Case—Silver . . \$89.00

**VC-80GYN** Beta/JVC Movie Compartment Case—Gray . . \$89.00

**VC-80BLK** Beta/JVC Movie Compartment Case—Black . . \$89.00

## VC-84 Compact Video Camera Case

- Designed to hold any compact video camera • Thick polyfoam padding for shock protection and a plush scratch preventing interior lining • Front zipper opening for easy access • Compact space saving design for easy carrying • Compartmentalized interior • 5<sup>3</sup>/<sub>4</sub>" x 10<sup>1</sup>/<sub>4</sub>" x 3<sup>1</sup>/<sub>2</sub>" (i.d.)

**VC-84BLK** Compact Video Case—Black . . . . . \$59.00

**VC-84GYN** Compact Video Case—Gray . . . . . \$59.00

**VC-83BLK** Compact Video Camera Case—Black . . . . . \$59.00

**VC-83GYN** Compact Video Camera Case—Gray . . . . . \$59.00

## VC-86 Dual Camera/Recorder Luggage

- Dual design, holds both VCR and compact video camera • Full function recorder compartment with "drop-front" panel • Cordura nylon exterior for years of rugged use • Expandable rear camera compartment for units such as Panasonic, JVC, RCA, etc. • Shock protected throughout

**VC-86BLK** Dual Video Camera/Recorder Case—Black . . \$120.00

**VC-86GYN** Dual Video Camera/Recorder Case—Gray . . \$120.00

**VC-85BLK** Dual Video Camera/Recorder Case—Black . . \$120.00

**VC-85GYN** Dual Video Camera/Recorder Case—Gray . . \$120.00



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# CARRYING CASES/ ACCESSORIES

## KV-1 Professional Video Luggage

• For Kodak Kodavision Camcorder® units and other brands of similar size • Foam-block holds camera securely in place • Double zippered pocket inside top flap holds 8mm video cassettes • Hand or shoulder carry • Large accessory end pockets • 14" x 7 1/2" x 6 1/2" (i.d.)

**KV-1** Professional Video Luggage—for 8mm Camcorders . . . . . **\$99.95**

## S-20 Professional Camera Luggage

• Rich matte nylon exterior in "cocoa" color with matching dark brown Durahyde® accent • Perfect for JVC VHS Video-Movie outfit and 8mm format camcorders • Extra thick foam inner lining and deep pile lining provide shock-proof, no-scratch protection • 21" x 9" x 12"

**S-20CN** Professional Camera Luggage—Chocolate . . . . . **\$99.95**

## VS-8 Video 8™ Camcorder Case

• Designed to house Sony CCDV-8AF Video 8 Autofocus Camcorder and other camcorders and cameras of similar size • Cordura® nylon exterior with silk-like no-scratch interior lining • Dense polyfoam inner wall construction provides shock protection for video equipment • Velcro® adjustable divider enables custom fit for contents • Hand or shoulder carry polypropylene straps

**VS-BGYN** Video 8 Camcorder Case—Gray . . . . . **\$99.00**

## VS-H Compact Camcorder Luggage

• Custom designed for Sony Handicam Video 8 camcorder • Rich, rugged, 1000 denier Cordura nylon exterior shell • Thick, dense polyfoam inner wall construction • Plush, silk-like interior lining • Interior cushion cradles and protects camcorder • Room for video cassettes and battery charger • 8 3/4" x 5 1/2" x 5" (i.d.)

**VS-HGYN** Compact Camcorder Luggage—Gray . . . . . **\$79.00**

## VS-15 Compact Video Carryall

• Holds Sony Handicam Video 8 Camcorder along with a generous supply of video cassettes and other accessories • Ideal for all compact video cameras • Top-loading, a single pull opens the dual zippered top to provide easy access to roomy, fully lined interior compartment • Two large full gusset accessory pockets • Rugged nylon exterior with contrasting Durahyde trim • Hand and shoulder carry straps • 9" x 7" x 6 1/2" (i.d.)

**VS-15BD** Compact Video Carryall—Burgandy Polyurethane . **\$59.00**

**VS-15GYN** Compact Video Carryall—Gray Nylon . . . . . **\$59.00**

**VS-15BN** Compact Video Carryall—Blue Nylon . . . . . **\$59.00**

## VS-16 Top Loading Video Carryall

• The "Big Brother" version of our VS-15 • 12 1/2" x 8 1/2" x 7 3/4" (i.d.)

**VS-16TN** Top-loading Video Carryall—Tan nylon . . . . . **\$79.00**

**1990-BLK** Video Camera Carrybag—Black . . . . . **\$69.95**

**1990-GYN** Video Camera Carrybag—Gray . . . . . **\$69.95**

## Red Accent™ Video Cassette Organizer

• Rugged water and stain repellent nylon outer shell • Rubberized cushion to hold your video cassettes upright, rattle free, and provide shock protection and insulation protection • 2-way zipper around 3 sides for easy one handed access • Rich silk-like lining • Accessory pocket in interior cover • Holds 6 VHS or BETA video cassettes in their protective sleeve • Available in two designer colors: Jet Black and Red Accent (BL-6) and Steel Gray with Red Accent (GL-6) • 11 1/4" x 10" x 3" (i.d.)

**BL-6** Red Accent Video Cassette Organizer—holds 6 VHS cassettes—Black . . . . . **\$24.95**

**GL-6** Red Accent Video Cassette Organizer—holds 6 VHS cassettes—Gray . . . . . **\$24.95**

**BL-10** Red Accent Video Cassette Organizer—holds 10 8mm cassettes—Black . . . . . **\$24.95**

**GL-10** Red Accent Video Cassette Organizer—holds 10 8mm cassettes—Gray . . . . . **\$24.95**



KV-1



VS-8

## VCB-1 Deluxe Video/Film Converter

• Converts 8 and 16mm and 35mm slides to video tape • All metal construction with adjustable height control • Extra large port-hole for all movie and slide projector imagery • High contrast, high quality "front surface" mirror • Video camera can color correct and add sound or other narration simultaneously • Optical quality matte finish rear projection screen • For video cameras without Macro capability, the Coaster V-350 video close-up lens is needed

**VCB-1** Deluxe Video/Film Converter . . . . . **\$79.95**

## VCB-20 Professional Video/Film Converter

• Converts 8mm and 16mm movies to video tape • All metal construction • Extra large picture area, perfect for duplication and cropping • Optical quality "front surface" mirror • Folds down for storage, sets up in seconds • Large 10" x 8" matte finish screen

**VCB-20** Professional Video/Film Converter . . . . . **\$99.95**

## Video Covers

• Leather-like grained Durahyde exterior is completely water-proof and water-resistant • Knit-back lined interior wraps the VCR firmly and provides no-scratch protection • Shields VCRs from performance robbing dust, dirt, spills, etc. • See-through front panel for access to VCR controls • Durahyde exterior with knit-lining protects against damage due to rough or careless handling • Sizes to fit all popular home VCR units

**VDC-1** Deluxe Video Dust Cover  
17 1/8" x 16" x 4 1/2" . . . . . **\$9.95**

**VDC-2** Deluxe Video Dust Cover  
17 1/8" x 12 1/2" x 4 1/2" . . . . . **\$9.95**

**VDC-3** Deluxe Video Dust Cover  
17" x 11" x 4 1/2" . . . . . **\$9.95**

**VDC-5** Deluxe Video Dust Cover (for Panasonic "stackables" nbr PV-9600 and others of similar size)  
9" x 14 1/2" x 4 1/2" . . . . . **\$9.95**

**VDC-6** Deluxe Video Dust Cover—Panasonic "side-by-side" portable/tuner, nbr PV-8500 and others of similar size)  
17" x 10 1/2" x 3" . . . . . **\$9.95**

**VDC-U** Deluxe Video Dust Cover—Universal Model  
18" x 16 1/4" x 4 1/4" . . . . . **\$9.95**

## Video Lenses

**VF-3** Deluxe Video Fisheye Lens with case (58mm) (complete with 3 adaptors for mounting 49mm, 52mm or 55mm video equipment) . . . . . **\$99.95**

**VFK** 7 Piece Video Filter Kit [consisting of 58mm UV (Lens Protector) filter, 58mm Rotating Polarizing Filter, 58mm Neutral Density 4X filter plus 3 adaptor rings for 49mm, 52mm and 55mm lens use. All packed in a deluxe Shock Filter Wallet] . . . . . **\$69.95**

**VTW-3** Deluxe Video Telephoto and Wide Angle Lens Set with case (58mm)—complete with 3 adaptors . . . . . **\$99.95**

**VTL-15** Professional Video Telephoto Lens\*\* . . . . . **\$129.95**

**VWL-05** Professional Video Wide Angle Lens\*\* . . . . . **\$129.95**

\*\*VTL-15 and VWL-05 are complete with Lens Case, Lens Hood and Adaptor Rings

**V-350** Video Close-Up Lens for Macro Use (58mm) . . . . . **\$14.99**

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# VIDEO ACCESSORIES

VLA-5	Battery power belt — with charger (5A) . . . . .	\$120.00
VLA-10	"Extra Power" battery belt — with charger (10A) . . . . .	140.00
VEST	Video/photo vest — tan . . . . .	64.95
CL-186	Professional video clap stick . . . . .	24.99
CDR-74	Dust remover complete — refill plus trigger . . . . .	18.95
CDR	Dust remover — refill only . . . . .	5.95
B-74	Trigger assembly only for refill size . . . . .	12.99
CDR-T	Dust remover — tote size — 3 oz. . . . .	2.95
CK-6	Deluxe video camera cleaning kit (consisting of lint-free cleaning cloth, lens tissue, lens cleaning fluid, deluxe blower brush, cotton swabs, all packed in a reusable snap-seal box). (Complete with VHS head cleaner cassette and VDC dust cover in full-color gift box) . . . . .	\$ 7.99
VNK-2	Professional TV/video cleaning system . . . . .	24.99
<b>Video Pegboard Accessories</b>		
VFK	7 piece video filter kit (consisting of 58mm UV (lens protector) filter, 58mm rotating polarizing filter, 58mm neutral density 4X filter plus 3 adaptor rings for 49mm, 52mm and 55mm lens use. All packed in a deluxe shock filter wallet) . . . . .	\$69.95
V-310	Matching transformer (75 to 300 ohm) . . . . .	3.99
V-311	Quick-Connect F-plug matching transformer . . . . .	3.99
V-312	TV game-computer switch (300 ohm lead) . . . . .	5.99
V-313	Dual input/dual output TV game switch . . . . .	7.99
V-314	Two-way signal splitter . . . . .	3.99
V-315	Four-way signal splitter . . . . .	6.99
V-316	Multi-antenna cable switch . . . . .	6.99
V-317	Double female in-line "F" jacks . . . . .	2.99
V-318	"F" jack to "RCA" adaptor . . . . .	3.99
V-319	"RCA" phono jack to "F" adaptor . . . . .	3.99
V-320	Right angle "F" adaptor . . . . .	3.99
V-321	75 ohm "F" crimp-on cable connector . . . . .	2.99
V-322	75 ohm "F" push-on cable connector . . . . .	3.99
V-323	UHF/VHF/FM signal amplifier . . . . .	39.99
V-326	3' length connecting cable-gold contacts-F to F . . . . .	6.99
V-327	6' length connecting cable-gold contacts-F to F . . . . .	7.99
V-328	15' length connecting cable-gold contacts-F to F . . . . .	8.99
V-329	Right-angle "Quick Connect" cable — 6' . . . . .	6.99
V-330	Deluxe band separator (UHF, VHF, FM) . . . . .	3.99
V-331	TV stereo adaptor . . . . .	9.99
V-332	Camera/tripod quick release . . . . .	9.99
V-333	Video tape head cleaning kit . . . . .	5.99
V-334	Camera lens cap holder . . . . .	2.99
V-335	Video camera lens cleaning kit . . . . .	6.99
V-336	Dust remover . . . . .	3.99
V-337	3-D title set . . . . .	7.99
V-338	Video cleaning swabs . . . . .	5.99
V-341	6' length connecting cable (gold contacts—RCA to RCA) . . . . .	8.99

V-342	10' length connecting cable (gold contacts—(2) RCA to (2) RCA) . . . . .	\$12.99
V-343	75 ohm terminator (Pack of 2) . . . . .	1.99
V-344	RCA jack to mini-plug adaptor . . . . .	3.99
V-345	RCA jack to BNC plug adaptor . . . . .	5.99
V-346	Mini-plug jack to RCA plug adaptor . . . . .	3.99
V-347	Screwdriver set in case . . . . .	6.99
V-348	AC transformer for Atari and similar size units . . . . .	10.99
V-350	Video close-up lens for Macro use (58mm) . . . . .	14.99
V-351	Video lens protector (58mm) . . . . .	8.99
V-352	Video lens protector (55mm) . . . . .	8.99
V-353	Video lens protector (52mm) . . . . .	8.99
V-354	Video lens protector (48mm) . . . . .	8.99
V-355	Video lite extender bracket . . . . .	9.99
V-356	Video lens pouch — 4 1/2" . . . . .	6.99
V-357	Video lens pouch — 6 1/2" . . . . .	6.99
V-358	Video lens pouch — 8" . . . . .	6.99
VCC-1	Video control center . . . . .	39.99
VCN-8-58	Video camera necessity kit (8 pc)—58mm . . . . .	24.95
VCN-8-55	Video camera necessity kit (8 pc)—55mm . . . . .	24.95
VCN-8-52	Video camera necessity kit (8 pc)—52mm . . . . .	24.95
VCN-8-49	Video camera necessity kit (8 pc)—49mm . . . . .	24.95
VCN-8-46	Video camera necessity kit (8 pc)—46mm . . . . .	24.95
Video camera necessity kit consists of rubber lens hood, optical lens protector, quick snap lens cap, lens cap holder, deluxe blower brush, lens cleaning fluid, lens tissue, tote size dust remover)		
V-359	Universal dubbing kit . . . . .	17.99
V-360	Professional camera/quick shoe . . . . .	15.99
V-361	VCR stereo dubbing cable (6') . . . . .	19.95
V-362	Video lens care pack (see note) . . . . .	29.95
Consists of lens cap holder, lens cleaning fluid, lens cleaning tissue, deluxe blower brush, ultraviolet optical filter, rotating polarizing filter—all packaged in convenient zippered pouch case		
Note: Specify brand name of camera you are ordering for; i.e. Panasonic, RCA, Sony, etc. so correct size filters can be supplied in lens care pack		
V-363	Universal video camera strap . . . . .	19.99
V-364	VHS head cleaner cassette . . . . .	19.99
V-365	VCR-cable recording kit (for viewing one TV channel while recording from another...regular or cable) . . . . .	24.99
V-366	Video lens care pack (consists of tote size dust remover, lens tissue, lens fluid, blower brush, cotton swabs...all packed inside deluxe CA-50 shock carry pouch . . . . .	19.99
V-367	Professional screen and monitor spray cleaner . . . . .	14.99
B-251	Title letter set . . . . .	7.99
B-264	Lens tissue booklets (pack of 4) . . . . .	2.99
B-284	Deluxe battery tester . . . . .	9.99
B-296	Illuminating projection pointer . . . . .	15.99

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# CCD CAMERAS

## 1810/1830/1860 Series Solid-State CCD Color Cameras

- RGB or NTSC output • High Resolution: 754(H) x 488(V) picture elements • High Sensitivity: (2fc/20 lux) • White balance auto, manual or remote • AGC or manual gain • Zero geometric distortion: Selectable gamma (jumper selectable 0.5 to 1.0) • No lag or image retention • Low power consumption • Blemish free sensor • 365,000 picture elements • Adjustable C-mount • Genlock, optional • RS-170 crystal, optional • Low temperature operation, optional

### Applications

#### RGB

• Machine Vision: Pattern Recognition; Measurement and Inspection; Image Processing • Medical Imaging • True Color Analysis

#### NTSC

• Security and Surveillance • Medical Imaging • Microscopy • Image Processing • Inspection • Magnetic Interference • Environments: Subways; High Voltage Areas; Linear Accelerators

With a frame transfer image sensor of approximately 365,000 pixels 754(H) x 488(V), the 1800 displays as much as twice the pixel density and picture quality of most competitive models.

The 1800 is available in either true RGB or NTSC encoded versions. For RGB, the pixel density combined with a pure RGB color stripe filter produces independent, high resolution tri-color images in red, green and blue. This, in turn eliminates the need for peripheral decoding circuitry required in conventional single chip CCD color cameras. As a result, this color camera is noticeably more reliable.

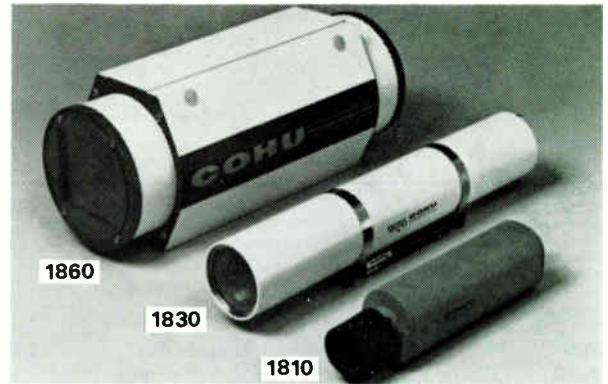
The 1830 and 1860 Series cameras are used in environmental applications where protection from harsh surroundings is necessary. The 1830 is housed in a 3" barrel maintaining a relatively small and lightweight size.

The 1860 is housed in a 6" barrel for the purpose of accommodating a 6:1 or 10:1 zoom lens. A U.L. Classified explosion proof housing is also available as an option.

Automatic Gain Control (AGC) is incorporated in the 1800 Series to provide excellent sensitivity, and with low power consumption, allows flexible system integration and easy operation.

#### Electrical

- Pickup: Single CCD with pure RGB stripe filter using frame transfer method • Pickup Area: 8.8 x 6.6mm (Corresponding to 2/3" tube)
- Active Picture Elements: 754(H) x 488(V) — 251(H) x 488(V) per channel • Cell Size: 11.5µm(H) x 27µm(V) • Resolution NTSC: Horizontal 300 TV lines; Vertical 320 TV lines • Resolution RGB (per channel): Horizontal 188 TV lines; Vertical 320 TV lines • Sensitivity: 3200°K 2fc faceplate illumination for full video. Useable picture .30fc faceplate • Contrast Variation: > 5% overall @ 25°C • Scanning System: NTSC, 2:1 interlaced • Video Output: 1.0V p-p 75 ohms (NTSC); 0.7V p-p 75 ohms (RGB); (Sync signal on green channel or independent sync) • Gamma: 0.5 or 1.0 jumper selectable • AGC (NTSC only): 6dB variable gain (peak-average adjustable); Jumper selectable—on/off • Internal Adjustments (RGB only): Independent gain controls on Red and Blue outputs (Can be remoted—specify "Internal" or "Remote") Independent set-up controls on RGB output • Auto Lens (NTSC only): Peak average adjustable (Separate auto lens video eliminates AGC/auto lens interaction) • Signal-to-Noise Ratio: Luminance 46dB (gamma 1, gain 0dB) NTSC only • White Balance—NTSC Version: (Unique "through the lens" sensor, variable from tungsten to daylight, automatic or rear panel adjustable, or by remote control—switch selectable) • Power Requirements: 12VAC/DC ± 10%; 24VAC/DC ± 5%; 115VAC ± 10%, 50/60Hz with optional wall transformer • Power Consumption: 6W



### 1810 Specifications

#### ENVIRONMENTAL

**Ambient Temperature Limits**  
-10° to 50°C (14° to 122° F)

**Storage**  
-30° to 70°C (-22° to 157° F)

**Humidity**  
Up to 95% relative humidity

**Ambient Air Pressure**  
Sea level to equivalent of 10,000 feet (20" of mercury)

**Vibration**  
5 to 60 Hz with 0.020 inches total excursion (3.5 g's @ 60 Hz). From 60 to 1,000 Hz 3 g's rms random vibration without damage

**Shock**  
30 g's in any axis under non-operating conditions per MIL-E-5400T, paragraph 3.2.24.6

#### MECHANICAL

**Weight (less lens)**  
24 ounces

**Lens Mount**  
"C" Mount, 16 mm Format

**Camera Mount**  
1/4-20 threaded holes. See dimensional drawings

**Connectors**  
BNC Connector—Video out (NTSC)  
Hirose HR11-9BR-6S (RGB out)  
Hirose HR30-10R-6S (Auxiliary)  
Switchcraft TB4M (Lens drive)  
Switchcraft TB3M (Power in)  
Switchcraft TB5M (Remote) (RGB)

### 1830 and 1860 Specifications

#### ENVIRONMENTAL

**Ambient Temperature Limits**  
Operating: -10° to 50°C (14° to 122° F)

40° to 50°C (-49° to 122° F) with heaters, "L" Option

**Ambient Air Pressure**  
Two atmospheres (sea level) to equivalent of 100,000 feet (30,480 m) exceeding MIL-E-5400T paragraph 3.2.24.2, Class 3

**Humidity**  
Up to 100% relative humidity MIL-E-5400T paragraph 3.2.24.4 Equipped with standard Schrader tank valve (purge fitting) on camera housing to allow camera to be purged with dry nitrogen or other moisture eliminators, and to maintain housing interior at atmospheric pressure.

**Storage**  
-30° to 70°C (-22° to 157° F)

**Vibration - 1830**  
5 to 60 Hz with 0.020 inches total excursion (3.5 g's @ 60 Hz) From 60 to 1,000 Hz, 3 g's rms random vibration without damage

**Vibration - 1860**  
0.03" total excursion from 5 to 30 Hz peak random vibrations of 5 g's from 30 to 1,000 Hz without damage or degradation

**Air Contaminants**  
Withstands exposure to sand, dust, fungus, and salt atmosphere, MIL-E-5400T paragraphs 3.2.24.7, 3.2.24.8, 3.2.24.9

**Explosion**  
MIL-E-5400T paragraph 3.2.24.10

**Shock**  
30 g's in any axis under non-operating conditions per MIL-E-5400T paragraph 3.2.24.6

#### Acoustic Noise

Operates in extremely high acoustic noise environment (150 dB) eq. close proximity to high thrust rocket engine

**Underwater Operation**  
Camera head operates to 60 feet in depth (18.3m) with factory installed connector option available

#### MECHANICAL

**Weight**  
1832—4 pounds  
1835—5 pounds  
1860—16 pounds (less lens)  
17 pounds (Z10D lens)

**Lens Mount**  
"C" Mount, 16mm format

**Camera Mount**  
1/3-20 threaded holes  
See dimensional drawings

**Connectors**  
1830: Bendix PTO7C-14-18P  
1860: Bendix PTO7C-20-39P  
Mating connector supplies all functions, video, power and remote controls through single connector.

**Pressurizing Fitting**  
Standard Schrader Valve

**Purge/Relief Fitting**  
Pressure relief valve (1860 only)

**Cable—Camera to CCU**  
AC 27, AC 34 or equivalent, 500 feet maximum

**I.D. Generator**  
Optional

**Variable Phase Line Lock Switch**  
Optional



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# CCD CAMERA

## 4700 Series

### Solid-State CCIR CCD Monochrome Camera

- **High Resolution:** 699(H) x 580(V) picture elements
- **High Sensitivity:** (To .07 lux/.007fc)
- Auto black for wide dynamic range or manual adjustable
- AGC with peak-average adjustment or fixed gain with manual adjustment
- Zero geometric distortion
- Selectable gamma
- No lag or image retention
- Low power consumption
- Blemish free sensor
- Over 400,000 picture elements
- Adjustable C-mount
- Line-lock or genlock, optional
- External H & V drive, optional
- Clock output, (13.374MHz) optional
- IR filters, optional

### Applications

- **Machine Vision:** Pattern recognition; Non-contact measurement and inspection; Bar code reading; Image processing
- **Robotics:** Automated visual control
- **Magnetic Interference Environments:** Subways; High voltage areas; Linear accelerators; NMR units
- **Remote Piloted Vehicles:** Land based, aircraft, submersibles
- **Microscopy**
- **Medical imaging**
- **Security/surveillance**

The 4700 Series Solid-State Cameras are ideal for applications that require both high resolution and high sensitivity. High resolution pictures are attainable without geometric distortion, lag or image retention. The 1/2" format CCD (Charge Coupled Device) image sensor of the 4700 Series generates sensitivity that closely matches standard silicon target imaging tubes.

Weighing 15.5 oz., the 4710 Series is suited for numerous applications including machine vision, image processing, robotics, process control and microscopy.

Automatic Gain Control (AGC) is incorporated in the 4700 Series to provide high sensitivity for use in low-light areas. The 4700 utilizes the frame transfer method and over 400,000 picture elements to generate a high resolution image with a contrast variation of  $\pm 5\%$ . Low power consumption allows flexible system integration and easy operation.



4710

## Specifications

### ELECTRICAL

- Pickup**  
Single CCD using frame transfer method
- Pickup Area**  
6.4 x 4.8mm (Corresponding to 1/2" tube)
- Active Picture Elements**  
699(H) x 580(V)
- Number of Picture Cells**  
732(H) x 290(V)
- Cell Size**  
9.2um(H) x 16.8um(V)
- Resolution**  
Horizontal 525 TV lines  
Vertical > 415 TV lines
- Sensitivity**  
2850°K faceplate illumination in fc. See Chart 1
- Contrast Variation @ 25°C**  
<5% overall
- Scanning System**  
CCIR, 2:1 interlaced
- Video Output**  
1.0 Vp-p 75 ohms unbalanced
- Gamma**  
0.5 or 1.0 jumper selectable
- AGC**  
6 dB variable gain (peak-average adjustable)  
Jumper selectable—on/off
- Auto Lens**  
Peak average adjustable  
(Separate auto lens video eliminates AGC/auto lens interaction.)
- Signal-to-Noise Ratio @ 25°C**  
50 dB (gamma 1, gain 0 dB)  
Unweighted
- Auto Black**  
Maintain set-up level at 7.5  $\pm$  5 IRE units if picture contains at least 10% black
- Power Requirements**  
12V AC 50 Hz or DC  $\pm$  10%,  
24V AC 50 Hz or DC  $\pm$  5%,  
220 / 240V AC 50 Hz  $\pm$  10%,  
with optional wall transformer
- Power Consumption**  
4.2W

### ENVIRONMENTAL

- Ambient Temperature Limits**  
-10° to 50°C
- Storage**  
-30° to 70°C
- Humidity**  
Up to 95% relative humidity
- Vibration**  
5 to 60 Hz with 0.082 inches total excursion (15 g's@60Hz). From 60 to 1,000 Hz, 5 g's rms random vibration without damage.
- Shock**  
30 g's in any axis under non-operating conditions per MIL-E-5400T, Paragraph 3.2.24.6.
- Altitude**  
Sea level to equivalent of 10,000 feet (20 inches of mercury).

### MECHANICAL

- Dimensions**  
6.9" H x 5.8" W x 14" Dcm (less lens)
- Weight (less lens)**  
450 Grams p.u.
- Lens Mount**  
"C" Mount
- Camera Mount**  
1/4-20 threaded holes. See dimensional drawings.
- Connectors**  
BNC Connector—Video out  
Switchcraft TB4M—Lens drive  
Switchcraft TB3M—Power in  
Hirose SR30-10R-6S—Auxiliary

Sensitivity		
	With IR Filter	Without IR Filter
Usable with AGC	0.2 Lux (.02 fc)	0.07 Lux (.007 fc)
Full video, Non-AGC	1.5 Lux (.15 fc)	0.32 Lux (.032 fc)
Full video, AGC	0.7 Lux (.07 fc)	0.15 Lux (.015 fc)

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# HIGH RESOLUTION CAMERA

## 5300 Series Two-Piece Camera

• Microscopy and measurement applications • Resolution: Up to 1100 TV lines • 1" Image Tube: For superior quality and reliability, choose from Vidicon, Silicon Target or Newvicon® • FET: Low noise input • Line lock or genlock • Automatic beam control • Automatic light control • Geometry: 0.5% • Linearity: 0.5% • Adjustable Gamma Correction: From 0.5 to 1.0 • Low power consumption • 14MHz, optional • Standby, optional • Circular blanking, optional • Shading, optional • High sensitivity, optional • 60dB S/N, optional • H and V drives, optional • Power Options: 115VAC or 230VAC • Crystal controlled master oscillator, optional • Other image devices, optional (Saticon®, Chalnicon® or Lead Oxide, for example)

This lightweight camera head, with C-mount lens adaptor, is ideal for uses requiring high resolution characteristics, such as in microscopy and measurement applications. Usable picture resolution from 700 to 1100 horizontal TV lines is typical, depending upon the image tube selected. Designed for long-life and continuous operation, only one cable is required to connect the camera head to its camera control unit (CCU).

The 5300 CCU front panel controls include power on/off, automatic or manual white level, and automatic or manual black level. An optional highlight clipper control is available.

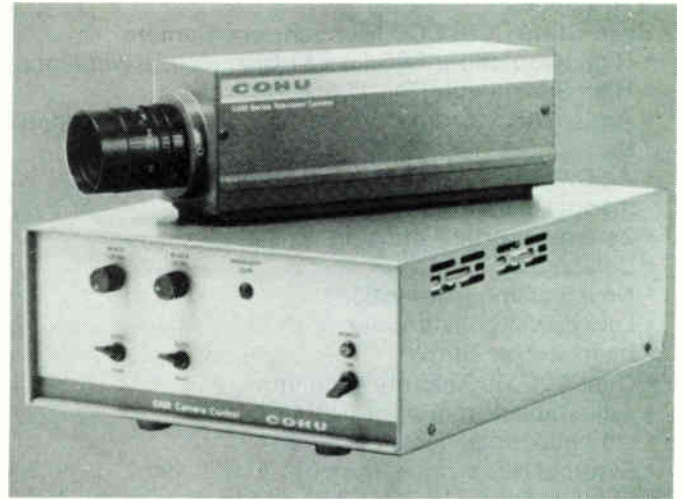
## Specifications

### ELECTRICAL

• Input Voltage (Specify): (a) 105VAC to 130VAC, 50/60Hz; (b) 210VAC to 260VAC, 50/60Hz; (c) 10.8VDC to 13.2VDC or 10.8VAC to 13.2VAC, 50/60Hz; (d) 21.6VAC to 26.4VAC, 50/60Hz • Input Power: 16W nominal (24W maximum) • Vertical Sweep Rate: 60Hz; or 50Hz with CCIR • Horizontal Sweep Rate: 15,750Hz for 60 fields; 15,625Hz for 50 fields with CCIR • Scanning: 2:1 interlace at 525 lines, 30 frames; or 625 lines, 25 frames with CCIR • Synchronization: EIA RS-170 specification; or jumper selectable CCIR (master oscillator is variable phase line locked, switch selectable in 60° increments; or jumper selectable genlocked). Crystal control optional available • Automatic Black Level: Maintains setup level at 7.5 ± 5 IRE units if picture contains at least 10% black with a horizontal dimension of at least 1.0% of picture height • \*Gray Scale Rendition: Renders all shades of gray on EIA TV Resolution Chart, 1956 • Gamma Correction: Adjustable from 0.5 to 1.0 • Output Video: 1.0V p-p or 1.5V p-p composite video, factory selectable • Geometric Distortion: Maximum of 0.5% within a circle that does not exceed picture height • Linearity: 0.5% • Image Tube Scan Failure Protection: In the event of horizontal or vertical scan failure, the image tube beam is automatically turned off • Horizontal Scan Frequency: Master oscillator, phase locked to power line. In genlock mode, with no external signal applied, master oscillator is line locked. Crystal control option available • Vertical Scan Frequency: Derived from master oscillator • Underscan/Overscan Capability: ± 10%

### ENVIRONMENTAL

• Ambient Temperature Limits: Operating: -4°F to 140°F (-20°C to 60°C); Storage: -65°F to 158°F (-54°C to 70°C) • Altitude: Sea level to equivalent of 10,000' (10" of mercury) • Humidity: 95% relative • Vibration: 0.03" total excursion from 5Hz to 30Hz; peak random vibrations of 5g from 30Hz to 1,000Hz, without damage or degradation • Shock: Up to 15g in any axis under non-operating conditions



5300

CHART 1	IMAGE TUBE TYPE 1" Diameter, Separate Mesh, Magnetic Deflection and Magnetic Focus					
	5320 Vidicon 8541A		5370 Newvicon® S-4076		5340 Silicon Target SVC-RB	
SENSITIVITY (2854°K)	Usable Picture	Full Video	Usable Picture	Full Video	Usable Picture	Full Video
*Scene Illumination fc	2.0 × 10 <sup>-1</sup>	6.6 × 10 <sup>-1</sup>	1.3 × 10 <sup>-2</sup>	6.0 × 10 <sup>-2</sup>	1.3 × 10 <sup>-2</sup>	6.0 × 10 <sup>-2</sup>
*Scene Brightness fl	1.5 × 10 <sup>-1</sup>	5.0 × 10 <sup>-1</sup>	1.0 × 10 <sup>-1</sup>	4.5 × 10 <sup>-1</sup>	1.0 × 10 <sup>-1</sup>	4.5 × 10 <sup>-1</sup>
Faceplate Illumination fc	1.5 × 10 <sup>-2</sup>	5.0 × 10 <sup>-2</sup>	1.0 × 10 <sup>-1</sup>	4.5 × 10 <sup>-1</sup>	7.5 × 10 <sup>-2</sup>	3.2 × 10 <sup>-1</sup>
**High Sensitivity	N/A	N/A	7.5 × 10 <sup>-1</sup>	3.2 × 10 <sup>-1</sup>	7.5 × 10 <sup>-1</sup>	3.2 × 10 <sup>-1</sup>
RESOLUTION AT FULL VIDEO (Typical)	Center	Corner	Center	Corner	Center	Corner
Horizontal	800 lines	800 lines	800 lines	550 lines	700 lines	500 lines
†High Resolution (Option) Horizontal	1100 lines	800 lines	N/A	N/A	N/A	N/A
Vertical	350 lines		350 lines		350 lines	
SIGNAL-TO-NOISE RATIO (Visual Equivalent)	56 dB		56 dB		55 dB	

CHART 2		AUTOMATIC LIGHT RANGE (Scene Brightness) Includes 10:1 AGC Variable Gain/Bandwidth Amplifier	
5320 Vidicon	1.0 × 10 <sup>-1</sup> ATC/AGC	—	Includes 10:1 AGC Variable Gain/Bandwidth Amplifier
5340/5370 Silicon Target/Newvicon®	6.6 × 10 <sup>-1</sup> ALC/AGC	—	With 1/14 to T380 auto-iris lens

### MECHANICAL

• Camera Head: Weight: 2.5 lbs. (1.1kg) Yoke mounts to front panel, which contains C-mount adaptor and Vidicon mounting ring for back-focal adjustment. Two 1/4-20 THD mounting points on bottom surface • Camera Control Unit: Weight: 4.0 lbs. (1.8kg) Single or dual rack mount version of CCU is available with a 2383 rack frame • Dimensions: 4" H x 9" W x 11" D • Type of Connectors: Camera Head: 25-pin "D" connector; Camera Control Unit: 25-pin "D" connector, BNC video out, line cord, fuse and holder • Cable Length (Maximum): 6' (182.9cm) Superflex; 50' (1524cm) AC33 • Controls: Auto/manual white level, auto/manual black level, and power on/off

\*All specifications with 2854°K (incandescent illumination)

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# MONOCHROME CAMERA



## 5400 Series

### 2-Piece Camera

- For Microscopy and Measurement
- **Resolution:**  
Up to 990 TV lines
- **1/2" Image Tube:**  
Chalnicon®
- **Solid-State Circuitry:**  
For long life dependability
- **FET Input:**  
For clear, crisp, low-noise video pictures
- Line Lock or Genlock
- Automatic Beam Control
- Automatic Light Control
- **Geometry:**  
0.5%
- **Linearity:**  
0.5%
- **Adjustable Gamma Correction:**  
From 0.5 to 1.0
- Scan Reversal, Optional
- Circular Blanking/Shading, Optional
- Standby, Optional
- External Horizontal and Vertical Drives, Optional
- **Power Options:**  
115VAC or 230VAC
- Crystal Controlled Master Oscillator, Optional
- Portable or Rackmountable CCU

The 5400 Series individual camera head and camera control unit (CCU) are ideal for applications that require high resolution (up to 900 TV lines) from a small, lightweight video camera.

The camera head is 1 1/2" in diameter and 5" long and weighs less than 1 lb.

The 5400 camera is designed for such applications as robotics, image processing and pipe inspections. And with the options of circular blanking, shading, standby, along with its compact size and weight, the 5400 becomes a camera with exceptional characteristics for medical and scientific uses.

This monochrome camera accepts a standard C-mount lens and has a permanently attached 6' flexible cable with connector to interface with the CCU.

5400

## Specifications

### ELECTRICAL

**Input Voltage (Specify)**  
(a) 105 to 130VAC, 50/60 Hz  
(b) 210 to 260 VAC, 50/60 Hz  
**Special Order:**  
(c) 10.8 to 13.2 VDC or 10.8 to 13.2 VAC, 50/60 Hz  
(d) 21.6 to 26.4 VAC, 50/60 Hz

**Input Power**  
16 Watts, Nominal (24 Watts, Maximum)

**Vertical Sweep Rate**  
60 Hz; or 50 Hz with CCIR

**Horizontal Sweep Rate**  
15,750 for 60 fields, 15,625 for 50 fields with CCIR

**Scanning**  
2:1 interlace at 525 lines, 30 frames, or 625 lines, 25 frames with CCIR

**Synchronization**  
EIA RS-170 specification, or jumper selectable CCIR (master oscillator is line locked or genlocked, jumper selectable)  
Crystal control option available.

**Image Tube Type (Electrostatic Deflection/Magnetic Focus)**  
5404; 1/2" Chalnicon®, Cohu E5415

**\*Sensitivity**  
See Chart

**Signal-to-Noise Ratio (Visual Equivalent)**  
56 dB

**Resolution**  
See Chart

**Automatic Light Range**  
See Chart

### Automatic Black Level

Maintains setup level at 7.5 ± 5 IRE units if picture contains at least 10% black with a horizontal dimension of at least 1.0% of picture height

### Resolution Stability Vs. Temperature

Meets resolution specifications over operating temperature range

### Resolution Stability Vs. Voltage Variation

Meets resolution specifications over specified AC line voltage range

### \*Gray Scale Rendition

Renders all shades of gray on EIA TV Resolution Chart, 1956

### Gamma Correction

Adjustable from 0.5 to 1.0

### Output Video

1.0V or 1.5V p-p composite video, factory selectable

### Geometric Distortion

Maximum of 0.5% within a circle not exceeding picture height

### Linearity

0.5%

### Image Tube Scan Failure Protection

In the event of horizontal or vertical scan failure, the image tube beam is automatically turned off

### Horizontal Scan Frequency

Master Oscillator, phase locked to power line. In genlock mode, with no external signal applied, master oscillator is line locked  
Crystal control option available.

### Vertical Scan Frequency

Derived from master oscillator

### Underscan/Overscan Capability

10%

### ENVIRONMENTAL

#### Ambient Temperature Limits

Operating: -20° to 60°C (-4° to 140° F)  
Storage: -54° to 70°C (- 65° to 158°F)

#### Altitude

Sea Level to equivalent of 10,000 feet (10 inches of Mercury)

#### Humidity

95% Relative

#### Vibration

0.03" total excursion from 5 to 30 Hz, peak random vibrations of 5 g's from 30 to 1,000 Hz, without damage or degradation

#### Shock

Up to 15 g's in any axis under nonoperating conditions

### MECHANICAL

#### Camera Head (Less Lens)

Dimensions: 1.5" Diameter, 5.0" Long (3.8 cm D, 12.7 cm L)  
Weight: 1.0 pounds (0.45 kg).  
Front panel contains "C" mount adapter and vidicon retaining ring for back-focal adjustment

#### Camera Control Unit

Dimensions: see dimensional drawings  
Weight: 4.0 pounds (1.8 kg). Single or dual rack mount version of CCU is available with a Cohu 2383 rack frame

#### Type of Connectors

Camera Head: Multi-pin on end of pigtail  
Camera Control Unit: Multi-pin, BNC Video Out, Line Cord, Fuse and Holder

#### Cable Length (Maximum)

6' (182.9 cm) Superflex; 20' (609.6 cm) AC33

#### Controls

Auto/Manual Target, Auto/Manual Black Level, and Power On/Off

\*All specifications with 2854°K (incandescent illumination)

Chart 1	Image Tube Type 1/2" Diameter, Separate Mesh, Electrostatic Deflection and Magnetic Focus	
	5405 Chalnicon® ES415	
<b>SENSITIVITY (2854°K)</b>	<b>Usable Picture</b>	<b>Full Video</b>
*Scene Illumination I <sub>c</sub>	1.5 × 10 <sup>-1</sup>	3 × 10 <sup>-1</sup>
*Scene Brightness I <sub>f</sub>	1.0 × 10 <sup>-1</sup>	2 × 10 <sup>-1</sup>
Faceplate Illumination I <sub>c</sub>	1.0 × 10 <sup>-2</sup>	2 × 10 <sup>-2</sup>
<b>TYPICAL RESOLUTION AT FULL VIDEO</b>	<b>Center</b>	<b>Corner</b>
Horizontal Lines	800	550
<b>AUTOMATIC LIGHT RANGE</b> (Scene Brightness) includes 10:1 AGC Variable Gain/Bandwidth Amplifier	6.6 × 10 <sup>-1</sup> ALC/AGC with f/1.4 to T360 Auto-Iris Lens	



# COHU, INC.

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FAX: (619) 277-0221

# CAMERA SYSTEM

## 8000 SERIES HIGH RESOLUTION TELEVISION CAMERA SYSTEM

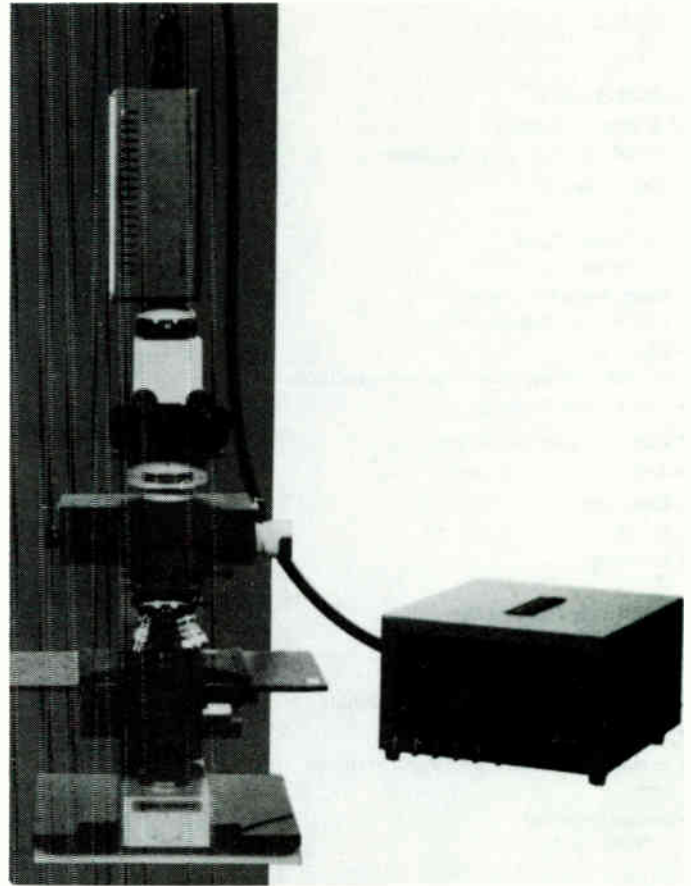
- 1" Image Tube for superior resolution quality
- Automatic Sensitivity over 10,000:1 light range
- Fully Solid-State, with exception of image tube
- FET Input for clear, crisp, low-noise video
- Choose: Up to 1749 lines/frame
- 8, 16, or 32 MHz Bandwidths, selectable
- Front Panel Control of target, beam, focus, black level, and power
- Renders All 10 EIA Gray Shades with only 0.05 foot-candle illumination on image tube faceplate
- Less Than 1.5% Picture Distortion
- Adjustable Overscan and Underscan, White Peak Clipper, Gamma/Black Compressor, and Output Video
- CCU Can Be Up To 2000 Feet from camera head
- Fully Protected with regulated power supplies and automatic beam cut-off in the event of sweep failure
- Two BNC Video Output Connectors
- Operates on 115/230VAC, 50/60Hz

### OPTIONS:

- Variable Scan Rate Generator Module with jumper selectable line-locked or crystal controlled synchronization
- Blanking Generator Module operates from external sync pulse or EIA RS-170, 330, or 343, video signal
- Shading Circuit corrects for non-uniform response of lens and image tube

Designed for reliable, unattended, continuous-duty operation, the 8000 Series High Resolution Television Camera System provides maximum stability, detailed video information, superior corner resolution, and optimum flatness of field. This versatile system has a separate lightweight camera head and modularized camera control unit.

Typical applications which are ideal for use of the 8000 High Resolution System include virtually any instrumentation or monitoring need in medical, scientific, and industrial fields. The convenient small size and weight of the camera head allows interface with delicate instruments, such as laboratory microscopes. This "go-anywhere" convenience of the camera head, plus the ability to remotely locate the control unit through a single cable connection, suits numerous industrial closed-circuit television applications including inspection, measurement, and test chamber monitoring purposes.



## ORDERING INFORMATION

NOTE: When ordering, specify EIA RS-170 or CCIR sync.

CAMERA CONTROL UNIT CONFIGURATIONS				
Mounting	8 MHz	16 MHz	32 MHz	WITH Shading
Portable Cabinet	8008-030	8016-030	8032-030	NO
Portable Cabinet	8008-031	8016-031	8032-031	YES
Single Rackmount	8008-010	8016-010	8032-010	NO
Single Rackmount	8008-011	8016-011	8032-011	YES
Dual Rackmount	8008-020	8016-020	8032-020	NO
Dual Rackmount	8008-021	8016-021	8032-021	YES
OPTIONAL MODULES				
8000-200	Variable Scan Synchronization Generator			
8000-300	Blanking Generator			
8000-001	Shading Circuit			
CABLE from CCU to Camera Head (Specify length)				
CA 218	Standard Cable			
CA 218B	Standard Cable with right-angle connector at camera head			
CA 219	Superflex Cable			
CA 219B	Superflex Cable with right-angle connector at camera head			

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# MONOCHROME MONITORS

## 9600B Series Monochrome Monitors

- On/off switch
- LED pilot light
- Reduced scan switch
- Horizontal hold
- Focus (screwdriver adjust)
- Input "A" 2 BNC loopthrough
- Input "B" 2 BNC loopthrough or external sync
- Termination switches
- Vertical hold
- Height (screwdriver adjust)
- Brightness
- Contrast
- A/B channel switch
- External/internal sync switch
- AC connector (3-wire)
- Fuse holder
- Width control

## Composite Input

Compatible with any EIA standard RS170 input (0.5V-2V p-p).

## Differential Input Amplifier

Provides increased common mode rejection >40dB up to 6V p-p.

## Linear Gray Scale

Video amplifier provides 16 discernable levels of black, gray and white.

## Scanguard Circuitry

Assures clear, crisp displays over a wide range of brightness.

## Asynchronous Operation

Ensures no discernable movement of display if the vertical and power line frequencies differ.

## Switchable Power Supply

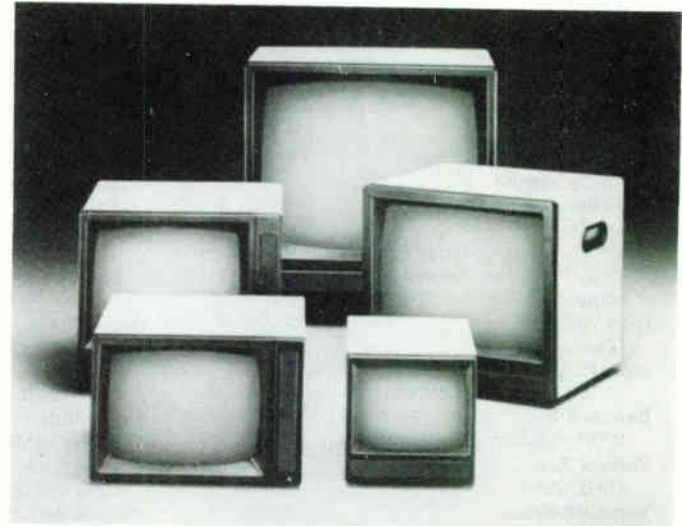
For 110/220/240V operation, 50/60Hz, 525/60 NTSC and 625/50 CCIR scan operations.

## DC Restoration

Back porch clamping ensures black level stability.

## Safety Approvals

U.L. and CSA listed. 9600B Series Monitors are designed to meet or exceed safety standards and regulations of CSA, U.L., HWC, FCC, and DHHS (U.L. 544 medical approval on specific models).



9600B

9600B Series Monochrome Monitors are high quality, high performance raster-scan displays built to international performance standards. The 9600B Monitor gives stable and reliable performance for industrial CCTV, medical and educational displays. 9600B Monitors are extremely rugged, with excellent geometry and 60,000 hour MTBF reliability. A variety of options and accessories for your specific requirements are also offered.

9600B Series Monochrome Monitors are available in 9", 12", 15", 17" and 23" CRT sizes with P4 white phosphor standard. Ruggedly constructed, the 9600B Series Monitors have textured steel cases and are finished in beige and brown earth tones.

## Ordering Information

Model	Tube Size	Mounting Configuration
9600B Series	09B 9" Tube	C Cabinet
	12B 12" Tube	R Rack (See RBL/RBR for 9"; 23" not available)
	15B 15" Tube	2R Dual Rack (9" only)
	17B 17" Tube	RBL Rackmount, left front panel blank (9" only)
	23B 23" Tube	RBR Rackmount, right front panel blank (9" only)
		YC Yoke Ceiling Mount (17"/23" only)
		YW Yoke Wall Mount (17"/23" only)

Example: 96 XXB / X  
Model: 96; Tube Size: XXB;  
Mounting Configuration: X

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# MONOCHROME MONITORS/ ACCESSORIES

## 9600B Series (Cont'd)

### 9609B

**CRT Diagonal**  
8.55"  
**CRT Display Area**  
38"  
**CRT Deflection Angle**  
90°  
**Weight**  
17 lbs.  
**Shipping Weight**  
22 lbs.  
**Resolution**  
(P4 Phosphor Polished Faceplate):  
750 TV lines center\*; 600 TV lines  
corner\*  
**High Voltage**  
12kV at 0 $\mu$ A  
**Input Power**  
120V (220/240V) 50/60Hz, 45W  
**Bandwidth**  
100Hz-18MHz  $\pm$  3dB at 30V p-p  
**Vertical Rate**  
40Hz-65Hz  
**Vertical Retrace**  
650 $\mu$ s  
**Horizontal Scan Rate**  
Std. 15.75kHz-18kHz  
**Horizontal Retrace**  
7.5 $\mu$ s  
\* at 30'/1. (300 lux)

### 9612B

**CRT Diagonal**  
11.69"  
**CRT Display Area**  
74"  
**CRT Deflection Angle**  
90°  
**Weight**  
25 lbs.  
**Shipping Weight**  
33 lbs.  
**Resolution**  
(P4 Phosphor Polished Faceplate):  
800 TV lines center\*; 650 TV lines  
corner\*  
**High Voltage**  
12kV at 0 $\mu$ A  
**Input Power**  
120V (220/240V), 50/60Hz, 45W  
**Bandwidth**  
100Hz-18MHz  $\pm$  3dB at 30V p-p  
**Vertical Rate**  
40Hz-65Hz  
**Vertical Retrace**  
650 $\mu$ s  
**Horizontal Scan Rate**  
Std. 15.75kHz-18kHz  
**Horizontal Retrace**  
7.5 $\mu$ s  
\* at 30'/1. (300 lux)

### 9615B

**CRT Diagonal**  
13.86"  
**CRT Display Area**  
100"  
**CRT Deflection Angle**  
110°  
**Weight**  
29 lbs.  
**Shipping Weight**  
39 lbs.  
**Resolution**  
(P4 Phosphor Polished Faceplate):  
1000 TV lines center\*; 800 TV lines  
corner\*  
**High Voltage**  
16.5kV at 0 $\mu$ A  
**Input Power**  
120V (220/240V), 50/60Hz, 60W  
**Bandwidth**  
100Hz-18MHz  $\pm$  3dB at 30V p-p  
**Vertical Rate**  
40Hz-65Hz  
**Vertical Retrace**  
650 $\mu$ s  
**Horizontal Scan Rate**  
Std. 15.75kHz-18kHz  
**Horizontal Retrace**  
7.5 $\mu$ s  
\* at 30'/1. (300 lux)

### 9617B

**CRT Diagonal**  
16.25"  
**CRT Display Area**  
141"  
**CRT Deflection Angle**  
114°  
**Weight**  
39 lbs.  
**Shipping Weight**  
48 lbs.  
**Resolution**  
(P4 Phosphor Polished Faceplate):  
1000 TV lines center\*; 800 TV lines  
corner\*  
**High Voltage**  
17kV at 0 $\mu$ A  
**Input Power**  
120V (220/240V), 50/60Hz, 60W  
**Bandwidth**  
100Hz-18MHz  $\pm$  3dB at 30V p-p  
**Vertical Rate**  
40Hz-65Hz  
**Vertical Retrace**  
650 $\mu$ s  
**Horizontal Scan Rate**  
Std. 15.75kHz-18kHz  
**Horizontal Retrace**  
7.5 $\mu$ s  
\* at 30'/1. (300 lux)

### 9623B

**CRT Diagonal**  
22.31"  
**CRT Display Area**  
282"  
**CRT Deflection Angle**  
110°  
**Weight**  
69 lbs.  
**Shipping Weight**  
80 lbs.  
**Resolution**  
(P4 Phosphor Polished Faceplate):  
1000 TV lines center\*; 800 TV lines  
corner\*  
**High Voltage**  
18.5kV at 0 $\mu$ A  
**Input Power**  
120V (220/240V), 50/60Hz, 45W  
**Bandwidth**  
100Hz-18MHz  $\pm$  3dB at 30V p-p  
**Vertical Rate**  
40Hz-65Hz  
**Vertical Retrace**  
650 $\mu$ s  
**Horizontal Scan Rate**  
Std. 15.75kHz-18kHz  
**Horizontal Retrace**  
7.5 $\mu$ s  
\* at 30'/1. (300 lux)

## Accessories

**9609B/RBL or RBR Rackmounting Kit**  
Fits standard EIA equipment rack. Holds one  
(A) 9609B or two (B) side-by-side with blank  
removed. Color: Brown.

Length: 18.97"  
Height: 8.75"

**9612B/R Rackmounting Kit**  
Holds one 9612B. Color: Brown.  
Length: 18.97"  
Height: 10.47"

**9615B/R Rackmounting Kit**  
Holds one 9615B. Color: Brown.  
Length: 18.97"  
Height: 12.20"

**9617B/R Rackmounting Kit**  
For 9617B monitor. Holds one 9617B. Color:  
Brown.  
Length: 18.97"  
Height: 15.74"

**9617B/YC, 9632B/YC Ceiling Mount**  
Fits standard 1.5" steel pipe and fittings (not  
included). Comes complete with mounting  
studs and allows monitor to tilt to desired an-  
gle. Color: Black.  
Shipping Weight: 16 lbs.

**9617B/YW, 9632B/YW  
Wall Mounting Bracket**  
For use with ECM3 ceiling mount. Color:  
Black.



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## VIDEO CABLE EQUALIZER/ DISTRIBUTION AMPLIFIER

### 9800 Series Video Cable Equalizer

- Up to 30dB equalization at 10MHz
- Dependable operation over a wide environmental range
- Front panel variable equalization adjustments
- Total solid-state active circuitry
- Hum and noise — 50dB RMS below 0.7V p-p
- Integral, regulated power supply on each module

The 9800 Series Video Cable Equalizer compensates for high frequency losses due to long cable runs. Equalization is sufficient for up to 6000' of RG-11/U foam dielectric cable. Longer distances can be equalized by using polyfoam dielectric cables having even lower losses. Equalization of 0 to 15dB at 10MHz is made using the Response control. Equalization above 15dB requires activating the +15dB toggle switch and using the variable Response control. Activating the +15dB toggle switch introduces a fixed 15dB of equalization to which the variable Response control will add the necessary signal for up to a total of 30dB equalization at 10MHz. Should low frequency gain compensation be necessary, the variable Gain control will provide from -4dB to +6dB adjustment, which shifts the entire equalization curve, low frequency to high frequency.

The 9800 Series Equalizer, when used at the receiving end of a cable, provides excellent results with both color and monochrome video signals. The equalizer will accept either a 75 ohm unbalanced or 124 ohm balanced input, producing an equalized 75 ohm unbalanced output. Differential input provides rejection of hum caused by ground loops. The equalizer may also be used at the transmitting end with similar performance.

**9800-855** For vertical chassis

**9800-856** For horizontal chassis

### 9800 Series Video Distribution Amplifier

- Modular construction with total solid-state active circuitry
- Choice of vertical or horizontal configurations
- Fits standard 19" rack or cabinet
- Integral power supply on each module

The 9800 Series Video Distribution Amplifier is a solid-state, side-band video amplifier that amplifies and distributes video signals from one input to four output channels. The input may be composite or non-composite, monochrome or color video. Each amplifier has an integral power supply; AC on/off switch and indicator; front panel test points for input, output and power supply; and a video gain adjustment on the front panel. Individual connector panels, one for each amplifier, fasten to the rear of the enclosure and have six BNC or UHF connectors, one connector for each output and two for the bridging (loopthrough) input.

**9800-152** For horizontal chassis BNC connector assembly,

1 input (with loopthrough), 4 outputs

**9800-352** For horizontal chassis UHF connector assembly,

1 input (loopthrough), 4 outputs

**9800-151** For vertical chassis BNC connector assembly,

1 input (with loopthrough), 4 outputs

**9800-351** For vertical chassis UHF connector assembly,

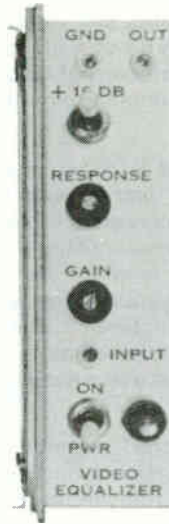
1 input (with loopthrough), 4 outputs

### 9800 Series Module Enclosures

Two types of enclosures are available for mounting in a standard 19" rack or cabinet. The vertical chassis accommodates up to ten vertically plugged-in amplifiers and the horizontal chassis holds up to three amplifiers. The line cord and fuse are attached to the rear of the chassis and power distribution to all amplifiers is via interconnection board. The vertical chassis requires 5 1/4" of rack space and the horizontal chassis requires 1 3/4" of space.

**9850-000** Vertical chassis (holds 10 modules)

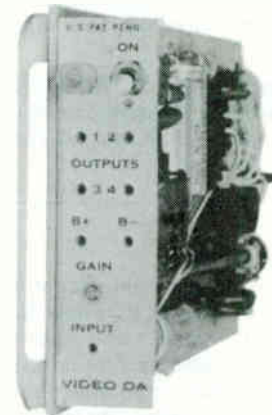
**9860-000** Horizontal chassis (holds 3 modules)



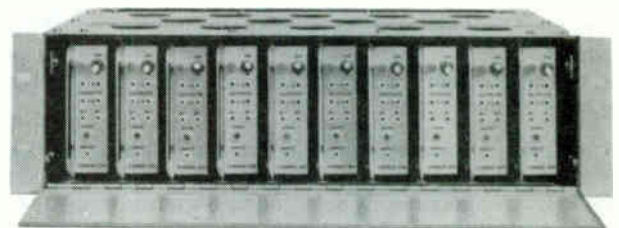
**9800-855**



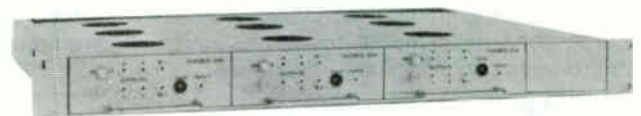
**9800-152**



**9800-151**



**9850-000**



**9860-000**

# COLORADO VIDEO, INC.

P.O. Box 928  
Boulder, CO 80306  
(303) 530-9580 FAX: (303) 530-9569  
TWX: 910-940-3248 (COLO VIDEO BDR)

## 240 VBI Video Transmitter

The 240 is an instrument designed to transmit still video images during the vertical blanking interval (VBI) of a standard television signal. Using only one line of information per field, an NTSC-like color image may be sent in approximately eight seconds.

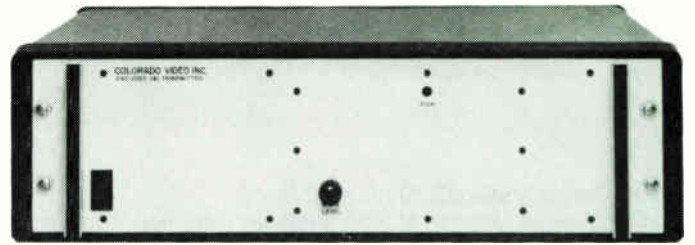
Operationally, the 240 accepts a standard NTSC or monochrome video signal which may be "frozen" into either of two solid-state video memories. An internal video switch allows the selection of two independent video cameras or sources. On operator command, the contents of either memory are converted to a format compatible with vertical interval transmission for input to a conventional VBI multiplexer. Selective addressing codes are used at the beginning of each picture to allow the use of two simultaneous displays at a receiving location.

The 240 can be internally switched to insert the transmit signal onto any line presently approved by the FCC. It is not necessary to synchronize the video inputs of the 240 transmitter to the station video. The transmit memories have simultaneous video outputs so that the same images are displayed at both receive and transmit locations. A remote control provides information about the status of the current memory contents, control of the transmission, and capability to freeze new pictures.

### System Options

- 940 Mass Storage System. The 940 allows video images, frozen by the 240 to be digitally stored on a hard disc utilizing an IBM/PC® computer. The images can then be recalled for transmission

# VIDEO TRANSMITTER/RECEIVER



240

- Up to a total of four memories are available
- The 240 can be configured to address different receive locations for selective distribution of images

### 240 Specifications

- Size:** 5 1/4" x 19" x 15"
- Weight:** 16 lbs.
- Power:** 100/115/220VAC, 50/60Hz, single phase, 75W
- Mounting:** Standard 19" rack
- Inputs:** 2 - Source Videos: 1V p-p, 75 ohms  
1 - Station Video: 1V p-p, 75 ohms
- Outputs:** Display Video, 1V p-p, 75 ohms (Memory #1)  
Display Video, 1V p-p, 75 ohms (Memory #2)  
Insert Video, 1V p-p, 75 ohms (black video with insert line added)
- Connectors:** Video: BNC  
Remote Control: 15-pin "D"
- Performance:** Resolution: 512 x 240 picture elements, single field  
Transmission Time: 8 seconds  
Gray scale: 8-bit (256 gray levels)  
Insert Line: Switchable

240 Transmitter . . . . . \$17,000.00

## 241 VBI Video Receiver

The 241 is a special form of video scan converter intended to receive still television images that have been transmitted in the vertical blanking interval of a conventional "realtime" television signal. The 241 detects one line of uniquely formatted video in each field of the host signal and reconstructs a single field video image in approximately eight seconds. Images may be monochrome or NTSC-like color.

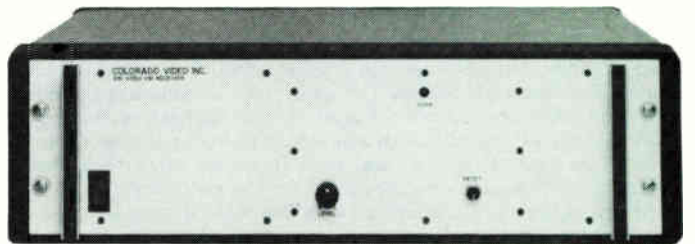
In operation, the 241 receiver accepts a baseband video signal with properly encoded information in the vertical blanking interval and provides the functions of line selection and scan conversion. The detected data is reconstructed into a still "frozen" image over an eight second interval, with the viewer seeing an old image being replaced by a new one in the form of a horizontal "wipe".

Two memories are incorporated in the 241 receiver, allowing for the simultaneous display of two separate images. The memories are independently selected by a transmitted code. A third video output is provided for VCR recording of a received program.

Installation of the 241 is simple, requiring only an appropriate video input signal from a tuner, microwave receiver, satellite receiver, or other video source. TV monitors are used for display purposes, or an RF modulator may be used for local picture redistribution to conventional TV receivers.

### System Options

- 940 Mass Storage System. The 940 allows video images, received by the 241, to be digitally stored on a hard disc utilizing an IBM/PC computer. The images can then be recalled for viewing



241

- Up to a total of four memories are available
- The 241 can be configured as an addressable receiver. This allows reception of images intended only for that location

### 241 Specifications

- Size:** 5 1/4" x 19" x 15"
- Weight:** 16 lbs.
- Power:** 100/115/220VAC, 50/60Hz, single phase, 75W
- Mounting:** Standard 19" rack
- Input:** Broadcast Video: 1V p-p, 75 ohms
- Outputs:** Composite Video: 1V p-p, 75 ohms, 2:1 interlace,  
NTSC-like format
- Connectors:** Video: BNC
- Performance:** Resolution: 512 x 240 picture elements, single field  
Gray scale: 6-bit (64 gray levels)

241 Receiver . . . . . \$7,000.00

# COLORADO VIDEO, INC.

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 TWX: 910-940-3248 (COLO VIDEO 8DR)

# VIDEO TRANSCEIVER



250 Transceiver

## 250 VIDEO TRANSCEIVER

- Completely solid state design
- Operation in moving environments
- Plug-in circuit cards for simplified maintenance
- Real time monitoring of A/D operation
- "Genlock" to other video sources for systems operation
- Automatic Transmit/Receive switching
- Compact and rugged construction
- Tabletop or rackmount
- EIA standard 2/1 interlace video output

### Options

- Transmit only
- Receive only
- 625 Line operation
- Dual 256 x 240 memory

The 250 is designed to provide narrow band video communications over standard voice grade telephone circuits. Three basic functions are provided:

1. A "frame freeze" capability which captures a single image that may be assessed for quality before transmission
2. Conversion of the frozen picture to a "slow-scan" television signal suitable for transmission over audio channels
3. Reception of slow-scan TV signals and reconversion to a still image on a normal TV monitor

In the transmission mode, the 250 accepts a conventional CCTV input signal which is digitized on command and fed to a solid state digital memory. The output of the memory is then displayed on a TV monitor which indicates the exact quality of the image to be transmitted. Once a transmit command is given, the memory is read out slowly from left to right, with a white cursor on the TV monitor screen showing the degree of picture completion.

In the receiving mode, the 250 accepts properly formatted slow scan TV input signals and reconstructs a conventional TV still picture, using the same memory which provided frame freeze for transmission. Image retention is indefinite unless deliberately erased or power to the 250 is lost.

### 250 Transceiver

256 x 240 x 6-bit memory	\$.4000.00
256 x 240 x 6-bit (dual memory with "slide-show" picture delivery)	.4500.00
512 x 240 x 6-bit memory	.4500.00
256 x 240/480 x 6-bit (dual Speed)	.4600.00

### 250T Transmitter

256 x 240 x 6-bit memory	\$.3500.00
512 x 240 x 6-bit memory	.4000.00
256 x 240/480 x 6-bit (dual speed)	.4100.00

### 250R Receiver

256 x 240 x 6-bit memory	\$.3000.00
256 x 240 x 6-bit (dual memory with "slide-show" picture delivery)	.3500.00
512 x 240 x 6-bit memory	.3500.00
256 x 240/480 x 6-bit (dual speed)	.3600.00

### Options

Remote Control Unit (hardwired)	\$.250.00
Wireless Remote Control Unit (infrared)	.750.00
Transportation Shipping Case:	
For 250 unit only (will hold 250, telephone, DAA, cables and connectors)	.450.00
For 250 Transceiver System (will hold 250, camera, tripod, 9" TV monitor, telephone, DAA, cables and connectors)	.500.00

### SPECIFICATIONS

<b>Size:</b>	6" x 17" x 14"
<b>Weight:</b>	19 lbs.
<b>Mounting:</b>	Tabletop
<b>Construction:</b>	Solid state, card file
<b>Power:</b>	100/115/230VAC, 50/60Hz, single phase, 65VA
<b>Inputs</b>	
<b>Receive:</b>	Slow-scan video: FM modulated carrier, 100mV minimum level, 600 ohms, balanced
<b>Transmit:</b>	Composite video: 1V, 75 ohms, 2:1 interlace
<b>Outputs</b>	
<b>Receive:</b>	Composite video: 1V p-p, 75 ohms, 2:1 interlace
<b>Transmit:</b>	FM modulated carrier, 0 to 2V p-p, internally adjustable, 600 ohms, balanced
<b>Controls:</b>	
	Freeze Pushbutton
	Transmit Pushbutton
	Receive Pushbutton
	Reset Pushbutton
	AC Power
	Video Level
	Black Level
<b>Indicators:</b>	
	Scan
	Black Level
	White Level
<b>Connectors:</b>	
	BNC
	14 Pin Blue Ribbon
	Phone jack
<b>Performance</b>	
<b>Resolution:</b>	256 x 240 memory elements; repeats same data in both fields; TV test chart resolution is 135 lines
<b>Frame Time:</b>	35 seconds
<b>Grayscale:</b>	6-bit (64 gray levels) standard



# COLORADO VIDEO, INC.

P.O. Box 928  
 Boulder, CO 80306  
 (303) 530-9580 FAX: (303) 530-9569  
 TWX: 910-940-3248 (COLO VIDEO BDR)

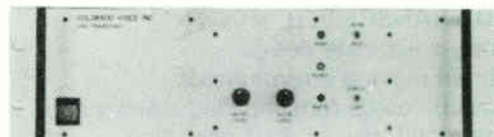
# VIDEO TRANSCEIVER



290PR Portable Receive System



3 1/2" Chassis



5 1/4" Chassis

## Video Briefcase® (290 Video Transceiver)

The 290 family of video communication instruments is designed to provide a wide range of options to the systems designer. Like the 250, the 290 equipment sends video images over voice-grade circuits. However, the 290 has more versatility and features. A 3-camera switcher is built into all models. 290's are available in four different resolution configurations:

256 x 240	512 x 480
256 x 480	512 x 240

The 3 1/2" chassis is standard. The 5 1/4" is optional and allows for the incorporation of multiple memories. With the 5 1/4" unit, up to four separate images can be displayed simultaneously.

A hard-wired remote control unit is standard with the 290 series. A wireless infrared handheld unit is also available.

An optional I/O Module allows for storage of pictures by connecting the 290 to the Video Image Storage System 940. In addition, the 290 is compatible with the 250.

Six-bit grayscale (64 levels) is standard and an 8-bit (256 level) grayscale is optional.

The 290 can be packaged in a sturdy suitcase or elegant leather attache.

Options: 8-bit grayscale, multiple memories, computer I/O, 625-line operation, and 10kHz transmission for faster picture update.

## NTSC Color Video Briefcase (290C Transceiver)

512 x 240 x 6-bit memory	\$8000.00
512 x 480 x 6-bit memory	8750.00

The transmitters and transceivers listed below include hard wired remote control units. Small, handheld infrared remote control units are also available as optional equipment.

### 290C Transceiver

512 x 240 x 6-bit memory	\$7500.00
Second memory-additional	1500.00
512 x 480 x 6-bit memory	8250.00

### 290CR Receiver

512 x 240 x 6-bit memory	\$6500.00
Second memory-additional	1500.00
512 x 480 x 6-bit memory	7250.00

### 290CT Transmitter

512 x 240 x 6-bit memory	\$7000.00
Second memory-additional	1500.00
512 x 480 x 6-bit memory	7750.00

### Monochrome Video Briefcase (290 Transceiver)

256 x 480 x 6-bit memory	\$6500.00
256 x 480 x 8-bit memory	7500.00
512 x 480 x 6-bit memory	7500.00
512 x 480 x 6-bit memory	8500.00

### 290 Transceiver

256 x 480 x 6-bit memory	\$6000.00
Second memory-additional	1000.00
256 x 480 x 8-bit memory	7000.00
Second memory-additional	1500.00
512 x 480 x 6-bit memory	7000.00
Second memory-additional	1500.00
512 x 480 x 8-bit memory	8000.00
Second memory-additional	2000.00

### 290T Transmitter

256 x 480 x 6-bit memory	\$5500.00
256 x 480 x 8-bit memory	6500.00
512 x 480 x 6-bit memory	6000.00
512 x 480 x 8-bit memory	7000.00

### 290R Receiver

256 x 480 x 6-bit memory	\$5000.00
Second memory-additional	1000.00
256 x 480 x 8-bit memory	6000.00
Second memory-additional	1500.00
512 x 480 x 6-bit memory	6000.00
Second memory-additional	1500.00
512 x 480 x 8-bit memory	7000.00
Second memory-additional	2000.00

### Options

Transportable Shipping Case:  
 For 290 unit only (will hold 290, telephone, cables, and connectors) . . . . . \$450.00  
 For 290 Transceiver System (will hold 290, camera, tripod, 9" TV monitor, telephone, cables, and connectors) . . . . . 500.00  
 Computer I/O Module 793 . . . . . 750.00  
 Wireless Remote Control Unit (Infrared) . . . . . POR

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# VIDEO DIGITIZER

## 270A VIDEO DIGITIZER

The 270A converts standard television signals into digital data for computer processing and control. Display video output has superimposed cursor and brightness profile. May be interfaced with most minicomputers. 8-bit grayscale.

**270A** 512 x 480 resolution ..... **\$4500.00**  
**270A-1** 2048 x 480 resolution ..... **5000.00**  
**270A-2** 1024 x 950 resolution ..... **5000.00**

### SPECIFICATIONS

**Size:** 5-1/4" x 19" x 12"  
**Weight:** 13 lbs.  
**Mounting:** Standard 19" rack  
**Construction:** Solid-state, card file  
**Power:** 110/115/230VAC, 50/60Hz, single phase, 40W max.  
**Input/Video:** Composite Video: 1V p-p, 75 ohms, 2:1 interlace  
**Input/Sync:** Horizontal Drive: (optional input) 4V p-p, 75 ohms  
**Inputs/Digital/Word Serial Input:** Data: Parallel binary (X, Y, or Z)  
 X—9 bits (270A); 10 bits (270A-2); 11 bits (270A-1)  
 Y—9 bits (525 line rate); 10 bits (625 or higher line rate)  
 Z—8 bits  
 XYZ: 01 = X  
 10 = Y  
 11 = Z  
 L/O: 0—Latch & operate (Read or Write)  
 1—Latch new data only  
 R/W: 0—Read (Encode)  
 1—Write (Z mod)  
 Strobe: Pulse, 1µs min; initiates L/O cycle on leading edge; can be strapped for True or False pulse  
**Inputs/Digital/Word Parallel Input: (270A only)**  
 X Position: 9 bits parallel binary (525 lines)  
 Y Position: 10 bits, parallel binary (625 lines)  
 Z Mod Data: 8 bits, parallel binary  
 Strobe: Pulse, 1µs min; initiates encoding or Z mod process on leading edge; can be strapped for True or False pulse  
 X, Y, & Z Select: Determines whether X, Y, & Z are entered Word Serial or Word Parallel  
 0 = Parallel  
 1 = Serial  
**Outputs/Video:**  
 Display: Composite: 1V p-p, 75 ohms  
 Z Mod: Composite: 1V p-p, 75 ohms  
 Sampled Video: 10V p-p 600 ohms, white positive formatted (at rear of Sampling Board)



270A

**Output/Sync:** Composite Sync: 4V p-p, 75 ohms  
**Outputs/Digital:** (All TTL)  
 Digitized Video: 8 bits, parallel binary  
 Status (Flag): 0—Busy  
 1—Ready  
 (Can be strapped for pulse or level)  
**Horizontal Timing:** True pulse; 9µsec  
**Vertical Timing:** True pulse, 1 msec  
**Field Index:** 0—Even field  
 1—Odd field  
**Controls:**  
 Power: On/Off  
 Setup Position  
 Video Amplitude  
 Black Level  
 Mode: Setup/Run  
 Display: On/Off  
 Cursor: Dot/Line  
**Performance:**  
 Video Bandwidth: 25MHz  
 Sample Aperture Time: 25 nsec  
 Conversion Time: Single element: 6µsec  
 Entire raster: (See below)

Model No.	Taking Multiple Elements/Line	Taking Single Element/Line
270A	2 sec. (min.)	17 sec.
270A-1	9 sec. (min.)	68 sec.
270A-2	9 sec. (min.)	34 sec.

**Access Time:** 6 sec min. to 1/30 sec max. (dependent on video timing relative to strobe time)

**Z Mod D/A Settling Time:** 300 nsec

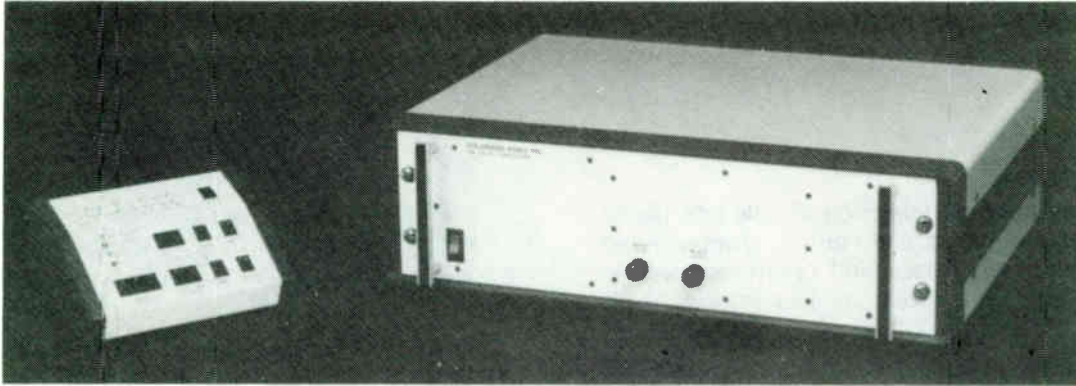
### Resolution:

Model No.	Line Rate	Picture Elements	
		H	V
270A	525	512	480
	625	512	580
270A-1	525	2048	480
	625	2048	580
270A-2	1023	1024	950
	1125	1024	1024

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# DIGITAL TRANSCEIVER



286 With Multi-Feature Remote Control

## 286 Digital Transceiver

The 286 is a compact, versatile device which can transmit and receive still video images over narrowband communications channels. Color images can be transmitted at synchronous bit rates of up to 200Kb/s, black and white pictures at rates of up to 500Kb/s. The transmission rate is determined by the modem selected which, in turn, depends on the type of channel available. The 286 can be ordered with either a RS-232/V.24 or a V.35 serial interface, and is compatible with the earlier 285 and 285C Transceivers.

At the transmit site, a single field or frame from a TV camera is "frozen" in the 286 digital memory. When the operator is satisfied with the stored picture, he initiates the transmission over an established communication channel. The picture can be scanned from left to right or top to bottom.

At the receive location, the picture is automatically received, stored in memory, and displayed on a standard TV monitor. It may also be recorded on a video tape recorder or sent to a video hard copy unit.

The 286 is available in both color and black and white versions, and with single or multiple memories. It is also available in transmit only and receive only models. An optional computer I/O port can be used to connect to an external computer for mass storage or image processing. The 940 Image Storage System can also be used with the 286.

The 6-bit grayscale has 64 levels of gray and the 8-bit has 256 levels of gray. All prices include one serial interface and one remote control (see choices below).

An easy-to-use remote control is supplied with each unit, and is available in both simplified and full-feature versions. Video sources that can be used with the 286 include cameras, VCRs, and video laser discs. Color inputs from VCRs must be time-base corrected. Standard 19" rack or tabletop, 3 1/2" x 19" x 15" (single memory units); or 5 1/4" x 19" x 15" (multi-memory units or units with internal modem)

## Remote Control Choices

Listed price includes choice of remote control: either simplified (for easy operation) or full-feature (for maximum operational flexibility). Additional units are \$1,000.00. Custom configurations including a wireless (IR) unit are available on special order.

## Serial Interface Choices

Listed price includes choice of serial interface: either RS-232C/CCITT V.24 compatible or CCITT V.35 compatible. Additional units are \$500.00. An internal CCITT V.29 9600 bit/s modem can be ordered in place of the above interfaces for \$1,600.00. Units ordered alone are \$2,100.00.

## Options

Computer I/O Module 793 . . . . . \$650.00  
625-line European configuration (monochrome only) . . . . . N/C

## 286 Transceiver (Monochrome)

256 x 480 x 6-bit memory . . . \$10,000.00  
Second memory-additional . . . 1,500.00  
256 x 480 x 8-bit memory . . . 12,000.00  
Second memory-additional . . . 2,000.00  
512 x 480 x 6-bit memory . . . 11,500.00  
512 x 480 x 8-bit memory . . . 14,000.00

## 286T Transmitter (Monochrome)

256 x 480 x 6-bit memory . . . \$ 9,000.00  
256 x 480 x 8-bit memory . . . 11,000.00  
512 x 480 x 6-bit memory . . . 10,500.00  
512 x 480 x 8-bit memory . . . 13,000.00

## 286R Receiver (Monochrome)

256 x 480 x 6-bit memory . . . \$ 8,000.00  
Second memory-additional . . . 1,500.00  
256 x 480 x 8-bit memory . . . 9,000.00  
Second memory-additional . . . 2,000.00  
512 x 480 x 6-bit memory . . . 9,500.00  
512 x 480 x 8-bit memory . . . 11,000.00

## 286C Transceiver (NTSC Color)

512 x 240 x 6-bit memory . . . \$11,000.00  
Second memory-additional . . . 1,500.00  
512 x 240 x 8-bit memory . . . 13,000.00  
Second memory-additional . . . 2,000.00  
512 x 480 x 6-bit memory . . . 12,500.00  
512 x 480 x 8-bit memory . . . 15,000.00

## 286CT Transmitter (NTSC Color)

512 x 240 x 6-bit memory . . . \$10,000.00  
512 x 240 x 8-bit memory . . . 12,000.00  
512 x 480 x 6-bit memory . . . 11,500.00  
512 x 480 x 8-bit memory . . . 14,000.00

## 286CR Receiver (NTSC Color)

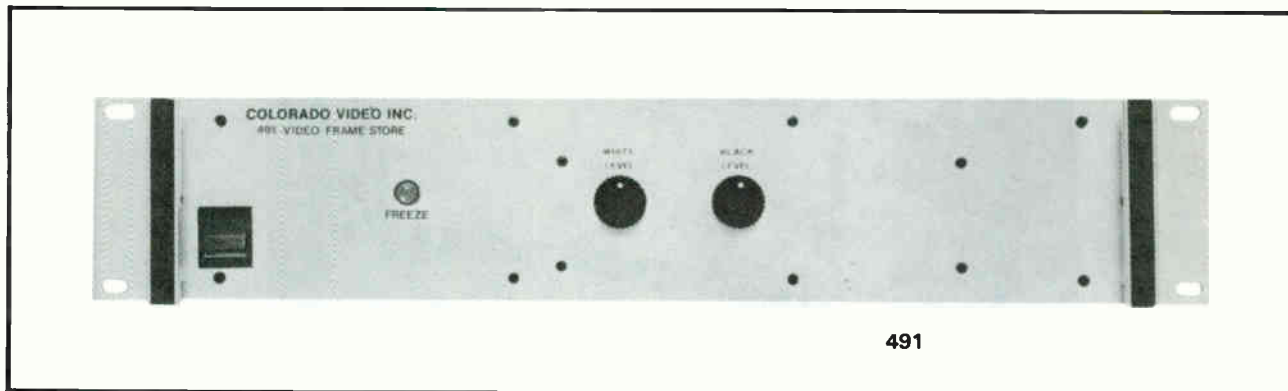
512 x 240 x 6-bit memory . . . \$ 8,500.00  
Second memory-additional . . . 1,500.00  
512 x 240 x 8-bit memory . . . 9,500.00  
Second memory-additional . . . 2,000.00  
512 x 480 x 6-bit memory . . . 10,000.00  
512 x 480 x 8-bit memory . . . 11,500.00



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# VIDEO FRAME STORE



## 490 Series Video Memory Instrumentation

The 490 Series Video Memory and memory related units are intended for use in analysis, processing and distribution of video images. They are based on the solid-state video frame store technology developed over the past ten years. These units provide flexibility in video systems by providing basic single frame store, and such options as color capability, multiple memories, computer I/O and low-scan TV adaptors.

## 491 Video Frame Store

The 491 Video Frame Store is designed for use in a wide range of industrial and scientific applications. Up to four synchronized video memories are available in a single chassis, thus allowing functions such as image comparison, overlays, subtraction, and RGB color synthesis. Direct recording of NTSC color video signals is an optional feature.

A digital I/O option allows individual picture elements in the stored image to be accessed by a computer, processed, and returned to the 491 memory. This I/O option can easily be interfaced with most computers or other digital processing equipment. A single 16-bit duplex I/O module in the computer is all that is required for interfacing to modern mini-computers. All digital signals to or from the unit are buffered and are TTL compatible.

The "frame grab" process can be initiated by means of a front panel pushbutton, a remote pushbutton, a TTL compatible convert signal, or from a computer when an optional I/O module is installed. The unit digitizes and stores the first frame following the conclusion of a convert command. The video output is a standard video signal synchronized to the video input and can be switched or mixed with other video signals or recorded on conventional video tape recorders.

## Specifications

<b>Size:</b>	3 1/2" x 19" x 15" (Single Memory) 5 1/4" x 19" x 15" (Multiple Memory)
<b>Weight:</b>	16 lbs. (Single Memory)
<b>Mounting:</b>	Standard 19" rack
<b>Construction:</b>	Solid-state, card file
<b>Power:</b>	110/115/220VAC, 50/60Hz, single phase, 75W
<b>Input/Video:</b>	Composite Video: 1V p-p, 75 ohms
<b>Input/Control:</b>	Store: Pulse, ground true, 1µs min. or switch closure to ground Memory Control: TTL compatible signals
<b>Output/Video:</b>	Composite Video: 1V p-p, 75 ohms
<b>Controls:</b>	AC Power: On/Off; Store (can be remoted); Video Level; Black Level
<b>Indicators:</b>	AC Power
<b>Resolution:</b>	512 x 512 picture elements, TV test chart resolution is 400 lines
<b>Frame Store Time:</b>	1/30 <sup>th</sup> second (525-line) 1/25 <sup>th</sup> second (625-line)
<b>Grayscale:</b>	6 bits (64 gray levels)

## 491 Video Frame Store (maximum of four memories)

512 x 512 x 6-bit memory . . . . .	\$3950.00
Each additional memory . . . . .	1000.00
512 x 512 x 8-bit memory . . . . .	6000.00
Each additional memory . . . . .	1500.00

## Options

NTSC Color for 491, 492, 493 and 495 per memory. . . . .	\$500.00
RGB Sequencer— for 491. . . . .	500.00

## Digital Interface Accessories

793 DMA I/O Module for 491, 492, 493, 494 and 495 . . . . .	\$ 650.00
741 Host Adaptor Board for Apple . . . . .	250.00
745 Host Adaptor Board for IBM. . . . .	500.00
Cable for Host Adaptor Board/793 . . . . .	200.00
Special IBM PC XT/AT® Interface Package: 793 DMA I/O Module, 745 Host Adaptor, MS-DOS Driver, and sample image processing program . . . . .	1000.00

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# VIDEO SCAN CONVERTER/ FRAME STORE



495

## 494 Video Scan Converter

The 494 Video Scan Converter is a solid-state video memory with high-speed analog/digital and digital/analog converters, and is capable of digitizing, storing, and displaying video information while performing a scan format conversion. The video source may be either 525-line, 2:1 interlaced standard format video or 525-line 30Hz sequential scan format. The output of the scan converter will be in the opposite format as the source.

The conversion mode of the 494 must be set to match the conversion desired, either interlaced to sequential or sequential to interlaced. This acquisition and conversion process may be either continuous or intermittent. With the unit set for continuous conversion, the process may be interrupted by pressing the "freeze" button for as long as desired. With the unit set for single conversion, the conversion process proceeds only while the button is depressed.

The 494 Video Scan Converter is a digital semiconductor memory made up of random access memory (RAM) integrated circuits capable of storing two complete frames of video information while data is being read from the other in output format. At the end of each frame of video, the functions of the two memories are reversed, resulting in continuous conversion with a one-frame delay.

**494 512 x 512 x 8-bit memory . . . . . \$9000.00**

### Specifications

**Connectors:** Video: BNC  
 Remote: 15-pin "D"  
**Resolution:** 512 x 512 picture elements, TV test chart resolution is 400 lines  
**Frame Store Time:** 1/30<sup>th</sup> second (525-line)  
 1/25<sup>th</sup> second (625-line)  
**Grayscale:** 6-bits (64 gray levels)  
**Conversion Linearity:** ± 0.2%, ± 1/2 LSB  
**Video Bandwidth:** 5MHz

## 495 Asynchronous Frame Store

The 495 is a unique video frame store which allows the capture of transient events which cannot be synchronized to the timing of a television camera. This special video memory provides a method of random acquisition of a field or frame of information from a television signal.

Visual data generated through the use of pulsed lighting and an interlaced television camera generally will produce only one "good" field for analysis. Random timing usually results in the reproduction of a portion of one field and part of the following field. Because conventional video frame stores require the starting and ending of an acquisition cycle during the vertical retrace, data distortion results. The Asynchronous Frame Store solves this problem by storing the input video on the next horizontal line following a trigger timed to the event in question (i.e. strobe) and continues until the same line occurs in the following field or frame.

Operation with NTSC color video signals is available and a digital I/O option allows easy interface with most computers or other digital processing equipment. All digital signals to or from the 495 are buffered and are TTL compatible.

**495 512 x 512 x 6-bit memory . . . . . \$5500.00**  
**512 x 512 x 8-bit memory . . . . . 7500.00**

### Specifications

**Connectors:** Video: BNC  
 Remote: 15-pin "D"  
**Resolution:** 512 x 480 picture elements (525-line)  
 512 x 512 picture elements (625-line)  
**Frame Store Time:** 1/30<sup>th</sup> second (525-line)  
 1/25<sup>th</sup> (625-line)  
**Grayscale:** 6-bits (64 gray levels)  
**Conversion Linearity:** ± 0.2%, ± 1/2 LSB  
**Video Bandwidth** 5MHz

**Options for 491, 492, 493, 494, and 495**  
**793 DMA Digital I/O Module . . . . . \$650.00**  
**NTSC Color — per memory (not available on 494)**  
**. . . . . 500.00**

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# VIDEO FRAME STORE/INTERFACE DIGITAL DISK STORAGE

## 499 Video Multimemory

The 499 is designed for the sequential capture and reproduction of a relatively large number of video images. Available in either 525-line or 625-line TV standards, the 499 will store 16 512 x 512 pixel images, 32 512 x 256 pixel images, or 64 256 x 256 pixel images, all with 8 bits of gray scale (256 shades of gray). Only one video output is provided. However, an individual picture may be brought up on command, or all images may be automatically sequenced at either normal TV rates (60 to 50 per second). Both recording and playback functions may be controlled for "time lapse" effects.

The main chassis of the 499 occupies only 5 1/4" of rack space, and includes space for a computer I/O card which allows external image storage or processing. A desktop controller allows the operator to select various functions.

499 ..... \$11,500.00  
 799 DMA I/O Module ..... 900.00



499 Main Memory Chassis and Controller

## 930 Digital Disk Video Image Storage System

The Video Image Storage System consists of a microcomputer with Winchester disk storage plus custom software and is capable of storing and retrieving a large number of standard television images. The 930 interfaces with one of several Colorado Video digital memories for picture acquisition and display. The 930 can be used with black and white or color memories.

The 930 is intended for applications where rapid access to any picture and accurate long term preservation of information is a primary requirement. The computer permits the use of simple commands for storage and retrieval, and for keyboard entry of picture documentation.

### Components

**Disk Memory:** Capacities range from 5M byte to 70M byte in 5 1/4" fixed disk drives, and 10M byte in a removable cartridge drive version. Storage can be increased by adding additional drives.

**Computer:** An Apple IIe®\* is provided with a display monitor, floppy disk drive, and system interface card with cables. Software functions are:

1. Instructions for system operation.
2. Picture listing: titles and description listed by number.
3. Individual selection of a picture by its corresponding number along with insertion, editing and deletion of titles and descriptions.
4. Automatic storage or display of a picture sequence.
5. Protection of selected pictures from accidental overwrite.
6. Picture size reduction for fast previewing (monochrome only).

**Video Memory:** The video memory must be purchased separately. There are several choices:

- 290 B&W Analog Slow-Scan
- 290C Color Analog Slow-Scan
- 490 Series of Frame Store units (491, 492, 493)

The 290 and 490 Series units each use the 793 I/O Module when employed as the video memory in the 930 System.

	Performance		Capacity	
	Picture Resolution	Store/Display Transfer Time	5M byte Disk	70M byte Disk
	256 x 256 pixels	1.3 seconds/frame	80 frames	1120 frames
	256 x 512 pixels	2.6 seconds/frame	40 frames	560 frames
	512 x 512 pixels (8-bit gray scale)	5.3 seconds/frame	20 frames	280 frames
<b>Specifications:</b>	<b>Size:</b>	5" x 6" x 14"	5" x 6" x 14"	
	<b>Weight:</b>	25 lbs.	28 lbs.	
	<b>Mounting:</b>	Tabletop	Tabletop	
	<b>Power:</b>	115/230VAC, 50/60Hz		
<b>930</b> .....				.POR

## 745 Host Adaptor

The 745 interfaces the IBM PC or PC/XT® with Colorado Video display memories and external mass storage peripherals. The adaptor uses the DMA capability of the IBM I/O channel to achieve high speed data transfers. There are modes of DMA operation as shown in the figure below.

The display memory interface consists of a 16-bit parallel output port, an 8-bit parallel input port, and two handshake lines. The mass storage interface is compatible with the small computer system interface. The adaptor occupies eight contiguous locations in the IBM I/O address space. These addresses are determined by appropriate switch settings on the adaptor board.

The adaptor plugs into a long slot on the IBM main board. External connections use 37 pin "D" connectors mounted on two spare slots on the IBM chassis rear panel.

### Specifications

**Power:** 0.9A at 5V  
**Load:** 1 TTL load max/I/O channel line  
 745 ..... \$1,000.00

\*Apple IIe is a registered trademark of Apple Computer, Inc.



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# VIDEO PEAK STORE

## 493 Video Peak Store

The 493 Video Peak Store is an instrument with unique capabilities. In essence, it is a video field/frame store device which will continually add new information to memory contents, if such new data is of higher amplitude than that already recorded. Processing occurs in "real time" and the video output signal is continuously viewable.

The 493 is not an averaging memory and so transient information is not lost over a period of time unless overwritten by higher amplitude signals. The peak recording process will cause some forms of noise to eventually "smooth" into a DC offset which is equivalent to the peak value of the noise waveforms.

The 493 Video Peak Store is a compact, solid-state unit, suitable for operation either in the field or in the laboratory. Options include computer I/O capability and Slow-Scan TV transmission of stored data to remote locations.

Operational modes with the 493 are:

1. Field/frame store with manual or remote "freeze" command
2. Peak store, adding "whiter" video information to memory contents
3. Peak store, adding "blacker" video information to memory contents
4. Peak storing on a continuous, manually controlled, or interval basis
5. Optional peak storing of NTSC color video signals

Applications of the 493 include:

### Scan Conversion

Electro-optical scan conversion by means of focusing a TV camera at a CRT. Radar or non-conventional television scanning with image build-up over short or long periods of time.

### Transient Recording

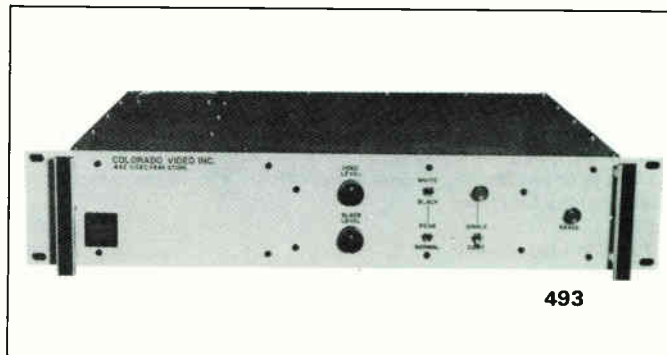
Recording of phenomena such as daylight lightning strokes or use as a "storage" oscilloscope.

### Tracking

Tracking of either a light target against a dark background or a dark target against a light background, leaving a visible record. Follow vehicles, microscopic biological movements or other subjects.

### Noise Smoothing

Because the 493 is a data accumulating device, some forms of noise will eventually "smooth" into a DC offset, equivalent to the peak amplitude of the noise components.



### Miscellaneous

Stroboscopic image recording, "painting with light," or controlled addition of images to a display.

### 493 Video Peak Store

512 x 512 x 8-bit memory . . . . . \$8000.00

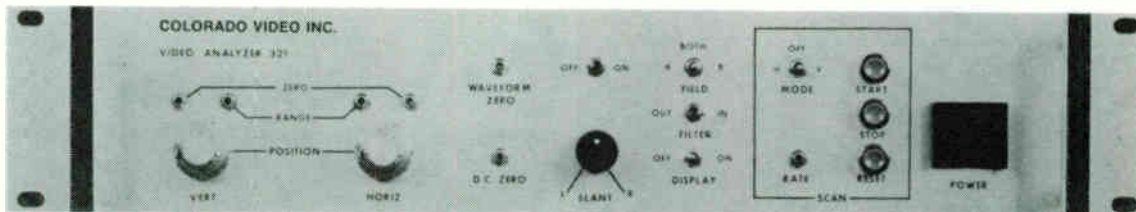
### SPECIFICATIONS

<b>Size:</b>	3-1/2" x 19" x 15"
<b>Weight:</b>	16 lbs.
<b>Mounting:</b>	Standard 19" rack or tabletop
<b>Construction:</b>	Solid-state, card file
<b>Power:</b>	110/115/230VAC, 50/60Hz, single phase, 75VA
<b>Input:</b>	Composite Video: 1V p-p, 75 ohms, 2:1 interlace
<b>Output:</b>	Composite Video: 1V p-p, 75 ohms, 2:1 interlace
<b>Controls:</b>	Video input gain Video black level Conventional freeze/Peak store mode switch Continuous freeze/Single record mode switch Record PB Erase PB Peak Store Mode: White/Black AC Power: On/Off
<b>Connectors:</b>	BNC
<b>Memory:</b>	Single Field: 512 x 240 picture elements with 6-bit grayscale Full Frame: 512 x 480 picture elements with 6-bit grayscale
<b>Options:</b>	Digital I/O NTSC color Slow-Scan TV output 625-line, 50Hz operation 8-bit grayscale Interval controller

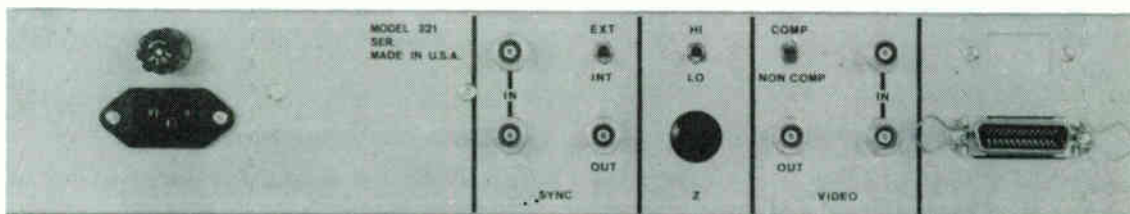
# COLORADO VIDEO, INC.

P.O. Box 928  
 Boulder, CO 80306  
 (303) 530-9580 FAX: (303) 530-9569  
 TWX: 910-940-3248 (COLO VIDEO BDR)

# VIDEO ANALYZER



321 Front Panel



321 Rear Panel

## 321 VIDEO ANALYZER

- Dynamic noise measurements
- Vertical "line selector" operation
- Large screen waveform display
- Point-by-point video amplitude indication
- Chart recording output
- Reference grating
- Video noise reduction
- Remote Control
- Narrow-band video output
- X-Y coordinate indication

The 321 is a versatile instrument for analysis of video signals. Provides sampling and display of waveforms along a vertical or slant cursor. Display also includes a waveform reference grating and H and V markers. Has output for chart recording of line selected waveform data on either axis. Provides variable rate scanning on both axes.

321 .....\$3000.00

## SPECIFICATIONS

<b>Size:</b>	3-1/2" x 19" x 8"
<b>Mounting:</b>	Standard 19" rack
<b>Construction:</b>	Printed circuit, solid-state, silicon
<b>Power:</b>	117VAC, 15VA, 50-60Hz
<b>Connectors:</b>	Video & Sync: BNC Position, Slow Scan & DC: 24-Pin Blue Ribbon
<b>Inputs:</b>	Sync: 4V p-p, 1k ohms Video: 1V p-p, 1k ohms
<b>Outputs:</b>	Monitor Video: 1.2V p-p, 75 ohms Slow Scan Video: 0-5V p-p, 10k ohms DC Readout: 0-5V, 10k ohms X Position: 0-5V, HiZ Y Position: 0-5V, HiZ Sync: 4V p-p, 75 ohms

<b>Controls:</b>	Front Panel	
	H Marker Position	
	H Range	
	V Marker Position	
	V Range	
	H Zero	
	V Zero	
	Power	
	Display:	Off/Chop/On
	Waveform Zero	
	DC Zero	
	Scan Mode:	Off/V/H
	Field:	Both/1/2
	Filter:	In/Out
	Slant:	On/Off
	Slant:	Left/Right
	Scan Rate	
	Scan Start	
	Scan Stop	
	Scan Reset	
	Rear Panel	
	Sync:	Int/Ext
	Termination:	HiZ/75 ohms
	Video Out:	Composite/Non-composite

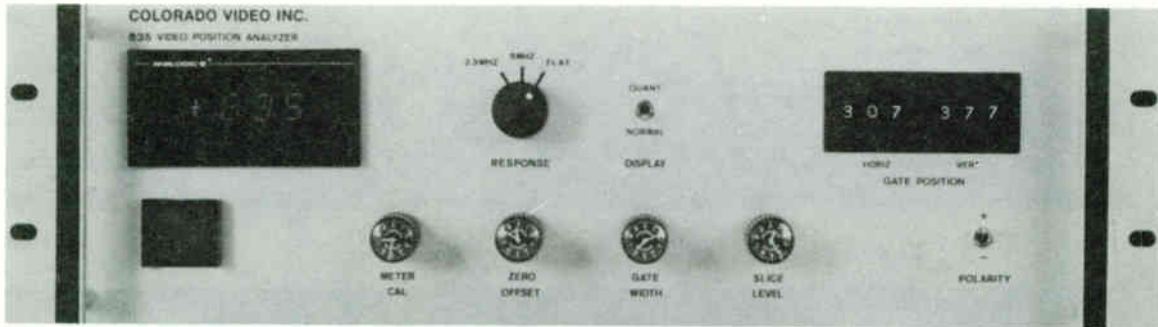
## PERFORMANCE CHARACTERISTICS

Video Frequency Response:	20MHz
Slow Scan Video	
Bandwidth:	8kHz (525-line system) 15kHz (945-line system)
Max Chart Readout	
Bandwidth:	30Hz
Linearity:	3% overall (X-Y-Z)
Scan Time:	5 seconds to 1 minute
H Sample Range:	90% active raster width
V Sample Range:	90% active raster height

# COLORADO VIDEO, INC.

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# VIDEO POSITION ANALYZER



635



Display Normal Mode



Display Quantized Mode

## 635 Video Position Analyzer

The 635 accepts a composite video signal and provides a digital readout of the position of a preselected feature of medium or high contrast.

A precision, digitally-controlled gate is internally generated and used to select the feature of interest. The threshold level of a video slicing circuit is then adjusted to obtain a black or white signal with rapid on/off transitions, and lateral positional variations of the first transition are used to actuate a sampling position-to-voltage converter. The resulting DC voltage level is then continuously updated at the field rate of the input signal.

Position data is integrated over the height of the gate, which is internally selectable to 4 or 8 lines per field. The resulting position voltage is fed to a built-in 3-1/2 digit meter for display and the BCD result is available for external use. The meter may be calibrated to give readings corresponding to absolute positions.

## Specifications

- Size:** 5-1/4" x 19" x 12"
- Mounting:** Standard rackmount
- Construction:** Solid-state, silicon, plug-in card
- Power:** 117VAC, 60Hz, single phase
- Inputs:** Composite Video: 1V p-p, 75 ohms
- Outputs:** Monitor Video: 1V p-p, 75 ohms  
 Sampled Positional Data: BCD, 3-1/2 digits, TTL  
 Sync: 4V p-p, 75 ohms
- Controls:** AC Power: On/Off  
 Gate Position - V: Thumbwheel switches (BCO)  
 Gate Position - H: Thumbwheel switches (BCO)  
 Gate Width  
 Slice Level  
 Offset  
 Meter Calibration  
 Polarity: +/-  
 Response: Flat/5MHz/2.5MHz  
 Display: Normal/Quant
- Performance**
- Characteristics:** Gate Positionability: 90% of active raster height and width  
 Gate Width Range: 5% to 25% of raster width  
 Spatial Resolution: to 1 part in 1500
- Connectors:** BNC: Video  
 Blue Ribbon - BCD Position Data

635 . . . . . \$6000.00



# COLORADO VIDEO, INC.

P.O. Box 928  
 Boulder, CO 80306  
 (303) 530-9580 FAX: (303) 530-9569  
 TWX: 910-940-3248 (COLO VIDEO BDR)

# X-Y INDICATOR/ DIGITIZER

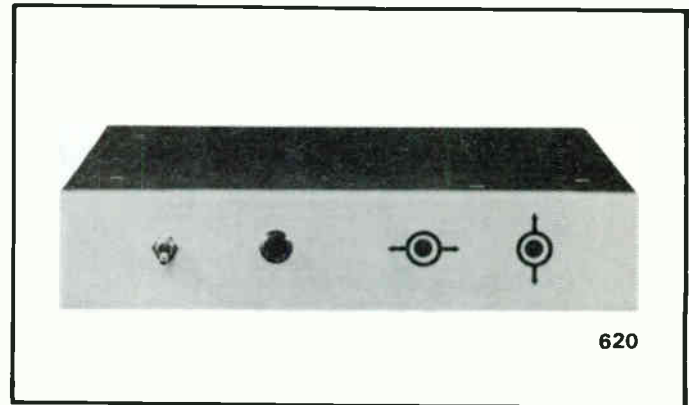
## 620 X-Y Indicator

The 620 is an instrument used to generate X and Y coordinates (crosshairs) on a TV screen. It allows rapid alignment of subject material with a predetermined location when used in conjunction with a standard TV camera and monitor.

The 620 accepts composite video on a looping input and provides composite video out to a standard TV monitor.

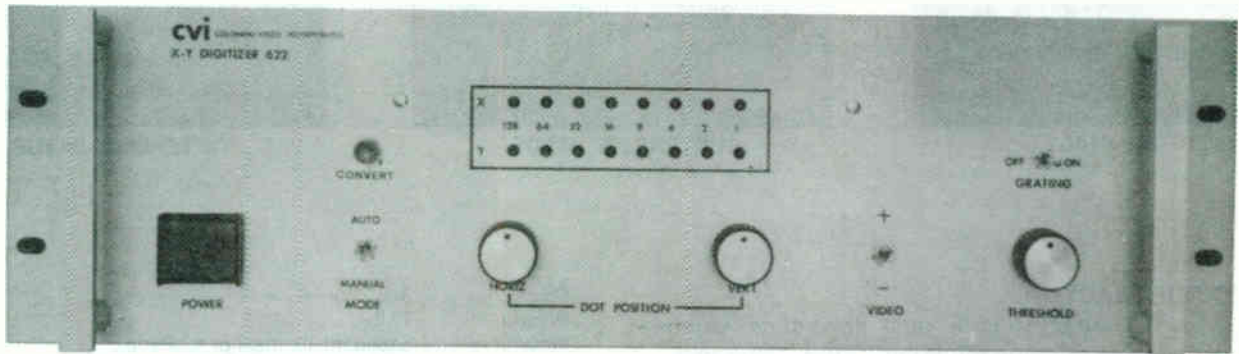
### Specifications

**Size:** 1-2/3" x 11" x 8"  
**Mounting:** Free standing (1-3/4" x 19" rackmount optional)  
**Construction:** Solid-state, P.C. Board  
**Power:** 117VAC, 60Hz  
**Input Signal:** Video, composite, 1V p-p, 75 ohms  
**Output Signal:** Video, composite, 1V p-p, 75 ohms  
**Operating Controls:** AC Power: On/Off  
 X & Y Position: ±5% Front panel, screwdriver adj.  
 X & Y Position: 60% of full screen, Internal



**Indicators:** AC Power  
**Connectors:** BNC

**620 X-Y Indicator** .....\$480.00



## 622 X-Y Digitizer

The 622 X-Y Digitizer allows computer input of positional data from standard TV signals. Video from either a television camera or tape recorder may be connected to the 622 with the operator moving a superimposed small white dot around a standard TV screen to generate digital X-Y coordinates. The unit contains self-calibrating features as well as a highly accurate TV grating pattern which allows assessment of the geometric quality of the video input signal.

A second unique feature is an automatic tracking capability which eliminates the need for manual positioning of the data reference point. In this mode of operation, the 622 "acquires" a single high contrast point of video data and automatically outputs the coordinates. Typical applications in this instance include aircraft tracking, eye movement studies, and laser beam location.

In the automatic tracking mode, the operator selects either positive or negative video polarity, then adjusts a video threshold control so that only the desired target appears on the TV screen. Data reduction is then automatic with 8-bit X and Y words being generated every 1/60 second. Resolution is 256 (H) by 237 (V).

### Specifications

**Size:** 5-1/4" x 19" x 12"  
**Mounting:** Standard 19" rack  
**Construction:** Solid-state, card file  
**Power:** 110/220VAC, 50/60Hz  
**Inputs:** Video, composite 1V p-p, 1K ohms (US 525 standards unless otherwise specified).  
 Convert command; TTL Level (max. conversion rate: 60 points/second)  
**Outputs:** Video (for monitoring) 1V p-p, 75 ohms  
 Digital: TTL Signal Levels  
 X information, 8-bit parallel binary  
 Y information, 8-bit parallel binary  
 Data change gate  
 Overcount  
 Clock  
**Controls:** AC Power: On/Off  
 Mode: Manual-Automatic  
 Video: Normal-Inverted  
 Slicing Threshold  
 Dot H. Position  
 Dot V. Position  
 (H and V position may be remoted to joystick or other device)  
 Convert pushbutton  
**Indicators:** X digital bit lights: 1-2-4-8-16-32-64-128  
 Y digital bit lights: 1-2-4-8-16-32-64-128  
 AC power  
**Connectors:** Video: BNC  
 Digital: "Blue Ribbon"

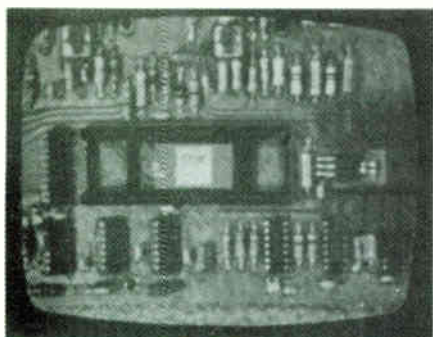
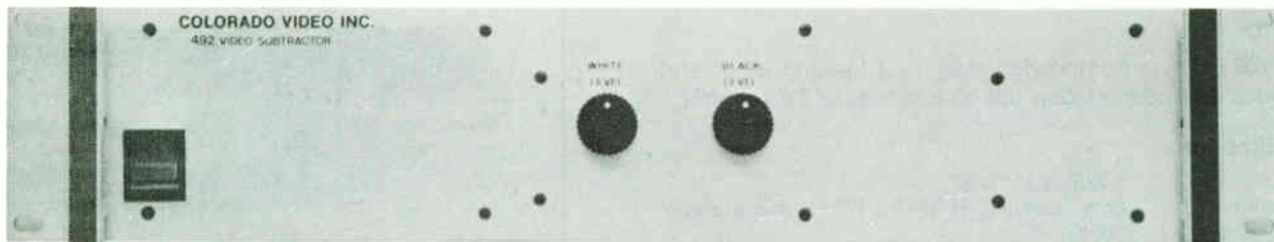
**622 X-Y Digitizer** .....\$4500.00

Prices and Specifications Subject to Change Without Notice.

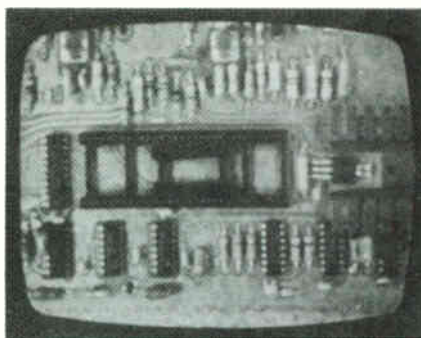
# COLORADO VIDEO, INC.

P.O. Box 928  
 Boulder, CO 80306  
 (303) 530-9580 (303) 530-9569  
 TWX: 910-940-3248 (COLO VIDEO BDR)

# VIDEO SUBTRACTOR



REFERENCE IMAGE



SUBTRACTED IMAGE



DIFFERENCE IMAGE

## 492 VIDEO SUBTRACTOR

The 492 Video Subtractor is a dual solid-state video memory unit capable of comparing one stored image with the other and displaying the difference. It is intended for use in inspection, registration, quality control, surveillance and other applications where differences between two images can be used for decision making or process control.

In a typical application, a reference image is digitized and stored in one of the two video memories in the 492. A subsequent image is stored in the other memory. This image is subtracted from the reference memory and the difference is provided as a video output for display on a standard television monitor. It is also possible to continuously compare the input video with the reference image. A separate video output of the reference memory is also provided. A digital I/O option allows the use of a computer to analyze either of the stored images.

### 492 Video Subtractor

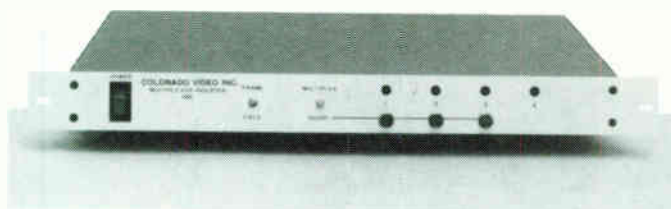
512 x 512 x 6-bit dual memory ..... \$6500.00  
 512 x 512 x 8-bit dual memory ..... 8800.00

**Size:** 3-1/2" x 19" x 15"  
**Weight:** 17 lbs.  
**Mounting:** Standard 19" rack or tabletop  
**Construction:** Solid-state, card file  
**Power:** 100/115/230VAC, 50/60Hz, single phase, 75VA  
**Input:** Composite Video: 1V p-p, 75 ohms, 2:1 interlace  
**Outputs:** Reference: Composite Video: 1V p-p, 75 ohms, 2:1 interlace  
 Difference: Composite Video: 1V p-p, 75 ohms, 2:1 interlace  
**Controls:** Black Level  
 White Level  
 AC Power  
 Freeze  
 Memory Select: #1, #2  
**Connectors:** BNC  
**Performance:** Resolution: 512 x 256 pixel memory  
 TV Test Chart  
 Resolution: H = 350 lines, V = 200 lines  
 512 x 512 pixel memory  
 TV test Chart  
 Resolution: H = 350 lines, V = 350 lines  
 Grayscale: 6 bits (64 gray levels)  
**Options:** Digital I/O  
 Video Output from both memories  
 8 bits grayscale  
 625-line operation  
 NTSC Color

# COLORADO VIDEO, INC.

Box 928  
 Boulder, CO 80306  
 (303) 444-3972  
 TWX 910-940-3248 (COLO VIDEO 8DR)

# VIDEO MULTIPLEXING INSTRUMENTS



496



497

## 496/497 Series

### Video Multiplexing Instruments

The 496 is capable of time multiplexing four synchronized video sources into a single video signal for transmission or recording. The source signals are then separated (demultiplexed) with the 497 and stored in one or more memories for continuous flicker-free display.

### 496 Video Multiplexer/Inserter

A device which permits the transmission of two to four video signals over a single channel by time-sharing on a frame or field basis (each frame includes two fields). The frames or fields have identifying source number codes inserted in the vertical blanking interval to allow correct demultiplexing. In the multiplexer mode the 496 automatically sequences through all available input sources.

In the insertion mode, the 496 becomes a special purpose multiplexer which, under operator control, can insert a single frame from a separate synchronized video source into a main video signal. It can be used with the 497 to provide "side channel" displays from the second video source.

#### Option

625-line, 50Hz operation

#### Specifications

**Size:** 1.75" x 19" x 15"  
**Weight:** 6 lbs.  
**Mounting:** Standard 19" rack or optional tabletop  
**Power:** 100/115/230VAC, 50/60Hz, single phase, 10VA  
**Inputs:** Composite Video: 1V p-p, 75 ohms, 2:1 interlace (4)  
**Outputs:** Composite Video: 1V p-p, 75 ohms, 2:1 interlace  
 Composite Sync: 4V p-p, 75 ohms, 2:1 interlace (3); used to genlock all video sources  
**Controls:** AC Power: On/Off  
 Mode: Insert/Multiplex  
 Insert: 2, 3, 4  
 Field/Frame  
**Connectors:** Video In and Out: BNC (5)  
 Sync: BNC (3)

496 .....\$4,000.00

### 497-4 Video Demultiplexer

Receives inputs from the 496 and performs the function of producing a continuous video output of each of the video signals multiplexed onto a single transmission link. Each incoming video frame or field is identified by its code and stored in a digital memory for continuous output. The resulting displays are nearly indistinguishable from normal video. With the 497, the multiplexed outputs from four sources result in 7.5 frames per second, versus the normal 30 frames per second with conventional video. The 497 is also available in one, two and three memory versions, indicated by 497-1, 497-2, and 497-3.

Applications of the 496/497 series include: teleconferencing, distance education, multichannel tape recording, surveillance, multichannel video data acquisition and display, stereo video transmission and display, and adding still graphics to full-motion teleconference networks.

#### Options

Digital I/O interface  
 NTSC color  
 Slow-Scan TV output  
 625-line, 50Hz operation  
 8-bit gray scale

#### Specifications

**Size:** 5 1/4" x 19" x 15"  
**Weight:** 22 lbs.  
**Mounting:** Standard 19" rack or optional tabletop  
**Construction:** Solid-state, card file  
**Power:** 110/115/230VAC, 50/60Hz, single phase, 75VA  
**Input:** Composite Video: 1V p-p, 75 ohms, 2:1 interlace  
**Outputs:** Composite Video: 1V p-p, 75 ohms, 2:1 interlace (1-4)  
**Controls:** AC Power: On/Off  
 White Level  
 Black Level  
 Run/Hold  
 Field/Frame (512 x 240 x 6/512 x 240 x 6)  
 Multiplex/Insert

### 497-4 Four Channel Video Demultiplexer

512 x 512 x 6-bit memory. ....\$10,500.00  
 512 x 512 x 8-bit memory. ....13,400.00

### 497-3 Three Channel Video Demultiplexer

512 x 512 x 6-bit memory. ....\$ 9,000.00  
 512 x 512 x 8-bit memory. ....11,600.00

### 497-2 Two Channel Video Demultiplexer

512 x 512 x 6-bit memory. ....\$7,500.00  
 512 x 512 x 8-bit memory. ....9,800.00

### 497-1 One Channel Video Demultiplexer

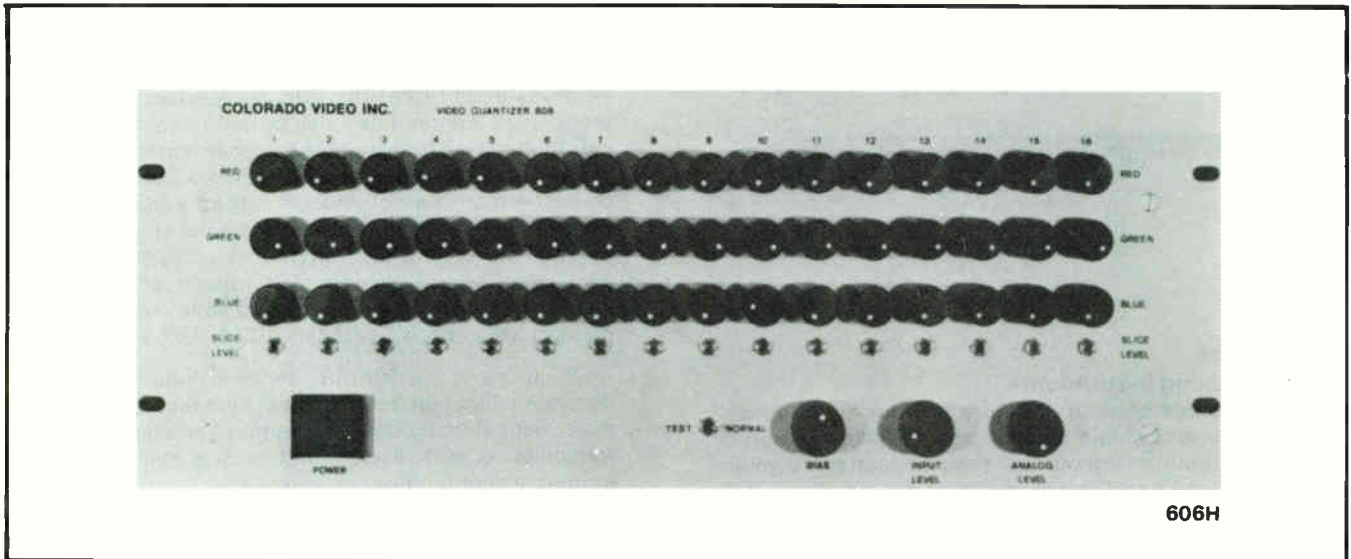
512 x 512 x 6-bit memory. ....\$6,000.00  
 512 x 512 x 8-bit memory. ....8,000.00



# COLORADO VIDEO, INC.

P.O. Box 928  
 Boulder, CO 80306  
 (303) 530-9580 FAX: (303) 530-9569  
 TWX: 910-940-3248 (COLOR VIDEO BDR)

# VIDEO QUANTIZER



## 606H Video Quantizer

The 606H is an instrument designed to process the grayscale characteristics of monochrome video input signals in order to achieve radical alterations in output linearity or, alternately, to synthesize color signals from different shades of gray.

The unit operates on the input video signal by selecting from 1 to 16 separate narrow "slices" which are adjustable to any amplitude level between black and white. Selection of the thresholds may be linear, logarithmic, antilog, or on any other arbitrary basis. The control panel contains adjustments which allow the operator to vary the slice threshold as well as the color output from each of the 16 channels. A wide range of color variations may be produced by adjusting the amount of Red-Green-Blue sent to the output from each channel. The unit also contains a linear video amplifier, the output of which may be mixed as b/w with the quantized color signals for added versatility.

The 606H is intended primarily for television studio "special effects" production, but is suitable for a wide range of other uses. Effects achievable include:

- Keying
- Tone Reduction
- Outlining
- Equal Brightness Contouring
- Super-Graphic Pattern Generation
- Grayscale Inversion
- Synthetic Color Generation
- Tinting

The 606H may be used with either noncomposite or composite video input signals from a television camera, flying spot scanner, video tape recorder, or other source.

606H . . . . . \$5000.00

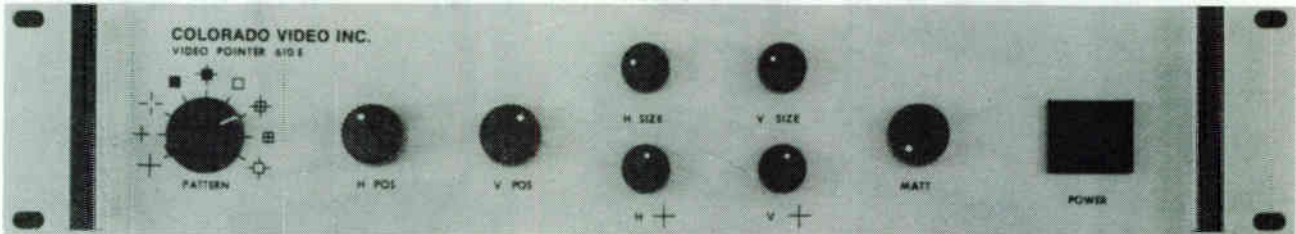
## SPECIFICATIONS

- Size:** 7" x 19" x 12"
- Mounting:** Standard 19" rack
- Construction:** Plug-in cards, solid-state, silicon
- Power:** 117VAC, 60Hz
- Inputs:**
  - Video: 1V, 75 ohms
  - External Sync: 4V, 1k ohms
  - Blanking: 4V, 1k ohms
  - External Key: 1V, 75 ohms
- Outputs:**
  - Video Red: 1V, 75 ohms
  - Video Green: 1V, 75 ohms
  - Video Blue: 1V, 75 ohms
  - Sync: 3.5V, 75 ohms
- Controls:**
  - AC Power
  - Input Level
  - Bias
  - Analog Level
  - Quantizer
  - Quantize Threshold
  - Quantizer Mix Levels
- Rear Controls:**
  - Sync: Int/Ext
  - Output Levels: Red, Green, Blue
- Connectors:** BNC

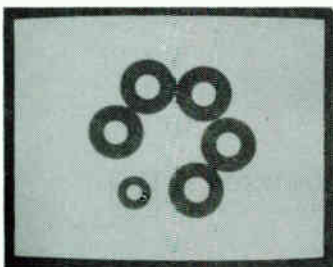
# COLORADO VIDEO, INC.

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 TWX: 910-940-3248 (COLOR VIDEO BDR)

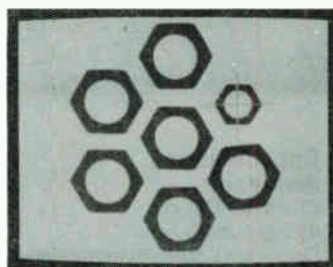
# VIDEO POINTER



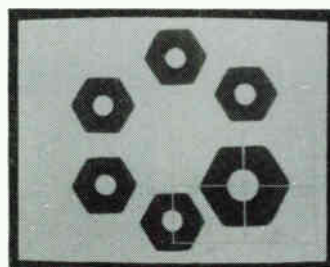
610E



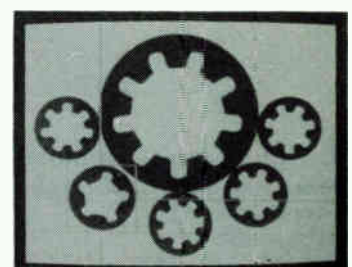
BOX OUTLINE



SMALL CROSSHAIR



LARGE CROSSHAIR  
& BOX OUTLINE



INTERRUPTED CROSSHAIR  
& BOX OUTLINE

## 610E Video Pointer

The 610E produces a series of oblong and crosshair patterns, as seen on the screen of a television monitor. By use of front panel controls or external control voltages, the patterns may be positioned to any location on the screen and changed in size over a range of ten to one.

The 610E contains two positionable pattern generators. The Box Outline generator section may be used to vary the horizontal and vertical size of the oblong produced, as well as to position the box anywhere in the field, horizontally and vertically. In addition, the separate Crosshair pattern may be positioned anywhere else on the screen, relative to the box, by its H and V controls. When the box is moved, the crosshairs track along with it.

Uses of the 610E include calling attention to significant elements in a TV scene, X-Y target coordinate analysis (through internally or externally generated DC voltage), and as a gating signal for video keying. Conventional video signals from a TV camera or other source may be fed into the 610E, and the superimposed patterns may be varied continuously from black to white with the Matt Control.

610E . . . . . \$1950.00

## Specifications

**Size:** 3-1/2" x 19" x 8"  
**Mounting:** Standard 19" rack  
**Construction:** Solid-state, silicon  
**Power:** 117/220VAC, 50/400Hz, 7W  
**Connectors:** BNC and Blue Ribbon

<b>Inputs:</b>	<b>Video:</b> 1V, 1K ohms
	<b>H-Axis Position:</b> 0 to +5V, 5K ohms
	<b>V-Axis Position:</b> 0 to +5V, 5K ohms
	<b>H Size:</b> 0 to +5V, 5K ohms
	<b>V Size:</b> 0 to +5V, 5K ohms
	<b>H Crosshair Pos:</b> +5 to -5V, 5K ohms
	<b>V Crosshair Pos:</b> +5 to -5V, 5K ohms
<b>Outputs:</b>	<b>Video:</b> 1V p-p, 75 ohms
	<b>Oblong:</b> 1V p-p, 75 ohms
<b>Controls:</b>	<b>Pattern Selector:</b> Large Crosshair Small Crosshair Interrupted Crosshair Solid Box Large Crosshair & Solid Box Box Outline Large Crosshair & Box Outline Small Crosshair & Box Outline Interrupted Crosshair & Box Outline
	Horizontal Oblong Position
	Vertical Oblong Position
	Horizontal Oblong Size
	Vertical Oblong Size
	Horizontal Crosshair Position
	Vertical Crosshair Position
	Matt
	AC Power: On/Off
<b>Indicator:</b>	AC Power
<b>Marker:</b>	Positionability: 80% or better of active raster height and width
<b>Characteristics:</b>	Linearity: (Voltage to time conversion) $\mu$ 1% to 70% of active raster height and width

# COMPREHENSIVE VIDEO SUPPLY CORP.

148 Veterans Dr.  
Northvale, NJ 07647  
(201) 767-7990 Telex: 13-5139

# CHARACTER GENERATOR BOARD



## PC-2 Character Generator Board

Generate Broadcast Quality Characters with an IBM Compatible Personal Computer

- 40ns resolution
- Random page access
- 64 colors
- 32 font styles including graphic font, edge, shadows, and italics
- Preview/program mode
- RGB or composite NTSC video output
- Built-in keyer
- 4 speeds of roll and crawl

Now you can use your IBM PC or compatible computer as a full-featured character generator without sacrificing your other computer applications.

The heart of the PC-2 system is a plug-in board that fits in your computer's expansion slot and gives it the ability to generate broadcast quality characters for production work whenever you need it.

The PC-2 is easy to use, half the price of comparably equipped CGs and extremely versatile. It puts command menus right up on the computer screen while you work, so there are no commands to memorize, no thick manuals to slow you down.

For characters, it offers four types of letter fonts in varying sizes, plus one graphic font and up to 64 colors. With italics, edging, background striping, drop shadows, and as many as eight colors per line, you can create credit rolls, titles, and crawls in an endless variety of styles.

PC-2's powerful editor lets you insert or delete characters or whole lines at once with full cursor movement anywhere on the screen. Left and right justification, centering and proportional spacing ensure your text always looks good.

Put two independent crawl lines at any of four speeds in either direction anywhere on the screen. PC-2 contains its own keyer so it's easy to key names or text over your pictures or even create striped background screens. Make text come on-screen from either direction or appear in a teletype-like effect. Credits roll up or down as quickly as you like.

PC-2 can call up from 1 to 19 pages in a file, and chain 8 files together for 152 pages of text. It also loops pages for continuous crawls or rolls.

The PC-2 can combine with other Comprehensive Video software to turn any IBM PC or compatible computer into a powerful production work station.

## Specifications

<b>Resolution:</b>	40ns (1000 x 512 pixels)
<b>Character Colors:</b>	64
<b>Background Colors:</b>	64
<b>Colors On Screen Simultaneously:</b>	64
<b>Colors Per Line:</b>	8
<b>Characters Per Line:</b>	10-62
<b>Font Styles:</b>	30
<b>Graphic Symbols:</b>	74
<b>Edge and Shadow Options:</b>	Plain Shadows (short and long) Projections (short and long) Outlines (open and silhouette) Italics
<b>Cel Block Frame Height:</b>	32/64 lines
<b>Effective Character Height Range:</b>	20-64 lines approx.
<b>Maximum Script Lines Per Page:</b>	13
<b>Font Styles Per Line:</b>	16
<b>Font Styles Per Page:</b>	30
<b>Edit Functions:</b>	Insert, delete, auto-centering, justification, left or right (per line or per entire page)
<b>Roll Speeds:</b>	4 (3/4, 1 1/2, 3 1/2, 7 sec/page)
<b>Crawl Speeds:</b>	4 each for 2 independent lines (2, 4, 8, 16 char/sec)
<b>Background Stripes:</b>	31 choices in 16 colors
<b>Flash:</b>	Character by character
<b>Pages of Memory:</b>	200 on a floppy disk; 12,000 with 20M byte hard disk
<b>Output:</b>	RGB 1V peak, non-composite video PRG 1V p-p, composite video PRV 1V p-p, composite video KEY 1V p-p, RGB
<b>Input:</b>	1V p-p, composite video (required)
<b>Hardware Requirements:</b>	IBM PC, XT, AT or compatible with 256K (maximum 640K) 2 expansion slots

PC-2 Plug-in board for IBM PC or true compatibles (requires 4.77MHz with minimum 256K memory) . . . . .	\$2995.00
PC-2S Turnkey system with 2 disk drive IBM XT compatible computer and character generator . . . . .	4295.00
PC-2/RGB-10 Cable for analog RGB, sync and key from	
PC-2 10' . . . . .	79.95



# COMPREHENSIVE VIDEO SUPPLY CORP.

148 Veterans Dr.  
Northvale, NJ 07647  
(201) 767-7990 Telex: 13-5139

# COMPUTER VIDEO SOFTWARE

## COMPUTER AIDED VIDEO

### Computer Software for Video Professionals

#### Tapemaster™

When you absolutely have to find a particular scene in a roomful of tapes, who do you turn to? With Comprehensive's Tapemaster software, you can locate a scene with a few keystrokes. Any word or combination of words in that scene's description will do the job.

With an optional time code reader, you can add time code to your tape logs with the press of a button.

Tapemaster will also build an edit decision list of your selected tapes—automatically.

Fast, powerful, and easy to use, Tapemaster will pay for itself the first time it saves you from reshooting a scene you know you had shot before.

**T-MST** .....\$595.00

#### Log-It™ 100

The creation of shooting logs on location has never been easier. Comprehensive's Log-It 100 Program transforms your 4 1/2 pound, battery-operated Model 100 computer into a time code reader and tape logger that can be used anywhere. With the stroke of a single key, Log-It automatically reads SMPTE time code at up to 6 times play speed in forward and reverse. A built-in programmable stop watch even lets you log control track tapes.

The Log-It 100 program is supplied on a plug-in cartridge. No additional hardware, special tools, or modifications to the Model 100 are required.

**Log-It 100** .....\$345.00

#### Edit Lister™

Now you can prepare, store, revise, clean, and transfer edit decision lists with your personal computer. Edit Lister also lets you connect the computer directly to an off-line edit controller with an RS-232 edit output. As edits are performed, they are automatically transmitted to the computer. Edit Lister stores each event in memory as it builds an edit list.

Edit Lister includes high level list management and list cleaning features such as: re-edit with ripple, add and delete edits, add post-production notes, include program effects such as dissolves, wipes, splits and keys, move single edit and block move entire scenes, and clean over-record edits.

**EL-A/64-SS** For Apple IIe or Apple II + with 64K  
(requires serial card) .....\$800.00

**EL-A/128-SS** For Apple IIc or Apple IIe with 128K (IIc  
requires serial card) ..... 900.00

**EL-B-SS** MS-DOS version (requires 256K and serial card) . . . .900.00

**EL-C** CP/M for Kaypro II, IV, 10 and Sony SMC-70 with 64K  
and RS-232 serial port. .... 900.00

#### D-Link™

Take an edit list prepared by Edit Lister and store it on CMX format 8-inch disk. The disk can then be loaded directly into any on-line system that can read a CMX formatted disk.

The **D-Link package** includes D-Link software, controller card, shielded cable and 8-inch disk drive.

**D-Link-A/64** For Apple IIe or Apple II + with 64K ..... \$1995.00

**D-Link-A/128** Apple IIe with 128K

(not available for the Apple IIc) ..... 1995.00

**D-Link-B** IBM PC ..... 1995.00

#### Script Master™

You can easily prepare and revise scripts on screen exactly as they will appear on paper. A single keystroke will move you from one column to another and the audio and video columns always stay synchronized as you make changes in either column.

In addition to containing the text editing capabilities you expect in a full featured word processing program, Script Master is flexible enough to allow you to make changes in the standard format.

For IBM PC and compatibles 256K and DOS 2.0 or greater.

**S-MST** .....\$199.00

#### Budget Master™

The Program fills the needs of corporate and independent producers to budget for small and large productions. Budget Master comes with a number of predesigned budget forms that will cover the requirements of most producers. You can use these forms as supplied, quickly modify them to suit your purposes, or design new forms. You define the number and name of major budget sections and sub-totals within a budget design. A budget "tracking" capability permits expense items to be entered for any budget item. Budget Master produces summary screen displays and a full range of printed reports.

**B-MST-A** For the Apple IIe or IIc  
(requires 64K and 2 disk drive) .....\$395.00

**B-MST-B** For the IBM PC and compatibles (requires 256K  
and DOS 2.0 or greater) ..... 395.00

#### Cabletrak™

No more handwritten notebooks used for cataloging the hundreds of cables in a radio/TV studio or station. No more writing out cable labels—Cabletrak does all that for you quickly and easily.

Cabletrak helps in studio construction by enabling you to print sublists for installation crews, to generate labels for both ends of each cable, or to print an entire list of the cables needed.

With every Cabletrak file, you can log in as many as 1,200 cables (600 on an Apple). And you can create an unlimited number of files.

**C-TRAK-A** For Apple II +, IIe, IIc required 64K .....\$499.00

**C-TRAK-B** for IBM PC and compatibles ..... 499.00

#### Prompt Master

Your IBM PC or compatible can be used as an effective stand-alone teleprompter. Prompt Master smoothly scrolls large, easy to read text backwards or forwards at adjustable speeds or rolled in a given time frame. Line and page numbers are prominently displayed.

#### Special Features:

- Reverse image for mirror systems
- Real-time stopwatch display counts down any set segment length
- Outputs directly through color card using a specially designed cable for converting RGB output to composite video
- Reads ASCII text files from any source, including Script Master

Prompt Master also gives you a choice of printouts. It can look the same as the prompter display, including line number, or it can be printed full width across the page

**P-MST-B** for IBM PC or compatible with 256K .....\$950.00

#### Library Master

The tape library management system for television station and post production facilities. A modern post production facility or television station must store thousands of tapes for hundreds of clients.

Finding tapes quickly has typically meant maintaining duplicate files of index cards sorted by client, agency, and sometimes title or product.

Library Master allows you to maintain a single tape catalog and allows you to index any tape by a variety of categories.

Library Master also maintains a shipping history and comes with Clientbase, a database for client information.

When you are filling out a library card, or entering shipping information, Clientbase allows you to enter the Client Code, and then it fills in the rest of the information automatically

**L-MST** IBM and compatible computers with 256K and DOS 2.0 or higher .....\$995.00

# COMPREHENSIVE VIDEO SUPPLY CORP.

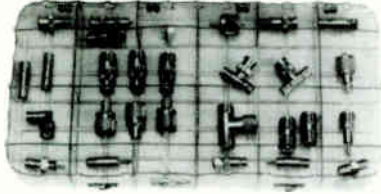
148 Veterans Dr.  
Northvale, NJ 07647  
(201) 767-7990 Telex: 13-5139

# VIDEO/AUDIO ACCESSORIES

Comprehensive has recognized the benefits of making all types of video supplies and accessories, and below is listed a small sampling of what is available.

## VDAP-1 Video Adaptor Kit

Adapt and interface with Video Connectors—includes 75 ohm terminators.



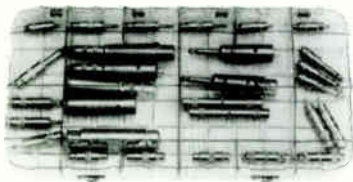
### Contents:

- |                                    |                                 |                            |
|------------------------------------|---------------------------------|----------------------------|
| (2) BNC Jack, Plug, Jack (T)       | (2) "F" Jack to Jack (Barrel)   | (1) Phono Plug to UHF Jack |
| (1) BNC Jack, Jack, Jack (T)       | (1) Phono Jack to Jack (Barrel) | (1) Phono Plug to "F" Jack |
| (2) BNC Jack to Jack (Barrel)      | (3) BNC Plug to UHF Jack        | (1) Phono Jack to BNC Plug |
| (1) BNC Plug to Plug (Barrel)      | (3) BNC Jack to UHF Plug        | (1) Phono Jack to UHF Plug |
| (1) BNC Jack to Plug (Right Angle) | (1) "F" Plug to BNC Jack        | (1) Phono Jack to "F" Plug |
| (1) UHF Jack, Plug, Jack (T)       | (1) "F" Jack to BNC Plug        | (2) BNC 75 ohm Terminator  |
| (2) UHF Jack to Jack (Barrel)      | (1) "F" Jack to Mini Plug       | (1) UHF 75 ohm Terminator  |
|                                    | (1) Phono Plug to BNC Jack      | (1) "F" 75 ohm Terminator  |

VDAP-1 ..... \$99.00

## ADAP-1 Audio Adaptor Kit

Adapt and interface with Audio Connectors.



### Contents:

- |                                       |  |                                     |
|---------------------------------------|--|-------------------------------------|
| (3) Mini Plug to Phono Jack           | (2) Standard Phone Plug to Mini Jack     | (1) Standard Phone Plug to XLR Jack |
| (3) Mini Plug to Standard Phone Jack  | (2) Standard Phone Plug to Phono Jack    | (1) XLR Plug to Phono Jack          |
| (2) Mini Jack to Jack (Barrel)        | (2) Standard Phone Jack to Jack (Barrel) | (1) XLR Plug to Standard Phone Jack |
| (3) Phono Plug to Mini Jack           | (1) Phono Plug to XLR Jack               | (1) XLR Plug to Plug (Barrel)       |
| (2) Phono Plug to Standard Phone Jack |  | (1) XLR Jack to Jack (Barrel)       |
| (3) Phono Jack to Jack (Barrel)       |  |                                     |

ADAP-1 ..... \$99.00

## The "Monster" Field Interface and Repair Kit

The "Monster" is everything you need to make standard and emergency audio and video hook-ups in the field.

### Contents:

- |            |   |
|------------|---|
| (1) 7200   | Soldering Iron                            |
| (1) AK-6   | Tool Set                                  |
| (1) B-BL   | BNC to BNC (barrel) Adaptor               |
| (1) BJ-UP  | BNC Jack to UHF Plug Adaptor              |
| (5) BP     | BNC Solder Connectors                     |
| (20) BP-C  | BNC Crimp Connectors                      |
| (1) BP-E   | BNC Emergency Connector                   |
| (1) BP-ESS | BNC Emergency Connector                   |
| (1) BP-UJ  | BNC Plug to UHF Jack Adaptor              |
| (1) BT     | BNC Terminator                            |
| (1) CT-BU  | BNC Crimp Tool                            |
| (1) ES-36  | Emergency Solder Pack                     |
| (1) FJ-BP  | "F" Jack to BNC Plug Adaptor              |
| (1) FJ-FP  | "F" Jack to "F" Plug Adaptor              |
| (20) FP    | "F" Plug Connectors                       |
| (1) FP-BJ  | "F" Plug to BNC Jack Adaptor              |
| (1) FP-E   | "F" Plug (emergency type) Connector       |
| (1) FP-ESS | "F" Plug (emergency type) Connector       |
| (1) K-22   | Electrician's Knife                       |
| (1) MM-L   | Mini Mite Lite                            |
| (1) MP-PJ  | Mini Plug to Phono (RCA) Jack Adaptor     |
| (1) MP-SPJ | Mini Plug to Standard Phone Jack Adaptor  |
| (1) PJ-BL  | Phono (RCA) Jack to Jack (barrel) Adaptor |
| (1) PJ-BP  | Phono (RCA) to BNC Plug Adaptor           |
| (5) PP     | Phono (RCA) Plug Adaptors                 |
| (1) PP-BJ  | Phono (RCA) Plug to BNC Jack Adaptor      |

Monster ..... \$399.00

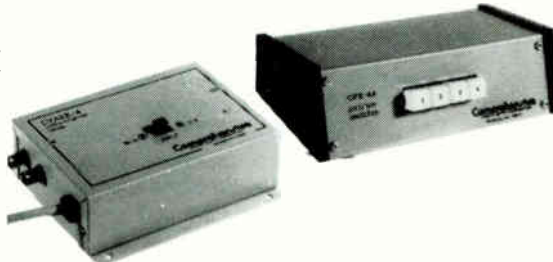


- |               |   |
|---------------|---|
| (1) PP-FJ     | Phono (RCA) Plug to "F" Jack Adaptor              |
| (1) PP-MJ     | Phono (RCA) Plug to Mini Jack Adaptor             |
| (1) PP-PP-C-6 | 6' RCA to RCA Cable                               |
| (1) PP-SPJ    | Phono (RCA) Plug to Standard Phone Jack Adaptor   |
| (2) SP-4-C    | Phono (RCA) Plug to (2) Phono (RCA) Jack Cables   |
| (2) SP-5-C    | Phono (RCA) Jack to (2) Phono (RCA) Plug Cables   |
| (1) SPJ-BL    | Standard Phone Jack to Jack (barrel) Adaptor      |
| (2) SPP       | Standard Phone Plug Connectors                    |
| (1) SPP-MJ    | Standard Phone Plug to Mini Jack Adaptor          |
| (1) SPP-PJ    | Standard Phone Plug to Phono (RCA) Jack Adaptor   |
| (1) SRA-BP    | Solderless Right Angle BNC Plug Connector         |
| (1) SRA-FP    | Solderless Right Angle "F" Plug Connector         |
| (1) SRA-PP    | Solderless Right Angle Phono (RCA) Plug Connector |
| (1) SRA-UP    | Solderless Right Angle UHF Plug Connector         |
| (1) SRF-BP    | Solderless Rapid Fit BNC Plug Connector           |
| (1) SRF-FP    | Solderless Rapid Fit "F" Plug Connector           |
| (1) SRF-PP    | Solderless Rapid Fit Phono (RCA) Plug Connector   |
| (1) SRF-UP    | Solderless Rapid Fit UHF Plug Connector           |
| (1) TKX-11    | Tool Kit  |
| (5) UP-C      | UHF Crimp Plug Connectors                         |
| (2) XLRJ      | 3-Pin XLR Jack Connectors                         |
| (1) XLRJ-BL   | 3-Pin XLR Jack to Jack (barrel) Adaptor           |
| (2) XLRP      | 3-Pin XLR Plug Connectors                         |
| (1) XLRP-BL   | 3-Pin XLR Plug to Plug (barrel) Adaptor           |
| (1) RK-1      | Roly Kit Tool Case                                |

## Video Distribution Amplifier

Overcome line loss, provide additional equipment outputs and line equalization, or any combination of these. 4 output Video Distribution Amplifier contains two input connectors to permit signal looping, thereby allowing the units to be "ganged" if more than four outputs are needed. Mounts easily on any flat surface.

CVA2B-4 ..... \$189.00



## Passive Video Switchers

Passive video switchers with audio pass-along offer a fast simple way to interconnect video and audio equipment. Pushbuttons select the input and automatically terminate the other video inputs, for constant impedance.

CPS-4A 4 pr. video w/audio pass-along ..... \$139.00

CPS-8A 8 pr. video w/audio pass-along ..... 199.00

# COMPREHENSIVE VIDEO SUPPLY CORP.

148 Veterans Dr.  
Northvale, NJ 07647  
(201) 767-7990 Telex: 13-5139

# VIDEO ADAPTORS/CABLES

## Video Adaptors

PART NO.	DESCRIPTION	1-4	5-49	50 +
<b>BNC</b>				
BT	BNC Jack, Plug, Jack (T)	\$8.99	\$8.09	\$7.19
BT-J	BNC Jack, Jack, Jack (T)	7.69	6.92	6.15
B-BL	BNC Jack to Jack (Barrel)	4.99	4.49	3.99
BP-BL	BNC Plug to Plug (Barrel)	7.99	7.19	6.39
BJ-BP-L	BNC Jack to Plug (Right Angle)	9.39	8.45	7.51
<b>UHF</b>				
UT	UHF Jack, Plug, Jack (T)	\$4.99	\$4.49	\$3.99
UJ-UP	UHF Jack to Plug (Push-On)	3.99	3.59	3.19
U-BL	UHF Jack to Jack (Barrel)	1.99	1.79	1.59
UJ-UP-L	UHF Jack to Plug (Right Angle)	4.99	4.49	3.99
<b>"F"</b>				
F-BL	"F" Jack to Jack (Barrel)	\$1.59	\$1.43	\$1.27
FJ-FP	"F" Jack to Plug (Push-On)	2.79	2.51	2.23
FJ-FP-L	"F" Jack to Plug (Right Angle Push-On)	2.99	2.69	2.39

## Phono (Video)

PART NO.	DESCRIPTION	1-4	5-49	50 +
PT	Phono Jack, Plug, Jack (T)	\$3.99	\$3.59	\$3.19
PT-J	Phono Jack, Jack, Jack (T)	4.39	3.95	3.51
PJ-BL	Phono Jack to Jack (Barrel)	1.79	1.61	1.43

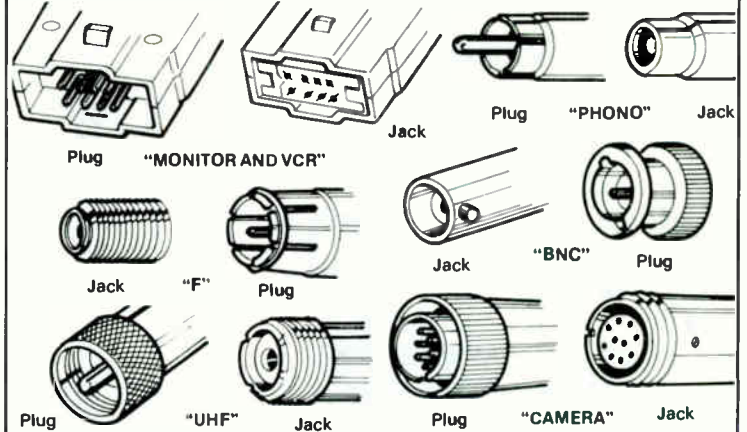
## Between Series: BNC, UHF, "F", & Phono (Video)

PART NO.	DESCRIPTION	1-4	5-49	50 +
BP-UJ	BNC Plug to UHF Jack	\$5.59	\$5.03	\$4.47
BJ-UP	BNC Jack to UHF Plug	4.99	4.49	3.99
FP-BJ	"F" Plug to BNC Jack	4.99	4.49	3.99
FP-UJ	"F" Plug to UHF Jack	4.59	4.13	3.67
FJ-BP	"F" Jack to BNC Plug	5.59	5.03	4.47
FJ-UP	"F" Jack to UHF Plug	4.59	4.13	3.67
FJ-MP	"F" Jack to Mini Plug	4.99	4.49	3.99
MP-UJ	Mini Plug to UHF Jack	2.99	2.69	2.39
PP-BJ	Phono Plug to BNC Jack	4.59	4.13	3.67
PP-UJ	Phono Plug to UHF Jack	2.29	2.06	1.83
PP-FJ	Phono Plug to "F" Jack	4.59	4.13	3.67
PJ-BP	Phono Jack to BNC Plug	5.99	5.39	4.79
PJ-UP	Phono Jack to UHF Plug	4.29	3.86	3.43
PJ-FP	Phono Jack to "F" Plug	4.29	3.86	3.43

## Video Cables

PART NO.	DESCRIPTION	1-4	5-49	50 +
<b>Molded Video Cables — Flexible Coax</b>				
<b>BNC Plug to Plug</b>				
BB-C-1.5	1 1/2'	\$10.39	\$ 9.35	\$ 8.31
BB-C-3	3'	10.99	9.89	8.79
BB-C-10	10'	13.99	12.59	11.19
BB-C-25	25'	16.99	15.29	13.59
BB-C-50	50'	22.99	20.69	18.38
<b>"F" Plug to Plug - Push-On</b>				
FF-C-1.5	1 1/2'	\$ 5.99	\$ 5.39	\$ 4.79
FF-C-3	3'	6.29	5.66	5.03
FF-C-10	10'	7.99	7.19	6.39
FF-C-25	25'	10.99	9.89	8.79
FF-C-50	50'	16.99	15.29	13.59
<b>"F" to "F" Right Angle Push-On</b>				
FF-CR-3	3'	\$4.99	\$4.49	\$3.99
FF-CR-10	10'	5.99	5.39	4.79
FF-CR-25	25'	8.99	8.09	7.19
<b>BNC Plug to UHF Plug</b>				
BU-C-3	3'	\$ 9.99	\$ 8.99	\$ 7.99
BU-C-10	10'	11.69	10.52	9.35
BU-C-25	25'	14.69	13.22	11.75
BU-C-50	50'	20.69	18.62	16.55
<b>"F" Plug to 3.5 Mini Plug</b>				
F-MP-C-10	10'	\$8.69	\$7.82	\$6.95
<b>Phono (RCA) Plug to Plug - Video</b>				
PP-PP-CV-1.5	1 1/2'	\$ 6.99	\$ 6.29	\$ 5.59
PP-PP-CV-3	3'	7.29	6.56	5.83
PP-PP-CV-10	10'	9.99	8.99	7.99
PP-PP-CV-25	25'	12.99	11.69	10.39
<b>BNC Plug to Phono (RCA) Plug</b>				
B-PP-C-10	10'	\$12.39	\$11.15	\$ 9.91
B-PP-C-25	25'	15.49	13.94	12.39
<b>UHF Plug to Phono (RCA) Plug</b>				
U-PP-C-10	10'	\$11.69	\$10.52	\$ 9.35
U-PP-C-25	25'	14.69	13.22	11.75

## Reference Guide



PART NO.	DESCRIPTION	1-4	5-49	50 +
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## EIAJ Multi-Pin Cable Assemblies

### EIAJ 8-Pin VTR & Monitor Cables

PART NO.	DESCRIPTION	1-4	5-49	50 +
EBP-EBP-5	5'	\$ 28.89	\$ 27.44	\$26.00
E8P-EBP-10	10'	30.99	29.44	27.89
E8P-EBP-25	25'	42.29	40.17	38.06
E8P-EBP-50	50'	58.89	55.94	53.00
E8P-EBP-100	100'	108.89	103.44	98.00

### Portable VTR to Monitor Cable

PART NO.	DESCRIPTION	1-4	5-49	50 +
E8P-E10P-5S	(Sony) 5'	\$48.95	\$46.50	\$44.05
E8P-E10P-5J	(JVC & Panasonic) 5'	48.95	46.50	44.05

### EIAJ 10-Pin Camera Extension

PART NO.	DESCRIPTION	1-4	5-49	50 +
E10P-E10J-5	5'	\$ 41.99	\$ 39.89	\$ 37.79
E10P-E10J-10	10'	45.99	43.69	41.39
E10P-E10J-25	25'	66.49	63.16	59.84
E10P-E10J-50	50'	96.99	92.14	87.29
E10P-E10J-100	100'	158.99	151.04	143.09

### EIAJ 10-Pin Hook-Up Cable

PART NO.	DESCRIPTION	1-4	5-49	50 +
E10P-E10P-5	5'	\$ 43.99	\$ 41.79	\$ 39.59
E10P-E10P-10	10'	49.99	47.49	44.99
E10P-E10P-25	25'	67.99	64.59	61.19
E10P-E10P-50	50'	98.49	93.56	88.64
E10P-E10P-100	100'	158.99	151.04	143.09

### Camera Cable (JVC)

PART NO.	DESCRIPTION	1-4	5-49	50 +
E10P-E12P-10	10'	\$ 53.99	\$ 51.29	\$ 48.59

### Professional 14 Pin Camera Cable

PART NO.	DESCRIPTION	1-4	5-49	50 +
E14P-E14J-25	25'	\$126.99	\$120.64	\$114.29

## Multi-Pin Adaptors

PART NO.	DESCRIPTION	1-4	5-49	50 +
EBJ-BL	EIAJ 8-pin "GOOF" Plug			\$24.95
EBJ-P	EIAJ 8-pin Dubbing Adaptor			24.95
E14P-J	EIAJ 14-pin Adaptor			39.95

### Professional 14-Pin Camera Cables

(Equivalent to Sony CCQ) for use with Sony and JVC cameras. EIAJ 14-Pin Plug to EIAJ 14-Pin Jack.

PART NO.	DESCRIPTION	1-4	5-49	50 +
E14P-E14J-5	5'	\$ 88.95	\$ 84.50	\$ 80.05
E14P-E14J-10	10'	97.95	93.05	88.15
E14P-E14J-15	15'	107.95	102.55	97.15
E14P-E14J-25	25'	126.99	120.64	114.29
E14P-E14J-50	50'	197.99	188.09	178.19
E14P-E14J-75	75'	247.99	235.59	223.19
E14P-E14J-1C	100'	297.99	283.09	268.19

### Cable With Gold Connectors

Cable	Order Code	Length	1-4	5-49	50 +
G3PP-COAX	G3PP-COAX-3	3'	\$21.95	\$20.85	\$19.76
	G3PP-COAX-6	6'	24.95	23.70	22.46
	G3PP-COAX-10	10'	29.95	28.45	26.96
G2PP-B	G2PP-B-3	3'	29.95	28.45	26.96
	G2PP-B-6	6'	32.95	31.30	29.66
	G2PP-B-10	10'	39.95	37.95	35.96
G-BB-C	G-BB-C-1.5	1 1/2'	10.39	9.35	8.31
	G-BB-C-3	3'	10.99	9.89	8.79
	G-BB-C-6	6'	11.99	10.79	9.59
	G-BB-C-10	10'	13.99	12.59	11.19
	G-BB-C-25	25'	16.99	15.29	13.59

Prices and Specifications Subject to Change Without Notice.



# COMPREHENSIVE VIDEO SUPPLY CORP.

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# VIDEO CONNECTORS/CABLE

## Video Connectors

BNC		1-4	5-49	50+
8P	BNC Plug for RG59/U Cable, Solder	\$3.99	\$3.59	\$3.19
8P-C	BNC Plug for RG59/U Cable, Crimp	3.59	3.23	2.87
8P-CA	BNC Crimp Plug for RG59/U	3.59	3.23	2.87
8P-CK	BNC Crimp Plug for RG59/U	3.59	3.23	2.87
8P-SC	UHF Plug for RG59/U Cable, Crimp	1.99	1.79	1.59
BP-E	BNC Plug for RG59/U Cable, Fast-Fit	4.49	4.04	3.59
BP-C-8281	BNC Plug for 8281 Cable, Crimp	5.49	4.94	4.39
BP-E-8281	BNC Plug for 8281 Cable, Fast-Fit	5.49	4.94	4.39
8J-CM	BNC Jack, Chassis Mount	2.29	2.06	1.83
B-8LCM	BNC Jack to Jack (Barrel), Chassis Mount	7.19	6.47	5.75
B-TM	BNC 75 ohm Terminator	6.49	5.84	5.19

UHF				
UP	UHF Plug & Adaptor for RG59/U Cable, Solder	\$2.29	\$2.06	\$1.83
UP-C	UHF Plug for RG59/U Cable, Crimp	2.49	2.24	1.99
UP-E	UHF Plug for RG59/U Cable, Fast-Fit	4.99	4.49	3.99
UP-E-8281	UHF Plug for 8281 Cable, Fast-Fit	3.49	3.14	2.79
UJ-CM	UHF Jack, Chassis Mount	3.39	3.05	2.71
U-8LCM	UHF Jack to Jack (Barrel), Chassis Mount	4.49	4.04	3.59
U-TM	UHF 75 ohm Terminator	4.59	4.13	3.67

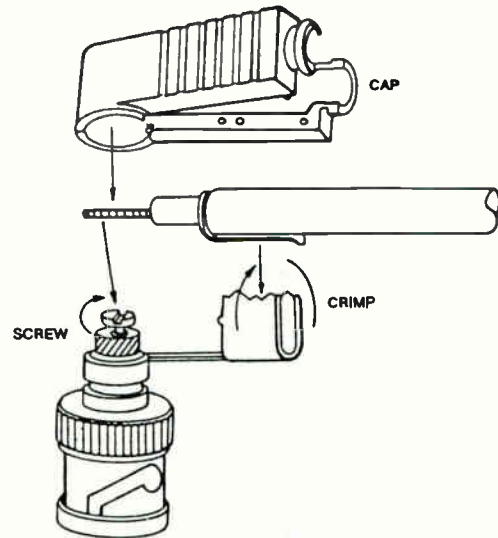
"F"				
FP	"F" Plug for RG59/U Cable, Crimp	\$ .49	\$ .44	\$ .39
FP-E	"F" Push-on Plug-RG59/U Cable, Fast-Fit	.99	.89	.79
FP-ES	"F" Plug for RG59/U Cable, Fast-Fit	1.49	1.34	1.19
FJ-CM	"F" Jack, Chassis Mount	1.09	.98	.87
F-8LCM	"F" Jack to Jack (Barrel), Chassis Mount	1.79	1.61	1.43
F-TM	"F" 75 ohm Terminator	1.99	1.79	1.59

Phono (Video)				
PP-V	Phono Plug for RG59/U Cable, Solder	\$1.29	\$1.16	\$1.03
PP-C	Phono Plug for RG59/U Cable, Crimp	.89	.80	.71
PJ-CM	Phono Jack, Chassis Mount	.89	.80	.71
P-8LCM	Phono Jack to Jack (Barrel), Chassis Mount	2.99	2.69	2.39
P-TM	Phono 75 ohm Terminator	2.29	2.06	1.83

EIAJ Monitor and VCR Connectors				
EBP	8-pin Plug, Cable End	\$7.79	\$7.01	\$6.23
EBJ	8-pin Jack, Cable End	7.79	7.01	6.23
EBJCM	8-pin Jack, Chassis Mount	3.39	3.05	2.71
EBPCM	8-pin Plug, Chassis Mount	3.39	3.05	2.71

EIAJ VCR and Editor Remote Control Connectors				
E20P	20-pin Plug, Cable End	\$14.79	\$13.31	\$11.83
E20JCM	20-pin Jack, Chassis Mount	5.59	5.03	4.47
E20J	20-pin Jack, Cable End	14.99	13.49	11.99
E20PCM	20-pin Plug, Chassis Mount	5.39	4.85	4.31
E33P	33-pin Plug, Cable End	22.29	20.06	17.83
E33JCM	33-pin Jack, Chassis Mount	17.79	16.01	14.23
E33J	33-pin Jack, Cable End	22.29	20.06	17.83
E33PCM	33-pin Plug, Chassis Mount	17.79	16.01	14.23
E34P	34-pin Plug, Cable End	19.99	17.99	15.99
E34JCM	34-pin Jack, Chassis Mount	7.79	7.01	6.23
E34J	34-pin Jack, Cable End	18.39	16.55	14.71
E34PCM	34-pin Plug, Chassis Mount	6.69	6.02	5.35
E45P	45-pin Plug, Cable End	18.69	16.82	14.95
E45JCM	45-pin Jack, Chassis Mount	8.89	8.00	7.11
E45J	45-pin Jack, Cable End	18.89	17.00	15.11
E45PCM	45-pin Plug, Chassis Mount	8.19	7.37	6.55

Camera Connectors				
E10P	10-pin Plug, Cable End	\$16.99	\$15.29	\$13.59
E10J	10-pin Jack, Cable End	16.99	15.29	13.59
E10JCM	10-pin Jack, Chassis Mount	11.09	9.98	8.87
E10PCM	10-pin Plug, Chassis Mount	18.49	16.64	14.79
E12P	12-pin Plug, Cable End (JVC)	21.09	18.98	16.87
E12J	12-pin Jack, Cable End (JVC)	18.89	17.00	15.11
E12JCM	12-pin Jack, Chassis Mount (JVC)	11.49	10.34	9.19
E14P	14-pin Plug, Cable End	34.00	30.40	26.80
E14J	14-pin Jack, Cable End	34.00	30.40	26.80
E14JCM	14-pin Jack, Chassis Mount	22.00	19.80	17.60
E14PCM	14-pin Plug, Chassis Mount	22.00	19.80	17.60
D6P	6-pin Plug, Cable End (B & W Cameras)	6.79	6.11	5.43
D6J	6-pin Jack, Cable End (B & W Cameras)	3.29	2.96	2.63
D6JCM	6-pin Jack, Chassis Mount (B & W Cameras)	3.49	3.14	2.79
D8P	8-pin Plug, Cable End (Hitachi, NEC)	4.59	4.13	3.67
D8J	8-pin Jack, Cable End (Hitachi, NEC)	3.59	3.23	2.87
D8JCM	8-pin Jack, Chassis Mount (Hitachi, NEC)	1.99	1.79	1.59



## Solderless Molded Look Video Connectors

		1-4	5-49	50+
SRF-8P	Solderless Rapidfit BNC Plug	\$3.69	3.32	\$2.95
SRF-FP	Solderless Rapidfit "F" Plug	1.39	1.25	1.11
SRF-PP	Solderless Rapidfit Phono Plug	1.39	1.25	1.11
SRF-UP	Solderless Rapidfit UHF Plug	2.39	2.15	1.91
SRA-8P	Solderless Right Angle BNC Plug	3.69	3.32	2.95
SRA-FP	Solderless Right Angle "F" Plug	1.99	1.79	1.59
SRA-PP	Solderless Right Angle Phono Plug	1.49	1.34	1.19
SRA-UP	Solderless Right Angle UHF Plug	2.39	2.15	1.91

## Bulk Video Cable

### RG59/U Solid Center Conductor CVC-59

CVC-59-100	100 ft. reel	\$ 22.95
CVC-59-500	500 ft. reel	99.95
CVC-59-1000	1000 ft. reel	177.75

### RG59/U Stranded Center Conductor CVC-59S

CVC-59S-100	100 ft. reel	\$ 24.95
CVC-59S-500	500 ft. reel	109.95
CVC-59S-1000	1000 ft. reel	188.95

### Belden 8281 75 ohm Precision Broadcast Coax Cable

8281-500	500 ft.	\$305.20
8281-1000	1000 ft.	610.35

### EIAJ 8-Pin VCR Cable CVC-8

CVC-8	1-499 ft.	\$1.00 per ft.
	500-999 ft.	.90 per ft.
	1000 + ft.	.80 per ft.

### EIAJ 10-Pin Camera Cable CVC-10

CVC-10	1-499 ft.	\$1.99 per ft.
	500-999 ft.	1.79 per ft.
	1000 + ft.	1.59 per ft.

### EIAJ 14-Pin Camera Cable CVC-14

CVC-14	1-499 ft.	\$2.05 per ft.
	500-999 ft.	1.94 per ft.
	1000 + ft.	1.84 per ft.

### 20-Pin Remote Control Cable CVC-20

CVC-20	1-499 ft.	\$1.95 per ft.
	500-999 ft.	1.75 per ft.
	1000 + ft.	1.56 per ft.

148 Veterans Dr.  
Northvale, NJ 07647  
(201) 767-7990 Telex: 13-5139

**Medium-Duty Tripod and Fluid-Effect Head**

A medium-duty but lightweight assembly featuring a 30 lb. capacity fluid-effect head with adjustable quick-release platform, dual-handle operation, tilt safety stop, fluid-action pan and tilt, and reversible 1/4" or 3/8" camera mounting screw.

Collapsed Length: 30" Weight: 14 3/4 lbs.  
Extended Length: 70" 3142 Tripod Capacity: 65 lbs.

1473 Fluid-Effect Head Capacity: 30 lbs.  
**3148** .....\$729.00

**Compact Tripod with Fluid-Effect Head**

Compact and lightweight, this tripod is specially designed for today's lightweight industrial and consumer color cameras.

Collapsed Length: 20"  
Extended Length: 54"  
Weight: Less than 6 lbs.  
Tripod/head Capacity: 18 lbs.

**6144** .....\$139.00



**6144**

**Lighting Kits**

**Comprehensive**

**Lighting Kits**

Virtually all lighting kit suppliers face a similar challenge—selecting component pieces that best handle the requirements of the largest number of users. Comprehensive kits are therefore divided into two general categories: kits featuring a full assortment of accessories for a wide variety of locations; and kits that offer the bare necessities, but provide extra room for accessories of your choice. Either way, Comprehensive lighting kits offer you a substantial savings over purchasing individual component pieces.

**B-2 Basic 2 Kit**

- (1) VL-601 light
- (1) VL-601 VF focusing light
- (1) VL-BD-2 Barndoors for VL-601 VF
- (1) GUH Gel/Umbrella holder
- (1) MS Modular stud
- (1) U-30 Umbrella (30")
- (2) LS-2 light stands
- (2) DYH lamps
- (1) C-2 kit case
- Size: 8 1/4" H x 10" W x 25" L
- Weight: 18 lbs. 5 oz.
- (Lamps included) .....\$438.00

**B-3 Basic 3 Kit**

- (1) VL-601 light
- (2) VL-601 VF focusing light
- (1) VL-BD-1 Barndoors for VL-601
- (1) VL-BD-2 Barndoors for VL-601 VF
- (1) GUH Gel/Umbrella holder
- (1) MS Modular stud
- (1) U-30 Umbrella (30")
- (1) VLS-1 Single scrim for VL-601
- (1) VLS-V Single scrim for VL-601 VF
- (3) LS-2 light stands
- (3) DYH lamps
- (1) C-2 kit case
- Size: 8 1/4" H x 10" W x 25" L
- Weight: 25 lbs.
- (Lamps included) .....\$667.00

**UM-300 Ultra-Mini Kit**

- (3) VM-300 lights
- (1) UAMV umbrella/ stand adaptor
- (1) UMMV Mini umbrella
- (2) SAMV stand adaptors
- (1) TCMV table clamp
- (1) HGMV handgrip
- (2) TRS mini stands
- (3) FNB lamps
- (1) MC mini case
- Size: 15 1/4" H x 4" W x 20 1/2" L
- Weight: 14 lbs. 6 oz.
- (Lamps included) .....\$899.00

**UM-1**

- Same as UM-300 with M-250 lights and ELH lamps instead of VM-300 lights and FNB lamps .....\$645.00

**T-2 Take 2 Kit**

- (2) K-600 focusing lights
- (2) KBD Barndoors for K-600
- (1) GUH Gel/Umbrella holder
- (1) MS Modular stud
- (1) UMMV mini umbrella
- (2) TRS mini stands
- (2) DYS lamps
- (1) KC kit case
- Size: 16" H x 6 3/4" W x 22" L
- Weight: 19 lbs. 14 oz.
- (Lamps included) .....\$812.00

**ENG-3 Kit**

- (2) K-600 focusing lights
- (1) VM-300 focusing light
- (2) KBD Barndoors for K-600
- (1) DFK diffusion filter for K-600
- (1) DIV dichroic filter for VM-300
- (1) CSMV camera mount for VM-300
- (1) VC-30 30V battery cable for VM-300
- (1) HGMV handgrip for VM-300
- (1) SAMV stand adaptor for VM-300

(3) TRS mini stands

- (2) DYS lamps
- (1) FNB lamp
- (1) EPL lamp
- (1) KC case
- Size: 16" H x 6 3/4" W x 22" L
- Weight: 23 lbs. 5 oz.
- (Lamps included) .....\$1159.00

**ENG-312C** ENG-3 kit with 12V battery mode option set up for Comprehensive batteries with 7-pin connector .....\$1159.00

**ENG-312D** Same as above for use with 12V batteries with 4-pin XLR connectors .....\$1153.00

**ENG-312E** Same as above for use with 12V batteries with 5-pin XLR connectors .....\$1153.00

**T-4 Take 4 Kit**

- (2) V-10/6 focusing light
- (2) VBD barndoors for V-10/6
- (2) VAH accessory holders for V-10/6
- (2) MF-10 flood lights
- (4) LSP light stands
- (2) DXW lamps
- (2) FHM lamps
- (1) PRC Kit case
- Size: 15 3/4" H x 11 1/2" W x 35" L
- Weight: 45 lbs.
- (Lamps included) .....\$1359.00

**P-4 Production 4 Kit**

- (2) V-10/6 focusing light
- (2) VBD barndoors for V-10/6
- (2) VAH accessory holders for V-10/6
- (2) VSS single scrim for V-10/6
- (1) VDS double scrim for V-10/6
- (2) MF-10 flood lights
- (2) FLS-1 single scrim for MF-10
- (4) GUH Gel/Umbrella holders
- (4) MS Modular studs
- (1) U-43 Umbrella (43")
- (4) GF gel frames

(1) LGP Location gel pack

- (2) CSC Ceiling scissor clip
- (2) CC C-clamp
- (4) LSP Light stands
- (2) DXW lamps
- (2) FHM lamps
- (1) PRC Kit case
- Size: 15 3/4" H x 11 1/2" W x 35" L
- Weight: 53 lbs. 13 oz.
- (Lamps included) .....\$1629.00

**T-3 Take 3 Kit**

- (2) V-10/6 focusing light
- (2) VBD Barndoors for V-10/6
- (2) VAH Accessory holder for V-10/6
- (1) MF-10 flood light
- (3) LSP light stands
- (2) DXW lamps
- (1) FHM lamp
- (1) PRC Kit case
- Size: 15 3/4" H x 11 1/2" W x 35" L
- Weight: 36 lbs. 14 oz.
- (Lamps included) .....\$1079.00

**EFP-3 Kit**

- (2) V-10/6 focusing light
- (2) VBD barndoors for V-10/6
- (2) VAH accessory holder for V-10/6
- (2) VSS single scrim for V-10/6
- (1) MF-10 flood light
- (1) FLS-1 single scrim for MF-10
- (3) GUH Gel/umbrella holders
- (3) Modular studs
- (1) U-43 umbrella (43")
- (3) GF gel frames
- (1) LGP location gel pack
- (1) CSC ceiling scissor clip
- (1) CC C-clamp
- (3) LSP light stands
- (2) DXW lamps
- (1) FHM lamp
- (1) PRC Kit case
- Size: 15 3/4" H x 11 1/2" W x 35" L
- Weight: 43 lbs. 4 oz.
- (Lamps included) .....\$1285.00

# COMPREHENSIVE VIDEO SUPPLY CORP.

148 Veterans Dr.  
Northvale, NJ 07647  
(201) 767-7990 Telex: 13-5139

# SOFTLIGHTS/LIGHTING KITS

## Comprehensive Softouch™ Softlights

Available in five different sizes and lamp capacities to meet any softlight application from 1,000W to 8,000W.

### Softouch "Ace"

Our most compact softlight. Suitable as small fill light for one or two subjects or for small product applications. Available lamp types include 300, 500, 650, 750 and 1,000W at 120V and 800W at 240V. Comes equipped with 16' line cord, parallel blade U-ground plug. (Two "Aces" on stands make an ideal "quick interview" package). 7 lbs. 5 oz.

**ST-Ace** ..... \$295.00

### Softouch "Deuce"

"All-around" location softlight. Uses same lamp choices as Softouch "Ace", but accommodates two lamps for up to 2,000W capacity. Independent switching permits either left, right, or both lamps to be illuminated. Comes equipped with 16' line cord, parallel blade U-ground plug. 14 lbs. 9 oz.

**ST-Deuce** ..... \$395.00

### Softouch "Quad"

Studio or location softlight. Accommodate a pair of 1,000, 1,500 or 2,000W lamps for up to 4,000W capacity at 120V. Independent switching for left, right, or both lamps. Comes equipped with two 3' line cords, each terminating in pin plug stage connector. (Pin plug to parallel blade U-ground adaptor available). 22 lbs. 14 oz.

**ST-Quad** ..... \$595.00

### Softouch "Six"

Studio or location softlight. Accommodates three 1,000, 1,500 or 2,000W lamps for up to 6,000W capacity at 120V. Independent switching for each lamp or any combination of three. Comes equipped with three 3' line cords, each terminating in pin plug stage connector. (Pin plug to parallel blade U-ground adaptor available). 32 lbs.

**ST-Six** ..... \$895.00

### Softouch "Eight"

Studio or location softlight. Accommodates four 1,000, 1,500 or 2,000W lamps for up to 8,000W capacity at 120V. Independent switching for each lamp or any combination of four. Comes equipped with four 3' line cords, each terminating in pin plug stage connector. (Pin plug to parallel blade U-ground adaptor available). 43 lbs.

**ST-Eight** ..... \$1195.00

**ST-AC Case** Made of heavy-duty, high density polyethylene. Holds two "Ace" lights, two LSP stands and lamps. 20 lbs. 2 oz.

**ST-AC** ..... \$198.00

**S-DC Case** Holds one "Deuce" light, one LSP stand and lamps. 17 lbs. 4 oz.

**S-DC** ..... \$150.00

**3-Pin Plug to Parallel U-Ground Adaptor Cable.** Heavy-duty construction, 20A capacity. 8 oz.

**U-dapt** ..... \$39.95

## Softouch Accessories

**Gel/Diffusion Frame:** Enables the attachment of diffusion, color effect, or color correction media to Softouch lights.

**GF-Ace**, 8 oz. .... \$25.00

**GF-Deuce**, 1 lb. .... \$35.00

**GF-Quad**, 1 lb., 8 oz. .... \$60.00

**GF-Six**, 2 lbs., 6 oz. .... \$95.00

**GF-Eight**, 3 lbs. .... \$95.00

### Egg Crates:

Modifies light output to a more "directional" source. Also helpful in controlling unwanted "spill" from light.

**EC-Ace**, 1 lb., 4 oz. .... \$ 65.00

**EC-Deuce**, 2 lbs., 9 oz. .... \$90.00

**EC-Quad**, 3 lbs., 12 oz. .... \$185.00

**EC-Six**, 6 lbs., 4 oz. .... \$190.00

**EC-Eight**, 8 lbs., 2 oz. .... \$225.00



Softouch Lighting



MA-2



SP-AK

## Comprehensive Location Lighting Kits

### SP-AK Softpair "Ace"

The ideal, "quick-take" location system. This one's the answer for those times when you have to make that "talking head" shot of the C.E.O. or tape an impromptu "one-on-one" interview.

#### Includes:

- (2) ST-Ace lights • (2) LSP light stands • (2) FCM lamps • (1) ST-AC case • Size: 9"H x 19"W x 37 1/2"L (includes lamps)

**SP-AK Kit** ..... \$935.00

### S-DK Softdeuce Kit

The safe, convenient and lightweight method to troupe a 2K softlight to your next location.

#### Includes:

- (1) ST-Deuce light • (1) LSP light stand • (2) FCM lamps • (1) S-DC case • Size: 25 1/4"H x 7 1/4"W x 35 1/4"L (Includes lamps)

**S-DK Kit** ..... \$625.00

### MA-2 Maxi-2 Kit

- (2) V-20/10 lights • (2) V20BD 4-way barndoors • (2) V20AH accessory holders • (2) LSP stands • (2) FEY lamps • (1) V20C kit case • Size: 16"H x 16"W x 36"L. (Lamps included).

**MA-2 Kit** ..... \$1175.00



# COMPREHENSIVE VIDEO SUPPLY CORP.

148 Veterans Dr.  
Northvale, NJ 07647  
(201) 767-7990  
Telex: 13-5139

# CASES/MAINTENANCE KITS/ TOOL BOXES



## Video Carrying Cases

Unique aluminum-covered wood carrying cases provide maximum protection at the lightest weight and lowest price. While not specifically designed as shipping (freight) containers, they are perfectly safe to check through as baggage.

### CVC-300-BI

For all portable Beta and VHS recorders with AC adaptor. This case comes with a partition that allows you to use the same case with any of these video units.

CVC-300-BI ..... \$138.95

### CVC-400-VHS

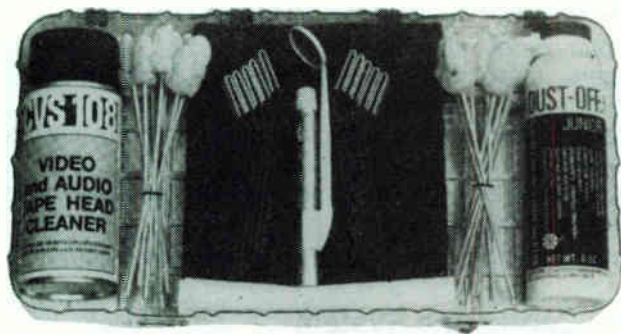
For all VHS units and Beta Series II, Akai, GE, Hitachi, JVC, Magnavox, Curtis Mathes, MGA, Montgomery Ward, Panasonic (consumer and industrial), J.C. Penney, Quasar (VHS only), RCA, Sylvania, and others.

CVC-400-VHS ..... \$135.00

### CVC-500E

The Everything Case. This case comes with layers of foam that enable you to cut out and custom fit cameras, cables, power supplies, lenses, tape, etc., to suit your needs. Maximum capacity: outside dimensions of above cases (not including hardware) 21" L x 16 1/2" W x 7 1/4" H. Weight: 16 lbs. Inside dimensions: 19 3/4" L x 15" W x 4 1/2" H.

CVC-500E ..... \$138.95



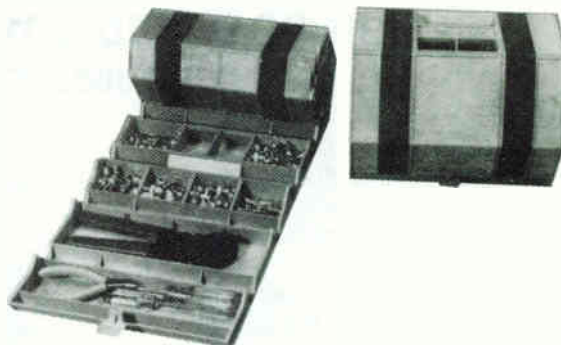
## Professional VCR/VTR Maintenance Kit

Tape heads (video, audio, erase and control track) and guides should be cleaned every 30 to 40 hours of running time for optimum image and sound quality. Kit contains all the items necessary to maintain VCRs/VTRs to professional standards. Supplied in convenient carry-along storage box.

### Contents:

- 1 each CVS-108 8 oz. can Professional Video Head Cleaning Fluid
- 1 each FGJB 6 oz. Dust-Off
- 25 each CVS-505 Cellular-Foam VCR Cleaning Swabs
- 10 each CVS-504 Professional Video Head Cleaning Tools
- 10 each CLW Lint-Free Cloth Wipes
- 1 each CVS-506 Inspection Mirror with Light
- Instructions

CVS-10K ..... \$49.95



## Rolykit Tool Boxes

One of the most functionally designed tool boxes to come along. Made of high impact resistant plastic and heavy-duty canvas, the Rolykit Tool Box will organize and store a maximum of hand tools, connectors, adaptors, cleaning materials, and other assorted video necessities in a minimum of space.

You'll want one with you, filled with all the essential odds and ends, on your next location shoot.

### RK-1 Rolykit Senior

- 13 trays with divisible, self-capping compartments (dividers included)
- Maximum closed dimensions: 8 1/4" H x 10 3/4" W x 9 1/2" D

RK-1 ..... \$34.95

### RK-2 Rolykit Junior

- 10 trays with divisible, self-capping compartments (dividers included)
- Maximum closed dimensions: 7 1/4" H x 10 3/4" W x 8 1/4" D

RK-2 ..... \$29.95

## "Quick-Clean" VCR Head Cleaning Kit

Economical way to remove accumulated oxides, dust deposits and other abrasive contaminants from VCR tape path which can impair machine performance and damage expensive video heads.

### Contents:

- 10 each CVS-505 Cellular-Foam Cleaning Swabs
- 1 each CVS-125 1 oz. Head Cleaning Fluid

CVS-11K ..... \$7.19



### IMPORTANT NOTE:

NEVER clean video heads with cotton swabs or other lint or debris producing materials. Serious damage to heads may result.

# COMPUTER PROMPTING CORP.

1511 K Street, N.W., Suite 831, Washington, DC 20005 (202) 783-2051

## IBM-PC BASED COMPUTERIZED TELEPROMPTERS

### CPC-1000: Computerized Teleprompter

#### Features:

- Operates on IBM-PC/XT/AT and most compatibles including several LAPTOP computers
- Over 5 hours of smooth continuous scroll capacity
- Hard copy printout with line numbers coordinated with the built-in word processor line numbers
- 3 crisp, clear fonts (All upper or upper/lower case)
- 16 text/background colors
- Instant help screens
- 3 different controls—Dial/Mouse/Keyboard—available to get smooth variable scroll in forward and reverse directions
- Scripts (in ASCII format) typed on any computer may be down loaded using a modem and scrolled
- Scripts (in ASCII format) from most word processors running on an IBM PC may be directly loaded without using a modem



#### System Requirements:

- IBM PC or Compatible with a parallel printer port and at least 256K of memory
- Enhanced Graphics Adaptor (EGA) with 256K of internal memory on board
- RGB or composite monitor
- Game adaptor to be connected to the "Dial" type hand control
- Optional Mouse for additional "Mouse" type hand control
- Optional Serial port to be connected to the optional mouse control

### CPC-1750: Computerized Teleprompter to Interface to a Newsroom System

**Features:** All the features of the CPC-1000 computerized teleprompter as described above

- Simultaneously edits script while prompting
- Interfaces to Newsroom systems, and acts as a "dumb" display unit
- Down loads and up loads scripts from other computers

**System Requirements:** In addition to the system requirements for the CPC-1000, one monochrome adaptor, one TTL monochrome monitor, and a modem are also required

### CPC-2000: Computerized Teleprompter with Closed and Open Captioning Option

**Features:** All the features of the CPC-1000 computerized teleprompter as described above

- Real-Time Closed Captioning: It allows text which is entered and scrolled for teleprompting, to be simultaneously entered and output as closed captions with no additional cost or effort
- Post Closed Captioning: Any prerecorded video tape can be easily closed captioned using only one key stroke per line of text that has been previously entered into the CPC's word processor
- Open Captioning: Both Real-Time and Post Captioning may be used to create open captions on a video tape, and may also be used for sub-titling foreign language video tapes

**System Requirements:** In addition to the system requirements for the CPC-1000, a line 21 Encoder is also required

### CPC-500: Closed and Open Post Captioning System

- Features:**
- Post Closed Captioning: Any prerecorded video tape can be easily closed captioned by using only one key stroke per line of text that has been previously entered into the CPC's word processor
  - Open Captioning: Both Real-Time and Post Captioning may be used to create open captions on a video tape, and may also be used for sub-titling foreign language video tapes

**System Requirements:** An IBM PC with a serial port and a line 21 Encoder

- 
- **CPC Software packages:** CPC-1000, CPC-1750, and CPC-2000 software systems come with an EGA card which outputs both composite B&W and RGB signals, a game adaptor, hand control and manual. CPC-500 system consists of software
  - **Mount/Computer System:** Computer Prompting Corp. is a distributor for several camera mount, monitor and computer manufacturers and can provide a choice of Mount/Monitor/Computer systems at a price below the list price

# CONRAC CORP.

600 N. Rimsdale Ave.  
Covina, CA 91722  
(818) 966-3511 Telex: 67-0437  
TWX: 910-584-5913 FAX: (818) 966-9028

# MONOCHROME MONITORS

## 2600 Series 9" Medium and High Resolution Monochrome Monitors

- 9" diagonal CRT
- 750 lines minimum resolution
- P4 or P45 phosphor standard; many other phosphors available
- Wide range of scan frequencies; up to 34kHz
- 12, 25 or 30MHz video bandwidths
- 50 fL brightness

The various models in the 2600 9" series give you a choice of high performance, low cost monitors to best fit your application. Excellent linearity, geometry and raster size stability ensure consistently superior display quality.

### 2600C9 9" CRT General Purpose Monitor

The 2600 is an economical, highly reliable monitor for general purpose applications such as surveillance, industrial TV, broadcast signal viewing and alphanumeric display. The 2600 can operate off 12VDC in your custom console and is available in many rackmount configurations.

**2600C9** . . . . . \$395.00

### 2620C9 9" CRT Broadcast Monitor

Additional features are added to the 2600 to create the 2620. Switchable pulse cross, underscan and notch filter are provided as front panel controls. In addition, an audio speaker with volume control, VTR input connector and AFC select are included to give you the features and flexibility you require in broadcast and video production environments. The 2620 is also available in many rackmount configurations.

The 2620 is capable of displaying a minimum of 10 discernible shades of gray. This highly stable, high performance monitor also features 525/60 or 625/50 line rates, 12VDC operation, composite video or external sync, solid-state circuitry, single board design for easy maintenance and service, front panel adjustments for display height, vertical hold and horizontal hold and convenient brightness, contrast and volume controls.

**2620C9** . . . . . \$460.00  
Rackmounts . . . . . 175.00

### 2640C9 9" Medical Monochrome Monitor

The 2640 offers a crisp, stable and distortion-free display for critical evaluation of images generated by CT scanners, MR, ultrasound and many other medical diagnostic equipment. High video bandwidth, high scan rates and switchable reverse video are additional features of the 2640.

**2640C9** . . . . . \$695.00

### 2680C9 9" CRT Medical High Performance Monitor

A P45 phosphor CRT, greater brightness stability (G2 regulation), 25MHz video and dynamic focus—all standard features—the 2680 easily meets the stringent requirements for a medical display. Analysis of images generated by medical diagnostic equipment is an application best suited for the 2680.

**2680C9** . . . . . \$1695.00

## 2400 High Resolution Monochrome Raster Scan Displays

- 1280 horizontal x 960 vertical pixels, at 1225 line scan resolution
- 19" diagonal, 90° deflection, 19V CRT
- 50 fL calibration, 150 fL maximum
- 50Hz to 40MHz, -3dB video bandwidth
- 15kHz-37kHz interlaced or non-interlaced. Up to 3 selectable line rates optional—525/60, 875/60, 1024/60, or customer specification



2400C19



2600C9



2620C9

The 2400 is ideally suited to applications requiring a high resolution, high performance monochrome display. Such demands may be found in computer-aided design (CAD), computer-aided manufacturing (CAM), medical imaging, process control and similar sophisticated systems.

**2400 C19** 19" Cabinet model (plastic) . . . . . \$3225.00  
**2400 C19** 19" Cabinet model (metal) . . . . . 3495.00  
**2400 R/S 19** 19" Rackmount with slides . . . . . 3225.00  
**2400 N19** 19" Chassis only . . . . . 3045.00

## QQA Series High Resolution Monochrome Monitors

- 3 switch-selectable preset line rates, from 500-1225 lines, internally adjustable
- Locks to any field rate, from 37 to 60 fields per second
- Variable aspect ratio; width and height controls are continuously adjustable to provide a range sufficient to adjust from a full to a square raster
- Differential video input to minimize hum and other extraneous pickup on long video cables
- Accepts composite video or non-composite video plus separate composite sync
- Dynamic focus
- Linearity within  $\pm 1.5\%$  of picture height
- DC restoration: Keyed sync tip, keyed back porch, or zero DC restoration may be selected
- Video bandwidth flat within  $\pm 1\text{dB}$  to 30MHz
- Video polarity inversion, switch selectable from the front panel, option
- Separate horizontal and vertical sync input option

The QQA series high resolution monitors are used widely in such applications as medical X-ray, displays of varying scan rates, document viewing, high resolution television, and display of computer-generated images.

**QQA 15/C** 15" Cabinet model . . . . . \$3490.00  
**QQA 15/RS** 15" Rackmount with slides . . . . . 3570.00  
**QQA 15/N** 15" Chassis only . . . . . 3260.00  
**QQA 17/C** 17" Cabinet model . . . . . 4335.00  
**QQA 17/RS** 17" Rackmount with slides . . . . . 4435.00  
**QQA 17/N** 17" Chassis only . . . . . 3970.00



# CONRAC CORP.

600 N. Rimsdale Ave.  
Covina, CA 91722  
(818) 966-3511 Telex: 67-0437  
TWX: 910-584-5913 FAX: (818) 966-9028

# COLOR MONITORS

## 7241 High Resolution Color Monitor

- 1080 x 1024 resolution format
- Choose from 15 to 44kHz scan rate
- 40MHz video bandwidth
- 19" PIL high resolution CRT (0.31mm pitch)
- Compatible with IBM Professional Graphics Adaptor (both Hi-Res Graphics and Emulation modes)
- World-wide power adaptability
- No point on raster deviates from proper position by more than 2% of raster height
- Less than 1% change from zero to 100% APL at 20fL
- 30fL calib., 50fL maximum

The 7241 RGB Color Monitor is specifically designed to provide crisp, stable and distortion-free images generated by graphics systems. The high resolution 7241 incorporates all the excellence of our 7211 and in addition, offers user convenience, flexibility and style. The 7241 is a cost-effective choice for process control, CAD/CAM, medical imaging and many other computer graphics systems.

### Options

- Three switchable scan frequencies
- Long persistence phosphor
- High brightness CRT
- 36-44kHz scan range
- Anti-glare filters
- Differential video inputs
- Separate vertical and horizontal drives
- Desktop or chassis only
- Dark body phosphor
- Tilt and swivel base

7241C19	19" cabinet model . . . . .	\$2995.00
7241RS19	19" rackmount with slides . . . . .	2995.00
7241N19	19" chassis only . . . . .	2865.00

## 7351 Ultra High Resolution Color Monitor

- 1280 horizontal x 1024 vertical resolution format (non interlaced)
- 19" CRT 0.31 pitch, P22 phosphor, PIL
- 110MHz
- 30 fL nominal
- Rise time 3ns; fall time 3.5ns
- Horizontal—65kHz  $\pm$  2.5kHz scan rates; optional 45-55kHz
- Vertical—47Hz; Horizontal—63Hz
- Desktop with tilt/swivel base, rack slide, or chassis only

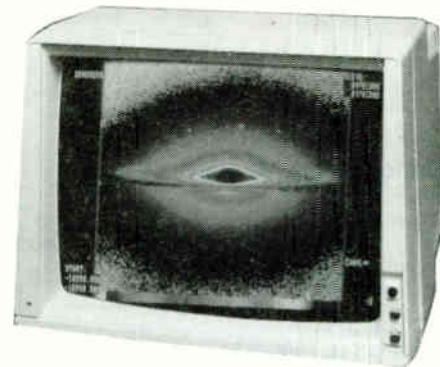
19" display for finely detailed, non-interlaced images generated for computer-aided design (CAD), computer-aided engineering (CAE), architecture, engineering and construction (AEC), computer-aided design and drafting (CAD/D) and many other imaging applications demanding highest resolution in full color.

7351C19	19" cabinet model . . . . .	\$3480.00
7351RS19	19" rackmount with slides . . . . .	3480.00
7351N19	19" chassis only . . . . .	3350.00

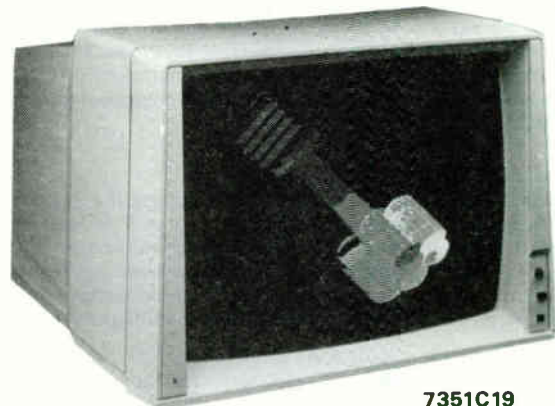
IBM Color Graphics Adaptor and Enhanced Graphics Adaptor are trademarks of International Business Machines, Corp.

## 7400 Ultra High Resolution Color Monitor

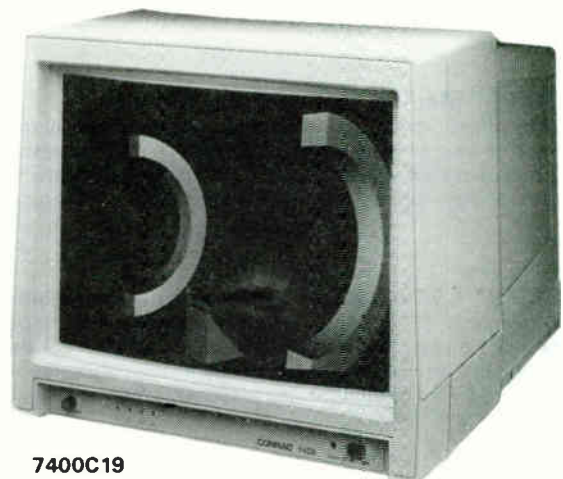
- Trinitron\* high resolution CRT
- 1280 x 1024 resolution format
- 110MHz video bandwidth
- 64kHz horizontal scan rate
- Tilt-out boards for easy maintenance
- Desktop enclosure with tilt/swivel base



7241C19



7351C19



7400C19

19" display for finely detailed, non-interlaced images generated for CAD, CAE, AEC, CAD/D and many other imaging applications demanding highest resolution in full color.

7400C19	19" cabinet model . . . . .	\$4190.00
7400RS19	19" rackmount with slides . . . . .	4190.00
7400N19	19" chassis only . . . . .	4060.00

\*Trinitron is a trademark of SONY CORPORATION.

# CONRAC CORP.

600 N. Rimsdale Ave.  
Covina, CA 91722  
(818) 966-3511 Telex: 67-0437  
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# COLOR MONITOR SYSTEM

## 6545 Broadcast NTSC, PAL B and RGB Color Monitor System

- Automatic setup with 6550 Micromatch Photometer
- Soft-touch user controls
- American Standard Phosphors (Colormatch™)
- Beam current feedback and comb filter
- Auto-sensing of NTSC and PAL B signals
- 13" or 19" in-line dot matrix CRTs
- Selectable RGB or decoder inputs

Designed for the professional studio environment, its advanced technology sets standards in performance, stability and operation. Critical evaluation of broadcast signals, color balancing and matching, animation and graphics are among the many uses.

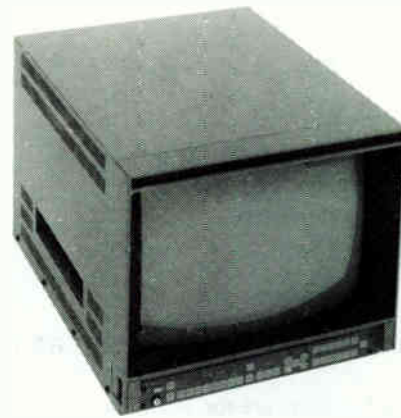
Available in 13" and 19" screen sizes. For ready access and convenience, all user controls are mounted on the front panel. The 6545 is set up at the factory to match broadcast standards, however, if you desire to change the factory default settings to better fit your environment or professional preferences, just use the soft-touch controls. Your new settings can be stored in memory, and by using Conrac's exclusive 6550 photometer, new settings can be duplicated on other 6545 monitors in just a few seconds—automatically. Whether you use default settings or your own, patented signal processing circuitry assures unequalled stability.

Front panel controls provide convenient, quick and precise control of all critical parameters, soft-touch controls and accurate digital electronics replace tricky knobs and potentiometers.

The parameters of the display are stored in two areas of working memory. Initially, one memory area contains the factory presets (default) and these parameters are used at power-up. The other memory area is your "working" memory which changes at the touch of a front panel control. At any time, you can store your working settings into default memory (replacing the factory settings) for future reference as you adjust the 6545, and other 6545s, to suit your application. When desired, the front controls can be locked out preventing unauthorized entry to the memory settings. Some controls can be operated remotely via a rear panel jack.

### Specifications

<b>Resolution:</b>	> 800 TV lines
<b>Linearity and Geometry:</b>	± 1.5% of raster height
<b>Black Level Stability:</b>	< 1% change of peak luminance from 10% to 90% APL
<b>Raster Size Stability:</b>	< 0.4% change from 0 to 100% APL at 20fL peak luminance
<b>Max. Usable Brightness:</b>	60 fL with a sine <sup>2</sup> window
<b>Interlace:</b>	2:1 > 90%
<b>Aspect Ratio:</b>	4:3
<b>CRT Type:</b>	13V or 19V precision-in-line gun, dot mask, clear faceplate
<b>Pitch:</b>	13V: 0.31mm 19V: 0.44mm



6550



6545C19



<b>Phosphor Colorimetry:</b>	American Standard Phosphors (Colormatch)		
<b>Chromaticity Coordinates (± 0.005):</b>	<b>Phosphor</b>	<b>X</b>	<b>Y</b>
	Red	0.630	0.340
	Green	0.310	0.595
	Blue	0.155	0.070
<b>Tolerance:</b>			
<b>Convergence Max.</b>	<b>Display Portion</b>	<b>13V</b>	<b>19V</b>
	Center circle = height	0.5	0.5
	<b>Deviation (mm): Elsewhere</b>	0.7	0.9
<b>Color Stability:</b>	Photometer readings of red, green and blue displays show differential variations of less than 1% over a 500-hour period. The color temperature of white does not change by more than one MPCD (Minimum Perceptible Color Difference) unit between monochrome and color input signals		
<b>Protection:</b>	High voltage shut-down with loss of horizontal or vertical deflection		
<b>Frequency:</b>	47-63Hz		
<b>Power:</b>	200W max.		
<b>Weight:</b>			
	13"	75 lbs.	
	19"	85 lbs.	

### Options

Differential inputs

Component video (special quote)

<b>6545RS19</b>	19" monitor with rack slides and bezel . . . . .	<b>\$5565.00</b>
<b>6545C19</b>	19" monitor with cabinet . . . . .	<b>5565.00</b>
<b>6545Y19</b>	19" monitor with cabinet and ceiling or pedestal mount capability . . . . .	<b>5615.00</b>
<b>6545RS13</b>	13" monitor with rack slides and Bezel . . . . .	<b>5375.00</b>
<b>6545C13</b>	13" monitor with cabinet . . . . .	<b>5295.00</b>
<b>6545Y13</b>	13" monitor with cabinet and ceiling or pedestal mount capability . . . . .	<b>5425.00</b>
<b>6550</b>	Micromatch Photometer (optional) . . . . .	<b>1795.00</b>

# CONRAC CORP.

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Covina, CA 91722  
(818) 966-3511 Telex: 67-0437  
TWX: 910-584-5913 FAX: (818) 966-9028

# COLOR MONITORS

## 7211 Series High Resolution Color Monitors

- 13" or 19" Precision In-Line (PIL) CRT
- Three selectable scan frequencies
- Pre-set calibration controls
- 40MHz video amplifier
- Worldwide power adaptability
- Lightweight aluminum construction
- Resolution 13" CRT: 921 H x 739 V pixels; 19" CRT: 1080 H x 1029 V pixels

**Note:** Resolution specifications are for 1225 line scan.

These RGB color image displays are specifically intended as visual outputs for computer-generated information. The high-resolution 7211 incorporates high performance features which make it a cost-effective choice for process control, CAD/CAM, medical imaging and computer data systems.

### 19" CRT—Plastic Style

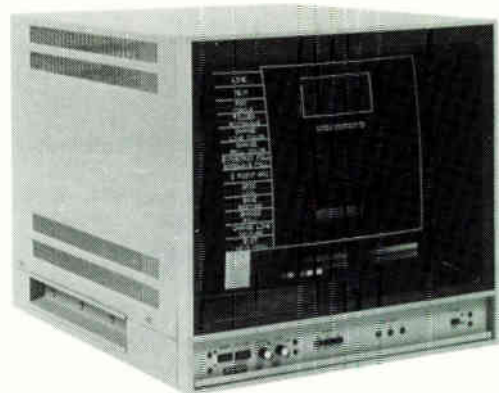
7211N19	Chassis Only . . . . .	\$3895.00
7211RS19	Rackmount with Slides . . . . .	4120.00
7211C19	Cabinet Model . . . . .	4120.00

### 19" CRT—Metal Style

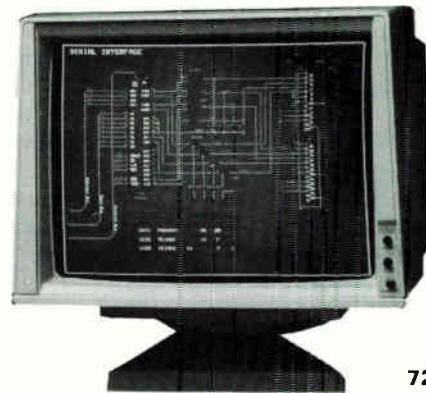
7211RS19	Rackmount with Slides . . . . .	\$4315.00
7211C19	Cabinet Model . . . . .	4365.00

### 13" CRT—Metal Style

7211N13	Chassis Only . . . . .	\$3764.00
7211RS13	Rackmount with Slides . . . . .	4156.00
7211C13	Cabinet Model . . . . .	4260.00



7211T



7250

## 7211T High Resolution Color Monitor with Infrared Touch System

- 19" PIL CRT
- Three selectable scan frequencies
- 40MHz video amplifier
- Lightweight aluminum construction
- Infrared touch system (64 x 48 matrix)
- Flexible communications interface
- Five modes of touch operation (point, stream, continuous track and hold, and pulsed mode)
- Touch system reports: Coordinate reports, error reports, exit reports, user-definable modes for failed beam interruption and analysis, number system options for coordinates, software filter for space/time validation of hits

This RGB color image display is specifically designed as an input/output device for computer generated information. The high resolution 7211T incorporates a proprietary infrared touch system ideal for process control, computer-aided learning and data entry systems—wherever a simple man/machine interface is most desirable.

### 19" with Touch System—Metal Cabinet Only

7211N19T	Chassis with Touch Bezel . . . . .	\$6855.00
7211R/ST	Rackmount with Slides . . . . .	6975.00
7211C19T	Cabinet Model . . . . .	6995.00

## 7250 19" Color Monitor with Auto-Trak™

- Variable resolution to 1024 x 1024 pixels (interlaced) 15.75kHz to 37kHz Auto-Trak
- Color stability through full contrast range
- Auto switching for 40MHz analog and 16/64 color TTL
- Auto internal/external sync select
- Large 19" high resolution CRT
- Fully compatible with IBM's MDA, CGA, EGA, PGA and PS/2 (both high resolution graphics and emulation modes)
- Ideal for everything from text to high resolution color graphics

The 7250 Color Monitor with Autotrak is fully compatible with IBM's MDA/CGA/EGA/PGA—both high resolution and emulation modes. Auto-Trak lets the 7250 automatically lock on to an incredibly wide range of horizontal frequencies. Add to this resolutions to 1024 x 600 pixels and a 19" high contrast CRT and you're looking at one incredibly versatile monitor. One you can use for desktop publishing one minute and high resolution color graphics the next.

7250C19	19" Cabinet Model . . . . .	\$2995.00
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# COOL-LUX LIGHTING IND., INC.

5723 Auckland Ave.  
N. Hollywood, CA 91601  
(818) 761-8181

# LIGHTING/LAMPS/ACCESSORIES

## Mini-Cool Portable, Photographic Light

The Mini-Cool is designed especially for photography. All its interchangeable lamps provide light which is essentially free of heat, infrared and ultraviolet radiation.

The Mini-Cool is small and light enough to attach to any video, motion picture or still camera, using the camera adaptor supplied. Or it may be handheld, using the handle included with each unit. (The handle has a hollow underside which can be fitted over a 5/8" diameter light stand column or post, but this is recommended only as an occasional practice. A far more secure mounting is provided by the stand adaptor.)

The Mini-Cool is operable from a variety of AC and DC power sources, simply by installing a lamp of corresponding voltage and an appropriate adaptor cord. The lamp socket, switch and wiring are all heavy-duty construction, easily capable of handling DC currents as well as AC. A 120V, 250W lamp is included.

Depending upon which lamp is installed, the Mini-Cool will require a power source of 120, 30, 14.4 or 12V. 12V battery packs and belts are available in several capacities (running times) and provide portable 12V power, completely independent of wall outlets.

When a wall outlet is used, the 120/12V Power Transformer (C4455) provides adequate power (up to 100W) for any of the 12V lamps. More than one lamp may be powered from the transformer, so long as their combined wattages do not exceed 100W.

The following are specific voltage requirements for each of the lamps:

**FOS-1** (the standard lamp supplied with the Mini-Cool). This lamp requires 100 to 120VAC, which is the standard voltage.

**FOS-2** This lamp requires 30VDC, provided by some battery packs and belts, most of which have a 2-pin receptacle. An adaptor cord for connecting this receptacle to the Mini-Cool is available (C4444).

**FOS-3 through FOS-9.** These lamps all require 12V, provided by a transformer or battery pack. Commercially available battery packs and belts use several styles of connector, including 3-pin, 4-pin, 5-pin and cigarette-lighter types. Adaptor cords for all these are available from Cool-Lux, as well as cords with clamps to fit posts of automotive-type batteries.

**FOS-10.** This lamp requires 14.4V, which is the voltage used by many video cameras and recorders. Using this lamp the Mini-Cool allows using a common power source for all items.

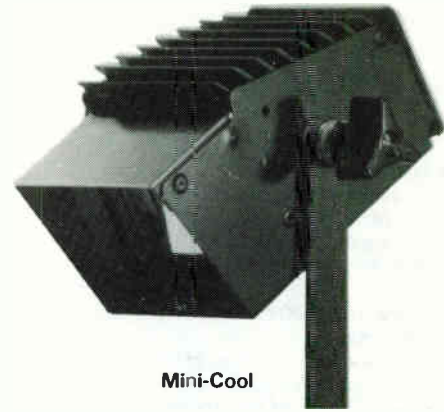
The Mini-Cool is supplied with a 1' power cord, which includes an in-line switch and terminates in a standard (household) 3-prong plug. This plug is connected to battery packs through an appropriate adaptor cord, or to a wall outlet or transformer through an extension cord. It is advisable to use 16-gauge extension cords, especially with 12V lamps. The extension cord (C4442) is 10' long, 16-gauge, with 3-wire safety construction (provides a safety ground when used with household voltage).

**C4440 Mini-Cool Standard Pack (AC).** Includes one each Mini-Cool Light, FOS-1 lamp, camera adaptor (C4447), and handle (C4441). Supplied in foam carton. . . . . \$99.95

**C4460 Mini-Cool AC/DC Pack.** Includes all items listed in standard pack plus FOS-9 lamp and 12VDC adaptor cord (C4453). Supplied in foam carton . . . . . \$129.50

**C4461 Cool Kit I.** Includes Mini-Cool Light, Olympic L-5 battery pack (12V, 5AH), with charger, 12VDC adaptor cord (C4453), Extension cord (C4442), FOS-1 Lamp, FOS-9 lamp, stand adaptor (C4446), camera adaptor (C4447), handle (C4441), spring-clamp mount (C4452), and diffusion lens (C4449). Supplied in foam-fitted carrying case . . . . . \$299.95

**C4462 Cool Kit II.** Includes two Mini-Cool lights, two light stands (C4451), three FOS-1 lamps, one FOS-4 lamp, two stand adaptors (C4446), two camera adaptors (C4447), two spring-clamp mounts (C4452), two scissor-clip mounts (C4469), one putty-knife mount (C4464), one 12VDC adaptor cord (C4453), three extension cords (C4442), one daylight filter (C4448) and one diffusion lens (C4449). Supplied in foam-fitted carrying case . . . . . \$675.00



Mini-Cool



AC/DC Pack

**C4463 Cool Kit III.** Includes three Mini-Cool Lights, five FOS-1 lamps, one FOS-3 lamp, three stand adaptors (C4446), one camera adaptor (C4447), three spring-clamp mounts (C4452), two scissor-clip mounts (C4469), one putty-knife mount (C4464), one 12VDC adaptor cord (C4453), three extension cords (C4442), one cube tap (C4471), one daylight filter (C4448) and one diffusion lens (C4449). Supplied in foam-fitting carrying case . . . . . \$675.00

## Mini-Cool Lamp Data

### Cool-Lux™ Lamps for Mini-Cool

FOS-1	Lamp, 120V, 250W, Wide Beam . . . . .	\$24.95
FOS-2	Lamp, 30V, 200W, Wide Beam . . . . .	29.95
FOS-3	Lamp, 12V, 100W, Wide Beam . . . . .	29.95
FOS-4	Lamp, 12V, 50W, Wide Beam . . . . .	24.95
FOS-5	Lamp, 12V, 25W, Wide Beam . . . . .	24.95
FOS-6	Lamp, 12V, 50W, Narrow Beam . . . . .	24.95
FOS-7	Lamp, 12V, 25W, Narrow Beam . . . . .	24.95
FOS-8	Lamp, 12V, 75W, Narrow Beam . . . . .	24.95
FOS-9	Lamp, 12V, 75W, Wide Beam . . . . .	24.95
FOS-10	Lamp, 14.4V, 95W, Wide Beam . . . . .	28.95
FOS-11	Lamp, 120V, 150W, Wide Beam . . . . .	24.95

### Mounting Devices

C4447	Camera Adaptor . . . . .	\$ 9.95
C4446	Stand Adaptor . . . . .	9.95
C4493	Universal Two-Light Mount . . . . .	14.95
C4452	Spring-Clamp Mount . . . . .	16.95
C4469	Scissor-Clip Mount . . . . .	9.95
C4464	Putty-Knife Mount . . . . .	14.95
C4476	Sliding-Jaw Clamp Mount . . . . .	24.95
C4490	5/8" Dia. Mounting Post (1/4"-20 hole) . . . . .	4.95
C4441	Handle . . . . .	2.95
C4451	Collapsible Light Stand . . . . .	79.95
C4420	Dummy Battery . . . . .	19.95

# COOL-LUX LIGHTING IND., INC.

5723 Auckland Ave.  
N. Hollywood, CA 91601-2207  
(818) 761-8181

# LIGHTING/ POWER BELTS & PACKS

## Micro-Lux Camcorder Light

- Greatly improves picture quality of Low-Lux cameras
  - Uses only 35W at 12VDC (or AC via adaptor)
  - Will run off (Olympic) L-6.5 for two full hours
  - Quartz 3200°K lamp (included)
  - Life 2000 hours
  - Capable of producing 9000 candle beam power
  - Built-in diffusion lens
  - Capable of delivering high volumes of halogen treated luminescence, from a near point tungsten source, encapsulated in an all-quartz envelope, and delivered through its efficiently engineered, interchangeable reflector system
  - Size: 3<sup>1</sup>/<sub>4</sub>" x 1<sup>3</sup>/<sub>4</sub>" x 1<sup>3</sup>/<sub>4</sub>"
  - Weight: 3 oz.
  - Material: High grade aluminum
  - Finish: 25μ anodized (high temp.)
  - Colors: Black, silver, red, gold or blue
- C4401 Micro-Lux . . . . . \$79.95**



Micro-Lux



Olympic

## Olympic™ 12V Power Belts and Packs

- 12V power belts, 13AH and 20AH models
- 6.5AH power pack
- Advanced technology starved electrolyte cells
- Long life, up to 2000 charge/discharge cycles
- No "memory" effect
- Exceptional deep discharge recovery
- Built-in heavy-duty charger and solid-state voltage monitoring with all power belts
- Power packs and belts designed for maximum wearer comfort
- More power than NiCads, less than half the cost
- Also available with 4-pin connector
- Power packs available in 8 colors

## Olympic Batteries, Chargers and Transformers

- C4494** Olympic L-13 Battery Belt, standard model . . . . . \$279.95  
**C4495** Olympic L-13 Battery Belt, 4-pin model . . . . . 294.95  
**C4496** Olympic L-20 Battery Belt, standard model . . . . . 329.95  
**C4497** Olympic L-20 Battery Belt, 4-pin model. . . . . 344.95  
**C4499** Olympic L-6.5 Battery Pack . . . . . 99.95  
**C4455** Power transformer, 117V/12V, 100W . . . . . 49.95  
**C4480** Plug-in battery tester . . . . . 29.95  
**C4466** Universal Quick Charger, 117VAC or 220VAC to 12VDC . . . . . 49.95  
 Olympic N-2.5 Battery Pack designed primarily for low-current camcorders . . . . . 129.95

## Replacement Parts

- C4491** Single cell for Olympic L-13 belt . . . . . \$28.00  
**C4492** Single cell for Olympic L-20 belt . . . . . 32.00  
**C4485** Case only for Cool Kit I (includes foam set) . . . . . 40.37  
**C4486** Foam set only for Cool Kit I case. . . . . 8.71  
**C4411** Extra cubed foam for bottom of starcase . . . . . 9.50  
**C4412** Extra wave foam for top of starcase . . . . . 5.00  
**C4413** Extra long partition (330mm = 13") for starcase . . . . . 2.50  
**C4414** Extra short partition (127mm = 5") for starcase . . . . . 1.50

## Light Controlling Devices

- C4448** Daylight filter . . . . . \$19.95  
**C4449** Diffusion lens. . . . . 4.95  
**C4450** Precision light framer . . . . . 39.95  
**C4456** Photo Dimmer™ . . . . . 29.95

## Connecting Cords, Battery to Light

- C4444** Cord, 2-pin plug to household female . . . . . \$24.95  
**C4443-3** Cord, 3-pin plug to household female . . . . . 19.95  
**C4443-4** Cord, 4-pin plug to household female . . . . . 19.95  
**C4443-5** Cord, 5-pin plug to household female . . . . . 19.95  
**C4453** Cord, cigarette lighter plug to household female. . . . . 10.95  
**C4473** Cord, battery clamps to household female . . . . . 14.95

## Connecting Cords, Battery to VCR

- C4504** Cord, cigarette lighter plug to 4-pin DIN plug . . . . . \$12.95  
**C4505** Cord, cigarette lighter plug to 5-pin DIN plug . . . . . 12.95  
**C4508** Cord, cigarette lighter plug to 8-pin DIN plug . . . . . 12.95  
**C4511** Cord, cigarette plug to 11-pin DIN plug . . . . . 12.95  
**C4514** Cord, cigarette lighter plug to 14-pin JVC plug . . . . . 12.95  
**C4525** Cord, cigarette lighter plug to 2.5mm coax plug . . . . . 9.95  
**C4530** Cord, cigarette lighter plug to 3.0mm coax plug . . . . . 9.95

## Other Connecting Devices

- C4442** 10' extension cord, 16 gauge, 3-wire . . . . . \$ 7.95  
**C4471** 3-way cube tap, 3-wire (grounded) . . . . . 4.95  
**C4475** Cord, cigarette lighter to dual cigarette lighter receptacles. . . . . 10.95

# COSTUME ARMOUR, INC.

Shore Road  
P.O. Box 325  
Cornwall-On-Hudson, NY 12520  
(914) 534-9120

# SCENIC BACKGROUNDS

- Commercial, Industrial and Portrait Photography
- Exhibits and Displays
- Motion Picture TV and Theatrical Scenery

## Materials Used In Construction Of Scenic Backgrounds

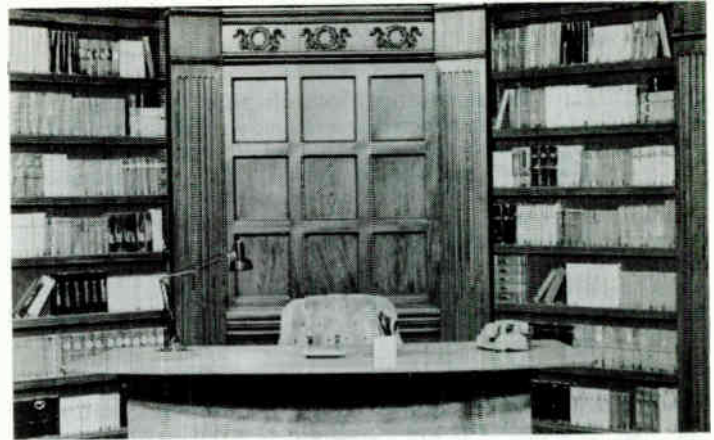
All backgrounds are fabricated of heavy gauge vinyl (30 mil), a self-extinguishing material that has been approved for use in areas of public assembly. The units, which are available "ready-to-use," are those which have been permanently mounted onto sturdy wood frames. All units are also available unframed for direct installation onto existing walls.

## Paint Finish Selection

Most of the units are available in several alternative finishes. To obtain any style in a finish, merely indicate the particular unit desired (by name and number) then specify that it be painted in whichever finish is desired. All units are also available unpainted. On re-orders of the same style, because they are hand painted to order, all units are sometimes subject to slight variations in color and tone.

## Custom Work

In addition to our stock items, we also fabricate customized backgrounds to meet any design specified, i.e. company names and logos, TV station call letters, etc. The size of the customized panels may range anywhere from 2' x 2' up to 4' x 12'. Estimates for custom work are available on request.



## Shipping Time

These scenic panels are all made to order; they are not kept in stock. Normally approximately four weeks is required between placing an order and the shipment of painted panels, whether framed or unframed. Unpainted, unframed units can sometimes be shipped faster if required.

Style No.	Style Name	Painted, Framed Ready-To-Use	Unpainted Unframed
101	Bamboo . . . . .	\$195.00	\$ 85.00
110	Old English Wall . . . . .	220.00	85.00
112	Old English Wall . . . . .	220.00	85.00
201	French Provincial (Panel) . . . . .	220.00	85.00
	(Pilasters ea.) . . . . .	150.00	65.00
202	English Oak Paneling (Panel) . . . . .	220.00	85.00
	(Pilasters ea.) . . . . .	150.00	65.00
203	Spanish Paneling . . . . .	220.00	85.00
204	Italian Provincial . . . . .	220.00	85.00
205	Library Panel . . . . .	295.00	85.00
207	Castillian (Panel) . . . . .	220.00	85.00
	(Pilasters ea.) . . . . .	150.00	65.00
208	Baroque (Panel) . . . . .	220.00	85.00
	(Pilasters ea.) . . . . .	150.00	65.00
209	Rococo (Panel) . . . . .	220.00	85.00
	(Pilasters ea.) . . . . .	150.00	65.00
211	Fireplace . . . . .	250.00	85.00
212	Florentine Bronze Doors (Panel) . . . . .	220.00	85.00
	(Pilasters) . . . . .	160.00	65.00
215	Empire (Panel) . . . . .	220.00	85.00
220	Gothic Paneling . . . . .	370.00	150.00
225	Roman Arch . . . . .	385.00	190.00
	Roman Arch (Matching Panel) . . . . .	195.00	85.00
230	Colonial Brick Arch . . . . .	385.00	190.00
235	Moorish Arch . . . . .	400.00	200.00
306	Slate Roof Tiles . . . . .	220.00	85.00
310	Western Quarry Stone . . . . .	220.00	85.00
312	Barnwood Siding . . . . .	195.00	85.00
314	Logs . . . . .	195.00	85.00
315	Colonial Brick . . . . .	220.00	85.00
316	Cedar Shingles . . . . .	195.00	85.00
317	Split Shaker Shingles . . . . .	195.00	85.00
318	Spanish Roof Tiles . . . . .	220.00	85.00
319	Wood Clapboard Siding . . . . .	195.00	85.00
320	New England Fieldstone . . . . .	220.00	85.00
330	Stucco Wall . . . . .	190.00	85.00
340	Bronze Gates (ea.) . . . . .	160.00	65.00
345	Corinthian Column . . . . .	220.00	100.00
346	Mosaic Tiles . . . . .	190.00	85.00
315A	Colonial Brick 9' . . . . .	255.00	95.00

Prices and Specifications Subject to Change Without Notice.

V-341



# COVID, INC.

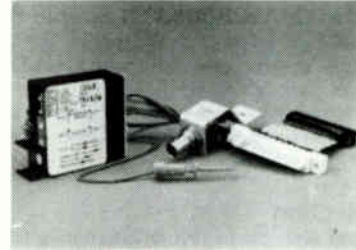
2400 W. 10th Place, Ste. 4  
Tempe, AZ 85281  
(602) 966-2221 (800) 638-6104  
FAX: (602) 966-6728

# COMPUTER VIDEO INTERFACES

## CVID 150 Universal Internal Monochrome Interface

- The CVID 150 must be soldered by a technician to mount internally
- Special "plug in" versions available for AT&T, Honeywell, IBM 3278, ITT Courier, Macintosh, and Teletype terminals
- 6 oz. epoxy encapsulated 2" x 2" x 3/4" module
- Provides composite RS-170-like video signals
- 2 adjustment potentiometers
- 1) input attenuator 0.7 to 5V P-P, minimum pulse of 50ns
- 2) Horizontal Centering Control
- Video output 75 ohms
- Accepts Horizontal frequency range of 1-50kHz
- Video input impedance 1K ohm DC, all others 1M ohm
- Analog/digital video input
- Monochrome input and output

**CVID 150** .....\$265.00



CVID 150

## 460-99 Digital To Analog RGB Interface-Demonstrator

- Ideal for rentals and demos
- Standard pots and dip switches are replaced by knobs and toggle switches
- Includes self-diagnostics (Option-01)
- Outputs: R, G, B, and Monochrome composite analog
- 1V P-P with TTL Composite Sync on 5 BNC connectors
- Horizontal blanking
- Autotracking Horizontal and Vertical positioning controls
- All outputs, including TTL Sync, drive over 400' of RG-59 75 ohm coaxial cable
- Compatible with EGA, CGA, MDA, and Hercules (auto EGA/CGA switching)
- 5 modes of operation
- Automatic Horizontal and Vertical sync circuitry
- Separate UL/CSA power supply
- Digital video input
- Color and monochrome input

**460-99** .....\$640.00



460-99

## 460/461/600 Digital To Analog Interfaces

- Horizontal sync from 15 to 75kHz
- Five options available: -01 Automatic self-diagnostics using a tricolored LED; -02 an added phone jack with TTL signal indicating EGA or CGA mode; -03 External interlace control for IBM 3270 PC/G; -04 Video input sensitivity enhancement for IBM 3179; -99 Please refer to above specifications
- 461 Supports terminals with odd-interlace and has no vertical centering control
- 100MHz video bandwidth
- 600 is a monochrome output only
- 460 without R, G, B, sync circuits or outputs
- Separate UL/CSA power supply
- Digital only video input type
- Color and mono input

**460/461** .....\$395.00

**600** .....245.00



460/461/600

## 620 ECL To Analog Interface

- Autotrack Horizontal positioning control covers 15 to 95kHz
- For use with high resolution workstations such as: Sun, Apollo, Symbolics, etc.
- Outputs: Analog 0.7V P-P video, and separate BNC's for Horizontal and Vertical TTL sync
- Designed for ECL video with ECL or TTL sync
- 3 analog video outputs allow the duplication of a white picture on a color display device
- Video outputs are capable of driving over 150' of RG-59 75 ohm coaxial cable
- 10ns video response (< 2.5ns rise time)
- Separate UL/CSA power supply
- Digital only video input type
- Monochrome input and output

**620** .....\$450.00



620

## 700RGB Analog To Analog Interface

- 100MHz analog interface supports newest workstations, including IBM PS/2, VGA, PGA, MCGA, Apple, Macintosh II and AT&T Targa
- Outputs: R, G, B, and Composite Monochrome (0.7V P-P at 75 ohms), TTL Composite Sync
- Output video has sync removed and is DC restored to: Black = 0.0VDC
- Sync input 250mV to 8V P-P
- Automatically selects: 1) Horizontal and Vertical Sync 2) Composite Sync or 3) Sync on green
- "Zero Drift" positioning of < 150ns drift from 50° to 150°F
- Calibrated, adjustable R, G, B gain controls on front panel
- Accepts positive, negative or differential analog video input signals
- Autotrack Horizontal positioning control covers 15 to 95kHz
- Separate UL/CSA power supply
- Analog video input
- Color and monochrome input

**700** .....\$525.00



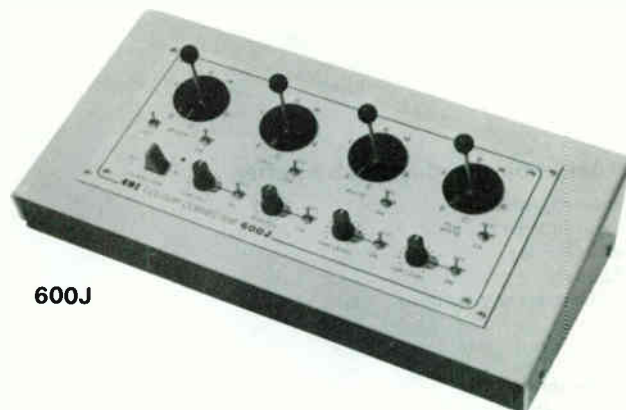
700

# MICHAEL COX ELECTRONICS LTD.

DISTRIBUTED EXCLUSIVELY BY  
BROADCAST VIDEO SYSTEMS LTD.

40 W. Wilmot St.  
Richmond Hill, Ont. CN L4B 1H8  
(416) 764-1584 Telex: 06-964652  
FAX: (416) 764-7438

# COLOR CORRECTOR/ ENCODER



600J

## 600J Color Corrector

- Exceptionally wide range of color correction
- Accepts any NTSC video signal from any source
- Virtually transparent, does not decode
- User friendly control panel cuts post-production time
- Full control of chroma gain, luminance gain, set-up and black stretch/compression
- Up to 350ns of chroma/luminance delay correction
- Each correction parameter may be switched in or out independently, together with correction in or out
- Sync, blanking and subcarrier regenerated from input video, no external pulses required
- Optional SMPTE time code control for frame by frame correction and event storage

The 600J is available with either a manual "on the fly" control panel or a time code control system for integration into a VTR edit suite, enabling frame by frame color correction.

The color corrector may be ordered with time code control or may be field updated at any time with this option.

The time code control system consists of three separate units: a color corrector control panel, a time code control panel and a time code electronics unit.

As all remote functions must be digitized in order to be stored, a different remote control panel must be used with the time code control option. This panel has "sprung center" joysticks and pots with two color LEDs on all correction parameters to give a visual indication of control panel settings. All correction on/off switching is done via pushbuttons.

A second control panel contains readouts for the self-contained SMPTE time code reader plus current event and next event readouts.

A fourth readout indicates preset information from the on-board keypad. Pushbuttons for entering and modifying time code, previewing, etc. are also contained on this remote panel.

## 203 NTSC Encoder

- Integral bar generator standard
- Single bar generator can drive multiple encoders
- Delivers 5 outputs
- All set-up controls on front panel
- Long term stability
- Occupies only 1 3/4" of rack height

Designed for any RGB (or YRGB) picture source, this encoder provides all the facilities needed in a broadcast encoding system in the smallest practical package, with operational requirements and stability as prime considerations. All switch functions such as picture-bars changeover, bridging, etc., are carried out using individually latching pushbutton switches, while all preset controls are accessible from the front so that extender modules are not required for setting up purposes.



203

Color bars are EBU type, switchable between full field bars, split field (with lower third red) and full field red.

Note: If several encoders are to be installed together, one bar board can drive several encoders.

COX203 . . . . . \$3800.00

## Specifications

<b>Input Level:</b>	1V p-p composite, 75 ohm
<b>Input Return Loss:</b>	46dB up to 100kHz 40dB up to 5.5MHz
<b>Output Level:</b>	1V p-p composite, 75 ohm
<b>Output Return Loss:</b>	35dB up to 5.5MHz
<b>Insertion Gain:</b>	0 ± 0.1dB
<b>Frequency Response:</b>	± 0.1dB 100kHz to 5.5MHz ± 0.2dB 5.5MHz to 8MHz smooth roll off above 8MHz
<b>50Hz Square Wave (Field Tilt):</b>	1%
<b>2T Pulse to Bar Ratio:</b>	0.5%K
<b>2T Bar Slope:</b>	0.5%K
<b>2T Pulse Shape:</b>	1.0%K
<b>Luminance-Chrominance Gain Inequality:</b>	± 1%
<b>Luminance-Chrominance Delay Inequality:</b>	± 10ns
<b>Line Time Non-Linearity:</b>	1%
<b>Differential Phase:</b>	0.5°, 10-90% APL
<b>Differential Gain:</b>	0.5%, 10-90% APL
<b>Hum On Output:</b>	1mV p-p
<b>Noise On Output:</b>	-65dB, 10kHz-5.5MHz unweighted
<b>Switching Transients:</b>	± 10mV
<b>Total Path Length:</b>	1.6µs approx.

<b>Basic 600J</b> . . . . .	\$ 13,500.00
<b>660 Component Color Corrector</b> . . . . .	13,500.00
<b>Time Code Control System (option)</b> . . . . .	13,500.00

# CROSSPOINT LATCH CORP.

95 Progress St.  
Union, NJ 07083  
(201) 688-1510 Telex: 13-2850

# POST-PRODUCTION SWITCHER

## 6129AHK Post-Production Switcher

### Six Levels of Video:

- Background level
- Level 1 (A Bus)
- L2 (C Bus)
- Insert Chroma key (option)
- DSK matte
- DSK insert/outline (option)

### Effects Generator:

- Two ME systems
- 32 patterns (standard) for ME1
- 32 patterns (option) for ME2
- ME2 shares ME1 generator when second pattern option not installed
- Each ME system has keyer
- MIX/WIPE with independent MIX and WIPE in each ME system
- Symmetry, Hard/Soft, Borders, Positioners

### Chroma Keying:

- RGB Chroma keyer standard uses buses for video
- Second Chroma keyer RGB or Encoded (option) has separate encoded input and is an additional video level
- 2 modes switch in, with background fade out or dissolve foreground in

### Luminance Keys:

- 2 keyers on in each ME system Wipe key, Mix key, Mask key
- Downstream key (matte)
- DSK with shadow and border (option)

### Pulse Drive System:

- Inputs: Sync and Subcarrier (360° adj.) PAL requires additional Blanking & B. Gate
- Genlock Sync Generator (option) Auto change-over on loss of inputs

### Signal Processing:

- Blanking processor
- Test Mode for system timing
- Dual clamps on all video inputs
- Master Fade to Black

### Video Inputs:

- 8 looping primary
- 2 external ME key inputs
- 4 inputs for optional DSK
- RGB and ENC for optional Chroma key
- RGB for standard Chroma key

### Downstream Keyers:

- 2, standard matte keyer optional matte or insert keyer with drop shadow and outline (outline only in matte mode)
- 4 input selector for optional DSK

### Colorizers:

- Three, one background, two for borders (one border colorizer for DSK fill)

Over a background video signal, the 6129AHK can insert two video signals each with a different pattern, a chroma key between the two pattern levels, a matte DSK over that, with a second DSK having border and drop shadow capability (insert or matte key) over the entire combination. Its Insert Chroma keyer is an additional video input which permits foreground dissolve-in or background dissolve-out. Each Mix-Effects system has its own keyer which can be wiped, masked, or mixed in. Fader arms can be delegated to Effects transitions, Chroma keyer, DSK and Fade to Black. All fader arm operations can be controlled by 0-999 Frame auto transitions, GPI or Panel triggerable (Five ramps).



6129AHK

Automation is very sophisticated. Two modes, five independently triggerable, resettable ramps with different durations, and 100 Sequences which can run all stored analog functions smoothly between Events (border color, positioner, symmetry etc.) Automated effects can be controlled from Editor.

### Specifications

Video Inputs:	8, looping
Signal-to-Noise:	> 65dB
Crosstalk:	> 53dB
Path Difference:	± 1°
Differential Phase:	< 1°
Differential Gain:	< 0.04°
Tilt:	< 0.25%
Power:	110/220V, 70W
Black Burst Outputs:	4
Genlock Inputs (option):	1
Pulse Inputs:	Sync, subcarrier (PAL requires Burst Gate and Blanking)
Weight:	45 lbs.
Dimensions:	Control panel table mount — 20.5" x 12.5" — 3.5" front 7" rear Rackmount: 19" x 12.5" — 3.5"D Electronics: 19" x 7" — 20"D

6129AHK ..... \$10,995.00

### Options

PCC1001846	Editor module (specify editor) Smart Interface .....	\$1,500.00
PCC1001731	Convergence Interface .....	1,500.00
PCC1001193	Insert Chroma keyer (RGB) .....	1,675.00
PCC1000695	Insert Chroma keyer, encoded .....	1,675.00
PLA9000510	Downstream keyer, outline, drop shadow ..	1,995.00
PCC1001695	Genlock Sync Generator NTSC Version ..	1,000.00
PCC10002322	Genlock Sync Generator P & L Version ..	1,000.00
PCC1001314	Second Pattern Generator .....	1,087.00
PCC1002386	Next Event Preview .....	1,200.00
	Stereo Audio follow, seven inputs; (6800); Auto Disc (7215)	
PCC1002433	16 video inputs .....	1,995.00



# CROSSPOINT LATCH CORP.

95 Progress St.  
Union, NJ 07083  
(201) 688-1510 Telex: 13-2850

# SWITCHERS/ INTERFACE UNIT

## 8200 Dual TBC Full Switcher

- 5 input video switcher with 2 built-in TBC's • 2 levels of keys (1 insert key one matte key) • Mix key, wipe key, mask key and Mosaic key • 16-line windows on TBC's with digital effects • 8-bit luminance and two 6-bit chroma channels • Mosaic, posterization, push, pull and slide
- Separate outputs for each TBC • Blanking processor and test mode for timing • 12 wipe patterns with joystick positioner • Variable soft edges, colored borders • Auto transitions GPI triggerable • Background colorizer • Genlockable sync generator (RS170A) • 4 blackburst outputs • 2 advanced blackburst outputs • 2 advanced sync outputs • 2 input audio mixer • Audio follow and breakaway

8200 .....\$ 9,795.00

### Accessory Models

6045 Color Bars and RGB Chroma Keyer .....\$ 895.00  
6065 Encoded Chroma Keyer .....1,428.00  
6053 BVE800 Trigger Box .....175.00  
6800 Stereo Audio Follow Mixer .....3,623.00  
6806 Mono Follow Mixer (5 inputs) .....1,067.00  
6061 Expansion Pattern Generator  
(32 matrix patterns) .....1,800.00  
8200C Super VHS TBC's, Composite Switcher .....11,000.00

## 7282 Editor Interface Unit

This option allows the 8200 to communicate serially with editors or computers and to perform frame accurate transitions under editor control. RS232/RS422.

7282 .....\$2,995.00

Parallel to serial converter (PCC-1002370) .....895.00

## 6112 Production Post-Production Switcher

- 8 inputs, 4 buses • 2 mix effects systems • 12 patterns on each ME
- Wipe, mix, mix/wipe modes • 2 positioners • Downstream keyer with matte and insert key modes • Downstream keyer accepts external border input • Pattern modulator • Bordered wipes • Adjustable soft edges • Chroma keyer can be switched into either ME system • Each ME has internal, external and chroma keyer • Blanking processor

6112 .....\$7,995.00

### Accessory Models

6029 Genlock Unit .....\$1,000.00  
6800 Stereo 7 Input Audio Mixer .....3,623.00  
6806 Mono 7 Input Audio Mixer .....1,067.00  
6700 RGB Matrix Switcher .....1,500.00  
RGB Chroma Keyer .....1,675.00  
Encoded Chroma Keyer .....1,675.00

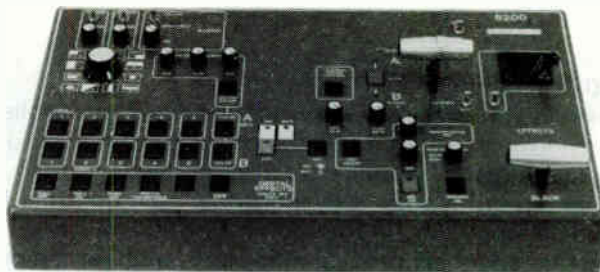
## 6109 Production Switcher

- 3 buses, 7 inputs • 32 patterns • RGB chroma keyer • Auto transitions GPI triggerable • Downstream keyer with matte and insert modes • Automatic preview • Pattern modulator • Colorizer • Colored borders • Variable soft edges • Blanking processor

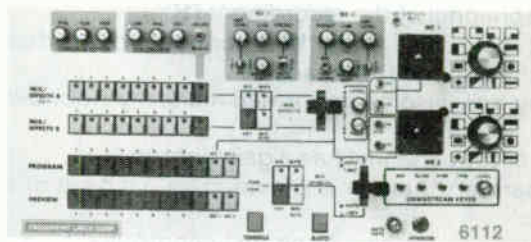
6109 .....\$6,995.00

### Accessory Models for 6109

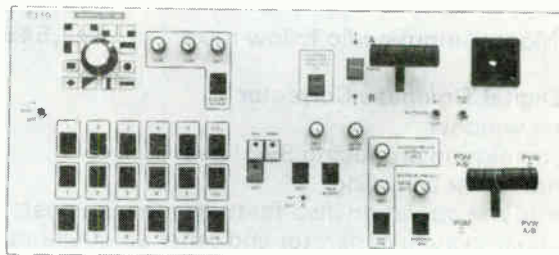
6029 Genlock Unit .....\$1,000.00  
6800 Stereo 7 Input Audio Mixer .....3,623.00  
6806 Mono 7 Input Audio Mixer .....1,067.00  
6700 RGB Matrix Switcher .....1,500.00  
7209 Computerized Option .....3,105.00  
Editor Interface Boards (7209) .....1,500.00  
Genlock .....1,000.00  
Second Chroma Keyer  
(RGB or Enc) .....1,675.00



8200



6112



6119

## 6700 RGB Matrix Switcher

- 8 sets of 3 inputs • Designed to switch RGB signals for chroma keyers • Follows inputs on 6112, 6124, 6139 switchers

6700 .....\$1,500.00

## 6119 Compact Self Contained Production Switcher

- Built-in genlockable sync generator (RS170A in genlock mode) • 5 inputs, 3 buses • 2 levels of keying • Master fade-to-black • Auto transitions GPI triggerable • 12 wipe patterns with true joystick positioner
- Variable soft edges • Adjustable colored borders • Colorizer • Dissolve to a split screen • Key invert on DSK • 2 fader arms • 4 black burst outputs • Test mode for system timing

6119 .....\$2,995.00

### Accessory Models

6045 Color Bars and RGB Chroma Keyer .....\$ 895.00  
6065 Encoded Chroma Keyer .....1,428.00  
6053 BVE800 Trigger Box .....175.00  
6800 Stereo Audio Follow Mixer .....3,623.00  
6806 Mono Follow Mixer .....1,067.00  
6061 Expansion Pattern Generator  
(32 matrix patterns) .....1,800.00

## Editor Interface Unit

This option allows the 6119 to communicate serially with editors or computers and to perform frame accurate transitions under editor control RS232/RS422. ....\$2,850.00

### Accessory Model

6055 Parallel to Serial Converter .....895.00

# CROSSPOINT LATCH CORP.

95 Progress St.  
Union, NJ 07083  
(201) 688-1510 Telex: 13-2850

# SIGNAL PROCESSING EQUIPMENT

## 6800 Programmable VTR Audio Mixer

- Designed primarily for use with VTR editing controllers
- Can perform automatic cuts and mixes, with durations accurately programmable up to 999 frames
- Seven stereo inputs with individual gain controls for each channel
- The two channels (tracks) may be reversed at the output, or combined into either output channel
- This allows the use of the SMPTE time code on the free audio channel of the recording VTR
- Input selection may be manually overridden by switches on the front panel
- Mixing may also be performed manually from the front panel, if required
- Each output channel has a gain control
- A separate VU meter is provided for each set of stereo inputs
- Both mixers are simultaneously controlled by a single slider or by the automatic ramp generator

6800 .....\$3,623.00  
6806 Mono 7 input audio follow mixer .....1,545.00

## 8105 Digital Timebase Corrector

- 16 line window
  - 8 bit resolution producing 320 lines
  - 4X subcarrier sampling
  - Heterodyne operation also features mosaic, posterization, built-in sync generator and other unique features
8105. ....\$4,990.00

## 6065 Encoded Chroma Keyer

- Provides key output for any switcher
  - Self contained
  - Requires no external drives
  - Accepts external key input
  - Keys on any color
- 6065 .....\$1,428.00

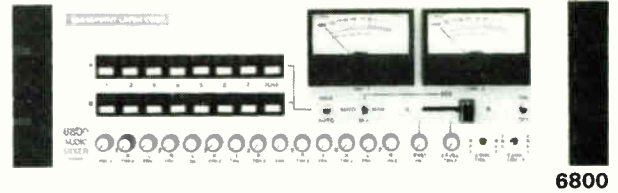
## 6045 RGB Chroma Keyer, Color Bars Tone

- Full field bars
- RGB chroma keyer
- External key input
- Provides key output for any switcher
- Derives power from any CLC switcher or from 6030 power supply

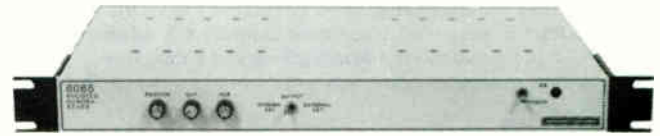
6045 .....\$895.00  
6030 Power Supply .....296.00

## 6806 Mono 7 Input Audio Follow Mixer

- Audio follow for 6119, 6109, 6129, 6112, 6124
  - Balanced inputs
  - Balanced outputs
  - Derives power from CLC switchers or from 6030
- 6806 .....\$1,067.00  
6030 Power Supply .....296.00



6800



6065



6045

## 6070 Sync Generator

- RS170A; genlockable
  - 3 1/2" rackmount
  - Field identification pulse
  - 6 black burst outputs
  - SMPTE color bars
  - Special test outputs for checking Sc/H phase on any video signal
  - High stability subcarrier oscillators without ovens (oven available as option)
  - 5Hz (1.4p-p m), or 1Hz (0.3p-p m) without oven or 0.1Hz (0.03p-p m) with oven
  - Available in PAL or NTSC PAL version has PAL ID and line switching
  - Locks to correct 4 field sequence in NTSC and 8 field sequence in PAL
  - Subcarrier adjustable through 360°
  - Horizontal adjustable plus or minus 5µs
- 6070 Subcarrier stability ± 10Hz .....\$1,595.00  
6070 Subcarrier stability ± 1Hz .....2,265.00

## 6051 Precision RGB Encoder

- Broadcast quality, RS170A
  - Genlockable with internal sync generator
  - Locks to correct 4 field NTSC; 8 field PAL
  - Sync and subcarrier outputs
  - Locks to black burst, comp video or sync
  - Operates with non-standard sync
  - Internal color bars for test
  - Front panel subcarrier and horizontal controls for genlock mode
  - 1 3/4" rackmount
- 6051 .....\$2,400.00

# CULLMANN

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Telex: 22-1637 GMI-UR

# TRIPODS/ACCESSORIES

## TITAN PROFESSIONAL TRIPODS

- Inverted leg design
- Sealed legs (useable in water, sand, mud)
- Leg lock/release located on top of leg
- Worm gear drive or pneumatic center column
- Hexagonal mounting socket for heads, provides rigidity

All Tripod Measurements Shown Below are Without Heads

MODEL NUMBER	CT 100	CT 200	CT 300	CT 400
Specifications (approx. values)				
Weight (kg/lb)	3.7/7.9	3.7/7.9	3.7/8.2	4.6/10.1
Height without head (cm)	75/150	75/150	83/136.5	53/149
(in)	(29.1/59)	(29.5/59)	(32.7/53.1)	(21.5/51)
Height with Ball head (cm)	88/163	88/163	96/150	67/163
(in)	(34.7/64.1)	(37.1/64.1)	(37.7/59)	(26.7/65.1)

Tripod legs	CT 100	CT 200	CT 300	CT 400
Closed Channel Construction	•	•	•	•
No. of leg sections	2	2	2	2
Upper/lower leg section diameter (mm)	29/35	29/35	35/41	35/41
Leg spread	24°	24	28	24/35/48/60
Three-stage clamping sleeves	•	•	•	•
Rubber feet	•	•	•	•
<b>Center Column</b>				
Built-in pneumatic center column	•	-	-	-
Built-in Wormgear crank	•	•	•	•
Column diameter (mm)	35	35	-	35
Accessory shoe	•	•	•	•
System key	•	•	•	•

ACCESSORIES	CT 100	CT 200	CT 300	CT 400
CT 10 Two-way hydraulic fluid pan head	□	□	□	□
CT 20 Professional ball head	□	□	□	□
CT 60 Macro Attachment	□	□	□	□
CT 61/CT 64 (43-81 cm) worm gear crank column	•	•	□	□
CT 62 Video Brace	□	□	□	□
CT 63 Leveling Ball	•	•	□	□
CT 65 Large Platform	□	□	□	□
CT 66 Large Platform	□	□	□	□
CT 67 Spikes	□	□	□	□
CT 70 Tripod Case	□	□	-	-
CT 71 Tripod Case	□	□	-	-
CT 72 Aluminum Case	□	□	□	□

ADDITIONAL TECHNICAL DATA	2 WAY PAN HEAD CT 10	PRO BALL HEAD CT 20	MACRO ATTACHMENT CT 60	LEVELING BALL CT 63
Vertical damping	•	•	•	•
Horizontal damping	•	•	•	•
Vert. horiz. micrometer adjustment	•	•	•	•
Quick Release	•	•	•	•
Movement lock	•	•	•	•
Shoulder Brace for Video	•	•	•	•
Handle length (cm)/inches	35/13.4	-	-	-
Handle adjustable through 360°	•	•	•	•
Separate horizontal/vertical lock	•	•	•	•
Vert. degrees scale, smallest interval	2°	2°	2°	•
Horiz. degrees scale, smallest interval	2°	2°	2°	•
Horizontal pan	360°	360°	360°	•
Total tilt	170°	90°	180°	18°
Down up tilt	90°/80°	•	90°/90°	1°/9°
Weight (kg/lb)	1.3/2.9	1.2/2.7	1.6/3.5	0.4/0.9
Usable temperature range -25° to +65° C	•	•	•	•

• standard feature □ Accessory • Only with CT 60 macro Attachment (-) Not Applicable

## Tripods

T5100	CT 100	29/35mm Leg Diameter, Pneumatic Center Column, Height Collapsed: 32". Fully Extended: 59" (including center column), Weight: 7.9 lbs. . . . . \$319.95
T5200	CT 200	29/35mm Leg Diameter, Gear Center Column, Height Collapsed: 32", Fully Extended: 59" (including center column), Weight: 7.9 lbs. . . . . \$369.95
T5300	CT 300	35/41mm Leg Diameter, No Center Column Supplied, Height Collapsed: 35", Legs Extended: 53 3/4", Weight: 8.4 lbs. . . . . \$299.95
T5400	CT 400	35/41mm Leg Diameter, Gear Center Column, Variable Leg Decline with stops at 24°, 35°, 48° and 60°, Height Collapsed: 34", Fully Extended: 59 1/4" (including center column), Weight: 10.1 lbs. . . . . \$479.95



Titan

## Combinations

T5101	T5100 Tripod/T5020 Ball Head . . . . .	\$479.95
T5102	T5100 Tripod/T5010 Fluid Head . . . . .	\$519.95
T5201	T5200 Tripod/T5020 Ball Head . . . . .	\$519.95
T5202	T5200 Tripod/T5010 Fluid Head . . . . .	\$559.95
T5401	T5400 Tripod/T5020 Ball Head . . . . .	\$624.95
T5402	T5400 Tripod/T5010 Fluid Head . . . . .	\$664.95

## Accessories

T5010	CT 10	2-Way Fluid Pan Head. Separate Horizontal and Vertical Fluid Tension Control with Quick Release. Weight: 2.9 lbs. . . . .	\$244.95
T5020	CT 20	Pro Ball Head with Quick Release. Weight: 2.2 lbs. . . . .	\$219.95
T5060	CT 60	Macro Attachment . . . . .	\$159.95
T5061	CT 61	Worm Gear Crank Column . . . . .	\$159.95
T5062	CT 62	Shoulder Brace for Video allows hands-free panning. For CT 10 and CT 20. . . . .	\$89.95
T5063	CT 63	Leveling Ball. For rapid adjustment of heads CT 300/CT 400 . . . . .	\$139.95
T5064	CT 64	Worm Gear Crank Column (extra long) 32" . . . . .	\$219.95
T5065	CT 65	Large Camera Quick Release Platform (1/4") . . . . .	\$39.95
T5066	CT 66	Large Camera Quick Release Platform (3/8") . . . . .	\$39.95
T5067	CT 67	Spikes—Set of 3 . . . . .	\$39.95
T5070	CT 70	Deluxe Soft Padded Cordura Case for CT 100/200 . . . . .	\$89.95
T5071	CT 71	Deluxe Soft Padded Cordura Case for CT 300/400 . . . . .	\$99.95
T5072	CT 72	Aluminum Case. Holds one Tripod and Accessories . . . . .	\$279.95
T0788	Spirit Level	2-Section Simultaneous Metering of Horizontal and Vertical Planes. Fits Standard Camera Accessory Shoe, all Cullmann Titan Tripod Bodies, and CT 10/CT 20 Heads . . . . .	\$24.95
T0818	Adaptor (1/4")	Replacement Platform for Quick Release Head. . . . .	\$9.50
T082B	Adaptor (3/8")	Replacement Platform for Quick Release Head. . . . .	\$9.50
T085B	Video Adaptor	Supplied with Removeable Video Locator Pin . . . . .	\$12.00
T5074	Adaptor Post	Reversible Post with 1/4" and 3/8" Threads. For using Non-Cullmann Heads on Titan Tripods . . . . .	\$14.95



# CULLMANN

DISTRIBUTED EXCLUSIVELY BY  
**GMI PHOTOGRAPHIC, INC.**  
 1776 New Highway, P.O. Drawer U.  
 Farmingdale, NY 11735  
 (516) 752-0066  
 Telex: 22-1637 GMI-UR

# TRIPODS/UNIPODS/ ACCESSORIES



2104



2504



2903

## TRIPODS

- Scratch resistant matte black anodized aluminum
- An enclosed cross section construction offers non-twistable legs and extra rigidity
- 2500 and 2900 series are equipped with quik-release fluid effect pan head. (Needle bearings with visco-elastic lubricants)
- Pan handle can be adjusted for right or left hand use
- Center column controlled by spring pressure and column brake, which prevents your camera from dropping suddenly and being damaged
- Moving parts operate smoothly and are easily controlled

Product Number	Description	Price
	<b>21mm DIAMETER TUBULAR LEGS</b>	
T2101	4 Sections; maximum height 51"; ball head, invertible center column; weight 1.5 lbs. . . . .	\$49.95
T2102	Same as #T2101 but supplied with 2 way pan head. . . . .	54.95
T2104	4 Sections; maximum height 51"; 2 way pan head; elevator crank; locking center braces; weight 1.75 lbs. . . . .	64.95
	<b>25mm DIAMETER CLOSED CHANNEL LEGS</b>	
T2502	3 Sections; maximum height 64"; 3 way pan head w/quik release and fluid effect; invertible center column; leg braces. Weight 4 lbs. . . . .	\$124.95
T2503	Same as #2502 plus center column removable which converts to 3 section unipod. Weight 4.75 lbs. . . . .	169.95
T2504	3 Sections; maximum height 63"; elevator crank; locking center brace; ball head. . . . .	119.95
T2507	<b>Ideal for Compact Video</b> 3 Sections; maximum height 64"; 2 way pan head w/quik release and fluid effect invertible center column; leg braces. Weight 3.75 lbs. . . . .	109.95
T2901	3 Sections; maximum height 64"; 3 way pan head w/quik release and fluid effect; elevator crank; leg braces. Weight 4.4 lbs. . . . .	139.95
T2902	<b>Mini-Macro</b> , 3 Sections; maximum height 43"; minimum height 9 3/4"; ball head; center column invertible; center braces; legs steplessly adjustable to ground level . . . . .	104.95
T2903	<b>Grounder</b> ; 3 sections; maximum height 64"; minimum height 9 3/4" 3 way pan head w/quik release and fluid effect; center column invertible; leg braces; legs are steplessly adjustable. Weight 4.4 lbs. . . . .	159.95
T2904	3 Leg sections; 3 way pan head with quik release and fluid effect; maximum height 82 3/4"; minimum height 4"; center braces; legs steplessly adjustable to ground level; supplied with macro rail head . . . . .	\$199.95
	<b>UNIPODS/LIGHT STAND</b>	
T0741	5 Sections; maximum height 58"; folded 15". Weight 3/4 lb. . . . .	\$39.95
T1747	4 Sections; 2 way pan head w/quik release and fluid effect; maximum height 62"; folded 21"; bottom leg opens to 3 way ground support. Weight 1.7 lbs. . . . .	69.95

Product Number	Description	Price
<b>ACCESSORIES</b>		
T0708	<b>Quik Release Head</b> Fits any tripod or camera with 1/4" thread. Supplied with 1/4" quik-release platform . . . . .	\$ 26.95
TV070	Same as #T0708 except supplied with 0858 video adaptor . . . . .	29.95
T0788	<b>Spirit Level</b> 2 section simultaneous metering of horizontal and vertical planes; fits standard accessory shoe (cameras), 2500, and 2900 Cullmann series tripods . . . . .	24.95
T080	<b>Table Tripod/Shoulder Pod</b> Quik release head; folded 5.5" . . . . .	64.95
T0818	<b>Adaptor 1/4"</b> Replacement platform for quik release head . . . . .	9.50
T0828	<b>Adaptor 3/8"</b> Replacement platform for quik release head . . . . .	10.50
T0838	<b>Adaptor 1/4"</b> with horizontal stabilizer . . . . .	12.00
T0848	<b>Adaptor 3/8"</b> with horizontal stabilizer . . . . .	12.00
T0858	<b>Video Adaptor</b> Supplied with removable video locator pin . . . . .	12.00
T9048	<b>Ball Head Medium</b> . . . . .	44.95
T9058	<b>Ball Head Large</b> . . . . .	74.95
T909	<b>Tripod Case</b> Has side pockets for accessories; gray nylon, padded . . . . .	29.95
T910	<b>Deluxe Tripod Case</b> Has side pockets for accessories; heavy-duty wide shoulder strap; gray nylon, padded . . . . .	47.50
T9528	<b>Cable Release 32"</b> Designed to fit through control arm of Cullmann pan heads . . . . .	14.95
T956	<b>Bracket</b> Mounts into quik release pan heads; supports electronic flash or other threaded accessories . . . . .	14.95
T962	<b>Macro Rail</b> Movable camera platform controlled by center crank; pan heads can be attached at either end of rail. Can be mounted on inverted column of tripod. . . . .	94.95
T969	<b>3 Way Pan Head</b> Supplied with T0818 1/4" quik release adaptor . . . . .	69.95
T1001	<b>Touring Set</b> Consists of compact 3 section tripod with ball head; wood screw; universal clamp; ground spike; suction pad . . . . .	124.95
T1003	<b>Suction Pad</b> Will support 22 lbs. . . . .	44.95
T1004	<b>Universal Clamp</b> . . . . .	44.95
T10058	<b>Wood Screw</b> Allows cameras to be attached to any wood surface . . . . .	12.95
T10068	<b>Ground Spike</b> Allows cameras to be securely mounted in any type soil such as gravel, sand . . . . .	19.95

"8" denotes blister pak

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# VIDEO CAMERA BAGS

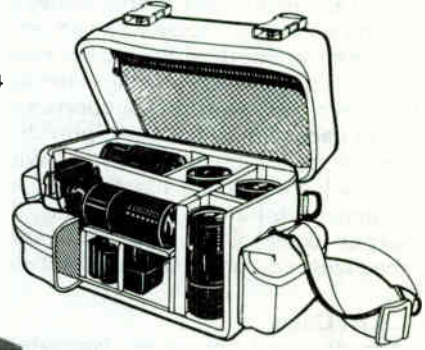
## Video Camera Bags

- Bag walls and adjustable dividers are anti-shock padded with high-density, moisture-resistant, closed-cell foam
- The industry's most extensive use of Fastac<sup>®</sup> hook'n loop material allows unlimited readjustment of interior space
- Unique, Padded Lens Bench<sup>™</sup> holds camera with zoom or telephoto lens attached, for instant use
- All seams are reinforced. All stress points are double reinforced with piping and/or double-X stitching
- Shoulder straps utilize ergonomic design which prevents slipping and feels comfortable

Cullmann Bags are designed and manufactured from only the finest materials. High-impact hardware is rust and corrosion-proof. Famous YKK zippers are rugged and smooth. The urethane-coated, high-count micro-denier Duracord<sup>™</sup> fabric is tear-resistant, tends to be self-healing if punctured, and is very easy to clean. Interiors are Reflex Blue water-resistant nylon that gives high visibility to whatever you put in the bag, so that even small items are easy to find.



Multi-Format Bags  
7900, 7902, 7904



7970



Video Bags  
7965, 7970

**7900 Multi-Format System Bag.** Gray Duracord with Gray/Blue accent—13<sup>1</sup>/<sub>2</sub>" x 6<sup>3</sup>/<sub>4</sub>" x 7" features zippered drop-down bottom compartment that adds 3" or 273 cu. in. storage. Padded exterior pockets . . . \$124.95

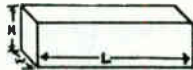
**7902 Multi-Format System Bag.** Black Duracord with Black/Blue accent—13<sup>1</sup>/<sub>2</sub>" x 6<sup>3</sup>/<sub>4</sub>" x 7" features zippered drop down compartment that adds 3" in height. Padded exterior pockets . . . \$124.95

**7904 Multi-Format System Bag.** Black Softex<sup>™</sup> with Black/Blue accent—13<sup>1</sup>/<sub>2</sub>" x 6<sup>3</sup>/<sub>4</sub>" x 7" features zippered drop-down bottom compartment that adds 3" in height. Padded exterior pockets . . . \$134.95

**7965 Video Bag.** Ideal for VHS camcorders. Black Softex—15<sup>1</sup>/<sub>2</sub>" x 6<sup>3</sup>/<sub>4</sub>" x 7" features zippered bottom compartment for extra batteries, tapes, or cables. Adds 2" depth . . . \$109.95

**7970 Video Bag.** Black Softex with Black/Blue accent—9<sup>1</sup>/<sub>2</sub>" x 6<sup>1</sup>/<sub>2</sub>" x 6<sup>1</sup>/<sub>2</sub>". Ideal for 8mm compacts. Features zippered bottom compartment for extra batteries, tapes, or cables. Adds 2" depth. . . \$79.95

Measurements shown are interior dimensions.  
They do not include exterior pockets. LxWxH



7965

## DAGO CASES

6945 Indiana Court  
Suite 600  
Golden, CO 80403  
(303) 421-7912 (inside Colorado)  
(800) 342-3246 (outside Colorado)

## CASES

### DAGO CASES

- The case core and all interior partitions are constructed of  $\frac{3}{8}$ " American-made AC grade plywood meeting all U.S. government specifications
- Finished panels are assembled at the corners by full-length 1" aluminum interlocking corner extrusions stapled every 2" from the inside, providing extra support and a cleaner, more finished look
- Where case sections meet, a solid aluminum tongue-and-groove valance travels full length around each case section, again adding substantially to the structural strength of the closed case
- On the hinged top, a heavy-duty piano-style hinge is riveted every  $2\frac{1}{2}$ ". All hinged tops have  $1\frac{1}{2}$ " woven lid supports securely riveted to the interior of each side of the case, providing ample support for the opened top
- Interiors are fitted with 2.2 lbs./cu. in. high-density foam, cut and installed by hand to the contour of your equipment. Ethafoam extra-density foam is also available for heavier loads
- Cable and hardware compartments are finished with a durable snag-resistant olefin fiber material

#### A.T.A. Case

- The plywood panels are laminated with either Nevamar® melamine-resin laminate, fiberglass panels, or aluminum as per your specifications
- Mounted at each corner of the case with six rivets is a 14 gauge rust-resistant steel ball corner. Corners are available rounded or, as an option, stackable
- Case closures are recessed and designed to meet A.T.A. regulations. They fit flush with the valance, leaving no gaps. The twist lock feature eliminates accidental opening during rough handling. Options include padlock catches or separate flush mounted key locks for protection against unauthorized tampering
- All handles are recessed and have extra-thick rubber grips for comfortable handling of heavy loads
- Heavy-duty steel casters are available as an option for large or heavy cases. All casters are mounted to a  $\frac{3}{4}$ " caster plate and securely bolted to the bottom of the case

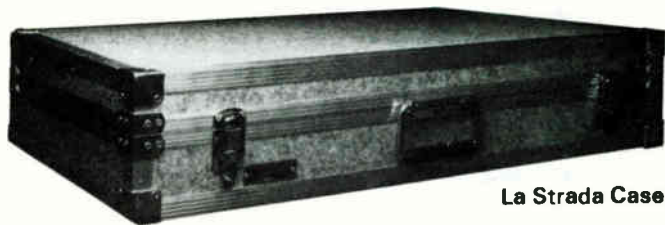
The Dago A.T.A. Case is designed and made for heavy-duty use where common carriers (airlines, trucking, overseas shipping) are utilized on a regular basis. It is particularly suitable for the transporting of delicate instruments, computers and peripherals, musical instruments and equipment, and audio-visual, video, and photography gear.

#### La Strada Flite Case

- The plywood panels are covered with a heavy-duty olefin fiber material
- Corners are either 14 gauge rust-resistant steel ball corners or 20 gauge steel flat corners, depending on the size of the case
- Case closures are recessed and designed to meet A.T.A. regulations. They fit flush with the valance, leaving no gaps. The twist lock feature eliminates accidental opening during rough handling. Options include padlock catches or separate flush mounted key locks for protection against unauthorized tampering
- All handles are recessed and have extra-thick rubber grips for comfortable handling of heavy loads
- Casters can be added, and are available in four different styles. All casters are mounted to a  $\frac{3}{4}$ " caster plate and securely bolted to the bottom of the case



A.T.A. Case



La Strada Case

The Dago La Strada Flite Case is designed and made for heavy-duty use where common carriers (airlines, trucking, overseas shipping) are utilized. It is suitable for the transporting of delicate instruments, computers and peripherals, musical instruments and stage equipment, and audio-visual, video, and photography gear. The La Strada Flite Case utilizes the same high quality materials as our A.T.A. cases but with one difference—the outer covering is a distinctive heavy-duty olefin fiber fabric. This is an extremely durable material that is scuff-, tear-, and soil-resistant. It will not snag or unravel, and is available in six colors.

#### La Strada Case

- The plywood panels are covered with distinctive heavy-duty durable olefin fiber material
- Handles have extra-thick rubber grips for comfortable handling of heavy loads
- To prevent unwanted tampering, an exterior key lock is provided
- A combination model is available as an option
- Case closures are exterior mounted and of all steel construction
- Heavy-duty steel casters are available as an option for large or heavy cases

The Dago La Strada Case line was developed for equipment that is handled in local and short-distance situations but does not require the added weight and bulk of the A.T.A. and La Strada flight cases. Although this case is not intended for the extreme handling inflicted by common carriers (airlines, trucking), La Strada cases are built with the same attention to detail as all Dago cases. Distinctive heavy-duty olefin fiber outer covering provides a lighter-weight, durable case that will last.



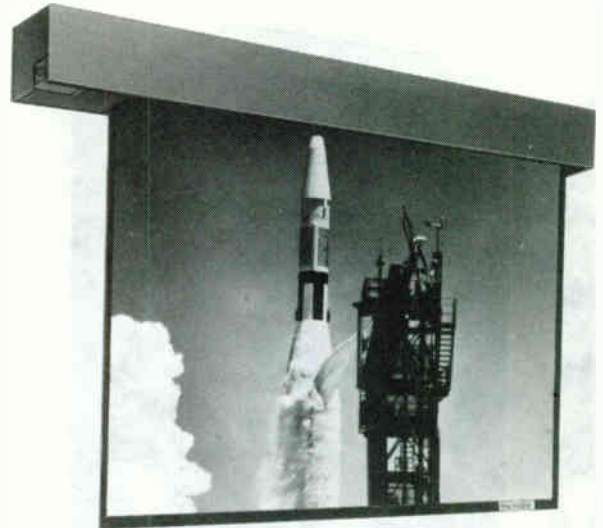
# DA-LITE SCREEN COMPANY, INC.

3100 State Rd. 15 N.  
P.O. Box 137  
Warsaw, IN 46580  
(219) 267-8101  
Telex: 23-2649 FAX: (219) 267-7804

# TELEVISION FORMAT PROJECTION SCREENS



Picture King



Senior Electrol

## VIDEO PROJECTION SCREENS

Various models available with White Magic glass beaded or nongloss matte white surface, both flame retardant and mildew resistant.

### TRIPOD MODEL SCREENS

#### Picture King

- Extra heavy-duty tripod • Spring roller in embossed metal case • Camlok metal roller system • Automatic fabric lock • Automatic leg lock • Extra heavy extruded gable type constructed aluminum legs • Full range height adjustment • Plunger locks for positive stops • Built-in keystone eliminator

Size H x W	Nominal Diag. Size	Glass Beaded	Matte White	Suggested Retail
64" x 84"	100"	Picture King 11-3125-040	11-3125-330	\$296.00
72" x 96"	10'	11-3145-040	11-3145-330	322.00

### MANUAL WALL/CEILING SCREENS

#### Model B™

- Large, ruggedly constructed screen • No rub, flat back case • Grooved metal rollers on larger sizes • May be hung from wall, ceiling or map rail hooks

#### Model C™

- Floor stand to fit all sizes, optional at extra cost • Slat saddle distributes pull on heavy fabric for easier operation and longer life • Pull cord furnished • Case ball bearing mounted roller ends have sturdy metal supports concealed by heavy-duty end caps designed with built-in brackets for easy installation on wall or ceiling

Size H x W	Nominal Diag. Size	Glass Beaded	Matte White	Suggested Retail
<b>Model B</b>				
64" x 84"	100"	11-7125-040	11-7125-330	\$176.00
72" x 96"	10'	11-7145-040	11-7145-330	210.00
<b>Model C</b>				
64" x 84"	100"	11-9125-040	11-9125-330	\$280.00
72" x 96"	10'	11-9145-040	11-9145-330	290.00

### ELECTRIC WALL/CEILING SCREENS

#### Cosmopolitan® Electrol®

- Whisper-quiet screen with fingertip operation • Picture surface centered • Custom crafted for visual presentations • Walnut grain vinyl covered steel case

#### Board Room Electrol®

- Picture surface centered • Sturdy wood case • Comes assembled ready for in-ceiling installation

#### Senior Electrol®

- Automatic electric operation • Heavy-duty motor driven • Complete with three position control switch and metal hangers for either wall or ceiling installation • Strong wood case

Size H x W	Nominal Diag. Size	Glass Beaded	Matte White	Suggested Retail
<b>Cosmopolitan Electrol</b>				
64" x 84"	100"	12-8125-040	12-8125-330	\$647.00
72" x 96"	10'	12-8145-040	12-8145-330	665.00
<b>Boardroom Electrol</b>				
64" x 84"	100"	12-7125-040	12-7125-330	\$1287.00
72" x 96"	10'	12-7145-040	12-7145-330	1300.00
<b>Senior Electrol</b>				
64" x 84"	100"	12-5125-040	12-5125-330	\$1074.00
72" x 96"	10'	12-5145-040	12-5145-330	1083.00

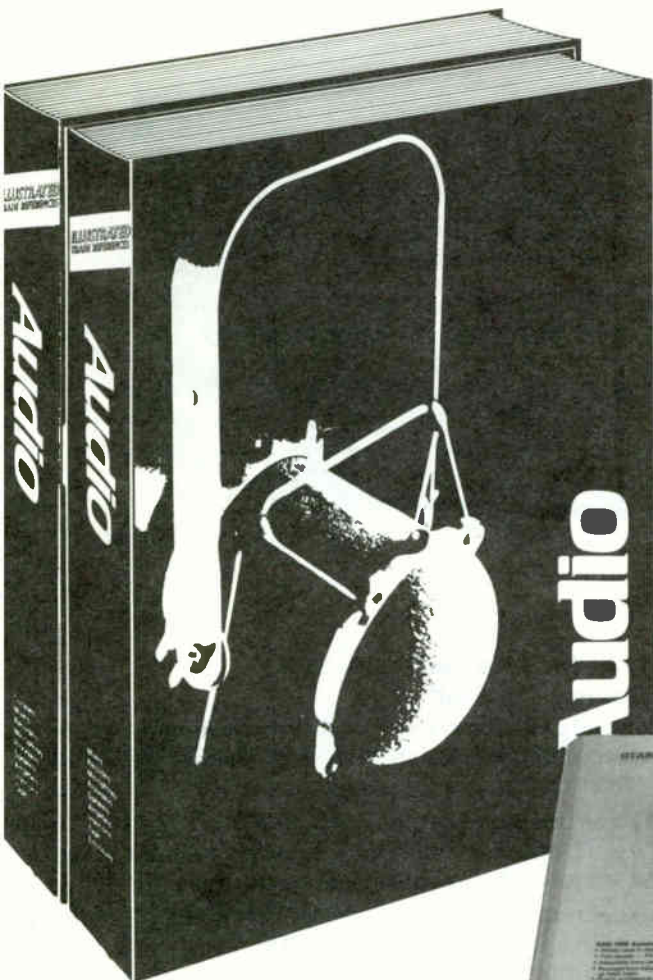
### PORTABLE SCREENS

#### Fast-Fold

- Free standing portable frame • Screen grommeted and suspended in frame on springs • Frame and legs 1" square hard alloy structural aluminum tubing etched and anodized • Frame height adjustable on legs in 6" increments • Folding frame can be tilted for keystone

Size H x W	Nominal Diag. Size	Surface	Da-Lite Number	Suggested Retail
63" x 84"	100"	Da-Matte	12-2091-030	\$ 425.00
63" x 84"	100"	Da-TeX	12-2091-090	611.00
63" x 84"	100"	Pearlescent	12-2091-190	465.00

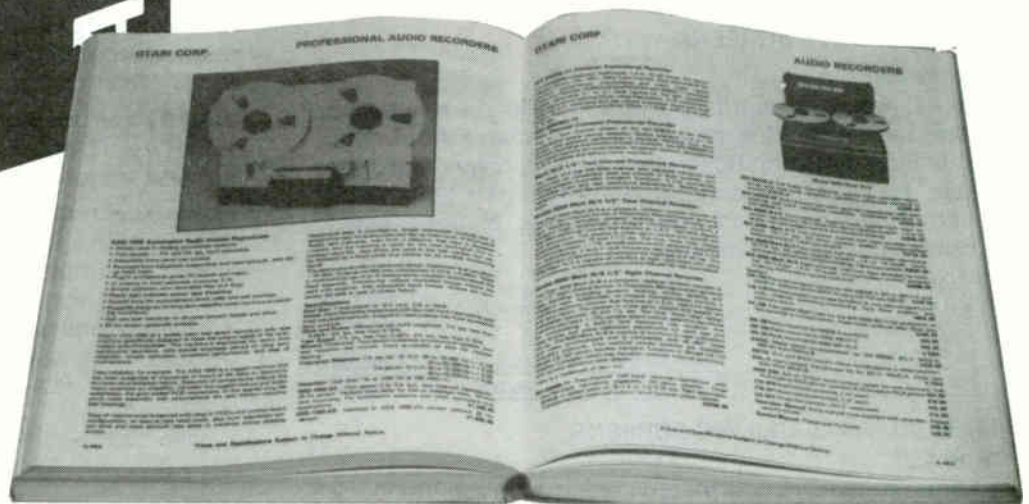
## Illustrated Trade References



**HARDBOUND**  
**8½" x 11"**  
**PAGE FORMAT**

# AUDIO

**PROFESSIONAL AUDIO & COMMERCIAL/ INDUSTRIAL SOUND EQUIPMENT Buyers Guide** — 2288 pages of Studio & Remote Audio Recording Equipment & Systems for stage, concert, auditorium, arena, stadium, hall, church, industry, business, commercial, school, hospital & hotel sound reinforcement, background music, paging, intercommunications, telephone & telecommunications systems & equipment. In a 2 volume set.  
ISSN #0882-5432 **\$195.00**



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# Categories of Equipment & Devices

## **AUDIO RECORDERS/PLAYERS, TURNTABLES & EDITING SYSTEMS**

Digital Players/Recorders, Disk Recorders/Players, Tape (Blank Recording), Tape Editing, Synchronizers, Time Code Readers/Generators, Reels, Leader, Labels, Tape Accessories, Automation and Logging Systems, Cassette Decks, Players, Recorders, Duplication Systems, Copiers, Cassette Storage Albums, Mailers, Tape Winders and Loaders, Chemicals and Care Products, Clocks and Timers, Demagnetizers, Degaussers, Erasers, Head Cleaners, Heads (Replacement) Message Repeaters, Music and Sound Effects Libraries, Programmers and Random Access Systems, Record Cleaning Systems, Kits and Supplies, Tape Evaluators, Cleaners, Tape Splicers and Supplies, Turntables, Phono Cartridges, Styli Pre-Amps, and Tone Arms.

## **AUDIO MIXERS AND CONSOLES**

Audio Consoles, Mixers, Faders, Pre-Amplifiers.

## **SOUND EQUIPMENT AND SYSTEMS**

Audio Amplifiers, Compressors, Limiters, Expanders, Processors, Distribution Amplifiers, Effects, Equalizers, Reverberation, Synthesizers, Background Music Systems, Batteries, Power Supplies, Chargers, Chime Systems, Feedback Controllers, Lecterns, Line Monitors, Megaphones, Noise Reduction Systems, Paging and Public Address Systems, Portable Sound Systems, Audio Switchers, Tuners, Wireless Sound Systems.

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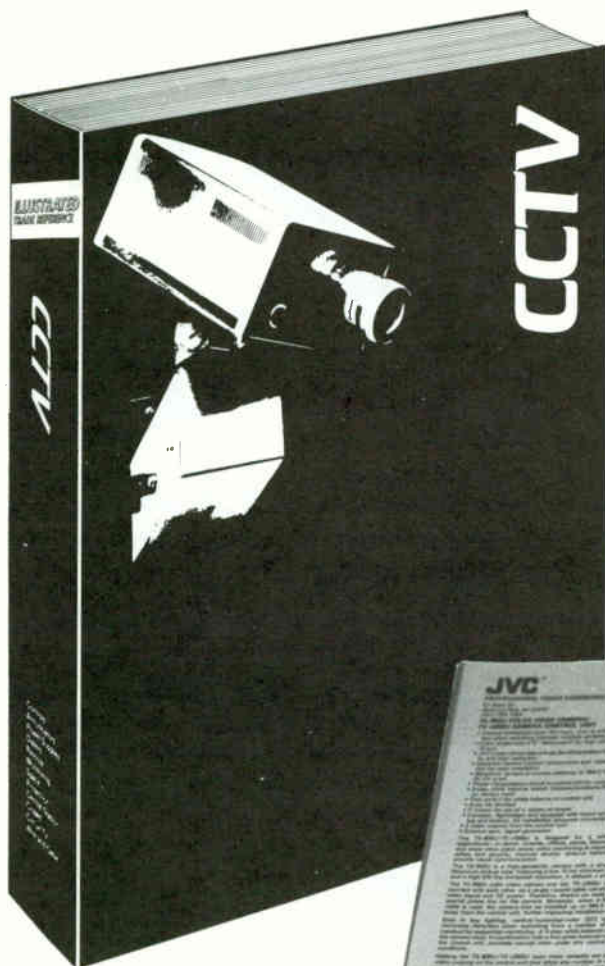
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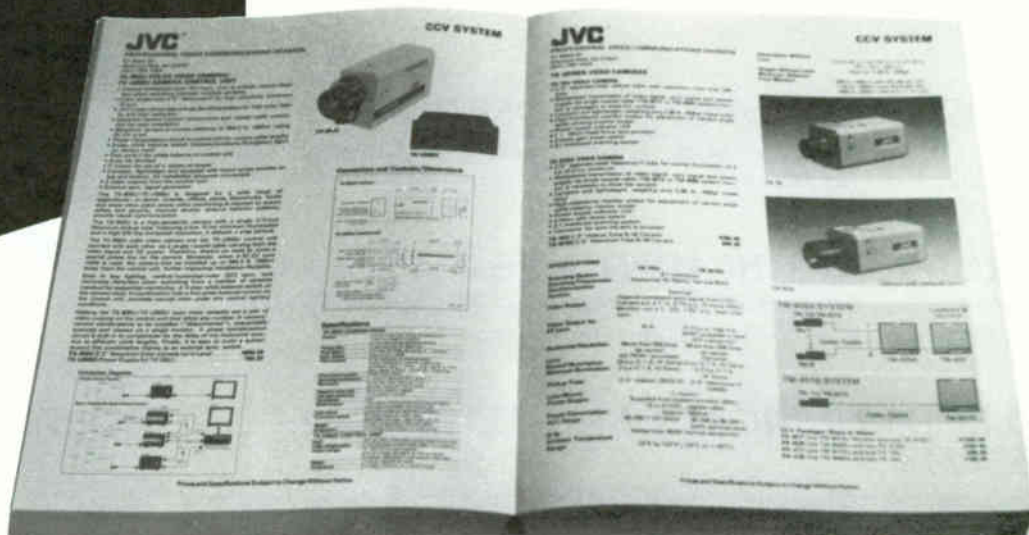
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# DATATEK CORP.

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## D-2000 SERIES ROUTING SWITCHERS

- Compatible matrix frames of 50 x 25, 25 x 25 and 25 x 20 used as building blocks for systems of up to 256 inputs, with up to 8 levels of control
- Easily field expandable—no need to specify initially the future matrix size
- Switcher is output oriented with each output bus having its own microprocessor control system, independent of every other output bus
- Serial data control system using RG-59/U coax—with opto-isolators in the control lines to avoid compromising reliability due to ground loop hum
- D-4300 series switching units can be furnished with compatible microprocessor controls, for use where small auxiliary switchers are needed for special purpose additional levels
- Non-proprietary components, available through electronics distributors, used throughout
- All plug-in modules interchangeable with other modules of same type. Switcher remains within specifications, without readjustment, when modules interchanged.

The Datatek D-2000 series of Video and Audio Routing Switchers use a variety of compatible matrix frames to make up systems of various sizes for video, audio, SMPTE time code and intercom.

The D-2000 series switchers are easily field expandable without down time, by adding matrix frames and interconnecting them with plug-in cables. There is no need to specify initially the future size of the switcher, provided the ultimate size is not greater than 256 inputs.

The switchers are output oriented both from a signal and a control standpoint. Output modules are either 25 x 1 or 50 x 1 and each output module has its own microprocessor control system which is completely independent of the control system on any other output bus. This provides maximum bus security since failure of a microprocessor or shorting a control line will affect only one bus and not the entire matrix.

Further, since each output bus has its own control system, the crosspoint tally fed back to the control panel is generated on the same module as that on which the crosspoint is located. A positive crosspoint tally status for the bus is generated, rather than a tally generated from a central control module serving many output busses.

Serial data is used over standard RG-59/U coaxial cable to connect the matrix frames to the control panels. This simplifies installation and reduces cost. To insure that ground loop hum does not compromise the reliability of the serial data control system, control panels are equipped with opto-isolators.

By combining a video matrix frame with one or more audio, time code, etc. matrix frames, multi level systems can be assembled for video, audio, stereo audio (left and right), SMPTE time code, intercom, tally, and machine assignment. The control system provides for up to 8 levels of control, any of which may be "follow video" or "breakaway". Where an auxiliary matrix of small size is needed, D-4300 series switching units can be equipped with compatible microprocessor control modules, and controlled as part of the D-2000 switcher. This is useful where a small video or audio auxiliary matrix is needed for special purpose additional levels for switching audio, tally, intercom, SMPTE time code, synclock, cursors, time base correctors, etc.

### D-2000 Series Video and Audio Routing Switchers

The D-2000 Series Routing Switchers use a serial data control system and have expansion capability to 250 inputs x 250 outputs.

**D-2000-25x20V** Video Routing Switcher. Basic "Building Block" matrix frame capacity is 25 inputs x 20 output busses. Frame size is 7 inches.

**D-2000-25x25V** Video Routing Switcher. Basic "Building Block" matrix frame capacity is 25 inputs x 25 output busses. Frame size is 8-3/4 inches.

**D-2000-50x25V** Video Routing Switcher. Basic "Building Block" matrix frame capacity is 50 inputs x 25 output busses. Frame size is 10-1/2 inches.

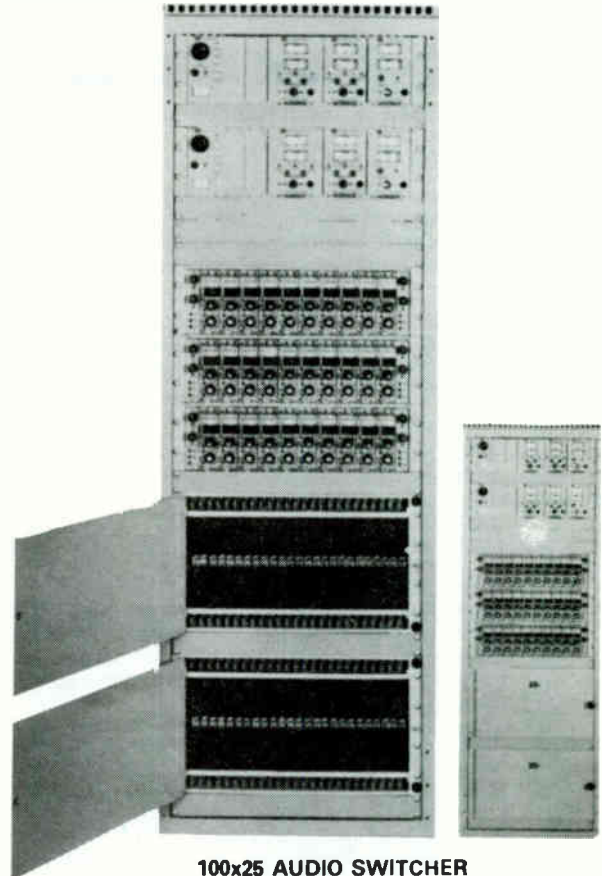
**D-2000-25x20A** Audio Routing Switcher. Basic "Building Block" matrix frame capacity is 25 inputs x 20 output busses. Frame size is 7 inches.

**D-2000-25x25A** Audio Routing Switcher. Basic "Building Block" matrix frame capacity is 25 inputs x 25 output busses. Frame size is 8-3/4 inches.

# VIDEO-AUDIO ROUTING SWITCHERS

## D-2000-50x25A

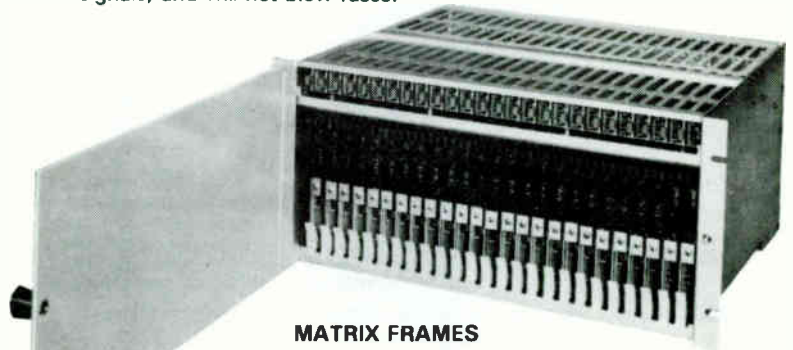
Audio Routing Switcher. Basic "Building Block" matrix frame capacity is 50 inputs x 25 output busses. Frame size is 10-1/2 inches.



### 100x25 AUDIO SWITCHER

There are no proprietary components used in the Datatek switching systems. All components are available through electronics distributors as standard items.

All plug-in modules are interchangeable with other modules of the same type, and the switcher will remain within specification, without adjustment, when modules are interchanged. If cable equalization is used, the cable equalizer would of course normally need to be reset. Removal or insertion of modules with power on will not disturb other signals, and will not blow fuses.



### MATRIX FRAMES

**D-2021** Power Supply System, 5-1/4" rack mounting. Includes fault monitoring and alarm.

**D-2044** Latch Retention (Battery) Supply.

**D-2045** Control Buffer Frame, 3-1/2", for use with X-Y Control Panels.

**D-2014** Source Tally Relay Frame, 1-3/4"

**D-2019** Parallel Interface Frame, 5-1/4"

Prices and Specifications Subject to Change Without Notice.

V-355



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# CONTROL PANELS



D-2047 Three Bus Lever Switch Control Panel



D-2029 Single Bus Touch Pad Control Panel

## D-2000 Series Control Panels

Each Datatek control panel is equipped with its own microprocessor to communicate with an associated output bus microprocessor in the matrix frame. The serial data control system uses RG-59/U coaxial cable, with an optoisolator in each bus to prevent errors due to ground loop hum.

Control panels are available to operate either a single bus, or multiple busses. They are also available for audio-follow-video, audio or video breakaway, and for controlling multiple levels, either on a follow or breakaway basis. In addition, the control panels can be lever switch, touch pad keyboard, or pushbutton per input.

Modems and RS-232-C interfaces are available to operate single or multiple busses over standard telephone lines, or connected to automation systems.

**Control Panels** — Some of the D-2000 series control panels are listed below.

- D-2029** Single Bus Touch Pad Control Panel, 1-3/4" Rack Mounting, for video-only, audio-only, or audio-follow-video switching. With two LED displays, one for preset (selection) and one for line. With reset and take button.
- D-2030** Single Bus Touch Pad Control Panel, 1-3/4" Rack Mounting, for one video and two audio channels, with provisions for switching audio-follow-video or breakaway of one or both of the audio channels. Includes three LED displays, one each for video and audio channels 1 and 2. Includes switch level select switch, reset and take button.
- D-2031** Single Bus Touch Pad Control Panel, 1-3/4" Rack Mounting, for audio-follow-video or audio breakaway switching. With two LED displays, one for video source and one for audio source. Includes split-audio switch, reset and take button.
- D-2032** Portable Diagnostic Control Unit, for checking matrix status from front of rack. Includes LED displays and touch pad keyboard. May also be used as a single bus control panel.
- D-2033-25** Single Bus Pushbutton Control Panel, 1-3/4" Rack Mounting, with 25 illuminated pushbutton switches.
- D-2033-25S** Single Bus Control Panel, 1-3/4" Rack Mounting, with 25 illuminated pushbutton switches. Provision for split audio switching.
- D-2033-25P** Single Bus Control Panel, 1-3/4" Rack Mounting. Programmed to control any 25 specified inputs out of the matrix.
- D-2033-50** Single Bus Pushbutton Control Panel, 3-1/2" Rack Mounting, with 50 illuminated pushbutton switches.
- D-2033-50S** Same as above, but with additional switch for split audio switching.
- D-2034 S** Multi-Bus Touch Pad Control Panel, 3-1/2" Rack Mounting, for operation of the full matrix or a portion of the matrix, including provision for split audio operation. Includes two LED displays, one for output bus and one for input selected. With touchpad, reset and take button. Equipped with key-lock inhibit of the take switch to prevent accidental interference with individual bus control panels. Requires also D-2045 Control Buffer Frame.

- D-2037** Single Bus Control Unit, 2-digit lever switch input selection, no take button. Signal switches as lever switch changed. In miniature housing.
- D-2040** Single Bus Desk Top Control Panel, touch pad input selection with reset and take button, and LED status display.
- D-2041** Single Bus Desk Top Control Panel, lever switch input selection with take button.
- D-2042** Single Bus 2-Digit Lever Switch Control Panel, 1-3/4" Rack Mounting, with LED status display and take button.
- D-2042A** Single Bus 3-Digit Lever Switch Control Panel, 1-3/4" Rack Mounting, with LED status display and take button.
- D-2047** Three Bus 2-Digit Lever Switch Control Panel, 1-3/4" Rack Mounting.
- D-2049** Two Bus 2-Digit Lever Switch Control Panel, 1-3/4" Rack Mounting.
- D-2049A** Two Bus 3-Digit Lever Switch Control Panel, 1-3/4" Rack Mounting.
- D-2050** Supervisory CRT Terminal and X-Y Control Panel. Requires also D-2045 Control Buffer Frame.
- D-2036** Alpha-Numeric Single Bus Control Panel, 1-3/4" Mounting, 10 Alphas and 10 numerics/Alpha.
- D-2069A** Alpha-Numeric Single Bus Keypad Control Panel, 1-3/4" Rack Mounting, 12 Alphas and 99 numerics/Alpha.
- D-2098** Two Bus Keypad Control Panel, 3-1/2" rack mounting.
- D-2100** Single Bus Keypad Control Panel, 3-1/2" rack mounting.
- D-2103** Eight Bus Keypad Control Panel, 3-1/2" rack mounting, permits split audio, with nine LED displays.

## Machine Assignment and Control System

The Datatek Machine Assignment and Control System is designed for operation in conjunction with the D-200 Video-Audio Routing Switcher.

- D-2000-25x25D** Bi-Directional Data Matrix, 8-3/4", for 25 Source Buffer Modules and 25 Destination Switch Modules.
- D-2000-50x25D** Bi-Directional Data Matrix, 10-1/2", for 50 Source Buffer Modules and 25 Destination Switch Modules.
- D-2204** Source Buffer Module (one needed for each machine interfaced into system).
- D-2205** 25x1 Destination Switch Module (one needed for each machine control panel).
- D-2206** 50x1 Destination Switch Module (one needed for each machine control panel).
- D-2207** Machine Interface Unit, 8 function.
- D-2208** Machine Interface Unit, 16 function.
- D-2213** Machine Control Panel Module. Provides: (A) RS 422 connection to 25x1 or 50x1 Destination Switch Module and (b) Connection to readouts and momentary normally open switches on console for up to 8 functions.

Control Panels—Price dependent on customer requirements. Customer can use existing switches if desired or can build own panels.

Because of options and system configuration affecting price, all prices are on a "Price on Application" basis.



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## ROUTING SWITCHER

### D-2400 Routing Switcher

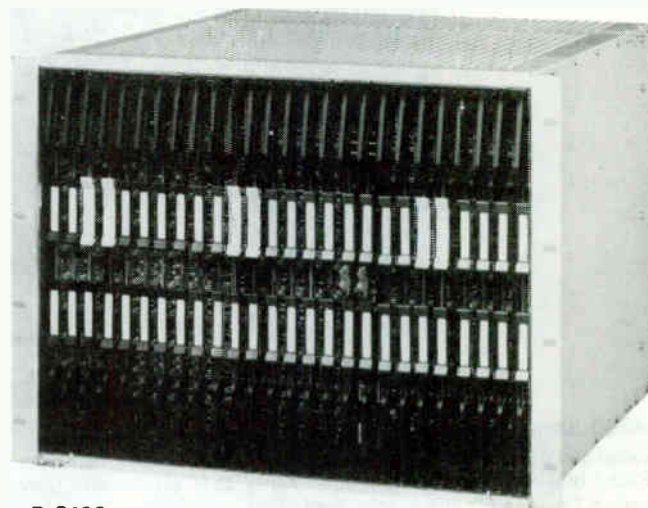
- Compact design—up to 450 crosspoints per RU
- Inherent capability for up to 8 levels—individually addressable
- Up to 4 levels accommodated in one card frame
- Unlimited expansion, inputs and outputs
- Field expansion without rewire
- Wide video bandwidth (60MHz) to handle HDTV, MAC or Digital Video signals
- Vertical interval switching standard—external reference not used
- High audio level and low noise give wide dynamic range of 116dB minimum
- Very short, consistent access time, regardless of size
- Independent control microprocessor for each two buses in the system
- Minimum of two X-Y control ports for overall matrix control, with computer control capability
- Control system compatible with D-2000, D-2200, D-2300, D-4300 systems and control panels
- Modules are not slot conscious—no PROM nor switch changes required
- All crosspoints computer tested at factory

An extremely flexible control system is used, providing for comprehensive control of up to eight levels, for field programming either the whole or part of the matrix, for external RS-232/422 control, etc. The system is compatible with D-2000, D-2200, D-2300 and D-4300 series systems.

Unlimited field expansion of inputs and outputs is available, using building blocks of various configurations. Knowledge of, or an estimate of, ultimate system size at the point of initial installation is not required. Terminating inputs and internally bused-together card frames are not used.

Very wide bandwidth and high slew rate in the video matrix prepare the D-2400 to handle HDTV, MAC, Digital Video, etc. signals. Similarly, the high quality, high level and wide bandwidth of the audio matrix provide for a wide range of audio signals, including time code.

D-2400 systems are based on the use of 20 x 10 matrixed crosspoint boards and 10-bus output amplifier boards, arranged in various configurations and accommodated in 14" (8 rack units) card frames.



D-2400

Standard building block configurations are used. They range from 160 x 20 by 1 level to 40 x 20 by 4 levels. Modules and rear assemblies may be deleted for systems of smaller or intermediate size—or for an initial less-than-capacity installation that may later be brought up to full capacity by adding the deleted items. Other configurations within a card frame are available for special applications.

Regardless of system size and configuration, modules are not slot conscious. A module of a particular type will operate correctly in any slot where that type is used. PROM changes or switch changes, etc., are not required.

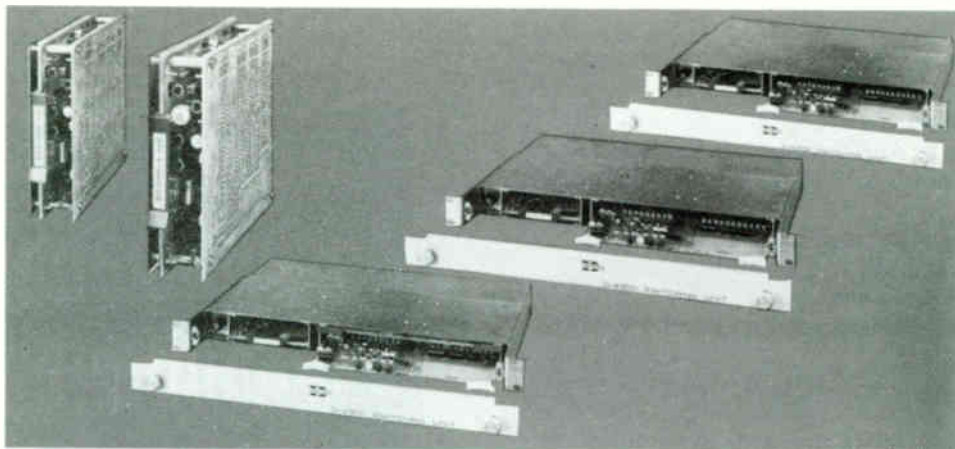
Datatek does not internally bus card frames together to initially provide an assembly of some specified ultimate system size. This practice, although convenient to a manufacturer, penalizes the customer with the necessity to specify an "ultimate" size, the necessity of occupying rack space with unused or partially unused card frames, and the necessity of higher initial cost.

All Datatek systems are expanded by external cabling, and the addition of system hardware as it becomes necessary. This, to a very large extent, relieves the customer from initial commitment to system size and configuration, to rack space and location, to hardware type and to higher initial cost.

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# ROUTING SWITCHERS



**VIDEO-AUDIO SWITCHING UNITS**

## D-4300 Series Video and Audio Switching Units

- Video and Audio switcher "building blocks" of 6 x 1, 16 x 1 and 20 x 1
- Each building block equipped with self contained power supply
- Choice of video-only switching, audio-only switching, audio-follow-video and split audio operation
- Video and Audio inputs are high impedance bridging, permitting stacking units for multiple output bus applications
- Vertical Interval video switching
- Video switching units equipped with 4-section cable equalizer on output
- Differential Phase/Differential Gain performance of 0.15°/0.15%
- Video crosstalk 60 dB or better to 6.0 MHz

- Audio maximum output level +30 dBm, balanced
- Audio distortion 0.15% maximum, 20 Hz to 20 kHz
- Audio dynamic range in excess of 100 dB
- Audio inputs and outputs on connectors
- Balanced audio crosspoint, audio common mode gain -60 dB, 10 Hz -20 kHz
- Remote control panels using momentary switches with choice of LED or incandescent lamps for feedback tally
- Remote control cable is RG-59/U coax with BNC connectors
- Local control panels available
- Switching units are plug-in modules
- Optional tally relays available for source tallies, intercom, etc.

### SWITCHING UNITS

<b>D-4301A</b>	6 x 1 Video Switching Module, bridging inputs, occupies 2 module widths in 10-module DF-603 Rack Frame. Less rack frame and remote control panel. . . . .	<b>\$395.00</b>
<b>D-4310A</b>	6 x 1 Video Switching Module, terminating inputs occupies 1 module width in DF-603 Rack Frame or DF-603H Rack Frame. Less rack frame and remote control panel. . . . .	<b>\$385.00</b>
<b>D-4302A</b>	6 x 1 Audio Switching Module, bridging inputs, occupies 1 module width in 10-module DF-603 Rack Frame or in 3-module width DF-603H Rack Frame. Less rack frame and remote control panel. . . . .	<b>\$405.00</b>
<b>D-4304A</b>	20 x 1 Video Switching Unit, bridging inputs, including 1-3/4" rack frame, less remote control panel. . . . .	<b>\$895.00</b>
<b>D-4305A</b>	20 x 1 Audio Switching Unit, bridging inputs, including 1-3/4" rack frame, less remote control panel. . . . .	<b>\$895.00</b>
<b>D-4317A</b>	20 x 2 Audio Switching Unit, bridging inputs, including 1-3/4" rack frame, less remote control panel. . . . .	<b>\$1800.00</b>
<b>D-4307A</b>	16 x 1 Video-Audio Switching Unit, audio-follow-video switching, bridging inputs. Includes 1-3/4" rack frame, less remote control panel. . . . .	<b>\$1250.00</b>
<b>DF-603</b>	Rack Frame, 5-1/4" . . . . .	<b>\$185.00</b>
<b>DF-603H</b>	Rack Frame, 1-3/4" . . . . .	<b>\$155.00</b>

### REMOTE CONTROL PANELS

<b>D-4320A-6</b>	Pushbutton Remote Control Panel, 6 inputs, for video only, audio-only or audio-follow-video switching. 1-3/4" rack mounting, less control cable (coax). Uses switches with LED tallies. . . . .	<b>\$375.00</b>
<b>D-4322A-6</b>	Pushbutton Remote Control Panel, 6 inputs, for video-only, audio-only or audio-follow-video switching. 1-3/4" rack mounting, less control cable (coax). Uses switches with lamps for tally, and clear plastic lenses for inserting legends. . . . .	<b>\$385.00</b>
<b>D-4320A-6S</b>	Pushbutton Remote Control Panel, 6 inputs, audio-follow-video or split-audio switching. 1-3/4" rack mounting. Uses switches with LED tallies. . . . .	<b>\$395.00</b>
<b>D-4322A-6x2</b>	Pushbutton Remote Control Panel, 6 inputs, 2 output buses, for controlling two of 6 x 1 type switching units. 1-3/4" rack mounting, less control cable (coax). Uses lamps for tally and clear plastic lenses for inserting legends. . . . .	<b>\$475.00</b>
<b>D-4320A-16</b>	Pushbutton Remote Control Panel, 16 inputs, for audio-follow-video switching. For use with D-4307A Switching Units. 1-3/4" rack mounting, less control cable (coax). Uses switches with LED tallies. . . . .	<b>\$435.00</b>
<b>D-4322A-16</b>	Pushbutton Remote Control Panel, 16 inputs, for video-only, audio-only or audio-follow-video switching. For use with D-4307A Switching Units. 1-3/4" rack mounting, less control cable (coax). Uses switches with lamp for tally, and clear plastic lenses for inserting legends. . . . .	<b>\$460.00</b>
<b>D-4320A-20</b>	Pushbutton Remote Control Panel, 20 inputs, for video-only, audio-only or audio-follow-video switching. For use with 20 x 1 Switching Units. 1-3/4" rack mounting, less control cable (coax). Uses switches with LED tallies. . . . .	<b>\$455.00</b>
<b>D-4322A-20</b>	Pushbutton Remote Control Panel, 20 inputs, for video-only, audio-only or audio-follow-video switching. For use with 20 x 1 Switching Units. 1-3/4" rack mounting, less control cable (coax). Uses switches with lamps for tally, and clear plastic lenses for inserting legends. . . . .	<b>\$490.00</b>
<b>D-4320A-20S</b>	Pushbutton Remote Control Panel, 20 inputs, for audio-follow-video or split-audio switching. For use with 20 x 1 Switching Units. 1-3/4" rack mounting. Requires 2 control cables (coax). Uses switches with LED tallies. . . . .	<b>\$465.00</b>

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# ROUTING SWITCHER

## D-4325 Routing Switcher

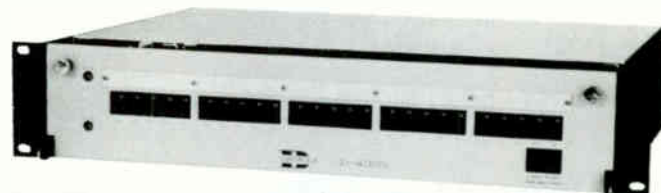
- 25 x 1 routing configuration in 2 rack unit frame:
  - Video and Stereo Audio
  - Video and single Audio Channel
  - Video Only
  - Stereo Audio
  - Single Channel Audio
- Control arrangements:
  - Local Control Panel
  - Remote Control Panel over coax line
  - RS-232/422 serial interface (standard)
  - "Wire per crosspoint" parallel
  - Binary parallel port (5 bit)
- All control arrangements operable in parallel with full tally
- Control system fully compatible with D-2000 series routing switchers
- Crosspoint status retained in event of power loss. Memory maintained for years
- AC coupled video inputs with DC restoration
- Vertical Interval video switching referenced to present output signal
- Precision video cable equalizing for outputs
- Differential Phase/Differential Gain of 0.08°/0.08%
- Audio inputs are balanced high impedance bridging, with high common mode rejection
- High audio output level capability, .03% total harmonic distortion at +32dBV
- Wide bandwidth audio for time code usage
- Provisions included to expand from 25 x 1 to 50 x 1

The D-4325 25 x 1 routing switcher provides "on-air" performance switching of video and audio signals. It is contained in a 2 rack unit mounting frame providing up to one 25 x 1 video and two 25 x 1 (stereo) audio channels, and redundant power supply modules. Modules can be deleted where less than maximum capacity is desired.

Twenty-five looping video inputs using BNC connectors are at the rear of the frame and allow expansion to more outputs by adding frames. Audio inputs are by way of 15-pin "D" connectors and, as in the case of the video inputs, looping audio input connectors are provided. A set of mating audio connectors is included with the system.

The rear of the frame also includes a 9-pin "D" connector for RS-232/422 control, which is included in the D-4325 package as standard. Loopthrough BNC connectors are included for use with D-2000 type control panels.

The front of the D-4325 frame can be equipped either with a blank front panel with power supply status LEDs, or a local control panel with audio/video breakaway capability. The front panel is hinged to provide access to the plug-in modules for adjustment or maintenance purposes. There are no active components in the rear of the frame; all active components are on the plug-in modules.



D-4325

## Control System

Control electronics for the D-4325 system is included on each of the video or audio switching/output modules. For audio-only switching, a separate control module is not needed.

The microprocessor based control system is D-2000 switcher compatible, allowing use of any of the D-2000 series control panels, as well as the control panels designed specifically for the D-4325 system. Pushbutton remote control is over a single coax cable using BNC connectors, and maximum control cable length is over 1,000'.

A local control panel, D-4325LC, mounts on the front of the rack frame in lieu of a front cover and provides audio/video breakaway switching. The D-4325LC local control panel also includes connectors for remote "wire per crosspoint" and binary parallel controls. This is useful when it is desired to operate the D-4325 system from existing control panels.

The D-2184-25 is a 1 rack unit remote control panel providing breakaway switching and also a "chop" facility to toggle automatically between two selected inputs. This is particularly useful in adjusting and comparing video levels, color levels and timing in amplifiers and program sources.

The D-2033A-25S Remote Control Panel, with relegendable button caps, is available as an alternative to the D-2184-25 Remote Panel.

An RS-232/422 control port is included in the D-4325 as standard, with baud rates up to 38.4K baud plug selectable on the switching/output modules. This allows control from computers, editors, terminals and modems.

A significant feature of the D-4325 control system is that all control methods may be operable in parallel, with normal tallies. For example, a switch made via the RS-232/422 port will be displayed as a tally on both the D-4325LC local control and D-2184-25 remote control panels.

The control system on each switching/output module includes a EEPROM to store crosspoint status in the event of a power loss. Data retention is specified as a number of years.



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# VIDEO AMPLIFIERS

## D-603G Video Distribution Amplifier

• Differential input • 6 outputs • Front access for adjustment of gain  
• Output DC • Continuously adjustable cable equalization 0 to 1000' of  
Belden 8281 • Individual power supply • Requires D-603RA

.....\$195.00

D-603RA Power Supply and Connector Assembly . . . . .100.00

## D-604 Pulse Distribution Amplifier

• Differential input • 6 outputs • Regenerative type • Front access ad-  
justment of output DC and levels • Individual power supply • Requires  
D-603RA . . . . . \$205.00

## D-605 Subcarrier Distribution Amplifier

• Differential input • 2 independently adjustable channels each with 3  
outputs • Individual power supply • Requires D-603RA . . . . \$285.00

## D-606 Video Distribution Amplifier-Precision D.A.

• Differential input • 6 outputs • Selectable DC restorer or AC coupled  
operation • High gain up to 18dB available • Individual power supply  
• Optional cable equalizer • Requires D-603RA . . . . . \$280.00

D-6061 Cable Equalizer for D-606, provides continuously adjustable  
control of equalization vs cable length. Up to 1500' of  
8281 . . . . . \$20.00

## D-609 Video Distribution Amplifier, Precision D.A.

• Differential input • 6 outputs • Individual power supply • Cable  
equalization in 50' steps and gain control in 3dB steps are mounted on  
rear of frame, not on plug-in module • Substitution of standardized  
VDA modules does not require adjustment for frame slot • Requires D-  
609RA . . . . . \$295.00

D-609RA Power Supply and Connector Assembly . . . . .115.00

## D-609F Video Distribution Amplifier

• Same as D-609, but cable equalization and gain controls are accessi-  
ble from front of rack frame • Controls are not on plug-in module • Re-  
quires D-609FRA . . . . . \$295.00

D-609FRA Power Supply and Connector Assembly . . . . .155.00

## D-619B Pulse Distribution Amplifier

• Differential input • 6 regenerative Gaussian shaped outputs • Pulse  
presence indicated on front panel • Individual power supply • Requires  
D-619RA . . . . . \$300.00

D-619RA Power Supply and Connector Assembly . . . . .100.00

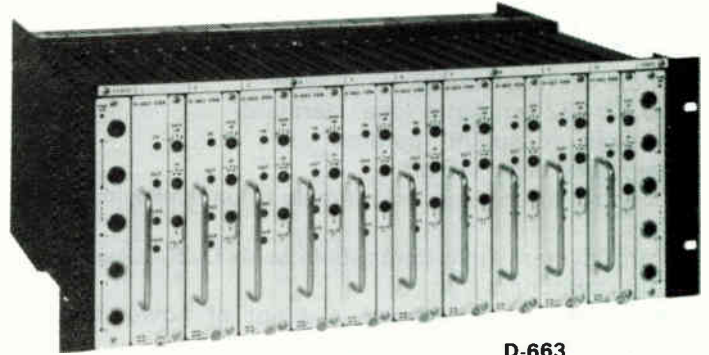
## D-663 Video Distribution Amplifier

• Differential input • 10 outputs • Individual power supply • Cable  
equalization—continuously adjustable • Gain control in 2dB steps with  
vernier mounted on front of rack frame and not on plug-in modules  
• Individual power supply • Requires D-663RA . . . . . \$385.00

D-663RA Power Supply and Connector Assembly . . . . .115.00

DF-663 7" Rack Frame, provides 10 module slots. . . . .325.00

DE-663 Module Extender . . . . . 30.00



D-663

## D-664 Video Distribution Amplifier

• Differential input • 6 outputs • Front access adjustment of gain and  
continuously adjustable cable equalization • 0 to 1000' of Belden  
8281 • Gain and equalization on plug-in sub-module to allow amplifier  
substitution without adjustment for gain, equalization or timing • Indi-  
vidual power supply • Requires D-619RA . . . . . \$245.00

D664RA Power Supply and Connector Assembly . . . . .100.00

## D-665 Precision Video Distribution Amplifier

• 6 outputs • AC coupled or DC restored operation • Differential input  
• Front access adjustment of gain and continuously adjustable cable  
equalization • Gain and equalization on plug-in sub-module to allow  
amplifier substitution without adjustment • Individual power supply  
• Requires D-664RA . . . . . \$280.00

## Frames

DF-603 5 1/4" Rack Frame, accepts 10 D-507G, D-518,  
D-603G, D-604, D-605, D-606, or D-607A modules,  
intermixed if desired . . . . . \$185.00

DF-603H 1 3/4" Rack Frame, accepts 3 D-507G, D-518,  
D-603G, D-604, D-605, D-606, or D-607A modules,  
intermixed if desired . . . . . \$155.00

DE-400A Module Extender for D-507G, D-518, D603G, D-604,  
D-605, D-606, and D-607A . . . . . \$30.00

DF-609 5 1/4" Rack Frame, provides 10 module slots. Accepts  
D-512, D-513, D-514, D-609, D-609F, D-619, D-657,  
D-658, D-660 or D-664 modules, intermixed if de-  
sired . . . . . \$235.00

DF-609H 1 3/4" Rack Frame, provides 3 module slots. Accepts  
D-512, D-609, D-609F, D-619, D-657, D-658 or  
D-660 modules, intermixed . . . . . \$195.00

DF-609BP Blank Panel for DF-609 and DF-609H . . . . . 10.00

DE-609 Module Extender . . . . . 30.00

# DAVIS & SANFORD CO., INC.

24 Pleasant St.  
New Rochelle, NY 10802  
(914) 632-1636

# HEADS

## H-4 Spring Head

- 1/4-20 Camera Screw
- Dual Counterbalancing Springs
- Pan Handle locks both tilt and pan

**Load Capacity:** 25 lbs.  
**Tilt Angle:** ± 60°  
**Pan Rotation:** 360°  
**Height:** 4 1/2"  
**Width:** 2 1/2"  
**Length:** 4 1/2"  
**Weight:** 3 1/2 lbs.  
**Material and Finish:** Black Anodized Aluminum

H-4 Spring Head ..... \$112.00



H-4 Spring Head

## Q Spring Head

- Counterbalancing spring to prevent camera dumping
- Two camera screw locations

**Load Capacity:** 10 lbs.  
**Tilt Angle:** ± 60°  
**Pan Rotation:** 360°  
**Height:** 3"  
**Width:** 4"  
**Length:** 4"  
**Weight:** 1 lb.  
**Material and Finish:** Black Anodized Aluminum

Q Spring Head ..... \$48.00



Q Spring Head

## MH-1-S Spring Head

- Spring loaded tilt to prevent camera dumping
- Pan and tilt lock independently of each other
- Pan handle with adjustable angle fits either side
- Leveling base allows 5° tilt in all directions
- Bubble Level
- Friction drag adjustment of pan and tilt by spring loaded control knobs

**Load Capacity:** 30 lbs.  
**Tilt Angle:** 60° Up-90° Down  
**Pan Rotation:** 360°  
**Height:** 6"  
**Width:** 3 1/2"  
**Length:** 6"  
**Weight:** 4 1/2 lbs.  
**Material and Finish:** Black Anodized Aluminum

MH-1-S Spring Head ..... \$169.00



MH-1-S Spring Head

## FM-25 Fluid Head

- Dual handle capability
- Easily visible bubble level gauge
- Extremely smooth pan and tilt movements with two handles

**Load Capacity:** 25 lbs.  
**Side Tilt:** 90° either side  
**Pan Rotation:** 360°  
**Height:** 5"  
**Weight:** 5 lbs.  
**Platform Size:** 4" x 4 1/4"

FM-25 Fluid Head ..... \$255.00



FM-25 Fluid Head

## FM-15

Same as FM-25 but with lighter viscosity fluid for cameras under 15 lbs.

FM-15 ..... \$255.00

## HD-46 Spring Head

- Internal Torsion Spring to prevent camera dumping

**Load Capacity:** 50 lbs.  
**Tilt Angle:** 70° Up-90° Down  
**Pan Rotation:** 360°  
**Height:** 7 1/2"  
**Platform Size:** 4" x 6"  
**Weight:** 6 lbs.  
**Material and Finish:** Black Anodized Aluminum

HD-46 Spring Head ..... \$185.00



HD-46 Spring Head

## DSLA Leveling Adaptor

- Quick and easy action. Locks securely

**Load Capacity:** 50 lbs.  
**Leveling Adjustment:** ± 5°  
**Height:** 3 1/2"  
**Diameter:** 6 1/2"  
**Weight:** 2 lbs.  
**Material and Finish:** Black Anodized Aluminum

DSLA Leveling Adaptor ..... \$140.00



DSLA Leveling Adaptor

## F-10 Fluid Head

**Load Capacity:** 10 lbs.  
**Tilt Angle:** 90° Up-90° Down  
**Pan Rotation:** 360°  
**Height:** 4 1/2"  
**Width Overall:** 3 1/2"  
**Length:** 2"  
**Weight:** 1 1/3 lbs.  
**Platform Size:** 2" x 2 1/2"

F-10 Fluid Head ..... \$67.00



F-10 Fluid Head

## CM Cradle Head

**Load Capacity:** 50 lbs.  
**Tilt Angle:** 20° Up-30° Down  
**Pan Rotation:** 360°  
**Height:** 6"  
**Width:** 5"  
**Length:** 14"  
**Weight:** 7 lbs.  
**Material and Finish:** Black Anodized Aluminum

CM Cradle Head ..... \$248.00



CM Cradle Head

## CC Cradle Head

- Removable and adjustable camera platform for easy installation and perfect balance. Holds tilt without camera dumping

**Load Capacity:** 25 lbs.  
**Tilt Angle:** ± 45°  
**Pan Rotation:** 360°  
**Height:** 6 1/4"  
**Width:** 8"  
**Length:** 9"  
**Weight:** 5 lbs.  
**Material and Finish:** Black Anodized Aluminum and Plated Steel Cradle

CC Cradle Head ..... \$95.00



CC Cradle Head

## CS Cradle Head

Same as above except:  
**Load Capacity:** 40 lbs.  
**Length:** 10"  
**Weight:** 6 lbs.

CS Cradle Head ..... \$248.00

## MH-2S Spring Head

**Load Capacity:** 20 lbs.  
**Tilt Angle:** 60° Up-90° Down  
**Pan Rotation:** 360°  
**Height:** 5 1/2"  
**Width:** 3 1/2"  
**Length:** 6"  
**Weight:** 2 1/2 lbs.  
**Material and Finish:** Clear Anodized Aluminum

MH-2S Spring Head ..... \$121.00



MH-2S Spring Head

## RTH Two-Way Tilt Head

- "Quick Change" Camera Screw
- Friction drag screw to prevent camera dumping

**Load Capacity:** 10 lbs.  
**Tilt Angle:** 30° Up-90° Down  
**Pan Rotation:** 360°  
**Height:** 5"  
**Width:** 2"  
**Length:** 2 1/2"  
**Weight:** 1 lb.  
**Material and Finish:** Clear Anodized Aluminum

RTH Two-Way Tilt Head ..... \$51.00



RTH Two-Way Tilt Head

## MH-2

Same as above except without spring.

MH-2 ..... \$98.00

# DAVIS & SANFORD CO., INC.

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# TRIPODS



**The Challenger  
DG/H4 Tripod/Head**  
• Self-Locking Gear Mechanism  
Load Capacity: 25 lbs.  
Min. Height: 34"  
Max. Height: 70"  
Elevation Adjustment: 16"  
Geared Center Post: 1 3/8" Dia.  
Leg Diameters: 1 1/8" x 1 1/4"  
Head Tilt Angles: 60° Up-90° Down  
Spring Loaded Head: 2 Springs  
Head Pan Rotation: 360°  
Weight: 8 lbs.  
Material and Finish: Clear and Black Anodized Alum

DG/H-4 ..... \$207.00

**DG**  
Same as above except without head ..... \$148.00



**Dollypod Geared  
Elevation Trolley**  
Load Capacity: 25 lbs.  
Min. Height: 48"  
Max. Height: 68"  
Elevation Adjustment: 18"  
Geared Center Post: 1 7/8" Dia.  
One Section Leg: 1 1/2" Dia.  
Wheels: 5" Dia.  
Weight: 15 lbs.  
Material and Finish: Clear and Black Anodized Alum

Dollypod ..... \$358.00



**ETVG-W Geared  
Elevation Tripod**  
Available with wheels, wheels and spikes, or points. Split-collar lock for leg extension.  
Load Capacity: 75 lbs.  
Min. Height: 40"  
Max. Height: 88"  
Base Spread at max. ht.: 60"  
Base Spread at min. height: 38"  
Elevation Adjustment: 18"  
Geared Center Post: 1 7/8" Dia.  
Leg Diameters: 1 7/8" x 2"  
Wheel Diameter: 5"  
Weight: 15 lbs.  
Material and Finish: Clear and Black Anodized Alum

ETVG-W ..... \$593.00



**D/Q Lift Column  
Tripod/Spring Head**  
• Two camera screw locations  
Load Capacity: 15 lbs.  
Min. Height: 30"  
Max. Height: 84"  
Elevation Adjustment: 18"  
Lift Center Post: 1 3/8" Dia.  
Leg Diameters: 1 1/8" x 1 1/4"  
Head Tilt Angle: ± 70° Spring Loaded  
Head Pan Rotation: 380°  
Weight: 5 lbs.  
Material and Finish: Clear and Black Anodized Alum

D/Q ..... \$143.00

**DRG/Q**  
Same as above except with gear elevating post ..... \$155.00



**Reditilt RTG  
Geared Elevation  
Tripod/Head**  
• "Quick Change" Camera Screw  
• Friction Drag Screw  
• One handle locks pan and tilt simultaneously  
• Removable Head  
Load Capacity: 15 lbs.  
Min. Height: 28"  
Max. Height: 65"  
Elevation Adjustment: 20"  
Geared Center Post: 1 3/8" Dia.  
Leg Diameters: 1 1/8" x 1 1/4"  
Two-Way Tilt Head: ± 90°  
Head Pan Rotation: 360°  
Weight: 4 3/4 lbs.  
Material and Finish: Clear and Black Anodized Alum

Reditilt RTG ..... \$185.00



**CG Compac  
Gear Elevation Tripod**  
• Adjustable flat or pointed feet  
• Accepts CW 1 slip on wheels  
Load Capacity: 30 lbs.  
Min. Height: 32"  
Max. Height: 67"  
Elevation Adjustment: 16"  
Geared Center Post: 1 3/8" Dia.  
Outer Leg Section: 3/4" x 1 1/2"  
Inner Leg Section: 5/8" x 1"  
Weight: 7 lbs.  
Material and Finish: Clear and Black Anodized Alum

CG Compac ..... \$137.00

**C**  
Same as above except with lift column center post ..... \$110.00



**AG Geared  
Elevation Tripod**  
• Freeze-proof and stick-proof leg clamps  
Load Capacity: 50 lbs.  
Min. Height: 27 1/2"  
Max. Height: 58"  
Elevation Adjustment: 20"  
Geared Center Post: 1 7/8" Dia.  
Outer Leg Section: 2 1/4" x 1 1/4"  
Inner Leg Section: 1" Dia.  
Weight: 10 lbs.  
Material and Finish: Clear and Black Anodized Alum

AG ..... \$294.00

**A**  
Same as above except with "Floating Action" spring loaded center post ..... \$207.00



**PSG-34 Geared  
Elevation Pedestal**  
Load Capacity: 100 lbs.  
Min. Height: 34"  
Max. Height: 55"  
Elevation Adjustment: 18"  
Geared Center Post: 1 7/8" Dia.  
Weight: 30 lbs.  
Steel Center Column: 4" Dia.  
Base Spread: 32"  
All Swivel Wheels: 5" Dia.  
Material: Cast Alum base steel tube center post  
Finish: Black baked enamel

PSG-34 ..... \$534.00

**PS-34**  
Same as above except with "Floating Action" spring loaded center post and central wheel brake control . . . \$467.00



**PSG-43 Pedestal**  
Load Capacity: 100 lbs.  
Min. Height: 43"  
Max. Height: 60"  
Elevation Adjustment: 18"  
Geared Center Post: 1 7/8" Dia.  
Weight: 30 lbs.  
Steel Center Column: 4" Dia.  
Base Spread: 30"  
All Swivel Deluxe Wheels: 4" Dia.  
Material: Cast Iron Base  
Finish: Black Baked Enamel

PSG-43 ..... \$430.00



**DG/H4/TM  
Table or Cart  
Column/Head**  
Load Capacity: 25 lbs.  
Elevation Adjustment: 16"  
Geared Center Post: 1 3/8" Dia.  
Head Tilt Angle: 60° Up-90° Down  
Spring Loaded Head: 2 springs  
Head Pan Rotation: 380°  
Weight: 5 lbs.  
Material and Finish: Clear and Black Anodized Alum

DG/H4/TM ..... \$171.00

**DG/TM**  
Same as above except without H-4 head ..... \$149.00



**Mark II/H4 TM  
Table or Cart Column/Head**  
Load Capacity: 30 lbs.  
Elevation Adjustment: 18"  
Geared Center Post: 1 7/8" Dia.  
Weight: 6 lbs.  
Material and Finish: Clear and Black Anodized Alum

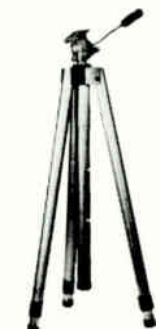
Mark II/H4 TM ..... \$323.00

**Mark II/TM**  
Same as above except without H4 head ..... \$234.00



**Reditilt Super RTS  
Lift Column Tripod/Head**  
• "Quick Change" Camera Screw  
• Friction Drag Screw  
• One handle locks pan and tilt simultaneously  
• Reversible Center Post  
Load Capacity: 15 lbs.  
Min. Height: 28"  
Max. Height: 85"  
Elevation Adjustment: 20"  
Center Post: 1 3/8" Dia.  
Leg Diameters: 1 1/8" x 1 1/4"  
Two-Way Tilt Head: ± 90°  
Head Pan Rotation: 380°  
Weight: 4 3/4 lbs.  
Material and Finish: Clear and Black Anodized Alum

Reditilt RTS ..... \$112.00



**Reditilt Movie RTM  
Lift Column Tripod/Head**  
• "Quick Change" Camera Screw  
• Friction Drag Screw  
• One handle locks pan and tilt simultaneously  
• Reversible Center Post  
Load Capacity: 15 lbs.  
Min. Height: 28"  
Max. Height: 65"  
Elevation Adjustment: 20"  
Center Post: 1 3/8" Dia.  
Leg Diameters: 1 1/8" x 1 1/4"  
One Way Head Tilt: ± 90°  
Head Pan Rotation: 360°  
Weight: 4 3/4 lbs.  
Material and Finish: Clear and Black Anodized Alum

Reditilt RTM ..... \$114.00



# DAVIS & SANFORD CO., INC.

24 Pleasant St.  
New Rochelle, NY 10802  
(914) 632-1636

# TRIPODS/DOLLIES/CAMERA AND MONITOR MOUNTS



### Reditilt Pro RTP

#### Lift Column Tripod/Head

- "Quick Change" Camera Screw
  - Friction Drag Screw
  - One handle set pan and tilt simultaneously
  - Reversible Center Post
- Load Capacity: 10 lbs.  
Min. Height: 28"  
Max. Height: 65"  
Elevation Adjustment: 18"  
Center Post: 7/8" Dia.  
Leg Diameters: 3/4" x 7/8"  
Two-Way Tilt Head: ±90°  
Head Pan Rotation: 360°  
Weight: 33/4 lbs.  
Material and Finish: Clear and Black Anodized Alum.

RTP ..... \$83.00



### Reditilt Junior

#### RTJ Life Column Tripod/Head

- "Quick Change" Camera Screw
  - Friction Drag Screw
  - One handle locks pan and tilt simultaneously
  - Reversible Center Post
- Load Capacity: 10 lbs.  
Min. Height: 23"  
Max. Height: 50"  
Elevation Adjustment: 16"  
Center Post: 7/8" Dia.  
Leg Diameters: 3/4" x 7/8"  
One-Way Tilt Head: ±90°  
Head Pan Rotation: 360°  
Weight: 23/4 lbs.  
Material and Finish: Clear and Black Anodized Alum.

RTJ ..... \$59.00



### Reditilt Mini-20 RTM-20 Lift Column Tripod/Head

- "Quick Change" Camera Screw
  - Friction Drag Screw
  - One handle sets pan and tilt simultaneously
  - Reversible Center Post
- Load Capacity: 10 lbs.  
Min. Height: 20"  
Max. Height: 52"  
Elevation Adjustment: 12"  
Center Post: 7/8" Dia.  
3-Section Leg Dia.: 5/8" x 3/4" x 7/8"  
One-Way Tilt Head: ±90°  
Head Pan Rotation: 360°  
Weight: 23/4 lbs.  
Material and Finish: Clear and Black Anodized Alum.

RTM-20 ..... \$67.00

### W-4 Universal Dolly

- For all D & S Tripods except C and CG.
- Load Capacity: 50 lbs.  
Folds To: 10" x 21"  
Circle Diameter: 42"  
Wheel Diameter: 5" x 3" x 13/16" tread  
Weight: 7 lbs.  
Material and Finish: Clear and Black Anodized Alum.

W-4 ..... \$107.00



### Slip-On Dolly

#### for CW-1 Compac Tripod

- Load Capacity: 20 lbs.  
Wheel Diameter: 4"  
Weight: 6 1/2 lbs.  
Material and Finish: Nickel Plated Steel

- Easy-On/Easy-Off Screw On Wheels Available with 3" Wheels and Deluxe Wheels ..... \$52.00

- CW-1DX Deluxe Wheels ..... \$109.00  
CW-12DL 2" Casters ..... \$39.00



### W-3 Dolly for A & B Tripods

- Easily attached to tripod legs and center post
  - Dolly folds with tripod
- Load Capacity: 60 lbs.  
Diameter Open: Same as tripod spread  
Rubber Wheels: 5" x 13/16" tread  
Weight: 6 lbs.  
Material and Finish: Anodized Alum.

W-3 ..... \$136.00

### Monopod/Friction Head

- "Quick Change" Camera Screw
  - Extension made secure with toggle lock instead of collet for strong support
- Load Capacity: 10 lbs.  
Min. Height: 31"  
Max. Height: 72"  
Leg Diameters: 7/8" x 1"  
RTH Head: ±90° One-Way Tilt  
Pan Rotation: 360°  
Weight: 17/8 lbs.  
Material and Finish: Clear Anodized Alum.

Monopod ..... \$45.00



### SD-3 Dolly Shelf

- Plugs on and off the legs of tripod. Fits all D & S tripods except A, B and C Series.
- Load Capacity: 30 lbs.  
Shape: Equilateral Triangle  
Length of Sides: 29"  
Rubber Wheel: 3" Dia.  
Weight: 9 1/2 lbs.  
Material: Steel  
Finish: Baked Metallic Alum.

SD-3 ..... \$90.00

- SO-5 Same as above but with 5" wheels.  
SO-6 ..... \$90.00



### WD-3 Wheel Dolly

- For all D model tripods
- Load Capacity: 20 lbs.  
Folds To: 5" x 6" x 22"  
Circle Diameter: 36"  
Wheel Diameter: 3"  
Weight: 4 1/2 lbs.  
Material: Steel  
Finish: Baked Metallic Alum.

WD-3 ..... \$51.00

### WB-8 Camera Mount

- "Quick Change" Camera Screw can be quickly converted to tamper-proof unit
  - May be mounted on ceiling, wall or table
- Camera Load Capacity: 10 lbs.  
Height: 5"  
Tilt Angle: ±90°  
Pan Rotation: 360°  
Tubing Length: 12"  
Tubing Diameter: 1"  
Mounting Screw: 1/4" - 20  
Material and Finish: Black Anodized Alum.

WB-8 ..... \$59.00



### UM-1 Camera Mount

- May be mounted on ceiling, wall or table.
- Camera Load Capacity: 25 lbs.  
Tilt Angle: ±90°  
Pan Rotation: 360°  
Height: 15"  
Width: 00  
Material and Finish: Clear Anodized Alum.
- Options: Additional tube length and brace supports may be ordered.

UM-1 ..... \$83.00



### RCM-1 Monitor Ceiling Mount

- Ceiling plate may be custom made to attach to existing ceiling
- Test Load Capacity: 500 lbs.  
Tilt Angle: ±30°  
Rotation: 360°  
Size: 3" larger than monitor  
Weight: 30 lbs.  
Material: Steel  
Finish: Brown Baked Enamel

RCM-1 ..... \$138.00



### RWM-3 Monitor Wall Mount

- Test Load Capacity: 500 lbs.  
Tilt Angle: ±30° down  
Rotation: 360°  
Size: 3" larger than monitor  
Weight: 30 lbs.  
Material: Steel  
Finish: Brown Baked Enamel

RWM-3 ..... \$150.00

### Deluxe Wheels DX

4" double ball bearing wheels with combined 360° swivel lock and wheel brake, step on locking lever for positive lock and release.

Add \$57.00 to list of any D & S Dolly



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# HEADS/TRIPOD ASSEMBLIES



C/FM-15

**C/FM-15**  
Load Capacity: 8-20 lbs.  
Extends: 65"  
Folds: 33"  
Minimum Shooting Height: 31"  
Center Post Elevation: 20"  
Weight: 8 lbs.  
C/FM-15 ..... \$448.00



A/FM-25

**A/FM-25**  
Load Capacity: 10-50 lbs.  
Extends: 56"  
Folds: 29"  
Minimum Shooting Height: 27"  
Center Post Elevation: 20"  
Weight: 11 1/2 lbs.  
A/FM-25 ..... \$593.00



SBC/F-10

**SBC/F-10**  
Load Capacity: 1-10 lbs.  
Extends: 65"  
Folds: 31"  
Minimum Shooting Height: 27"  
Center Post Elevation: 20"  
Weight: 7 lbs.  
SBC/F-10 ..... \$200.00



DRG-F-10

**DRG/F-10**  
**Geared Elevation Tripod/Head**  
Minimum Height: 30"  
Maximum Height: 64"  
Elevation Adjustment: 18"  
Lift Center Post: 1 3/8" dia.  
Leg Diameters: 1 1/8" x 1 1/4"  
Weight: 5 lbs.  
Material and Finish: Clear and Black anodized aluminum  
DRG/F-10 ..... \$166.00



CG-F-10

**CG-F-10**  
**Geared Elevation Tripod/Head**  
Minimum Height: 29"  
Maximum Height: 67"  
Elevation Adjustment: 16"  
Geared Center Post: 1 3/8" dia.  
Outer Leg Section: 3/4" x 1 1/2"  
Inner Leg Section: 5/8" x 1"  
Weight: 7 lbs.  
Material and Finish: Clear and Black anodized aluminum  
CG-F-10 ..... \$204.00



RTM/F-10

**RTM/F-10**  
**Lift Column Tripod/Head**  
Minimum Height: 28"  
Maximum Height: 65"  
Elevation Adjustment: 20"  
Center Post: 1 3/8" dia.  
Leg Diameters: 1 1/8" x 1 1/4"  
Weight: 4 3/4 lbs.  
Material and Finish: Clear and Black anodized aluminum  
RTM/F-10 ..... \$155.00

# DESISTI LIGHTING

1109 Grand Ave.  
N. Bergen, NJ 07047  
(201) 319-1100 FAX: (201) 319-1104

# FRESNEL LENS SPOTLIGHTS

## LEONARDO 1000W, 2000W, 5000W FRESNEL LENS SPOTLIGHTS

### Common Features

- Front and rear spot-flood focusing • Highly efficient optical system
- Manual or pole operation • Innovative lens door accessory clips which can be positioned to suit various applications • Engineered ventilation system ensuring extended lamp life • Rugged octagonal shape of light sheet steel, allowing strong air flow to pass the lamp, lens and reflector, particularly when the unit is tilted down • Quick acting spot to flood action is accomplished with a smooth no-slip focusing mechanism • Anodized aluminum reflector • High temperature heat resistant matte black paint • All purposes spot used for basic set lighting either in studio or on location • Available either with 23' (7m) cable and switch or with 3'-3" cable, no switch

### Accessories

- Wire guard • Four leaf rotating barndoor • 8-way rotating barndoor
- Color frame • Complete set of scrims

### LEONARDO 1000W Fresnel Lens Spotlight

- G 22 bi-post, heavy-duty socket • Recessed 10A toggle switch mounted on the unit, rated for AC and DC • 6" diameter convex Fresnel lens mounted on the hinged front door • 23' (7m) cable, 3 core x 1.5 sq.mm

### Accessory

- Cone with two discs (front aperture: 55 x 80 x 105mm)

### 310.100 Manual (M.O.)

**Focus:** Directly controlled by front and rear T-handles  
**Stirrup:** Flat bar or cast aluminum with various mounting options  
(Please specify with order)

310. LEONARDO 1000-750-500W, 6" Fresnel, manual operated, 25'-0" cable, switch, connector and 5/8" adaptor on yoke . . . . . \$360.00

310/ST LEONARDO 1000-750-500W, 6" Fresnel, manual operated for hanging, with 3'-0" cable, connector, flat yoke and c-clamp 91.100 . . . . . 350.00

### 311.100 Pole Operated (P.O.)

**Focus:** Front mounted angle cast aluminum cup coded yellow and rear T-handle  
**Stirrup:** Constructed from precision diecast parts and steel tubing allowing control of the following functions through colored diecast aluminum cup:  
Vertical movement: (Tilt)—White  
Horizontal movement: (Pan)—Blue

311. LEONARDO 1000-750-500W, 6" Fresnel, pole operated, 3'-0" cable, c-clamp and connector . . . . . \$540.00

### LEONARDO 2000W Fresnel Lens Spotlight

- G 38 bi-post, heavy-duty socket • Recessed 20A toggle switch mounted on the unit, rated for AC and DC • 10" (250mm) diameter convex Fresnel lens mounted on the hinged front door • 23' (7m) cable, 3 core x 2.5 sq. mm

### Accessory

- Cone with two discs (front aperture: 110 x 150 x 190mm)

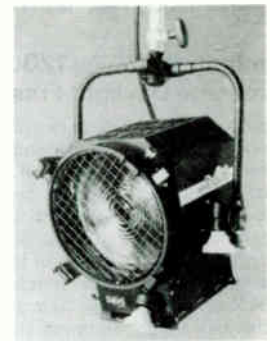
### 320.100 Manual (M.O.)

**Focus:** Same as 310.100  
**Stirrup:** Aluminum flat bar with various mounting options  
(Please specify with order)

320. LEONARDO 2000-1500-1000W, 10" Fresnel, manual operated, 25'-0" cable, switch, connector and 1 1/8" adaptor on yoke . . . . . \$550.00



310.100 (M.O.)



321.100 (P.O.)



350.100 (M.O.)



351.100 (P.O.)

### 320/ST

LEONARDO 2000-1500-1000W, 10" Fresnel, manual operated for hanging, with 3'-0" cable, connector, flat yoke and c-clamp 91.100 . . 580.00

### 321.100 Pole Operated (P.O.)

**Focus:** Same as 311.100  
**Stirrup:** Same as 311.100  
**Switch:** Rotary 20A switch with angled diecast aluminum cup coded red

321. LEONARDO 2000-1500-1000W, 10" Fresnel, pole operated, 3'-0" cable, c-clamp and connector . . . . . \$750.00

### LEONARDO 5000W Fresnel Lens Spotlight

- G 38 bi-post, heavy-duty socket • Recessed 45A lever switch mounted on the unit, rated for AC and DC • 12" (300mm) diameter convex Fresnel lens mounted on the hinged front door • 23' cable (7m), 3 core x 4 sq. mm

### Accessory

- Cone with two discs (front aperture: 155 x 215 x 275mm)

### 350.100 Manual (M.O.)

**Focus:** Same as 310.100  
**Stirrup:** Same as 320.100

350. LEONARDO 5000W, 12" Fresnel, manual operated, 25'-0" cable, switch, connector and 1 1/8" adaptor on yoke . . . . . \$960.00

350/ST LEONARDO 5000W, 12" Fresnel, manual operated for hanging, with 3'-0" cable, connector, flat yoke and c-clamp 91.100 . . . . . 925.00

### 351.100 Pole Operated (P.O.)

**Focus:** Same as 311.100  
**Stirrup:** Same as 311.100  
**Switch:** Rotary 40A switch with angled diecast aluminum cup coded red

351. LEONARDO 5000W, 12" Fresnel, pole operated, 3'-0" cable, c-clamp and connector . . . \$1125.00



# DESISTI LIGHTING

1109 Grand Ave.  
N. Bergen, NJ 07047  
(201) 319-1100 FAX: (201) 319-1104

# DISCHARGE FRESNEL LENS SPOTLIGHTS

## Rembrandt 575W/1200W/2500W/4000W/6000W Discharge Daylight Fresnel Lens Spotlights

- Double-ended, medium length arc discharge lamp with a color temperature of 5600°K and color rendering index in excess of 90
- High voltage igniter mounted in an external protective enclosure at side of lamphouse base. This allows improved cooling and enhances electrical insulation of critical component
- Ballasts and accessories are interchangeable with other luminaires in DeSisti range
- Can be used as key or fill light on location
- Rugged octagonal shape of light sheet steel, allowing strong air flow to pass the lamp, lens and reflector, particularly when the unit is tilted down
- Quick acting spot to flood is accomplished with smooth non-slip focusing mechanism
- On/off momentary pushbuttons mounted on enclosure at side of lamphouse base
- Elapsed time indicator, non-resettable
- Power cut-off microswitch acts if Fresnel lens is broken or removed or the lens door is not properly closed
- Anodized aluminum reflector
- High temperature heat resistant matte black paint

### Accessories

- Wire guard
- 4-leaf rotating barndoor
- 8-way rotating barndoor
- Color frame
- Cone with set of discs
- Complete set of scrims

## Rembrandt 575W

### Discharge Daylight Fresnel Lens Spotlight

- 6" (150mm) diameter convex Fresnel lens, complete with wire guard
- Flat bar aluminum manual stirrup with 1 1/8" (28.57mm) spigot (B.S.)
- 25' (7.5m) cable, 7 core x 1.5 sq. mm with mating connector

### Accessories

- Extension cable, 25' (7.5m), 7 core x 1.5 sq. mm
- Extension cable, 50' (15m) 7 core x 1.5 sq. mm

<b>2400/System</b>	Rembrandt 575W HMI system with: #2400 575W, 6" Fresnel, #2004 ballast 120V, #316 barndoor, #317 color frame, #315 wire guard	\$2,800.00
<b>2400</b>	Rembrandt 575W HMI 6" Fresnel with #315 wire guard, 25' cable and yoke with 1 1/8" pin.	1,800.00

## Rembrandt 1200W

### Discharge Daylight Fresnel Lens Spotlight

- 10" (250mm) diameter convex Fresnel lens, complete with wire guard
- Flat bar aluminum manual stirrup with 1 1/8" (28.57mm) spigot (B.S.)
- 25' (7.5m) cable, 7 core x 1.5 sq. mm with mating connector

### Accessories

- Extension cable, 25' (7.5m), core x 1.5 sq. mm
- Extension cable, 50' (15m), 7 core x 1.5 sq. mm

<b>2410/System</b>	Rembrandt 1200W HMI system with: #2410 1200W 10" Fresnel, #2014 ballast 120V, #326 barndoor, #327 color frame, #325 wire guard	\$3,800.00
<b>2410</b>	Rembrandt 1200W HMI 10" Fresnel with #325 wire guard, 25' cable and yoke with 1 1/8" pin	2,300.00

## Rembrandt 2500W

### Discharge Daylight Fresnel Lens Spotlight

- 12" (300mm) diameter convex Fresnel lens, complete with wire guard
- Flat bar aluminum manual stirrup with 1 1/8" (28.57mm) spigot (B.S.)
- 25' (7.5m) cable, 3 x 4 sq. mm + 4 x 1 sq. mm; with mating connector

### Accessories

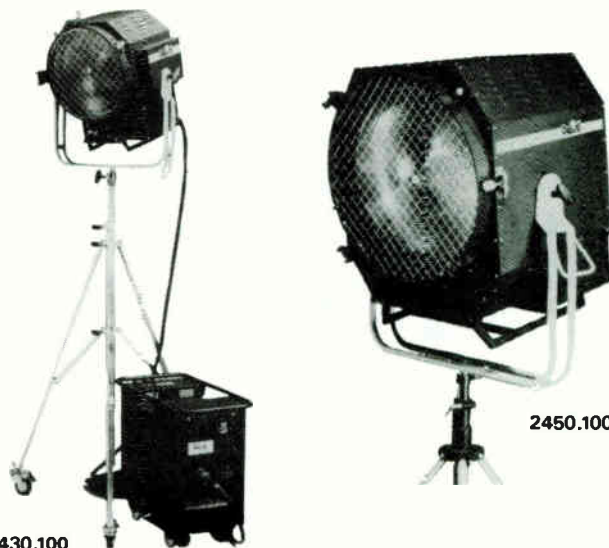
- Extension cable, 25' (7.5m), 3 x 4 sq. mm + 4 x 1 sq. mm
- Extension cable, 50' (15m), 3 x 4 sq. mm + 4 x 1 sq. mm

<b>2420/System</b>	Rembrandt 2500W HMI system with: #2420 2500W 12" Fresnel, #2024 ballast 120V, #356 barndoor, #357 color frame, #355 wire guard	\$5,000.00
<b>2420</b>	Rembrandt 2500W HMI 12" Fresnel with #355 wire guard, 25' cable and yoke with 1 1/8" pin	3,200.00

## Rembrandt 4000W

### Discharge Daylight Fresnel Lens Spotlight

- 14" (350mm) diameter convex Fresnel lens, complete with wire guard



2430.100

2450.100

- Double reinforced steel tube stirrup with 1 1/8" (28.57mm) spigot (B.S.)
- 25' (7.5m) cable, 3 x 4 sq. mm + 4 x 1 sq. mm with mating connector

### Accessories

- Extension cable, 25' (7.5m), 3 x 4 sq. mm + 4 x 1 sq. mm
- Extension cable, 50' (15m), 3 x 4 sq. mm + 4 x 1 sq. mm

<b>2430/System</b>	Rembrandt 4000W HMI system with: #2430 4000W 14" Fresnel, #2434 ballast 120V, #356 barndoor, #357 color frame, #355 wire guard.	\$7,000.00
<b>2430</b>	Rembrandt 4000W HMI 14" Fresnel with #355 wire guard, 25' cable and yoke with 1 1/8" pin	4,400.00

## Rembrandt 6000W

### Discharge Daylight Fresnel Lens Spotlight

- 14" (350mm) diameter convex Fresnel lens, complete with wire guard
- Double reinforced steel tube stirrup with 1 1/8" spigot and special handles for transport and positioning
- 25' (7.5m) detachable cable, 3 x 10 sq. mm + 4 x 1 sq. mm and connectors

### Accessories

- Extension cable, 25' (7.5m) 3 x 10 sq. mm + 4 x 1 sq. mm
- Extension cable, 50' (15m) 3 x 10 sq. mm + 4 x 1 sq. mm

<b>2440/System</b>	Rembrandt 6000W HMI system with #2440 6000W 14" Fresnel, #2443 ballast 208/220V, #356 barndoor, #357 color frame, #355 wire guard, #2441.100 25' extension cable	\$11,400.00
<b>2440</b>	Rembrandt 6000W 14" Fresnel with #355 wire guard, #2441.100 25' cable and yoke with 1 1/8" pin.	8,500.00

## Rembrandt 12000W

### Discharge Fresnel Lens Spotlight

- Same common features as Daylight Fresnel Lens Spotlights except:
- Structure in welded rectangular section tube covered by slotted sheet steel
- Double wall housing provided to allow appropriate ventilation of lamphouse
- Finned aluminum clamping support with allowance for thermal expansion
- 20" (500mm) convex Fresnel lens, mounted on a hinged door, complete with safety wire guard
- Double reinforced steel tube stirrup with a 1 1/8" (28.57mm) spigot (B.S.) with handles
- 25' (7.5m) detachable cable, 7 conductor, 3 x 25 sq. mm + 4 x 1.5 sq. mm with mating connectors

<b>2450/System</b>	Rembrandt 12,000W HMI system with: #2450 12,000W 20" Fresnel, #2453 ballast 208/220/240V, #2456 barndoor, #2457 color frame, #2455 wire guard, #2451.100 25' cable.	\$18,500.00
<b>2450</b>	Rembrandt 12,000W HMI 20" Fresnel with #2455 wire guard, #2451.100 25' cable, and yoke with 1 1/8" pin	11,300.00

# DESISTI LIGHTING

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# LIGHTING SYSTEMS

## TIZIANO 200W Portable Discharge Daylight Lamp Open-Face Luminaire

• Focusable open-face luminaire for single-ended discharge lamp • Pistol handle is provided for handheld operation and for stand mounting • Stirrup for hanging is available as accessory • Easily focusable from spot to flood position by thumbwheel • On/off pushbutton can be activated by the same hand that holds the unit • Color temperature is balanced for daylight (5600°K) • Powered with AC normal ballast or with DC special electronic ballast • DC power supply can be any 24V or 30V battery • Unit is "flicker-free" and can be 30% dimmed • Lightweight "TIZIANO" is optimum for remote television, ENG and location filming • Solid and slotted sheet steel, octagonal shape with flat corners, safety glass front frame and diecast accessory clips • GY 9.5 socket—Model GL 1221 • High voltage igniter mounted inside the housing in a thermally insulated compartment. Hot restrike permitted, but 20 seconds lag suggested between two strikes • Sandblasted anodized aluminum reflector • Cables 5' (1.5m), 2 x 1 sq. mm + 6 x 0, 30 sq. mm (head to ballast), 6' (1.8m), 3 core x 1 sq. mm delivered with AC ballasts, 7' (2.0m), 2 core x 1.5 sq. mm (ballast to DC source), delivered with DC ballast

- 2200/Kit** "TIZIANO" 200W kit for 30/24VDC operation with:  
#2200 200W "TIZIANO", #2201 yoke, #2202 case, #2205 ballast, #2206 barndoor, #2207 color frame, #2208.100 ext. cable, #2209/set scrims .....\$4,525.00
- 2200.** "TIZIANO" 200W, CID open face focusing spotlight with 5'-0" cable and connector .....1,250.00



2200.100

## TIZIANO 2500W Discharge Daylight Lamp Open-Face Luminaire

• Focusable open-face luminaire designed for the single ended discharge lamp • Combination of an accurately constructed ellipsoidal aluminum reflector with the high output compact source lamp produces high performance fitting suitable for the most stringent conditions • Focus range of 8.5: 1, spot to flood extends the use of this versatile luminaire • Unsurpassed in long throw applications • 5600°K color temperature and rugged lightweight construction make the "TIZIANO" a particularly useful keylight or daylight fill on film or video locations • Rugged octagonal shape of light sheet steel with rear handle and diecast accessory clips. Spot to flood action is accomplished with a smooth no-slip mechanism • G 38 bi-post socket • High voltage discharge lamp igniter housed in a thermally insulated compartment at the rear of lamphouse. Hot restrike permitted, but 20 seconds lag is suggested between two strikes • Ellipsoidal sandblasted anodized aluminum reflector • Flat bar aluminum manual stirrup with 1 1/8" (28.57mm) spigot (8.S.) • 10" (0.5m), 3 x 4 sq. mm + 4 x 1 sq. mm with mating connector

- 2230/System** "TIZIANO" 2500W system with:  
#2230 2500W "TIZIANO", #2024 ballast 120V, #2236 barndoor, #2237 color frame, and #2021.100 extension cable .....\$4,650.00
- 2230.** "TIZIANO" 2500W, CID open face focusing spotlight with 3'-0" cable, connector and yoke .....2,400.00



2230.100

## RAFFAELLO 575W and 2500W Discharge Lamp Softlights

• Extends the use of the high intensity discharge lamps • Offers users a soft, virtually shadowless light output • Efficiency of the lamp is very high with daylight quality light beam (5600°K) (3200°K lamps also available) • Low power requirement and cold source • Protective glass is mounted above the source optical system to limit the ultraviolet emission • Power cut-off microswitch is provided if the glass is broken or removed • Nickel plated brass socket with expansion allowance • On/off pushbutton mounted on control panel. Hot restrike permitted, but 20 seconds lag suggested between two strikes • Solid and slotted sheet metal, without spill light and appropriate ventilation • Sandblasted anodized aluminum reflector • Aperture: 12 5/8" x 15" (320 x 380mm) (575W) 17" x 24 3/4" (430 x 630mm) (2500W) • Yoke: flat bar with 1 1/8" (28.57mm) spigot (to 8.S.) (575W) • Double reinforced tubes with 1 1/8" (28.57mm) spigot (to 8.S.) (2500W) • Built-in elapsed time indicator • Heat resistant matte black paint • 25" (7.5m) cable, 7 core, 1.5 sq. mm with mating ballast connector

- 2000/System** "RAFFAELLO" 575W HMI system with:  
#2000 575W softlight, #2004 ballast 120V, and #2005 color frame .....\$2,800.00
- 2000.** "RAFFAELLO" 575W HMI softlight with aluminum reflector, #2005 color frame, 25'-0" cable, and yoke .....1,975.00
- 2020/System** "RAFFAELLO" 2500W HMI system with:  
#2020 2500W softlight, #2024 ballast 120V, and #2025 color frame .....4,800.00
- 2020.** "RAFFAELLO" 2500W HMI softlight with aluminum reflector, #2025 color frame, 25'-0" cable, and yoke .....3,000.00



2020

2000

## "CARAVAGGIO" 1200W Discharge Par 64 Luminaire

• Luminaire utilizing the 1200W PAR 64 Discharge Lamp • Each unit comes complete with on/off switches and power cable • Oval shaped beam pattern may be oriented by rotating the lens in front of the lamp • Various additional combinations for flood, spot and intensity control are made possible by special snap-in lenses on hinged front-door • Lightweight unit can be used in applications from ENG work to large scale outdoor productions • Can be mounted to double or triple headers to act as a multi-PAR system for area coverage • Strong output of the lamp delivers its maximum punch in a rugged lightweight housing offering more light per pound of weight than most comparable units of the same wattage range

- 2320/System** "CARAVAGGIO" 1200W PAR system with:  
#2320 1200W "CARAVAGGIO", #2014 ballast 120V, #2326 barndoor, #2327 color frame, and #2011.100 ext. cable .....\$3,200.00
- 2320.** "CARAVAGGIO" 1200W, PAR 64 sealed beam discharge floodlight with 3'-0" cable, yoke and adaptor (for HMI PAR 64, or CID Par 64) .....1,250.00



2320.100

Prices and Specifications Subject to Change Without Notice.



# DESISTI LIGHTING

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## Desisti HMI Softlights

The Desisti Softlight is developed to extend the usage of the HMI, DMI, Brite-Arc or QMI High Intensity Discharge Lamps into fill light applications. Suited for Film, Video or Photographic media, the low current draw of the lamps coupled with the soft, virtually shadowless light output of the unit offer many possibilities for the lighting professional. Housed in heavy sheet metal, the unit has the appearance of a traditional softlight with the lamp and starting circuitry mounted in a removable bottom panel for easy maintenance. A protective glass is mounted above the optical system to limit the ultraviolet emission of the lamp. The glass protection is seated on a safety cut-out switch to ensure the unit can only be turned on if the glass filter is in place.

The top hood contains the secondary reflector which can be easily changed from a white painted reflector to an anodized aluminum reflector for different effects. Robust and compact, the Desisti Softlight is available in 575W, 1200W and 2500W sizes. Units have a full complement of accessories and are available with 120V or 220/240V ballasts.

## Desisti Softlight 575W

**Raffaello 2000:**

#2004.200	575W, 120V, 60Hz ballast . . . . .	\$ 1200.00
#2003.100	575W, 220-240V, 50Hz ballast . . . . .	1100.00
#2001.100	25' Extension cable . . . . .	200.00
#2001.200	50' Extension cable . . . . .	265.00
#2005.100	Color/diffusion frame . . . . .	55.00
#2006.200	Eggcrate with removable 5" louvers and CF holder . . . . .	145.00
#2006.100	Eggcrate with 2.5" louvers and CF holder . . . . .	117.00

## Desisti Softlight 1200W

**Raffaello 2010:**

<b>1200W</b>	Softlight with anodized aluminum, CF—#2010.100 . . . . .	\$2200.00
#2014.200	1200W, 120V, 60Hz ballast. . . . .	1750.00
#2013.100	1200W, 220-240V, 50Hz ballast . . . . .	1600.00
#2011.100	25' extension cable . . . . .	200.00
#2011.200	50' extension cable . . . . .	265.00
#2015.100	Color/diffusion frame . . . . .	60.00
#2016.200	Eggcrate with removable louvers and CF holder . . . . .	172.00
#2016.100	Eggcrate with 2.5" louvers and CF holder . . . . .	137.00

## RC80/F 650-120V 800W-220/240V

## RC100/F 1000W 120V or 220/240V

The Varibeam 650W and 1000W units are variable focus softlights with a full range of interchangeable accessories. The unit is suited for key or fill light applications. Features include a rugged stainless steel strap for support to the lamp sockets, even field of light with focus from spot to flood by means of an external plastic knob. The attachment of the barndoor is simplified without the need of an accessory holder unless additional accessories are required. The RC80/F650W can also be used for mounting 800W 220V lamps, 650 or 1000W unit . . \$141.00

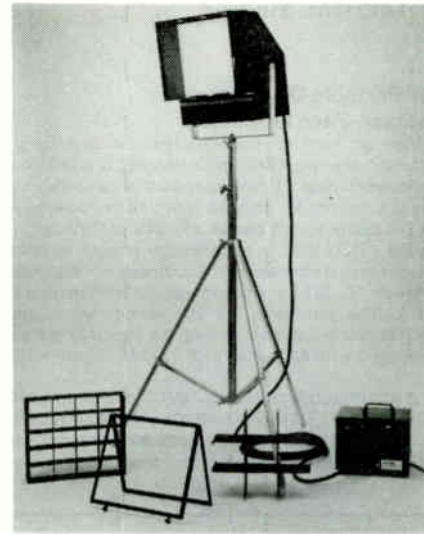
## Accessories

RC101	Accessory holder . . . . .	\$ 38.00
RC103	4-leaf barndoor . . . . .	35.00
RC104	Dichroic filter . . . . .	115.00
MX63	6 <sup>5</sup> / <sub>8</sub> " scrim set . . . . .	19.00
240.100	Lightweight alum. kit stand (replaces RC240) . . . . .	66.00
RC413	Gaffer grip with <sup>5</sup> / <sub>8</sub> " spigot . . . . .	26.00

## RC200 2000W-120V or 220/240V

The Varibeam 2000W variable focus spotlight is a smartly priced unit with variable focus control providing a smooth even field of light in the spot or flood position. The rugged metal housing ensures protection of the reflector and sockets and will withstand the treatment of location handling. Ideal for key, fill or special effect applications in studio or on location. The RC200 can operate at 120 or 220/240V by simply changing the lamp. The power cable comes complete with 15' of cable and in-line switch. A full range of accessories are available and the barndoors can be mounted to the unit without the traditional need for accessory holder. . . . . \$293.00

# PORTABLE LIGHTING



HMI Softlights

## Telescopic Poles

Used to mount lights in low ceilings, doorways, windows, and various other difficult situations. The springloaded telescopic poles are made of lightweight, aluminum metal with rubber feet attached at top and bottom for safe mounting to a variety of surfaces. The complete system can be used to hang lights up to 40 lbs.

RC301	Telescopic pole/collapsed 4', extended 7' . . . . .	\$120.00
RC302	Telescopic pole/collapsed 6.5', extended 12' . . . . .	142.00
RC303	Telescopic pole/collapsed 8.5', extended 15.5' . . . . .	156.00
RC310	3.9' crossbar . . . . .	36.00
RC311	7.4' crossbar . . . . .	65.00
RC312	12' crossbar . . . . .	80.00
RC313	Support collar/required for mounting crossbars to the circular telescopic poles . . . . .	15.00
RC300	Door pole/22"-40" . . . . .	99.00
RC304	Pole extension/30" . . . . .	35.00



RC110



RC200 Head

## Accessories

RC201	Accessory holder . . . . .	\$ 55.00
RC202	4-leaf barndoor . . . . .	64.00
RC204	Dichroic filter . . . . .	240.00
MX10	10" scrim set . . . . .	50.00
RC220	Light alloy folding stand . . . . .	122.00
G227	Heavy metal grip . . . . .	98.00
RC205	Protective glass . . . . .	74.00

## RC110 "Minilite" 1000W-120V, 800W-240V

The 1000W Minilite-RC110 is a floodlight with a fixed lamp position suitable for illumination of small backgrounds or for fill light applications. The even field of light is extremely smooth from side to side and can be neatly cut with the integral barndoor leaves. The unit is also provided with 12' of cable, an on/off switch, and a fiberglass back. The rugged construction of the unit will withstand the rough handling of location lighting. A range of mounting equipment is available for use with the RC110. . . . . \$169.00



# DESISTI LIGHTING

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# LIGHTING KITS

## DLK 200

"Punch" light kit for lighting through windows and other transparent materials. 2000W units for long throw applications 120 or 220V. Stands extend to 8'-3", folds to 35". Accessory holder not required for barndoor.

- 2 RC200 2000W varibeams
  - 2 RC201 2K accessory holders
  - 2 RC202 4-leaf barndoors—2K
  - 2 RC220 2K stands
  - 2 MX10 Set of full single and full double scrims (10" dia.)
  - 1 DC121638 Large 2K case (12" x 36" x 38")
- Total kit weight: 54 lbs.

DLK 200.....\$1367.00  
DLK 200/L with 2-FEY 2000W lamps .....1568.00

## DLK380

Draws under 20A for ENG or ETV applications. Accessory holder not required for barndoor.

- 3 RC80/F 650W varibeams
  - 3 RC103 4-leaf barndoors
  - 3 240.100 Nano stands
  - 1 DC81632 Compact 3 light case (8<sup>3</sup>/<sub>4</sub>" x 16" x 32")
- Total kit weight: 30 lbs.

DLK 380.....\$871.00  
DLK 380/L with lamp(s).....935.00

## DLK 3100

3—1K's in compact rugged case. Barndoors attach without accessory holder

- 3 RC100/F 1000W varibeams, plus same accessories as DLK 380
- Total kit weight: 30 lbs.

DLK 3100.....\$871.00  
DLK 3100/L with 3-DXW 1000W lamps .....982.00

## DLK 480

Can be used in 220V applications. Ideal for EFP applications or documentaries.

- 4 RC80/F 650W varibeams
  - 4 RC101 Accessory holders
  - 4 RC103 4-leaf barndoors
  - 4 RC240 Nano stands
  - 4 MX63 Set of full single and full double scrims (6<sup>5</sup>/<sub>8</sub>" dia.)
  - 1 DC 111638 Extended 4 light case (11" x 16" x 38")
- Total kit weight: 44 lbs.

DLK 480.....\$1362.00  
DLK 480/L with 4-FAD 650W lamps .....1447.00

## DLK 4100

Full accessories including scrims, barndoors, and accessory holders. Lightweight compact case carries all items.

- 4 RC100/F 1000W varibeams
- Plus same accessories as DLK 480  
Total kit weight: 44 lbs.

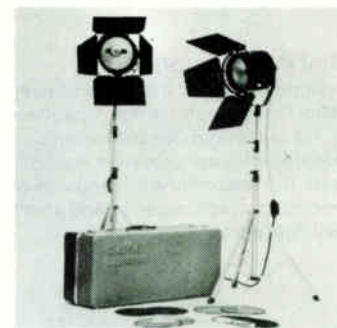
DLK 4100.....\$1362.00  
DLK 4100/L with 4-DXW 1000W lamps .....1511.00

## DLK 3801

Variety of ENG and ETV applications, draws under 20A. Accessory holders and scrims included. Additional accessories available including dichroic filters and black flags. 120V or 220V use.

- 3 RC80/F 650W varibeams
  - 2 RC101 Accessory holders
  - 2 RC103 4-leaf barndoors
  - 3 240.100 Nano stands
  - 1 MX63 Set of full single and full double scrims (6<sup>5</sup>/<sub>8</sub>" dia.)
  - 1 DC111632 Extended 3 light case (11" x 16" x 32")
- Total kit weight: 34 lbs.

DLK 3801.....\$ 950.00  
DLK 3801/L with lamp(s) .....1014.00



DLK 200



DLK Mix 5

## DLK Mix 4

Industrial or documentary lighting applications, 120 or 220V. Extremely flexible Mix kit with two 650's and two 1K fill lights. Four lightweight rugged stands. Case allows for storage of varibeams with accessory holders attached to units.

- 2 RC80/F 650W varibeams
  - 2 RC110 Minilites—fixed focus fill lights
  - 2 RC101 Accessory holders
  - 2 RC103 4-leaf barndoors
  - 4 RC240 Nano stands
  - 2 MX63 Set of full single and full double scrims (6<sup>5</sup>/<sub>8</sub>" dia.)
  - 1DC111632 Extended 3 light case (11" x 16" x 32")
- Total kit weight: 43 lbs.

DLK Mix 4.....\$1226.00  
DLK Mix 4/L with 2-FAD 650W and 2-FLM 1000W lamps ...1329.00

## DLK Mix 5

"Portable Studio" for indoor or location. 5 lights in one case, 5000W. Good for CCTV or CATV. Minilites used for fill, set or cyc lights. Includes 4 Nano stands and fiber grips.

- 2 RC100/F 1000W varibeams
  - 3 RC110 Minilites, fixed focus fill lights
  - 2 RC101 Accessory holders
  - 2 RC103 4-leaf barndoors
  - 1 RC413 Gaffer grip with 5/8" spigot
  - 4 240.100 Nano stands
  - 2 MX63 Set of full single and full double scrims (6<sup>5</sup>/<sub>8</sub>" dia.)
  - 1 DC111638 Extended 4 light case (11" x 16" x 38")
- Total kit weight: 50 lbs.

DLK Mix 5.....\$1431.00  
DLK Mix 5/L with 2-DXW 1000W and 3-FCM 1000W lamps ...1596.00

DLK Pinza 2 "Hollywood Special" 2-RC50 kit with:  
2-RC50 and 1-DC81632.....358.00

DLK Pinza 3 3-RC50 kit with: 3-RC50 and  
1 DC81632.....457.00

DLK Pinza 4 4-RC50 kit with: 4-RC50 and  
1 DC111632.....576.00

# DESISTI LIGHTING

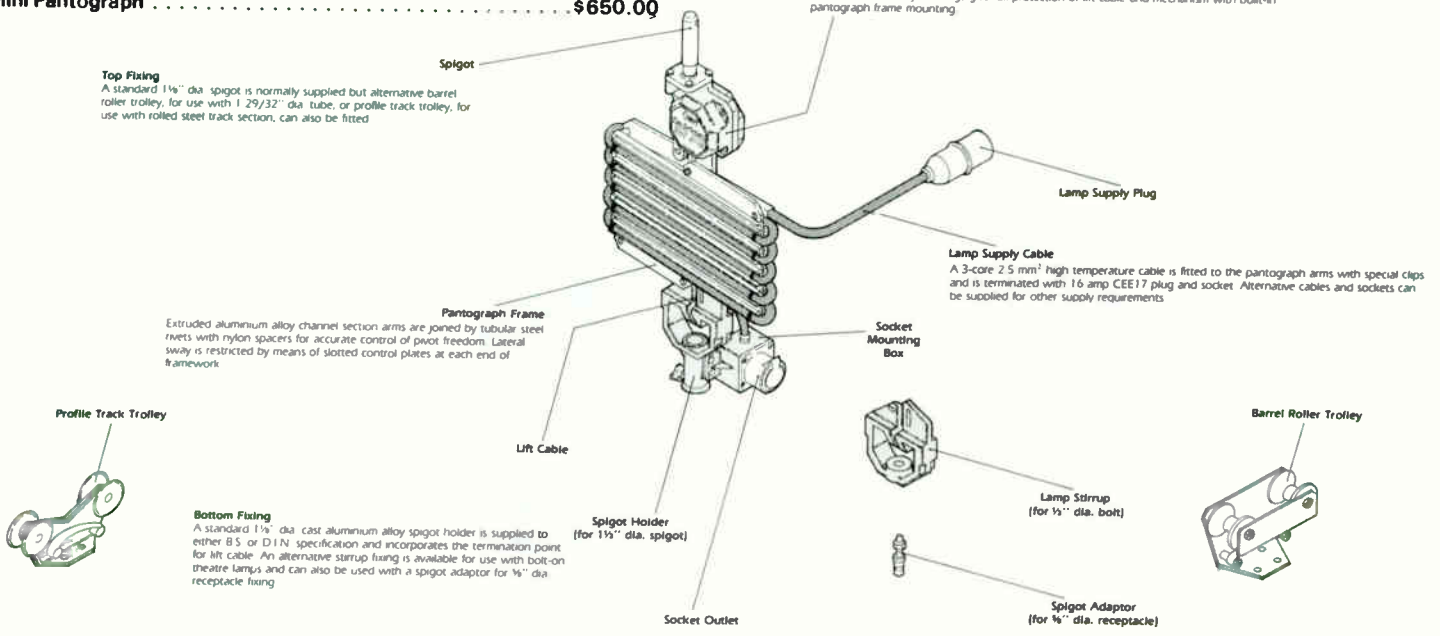
1109 Grand Ave.  
N. Bergen, NJ 07047  
(201) 319-1100 FAX: (201) 319-1104

# PANTOGRAPHS

## Mini Pantographs

Designed to meet the trend of ever smaller and lighter luminaires, the "Mini Pantograph" is a compact self-balancing unit with a 15kg capacity. Its maximum 3m extension means that it is as much suited to the video/photographer's type studio, as it is to a production studio being used for secondary suspension where compact dimensions, lightweight, medium capacity and short drop are the design parameters.

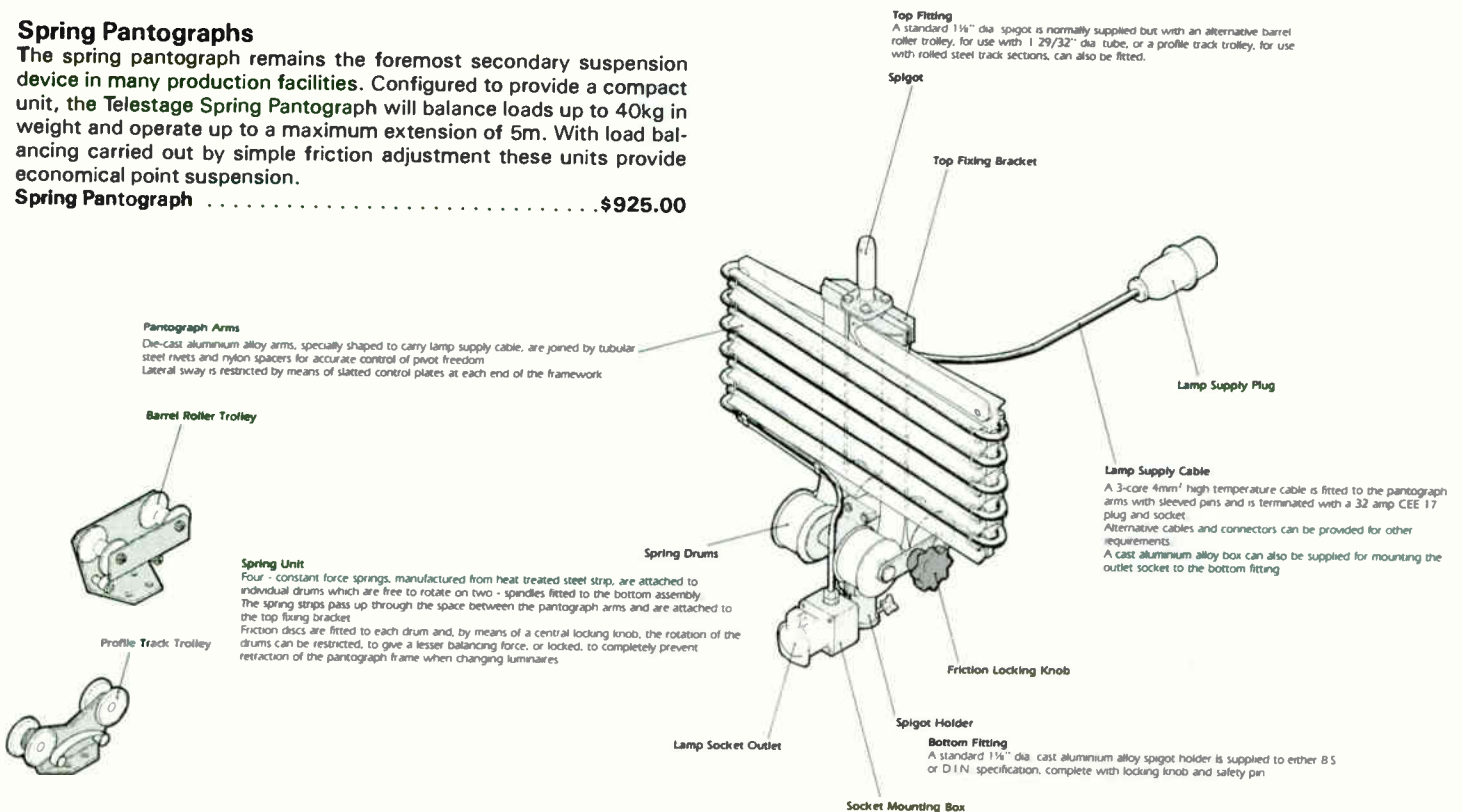
**Mini Pantograph . . . . . \$650.00**



## Spring Pantographs

The spring pantograph remains the foremost secondary suspension device in many production facilities. Configured to provide a compact unit, the Telestage Spring Pantograph will balance loads up to 40kg in weight and operate up to a maximum extension of 5m. With load balancing carried out by simple friction adjustment these units provide economical point suspension.

**Spring Pantograph . . . . . \$925.00**



# DIGITAL SERVICES CORP.

3622 N.E. 4<sup>th</sup> St.  
 Gainesville, FL 32609  
 (904) 377-8013  
 Telex: 75-2120 FAX: (904) 338-0163

# DIGITAL EFFECTS SYSTEM



## Illusion Digital Effects System

- Multi-channel system
- Perspective with variable vanishing point (option)
- Bubble memory. Non volatile and with 2000 event storage
- Performs as dual channel system when in the A/B video switching mode
- Variable expansion control to infinity
- Freeze
- Preprogrammed effects
- User programmable
- Three dimensional joystick control...horizontal, vertical and circular
- Rotation (optional)
- Unlimited expansion and compression
- Vertical and horizontal aspect control
- User control of: Effect duration and speed, Picture size, Screen placement, Perspective orientation, Rotation
- Manual or automatic execution
- Smoothly executed effects
- 100% digital processing
- Can be used as an additional channel to other digital effects systems
- Switcher and editor compatible
- Small rack equipment...can be installed in remote vans
- NTSC component version
- Feedback

### Effects

Slide  
 Flip  
 Skew  
 Squeeze  
 Spin  
 Rotate  
 Spiral  
 Expand  
 Compress

Double image  
 Split image  
 Mirror  
 Invert  
 Combinations  
 Barrel roll  
 Aspect control  
 Alternate line  
 image

Posterization  
 Mosaics  
 Freeze  
 Strobe  
 Variable border

### Feedback effects:

A bordered picture spun with "feedback" to give multi-image geometrical effect. Unique to Illusion, the effect is internally generated and does not tie up a switcher M/E. The image geometry is manipulated and controlled through Illusion's panel.

### Mosaic:

Captured from live video or freeze frame, the resolution (tile size) may be varied with Illusion's fader permitting easy On-Air execution.

### Posterization:

As with mosaic, any signal source may be posterized. Variations are available to compensate for highly illuminated and dark subjects.

### Alternate line split image with perspective:

Split image is formed by separating the image into alternate lines. The solid video (seen in the monitor picture) is the unsplit portion of the signal. The perspective vanishing point is variable.

### Double image with axis offset:

A double image over a background can be manipulated into any number of creative effects with Illusion. The double image could be posterized independent of the background...or put into perspective (cut-in monitor picture) are just two examples.

\*All these pictured effects can be performed on dynamic live video or frozen images.

The system consists of a CRT terminal, disk drive and rack electronics that are added to an existing Illusion Mainframe. The CRT is menu driven. Up to two additional disk drives may be added which would provide storage space for up to 10,000 "slides". A removable cartridge drive is also available.

ILN4000 Illusion	\$23,900.00
<b>Options</b>	
PSP100 Perspective	\$ 5,000.00
RTN100 Rotation	1,000.00



# DIGITAL VIDEO SYSTEMS

120 Middlefield Rd.  
Scarborough, Ont.  
CN M1S 4M6  
(416) 299-6888 FAX: (416) 299-7145



## DPS-130 Four-Matte

- Allows cable system operators and broadcast facilities to view four video signals simultaneously
- Selection of the desired channel can be made without scanning all converter channels available
- Further applications include monitoring of several CCTV cameras for security and multi-source viewing in mobiles where space is at a premium
- Output is RS-170A, enabling use as a switcher for alternate level of effects
- Freeze frame ability permits stop motion of all frames simultaneously
- Border is generated with selectable coloring
- H $\emptyset$  and B $\emptyset$  controls
- Internal processing amplifier
- Component video processing
- Interfacing available for an optional programmable audio switcher
- Burst and horizontal timing is front panel adjustable using a series of up/down counters
- Can also be configured for monochrome only

DPS-130 Four-Matte . . . . . \$18,500.00



## DPS-165 Frame Synchronizer

- 525-line buffered memory
- Monochrome or direct color input
- Synchronous or non-synchronous switching
- Auto diagnostic memory
- Internal test signal generator
- Two true RS-170A outputs
- Optional remote control
- Freeze frame/field (field 1/2 selectable)
- Horizontal phase control

DPS-165 Frame Synchronizer . . . . . \$4,990.00  
DPS-165A Frame Synchronizer with adaptive comb filter . . . \$5,990.00  
RC-165 Remote Control for DPS-165 and DPS-165A . . . . . \$1,340.00

# TIME BASE CORRECTORS/ SYNCHRONIZERS



## DPS-170 Time Base Corrector

- High performance/low cost
- Heterodyne capability
- Direct color capability with 3.58MHz feedback
- Wide dynamic tracking range of -1 to +3 with clear viewing at up to  $\pm 30X$  normal tape speed
- Tape source flexibility, with a 16-line buffered correction window and RF/TTL selectable drop out compensator output
- Two true RS-170A video outputs
- Editing and assembly
- Horizontal phase control
- Match frame editing

DPS-170 Time Base Corrector . . . . . \$4,990.00



## DPS-175 TBC/Framestore

- High performance, low cost
- Freeze frame/field (field 1/2 selectable)
- Synchronous and non-synchronous switching to tape
- Wide dynamic tracking range of -1 to +3 and clear viewing up to  $\pm 30X$  play speed
- Heterodyne capability
- Direct color capability with 3.58MHz feedback
- 525-line buffered correction window and TTL/RF selectable drop out compensator
- Two true RS-170A video outputs
- Horizontal phase control
- Editing and assembly
- Match frame editing

DPS-175 T.B.C./Framestore . . . . . \$6,450.00  
DPS-175A T.B.C./Framestore with adaptive comb filter . . . \$6,990.00



## DPS-185 Test Signal Generator

- 32 test signals
- 2 independent outputs per channel
- 7 auxiliary outputs—sync drives
- Genlockable
- RS-170A specs
- Dedicated color black outputs

DPS-185 Sync/Test Generator . . . . . \$4,250.00

# DI-TECH, INC.

48 Jefryn Blvd.  
Deer Park, NY 11729  
(516) 667-6300  
Telex 97-1806

# DISTRIBUTION AMPLIFIERS

## 110 Video Distribution Amplifier

- DC output coupling
- Regulators on every DA
- 6 outputs
- 9dB gain
- 20MHz bandwidth
- Mounting versatility

The 110 Video Distribution Amplifier emphasizes the use of tightly controlled standard component parts that are properly derated for ultra stable performance.

The standard DC coupled outputs provide the user with a unit that has minimum tilt and bounce. Each video distribution amplifier has its own regulator, thereby limiting a failure to one unit should a problem occur with the DC circuitry. The LED indicators for plus and minus voltages allow for a convenient and rapid visual indication of normal operation. The 20MHz bandwidth permits distribution of digital data and other wideband information.

The 110 Video Distribution Amplifier can be mounted in a vertical or horizontal configuration. For horizontal mounting, the 101 frame is used. This frame has a capacity for mounting up to 3 video DA's and comes complete with its own built-in power supply. When the video DA's are mounted vertically, the frame 103 is used. The 103 frame requires an 801 power supply and the capacity is up to 10 video DA's.

110 Video DA, 1 x 6, DC coupled outputs . . . \$285.00  
AC coupled outputs . . . .295.00

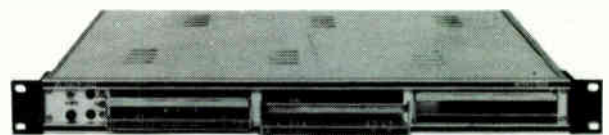
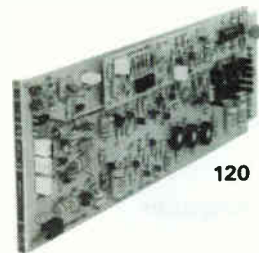
## 120 Video DA with Differential Input Back Porch Clamper 10dB Slope Equalizer

- Differential input
- Common mode rejection, -55dB
- Back porch clamper, fast or slow
- Optional 10dB slope equalizer
- 6 outputs
- 12dB gain

The 120 is a 1-input, 6-output video distribution amplifier which features differential input, a switchable back porch clamper and an optional 10dB cable slope equalizer.

On cable runs where common mode hum exists, the differential input minimizes this problem by at least 55dB. The switchable clamper circuit will further reject hum by 30dB and, in addition, the field tilt is reduced to within 0.1%. The clamping speed (fast or slow) can be altered quite simply by a plug-in strap located on the PC card.

The optional 10dB 6-section cable equalizer is continuously variable and easy to use. Only one adjustment is required and it is located on the front edge of the card. With the Di-Tech equalizer you do not require separate fixed equalizers for various lengths of cable. In addition, an extender card is not required for making equalizer



adjustments. The equalizer is a plug-in card which can be added in the field without the need for soldering.

The 120 is designed for mounting in the 101 frame which accepts up to 3 modules or the 103 frame which accommodates up to 10 modules.

120 Video DA, 1 x 6 with differential input and clamper . . . . . \$380.00  
Option A 120 with 10dB cable equalizer . . . . . 430.00

## 1200 Clamper, Amplifier and Equalizing DA

- Switchable 75/124 ohm input
- Flat gain, 12dB
- Adjustable equalization up to 10dB
- Plug-in modules
- 2/75 ohm and 1/124 ohm outputs
- Back porch clamp, fast or slow

The 1200 is a versatile unit that eliminates many problems caused by lengthy 75 ohm or 124 ohm cable runs. The back porch switchable clamper attenuates hum and field tilt by at least 30dB. The differential input reduces common mode hum caused by ground loops by at least 55dB. In applications where microwave ringing occurs, the unit is easily converted over to a soft clamping action via a strap that is conveniently located on the 120 plug-in module.

The six section slope equalizer is continuously variable from 0 to 10dB at 4.5MHz or 10.0MHz with a single front panel control. The equalizer is switchable between 75 ohms and 124 ohms and the location of the slide switch is on the rear panel. Post or pre-equalization is easily accomplished with the 1200.

The flat gain range of the unit is -6 to + 12dB and the control is continuously adjustable. This control is located on the front edge of the module.

The 1200 is normally supplied to function with a nominal input of 115VAC. Should the need arise for DC operation, this unit can be furnished to operate at  $\pm 24$  or  $\pm 48$  VDC. DC operation is an optional feature.

1200 75/124 ohm, clamper, amplifier and equalizer . . . . . \$1220.00

# DI-TECH, INC.

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# PULSE DISTRIBUTION AMPLIFIERS/ FRAMES/POWER SUPPLIES

## 150 Pulse Distribution Amplifier

- 6 outputs
- I.C. circuitry
- Input hum up to 4.0V p-p, no output jitter
- Constant output
- Maximum stability
- Test points, input and output

The 150 Pulse Distribution Amplifier is a device which utilizes the incoming pulse for time reference only and regenerates a pulse that is virtually free from distortion.

The input will accept up to 4.0V p-p hum with no jitter appearing on the 6 outputs. With input levels from 2 to 8V p-p, the output will remain constant at 4.0V p-p and the output rise and fall times are controlled and remain at 100ns.

Front panel test points are provided for monitoring the input and outputs and each pulse distribution amplifier has its own DC regulator.

The 150 utilizes the 101 frame for mounting up to 3 modules and with the 103 frame you can accommodate up to 10 modules.

**150 Pulse DA, 1 x 6 . . . . . \$275.00**

## 151 Pulse Distribution Amplifier with Variable Delay

- I.C. circuits
- Pulse width adjustment up to 0.5μs
- Hum up to 4.0V p-p, no output jitter
- 6 outputs
- One delay adjust for 6 outputs
- Optional 3 delay adjusts for 6 outputs

The 151 Pulse Distribution Amplifier is identical to the 150 Pulse Distribution Amplifier except for the added features of adjusting the pulse width and pulse delay. The standard 151 has one delay adjustment for 6 outputs and the 151 Option A has one adjustment per 2 outputs thereby providing 3 delay controls.

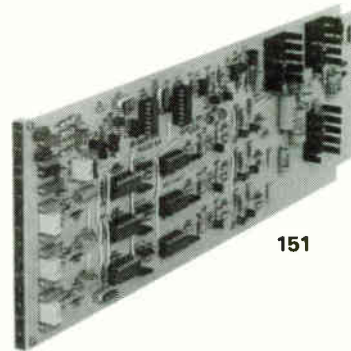
The carefully controlled passive circuit and I.C. comparator allows for stable pulse delay and avoids problems usually encountered with one shot multivibrators.

Front panel test points are provided for monitoring the input and outputs and each pulse distribution amplifier has its own DC regulator.

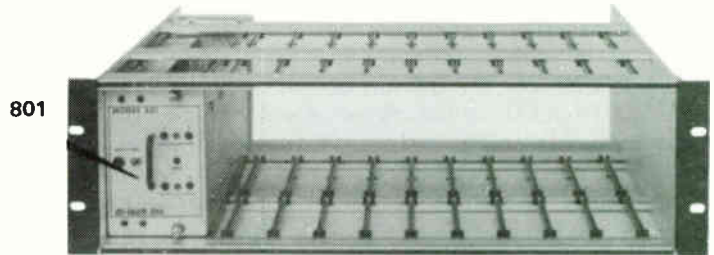
The 151 utilizes the 101 frame for mounting up to 3 modules and with the 103 frame you can accommodate up to 10 modules.

**151 Pulse, DA, with variable delay. 1 adjustment per 6 outputs . . . . . \$325.00**

**Option A- Model 151 with 3 adjustments. 1 adjustment per 2 outputs . . . . . 390.00**



151



801

103

## Frames and Power Supplies

The 101 Frame has been designed to mount into a standard 19" EIA rack frame assembly. The 101 configuration allows for mounting up to 3 Di-Tech modules and its built-in power supply.

The 103 Frame has been designed to mount into a standard 19" EIA rack frame assembly. A hinge down front panel is supplied to protect and to allow convenient access to the modules. The 801 Power Supply slides into the frame assembly and up to 10 Di-Tech modules can be accommodated.

The 801 is a plug-in power supply that has been designed to easily handle the current requirements from the di-tech modules under specified voltage variations and temperature environments. A special feature of the power supply is the redundant DC circuitry which permits the unit to continually provide the specified voltages in the event of a problem. In addition, the appropriate LED will be extinguished and a contact closure will occur for the external alarm output.

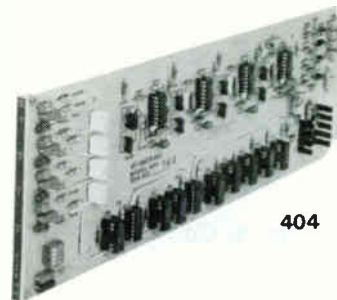
<b>101</b>	1 3/4" frame, with power supply, mounts up to 3 modules . . . . .	<b>\$395.00</b>
<b>103</b>	5 1/4" frame, mounts up to 10 modules and 801 power supply . . . . .	<b>.310.00</b>
<b>104</b>	1 3/4" frame (used with 5412, 593S and 595) . . . . .	<b>.395.00</b>
<b>105</b>	1 3/4" frame with dual power supply (2 open card slots) . . . . .	<b>.495.00</b>
<b>107</b>	1 3/4" frame with DC to DC power supply, 24 or 48VDC, mounts 2 modules . . . . .	<b>.875.00</b>
<b>801</b>	Power supply for 103 frame . . . . .	<b>.475.00</b>
<b>802</b>	Power supply (used only with 171 audio DA) . . . . .	<b>.495.00</b>



# DI-TECH, INC.

48 Jeffryn Blvd.  
Deer Park, NY 11729  
(516) 667-6300  
Telex 97-1806

# VIDEO DETECTORS/IDENTIFIERS



404

### 402 Video Presence Detector

- 4 bridging inputs per card
- 12 video inputs per 1<sup>3</sup>/<sub>4</sub>" frame
- 40 video inputs per 5<sup>1</sup>/<sub>4</sub>" frame
- Threshold control, 10 to 40 IRE units of sync
- 4 alarm switches per card
- External alarm outputs

The 402 Video Presence Detector utilizes a unique input circuit that is sharply tuned to pass only the horizontal line rate of the composite video input. In addition, the circuit is also level dependent, thereby providing the user with a true indication of presence or absence of video.

The 402 provides for 4 bridging loopthrough inputs and 4 alarms. Each detector has its own alarm circuit, thereby permitting an individual alarm for each video input. The on-board alarm light is illuminated and separate external relay outputs are provided.

There are 4 front panel switches which individually engage or disengage the alarm circuits. An adjustment is provided for each detector in order to adjust the threshold level from 10 to 40 IRE units of sync. With the 101 frame you can monitor up to 12 inputs and the 103 frame can accommodate up to 40 inputs.

The Video Presence Detector is adaptable to a wide variety of applications, such as: simultaneous monitoring of all video inputs to large A/V routing switchers, security surveillance systems, monitoring remote feeds and controlling remote equipment on/off.

- 402 Video Presence Detector, 4 inputs, 4 alarm relays . . . \$340.00
- 402S Video Presence Detector, 4 inputs, 4 alarm relays (B402007) . . . 380.00

### 403 Video Presence Detector with Relay Switching

- I.C. detectors
- On-board LED status indicators
- Relays for external alarms
- Automatic relay switching
- Separate detector for auxiliary input
- 2 Form C contacts for balanced audio switch

The 403 has been designed to be utilized at remote unattended areas where automatic video and audio switching is required when a failure occurs in the transmission system.

Two inputs are provided. One is for the program and the other is for the auxiliary backup composite video feed. Should the program feed fail, the on-board video detector output would then trigger the relay to automatically switch to the auxiliary input. Normally the unit is factory set to switch after a 3 second failure but this can be easily altered by a simple component change. As this switch is taking place, an on-board LED failure indicator is illuminated and a separate relay is used for the external alarm. In addition, 2 Form C contacts are provided for switching balanced audio.

A unique feature of the 403 is the separate video detector and alarm circuit for the auxiliary input. This added feature now allows the user to have simultaneous status on both program and auxiliary video inputs. With the 101 frame, you can mount up to 3 modules.

- 403 Video Presence Detector, 2 inputs, relay switching . . . \$315.00

### 404 Video Presence/Loss Detector

- 4 bridging inputs per card
- 2 relays per alarm circuit
- One relay electronically latched
- Adjustable time delay control
- 12 video inputs per 1<sup>3</sup>/<sub>4</sub>" frame
- 40 video inputs per 5<sup>1</sup>/<sub>4</sub>" frame

The 404 Video Presence Detector employs 4 separate sync detectors each with its associated relay alarm circuitry. The 4 inputs per card are high-impedance bridging loopthrough.

When conditions are normal, a green on-board LED is illuminated. Should a video loss occur, an on-board red LED is illuminated and 2 separate relays are provided for the external alarm. One relay is a Form C type which closes or opens in a signal alarm condition. When video is present the relay automatically reverts to a normal condition. The second relay, which is Form A, is electronically latched and can only be reset by external control.

Each alarm circuit has an adjustable time delay control for establishing alarm priorities and switching logic. Delays can be set from 1 to 10 seconds.

The 404 mounts into the 101 frame. The frame is 1<sup>3</sup>/<sub>4</sub>" high and accepts 3 modules. With this approach you can monitor up to 12 video lines.

For larger systems, the 103 frame is utilized. This frame accommodates 10 modules and 40 video feeds are monitored in 5<sup>1</sup>/<sub>4</sub>" of rack space.

- 404 Video Presence Detector, 4 inputs, 2 alarm relays per input . . . \$455.00

### 410, 411, 412, 413 Video Detectors And Video Identifiers

- Numbers are selected via thumbwheels
- Video loss alarms
- Numbers are added passively to video
- Vertical and horizontal positioning of numbers

The 410 Detector and Source Identifier has circuitry for a sync detector, high and low level APL detectors, number generator and an internal sync generator. Four numbers are added passively to the incoming video source. When a sync failure occurs, the unit provides a video loss alarm and then switches over to its internal sync generator that delivers its own composite signal which only contains the four numbers.

The 411 Detector and Source Identifier contains circuitry for a sync detector, number generator and an internal sync generator. Two numbers are added passively to the incoming video. When a sync failure occurs, the unit provides a video loss alarm and then switches over to its internal sync generator that delivers its own composite signal which only contains the two numbers.

- 410 Video Presence Detector, 4 numbers, APL detectors . . . \$495.00
- 411 Video Presence Detector, with two numbers . . . 395.00
- 412 Video Source Identifier, 4 digits . . . 295.00
- 413 Video Source Identifier, 3 numbers and 2 letters . . . 330.00

# DI-TECH, INC.

48 Jefryn Blvd.  
Deer Park, NY 11729  
(516) 667-6300  
Telex 97-1806

# COMPUTER CONTROLLER/ AUTO-LOGGER

## PACE 2000 7 Day Computer Controller

- Up to 1501 events
- 7 day period, repeatable
- Emergency mode
- 240 sources/240 destinations
- Audio/video breakaway
- Simple English language
- Off-line data storage
- External interrupts

The PACE 2000 Computer Controller is an upgraded version of the PACE 1000 System which allows automated and manual control of A/V routing switchers, VTRs, satellite receivers, A/B switchers, I.F. processors, etc.

The 2000 System will operate locally at 9600 baud and for remote applications the baud rate is 1200. The 2000 will allow up to 240 source labels and 240 destination labels.

On the rear of the computer there are two output ports. One is for source/destination control such as A/V routing switchers and the other is labeled unit/function for control of machines such as VTRs. Machine control does require additional optional hardware in order to interface the device with the computer.

The output from the computer is a parallel 16-bit word plus a strobe line. Each execution takes approximately 30ms, therefore you can execute approximately 30 events in a one second time period. If required, you can time set the events to within one second of each other.

The PACE 2000 is a non-complex device to operate with regard to entering the events for a 7 day period. Non-technical people can be utilized in using this system. All events are in English language and when the schedule for the week is entered, an optional paper printer can be used for obtaining a hard copy printout. The video terminal has a standard typewriter keyboard along with function keys. These function keys are utilized for selecting various modes of operation.

**PACE 2000 consists of:** Intel SBC chassis including all RAM and EPROM boards, ADDS video terminal, battery back-up . . . \$13,700.00

### Optional Peripheral Equipment

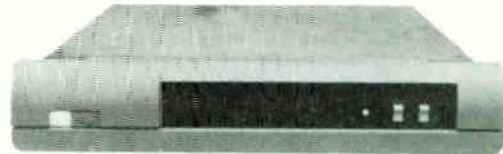
- Back-up power supply . . . . . \$1,200.00
- Printer with 1 case of paper . . . . . 800.00
- Case of paper for printer . . . . . 70.00
- Modem #3434 with handset coupler . . . . . 1,180.00
- Modem #3455 (for computer location) . . . . . 1,090.00
- ADDS video terminal (additional units) . . . . . 1,600.00
- 2100 automatic logger (without printer) . . . . . 1,825.00
- Mini Mate, floppy disk . . . . . 2,400.00

### Optional Output Interface Hardware

- 3001** 5 1/4" source/destination frame assembly, up to 16 modules . . . . . \$855.00
- 3002** 5 1/4" unit/function frame assembly, up to 16 modules . . . . . 855.00
- 3005** 1 3/4" unit/function frame assembly, up to 3 modules . . . . . 500.00
- 3006** 1 3/4" source/destination frame assembly, up to 3 modules . . . . . 500.00
- 801** Power supply (used with 3001 and 3002 frames) . . . . . 475.00
- 300** Source/destination card, 20 x 1 latch, TTL output . . . . . 250.00
- 301** Source/destination card, 100 x 1 BCD latch . . . . . 260.00
- 303** Unit/function card, 10 on/off relays, latch or momentary . . . . . 300.00
- 304** Unit/function card, 8 relays, momentary or latch, VTR control . . . . . 275.00



Intel SBC System



- 305** Source/destination card, 16 x 1 binary output (Hughes SVR 463) . . . . . \$ 270.00
- 580** Source/destination 12 x 1 format (used with 5400 A/V switcher) . . . . . 250.00
- 584** Serial to parallel converter (use 101 frame) . . . . . 500.00
- 9730** Master source/destination override and interface, panel, 3 1/2" x 19" with auto disconnect. Thumbwheel selection for inputs and outputs (for 5800 and 5840) . . . . . 1,200.00
- 9760** Master unit/function override and interface panel . . . 710.00



2100 Auto-Logger

## 2100 Auto Logger

- User labeling for sources and destinations
- Logs events to the nearest second
- Prints actual tally from switcher

The 2100 Auto Logger is used in applications where a hard copy printout is required for verifying input/output switching from a routing switcher.

A video terminal is used for accessing the RAM in the microprocessor. RAM access allows the user to type in a 5 character description for input sources and output destinations on the matrix switcher. The terminal is also used to set the clock, date, time and print the source and destination names.

The 2100 has a built-in calendar and a 24 hour clock. When the logger is used with our PACE seven day computer controller they function together as follows: A source/destination code is passed through the 2100 logger to the switcher. When the proper crosspoint is taken, the tally from the switcher is then passed back to the logger. When this cycle is completed, the printout provides you with what the source/destination should be, the actual tally back for the source switched, and the date and time for the switched event. Should the switcher take an incorrect source the printout will show the incorrect source and a flag message (TALLY ERROR!) is printed.

The auto logger does require a separate interface panel as well as a video terminal and these items are priced separately.

- 2100 Auto Logger (for 5800 and 5840) . . . . . \$1,825.00

# DI-TECH, INC.

48 Jefryn Blvd.  
Deer Park, NY 11729  
(516) 667-6300  
Telex 97-1806

## 5400 Audio Follow Video Routing Switcher

- Solid-state switching, audio and video
- Matrix size: 12 x 2, 8 x 2 or 4 x 1
- Vertical interval switching
- 20MHz bandwidth
- Optional relay outputs
- Remote control flexibility

The 5400 remote controlled audio follow video routing switcher has been designed to offer the user a quality distribution system at an economical price.

The electronics is housed in a 1<sup>3</sup>/<sub>4</sub>" frame. A choice of matrix size is provided. They are: 12 x 2, 8 x 2 or 4 x 1. Video switching is vertical interval and in the absence of vertical drive, switching reverts automatically to random.

Video inputs are bridging loopthrough, high impedance. Output expansion is easily accomplished by looping through the inputs until the desired output number is achieved. Typically, you can expand the output configuration up to 12 before requiring video DAs.

The 504 plug-in PC switching card contains all the electronic circuits for the video, audio, control, latching and optional tally. The 101 frame is pre-wired at the factory for a 12 x 2 configuration, thereby permitting a truly simple input expansion by purchasing just the 504 switching card.

Variations in methods of control are available and they are: illuminated momentary pushbuttons or touch-tone®.

- 5400 AFV, remote controlled routing switcher with VI switching:
- |                          |           |
|--------------------------|-----------|
| Matrix, 12 x 2 . . . . . | \$2675.00 |
| Matrix, 8 x 2 . . . . .  | 2210.00   |
| Matrix, 4 x 1 . . . . .  | 1555.00   |

NOTE: Price includes 1<sup>3</sup>/<sub>4</sub>" control panels with momentary illuminated pushbuttons, V.I. switching, 50' control cables and one 10' Audio IN/OUT cable.

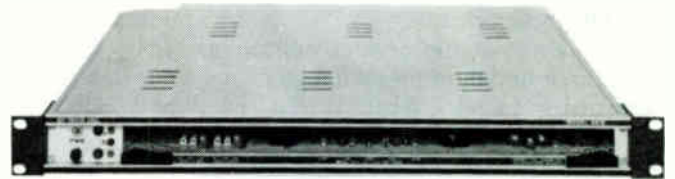
### Options:

- A. Tally relays, add \$275.00 for 12", \$200.00 for 8", \$125.00 for 4"
- B. Control cables, extra lengths add .70 per ft.
- C. Touch-tone control . . . . .POR
- D. BNC looping coax cables (8279)  
6" length at \$9.00 each
- 504 4 x 1 Audio/Video switcher plug-in card (5400) . . . . . \$ 465.00
- 5402 AFV remote controlled routing switcher with VI switching . . . . .2675.00  
Matrix, 8 x 2 and 4 x 1  
For tally relay option pricing, see 5400
- 5403 AFV remote controlled routing switcher with VI switching:  
Matrix, Qty. 3, 4 x 1 matrices . . . . .2675.00  
Qty. 2, 4 x 1 matrices . . . . .2210.00  
Qty. 1, 4 x 1 matrix . . . . .1555.00  
Control panels (specify)  
904-1, single bus panel, 1<sup>3</sup>/<sub>4</sub>" H  
904-3, triple bus panel, 1<sup>3</sup>/<sub>4</sub>" H  
For tally relay option pricing, see 5400
- 5406 6 x 1 non-exclusive switcher/mixer (panel not included) . . . . . \$2150.00
- 957 4 bus panel for 5406 and 5426 switchers with 4, 50' cables . . . . .1050.00

# AFV ROUTING SWITCHERS



5400



5412

## 5412 Audio Follow Video Routing Switcher (2 Audio Levels)

- 2 levels of audio per input
- Matrix size: 12 x 1
- Vertical interval switching
- Plug-in PC card
- Remote control flexibility
- Wide bandwidth

The 5412 remote controlled audio follow video routing switcher has been designed to offer the user a compact quality distribution system at an economical price.

The electronics as illustrated is housed in a 1<sup>3</sup>/<sub>4</sub>" frame and this compactness makes it extremely useful as an input selector for VTRs, small studios, ENG or mobile vans. The control panel has 12 illuminated momentary pushbuttons and the control cable normally supplied is 50'. Should longer lengths be required, please specify on your order.

The dual audio provision provides the user with an extra feature that is normally supplied by most other switching manufacturers.

Should the future application be stereo, multilanguage or control codes, the 5412 can satisfy your requirements without adding an additional chassis in order to obtain that second audio level.

Video inputs are bridging loopthrough, high impedance. Output expansion is easily achieved by looping the inputs until the desired number of outputs is attained. Typically, you can expand the output configuration up to 6 before video DAs are required.

The 5412 contains a plug-in printed circuit card which contains all the circuitry for the video, dual audio control, latching and on board DC regulators. The AC supply is housed within the frame assembly. All integrated circuits are mounted in their own sockets and the I.C.'s are not soldered to the printed circuit card.

- 5412 AFV, remote controlled routing switcher with: . . . . . \$1950.00
- A. 12 x 1 matrix
  - B. 2 channels of audio per input
  - C. V.I. switching

NOTE: Price includes one 12 x 1 control panel with illuminated pushbuttons, one 50' control cable and two 10' IN/OUT cables.

- 5426 8 x 2 AFV switcher with GVG interface (panels not included) . . . . . \$2375.00



# DI-TECH, INC.

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Telex 97-1806

# SWITCHERS

## 5470 Audio/Video Tone Access Switching System

- Touch-tone control
- Audio, video or audio/video switching
- Dial up or dedicated tone access
- Control up to a 4 x 4 matrix in 5 1/4" of rack space
- LED crosspoint status
- Optional relay output control cards

The 5470 system has been designed to simplify and minimize installation time of tone accessed switching equipment at remote unattended sites.

This system includes all the necessary circuitry to control four independent 4 x 1 switching matrices. The 4 x 1 matrices are easily converted to a 4 x 4 matrix by externally adding looping cables on the inputs.

The 5470 consists of the 3137A auto answer card along with a compression amplifier which compensates for variations in line levels. The 570 decoder decodes the two frequencies associated with each number on the touch-tone encoder. The 572 control decoder accepts the output from the decoder and produces 12 high current PNP outputs which are then utilized for controlling the switching matrix on the 504 card. The switching card does contain its own latching circuitry.

The rear panel assembly is wired to accept an optional 573 control card. This card is utilized for other control functions and is supplied with 12 momentary or latching relays.

Should an AC power failure occur at the unattended site, the system is designed to accept and diode switch to an external DC source.

**5470 Telephone tone accessed switching system:**  
4 x 4 audio follow video matrix. . . . \$4080.00

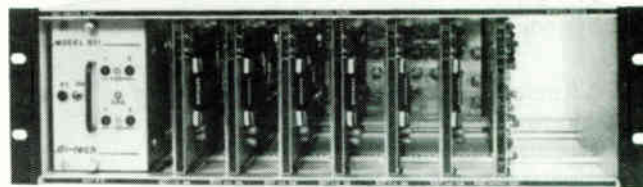
**Option A**  
Battery back-up system . . . . .390.00

## 5500 Audio/Video Routing Switcher

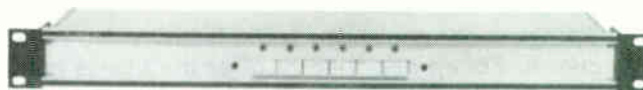
- Up to 28 inputs by 2 outputs per frame
- Vertical interval switching (standard)
- Solid-state switching, audio and video
- Remote control flexibility
- Loopthrough inputs
- Plug-in PC cards

The 5500 series routing switcher provides a compact approach to a simple and quick means of routing any input signal to any output bus without disturbing other inputs.

The standard control panels which house the momentary illuminated pushbuttons are located separately from the electronics. Should other means of addressing the switcher be required, you may utilize thumbwheel switches with readouts or touch-tone control.



5500



5106/5112

Inputs to the switcher are in groups of four and BNC type connectors are used for all inputs and outputs. Inputs are high-impedance, bridging and output expansion is easily accomplished by the loopthrough method. The switching pulse for video is vertical interval.

An optional feature for the 5500 is the tally relay. Each time a crosspoint is taken a relay closure is provided for applications such as camera tally, machine control or other control functions.

**5500** AFV, remote controlled switcher with VI switching:  
Matrix 28 x 2 . . . . . \$5540.00  
Matrix 24 x 2 . . . . . 5125.00  
Matrix 20 x 2 . . . . . 4711.00

**Options:** 5500 camera tally relay  
Matrix 28 x 2 . . . . . \$610.00  
Matrix 24 x 2 . . . . . 535.00  
Matrix 20 x 2 . . . . . 460.00

**NOTE:** For the 5500, price includes 50' control cables and momentary illuminated pushbuttons. Price for extra cable lengths is .95 per ft.

**509** 4 x 2 audio/video switcher plug-in card (5500). . . . . 430.00

**542** Dual audio/video output amplifier card (5500). . . . . 395.00

## 5106 Passive Video Switcher Non-Illuminating Buttons

- Front panel video test points
- Crosstalk: -70dB minimum

The 5106 GAP video switcher has been designed for applications where low cost switching is required, such as test signal selection, monitor input selection and closed circuit distribution.

The 5106 is provided in a 6 x 1 configuration and utilizes high quality switches with silver plated contacts. The selected input is fed to the output and other inputs are automatically terminated.

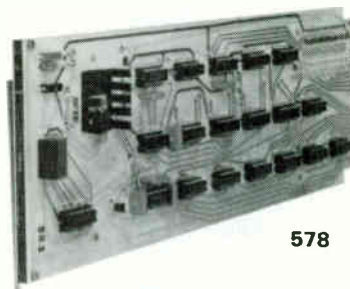
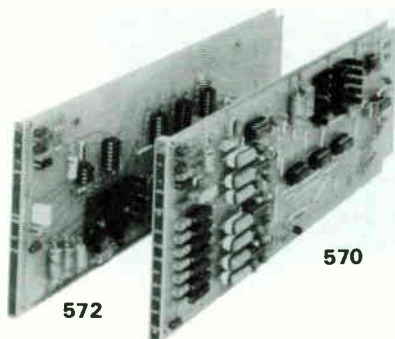
Test points are provided on the front panel for purposes of verifying the video inputs and levels.

**5106** 6 x 1 video switcher, passive . . . . . \$225.00  
**5112** 12 x 1 video switcher, passive. . . . . 290.00

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# CONTROL SYSTEM/ ENCODER/CONVERTER



## 5700 Touch-Tone® Control System

- Controls 12 to 144 functions
- Phase lock loop circuitry
- CMOS ICs
- High current or relay outputs
- Stability  $\pm 1\%$ , FO
- Bandwidth  $\pm 5\%$ , FO

The 5700 Series Touch-Tone Control System is designed for applications in controlling A/V routing switchers, pan and tilt functions for remote cameras, supervisory control systems, or any communication environment that requires control through use of the telephone lines, utilizing touch-tone pads.

With this system, Di-Tech provides all the necessary functional PC cards with power supplies and frames to satisfy most requirements thereby virtually eliminating the usual interface problems.

For example, the 570 tone decoder utilizes phase lock loop circuitry to detect the tones and CMOS ICs to decode 2 of 7 tone frequencies into 12 low level outputs. Should high level outputs be required, you would then add the 572 control decoder card which provides for strobe gating and 12 high current open collector driver outputs. If relay outputs are required, then you utilize the 573. This unit is the same as the 572 except for the relay outputs. Should more than 12 outputs be desired, then you simply add the 572 or 573 for up to 144 outputs.

5700 Touch-tone control system, consisting of models:

570 tone decoder . . . . .	\$390.00
572N/P control decoder . . . . .	255.00
573 control decoder, momentary relay output . . . . .	350.00
573A & C control decoder, magnetic latching relays (12) . . . . .	440.00
573B control decoder, magnetic latching relays (6) . . . . .	390.00
575 tone encoder . . . . .	275.00
578 X-Y control decoder for 5840/5800 switchers . . . . .	475.00
3137A automatic answering card with compression amplifier . . . . .	400.00

## 5704 BCD X-Y Encoder

- Front panel numerical readout
- Remote control 5800/5840 switcher
- BCD encoded output
- 4 digit coding, 100 x 100 control

The 578 is utilized in applications when remote access to the 5800/5840 routing switcher is required via the telephone lines or via an RF link with sub carrier. The standard telephone touch pad is used for selecting the output and then the input.

The 578 X-Y tone encoder must be used in conjunction with the 570 tone decoder. The 578 takes the one of twelve outputs from 570 and formats them into a 16-bit BCD word. This 2-byte word is used to drive the X-Y input of the 5840 routing switcher. It may also be used to drive the 5810 (X-Y interface) for the 5800 routing switcher.

This card also features a numerical readout located on the front of the card which indicates the numbers as they are entered. The output numbers are entered first followed by the "\*\*\*\*". The input numbers are then selected followed by the "\*\*\*\*" which enters the numbers and generates a take pulse to the switcher. The whole procedure is performed over the phone line from a remote location.

5704 X-Y, BCD controller via  
touch-tone (101, 3137, 570, 578)  
used with 5800 and 5840. . . . . \$1600.00

## 584 RS-232 Converter

- Standard RS-232 input/output, 1200 baud standard
- Parallel data in, serial data out
- Serial data in, parallel data out

The 584 converts parallel data to the standard RS-232 format when used in the "Transmit" mode and in the "Receive" mode the unit receives the RS-232 and converts it back to the parallel format.

The 584 is factory set to operate at 1200 baud but other baud rates are available as an option.

The 584 is used in applications where parallel data from the PACE computer must be converted to a serial format for transmission purposes. This card will also accept RS-232 serial data and convert it back to parallel data for purposes of controlling the 5800 and 5840 routing switchers.

584 Serial to parallel or parallel  
to serial converter (card only) . . . . . \$500.00

# DI-TECH, INC.

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## ROUTING SWITCHER

### 5800 Series Audio/Video Vertical Interval Routing Switcher

- 20 x 15 AFV matrix, 10<sup>1</sup>/<sub>2</sub>" rack space
- 20 x 1 switching modules
- BCD parallel control
- Crosspoint latch feedback tallies
- Differential input, audio
- Expandable inputs and outputs
- 3 level audio switching, optional
- DC restorer for video inputs
- LED readouts, crosspoints status, optional
- Audio breakaway, optional

The 5800 Series AFV routing switcher employs separate frames to house the video and audio modules. A building-block approach is utilized in order to simply expand the inputs or outputs as future requirements change. Non-proprietary multi-source components are used throughout and there are no specialized single source items utilized in the system.

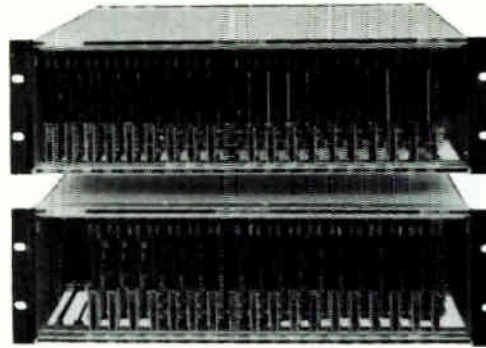
The audio and video switching modules contain 20 x 1 matrices complete with output amplifiers. When the switching module is extracted from the frame you only effect those inputs to that one output bus. Other output buses are not effected. The video and audio matrix frames are arranged in a 20 input by 15 output format. Each frame occupies 5<sup>1</sup>/<sub>4</sub>" of rack space so for a 20 x 15 AFV matrix you only require 10<sup>1</sup>/<sub>2</sub>" of rack space. Each 20 x 1 video switching module contains an LED numerical readout for crosspoint status. This is in addition to the tally feedback indicator on the control panel.

Control input and crosspoint tally return are in a bi-directional BCD format, therefore only eleven wires are required for the control cable. The basic capacity is 100 inputs and expansion beyond that requires additional control facilities. Various methods of control are (I) illuminated momentary pushbuttons (II) thumbwheel with take button and tally indicator (III) touch pad with preset and on-air indicators (IV) external computer or controller.

External power supplies are furnished with the system. The rack space for the supplies vary, depending on the matrix ordered. Dual power supplies and battery back-up systems for crosspoint memory are available as an option.

#### The 5800 Series Contains The Following Items: 5801 Frame Assembly (Video)

The frame is 5<sup>1</sup>/<sub>4</sub>" high and accommodates all the video modules for a 20 x 15 matrix. A hinged down front panel is provided for easy access to the vertically mounted plug-in modules. All matrix frames are provided with connector facilities which enable field expansion to be carried out in a simple and quick fashion. Control and signal loopthrough connectors are also provided.



5801 Video Assembly

5802 Audio Assembly

#### 520 Video Matrix Board

This board is arranged in a 20 x 1 output format. In addition to the crosspoints, each card contains its own control, latching and crosspoint tally circuitry. The crosspoints utilize transistors and diodes and the control circuitry is BCD 8-bit parallel with take line. Drive levels are TTL. Each module contains its own output amplifier with a level control mounted up front.

#### 530 Video Input Amplifier

The input circuitry contains a DC restorer for APL variations and sync adding for non composite inputs. All of these features can be added or deleted via straps on the module. There are 5 input amplifiers per card and for 20 inputs, 4 cards per frame are required.

#### 560A Vertical Trigger and X-Y Control Card

This card provides the trigger pulse for vertical interval switching, which is derived from external sync. Should the sync input fail or is not used, then a random trigger pulse is generated. When using the sync adder feature, this card processes the sync and distributes it to the input amplifier cards. LEDs are provided for sync and trigger failure indication. The 560A also contains the logic circuits for X-Y control and audio breakaway.

#### 5802 Audio Frame Assembly

The frame is 5<sup>1</sup>/<sub>4</sub>" high and accommodates all the audiomodules for a 20 x 15 matrix. A hinged down front panel is provided for easy access to the vertically mounted plug-in modules. All matrix frames are provided with connector facilities which enable field expansion to be carried out in a simple and quick fashion. Control and signal loopthrough connectors are also provided.

#### 525 Audio Matrix Board

This board is arranged in a 20 input by 1 output format and an I.C. is used for the crosspoint. Switching for three separate audio channels is provided and each channel has its own amplifier with a front panel control. The 525 accepts the BCD data from the 520 card, decodes it and drives the I.C. crosspoint.

#### 535 Audio Input Amplifier

The input circuitry contains a differential input and is high-impedance bridging. There are 20 amplifiers on each board and one board per audio channel is required. For three channels of audio you require three input amplifier boards. The operational amplifier employs an I.C.

5800 . . . . .POR



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# ROUTING SWITCHERS/ CONTROLLER

## 5815/5820 Audio/Video Vertical Interval Routing Switchers 5815

- Up to a 15 x 7 AFV matrix
- 2 levels of audio per input
- V.I. switching
- Size: 5 1/4" H x 19" W matrix frame

The 5815 Routing Switcher has a frame capacity for a 15 x 7 AFV matrix. Inputs are expandable in increments of 5 and the outputs are in increments of one. The audio section can be mono or stereo. Audio and video plug-in cards are housed in a single 5 1/4" rack frame assembly and a separate power supply is used to supply the DC power. Input expansion beyond 15 is not possible. Output expansion beyond 7 is achieved by adding another 15 x 7 frame and then you must loophrough on the inputs.

**5815 AFV, remote controlled routing switcher with:**  
15 x 7 matrix, 2 channels of audio per input,  
V.I. switching, seven 50' control cables,  
power supply with crosspoint memory . . . \$10,200.00  
**Note:** See 5820 for panel pricing.

## 5820

- Up to a 20 x 6 AFV matrix
- Up to 3 levels of audio per input
- V.I. switching
- Size: 5 1/4" H x 19" W matrix frame

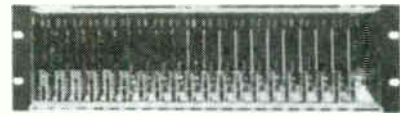
The 5820 Routing Switcher has a frame capacity for a 20 x 6 AFV matrix. Inputs are expandable in increments of 5 and the outputs are in increments of one. The audio section can be expanded up to 3 levels per input. Audio and video plug-in cards are housed in a single 5 1/4" rack frame assembly and a separate power supply is used to supply the DC power. Input expansion beyond 20 is not possible. Output expansion beyond 6 is achieved by adding another 20 x 6 frame and then you must loophrough on the inputs.

**5820 AFV, remote controlled routing switcher with:**  
20 x 6 matrix, 3 channels of audio per  
input, V.I. switching, six 50' control  
cables, power supply with crosspoint mem-  
ory . . . . . \$10,080.00  
**Note:** Prices do not include control panels for 5815 or  
5820.

Available control panels with prices are:

- 910-1** Thumbwheel with readout  
and take button . . . . . \$255.00
- 915C1** Touchpad w/input and on-line readouts . . . . . 370.00
- 927** Pushbutton, LED type . . . . . 375.00
- 922** Illuminated pushbuttons, Pendar Type. . . . . 530.00

**Note:** (1) The 5815 and 5820 utilize the same plug-in cards that are used in the 5800 AFV switcher  
(2) There are many types of control panels that can be used with both systems.  
(3) Both systems have audio breakaway capability.  
Select the correct control panel for this feature.



5815



9000



## 9000 Input/Output CRT Master Controller For 5800 and 5840

- 5 character alphanumeric input/output labeling in RAM
- Input/output status display mode
- Single or preset salvo crosspoint selections

The 9000 X-Y Controller was designed to allow easy access to all inputs and outputs of the 5800 and 5840 routing switchers. The controller utilizes a video terminal to control and display the status of all inputs and outputs to and from the switcher. The electronics are housed in a 1 3/4" high frame assembly.

One of the unique features of this unit is the ability to assign a 5 character description to all inputs and outputs to and from the routing switcher. These assignments are stored in RAM, thereby allowing the user the flexibility of changing any input/output assignment at any time. The information that is stored in RAM is backed up by a battery located in the main frame which houses the microprocessor board.

The 9000 Controller has two tally status modes of operation. The first mode displays the output status of the switcher in 4 easy to read columns. Each column displays 20 outputs with its assigned video and audio input. Additional pages display outputs in excess of 80.

The second tally status mode will display any input status. In this mode of operation you must type in the input desired on the user line. Once the input is selected the 9000 will automatically indicate all outputs that have been assigned to that one input. This feature is extremely useful when rapid information is desired on input status.

The control function of the 9000 is designed to permit a single execution or group executions via a salvo command. Video only, audio breakaway or audio follow video are standard methods for taking the crosspoint.

- 9000** CRT X-Y Controller  
(for 5800, 5840 and 5850) . . . . . \$2,750.00
- 9001** CRT X-Y Serial Controller  
(5800, 5840 and 5850  
input/output assignment) . . . . . 4,500.00

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# CONTROL PANELS



927

## CONTROL PANELS FOR SWITCHERS 5800/5840 PARALLEL BCD AND SERIAL TYPES

### Numerical Control Panels

The 910-1 is a single bus control panel which utilizes a thumbwheel to pre-select inputs. The "take" button executes the switch and the 2 digit LED displays the "on-line" input number. The 910-2 is a two bus panel and the 910-3 is a triple bus panel. The serial version is 901-1. Size is 1 $\frac{3}{4}$ " H x 19" W.

The 911 is a single bus control panel which is housed in an attractive desk type enclosure. This panel is the same as the 910 except for the enclosure. Size is 2 $\frac{7}{8}$ " H x 8 $\frac{7}{8}$ " W x 7" D.

The 913-1 is a single bus control panel which utilizes a thumbwheel for selecting inputs. The 3 "take" buttons allow you to switch audio only, video only or audio follow video. The 2 LED displays simultaneously monitor the "on-line" audio and video switched inputs. The 913-2 is a two bus panel. Size is 1 $\frac{3}{4}$ " H x 19" W.

The 915B-1 is a single bus control panel which utilizes pushbuttons arranged in a touch pad type configuration for selecting inputs and "take." There are two LED displays which monitor the present input and "on-line" input. The 915B-2 is a 2 bus panel and the 915B-3 is a 3 bus panel. The serial version is the 903. Size is 3 $\frac{1}{2}$ " x 19".

The 922 is a single bus control panel which provides rapid selection of inputs through the use of 20 illuminated momentary pushbuttons. The buttons have removable lens caps and the clear mylar inserts are used for button identification such as VTRs, etc. This allows rapid switching by a familiar name rather than an unfamiliar number. The serial version is the 922SE. Size is 1 $\frac{3}{4}$ " H x 19" W.

The 927 is a single bus control panel with 20 LED type pushbuttons. The buttons have removable ID strips for adding button legends. Size is 1 $\frac{3}{4}$ " H x 19" W.

The 940-1 is a single bus control panel with 40 illuminated momentary pushbuttons for rapid selection of inputs. Each button has a removable lens cap with a clear mylar insert. The insert is used for easy input identification such as VTR, BARS etc. An audio breakaway button is provided as a standard feature. Size is 3 $\frac{1}{2}$ " H x 19" W.

The 944 is a single bus panel with 40 illuminated momentary pushbuttons for selecting inputs. The 3 mode selector switches are for video only, audio 1 only or audio 2 only. You can also perform audio follow video or breakaway audio 1 and audio 2 together. This panel is used with our 5840-2 dual audio and video system. Size is 1 $\frac{3}{4}$ " H x 19" W.

The 947 is a single bus panel with 40 pushbuttons for selecting inputs. Each button has an LED which is illuminated when the crosspoint is taken. The audio breakaway and video only feature is standard. The maximum depth of 1 $\frac{1}{4}$ " makes this panel extremely useful especially in restricted mounting areas such as mobile vans, console, etc. Size is 3 $\frac{1}{2}$ " H x 19" W x 1 $\frac{1}{4}$ " D.

917



### Numerical X-Y Panels

The 917 is a parallel control, master X-Y panel that uses buttons arranged in a touchpad type configuration for selecting input and output data. The 3 numerical readouts are used for displaying the preset input, "on-line" input and output bus. Size is 3 $\frac{1}{2}$ " H x 19" W.

The 975 is a master X-Y control panel with serial output data. Thumbwheels are used for selecting inputs and outputs. A momentary pushbutton is used for taking the crosspoint and a numerical readout displays the "on-line" input. Size is 3 $\frac{1}{2}$ " H x 19" W.

The 977 is a master X-Y control panel with parallel BCD data. Thumbwheels are used for selecting inputs and outputs. A momentary pushbutton is used for taking the crosspoint and a numerical readout displays the "on-line" input. Size is 1 $\frac{3}{4}$ " H x 19" W.

The 9730 is a master X-Y control panel with parallel BCD data. Thumbwheels are used for selecting the inputs and outputs. Momentary pushbuttons are provided for audio follow video, audio only and video only type switching. A numerical readout displays the "on-line" input. The tally pushbutton, when depressed, will display the on-line input assigned to that designation. This panel is usually used with our PACE 2000 7 day controller. Size is 3 $\frac{1}{2}$ " H x 19" W.

The 9760 is a master type control panel that is used for manual control of VTRs, film chains, etc. A thumbwheel selects the machine to be controlled and the pushbutton selects the function such as ON, OFF, FAST, FORWARD, etc. The 9760 is usually used with our PACE 2000 7 day computer controller. Size is 3 $\frac{1}{2}$ " H x 19" W.

997



## ALPHANUMERIC CONTROL PANELS

### Serial or Parallel BCD Control

#### Readouts are 3 Character with 0-9 Numbers

The 991-1 is a single bus control panel that uses an alphanumeric labeled thumbwheel for selecting inputs. Up to 16 user defined group names are provided. Audio breakaway is standard and a momentary pushbutton is used for taking crosspoint desired. The 991-2 is two of these controllers mounted in a 1 $\frac{3}{4}$ " H x 19" W rackmount panel.

The 992 is a two bus controller that utilizes pushbuttons arranged in a touchpad type configuration for selecting the group name and source number. Up to 16 user defined names are provided. Audio breakaway is standard and an illuminated pushbutton is used for taking the crosspoint. Size is 5 $\frac{1}{4}$ " H x 19" W. A single bus version is available for console mounting and the size is 5 $\frac{1}{4}$ " H x 8 $\frac{1}{2}$ " W.

The 993 is a single bus controller with pushbuttons for selecting the group name and source number. Audio breakaway is standard and an illuminated pushbutton is used for taking the crosspoint. Size is 3 $\frac{1}{2}$ " H x 19" W.

The 996 is a 10 bus controller with pushbuttons arranged in a touchpad type configuration for selecting the group name and source number. The mode selector switches provide for audio only, video only and audio follow video type switching. Two preset alphanumeric readouts are provided for viewing the audio and video before taking the crosspoint. Ten separate illuminated pushbuttons "take" the crosspoint desired and ten alphanumeric displays view the "on-line" inputs. Size is 10 $\frac{1}{2}$ " H x 19" W.

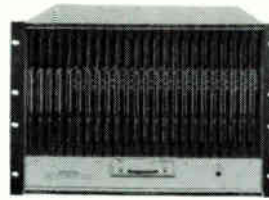
The 997 is a single bus control panel with two thumbwheels for selecting two different input sources. Each input select has its own take button and a separate button labeled "rock" switches between both inputs. Size is 1 $\frac{3}{4}$ " H x 19" W.

The 998 is a single bus control panel with a thumbwheel for selecting the group name and source number. Four pushbuttons are provided for rapid selection of the 4 most used inputs. Audio breakaway is standard and an illuminated pushbutton is used for "taking" the crosspoint. Size is 1 $\frac{3}{4}$ " W x 19" W.

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# ROUTING SWITCHER



5851 Video Assembly



5852 Audio Assembly

## 5850 Series Audio/Video Vertical Interval Routing Switcher

- Input/output expansion
- Up to 3 audio levels per input
- Audio/video breakaway
- Vertical interval switching
- Parallel or serial control
- Computer controllable RS-422, RS-232 or parallel BCD
- 40 x 20 AFV matrix in 24 1/2" rack space
- 40 x 1 crosspoint modules

The 5850 Series Routing Switcher utilizes the same audio and video input amplifier cards and 40 x 1 crosspoint cards as the 5840 series. The V.I. trigger card is different and the output capacity within the frame is now 20. A built-in fan assembly, removable from the front has also been included in this series.

The video cards are contained in the 5851 assembly and the audio cards are within the 5852 assembly. Each assembly can be a video only switcher or an audio only switcher. When used together they become audio follow video. If required, the 5850 Series can be used to expand existing 5840 systems currently in the field.

Each frame, as illustrated, has the capacity to house up to a 40 x 20 matrix in 12 1/4" of rack space. The audio follow video version requires 24 1/2". Expansion beyond the 40 inputs and outputs is achieved by adding additional frames and cabling.

The audio and video crosspoint cards are configured in a 40 x 1 format therefore, output expansion within the frame is in increments of one. There are four input amplifier boards in each video frame and each board houses ten input amplifiers. Any crosspoint card within the 5851 or 5852 frames can be extracted with power on without affecting any other output bus in the system.

The 5850 Series can be supplied with LED numerical readouts on the 40 x 1 video crosspoint modules. This feature is available as an option.

The 5850 Routing Switcher can be controlled in various ways. They are: computer, illuminated momentary pushbuttons, thumbwheel with take button and on-line indicator, touchpad with preset and on-air indicators and X-Y control. Custom panels with preset, salvo, and single button take are furnished as an option.

Two types of control are available with this series: serial or parallel. The serial method allows you to utilize twisted pair as the control cable. The parallel method of control is in bi-directional BCD format and only 11 wires per control cable are required. The diameter of this control cable is only 1/4".

External power supplies are utilized to furnish power to the 5850 Series and a redundant system with diode switching is available as an option.

### The 5851 Video Assembly Contains the Following Items:

#### 5851 Frame Assembly (Video)

The frame is 12 1/4" high and accommodates all the video modules for a 40 x 20 matrix. A hinged down front panel is provided. All matrix frames are provided with connector facilities. Control and signal loopthrough connectors are also provided.

## 522A Video Matrix Board

This board is arranged in a 40 input x 1 output format. In addition to the crosspoints, each card contains its own control, latching and crosspoint tally circuitry. The crosspoints utilize transistor and diodes and the control circuitry is BCD 8-bit parallel with take line. Drive levels are TTL. Each module contains its own output amplifier with a level control mounted up front.

## 532 Video Input Amplifier

The input circuitry contains a DC restorer for APL variations and sync adding for non-composite inputs. All of these features can be added or deleted via straps on the module. There are 10 input amplifiers per card and for 40 inputs, 4 cards per frame are required.

## 561 Vertical Trigger and X-Y Control Card

This card provides the trigger pulse for vertical interval switching, which is derived from external sync. Should the sync input fail or is not used, then a random trigger pulse is generated. When using the optional sync adder feature, this card processes the sync and distributes it to the input amplifier cards. LEDs are provided for sync and trigger failure indication. The 561 also contains the logic circuits for X-Y control.

### The 5852 Audio Assembly Contains The Following Items:

#### 5852 Audio Frame Assembly

The frame is 12 1/4" high and accommodates all the audio modules for a 40 x 20 matrix. A hinged down front panel is provided. All matrix frames are provided with connector facilities. Control and signal loopthrough connectors are also provided.

#### 527A Audio Matrix Board

This board is arranged in a 40 input by 1 output format and an I.C. is used for the crosspoint. Switching for three separate audio channels is provided and each channel has its own amplifier with a front panel level control. The 527 also contains circuitry for its own control, latching and crosspoint tally. The control circuitry is BCD 8-bit parallel with take line. Drive levels are TTL.

#### 537 Audio Input Amplifier

The input circuitry contains a differential input and is high-impedance bridging. There are 40 amplifiers on each board and one board per audio channel is required. For three channels of audio you require three input amplifier boards. This board employs redundant regulators with automatic switchover.

#### 561 Vertical Trigger and X-Y Control Card

This card provides the trigger pulse for vertical interval switching, which is derived from external sync. Should the sync input fail or is not used, then a random trigger pulse is generated. When using the optional sync adder feature, this card processes the sync and distributes it to the input amplifier cards. LEDs are provided for sync and trigger failure indication. The 561 also contains the logic circuits for X-Y control.

#### Power Supply Frames

8300 2 power supplies, redundant with switchover

8301 Up to 3 single power supplies

8302 Redundant frame, used with 8301 frame and 830 plug-in power supplies

5850 .....POR



# DOT LINE CORP.

11916 Valerio St.  
N. Hollywood, CA 91605  
(213) 875-2035 FAX: (818) 765-2539

# CASES/TRIPOD/ ACCESSORIES

## Aluminum Attache Style Cases

- Textured finish aluminum • Double strength corners and edges for security • Case is lockable and comes with two keys
- Diced foam inserts and adjustable shoulder strap included

DL-0102	18" x 13 <sup>1</sup> / <sub>2</sub> " x 6 <sup>1</sup> / <sub>4</sub> " (17 <sup>1</sup> / <sub>4</sub> " x 12 <sup>5</sup> / <sub>8</sub> " x 3 <sup>1</sup> / <sub>2</sub> " ) . . . . .	\$84.95
DL-0103	14 <sup>3</sup> / <sub>4</sub> " x 11 <sup>1</sup> / <sub>2</sub> " x 5 <sup>1</sup> / <sub>2</sub> " (14" x 10 <sup>7</sup> / <sub>8</sub> " x 8" x 4" ) . . . . .	70.00

## Partitioned Aluminum Case

- Hammered aluminum finish • Double strength corners and edges for security • Partitions allow for easy rearrangement and protection of contents • Shoulder strap included

DL-0097	18" x 13 <sup>1</sup> / <sub>2</sub> " x 6 <sup>1</sup> / <sub>2</sub> " (17" x 12 <sup>1</sup> / <sub>4</sub> " x 4" ) . . . . .	\$87.00
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## Deep Aluminum Case

- Textured aluminum finish • Double strength, riveted construction over sturdy plywood, double locks for maximum security • Heavy-duty adjustable strap with quick release hooks, foam lining and 2 keys all included • Rubber tips placed horizontally and vertically prevent case from getting scratched

DL-0102D	18" x 13 <sup>1</sup> / <sub>2</sub> " x 8" (17 <sup>1</sup> / <sub>4</sub> " x 12 <sup>3</sup> / <sub>4</sub> " x 5" ) . . . . .	\$ 97.95
DL-0098	21 <sup>1</sup> / <sub>4</sub> " x 18" x 8 <sup>1</sup> / <sub>4</sub> " (20 <sup>1</sup> / <sub>4</sub> " x 17 <sup>1</sup> / <sub>4</sub> " x 7 <sup>1</sup> / <sub>2</sub> " ) . . . . .	124.95

## Deluxe Aluminum Video Case

- Reinforced textured aluminum • Rounded edges and corners • Stylish black trim on hardware and corners • Interior has adjustable padded dividers and strap to hold equipment securely in place • Perfect for the latest in camcorders • Complete with shoulder strap

DL-0102DVG	18 <sup>1</sup> / <sub>4</sub> " x 13 <sup>1</sup> / <sub>4</sub> " x 7 <sup>1</sup> / <sub>2</sub> " (17" x 12" x 6" ) . . . . .	\$90.00
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## Promaster Cases

- Split-top opening • Texture finished aluminum • Reinforced corners and riveted construction • Lid contains covered sections with adjustable dividers for accessories. These are held securely in place with a top cover • Main cavity has adjustable partitions for cameras, lenses, flash units, and other accessories

DL-0101	14 <sup>1</sup> / <sub>8</sub> " x 10" x 8 <sup>1</sup> / <sub>2</sub> " (13" x 5" + 3" x 7 <sup>1</sup> / <sub>4</sub> " ) . . . . .	\$110.95
DL-0101L	15 <sup>1</sup> / <sub>4</sub> " x 11" x 9 <sup>1</sup> / <sub>2</sub> " (14" x 6" + 3 <sup>3</sup> / <sub>8</sub> " x 8 <sup>1</sup> / <sub>4</sub> " ) . . . . .	124.95

## Professional Case

- Textured finish aluminum • Edges are reinforced with corner guards • Top opening with double locks and keys • Includes foam lining and dividers • Perfect for video cameras, 2<sup>1</sup>/<sub>4</sub>" or lighting equipment

DL-0100	16 <sup>1</sup> / <sub>4</sub> " x 12 <sup>1</sup> / <sub>2</sub> " x 9 <sup>1</sup> / <sub>2</sub> " (14 <sup>3</sup> / <sub>4</sub> " x 11 <sup>1</sup> / <sub>2</sub> " x 8 <sup>1</sup> / <sub>4</sub> " ) . . . . .	\$110.00
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DL0102D/DL0098



DL0101/DL0101L

## Fluid Head Video Tripod

- State-of-the-art fluid head for smooth flow while shooting
- 2-way head has separate locks to keep panning level • Designed for standard video equipment plus the new 8mm video
- Geared elevator • Special spring-loaded lock on camera platform to provide extra assurance of camera stability • Open channel • 3-section • 22mm legs with center brace • Adjusts from 23<sup>3</sup>/<sub>4</sub>" to 62<sup>1</sup>/<sub>4</sub>" • Weighs 4 lbs. 14 oz.

DL-0805	.....	\$89.95
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## Replacement Foam Inserts

DL-0098F	For DL-0098	.....	\$16.00
DL-0102F	For DL-0102	.....	10.00
DL-0102DF	For DL-0102D	.....	10.00
DL-0103F	For DL-0103	.....	10.00

## Adjustable Replacement Partitions

Set of 4 (2 long and 2 short) *			
DL-0089P	For DL-0089	.....	\$11.95
DL-0097P	For DL-0097	.....	7.00
DL-0101P	For DL-0101	.....	.8.00
DL-0101LP	For DL-0101L	.....	10.00

\*Except DL-0089P (1 long and 2 short)

# DRAPER SHADE AND SCREEN CO., INC.

# VIDEO PROJECTION SCREENS

411 S. Pearl St. P.O. Box 425  
Spiceland, IN 47385  
(317) 987-7999 TWX: 810-260-2801  
FAX: (317) 987-7142



## SCREENS FOR WALL OR CEILING

### ELECTRICALLY OPERATED SCREENS

**TARGA** — Our most popular electric screen for video projection. Sizes through 15' diagonal. Walnut woodgrain vinyl on steel case mounts easily to wall or ceiling. Motor in roller design permits viewing surface to be centered in case. Smooth, quiet operation.

**ENVOY** — Adds a touch of class to your video presentation. Screen is recessed in the ceiling — invisible when not in use. At the touch of a switch, the automatic ceiling closure opens and the screen appears. Closure may be painted to match ceiling. Sizes through 15' diagonal.

**ROLLERAMIC** — For really big screen presentations — sizes through 25' diagonal. All-wood case may be recessed in the ceiling or painted to match its surroundings.

**TARGA** — Walnut woodgrain steel case, 5/8" H x 4" W. Matt white or glass beaded for front projection. (Also available in Cineflex rear or Duoflex dual projection—see below.)

Nominal Diagonal	Viewing Area	Overall Size	Case Length	Shipping Wt. (lbs.)	Matt White or Glass Beaded Price
5'	34.5" x 46.5"	39" x 50"	57"	34	\$554.00
64"	37" x 49.75"	58" x 53"	61"	34	563.00
6'	42" x 56.5"	47" x 60"	67"	35	563.00
6½'	48.5" x 65.5"	53" x 70"	77"	40	576.00
7'	48.5" x 65.5"	53" x 70"	77"	40	576.00
8'	58" x 79"	63" x 84"	92"	49	605.00
100"	58" x 79"	63" x 84"	92"	49	605.00
10'	71" x 92"	76" x 95"	103"	55	622.00
11'	76.25" x 104"	81" x 107"	115"	62	658.00
150"	87" x 116"	92" x 119"	127"	85	782.00
15'	104" x 140"	109" x 143"	151"	80	773.00

**ENVOY** — Electric screen with motor-in-roller All-wood case is 7-1/2" H x 7-9/16" W.

Nominal Diagonal	Viewing Area	Overall Size	Case Length	Shipping Wt. (lbs.)	Matt White or Glass Beaded Price
5'	34.5" x 46.5"	39" x 50"	65"	65	\$1150.00
64"	37" x 49.75"	65" x 53"	68"	68	1166.00
6'	42" x 56.5"	47" x 60"	75"	70	1165.00
6½'	48.5" x 65.5"	53" x 70"	85"	80	1185.00
7'	48.5" x 65.5"	53" x 70"	85"	80	1185.00
8'	58" x 79"	63" x 84"	99"	90	1198.00
100"	58" x 79"	63" x 84"	99"	90	1198.00
10'	71" x 92"	76" x 96"	111"	95	1206.00
11'	76.25" x 104"	81" x 108"	123"	110	1261.00
150"	87" x 116"	92" x 120"	135"	125	1309.00
15'	104" x 140"	109" x 144"	159"	135	1382.00

**ROLLERAMIC** — Heavy-duty electric screen. Specify wall or ceiling brackets. All-wood case is 9 3/4" H x 9 3/4" W.

Nominal Diagonal	Viewing Area	Overall Size	Case Length	Shipping Wt. (lbs.)	Matt White or Glass Beaded Price
5'	34.5" x 46.5"	40" x 50"	74"	105	\$ 959.00
64"	37" x 49.75"	65" x 53"	77"	110	973.00
6'	42" x 56.5"	47" x 60"	84"	110	973.00
6½'	48.5" x 65.5"	54" x 70"	94"	120	985.00
7'	48.5" x 65.5"	54" x 70"	94"	120	995.00
8'	58" x 79"	63" x 84"	108"	135	995.00
100"	58" x 79"	63" x 84"	108"	135	995.00
10'	71" x 92"	78" x 96"	120"	145	1006.00
11'	76.25" x 104"	82" x 108"	132"	155	1069.00
150"	87" x 116"	92" x 120"	144"	170	1112.00
15'	104" x 140"	109" x 144"	168"	190	1161.00
200"	118" x 158"	123" x 162"	192"	275	1386.00
20'	140" x 188"	145" x 192"	222"	320	1575.00
250"	148" x 198"	153" x 202"	232"	365	1772.00
25'	176" x 236"	181" x 240"	270"	430	1975.00

### ELECTRIC SCREEN ACCESSORIES

Item	PRICE
Extra Drop	\$2.15/sq. ft.
115V Multiple Station Controls	
2-station	125.00
3-station	187.50
Low-Voltage Controls	
Basic package (2 sta.)	290.00
Extra stations (each)	60.00
Wireless transmitter/receiver (Basic pkg. required)	97.50
Extra transmitters (each)	65.00
Key Operated Switches	
Power supply switch (on-off)	64.00
3-position control switch	123.50
Video Interface Control	75.00

### MANUALLY OPERATED SCREENS

**CINEPERM** — Wall-mounting version of Cinefold. 1" tubular aluminum frame installs easily to wall. Snap-on surfaces in flexible matt white or Cineflex are interchangeable for either front or rear projection. Replacement surface can be installed in less than five minutes in the event of damage. Excellent for bars, discos, etc. Virtually any size, from 7½' diagonal. Call for more information.

**LUMA** — Wall/ceiling screen. Walnut woodgrain steel case 3/4" H x 2 1/4" W. Spring-roller screen available in sizes through 100" diagonal.

Nominal Diagonal	Viewing Area	Overall Size	Case Length	Shipping Wt. (lbs.)	Matt White or Glass Beaded Price
5'	34.5" x 46.5"	39" x 50"	53"	12	\$ 72.00
64"	37" x 49.75"	60" x 53"	56"	13	82.50
6'	42" x 56.5"	47" x 60"	63"	14	82.50
6½'	48.5" x 65.5"	53" x 70"	73"	16	113.50
7'	48.5" x 65.5"	53" x 70"	73"	16	113.50
8'	58" x 79"	63" x 84"	87"	21	167.00
100"	58" x 79"	63" x 84"	87"	21	167.00
10'	71" x 92"	76" x 96"	99"	24	196.00

**LUMA 2** — Similar in design to the Luma. Luma 2 is built with heavy-duty components for ease of operation and longer life. Available in sizes from 10' through 15' diagonal. Case in walnut woodgrain steel is 5-3/16" H 4-3/4" W

Nominal Diagonal	Viewing Area	Overall Size	Case Length	Shipping Wt. (lbs.)	PRICE
10'	71" x 92"	76" x 95"	99"	39	\$273.00
11'	76.25" x 104"	82" x 107"	111"	45	303.00
150"	87" x 116"	92" x 119"	124"	50	352.00
15'	104" x 140"	109" x 143"	148"	75	464.00
Floor Stand				25	300.00

Floor Stand fits all sizes. Specify whenever ordering a Luma 2 for use with a Floor Stand.

### ACCESSORIES FOR LUMA OR LUMA 2

Glass Beaded	\$2.85
Cineflex Rear	6.95
Duoflex Dual Projection	8.00
Extra Drop	\$2.15/sq. ft.
16-25" Adjustable Brkts.	21.00
12" Extension Brkts.	15.00
6" Extension Brkts.	8.00
T-Bar Twist Clips (Only through 7" Diag.)	7.20
Fabric Cut to Size	
Prices are per square foot.	
PRICE	
Fiberglass Matt White	\$2.85
Flexible Matt White	2.85
Glass Beaded	\$2.85
Cineflex Rear	6.95
Duoflex Dual Projection	8.00
Frames of tubular aluminum, wood, or steel—by quotation.	

## PORTABLE PROJECTION SCREENS

### TRIPOD SCREENS

**DIPLOMAT** — World's finest tripod screen. Walnut woodgrain vinyl on steel case. Built-in keystone eliminator. Gabled aluminum legs are held securely in place by Bell Leg Lock. Heavy-duty components throughout. Available in sizes through 10' diagonal. Carrying case available.

**DIPLOMAT** — World's finest tripod screen.

Nominal Diagonal	Viewing Area	Overall Size	Shipping Wt. (lbs.)	Matt White or Glass Beaded Price	Carrying Case Price
5'	34.5" x 46.5"	39" x 50"	23	\$169.00	\$25.00
64"	37" x 49.75"	42" x 53"	27	180.00	26.50
6'	42" x 56.5"	47" x 60"	27	180.00	26.50
6½'	48.5" x 65.5"	53" x 70"	30	202.00	29.00
7'	48.5" x 65.5"	53" x 70"	30	202.00	29.00
8'	58" x 79"	63" x 84"	35	275.00	35.00
100"	58" x 79"	63" x 84"	35	275.00	35.00
10'	71" x 92"	76" x 96"	38	301.00	39.00

**CINEFOLD** — Portable projection screen. Folding tubular aluminum frame and legs store in compact ABS carrying case (included). Interchangeable snap-on viewing surfaces in flexible matt white for front projection and Cineflex for rear projection.

Nominal Diagonal	Viewing Area	Overall Size	Shipping Wt. (lbs.)	Matt White Complete Price	Front Surface Only Price
5'	34.5" x 46.5"	41" x 53.75"	42	\$ 262.00	\$100.00
64"	37" x 49.75"	47" x 60"	43	286.50	105.00
6'	42" x 56.5"	52.5" x 69.5"	44	297.00	114.00
6½'	48.5" x 65.5"	54" x 74"	45	318.50	118.00
7'	48.5" x 65.5"	54" x 74"	45	318.50	118.00
8'	58" x 79"	62" x 83"	49	405.00	136.50
100"	58" x 79"	62" x 83"	49	405.00	136.50
10'	68" x 92"	72" x 96"	51	438.00	164.00
150"	86" x 116"	90" x 120"	61	510.00	253.00
15'	104" x 140"	108" x 144"	70	572.50	358.50
200"	122" x 164"	126" x 168"	78	691.50	447.00
250"†	144" x 192"	156" x 204"	250	2230.00	665.00
25'	180" x 240"	192" x 252"	275	2800.00	1010.00

†Heavy-duty legs are recommended with this size.

‡ This size requires truss-style construction.

### CINEFOLD ACCESSORIES

Item	PRICE
Heavy-duty Legs (pr.)	
- instead of T-legs	\$128.00
- in addition to T-legs	212.50
Anti-Sway Stabilizers (pr.)	70.00
Extra Handy Cranks	1.00
Extra ABS Carrying Case	
- for complete unit	135.00
- for surface only	110.00

Prices and Specifications Subject to Change Without Notice.

V-385

# DRAPER SHADE AND SCREEN CO., INC.

411 S. Pearl St. P.O. Box 425  
 Spiceland, IN 47385  
 (317) 987-7999 TWX: 810-260-2801  
 FAX: (317) 987-7142

# VIDEO PROJECTION MOUNT

## ElectraMount

### Motorized Ceiling-Recessed Video Projector Mount

- Video projector protector
- Accommodates virtually any ceiling-mounted video projector
- 3-position low voltage switch is standard

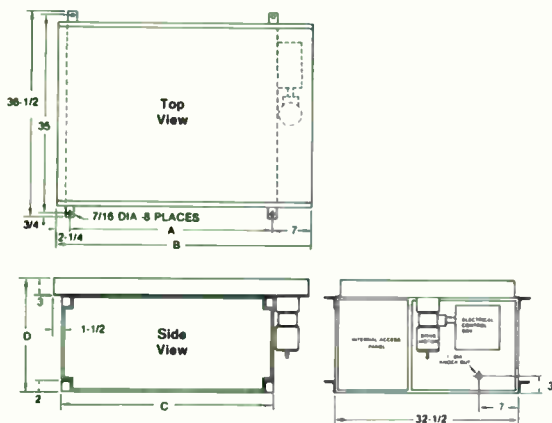
The ElectraMount is the ideal video projector mount. To begin a presentation, touch a switch and watch it descend. After the show, flip the switch and it retracts into the ceiling—safe from dust, smoke, and tampering.

Four models fit almost any video projector. Projector suspends from a steel grid, which is raised and lowered simultaneously with the closure by means of four 1" diameter threaded steel rods. Projector and operating mechanism are fully enclosed in a protective steel housing. The steel ceiling closure is available in off-white baked enamel, or recessed to accept ceiling tile.

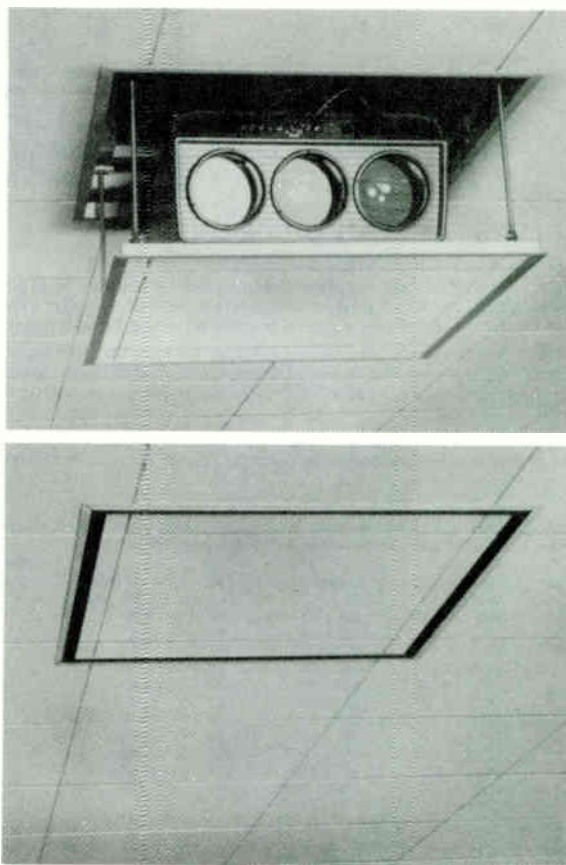
### Ceiling-Recessed Video System

Operate the ElectraMount in tandem with a Draper motorized screen using the video interface control. Touch the switch—or optional wireless remote control—and the ElectraMount begins to descend. When it stops, the video projector comes on and the motorized screen descends. At the end of the presentation, flip the switch and the ElectraMount and screen will rise automatically as the projector shuts off. The ElectraMount and any electric screen may also be operated independently using any of Draper's motorized screen controls.

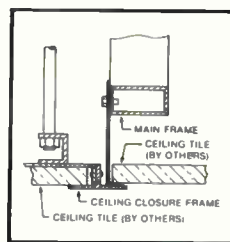
### Dimensional Drawings



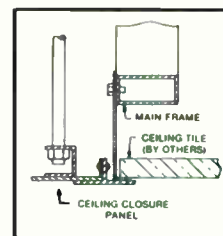
Model	A	B	C	D
S	35 1/2"	44 3/4"	37"	20"
E	43 1/2"	52 3/4"	45"	20"
K	35 1/2"	44 3/4"	37"	26"
J	47 1/2"	56 3/4"	49"	24"



### Closure Options



Ceiling Tile



Baked Enamel

	Model S	Model E	Model K	Model J
Max. Projector Size:	12"H x 25 1/2"W x 27"L	12"H x 25 1/2"W x 37 1/2"L	18"H x 25 1/2"W x 27"L	16"H x 25 1/2"W x 41 1/2"L
Overall Dimensions:	20"H x 36 1/2"W x 44 3/4"L	20"H x 36 1/2"W x 52 3/4"L	26"H x 36 1/2"W x 44 3/4"L	24"H x 36 1/2"W x 56 3/4"L
Min. Clearance Above Ceiling:	24"	24"	30"	28"
Ceiling Opening (+ 5/16", -0):	28 1/2"W x 31"L	28 1/2"W x 39"L	28 1/2"W x 31"L	28 1/2"W x 43"L
Ceiling Closure:	29 1/2"W x 32"L	29 1/2"W x 40"L	29 1/2"W x 32"L	29 1/2"W x 44"L
Downward Travel:	12"	12"	18"	16"
Net Weight:	150 lbs.	175 lbs.	165 lbs.	190 lbs.
Shipping Weight:	265 lbs.	275 lbs.	275 lbs.	290 lbs.
Price:	\$3295.00	\$3295.00	\$3295.00	\$3635.00

Extra vertical travel—any amount, up to a maximum (standard plus extra travel) of 48" — \$400.00  
 Each additional inch of extra vertical travel requires a corresponding increase in clearance above ceiling.



# DUBNER COMPUTER SYSTEMS

DIVISION OF GRASS VALLEY

6 Forrest Ave.  
Paramus, NJ 07652  
(201) 845-8900

# CHARACTER GENERATORS

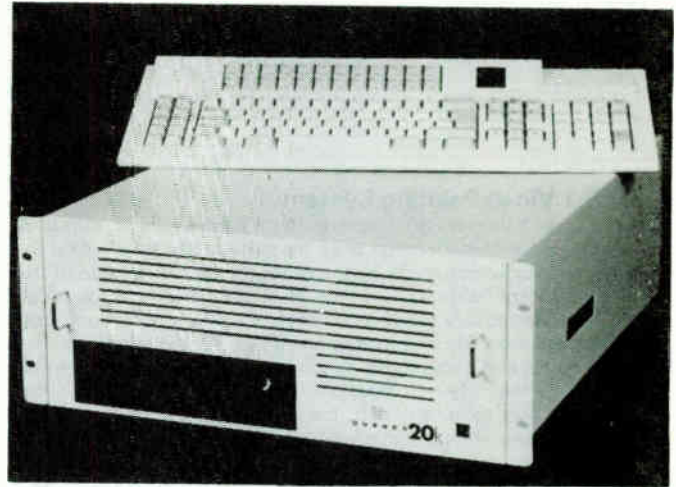
## 10-K/20-K Character Generators

• Full function real-time character generators • 30 standard fonts with border and drop shadow edges are included. Additional packages of styles and sizes available on disk. Foreign language fonts and keyboards available • Basic packages include 4 and 44 high-resolution typefaces which are used to build fonts in any size from 4 to 150 (upper case height) scan lines high • Kerning, spacing, positioning, coloring, and edging—by letter, row or page, with user controllable complete overlap and tuck • Separate background plane for “weaving,” with unlimited weave capability • 256 simultaneous colors, from a total 16.7 million for characters, edges and backgrounds—selectable by palette, RGB, or HSV • Sophisticated digital filtering produces graphics with 16 intermediate shading levels of any color. Both character and edges are generated this way • Complete directories with user comments, selectable by message type • Full sequence control of message time, speed, type, and duration • Alphanumeric message storage, up to 31 digits in any order • Full-color edit output with cursor and adjustable safe-title marks • Integrated sync generator, encoder, and linear downstream keyer • Menu-driven • Separate menu screen output for prompts, error messages, system information and “preview text” • Help key, along with a “help screen display” for every operational key on the keyboard • Recordable tabs and justified tabs (right, left, and center) • Centering and positioning—top, middle, bottom in both horizontal and vertical • Instant italicizing of any font—right or left, in multiple positions • Automatic message retype, with different font, color, or edge • Multiple playback choices—fade, wipe, and reveal, for any message in any sequence • Linear key signal output for anti-aliased fonts • As many as 4 plug-in keyboards • GPI trigger controls sequences • User-formattable disks • 4M bytes of internal memory, allowing approximately 24 fonts and 1,000 text pages on line, depending on size • Anti-aliased and standard fonts • Flash • 40ns start or stop, 80ns minimum width, no maximum (up to full screen). The “apparent resolution” of anti-aliased font is < 10ns • Characters or background colors from 1 to 485\* scan lines (full screen) • Horizontal linear adjustment range of -17/+1 $\mu$ s. Phase adjustment continually variable through 360° • Compatibility: Dubner CBG and Texta: Animations and graphics can be transferred to a 20-K cartridge on a 20-K; and to a 10-K diskette on a 10-K equipped with optional Iomega drive. Full Color Graphics: CBG Third Plane, Textra 500 and DPS-1 full color images can be converted on a 20-K to a 20-K background with reduced color resolution

Dubner 20-K and 10-K Character Generators are identical systems, except for the disk drive.

The 20-K system includes a 10M byte Iomega cartridge disk drive.

Cartridge contains system software and standard fonts. Approximately 10,000 text pages fit on a disk. Background graphics, fonts and animations reduce text storage capacity.



10-K/20-K

A connector for additional external disk drives is standard. An Iomega disk drive connected to a 10-K functions as a 20-K.

The 10-K features a 1M byte 5 $\frac{1}{4}$ " floppy disk drive.

Diskette capacity is 800K. Four diskettes included contain system software, standard fonts and messages. Approximately 1,000 text pages fit on a diskette. Background graphics and animations reduce text storage capacity.

## Specifications

### Video Inputs

**Genlocking:** 1.0V p-p NTSC black burst or composite video. 4.0V p-p sync and blanking may be used alternatively

**Background:** 1.0V p-p NTSC composite video for internal keying

### Video/Key Outputs

**R, G, B:** 0.7V p-p non-composite video for use with external encoder or RGB monitor

**Air:** 1.0V p-p character generator NTSC composite video

**Edit:** 1.0V p-p NTSC composite video with cursor

**Mixed:** 1.0V p-p composite video with character generator keyed into background. (Linear key with anti-aliased fonts)

### Status/

**Preview:** 1.0V p-p monochrome video showing status messages or preview of next display

**Key:** 1.0V p-p keying signal for use with external keyer; composite or non-composite; output is linear (256 steps) for external linear keyers when anti-aliased fonts are used

10-K ..... \$15,000.00

20-K ..... 18,500.00

\*PAL Specifications available upon request.

## 5-K Character Generator

• Full resolution font character generator • Included as standard are: floppy disk storage of images and text pages, 256 colors on-screen from the full 16,700,000 possible, and eight regular fonts or four anti-aliased fonts with four sizes each on line for instant access • Gives the operator selection of different colors for the character itself and for its edge and shadow • Sequencing of moves and pages has nine selectable speeds • Animation playback of up to 40 frames from the Dubner Texta or DBG-2 is possible, plus displaying all backgrounds from Texta and CBG-2 • All the pre-packaged Backgrounder programs will run on the Dubner 5-K

5-K ..... \$9,500.00

# DUBNER COMPUTER SYSTEMS

DIVISION OF GRASS VALLEY

6 Forrest Ave.  
Paramus, NJ 07652  
(201) 845-8900

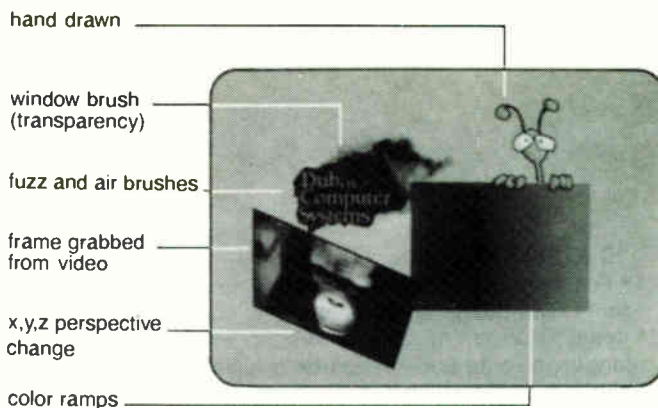
# VIDEO PAINTING SYSTEM/ GRAPHICS GENERATOR

## DPS-1 Video Painting System

• 4, 2, or 1-field NTSC frame buffer • Keyboard and status display  
• Tablet • 10M byte lomega drive for storage and recall of up to 8 pictures • Color selection: by hue, saturation, and luminance or from the picture; all legitimate NTSC colors allowed • Millions of colors displayable simultaneously • Cut and paste • Color correction: contrast, brightness, hue • Frame averaging • Fill • Motion suppression • X, Y, Z, tilt, scale and perspective • Pictures in internal memory • Posterize • Mosaic • Magnify • Compatible with CBG-2 3<sup>rd</sup> plane • Brushes: Hard and soft solid, airbrush, transparency (window) soft and hard, chalk, square, stamp, luminance, wash, calligraphy, multi-color, soft and hard trim, fuzz, smear; all brushes anti-aliased • Soft stencils, reverse stencil • Emboss • Cropping • Draw lines and curves (anti-aliased) • Color ramps: vertical, horizontal, diagonal, 4-way

### Planned Options

• Texture map to curved surfaces • User customized menus • VTR control • Animation • 3-D smooth-shaded image rendering with light sourcing • Larger disk drives • Tilt and pressure sensitive stylus • Control box with knobs and keys for additional functions and controls • Text generation (anti-aliased)



The DPS-1 is a full-color video painting system that grabs images from any NTSC source for storage and modification. For perfect picture quality, the DPS-1 stores and uses all four fields of the NTSC color sequence.

The DPS-1 is based on software innovation that allows the composite NTSC signal to be digitally sampled and manipulated without decoding and re-encoding.

**DPS-1 . . . . . \$20,000.00**

## Texta Video Graphics Generator

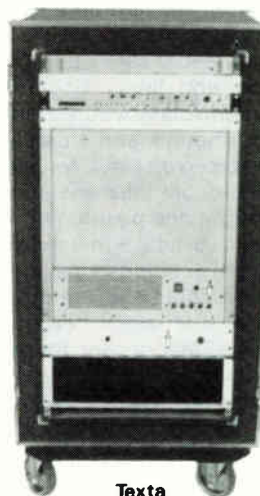
• Proportional spacing • 9-speed roll • Crawl and slow reveal • Diagonal typing • 3-D shadows • 64-color logo characters • Scanwipe • Tumble • Timed roll • Animate any sequence of frames in real time • Unlimited border and shadow combinations • Optional second channel permits read next previewing, dual user operation, merged output for creating complex imagery and curve drawer software • Options include a Video Digitizer, for creating new fonts and logos, a weather service interface, for receiving hourly satellite pictures and forecasts, and a tablet with pen and four-button "mouse" drawing directly into Texta's display memory • Texta disks are fully compatible with the CBG-1 and CBG-2 and can be used for playback on Dubner's 20-K character generators • Texture mapping on dual channel systems permits design of 3-D objects and "mapping" of a flat Texta graphic onto geometric shapes • Can store over 500 fonts and 20,000 pages of text on twin removable disk cartridges • Full-screen image composition, combining text and a variety of graphic tools: Lines, Grids, Ellipses, Scale, Rotate, Area Fill, and more • Anti-aliasing circuitry generates over 16 million intermediate shades • Palette of 4096 colors and true 37ns pixel resolution

### Texta

400	Single channel Texta—Basic configuration . . . . .	\$42,000.00
410	Single channel Texta—Studio configuration . . . . .	48,500.00
420	Dual channel Texta—Basic configuration . . . . .	49,500.00
430	Dual channel Texta—Production configuration . . . . .	56,000.00
440	Dual channel Texta—Studio configuration . . . . .	59,500.00
450	Dual channel/dual user Texta—Studio configuration . . . . .	62,500.00
460	Dual channel Texta—Graphic configuration. . . . .	69,500.00
470	Dual channel/dual user Texta—Graphic configuration . . . . .	72,500.00
480	Dual channel Texta—3-D configuration. . . . .	89,500.00
490	Dual channel/dual user Texta—3-D configuration . . . . .	92,500.00

### Options

401-N	GVG CV24N color encoder . . . . .	\$ 1,500.00
401-C	Cox color encoder . . . . .	3,600.00
403	Video digitizer/font compose module . . . . .	5,000.00
404	Merged output . . . . .	4,000.00



Texta

405	Digitizing tablet with pen and puck . . . . .	\$ 6,000.00
406	Preview plane . . . . .	6,500.00
407	Additional I/O ports . . . . .	2,000.00
408	Additional keyboard . . . . .	3,000.00
409	Curve drawer . . . . .	10,000.00
412-4	Megomem (4M board of RAM) . . . . .	5,000.00
413	Printer . . . . .	1,500.00
423	Traveling case (two pieces) . . . . .	1,200.00
428	Recall keypad. . . . .	1,200.00
433	Interface for weather graphics . . . . .	3,000.00
438	Anti-aliased font package . . . . .	500.00
450-S	Cable extender . . . . .	1,000.00
466	Additional lomega blank disks . . . . .	90.00
466-F	Formatted lomega disks . . . . .	100.00
491	Extender board . . . . .	300.00

# DUKANE CORP.

AUDIO-VISUAL DIVISION

2900 Dukane Dr.

St. Charles, IL 60174

(312) 584-2300 (800) 634-2800

Telex: 72-0426 FAX: (312) 584-2370

# VIDEO PRESENTATION SYSTEM



Video Pro 7

## Video Pro 7 Portable Video Presentation System

- Large 7" color monitor for one on one or small group presentations
- 240 line resolution
- 6<sup>3</sup>/<sub>8</sub>" H x 18" W x 12<sup>3</sup>/<sub>8</sub>" D (excluding carrying handle)
- 22 lbs.
- Excellent picture quality for effective communication
- Discreet Forward and Reverse visual search controls—for rapid access to any point in the program
- High efficiency 4" full range speaker with two watts of audio output provides realistic sound reproduction
- Auto Repeat makes it possible for your sales message to run continuously, even when the unit is unattended. Ideal for point-of-sale displays
- Auto Rewind automatically rewinds the tape when it comes to the end or when the tape counter reaches "0000"
- Advanced tape transport mechanism provides consistent high quality presentations
- Convenient microprocessor-controlled soft touch keys with LED indicators
- Video and audio inputs and outputs for easy connection to other video equipment, or external speakers
- Pause control with noise cancel
- Front load VHS deck

The Video Pro 7 is the ideal traveling companion, small enough to place under an airline seat...or on the corner of your customer's desk. Totally self-contained, the Video Pro 7 carries like an attache case. Set up is fast and easy so when you reach your destination, your presentation can begin immediately.

The Video Pro 7 has a durable carrying handle that doubles as an elevation leg for optimum monitor viewing.

## Specifications

<b>Video System:</b>	NTSC color
<b>Tape Format:</b>	VHS
<b>Tape Heads:</b>	High quality helical scan with drum heater and dew indicator
<b>Tape Speed:</b>	SP provides up to 2 hours and 40 minutes of viewing (T-160)
<b>Power Requirements:</b>	120V, 60Hz—10' 3-wire cord (cord wrap)
<b>Power Consumption:</b>	Average 50W; .4A
<b>Audio:</b>	2W (output); 4" round full range speaker; slide volume control
<b>Monitor Controls:</b>	Tint, Color, Brightness, Contrast, Vertical Hold
<b>Tape Controls:</b>	Play, Fast Forward and Rewind, Forward and Reverse Visual Search, Stop, Pause, Eject, Tracking, Noise
<b>Jacks:</b>	Audio and video inputs and outputs—RCA type. Headset—mini-jack type
<b>28A300</b>	.....\$1025.00

## Accessories

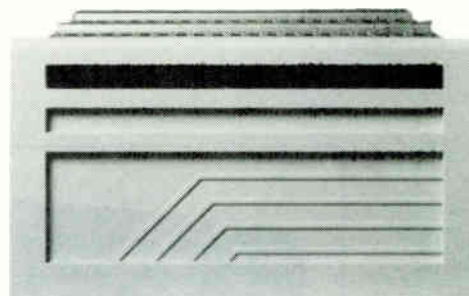
<b>128-45</b>	Protective Dust Cover: Heavy gauge textured vinyl with velcro closure and zippered storage pocket . . . . . \$ 20.00
<b>128-46</b>	Padded Carrying Case: Attractive nylon-weave carrying case protects the unit during travel. Equipped with carrying handle, shoulder strap, and side pocket for extra cassettes and other materials. . . . . .80.00
<b>185-374</b>	Shipping Case: A.T.A. styled case provides extra protection needed when shipping the Video Pro 7. Drop, shock and water resistant. . . . . .200.00



# DYNAIR ELECTRONICS, INC.

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# ROUTING SWITCHERS



Dynasty

## Dynasty/Dynasty 100 Routing Switchers

Dynasty routing switchers are available in 30, 40 and 60MHz bandwidths, while the Dynasty 100 has a bandwidth of 100MHz. The Dynasty 100 permits clean processing of even the most complicated signals including 1280 x 1024, 60Hz, non-interlaced computer generated graphics as well as NTSC, PAL, HDTV, audio and control signals.

Laser Trimmable Hybrids let the user "Hot Change" modules without any PROMs to change, module adjustments or DIP switches to set. These time saving improvements also aid in increased bandwidths for overall system performance not to mention reduced down-time for maintenance, repair, upgrade and modification.

The use of custom printed circuit baluns provide for minimum input return loss. Further, the utilization of true 75 ohm, high density, BSM connectors allows for rapid system modification and expansion without the previously common system down time and realignment. System expansion is just about as simple as Plug 'n' Play. All the way to 1000 x 1000.

Dynasty may be easily upgraded to 100MHz performance by the addition of Dynasty 100. For those users that require high definition and computer generated graphics, Dynasty 100 offers the maximum in signal processing performance, yet still at only about twice the price of a conventional (competitor's) 10MHz switch. Dynasty 100 offers 250V/ $\mu$ s slew rates. The combination of Dynasty and Dynasty 100 switchers allows the system designer to Mix 'n' Match bandwidths in a given switching environment.

## Specifications

### 30MHz Systems

**VIDEO** 100 x 100 system  
**Input:** 1.0V p-p, 75 ohm, composite video (0.714V, 0.286 S)  
**Input Return Loss:** > 30dB at 5MHz (for 10 loops)  
**Output Return Loss:** > 40dB at 5MHz  
**Output DC Ref.:** Adjustable -0.2 to +0.2V; maintained  $\pm 0.02V$  10-90% APL; composite and non-composite video

**Chrominance/Luminance Gain:** Adjustable to unity. Any input to any output  $\pm 0.05dB$   
**Crosstalk Isolation:** > 60dB to 5MHz. Worst case, all inputs and outputs active

**Electrical Length:** 25ns nominal (frame input to output)  
**Differential Delay:** 1° at 5MHz  
**Bandwidth:** 30MHz (1MHz reference)  
**Frequency Response:** 100kHz-5MHz:  $\pm 0.15dB$ ; 8MHz  $\pm 0.3dB$ ; 20MHz  $\pm 1.0dB$  (1MHz reference)  
**Slew Rate:** 50V/ $\mu$ s

**Envelope Delay:** < 5ns 100kHz-5MHz  
**Chrominance/Luminance Delay, 12.5 T Pulse:** < 5ns  
**Chrominance/Luminance Gain:** < 0.05dB  
**Differential Gain:** 0.05%, 10-90% APL, 5MHz  
**Differential Phase:** 0.05°, 10-90% APL, 5MHz  
**Transient Response:** 0.5% 2T pulse, 1.0% T pulse  
**Tilt:** < 1% line or field  
**Hum and Noise:** 80dB RMS below 1V p-p, 10MHz bandwidth

### 40MHz Systems

**VIDEO** 100 x 50 system  
**Input:** 1.0V p-p, 75 ohm, composite video (0.714V, 0.286 S)  
**Input Return Loss:** > 35dB at 5MHz (for five loops)  
**Output Return Loss:** > 40dB at 5MHz  
**Output DC Ref.:** Adjustable -0.2 to +0.2V; maintained  $\pm 0.02V$  10-90% APL composite or non-composite video

**Gain:** Adjustable to unity. Any input to any output  $\pm 0.05dB$   
**Crosstalk Isolation:** > 60dB to 5MHz. Worst case, all inputs and outputs active

**Electrical Length:** 25ns nominal (frame input to output)  
**Differential Delay:** 1° at 5MHz  
**Bandwidth:** 40MHz (1MHz reference)  
**Frequency Response:** 100kHz-5MHz:  $\pm 0.15dB$ ; 8MHz  $\pm 0.3dB$ ; 20MHz  $\pm 1.0dB$

**Slew Rate:** 50V/ $\mu$ s (1MHz reference)  
**Envelope Delay:** < 5ns 100kHz-5MHz  
**Chrominance/Luminance Delay:** < 5ns  
**Chrominance/Luminance Gain:** < 0.05dB  
**Differential Gain:** 0.05%, 10-90% APL, 5MHz

**Differential Phase:** 0.05°, 10-90% APL, 5MHz  
**Transient Response:** 0.5% 2T pulse, 1.0% T pulse  
**Tilt:** < 1% line or field  
**Hum and Noise:** 80dB RMS below 1V p-p, 10MHz bandwidth

### 60MHz Systems

**VIDEO** 100 x 20 system (100 x 80 with DA-1580A input distribution)  
**Input:** 1.0V p-p composite video (0.714V, 0.286 S)  
**Frequency Response:** 100kHz to 10MHz  $\pm 0.10dB$ , to 20MHz  $\pm 0.25dB$ , to 30MHz  $\pm 0.75dB$ , to 60MHz  $\pm 1.5dB$  (1MHz reference)  
**Slew Rate:** 100V/ $\mu$ s

**Pulse Response (10MHz S.W. 2ns rise and fall times):** 8ns, equal rise and fall times with 20% maximum overshoot and ringing  
**Differential Gain:** 0.1% at 5MHz  
**Differential Phase:** 0.1° at 5MHz  
**Crosstalk Isolation:** > 55dB to 5MHz, > 25dB to 60MHz, worst case all inputs and outputs active

**Hum and Noise:** 55dB RMS noise below 1V p-p signal, 60MHz bandwidth unweighted

### 100MHz System

**VIDEO** 50 x 80 system  
**Input:** 1.0V p-p, 75 ohm composite video (0.714V, 0.286 S)  
**Input Return Loss:** 40dB at 5MHz  
**Output Return Loss:** 30dB at 5MHz  
**Signal Connectors:** BNC  
**Gain:** Unity  
**Worst Case Crosstalk:** 50dB at 5MHz, 25dB at 100MHz

**Pulse Response (10MHz S.W. 2ns rise and fall times):** 5ns equal rise and fall times with 15% maximum overshoot and ringing  
**Slew Rate:** 250V/ $\mu$ s

**Bandwidth:** 100MHz (1MHz reference)  
**Frequency Response:** 100kHz-5MHz:  $\pm 0.25dB$ ; 80MHz  $\pm 1.0dB$ ; 100MHz  $\pm 1.0, -3.0dB$  (1MHz reference)

**Envelope Delay:** < 10ns 100kHz to 80MHz  
**Differential Gain:** 0.2% 1V p-p, 10-90% APL at 5MHz  
**Differential Phase:** 0.2° 1V p-p, 10-90% APL at 5MHz  
**Tilt:** 1% maximum line or field  
**Hum and Noise:** 65dB RMS noise below 1.0V p-p signal, 10MHz bandwidth unweighted; 50dB, 100MHz

**Switching Time:** < 5 $\mu$ s

### Audio Specifications

**Inputs:** Balanced high impedance bridging, +24dBm max. at 600 ohms (+30dBm at 150 ohms)

**Common Mode Rejection:** > 60dB, 50-120Hz; 50dB, 30Hz-15kHz  
**Outputs:** Balanced low impedance, indefinite short-circuit protection. +24dBm max. with 600 ohm load. +30dBm max. with 150 ohm load

**Output Level Variation:**  $\pm 0.2dB$  max. between inputs

**Connectors, Input-Output:** 37-pin "D" subminiature  
**Gain:** Adjustable to unity  
**Crosstalk Isolation:** > 80dB below max. out to 15kHz (worst case)  
**Frequency Response:** 30Hz-20kHz  $\pm 0.2dB$  (Time Code Output - > 220kHz bandwidth)

**Harmonic Distortion:** 0.1% to 15kHz +8dBm in/out; 0.25% to 15kHz max. in/out  
**Hum and Noise:** -75dBm max.

# DYNAIR ELECTRONICS, INC.

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## System 21 Switching

- High performance switching for NTSC, PAL, component HDTV video, audio, SMPTE/EBU time code, tally, intercom PL and data
- Broadcast and 35MHz video bandwidth standard
- Multiple signal switching, multi-level control; up to four independent levels with follow, split and breakaway
- Building block expansion—10 x 10 to 1000 x 1000 systems without performance compromise, using standard modules
- Module change without PROMs or switch changes
- Precision vertical-interval switching
- Compact—50 x 10 audio-video system within 10 1/2" of panel space
- Coax control line—reduced installation cost, simplified maintenance
- RS-422/423 external control interface standard
- Power-fail memory protection, 1000 hours standard
- Preset entire switcher—simultaneous take (salvo)
- Redundant system controller and power supply options
- VDT X-Y control—salvo switching, output and input status, system reconfiguration
- Ease of maintenance—replace any module under power, control system self-test

The System 21 meets today's needs for high performance routing of video, audio, high speed time code, tally, intercom and data. Future expansion in size and number of signals is easily accomplished with standard modules. Standard features include interface to automation systems, power-fail memory, entire switcher preset with simultaneous take (salvo) and status readout for CRT or computer display. Redundant system controllers and power supplies can be installed to provide rapid changeover in the event of a system controller or power supply malfunction.

The microprocessor-based system controller is connected to the control units by serial data, coax comm-lines providing simple, low cost installation and maintenance. Proven, highly reliable, data transmission techniques are used to assure that switching occurs only in response to error free data. Comm-line data rise time is controlled to prevent crosstalk into signal circuits. A unique serial data, coax control bus allows frames to be located at widely separated points, simplifying signal cabling to the system.

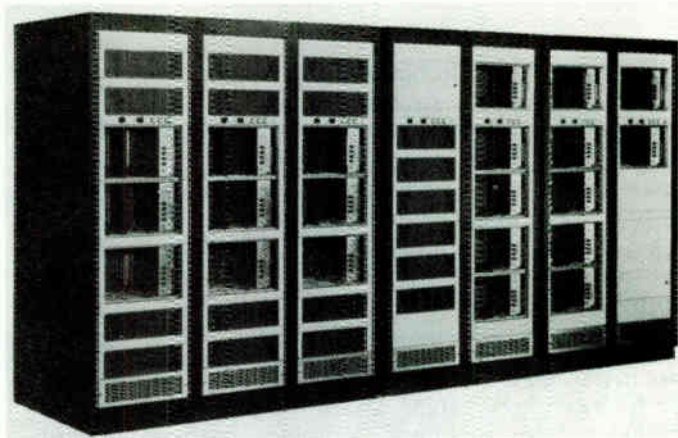
The control system can be configured for each user's requirements using standard VDT, touchpad, pushbutton and lever switch control units.

Any number of signals—video, audio, time code, etc.—can be grouped on a single control "level" for simultaneous switching. Multiple control levels are available in the system to provide breakaway operation. All levels may switch together for "follow" operation.

A series of standard switch frames accommodates all system configurations. Major crosstalk paths are confined and controlled on the matrices. Printed circuit motherboards provide all module interconnections to control crosstalk and assure system reliability. On-board DC power regulators provide isolation and fault protection. System crosstalk performance and reliability are not affected by system size.

<b>Comm Line:</b>	Single coax., 2000' (610m) RG-59 max. serial data, 9600 baud, BNC connector
<b>Status/Seriel Control Buses:</b>	Single coax., 2000' (610m) RG-59 max. 19.2K baud, BNC connector
<b>External Control Interface:</b>	RS-423 (RS-232C compatible)/RS-422 serial data, 300-9600 baud, 9-pin "D" subminiature male connector

# MATRIX ROUTING SWITCHER



**Module Frame Size:** 10 1/2" H(6RU) x 15" D x 19" rackmount  
**Temperature Range:** 0° to +50°C  
**Relative Humidity:** 0% to 95% non-condensing  
**Primary Power:** 115/230VAC ± 10%, 50/60Hz

### Video—100 x 50 System

**Inputs:** High impedance looping, 1.0V p-p  
**Input Return Loss:** > 35dB at 5MHz  
**Outputs:** Dual, 75 ohm source terminated. Isolation between dual outputs, 40dB at 5MHz  
**Output Return Loss:** > 40dB at 5MHz  
**Output DC Reference:** Adjustable -0.2 to +0.2V; maintained ± 0.02V 10-90% APL

### Switching Drive Signal

**(for vertical-interval switching):** Composite sync, 4V p-p nom., high impedance looping  
**Connectors, Input-Output:** BSM (BNC interface available)  
**Gain:** Adjustable to unity  
**Crosstalk Isolation:** > 60dB to 5MHz (worst case)  
**Electrical Length:** 25ns nominal  
**Differential Delay:** 1° at 5MHz any input to one input  
**Switching Time:** < 5µs  
**Frequency Response:** 100kHz-5MHz ± 0.1dB, 8MHz ± 0.3dB (1MHz ref.)

**Bandwidth:** 35MHz  
**Envelope Delay:** < 5ns, 100kHz-5MHz  
**Differential Gain:** 0.15% with 1V p-p output, 10-90% APL at 5MHz  
**Differential Phase:** 0.15° with 1V p-p output, 10-90% APL at 5MHz  
**Transient Response:** 0.5% pulse, 1.0% T pulse  
**Tilt:** < 1% line or field  
**Hum and Noise:** 80dB RMS below 1V p-p, 10MHz bandwidth

### Audio—100 x 50 System

**Inputs:** Balanced high impedance bridging, +24dBm max. at 600 ohms  
**Common Mode Rejection:** > 60dB, 50-120Hz; 50dB, 30Hz-15kHz  
**Outputs:** Balanced low impedance, short-circuit protection for indefinite time period. +24dBm max. with 600 ohm load  
**Output Level Variation:** ± 0.2dB max. between inputs

**Connectors, Input-Output:** 37-pin "D" subminiature  
**Gain:** Adjustable to unity  
**Crosstalk Isolation:** > 80dB below max. out to 15kHz (worst case)  
**Frequency Response:** 30Hz-20kHz ± 0.2dB (Time Code Output—greater than 220kHz bandwidth)  
**Harmonic Distortion:** 0.1% to 15kHz +8dBm in/out; 0.25% to 15kHz max. in/out  
**Hum and Noise:** -75dBm max. (99dB below +24dBm)

Prices and Specifications Subject to Change Without Notice.

V-391

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# MATRIX ROUTING SWITCHER

## System 21 Video Switching/System Expansion

Switch matrices utilize state-of-the-art hybrid input amplifiers and switch crosspoints to provide superior performance and high reliability. Maintenance time and costs are significantly reduced. The input amplifiers provide high impedance bridging to minimize input signal loading. Crosspoints require extremely low power in the "off" state, significantly reducing heat and enhancing system reliability.

Matrix modules receive input address information from jumpers printed on the motherboard, making all matrices directly interchangeable. Video output modules use compact hybrid amplifiers to provide ten independent output buses. Each bus provides two 75 ohm source-terminated outputs. Output modules receive output address information from switches on the motherboard making all output modules directly interchangeable.

The video system is organized in groups of ten outputs, with one to ten video matrices and one video output module per group. Inputs are connected to the matrices through precision 75 ohm connectors and printed circuit baluns to assure high return loss and frequency response over the system's wide passband. Matrix outputs are connected to the output module through a motherboard bus. Current switches isolate unselected matrices from the bus to control crosstalk and maintain frequency response.

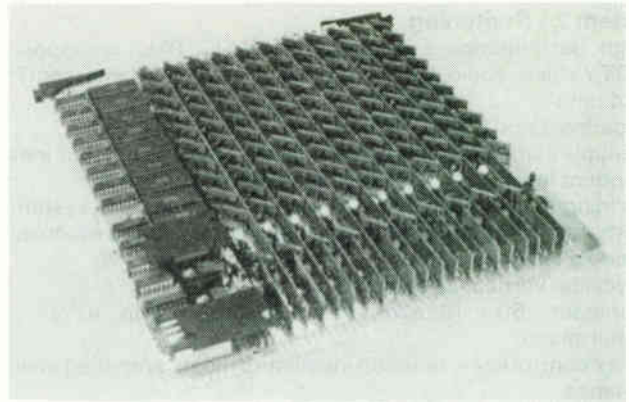
Video systems provide 35MHz bandwidths. Switch module versions are: AC coupled (video or data); DC coupled (video or data with DC reference maintained). STR output modules are used with AC coupled switch modules. STR will maintain DC reference over 10-90% (APL) for composite and non-composite video.

Switching transitions occur on line 10 of the vertical interval, referenced to external composite sync. Random switching is provided in the absence of reference sync.

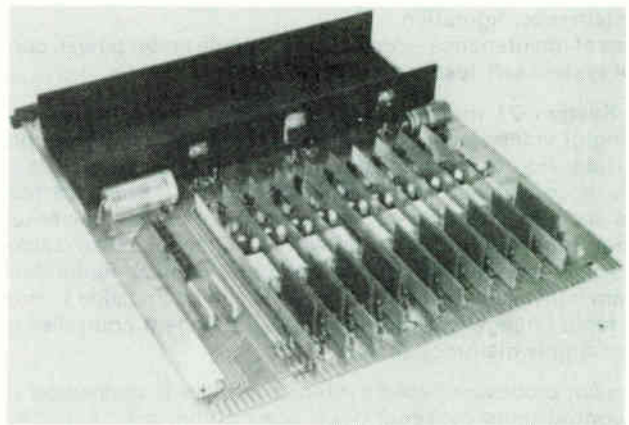
System 21 expands without modification of components. Up to ten switch matrix modules can be connected to one output module to provide a 100 in by 10 out group in one frame. Input signals can loop through up to five groups to provide up to 50 outputs.

A 200 input by 10 output system can be built in only two frames by adding a secondary switching module to the first frame.

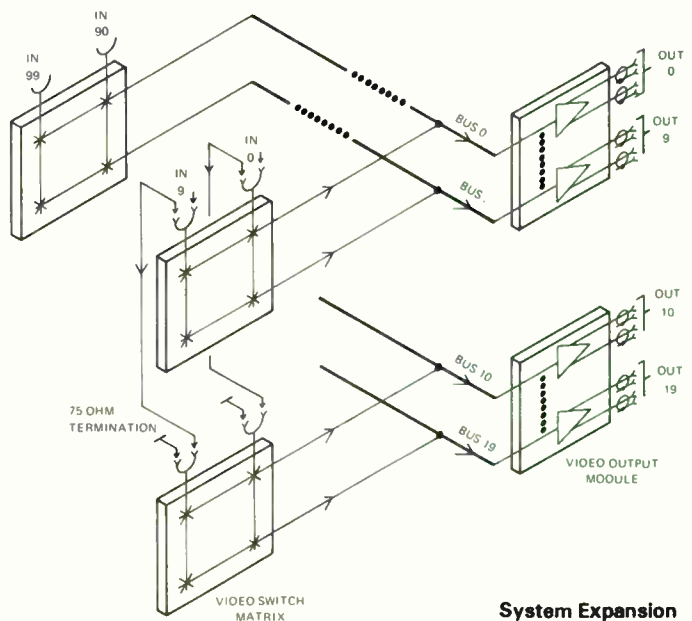
Systems which have more than 200 inputs require secondary switching and additional frames. Any system can be expanded without modification of existing components.



Video Switch Matrix



Video Output Module



System Expansion



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# MATRIX ROUTING SWITCHER

## System 21 Frames

All switch frames provide mounting space for a plug-in power supply, an internal system controller and varying quantities of switch matrix and output modules.

Frames can be interconnected as power redundant pairs. One power supply has sufficient capacity for two frames, allowing replacement of a defective supply while the system remains in operation. Power supply failure is indicated by front panel lights and an isolated contact closure available via a rear-panel barrier strip.

Each output group is assigned to any desired "output 10's" position and one of two control levels by DIP switches mounted on the frame motherboard. The output modules develop enable signals for the associated switch matrices when information on the control bus is addressed to their particular group. These assignments can be changed by the user at any time to reconfigure the system for new requirements.

A parallel control bus, provided by an internal system controller or slave controller, can be looped between as many as five frames.

Frames containing controllers require an external composite sync drive for vertical-interval switching.

System 21 utilizes precision assembly techniques to accommodate looping inputs on large matrices. Careful impedance matching is a must and a great deal of attention must be paid to the input balun, its installation, and the impedance of the connector.

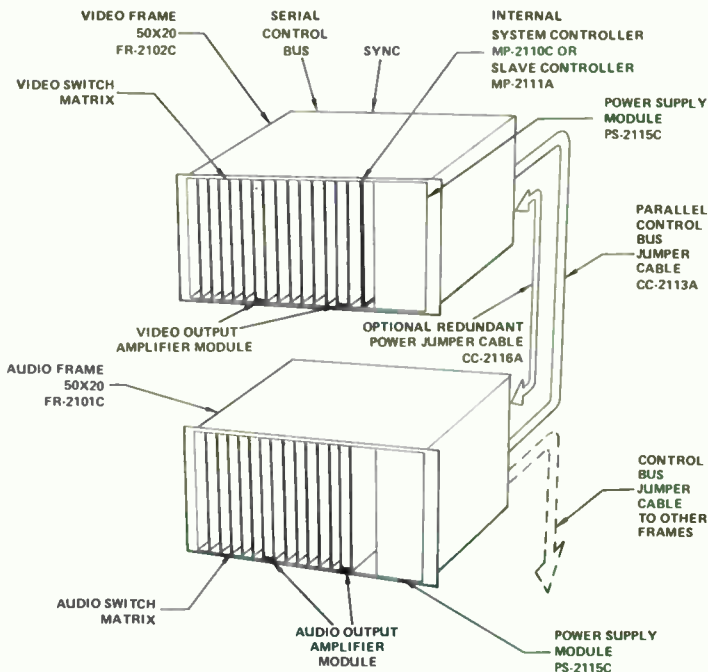
System 21 input baluns are printed for consistency while diecast cavities separate them from crosstalk reduction. System 21 also utilizes "BSM" connectors, true 75 ohm devices. To further tie things down, the terminator is a fixed resistor, not a variable resistor, used to compensate for production variances.

Eliminating assembly variations and misadjustment opportunities makes it possible, in an emergency, to change modules hot and quick.

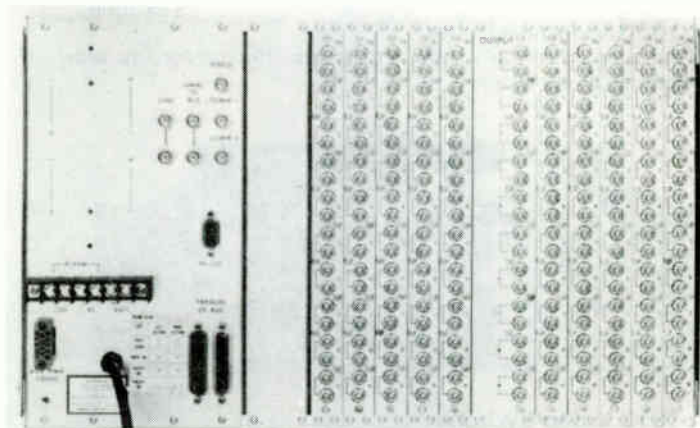
A small number of standard frames accommodates all system configurations.

A typical self-contained 100 input by 10 output video system, shown at left, illustrates the compact nature of the System 21.

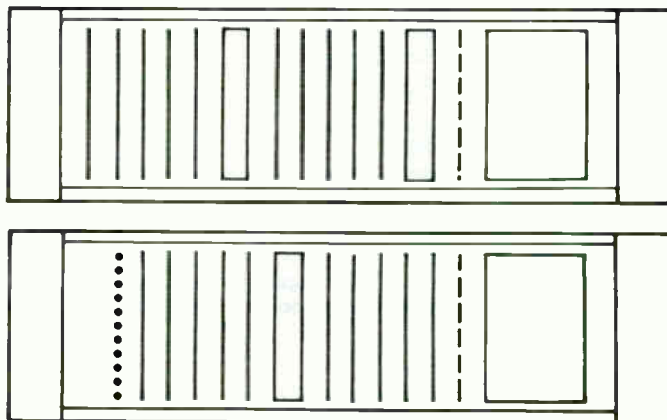
BNC interface panels are available for external connections.



Typical 50 x 20 Video and Single Audio System Frame Configuration



100 x 10 Video System



Frame Configurations

# DYNAIR ELECTRONICS, INC.

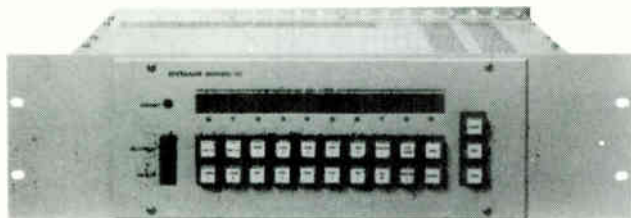
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## SERIES 10 SOLID-STATE VIDEO & AUDIO SWITCHING EQUIPMENT

The Series 10 Solid-State Video and Audio Switching Equipment provides 10-input/10-output high quality vertical interval monochrome or color video switching and on-air quality audio switching. Each 10 x 10 matrix is housed in a 5-1/4" H x 14-1/2" D x 19" rackmount chassis (13.34 x 36.83 x 48.26 cm) which includes power supply.

The control system is microprocessor-based and allows local and remote operation. Remote master and individual output bus control panels are available to operate over a single coaxial cable control line. Up to four levels of switching, 1 video and 3 audios as an example, can be controlled locally and/or remotely. A total of 15 remote Models SVA-100B, SVA-101B, SAA-110A and SAA-111A include 10 Form A tally relays and facilities to control the slave matrices, Models SVA-102B and SAA-112A.

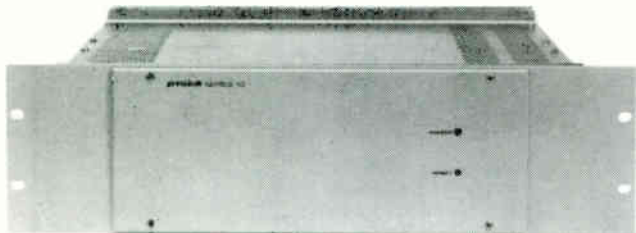
**Notice:** Series 10 equipment has been tested to show compliance with FCC Rules, Part 15, Subpart J, for Class A computing devices.



SVA-100B

### SVA-100B Video Switcher

• Self-contained, for local control • 10 Inputs, 10 dual outputs with tally regulated power supply



SVA-102B

### SVA-101B Video Switcher

• Same as SVA-100B but for remote control operation only • Control by single coaxial comm. line • Requires remote control panel(s) option

### SVA-102B Video Switcher

• Same as SVA-101B but for remote slave control only • Control from switcher control bus only • Model CC-1130A control bus jumper cable assembly not included • Tally not provided

### SAA-110A Audio Switcher

• Self-contained, for local control • 10 input by 10 output with tally and regulated power supply

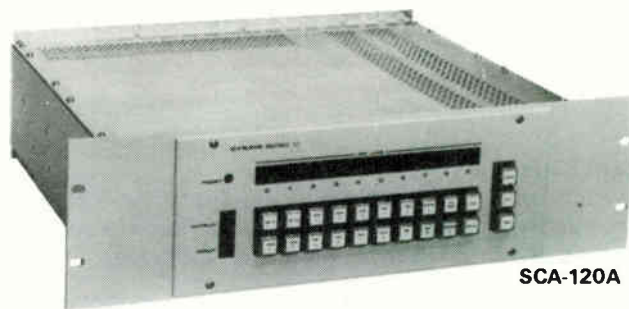
### SAA-111A Audio Switcher

• Same as SAA-110A but for remote control operation only • Control by single coaxial comm line • Requires remote control panel(s) option

### SAA-112A Audio Switcher

• Same as SAA-111A but for slave control only • Controlled from switcher control bus only • Model CC-1130A control bus jumper cable assembly not included • Tally not provided

# SWITCHING EQUIPMENT



SCA-120A

### SCA-120A Master Remote Control Panel

• Rackmounting • For remotely controlling all 10 outputs of video and/or audio switchers



SCA-122A

### SCA-122A Master Remote Control Panel

• For desk-top use • Same as SCA-120A except for housing

### SCA-130A Single Bus Remote Control Panel

• Rackmounting • For remotely controlling 1 output of video and/or audio switchers



SCA-131A

### SCA-131A Single Bus Remote Control Panel

• For desk-top use • Same as SCA-130A except for housing

### CC-1130A Switcher Control Bus Jumper Cable Assembly

• Switcher control bus jumper cable assembly for control of slave matrices, Model SVA-102B and/or SAA-112A. 24 inches (61cm) length

### TC-260A Termination

• 75 ohm BNC termination plug for terminating looping video inputs

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# SWITCHING EQUIPMENT

## Series 1600 Video and Audio Switching Systems

The Series 1600 Video and Audio Switching Systems provide 16 input/1 output high performance switching for standard HDTV video, audio, SMPTE/EBU Time Code. The Series 1600 also provides a unique triple 5 input/1 output video switch unit that can be used for RGB switching in raster scan graphics and chroma-key applications. Each switching matrix is housed in a 1<sup>3</sup>/<sub>4</sub>" H x 19" W x 9<sup>1</sup>/<sub>2</sub>" D rackmount chassis (4.45 x 48.26 x 24.13 cm).

The control system allows local and a choice of either remote parallel control using Dynair control panels, or external serial control through a 300 baud RS-423 port. Switching units can be grouped, up to four levels, to provide video, multiple video (RGB), audio, multiple audio (stereo) and audio-follow-video systems.

### SVA-500A 16 x 1 Video Switcher

Video Switcher, self-contained, for local and parallel remote control.

**Inputs:** 16, high impedance looping, 1.0V p-p nominal

**Outputs:** 1, dual 75 ohm, source terminated

**Output Isolation:** > 40dB at 5MHz

#### Connectors,

**Input-Output:** BNC

**Crosstalk Isolation:** > 60dB at 5MHz (worst case)

**Frequency Response:** 100kHz-5MHz,  $\pm 0.1$ dB: 8MHz,  $\pm 0.3$ dB (1MHz reference)

**Bandwidth:** 35MHz

**Differential Gain:** 0.1% with 1V p-p output, 10-90% APL at 5MHz

**Differential Phase:** 0.1° with 1V p-p output, 10-90% APL at 5MHz

**Hum and Noise:** 65dB RMS below 1V p-p, 10MHz bandwidth

**Power:** 115/230VAC  $\pm 10\%$ , 50/60Hz

### SVA-501A 16 x 1 Video Switcher

Video Switcher, same as SVA-500A except equipped for local and serial remote control.

**Control Bus:** Serial data control, RS-423 (RS-232 compatible) levels, 300 baud, 3 conductor cable (transmit, receive, common)

### SVA-502A 16 x 1 Video Switcher

Video Switcher, same as SVA-500A and SVA-501A but for slave control only. Controlled from switcher parallel control bus only. (Model CC-1639A Control Bus Jumper Cable required.)

### SAA-512A 16 x 1 Audio/Time Code Slave Switcher

Audio Switcher, self-contained, for slave control only. Controlled from switcher control bus only. (Model CC-1639A Control Bus Jumper Cable required.)

**Inputs:** 16 balanced high impedance bridging + 24dBm max., at 600 ohms

**Common Mode Rejection:** > 60dB, 50-120Hz;

**Output:** 50dB, 30Hz-15kHz

**Output:** 1 balanced low impedance, short-circuit protection, + 24dBm max. with 600 ohm load

#### Connectors,

**Input-Output:** Screw terminal

**Gain:** Adjustable to unity

**Crosstalk Isolation:** > 80dB below max. output to 15kHz (worst case)

**Frequency Response:** 30Hz-20kHz;  $\pm 0.2$ dB

**Harmonic Distortion:** 0.1% to 15kHz, +8dBm in/out; 0.25% to 15kHz max. in/out

**Hum and Noise:** -75dBm max.

### SVA-520A 5 x 1 RGB Video Switcher

Video Switcher, self-contained, for local and parallel remote control. Same as SVA-500A but with three 5 in/1 out sections.



SVA-500A and SVA-501A



SVA-520A and SVA-521A

### SVA-521A 5 x 1 RGB Video Switcher

Video Switcher, self-contained, for local and serial remote control. Same as SVA-501A but with three 5 in/1 out sections.

### SVA-522A 5 x 1 RGB Video Slave Switcher

Video Switcher, same as SVA-520A and SVA-521A but for slave control only. Controlled from switcher parallel control bus only. (Model CC-1639A Control Bus Jumper Cable required.)

### SCA-530A 5 x 1 Remote Control Panel (Parallel)

Master Parallel Remote Control Panel, rackmounting. For remotely controlling SVA-520A.

**Status:** Active input pushbutton, lighted

**Control Bus:** 8 conductor cable for power and control, 500' (150m) max.

#### Control Bus

**Connector:** 9-pin "D" subminiature

**Size:** 1<sup>3</sup>/<sub>4</sub>" H x 19" W x 1<sup>1</sup>/<sub>2</sub>" D (4.45 x 3.81 x 48.26cm)

### SCA-531A 16 x 1 Remote Control Panel (Parallel)

Master Parallel Remote Control Panel, rackmounting. For remotely controlling SVA-520A.

**Status:** Active input pushbutton, lighted

**Control Bus:** 8 conductor cable for power and control, 500' (150m) max.

#### Control Bus

**Connector:** 9-pin "D" subminiature

**Size:** 1<sup>3</sup>/<sub>4</sub>" H x 19" W x 1<sup>1</sup>/<sub>2</sub>" D (4.45 x 3.81 x 48.26cm)

### CC-1639A Control Bus Jumper Cable

Control Bus Jumper Cable, 9" (22.86cm). For control of slave matrices, Models SVA-502A, SAA-512A, and/or SVA-522A.

### CN-9954A Connector

9-pin "D" female connector for control bus and remote control panel.

### CN-9955A Connector

9-pin "D" male connector for control bus and remote control panel.



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# DISTRIBUTION EQUIPMENT



DA-1510A



BP-1502A



SW-1540A



FR-1500A



VS-12D

## SERIES 1500 VIDEO DISTRIBUTION AMPLIFIERS

Series 1500 distribution and switching products may be used as self-contained, stand alone units for desk top or custom mounting. For rackmounting applications, units can be installed in the FR-1500A Rackmounting Frame which occupies only 1-3/4 inches (4.45cm) of standard 19-inch rack space. All units are equipped with BNC type signal connectors unless otherwise noted. Mating connectors are not included.

### DA-1510A

Video Distribution Amplifier. Provides four isolated 75 ohm source terminated outputs from one high impedance looping input.

- Input: 75 ohm unbalanced, high impedance looping, 1 V p-p, BNC connectors
- Outputs: 4, 75 ohm source terminated, 1 V p-p, BNC connectors
- Gain: Adjustable +/-3 dB
- Frequency Response (ref. 1 MHz): 100 kHz-10 MHz: +/-0.5 dB; 30 MHz: +1, -2 dB
- Tilt: Less than 1% line or field
- Differential Gain: 0.25% at 5 MHz, 10-90% APL, 1 V p-p output
- Differential Phase: 0.25° at 5 MHz, 10-90% APL, 1 V p-p output
- Hum and Noise: 65 dB RMS below 1 V p-p, 10 MHz bandwidth
- Size: Module only, 1-11/16"H x 5-3/4"W x 9" D (4.32 x 14.61 x 22.86 cm); mounted in MB-1504A desk mount, 2"H x 6"W x 9-1/4"D (5.08 x 15.24 x 23.50 cm)
- Power: 115/230 VAC +/-10%, 50/60 Hz
- Net Weight: 2-1/2 pounds (1.13 kg)

DA-1510A ..... \$300.00

### FR-1500A

Rackmounting Frame. Provides mounting for three (3) Series 1500 units in standard equipment racks. A captive screw fastener at the rear of the frame, and a guide pin at the front, secures each unit, allowing equipment to be used in mobile applications.

- Size: 1-3/4"H x 9-1/4"D x 19" rackmounting (4.45 x 29.21 x 48.26cm)
- Net Weight: 2-1/2 pounds (1.13 kg)

FR-1500A ..... \$100.00

### BP-1502A

Blank Module. Fills one unused space in FR-1500A Frame • Net Weight: 1-1/4 pounds (0.57 kg)

BP-1502A ..... \$60.00

### MB-1504A

Desk Mount Kit. For one Series 1500 unit. Includes rugged aluminum cover, rubber feet, and hardware.

- Net Weight: 13 ounces (0.37 kg)

MB-1504A ..... \$30.00

## PULSE DISTRIBUTION AMPLIFIERS

### PD-1515A Pulse Distribution Amplifier

Provides 4 isolated, source terminated outputs from 1 high impedance looping input. Regenerative input, linear output. Normal output with up to 1000 ft. (305 m) Belden 8281 input cable.

- Input: 2-4 V p-p negative pulses, 75 ohm unbalanced differential, high impedance bridging, BNC connectors
- Common Mode Rejection: Greater than 60 dB, 50-400 Hz, +/-30 V reference chassis ground
- Outputs: 2-4 V p-p negative pulses, 4 each 75 ohm source terminated, BNC connectors
- Output Return Loss: Greater than 35 dB at 5 MHz
- Output Isolation: Greater than 40 dB at 5 MHz
- Output Rise Time: 130 ns
- Gain: Adjustable to 2-4 V p-p
- Hum and Noise: 75 dB RMS below 4 V p-p
- Overshoot and Ringing: Less than 1.0%

V-396

- Tilt: Less than 1.0%
- Size: 1-11/16"H x 9"D x 5-3/4"W (4.32 x 22.86 x 16.61 cm); mounted in MB-1504A desk mount, 2"H x 9-1/4"D x 6"W (5.08 x 23.50 x 15.24 cm)
- Power: 115/230VAC +/-10%, 50/60Hz
- Net Weight: 3 pounds (1.36kg)

PD-1515A ..... \$325.00

EQ-1530A Equalizer (Post Equalizing) ..... \$575.00

EQ-1531A Equalizer (Post Equalizing) ..... 700.00

EQ-1532A Equalizer (Pre-Equalizer) ..... 650.00

## PASSIVE VIDEO SWITCHERS

Multiple input to single output locally controlled terminating video switchers. Units have extra contacts for user wiring of audio-follow or external cue lights.

### VS-6D Video Switcher

Video Switcher. Provides passive switching of from one to six inputs to a single output. Incorporates switch-controlled terminations. Equipped with separate auxiliary switch section for user wiring of unbalanced audio, balanced audio, external cue lights, or other secondary functions. For lighted pushbutton operation, order LK-1541A Lighting Kit shown below.

- Inputs: Six (all except operating channel terminated in 75 ohms)

- Output: One
- Connectors: BNC
- Size: 1-3/4"H x 6-1/2"D x 19"W (4.45 x 16.51 x 48.26 cm)
- Net Weight: 2-1/2 pounds (1.13 kg)

VS-6D ..... \$225.00

### VS-12D Video Switcher

Video Switcher. Same as VS-6D but with 12 inputs.

- Inputs: Twelve (all except operating channel terminated in 75 ohms)

- Output: One
- Connectors: BNC
- Size: 1-3/4"H x 6-1/2"D x 19"W (4.45 x 16.51 x 48.26 cm)
- Net Weight: 2-1/2 pounds (1.13 kg)

VS-12D ..... \$300.00

### LK-1541A Optional Lighting Kit

Lighting Kit. For use with passive switchers. Provides 6VDC at 100mA to power lamps provided with switcher. Calculator style plug-in transformer with 6 foot (1.82 meters) cable.

- Connector: Miniature male, 3.5 mm (mates with Switchcraft No. 41 jack provided on rear of switcher)

- Primary Power: 115 VAC, 60 Hz

- Net Weight: 6 ounces (0.17 kg)

LK-1541A ..... \$20.00

### SW-1540A 6-Input, 1-Output Passive Video Switcher

6-Input, 1-Output Passive Video Switcher. Switch controlled 75 ohm inputs. Separate auxiliary contacts included for user wiring of secondary switching functions. Lighted pushbuttons with use of LK-1541A Lighting Kit. Shown with optional MB-1504A.

- Inputs: 6 (all except input selected, 75 ohm terminated), BNC connectors
- Output: 1, BNC connector
- Switching: Break-before-make
- Size: Module only, 1-11/16"H x 9"D x 5-3/4"W (4.32 x 22.86 x 14.61 cm); mounted in MB-1504A desk mount, 2"H x 9-1/4"D x 6"W (5.08 x 23.50 x 15.24 cm)
- Net Weight: 2-1/2 pounds (1.13 kg)

SW-1540A ..... \$200.00

Prices and Specifications Subject to Change Without Notice.

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## SERIES 5300 DISTRIBUTION EQUIPMENT

Series 5300 Distribution Equipment mounts in a 5-1/4" x 19" rackmounting frame (13.34 x 48.26 cm). The frame has a total of twenty mounting spaces. Two power supply modules can be used to provide redundant power supply operation. All amplifier modules include "on-board" power regulators, fuses and blown fuse indicators. AC input power is 115/230 VAC  $\pm$  10%, 50/60 Hz.

### FR-5300B Frame

Module Mounting Frame. Provides twenty spaces for Series 5300 modules. All modules can be installed without soldering. (Frame shown with modules installed.)

Size: 5-1/4"H x 14-1/4"D x 19"W Net Weight: 9 pounds

### PS-5305B Power Supply Module

Power Supply Module. Mounts in FR-5300B Frame and provides unregulated dc for amplifier modules. Requires four spaces in frame. Two power supplies can be installed for redundant operation.

### AD-5370B 5 Output Audio Distribution Amplifier Module

High performance audio distribution amplifier module. Indefinite short circuit protection. Can be used in same frame with other Series 5300 modules.

### DA-5310B Dual 1 Input 2 Output Video Distribution Amplifier Module

Video Distribution Amplifier Module for high performance video systems. Two identical amplifier sections on one module, each providing 1 terminating input to 2, 75 ohm outputs. Equalization available for up to 1000 ft. (305 m) of cable.

#### DA-5310B/10A Video DA, Non Equalized

DA-5310B/11A Video DA, Equal., Belden 8281, Unbal. In.

DA-5310B/21A Video DA, Equal., WECO 16 PEVL, Bal. In.

DA-5310B/22A Video DA, Equal., WECO 760, Bal. In.

### DA-5320B 5 Output Video and Subcarrier Distribution Amplifier Module

Video Distribution Amplifier Module for high performance video systems. Sync-Tip reference maintains dc level with changing APL. Equalization available for up to 1000 ft. (305 m) of cable.

#### DA-5320B/10A Video DA, Non-Equalized

DA-5320B/11A Video DA, Equal., Belden 8281, Unbal. In.

#### DA-5320B/12A Video Equalizer, 30MHz

DA-5320B/21A Video DA, Equal., WECO 16, PEVL, Bal. In.

DA-5320B/22A Video DA, Equal., WECO 760, Bal. In.

### DA-5330B 10 Output Video and Subcarrier Distribution Amplifier Module

Video Distribution Amplifier Module for high performance video systems. Sync-Tip reference maintains dc level with changing APL. Equalization available for up to 1000 ft. (305 m) of cable.

#### DA-5330B/10A Video DA, Non-Equalized

DA-5330B/11A Video DA, Equal., Belden 8281, Unbal. In.

DA-5330B/21A Video DA, Equal., WECO 16 PEVL, Bal. In.

DA-5330B/22A Video DA, Equal., WECO 760, Bal. In.

### DA-5340B 4 Output Video Distribution Amplifier Module

4-Output Video Distribution Amplifier Module and Frame Adaptor for high performance video systems. 1 high impedance looping input and 4, 75 ohm outputs provided.

### EQ-5350 Post-Equalizing Amplifier Module

Post-Equalizing Amplifier Module. Provides up to 24dB of equalization at 8 MHz. Will equalize up to 3000 ft. (914.4m) of Belden type 8281 cable or 5000 ft. (1524 m) of WECO 16 PEVL. Provides 2,75 ohm outputs.

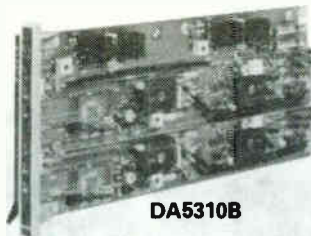
EQ-5350B/51A Post-Equalizing Amp., Belden 8281, Unbal. In.

EQ-5350B/61A Post-Equalizing Amp., WECO 16 PEVL, Bal. In.

### LA-5353B Unbalanced to Balanced Line Amplifier Module

75 ohm unbalanced input, 124 ohm balanced line driving amplifier module. Available with pre-equalization for up to 2500 ft. (762 m) of WECO 16 PEVL cable to provide 7500 ft. (2286 m) equalized circuit when used with EQ-5350B/61A.

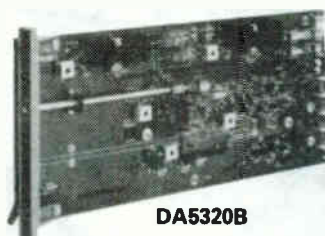
# DISTRIBUTION EQUIPMENT



DA5310B



FR5300B



DA5320B



DA5330B  
5300 Series

### LA-5353B/10A Line Amplifier, Non Equalized

LA-5353B/22A Line Amplifier, Equalized, WECO 760

LA-5353B/41A Line Amplifier, Equalized, WECO 16 PEVL

### PD-5360B 5 Output Pulse Distribution Amplifier Module

Pulse Distribution Amplifier Module for high performance video systems. Regenerative input, linear output with controlled, adjustable, rise time. Front panel input pulse presence indicator. Normal output with up to 1000 ft. (305 m) Belden 8281 input cable.

### Series 5300 Blank Filler Panels

BP-5390A Blank Filler Panel. Mounts in FR-5300B Frame and fills one unused amplifier space. Net Weight: 4 oz.

BP-5391A Blank Filler Panel. Mounts in FR-5300B Frame and fills two unused amplifier spaces. Net Weight: 5 oz.

BP-5392A Blank Filler Panel. Mounts in FR-5300B Frame and fills four unused amplifier spaces. Net Weight: 6 oz.

### CC-5398A Power Supply Service Cable

Power Supply Service Cable. Allows power supply to be extended from frame for maintenance.

### CE-5396A Module Extender

Module Extender for all Series 5300 modules (except power supply). Allows modules to be extended from frame for maintenance. Net Weight: 2 lbs.

### CN-9860A Cable Mating Connector

Cable Mating Connector. For use with Western Electric type 760 or equivalent 124 ohm balanced cable. Mates with Trompeter BJ-77.

### CN-9861A Cable Mating Connector

Cable Mating Connector. For use with Western Electric type 16 PEVL or equivalent 124 ohm balanced cable. Mates with Trompeter BJ-77.

FA-5308A Frame Adaptor, Power Supply, 18" Power Cord

FA-5309A Frame Adaptor, Power Supply, 72" Power Cord

FA-5315A Frame Adaptor, Unbal. In.

FA-5316A Frame Adaptor, Bal. In.

FA-5325A Frame Adaptor, Unbal. In.

FA-5326A Frame Adaptor, Bal. In.

FA-5335A Frame Adaptor, Unbal. In.

FA-5336A Frame Adaptor, Bal. In.

FA-5345A Frame Adaptor, Unbal. In.

FA-5355A Frame Adaptor, Unbal. In.

FA-5356A Frame Adaptor, Bal. In.

FA-5357A Frame Adaptor, Loop In.

FA-5358A Frame Adaptor, Term In.

FA-5375A Frame Adaptor, Audio

SP-5359A Transient Protection

Prices and Specifications Subject to Change Without Notice.

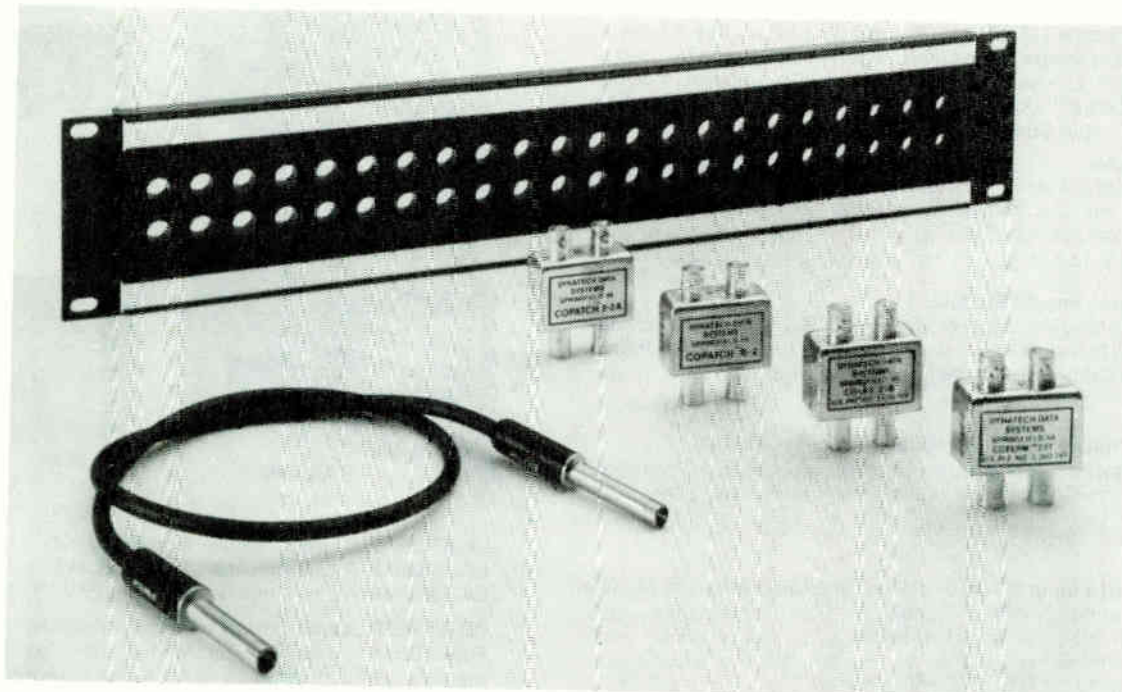
V-397



# DYNATECH DATA PRODUCTS

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# VIDEO PATCHING EQUIPMENT



## COAXIAL PATCHFIELDS AND ACCESSORIES

The system consists of a high density patchfield that incorporates 22 channels in a standard 19 inch wide rack panel—either 1 3/4 or 3 1/2 inches high. Each circuit is connected to a patented COTERM® 22T jack which provides normal-thru connection without the use of patch cords or looping plugs. Patch cords may be inserted to break the normal-thru signal path and program cross connections. Sources that are patched out are automatically terminated within the jacks. Test probes may be used to enter the jack to sample the signal without interruption of the live circuit.

The Coaxial Patching System provides normal-thru connections and self-termination within the jacks, as well as cross patching and non-interrupting on-line monitoring of live circuits.

### COTERM® 22T

The COTERM 22T is a reliable, normal-thru patching and line terminating jack designed for rugged use and trouble-free service. It is available in 75 ohm impedance or optionally in 50 ohm impedance. It accepts standard BNC connectors on its rear terminals.

22T Normal-Thru, Self-Terminating ..... \$40.00

### COJAX® 22B

The COJAX 22B is identical to the COTERM 22T in dimensions, quality and serviceability. It is a normal-thru patching jack without the internal self-termination feature.

22B Normal-Thru ..... \$37.00

### COPATCH® 2-2A

The COPATCH 2-2A is a self-terminating jack without the normal-thru feature. It provides patchfield appearance of two standby source circuits. 75 or 50 ohm impedance.

2-2A Normally Terminating ..... \$40.00

### COPATCH® 2-2

The COPATCH 2-2 has neither the normal-thru or self-termination features. It provides two inputs to test equipment, trunk lines or other equipment.

2-2 Non-Terminating, Non-Normalling ..... \$37.00

All Coaxial Jacks may be interchanged for use in mixed patchfields.

## COAXIAL PANELS

Panels are available in metal or phenolic either 1 3/4 or 3 1/2 inches high for standard rack mounting. Coterm, Cojax or Copatch jacks may be mounted interchangeably on all panels—each panel holds 22 jacks across the 19 inch width. 4 standard panels are available, consult factory for other sizes.

105-113-22 Aluminum 1 3/4" high x 19" wide ..... \$60.00

105-114-22 Phenolic 1 3/4" high x 19" wide ..... 80.00

105-115-22 Aluminum 3 1/2" high x 19" wide ..... 68.00

105-112-22 Phenolic 3 1/2" high x 19" wide ..... 88.00

## COAXIAL PATCH CORDS

105-057—Standard Patch Cord constructed with soldered center pin and crimped sleeve shield connections to meet the highest standards of reliability. Standard lengths of 2, 3 and 4'; others available on special order.

PATCH CORDS (Specify length—2, 3 and 4' standard)

105-057-Y (Patch plugs on both ends) ..... \$25.00\*

105-057-BNC-Y (Patch plug on one end, male BNC on opposite end) ..... \$25.00\*

..... \$25.00\*

VIDEO COAXIAL CABLE (Specify length)

105-112-MM-Y (MM = BNC male connectors on both ends) .. \$25.00\*

## COAXIAL TEST PROBES

TEST PROBES (Specify length—6' standard)

105-5-Y (Test probe tip on one end, standard patch plug on opposite end) ..... \$25.00\*

105-5A-Y (Test probe tip on one end, BNC male connector on opposite end) ..... \$25.00\*

105-5B-Y (Test probe tip on one end, UHF male connector on opposite end) ..... \$25.00

## COAXIAL PLUGS

105-13—Dummy plug for opening normal-thru connections .. \$11.50

105-14—Terminating plug for use with Cojax or Copatch 2-2 to terminate source in proper impedance ..... \$17.00

Y = length in feet; customer to specify.

\*Plus \$.50 per foot over 6 feet.



# ECHOLAB, INC.

175 Bedford Rd.  
Burlington, MA 01803  
(617) 273-1512 Telex: 49-43679

# PRODUCTION SWITCHER

## DV-5 Production Switcher

- Designed for teleproduction and post-production in small and medium-sized broadcast studios • Automatic calibration • 12 inputs, including black and background • 3 keyers • 3 digital color generators • Front-panel programmable with TimeTracker • Two mix-effects systems for effects and autotake • Switching power supply • Soft Take • Computer control of all switching and effects • Contact-closure editing interface will initiate any pre-programmed event • Remote fully digitized control panel with two wires to chassis • 39 wipe patterns • Command will return 28 parameters to factory calibration

The DV-5 video switcher is a compact and powerful tool for advanced teleproduction. Innovative circuit design allows packaging in a compact two rack-unit chassis and a 12<sup>1</sup>/<sub>4</sub>" remote front control panel. The electronics chassis uses just two printed circuit cards.

Built-in computers handle advanced features such as front-panel programmability, calibration, and fault diagnosis.

The DV-5 is used in two modes: Production or Programming. In Production Mode, the switcher allows control of wipe patterns and effects. In programming Mode, a keypad is used to store control sequences for later playback. When sequences have been programmed, they may be recalled in Production Mode for fast accurate recreation of effects that are difficult or impossible to perform manually.

### Specifications

#### Effects Pattern

**Generator:** 40 patterns available; border, symmetry, normal-reverse, soft controls

#### Take Pattern

**Generator:** 4 patterns plus mix, key and effects

**Downstream Keyer:** Fill with matte or external character generator video; fade-to-black; reverse keys

**Color Generators:** Three, background/border/DSK; digitally settable

**Effects Keyer:** Mix/Wipe/Key; keyer is internal, external, DVE, or chroma. Key mask and key reverse

**Edit Control Interface:** Optional RS-422 or 423 interface to popular edit controllers

**Audio Follow:** Optional 10-input audio follow switcher is available

**Chroma Keyer:** Optional RGB or NTSC chroma keyer

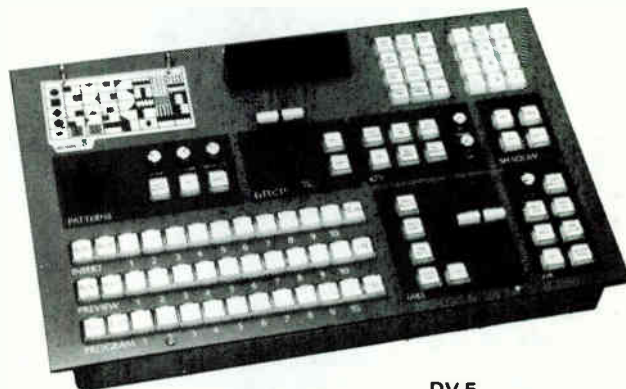
**Drop Shadow Generator:** Optional Drop Shadow Generator with variable 0-15 line drop, black or white pre-shadow, outline

**Programmable:** Time Tracker follows control movements, or normal mode follows button pushes. Up to 99 full panel setups can be stored. Up to 699 step sequences of control operations can be stored. Expandable, battery backed-up CMOS memory allows optional multiuser memory areas with password protection

**Video Inputs:** 10, looping impedance, 1V p-p composite or non-composite, synchronous or non-synchronous video inputs. 1, Character Generator Fill. 1, Digital Video Effects (DVE). 1, Genlock input

**Key Inputs:** 1, External chroma key; 75 ohm terminated. 1, External Effects key; 75 ohm terminated. 1, Character Generator key; 75 ohms terminated. 3, looping impedance Red/Green/Blue chroma-key inputs

**Video Outputs:** 1, Preview; 1V p-p 75 ohm source terminated. 2, Program, 1V p-p 75 ohm source terminated. 1, DVE feed from insert bus. 1, Black, 1V p-p 75 ohms source terminated



DV-5

- Sync Inputs:** NTSC: Sync, Blank, CBF; 75-ohm terminated, 2-4V p-p; or use optional genlock sync generator PAL: PAL ident flag added, external PAL sync generator required
- Data:** 1, Tally connector, 10 form C relays. 2, BNC, RS-423 link to front panel. 1, RCA phono jack for contact closure editing. 1, 9-pin D connector for RS-232 or RS-422 link to edit controller. 1, 9-pin D connector for RS-232 or RS-422 link to DVE or Audio Follow Switcher
- Differential Phase:** 1°
- Differential Gain:** 1%
- Bandwidth:** 10MHz
- Path Length:** 1.5°
- Absolute Delay:** 48°
- Program Output**
- Isolation:** 45dB
- Crosstalk:** 52dB at 3.58MHz
- Fade Linearity:** 1%
- Signal-to-Noise Ratio:** 50dB
- Power Consumption:** .65W, 110 or 220V, 50-60Hz
- Mechanical:** Control panel: 12<sup>1</sup>/<sub>4</sub>" x 2" x 19" rackmountable. Chassis: 3<sup>1</sup>/<sub>2</sub>" x 18" x 19" rackmountable. Shipping weight: 34 lbs.
- DV-5** ..... \$8995.00

### Options

- DSG-5** Drop Shadow Generator (15 lines) for DV-5 titler ..... \$2000.00
- GLS-5** Genlock Sync Generator for DV-5 ..... 1000.00
- RWP-5** Rotary Wipe Package for DV-5 ..... 650.00
- QSP-5** Quad Split Package for DV-5 ..... 500.00
- MEX-5** Memory Expansion for DV-5 ..... 350.00
- BPS-5** Back-up Power Supply for DV-5 ..... 650.00
- NTSC-5** NTSC encoded chromakey generator for DV-5 .. 1650.00
- RGB-5** RGB chromakey generator for DV-5 ..... 1650.00
- Serial-5** SMPTE Serial interface to any editor controller using the GVG 100 protocol ..... 1500.00
- SPK-5** Spare Parts Kit for DV-5 ..... 1000.00
- EXT-5** Extender board for DV-5 ..... 300.00
- SVC-5** Service manual for DV-5 ..... 50.00
- OPS-5** Operators Manual for DV-5 (basic units include 2) . . 45.00

Prices and Specifications Subject to Change Without Notice.

# ECHOLAB, INC.

175 Bedford Rd.  
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(617) 273-1512 Telex: 49-43679

# PRODUCTION/AUDIO FOLLOW SWITCHERS



SE-3

## SE-3 Production Switcher/Special Effects Generator

- 3 mix-effects circuits, 2 border generators
- 1 color background, 2 color matte generators
- Front-panel programmable with up to 5,000 steps
- Quad splits
- Re-entrant effects
- ECHOLab's patented Soft Take
- 1 3/4" front panel depth
- 12 video inputs total, 10 are looping impedance or 75 ohm terminated, inputs 1 and 2 are black and color background. Composite or non-composite, sync or non-sync sources may be used
- 5 keying inputs, comp or non-comp, must be synchronous Genlock source (black or composite video). 75 ohm terminated

The SE-3 makes exceptional performance available for a low price. A powerful built-in Z-80 microcomputer replaces most of the digital logic found in other switchers and also allows user programming.

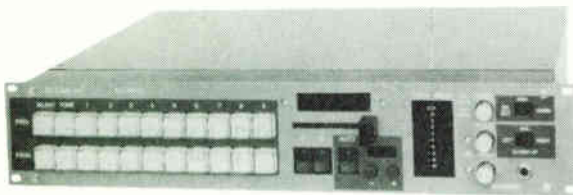
SE-3 . . . . . \$12,200.00

### Options

- |                 |   |           |
|-----------------|---|-----------|
| <b>SYSCAL</b>   | System Calibration program for SE-3 . . . . .               | \$ 285.00 |
| <b>APL-3</b>    | Apple offline storage program for SE-3 . . . . .            | 875.00    |
| <b>RPS-3</b>    | Remote Power Supply for SE-3 front panel . . . . .          | 100.00    |
| <b>DSG-3</b>    | Drop Shadow Generator (15 lines) for SE-3 titler . . . . .  | 2,250.00  |
| <b>NTSC-3</b>   | NTSC encoded chromakey generator for SE-3 . . . . .         | 1,650.00  |
| <b>RGB-3</b>    | RGB chromakey generator for SE-3 . . . . .                  | 1,650.00  |
| <b>SERIAL-3</b> | SMPTE serial interface . . . . .                            | 2,225.00  |
| <b>SPK-3</b>    | Spare parts kit for SE-3 . . . . .                          | 1,000.00  |
| <b>SVC-3</b>    | Service manual for SE-3 (basic unit includes 1) . . . . .   | 50.00     |
| <b>OPS-3</b>    | Operators manual for SE-3 (basic units include 2) . . . . . | 25.00     |
| <b>EXT-3</b>    | Extender board for SE-3 (basic unit includes 1) . . . . .   | 100.00    |

### Upgrades

SE-3 to SE-6 upgrade (includes CPU, EFF, FPL, TLY, DSK swap) . . . . . \$12,000.00



AFS

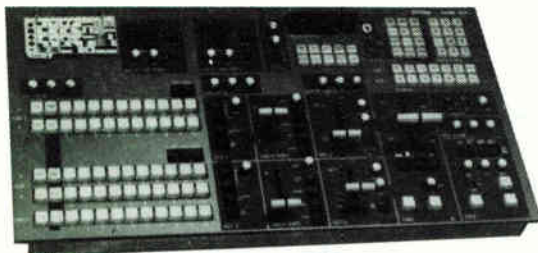
## AFS-Audio Follow Switcher

- 9 inputs plus silent and tone, voiceover. Stereo optional
- 600 ohm balanced line, XLR type connectors
- Programmable, computer controlled audio switching and fading
- SMPTE link to ECHOLab's SE-3 or edit controllers
- Parallel link to other video switchers

The AFS is a computer-controlled switcher for audio mixing in a video environment. Intended to complement the SE-3 switcher, the AFS can be a stand alone programmable mixer or it can be controlled by the SE-3 or other video switchers. In this mode, the AFS will automatically switch audio to follow video, that is, selecting direct bus video 5 will cause the AFS to switch to audio source 5. Up to four sources can be designated as audio-only and will not respond to video switching.

Eleven input sources are selectable, including a low distortion 450Hz tone and silent, and voiceover can be added to the output. Pushing a single button will select its input in the normal fashion, and if two or more buttons are pushed simultaneously all buttons will remain lit and all sources will be selected.

- |              |  |            |
|--------------|--|------------|
| <b>AFS-M</b> | Monaural . . . . .                                       | \$4,500.00 |
| <b>AFS-S</b> | Stereo . . . . .   | 5,500.00   |
| <b>AFS-D</b> | Audio follow stereo daughter board . . . . .             | 1,000.00   |
| <b>SPK-A</b> | Spare parts kit for AFS . . . . .                        | 500.00     |
| <b>SVC-A</b> | Service manual for AFS (basic unit includes 1) . . . . . | 50.00      |



SE-6

## SE-6 Production Switcher

- Quad splits, re-entrant effects
- ECHOLab's patented Soft Take
- Computer control of all switching and effects
- Front-panel programmable with up to 2000 shots/transitions
- Contact closure editing interface (standard) will initiate any pre-programmed event
- Remote fully digitized control panel with two wires to chassis
- 12 video inputs total, 10 are looping impedance (47K ohm) or 75 ohm terminated. Two inputs are internally generated black and background colors. Composite or non-composite sync or non-sync sources may be used
- 6 linear keys (Key 1-Key 5 and CGEN), one RGB or composite chromakeyer. Key 1, Key 3, and CGEN may be used with cut and fill signals

The SE-6 adds convenience and flexibility for fast-paced teleproduction. Two independent mix-effects systems and direct bus switching handle up to 12 video inputs, including black and background. Two built-in Z-80A microprocessors handle digitization of front panel controls (no heavy cables) and allow full control by edit controllers as well as user programmability. A front-panel programming system has been developed for enhanced ease of use.

The SE-6 is used in two modes: In production mode, the switcher is a normal 5-bus switcher. In program mode, the programming capability is turned on with a keyswitch, and the programming keypad is used to store control sequences for later playback. Any operation which can be done manually can also be programmed.

- |                 |   |             |
|-----------------|---|-------------|
| <b>SE-6</b>     | . . . . .   | \$24,000.00 |
| <b>DSG-6</b>    | Drop shadow generator (15 lines) for SE-6 titler . . . . .  | 2,250.00    |
| <b>NTSC-6</b>   | NTSC encoded chromakey generator for SE-6 . . . . .         | 1,650.00    |
| <b>RGB-6</b>    | RGB chromakey generator for SE-6 . . . . .                  | 1,650.00    |
| <b>SERIAL-6</b> | SMPTE Serial interface . . . . .                            | 2,225.00    |
| <b>SPK-6</b>    | Spare parts kit for SE-6 . . . . .                          | 1,300.00    |
| <b>EXT-6</b>    | Extender board for SE-6 (basic unit includes 1) . . . . .   | 100.00      |
| <b>SVC-6</b>    | Service manual for SE-6 (basic unit includes 1) . . . . .   | 50.00       |
| <b>OPS-6</b>    | Operators manual for SE-6 (basic unit includes 2) . . . . . | 45.00       |

# ECHOLAB, INC.

175 Bedford Rd.  
Burlington, MA 01803  
(617) 273-1512 Telex: 49-43679

## SPECIAL EFFECTS GENERATOR/ PULSE CROSS DISPLAY



The SE-1G is a color special effects generator packaged in an attractive desk-top or rackmount box. Extensive use of large scale integrated circuits contribute to the unit's small size. Its unparalleled flexibility and ease of use will enhance all small to medium studio productions. The SE-1G will accept up to four composite or non-composite TV cameras, as well as a keying camera. Six effects are provided, including four corner inserts, a non-positionable circle wipe and keying. An internal RS-170 sync generator with genlock capability may be locked to composite video applied to input one.

### Specifications

- Audio output:** 2-Conductor phone jack, loop-through to intercom pins on camera connectors
- Tally:** 5-Pin Amphenol, connector; 1A 30V max; short to ground
- Frequency response:** DC-8MHz  $\pm$  1dB
- Differential gain and phase:** Better than one percent and one degree at 3.58MHz
- Output isolation:** Better than 30dB at 3.58MHz
- Power:** 115VAC-60Hz, 15W
- Dimensions:** Desk-top box 3'H x 16"W x 11"D  
rackmount—8<sup>3</sup>/<sub>4</sub>" x 19"W x 2<sup>1</sup>/<sub>4</sub>"D
- Weight:** 12 Pounds shipping weight
- Camera inputs:** 4, 75-ohm loop-through, external termination plug
- Key input:** BNC, looping impedance, 1V comp or non-comp
- G/L input:** 1V composite video at input 1
- Sync outputs:** 4, 1V black burst; 1, 4V vertical drive; 1, 4V horizontal drive. Option: 4V sync
- SE-1G** ..... \$1695.00

### SE-1G Special Effects Generator

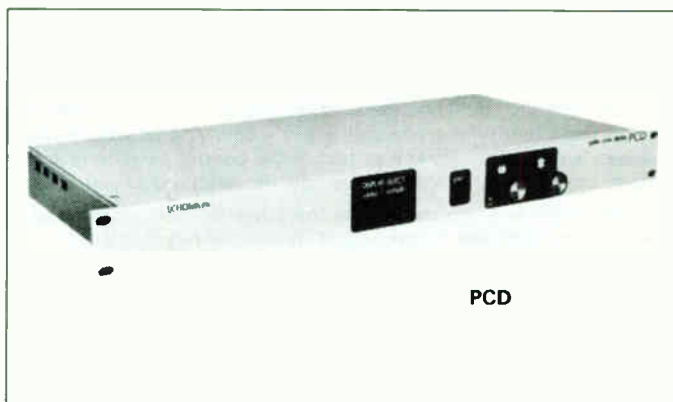
- Compact, versatile
- Six special effects
- Accepts up to 4 composite or non-composite cameras, plus keying camera
- Internal RS-170 B & W sync generator with genlock

The PCD is the most effective and economical tool for monitoring video quality for small studio applications. The input to be monitored is a 1V p-p composite video signal. Six SO-239 connectors provide two different types of output signals: display and distribution.

The Display outputs carry unmodified input video until either Display Select switch is pushed. Pulse cross or waveform sample displays may be selected separately or in combination. Four isolated distribution amplifier outputs are also available; these outputs are not affected by the display select switch.

### Specifications

- Inputs:** 2 Looping or switch selectable 75 ohms termination; SO-239 connectors
- Display outputs:** 2; 75 ohms source terminated
- Distribution outputs:** 4 Isolated outputs; SO-239 connectors. 75 ohms source terminated
- Frequency response:** 10MHz  $\pm$  1dB
- Differential phase and gain:** Better than 1° and 1% at 3.58MHz
- Output isolation:** Better than 30dB at 3.58MHz
- Power:** 115VAC—50/60Hz, 4W
- Dimensions:** 3<sup>1</sup>/<sub>2</sub>"H x 9"W x 10"D desktop box  
1<sup>1</sup>/<sub>4</sub>"H x 19"W x 10"D rackmounted  
3-wire power cord
- Weight:** 8 Pounds shipping weight
- PCD** ..... \$595.00



### PCD Pulse Cross Display

- Combines in one package the television monitoring and distribution instruments needed in a small studio
- Waveform sampler
- Pulse Cross display
- Distribution amplifier



# EECO INC./CONVERGENCE

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(714) 835-6000 FAX: (714) 953-3747

TWX: 910-595-1550 Telex: 67-8420

## EMME® Computerized Editing Systems

• A workstation optimized for creative video editing • Fast, comprehensive edit decision list • Time-saving cluster events function • Multiple workstation configurations • Built-in expansion • Integrated time code modules • Fast, smooth, control of up to nine 1", 3/4" or 1/2" VTRs/Multitrack ATRs and a production switcher

### Fast, Comprehensive Edit Decision List

A powerful edit decision list program allows you to select functions quickly and efficiently. As you edit, each of your decisions goes directly into the list. You can insert a multisource event such as a dissolve by pressing the DISSOLVE key, then entering the desired number of frames. Follow the same procedure to re-edit a multi-source event.

The EMME list also lets you correct entry errors. If an entry is made into an existing event by mistake, that event is not destroyed. To restore the event to its original form, press the O.S. (Out Sequence) key on the keyboard, and the system reverts to the beginning of the event, thereby automatically deleting the erroneous entry.

Along with these shortcuts, you still get a full selection of time proven features like selective update, block move, sort, change sequence, auto clean, list clean and global search.

### Time-saving Cluster Events Function

With the powerful editing tool of cluster events, create complex, multiple-source decisions as elements of the cluster, then treat them as a single event. To dissolve back and forth from a person on camera to a character generator graphic, for example, you no longer have to create an event for each dissolve. Instead, create a cluster that is previewed and recorded as one event. By controlling the character generator through the Relay key, you can dissolve to the person on camera, trigger the relay and change the graphics, dissolve back to the person, and continue through the entire sequence.

And you can use cluster events to great advantage with today's "intelligent" switchers, capable of displaying multiple sources in a wide variety of modes.

### Multiple Workstation Configurations

An optional workstation has been customized for the unique needs of today's professional film editors. This Cinemagraphic Editing Workstation is easily interchangeable with the Video Editing Workstation. Each is plug compatible with the EMME computer.

If your specialty is filmstyle editing, you can make all editing decisions using the "Mouse" Controller, a single-button device that moves a corresponding cursor on a display of all system functions on a data display monitor.

### Integrated Time Code Modules

An LTC reader is included in each EMME machine interface, and you can order additional time code accessories to suit your applications. These include the time code inserter, VITC reader, LTC generator and combined LTC/VITC generator, all plugging into the system's smart interface chassis.

VITC capability lets you use all audio tracks available for applications like multiple language programs and stereo audio mixes. And it gives you the added flexibility of editing in slow motion—all the way down to still frame.

Prioritizing time code formats in the absence of a particular code is easily accomplished. If you're reading LTC, for example, and this code drops out, the system automatically reverts to VITC, or to the control track. Similarly, when the VITC reader is in use, the order of priority can be from VITC to LTC, and finally to control track, so that you always have automatic backup capability.

### Auto Assemble with Full Look-ahead Search

Auto Assemble lets you automatically assemble all of your edit decisions onto a master tape. With our look-ahead search, you can even auto assemble a half-hour program in a half hour of real time. Once you've completed your edit decision list, you select Auto Assemble on the control panel. The system automatically looks ahead in the list for the next edit, cues a selected VTR, then pre-parks it to wait for the right time to play.

# COMPUTERIZED EDITING SYSTEMS



### E-Key Registers for Repetitive Functions

The Video Editing Workstation gives you 10 E-key registers, each a set of up to 80 keystrokes that the workstation remembers and executes with a single stroke. You can quickly execute special functions like center cut dissolve and automatic offset just by pressing one key. When a weekly show opens with a standard sequence of special effects, for example, the commands used to perform the opening can be stored into one or more E-key registers.

### Multitrack ATR Control

You can match video to audio for perfect lip synchronization, time special audio effects to match video action, and expand the total number of synchronous audio channels.

### Smooth, Efficient Editing At Your Command

EMME's Video Editing Workstation features a dedicated function editing control panel. Keys are grouped by function into clusters, and the clusters logically arranged on the panel to maximize your efficiency and creative freedom. You'll find the most frequently used keys placed in a triangular pattern where you can easily locate and use them. Also included is a special Help key as part of the control panel to give you instant, on-screen information about specific functions as you need it.

A shuttle knob lets you manipulate the powerful edit decision list to select list management functions and control machine motion.

All functions that require a status display are highlighted with LED indicators on the keytops, so that as you scroll through the list, you are constantly kept informed of in-use status, right up to the current event.

**EMME 3000/3100** Includes three VTR interfaces, three longitudinal or vertical interval time code readers, rackmountable electronics chassis and interface chassis (E-Box with E-bus control module), rackmountable single 8" disk drive. Choice of either Video Workstation or Computer station (color coded keyboard), operator and technical/installation manual. . . . . \$24,950.00

**VMI VTR Interface Package For Parallel Or Serial VTRs.** Package includes P.C. and time code reader boards (longitudinal or vertical interval), 10' RS-422 cable (from main frame to interface), 50' control cable (from interface to VTR). VTR make and model number and time code cables must be supplied by customer. . . . . \$2,995.00

**AMI ATR (Audio) Interface Package For Parallel Or Serial ATRs.** Includes two P.C. boards, time code reader (longitudinal only), 10' RS-422 cable (from main frame to interface), 15' cable (from interface to ATR). ATR make and model and time code cables must be supplied by customer. . . . . \$4,750.00

# EECO INC./CONVERGENCE

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 TWX: 910-595-1550 Telex: 67-8420

# VIDEO EDITING SYSTEMS

## 200 Series Video Editing Systems

- **ActionMatch:** Calculates edit points to match action and sound anywhere within an edit segment. Audio-only or video-only inserts can be precisely matched to corresponding action or sound with joystick control and a single keystroke
- **Amber Status Monitor:** An amber status monitor is included with each 200 System
- **Auto Duration:** Utilizes the trim register to set the edit duration relative to either an in or an out point
- **Auto/Manual Assembly:** Provides for automatic editing of a sequence or an entire program following the instructions in the edit list. Manual Assembly calls up the next edit automatically but actual performance of the edit relies on the operator
- **AutoMatch:** Allows the operator to create matching source and record in edit points at any location within the previous edit. This automatically provides match frame edits for A/B rolls and effect transitions
- **Auto Scene Store:** In this mode a single keystroke snapshots scene location by time code and reel number. Up to 99 locations can be stored or listed
- **Automatic Dialogue Replacement:** ADR provides cue tones and a continuous audio record cycle for "looping" or post-dubbing of sound. It can also be used to replace video material
- **CleanIt:** CleanIt automatically cleans overlapped edits in the EDL one edit at a time during the off-line edit process. This program constantly checks the preceding edit to see if an overlap has occurred
- **Color Framing:** A Color Framing routine allows the edit system to monitor the color frame relationship for 1" VTRs based on time code
- **Control Track or SMPTE/EBU Time Code:** The editing system has the capability to operate in either control track or industry standard SMPTE/EBU drop frame or non-drop frame time code. The system also operates with any combination of control track or SMPTE/EBU time coded tapes
- **High Speed Search:** Allows the operator to program any tape time location (control track or SMPTE/EBU time code), and have the selected VTR search to that tape location
- **List Scroll:** Gives you joystick control to shuttle forward and backward through the edit list, including "cruise" for no-hands scrolling of EDL
- **Manual Bump:** Allows for small adjustments to rolling VTRs from the keyboard to achieve precise synchronization of multiple machines for syncroll
- **Programmable Personality:** Each model of VTR has an individual "personality" with regard to speed and response characteristics. Personality switches tell the system what specific VTRs are connected
- **Smart Start:** Learns the characteristics of the VTRs in the system and makes adjustments in the synchronization routines to accommodate variations in performance
- **Split Audio/Video Edits:** Can be programmed with independent selection of audio and video in edit points



## Conversion Kits

- CK-201/204** Upgrades the ECS-201 to the ECS-204. Includes a memory board and keycaps . . . . . \$10,800.00
- CK-202/204** Upgrades the ECS-202 to the ECS-204. Includes a memory board and keycaps . . . . . 6,480.00
- CK-203/204** Upgrades the ECS-203 to the ECS-204. Includes a memory board and keycaps . . . . . 5,400.00
- CK-204/205** Upgrades the ECS-204 to the ECS-205. Includes a memory board, keycaps, one VTR interface, an additional electronic control unit with rackmount kit, and time code reader channel . . . . 8,100.00

## Options and Accessories

- AVS-100** Audio Follow Video Switcher . . . . . \$1,200.00
- CG-100** Command Generator . . . . . 1,000.00
- CI** Character Insertor . . . . . 1,200.00
- ICC-100/5'** Interconnect cable for parallel I/O . . . . . 175.00
- ICC-100/20'** Interconnect cable for parallel I/O . . . . . 300.00
- IFP-100** Interface Package (Specify VTR manufacturer and model number intermixable formats available) . . . . . 1,000.00
- IFP-100/VSI** Serial VTR interface package, provides dual range joystick control. Time code is carried through VSI to 204X, 1205 or 1000 Series Edit Controller—no additional time code cables required. . . . 1,500.00
- JB-100** Junction Box . . . . . 200.00
- PIO-100** Parallel input/output . . . . . 175.00
- SE-100** Switcher Effects Unit . . . . . 7,000.00
- SWI-100/110** Switcher Interfaces includes JB-100 and appropriate cables; specify model/manufacturer of switcher to be interfaced . . . . . 2,000.00
- SWI-120** Switcher Interface includes JB-100 and appropriate cables; specify model/manufacturer of switcher to be interfaced . . . 3,000.00
- RMK-200E** Rackmount kit . . . . . 250.00
- PC-300** Software program for outboard edit list management . . . 1,000.00

## ECS-204X

A four VTR, advanced list management A/B roll edit controller with assignable record, three built-in time code readers, 1000 line edit memory, 409 list cleaning program, CleanIt, block moves, comments, sequential and checkerboard auto-assembly. Includes three VTR interfaces, electronic control unit with rackmount kit, monitor, the PC-300 list storage program, Operation and Maintenance Manuals. Fourth VTR interface and Time Code channel optional . . . . . \$19,000.00

## ECS-205

An eight VTR advanced list management A/B roll edit controller with four built-in time code readers (expandable to eight), with assignable record. Includes list management and assembly features of the 204.

Includes four VTR interfaces, two electronic control units, editing console, status monitor and operations/maintenance manuals. Additional VTR interfaces and time code channels optional, monitor, the PC-300 list storage program and Operation/Maintenance Manuals. . . . \$27,000.00



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# VIDEO EDIT CONTROLLER

## ECS 900 Plus Video Edit Controller

- A six serial VTR controller
- Any serially interfaced VTR may be assigned record functions from the 1000 keyboard
- Combinations of parallel and serial interfaces may be used
- Serial time code generator is standard with optional longitudinal time code reader
- The edit decision list can be transmitted in and out of the controller via dual RS-232 serial data streams to personal computers, independent disc drives, punched tape reader/generators and printers
- An edit list of 1000 lines may be stored internally
- List management includes pending and actual addition and deletion of edit events
- The controller may be fully interfaced to most major manufacturers' production switchers for A/B roll effects
- CleanIt...The dynamic edit list cleaning program that cleans lists as edits are performed
- TenCom...Set of ten general purpose interfaces, can trigger external digital video effects units, graphics generators, audio tape decks and external VTRs
- ActionMatch...Provides single keystroke backtiming that matches audio and video points for in-scene synchronization
- AutoMatch...For single keystroke matchframing
- AutoTag...For automatically extending events from a match frame point
- ListTag...For single keystroke matchframing to any point within previously recorded material
- SyncRoll Tag...Single keystroke re-synchronization among several source and record reels for edit-by-edit synchronized rolls
- Split Audio/Video Edits...A logical keystroke/joystick sequence that quickly establishes separate in-points for audio and for video
- 99-Frame Scene Store...A separate memory that can store 99 different time code locations by reel number, accessible via two-digit addresses. Locations can be entered "on the fly" as music beats, chord changes, scene changes, etc.
- Joystick VTR Control...All interfaced VTRs can be placed in high speed forward or reverse scan, play, jog and still-frame pause from the joystick
- ListScrol...The joystick can be used to scroll and cruise the edit list through a highlighted line in the edit decision list register
- Last and Next Edit Recall...One shifted keystroke pulls any edit in the highlighted line up to the edit register for modification, trimming and/or re-recording
- Five Preview Modes...VVV, VBV, BVB, Preview-In and Preview-Out
- Manual Bump...Up to four rolling VTRs can be manually synchronized—and locked into sync—for SyncRoll
- SyncRoll...Three sources and one record VTR can be rolled "in-sync" while cuts, wipes and dissolves are performed from the keyboard of the 1000. Each transition/event is automatically loaded into the edit list
- List Management Package...Features Add, Delete and Replace, with or without Ripple
- The PC-300 personal computer program...for outboard list storage and manipulation
- JoyScrol...A feature that locks the position of the edit list to the motion of a delegated VTR



ECS 900 Plus

- Sequential auto-assembly
- 409...An advanced stepthrough list cleaning program unique to Convergence edit-controllers
- Move...A feature that can literally edit the list by defining blocks of edits and copying—or deleting—them anywhere in the list, with or without Ripple
- Comments...Entry into the list from the keyboard of an MS DOS based personal computer (with the PC-300)
- Checkerboard auto-assembly
- User bits display
- Exchange register...used for alternating active edit events

## ECS 900 Plus

A complete high-end six serial VTR list management edit system with assignable record, 1000 line edit memory, list in and out, add, delete and replace with or without ripple, CleanIt and 409 list cleaning programs, block moves, comments, Joy-Scrol, sequential checkerboard auto-assembly. Includes three VTR VSI serial interfaces, one time code generator and Operations/Maintenance Manual. Three additional VSI serial interfaces and time code channels optional . . . . \$16,200.00  
**TCR-4 Internal time code reader, 3 channels . . . . \$3,500.00**  
**TCR-1 Time code reader expansion channel for existing TCR-4 . . . . \$300.00**

## Accessories

**Video Switcher Source cuts-only systems. Audio follow . . . . \$1,200.00**  
**CI Character Inserter Inserts time code digits into video being recorded, providing "window dubs" . . . . \$1,200.00**  
**ICC-100/5' Interconnect cable for Parallel I/O . . . . \$175.00**  
**ICC-100/20' Interconnect cable for Parallel I/O . . . . \$300.00**  
**IFF-100 Interface Package Specify VTR manufacturer and model number (1", 3/4", 1/2") . . . . \$1,000.00**  
**JB-100 Junction Box Required for multiple connections to Parallel I/O. . . . \$200.00**  
**PC-300 Personal computer software program (MS, DOS, IBM compatible) . . . . \$1,000.00**  
**SE-100 Switcher Effects Unit Audio follow video switcher with 23 wipe patterns, dissolves. . . . \$7,000.00**  
**SWI-100/110 Switcher Interfaces Includes JB-100 and appropriate cables; specify model/manufacturer or switcher to be interfaced . . . . \$2,000.00**  
**SWI-120 Switcher Interface Includes JB-100 and appropriate cables; specify model of switcher to be interfaced. . \$3,000.00**



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# VIDEO EDIT CONTROLLERS

## ECS 195 Series Editing Systems

A powerful, low cost A/B roll video edit-controller. Standard features include the ability to mix tape formats, including 1", exclusive tag features simplify backtiming for match frame edits and matching video to narration; scene store for quick storage and retrieval of key scenes; and an internal 50 edit line memory that is expandable to 200 lines.

The basic system may be expanded to include three time code readers and one generator, and a list management package with sequential auto-assembly.

### ECS 195, Basic System

**ECS 195LM with a list management package and sequential auto-assembly, three time code readers, one generator**

#### The Console

- Joystick • Cruise • SMPTE time code or control track
- High speed search • Manual bump

#### Edit Entry

- Switcher effects and notation • Split audio/video edits

#### Auto Edit Cycle

- Preview modes • Allstop • Replay • Status display generator • Dual Serial EDL ports • TwoCom • Color framed time code generator on the 195LM

#### Tags

- AutoTag • AutoMatch® • Scene store and recall
- Syncroll • Manual bump

#### List Search

- JoyScrol® on the 195LM • ListScrol®

#### List Management

- Internal memory 50 edit line memory storage is standard on the 195; 200 edit lines are included in the 195LM
- Add, delete or replace edits with or without ripple in the 195LM • Pending clean • CleanIt® • Format selection
- Reel-numbers • Edit numbers • Recall edits • Renumbering

#### Auto Assembly

- Auto assembly provides for automatic editing of a sequence or an entire program, following the instructions in the edit list • Manual assembly calls up the next edit automatically, but actual performance of each edit list is initiated by the operator allowing for modifications or adjustments • Auto and manual assembly are available on the 195LM

#### Other Features

- Audio monitoring • Three channel audio insert selection • Trim function • Auto duration • Automatic dialog replacement

#### Engineering Notes

- Assemble/Insert • Time code with offset • Switcher/Mixer control • VTR interfaces • Color framing • Multiple or single monitor • Smart start • Programmable personality • Preroll/Postroll time select



**ECS-195 A/B Roll, Three VTR Controller with 50 event memory, tag features, edit list in and out, add, delete and CleanIt. Includes three parallel VTR interfaces**

.....\$10,505.00

**ECS-195 Plus** includes all features of the ECS-195 in addition to: internal time code readers and one generator. Complete list management package including add, delete and replace with or without ripple, JoyScrol (list slaved to VTR motion), 450 event edit memory, sequential auto-assembly and Operation/Maintenance Manual .....

\$15,000.00

#### Conversion Kits

**LM Option A** Upgrades earlier 195TCRG to ECS-195LM. Adds list management package with Ripple, JoyScrol 200 event memory and sequential auto-assembly

.....\$2,200.00

**LM Option B** Upgrades basic 195 to ECS-195LM. Adds three time code readers and one generator, list management package with Ripple, JoyScrol and sequential auto-assembly .....

\$6,000.00

**LM Option C** Upgrades the ECS-195LM to the ECS-195 Plus if the unit was purchased after January 1, 1987 .....

\$2,200.00

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# EDITING SYSTEMS

## IVES® II Desktop Postproduction Editing System

In its standard configuration, the IVES II can easily handle all editing and machine control functions for a typical 2-VTR editing bay without additional peripheral equipment. And when expanded through the addition of its A/B option, your IVES II increases its power even more, giving you full A/B roll and separate Special Effects Generator (SEG) control in one package.

- SMPTE/EBU time code or control track editing, so you can edit whichever way you find more comfortable. And to safeguard your efforts, the system will automatically switch to control track pulses should the time code source be interrupted
- An internal routing switcher that automatically routes all your video, audio and time code inputs based on your selections. No recabling is necessary
- Dedicated Mark/Set keys that let you easily mark in and out edit points on-the-fly or set them numerically
- Back-to-back matched edits that are as precise as possible because the system automatically matches last out points with next in points for both video and audio
- Programmable general purpose interface (GPI) relay closure that can trigger auxiliary equipment at any time before or during an edit
- Video and audio fade control that allows you to program video and audio fades directly from the keyboard, for durations of 1 to 9 seconds
- Scene-thru and replay, the IVES II's unique commands that let you replay any sequence of edits or just the last edit performed
- A rapid go-to search that lets you find any scene location, including last in and last out points, within seconds
- A print command that generates an edit decision list (EDL) of your edits in CRT display or industry standard edit list formats
- Preview out, a time-saving command that permits you to preview and fine tune your edit out point without having to preview the entire edit
- Aux video input that allows you to conveniently insert camera or title video into your production
- The ability to insert IVES II color black as a video source
- Copy source or master tapes for workprints or backup copies. IVES II's one-button Copy command automatically rewinds both VTRs to the beginning, then quickly makes a direct copy from the play VTR to the record VTR, or vice versa. While copying, you can add time code to just the copy or to both tapes if you need two tapes that have identical time code. This is especially helpful for A/B editing situations. And because all video, audio and time code signal routing is performed automatically, no cable repatching is required
- Stripe the play and/or record tapes with continuous SMPTE/EBU time code, control track pulses and video color-black. All at the touch of single-button controls. And possible because the IVES II includes its own sync and video color-black generators and dual time code generator/readers. So you won't need additional time code equipment, either in the field or in the postproduction room
- Print out rough cut edit lists in CRT or industry standard EDL formats, so you can review important scenes and possible edit points without actually performing the edit
- Mix audio directly onto your edited master tape. Add background music, sound effects and voice-overs, complete with fades and adjustments of the mix ratio from front panel or auxiliary audio line inputs. A 3W amplifier is included so you can monitor audio from either VTR
- Change from one tape format to another quickly and easily, allowing you to move from 1/2" to 3/4", 3/4" to 1", etc., with remarkable speed

**IVES II Single Source, Cuts-Only Edit-Controller.** Includes two VTR interfaces, two built-in time code readers and generators, internal sync and black generators, programmable fades to and from black, audio mixer, non-volatile memory, operators manual. System is expandable to include second source VTR for A/B roll effects . . . . . \$5,350.00



IVES II



IVES Pro

## IVES® Pro A/B Roll Editing System

Three VTR Edit Controller with Remote Rackmountable Electronics and Detached Keyboard.

- Ability to intermix 1/2", 3/4", 1" formats
- Self-contained SMPTE/EBU time code generator/readers
- RS-232 serial port
- Parallel output to printer
- Pre-stripe capability with color-black and time code
- Programmable fade to and from color-black
- Audio mixer with programmable fade
- Automatic dubbing of source material and edited master
- Internal sync and color-black generators with outputs
- Split audio/video edits
- Auto assembly from external source
- Learn mode—repeats series of keystrokes
- E-E preview for setting audio/video record levels
- Ability to edit with drop/non-drop time code formats
- Non-volatile memory for edit and function data storage

**IVES PRO A/B Roll, Three VTR Edit-Controller** with remote rackmountable electronics, auto-assembly from external source, three VTR interfaces, three built-in time code readers and two generators, internal sync and black generators . . . . . \$7,950.00



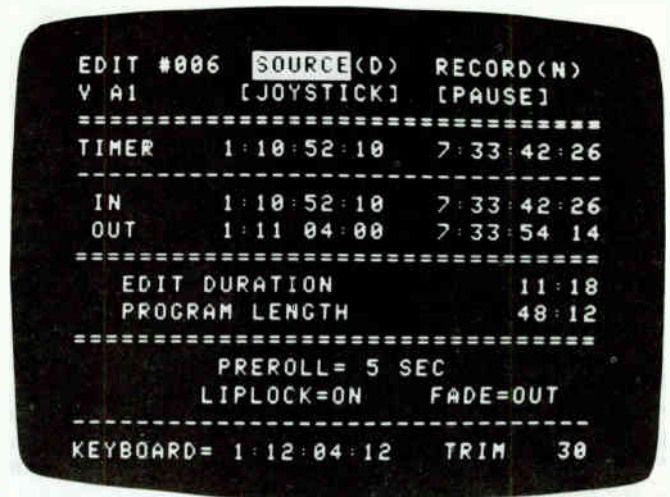
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# EDIT CONTROL SYSTEM



Super 90



## Super 90 Edit Control System

- Plugs into most 3/4" and 1/2" VTRs
- Joystick control of tape speed
- Pulse Scan
- Interchangeable VTR formats
- High speed search
- Cruise
- Full VTR remote control
- Auto-tag
- Recall feature
- Built-in sync generator
- On-board computer
- Dynamic Edits
- Mark, set and trim in/out edit points
- Programmable pre- and post-rolls
- Insert or assemble edits
- Independent control of audio and video channels
- Control track or SMPTE/EBU time code
- Abort capability
- Status display generator
- Fastest edit controller available

The Super 90 is a low cost microprocessor-based editing system designed to bring sophisticated joystick editing within the budget of every videotape producer. It is a plug-in system that provides variable speed tape motion control with most 3/4" and 1/2" editing VTRs.

The multi-format Super 90 is particularly suitable for high speed ENG (electronic news gathering), EJ (electronic journalism), remote production vans, educational and industrial productions, broadcast productions requiring a single source, and as an off-line system for commercial post production.

The Super 90 can be used for single or dual monitor editing, remote VTR rolls, back-timed edits, animation and manual edit listing. The Super 90 operates on control track or industry standard SMPTE/EBU time code, and is available in NTSC or PAL versions.

The Super 90 is human-engineered for ease of operation and is the fastest editor available in the industry. The dedicated twelve-button keyboard permits quick initiation of edit functions and communication with the editor and its options, Liplock® audio pitch control, and Blade™ black/fade module.

**Super 90 Single Source, Cuts-Only Edit Controller**  
 Includes two time code readers and one generator, all built-in. RS-232 edit list out capability, two VTR interfaces, one each operator and maintenance manual.

Super 90 . . . . . \$4950.00

## Accessories

### CI Character Inserter

Inserts or displays time code digits into video. Provides "window dubs." . . . . . \$1200.00

### BL-90 Blade Black Generator And Fade Module

Fades up from and/or down to black at in or out edit points. Includes internal black burst generator for prerecording color black on video tapes. (Fades NTSC and PAL, Black Burst Generator NTSC only.) . . . . \$925.00

### CCA-90 Control Cable Assembly

Interfaces VTR to 90 Series Edit Controller. Specify VTR manufacturer and model number . . . . . \$650.00

### RGL-90 Time Code Reader/Generator/Listener Module

Installed in a ECS-90 it will generate and read drop and non drop frame SMPTE or EBU time code. Lists edit decisions via RS-232 serial port to storage devices . . . . \$3250.00

## Manuals

ECS-90/Super 90 Operators . . . . . \$25.00  
 ECS-90/Super 90 Installation and Maintenance . . 50.00



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# TIME CODE EQUIPMENT

## ECONOLINE® TIME CODE GENERATOR AND READER PERIPHERALS

### Time Code Generators

#### MTG-55 Master Time Code Generator

- Rackmount package • Thumbwheel switches for data entry
- Color frame sync capability • Front panel controls for stop, start, load, and drop frame • Output 0dBm, 600 ohm, balanced

MTG-55 . . . . . \$1350.00

#### PTG-56 Portable Time Code Generator/Reader

- Miniature handheld package • Weighs 0.55 lbs. • 1/16 to 30 times play speed reading range • Slave (jam-sync) capability
- Full membrane keypad for data entry and control • Custom LCD • Remote start, stop capability

PTG-56 . . . . . \$1995.00

#### MTG-57 Master Time Code Generator/Reader

- Small desktop package • Weighs 2.9 lbs. • 1/16 to 30 times play speed reading range • Slave (jam-sync) capability • 0.3" red LED • Keypad for data entry and control with audible fault alarm • 117VAC, 60Hz, 3W max.

MTG-57 . . . . . \$1795.00

### Time Code Readers

#### TCR-65 Time Code Reader

- Rackmount package • 1/20 to 20 times play speed reading range • 0.4" red LED • Updates from tach pulses during code dropouts • Front panel controls for time code level and display hold • 117VAC, 60Hz, 4W max.

TCR-65 . . . . . \$1350.00

#### TCR-66 Mini Time Code Reader

- Miniature desktop package • Weighs 0.55 lbs. • 1/16 to 30 times play speed reading range plus user bits • 0.3" red LED indicators for drop-frame and user bit operation • Front panel controls for display hold, frame blanking, and user bit operation • Operates from 7-16VDC or furnished AC adaptor

TCR-66 . . . . . \$1295.00

#### TCR-67 Time Code Reader

- Small desktop package • Weighs 2.9 lbs. • 1/16 to 30 times play speed reading range plus user bits • 0.5" green LED • LED indicators for drop-frame and user bit operation • Front panel controls for display hold, frame blanking, and user bit operation • 117VAC, 60Hz, 3W max.

TCR-67 . . . . . \$1495.00

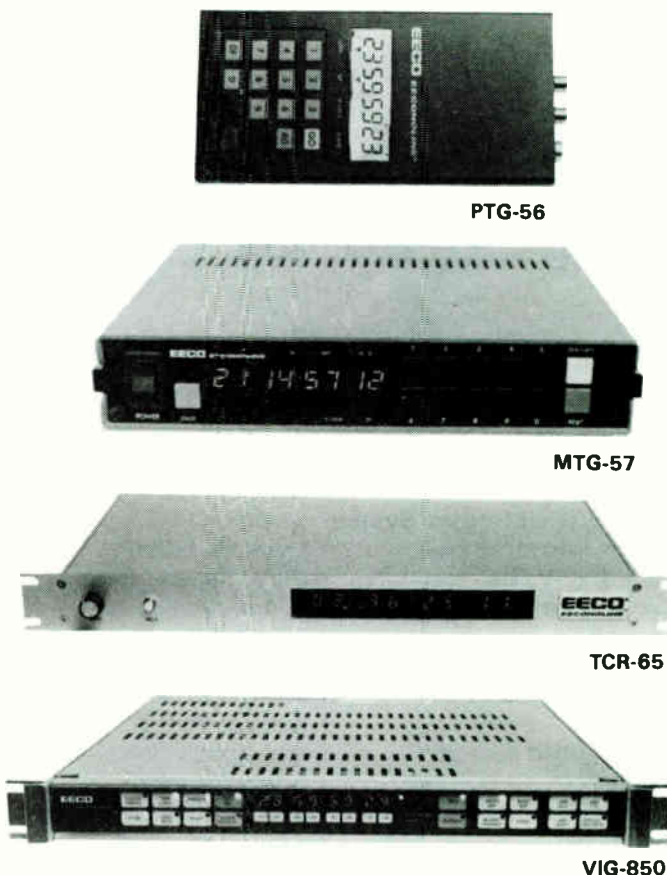
### Time Code Reader/Inserters

Each unit can read drop or non-drop time codes and provides controls to adjust character size and screen position.

#### VCG-75 Video Character Generator

- Compact rackmount package • 1/20 to 20 times play speed reading range • Front panel controls for time code level, size, position, brightness, insert on/off, and display hold • 117VAC, 60Hz, 3W max.

VCG-75 . . . . . \$1350.00



PTG-56

MTG-57

TCR-65

VIG-850

#### VCG-76 Portable Time Code Reader/Inserter

- Miniature handheld package • Weighs 0.6 lbs. • 1/16 to 30 times play speed reading range plus user bits • Controls for background mask in/out, time code/user bit, frame blanking, and insert on/off • Operates from 10-18VDC or furnished AC adaptor

VCG-76 . . . . . \$1595.00

#### VCG-77 Time Code Reader/Inserter

- Small desktop package • Weighs 2.9 lbs. • 1/16 to 30 times play speed reading range plus user bits • Front panel controls for background mask, in/out, time code user bit, frame blanking, on/off, display hold • 117VAC, 60Hz, 3W max.

VCG-77 . . . . . \$1795.00

#### VIG-850 Premium Multi-Format

##### Time Code Generator/Reader

- Compact, rackmount package • Generates longitudinal and VITC time code • Reads and displays longitudinal and VITC time code • Generates slaved time code from 10 commandable generator slave modes • Compatible with NTSC and PAL/SECAM video standards • Built-in broadcast quality VITC video inserter • Drop and non-drop frame • Generates, reads, and displays user bits • 105-125VAC, 47-30Hz, 30W max.

VIG-850 . . . . . \$5490.00

# EIGEN

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## 1600 Series

### High Resolution Video Disc Recorders

- PTCA
- Image Freeze
- Cerebral Angiography
- Forward/Reverse Slow Motion

Convenient and flexible, the 1600 Series Disc Recorders provide high resolution images at any speed between real time and still, in either direction. When used in procedures such as PTCA or Angioplasty, recorded images can be easily reviewed, and an optimum choice made. The selected image can then be held in a still display, providing a reference or guiding shot which can be "toggled" with live fluoro. High resolution video preserves detail and quality.

The 1600 Series Video Disc Recorders provide real time (60 TV fields/sec.) recording, from 8.3 to 20 seconds duration, depending on the model. Video replay can be real time, slow motion, field by field, or a single "frozen" image. Playback can also be in either forward or reverse directions.

Video is recorded on a flexible, high density, coated mylar disc on which the video heads "float". The use of two heads, each with individual stepper mechanisms, allows one head to stabilize, while the second may be recording and/or playing. The combination of flexible recording media and floating heads makes the 1600 Series virtually crashproof, and capable of displaying high resolution video images over long periods of time. Television line rates from 525 to 1249 can be accommodated.

### Analog Video Disc Recorder Packages

Packages include real time Video Disc Recorder with remote control, 25' of control cable, 5-pack of recording cassettes, head cleaning cassette: tabletop or rack-mount chassis, cine camera interface to eliminate VDR flicker. (Any recorder below can be ordered to operate from 525 up to 1249 line rate.)

<b>16-10</b>	6MHz high resolution recorder. 600 fields, 10 second real time record capacity . . . \$22,000.00
<b>16-10/10</b>	10MHz maximum resolution recorder. 500 fields, 8.3 second real time record capacity . . . . .26,000.00
<b>16-20</b>	6MHz high resolution recorder. Two chassis store 1200 fields, 20 second real time capacity . . . . .34,000.00
<b>Dual System 10</b>	Two 10 second 6MHz high resolution recorders with one remote control for simultaneous dual operation. Each recorder has a 600 field capacity . . . . .41,500.00
<b>Dual System 10/10</b>	Two 8.3 second 10MHz maximum resolution recorders with one remote control for simultaneous dual operation. Each recorder has a 500 field capacity . . . . .49,500.00
	Extra recording cassettes for above units, 5 pack. . . . .600.00
<b>16-20/10</b>	10MHz maximum resolution recorder. Two chassis store 1000 fields, 16 second real time recording capacity . . . . .38,000.00

# VIDEO DISC RECORDERS



1600 Series

## Specifications

### General

**Power:** 105-120/220-240VAC, 50/60Hz  
**Consumption:** 16-10, 16-10/10: 350W; 16-20: 650W

### Video

**Input/Output Level:** 1.0V p-p, 75 ohms  
**Bandwidth:** 16-10, 16-20: 6.0MHz, -3dB; 16-10/10: 10.0MHz  
**S/N Ratio:** 16-10, 16-20: 43dB; 16-10/10: 40dB  
**Differential Gain:** 2-4%  
**Horizontal Scan:** 2:1 interlaced, line rates to 1249  
**Dimensions**  
16-10, 16-10/10: 8.75" x 16.5" x 22.75"  
16-20: 17.75" x 16.5" x 22.75"  
**Weight:**  
16-10, 16-10/10: 55 lbs.  
16-20: 150 lbs.

### Video Storage

**Disc Type:** Coated Mylar  
**Recording Format:** One Image/Track  
16-10: 600 fields  
16-20: 1200 fields  
16-10/10: 500 fields  
**Disc Rotation:** 3600 RPM (3000 RPM 50Hz systems)  
**Track Step Rate:** Single up to 60/sec.  
**Slew Rate:** 3 frames real time, 180/sec.  
**Time Base Stability:** 50ns line/line, 3µs long term

### Controls and Displays

**Speed Control:** Varies record or playback from real time to 1 field every 3 seconds  
**Fast Q:** Fast sequential access to any of 12 disc sectors  
**Latch On/Off:** Latches FWD, REV or RECORD buttons  
**Time Lapse:** Real time record/play, or at rate selected by the speed control  
**Cue:** Automatically stops record/play at 000 counter display  
**Field/Frame:** Interlaced (frame) or single field play  
**Jog:** Forward or reverse single image playback  
**FWD/REV:** Moves to next track forward or reverse in play. Provides continuous playback when latched  
**Record:** Records one field/frame with each activation. Can be latched to provide continuous (loop) recording  
**Counter:** Displays image track number on disc

# EIGEN

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## FREEZE FRAME

### HR-1000

#### High Resolution Freeze Frame

- High resolution 1024 x 1024 x 8-bit memory
- Unlimited "freeze" duration
- Single/dual monitor operation
- Memory provides 2 or 4 separate images
- Digital test pattern
- Full remote control
- Simultaneous dual display
- Optional dual inputs
- 16MHz video bandwidth
- 525, 625, 1023, 1049 or 1225 line rates

#### System

The HR-1000 is a flexible and high performance digital memory system, optimized for medical procedures demanding artifact-free reference images. A video system bandwidth of 16MHz, together with a 40MHz digitizing clock rate, provides a 1024 x 1024 x 8-bit memory matrix, with a 256 level gray scale. The memory architecture is structured so that two different images may be stored and displayed selectively or simultaneously. The HR-1000B version, containing an optional second video input, enables two separate and unrelated images to be stored in memory. A full function remote control makes the HR-1000 simple to operate and easy to integrate with new and existing systems.

#### Snapshot, HLI, and Multistandard Operation

A number of selectable preset modes and functions are provided in the HR-1000, enabling it to be optimized for a variety of tasks. Television system line scan rates of 525, 625, 1023, 1049 or 1225 are DIP switch selectable.

The HR-1000 may also be set up for a number of different operational conditions. The "Snapshot" mode allows a specific field to be captured. Using a field accurate switch selectable delay sequence, the HR-1000 will count the desired number of fields from the strobe or trigger pulse, before capturing the snapshot image. The delay allows the generator to achieve full power and thus provide the best image for capture. The field-count sequence also ensures that the ideal field is always recorded, eliminating the need for operator judgement.

In the circumstance where the last in a series of observed images is required, a switch selectable mode provides a "Hold Last Image" manual record command. This mode provides a convenient and easy method of viewing an event progression, and capturing the last and ideal image for a particular procedure.



#### Still Image Record

As well as recording images from a standard VTR playback, the HR-1000 is also able to capture an image held in a "still" VTR display. This enables a "still" image to be transferred to the HR-1000, freeing the VTR for continued recording. Since HR-1000 images are held in a solid-state store, they may be displayed indefinitely, and the VTR is not forced into extended "still" operation.

#### Cine Fill

The HR-1000C is a convenient source of high resolution images in a "cine fill" application. The last image in memory is used as a "fill" image until the next new image is pulsed. In this manner, the unacceptable flicker, which is caused by pulsing the cine at less than television rate, is eliminated. The 1024 x 1024 high resolution HR-1000C output maintains excellent image quality, and subsequent devices in the television chain receive a standard rate signal. The HR-1000C automatically goes to "bypass" when the cine ceases.

#### Test Patterns

Accurate alignment of the video channel is critical in high performance display systems. To allow system calibration to be checked quickly and accurately, the HR-1000 provides digitally derived standard test pattern outputs. The pattern is selected to provide the most critical evaluation of monitor and hard copy outputs, and to help ensure that a "standard" condition can be established and maintained.

At initial power "on", the HR-1000 displays the "contrast" test pattern, allowing a rapid assessment of system alignment to be performed before use. Additional patterns may be cycled from the remote control, with pattern contents such that display alignment can be done without external test equipment.



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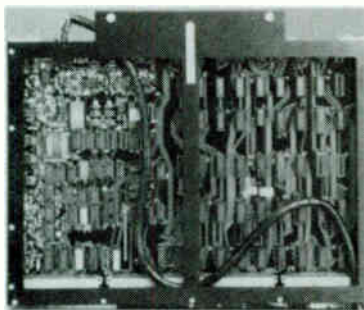
# FREEZE FRAME

## HR-1000 (Cont'd)

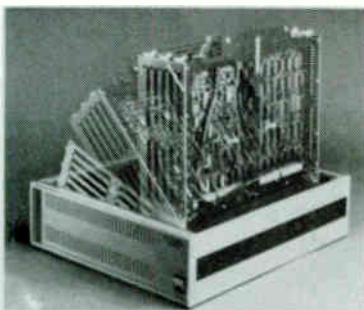
### Progressive Scan

The vertical resolution of a television channel can be doubled by progressive (non-interlaced), rather than interlaced scanning. The progressive technique takes a full  $1/30^{\text{th}}$  of a second to scan the camera pickup tube. A digital scan converter changes the progressive scan to a standard interlaced format; RS-170/RS-343 (525, 1023, or 1049 line), so that VTRs, monitors and other subsequent devices in the television channel "see" a standard video signal.

Since the progressive scan converter immediately follows the television camera in the system, all images are limited by the resolution of the converter. The full 16MHz resolution provided by the HR-1000 optimizes the conversion process for 525, 1023 and 1049 systems.



Ruggedly Engineered



Accessible and Serviceable

## High Resolution Digital Frame Stores

- HR-1000** 16MHz high resolution cardio-freeze. Stores two high resolution TV images on 1024 x 1024 x 8-bit memory. Remote control standard. Single video input and dual video outputs plus multiformat camera output. Switchable TV line rates (525 or 1023/1049) . . . . . \$19,500.00
- HR-1000B** Dual video inputs and outputs (simultaneous AP and LAT views). 16MHz high resolution cardio-freeze. Stores two high resolution TV images in 1024 x 1024 x 8-bit digital memory. Remote control standard. Switchable TV line rates (525 or 1023/1049) . . . . . \$21,000.00
- HR-1000C** 16MHz high resolution cine-fill device. Eliminates flicker caused by operating camera system at less than 60 images/sec. Switchable TV line rates (525 or 1023/1049) . . . . . \$18,500.00
- HR-1000D** Combines the features of the HR-1000 and HR-1000C cine-fill. 16MHz high resolution cardio-freeze stores two high resolution images in 1024 x 1024 x 8-bit digital memory. Eliminates flicker caused by operating camera at fewer than 60 images/sec. Remote control and switchable line rates. (525 to 1023/1049) standard . . . . . \$26,000.00
- Expanded memory for HR-1000 and HR-1000B. Allows two extra high resolution images to be stored internally for a total of four. . \$5,000.00
  - Optional video switcher for HR-1000B. Automatically switches Live or Frozen images from a bi-plane system between two monitors. Saves the cost of buying two additional monitors for frozen images. (Cannot be used with expanded memory) . . . . . \$4,500.00
  - Progressive Scan option for HR-1000 (requires specific OEM interface) . . . . . \$5,000.00

## Specifications

### General

- Power:** 104-132/191-242VAC, 50/60Hz  
**Consumption:** 225W  
**Temperature:** 40°F to 104°F  
**Humidity:** 10 to 90% RH, non-condensing  
**Dimensions/Weight**  
**Chassis:** 5.25" H x 17" W x 20" D, 30 lbs.  
**Remote:** 2.95" H x 6.73" W x 4.76" D, 2.0 lbs.

### Video

- Input:** 1.0V p-p at 75 ohms, RS-170/343/CCIR compatible  
**Output:** 1.0V p-p at 75 ohms, RS-170/343/CCIR compatible  
**Bandwidth:** DC to 16.0MHz, -3dB  
**Memory:** 1024 x 1024 x 8-bit. Memory architecture permits access to two (2) 1024 x 512 fields. (Optional 1024 x 1024 memory available.)  
**Clock Rate:** 40.0Hz  
**S/N Ratio:** 51dB p-p video to RMS noise

### Controls

- Mainframe:** Power On/Off  
**Remote:** Memory Select, Live, Image 1 and 2, Record, Memory A or B (optional). Remote Controls for specific or custom applications are available. lease contact the factory for additional information. System pre-sets by internal DIP switches

### Connectors

- Video Input:** HR-1000 one (1) BNC; HR-1000B, two (2) BNC  
**Video Output:** Three (3) BNC; Video 1, Video 2, MFC  
**Remote Control:** 37-pin, D connector  
**External Interface:** 25-pin, D connector  
**Power:** 3-pin, AC connector

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## DIGITAL IMAGE PROCESSOR



Fluoro 100

### Fluoro 100 Digital Image Processor For Surgical C-Arms

- Continuous digital window/level function
- 100 field or 50 frame Winchester disk storage
- Dual AP/LAT image outputs
- 4-stage selectable noise reduction
- Hold last image, digital snapshot and compare modes
- Hard copy (MFC) output of either image
- 2 images per second transfer to disk
- Keyboard for patient data on CRT, disk, hard copy
- Full function handheld remote control
- Built-in digital test patterns and histogram

#### Better Usage

Remote handheld control eliminates the need for operation outside a sterile environment. Allows surgeon to work with greater control and confidence.

TV screen display places vital information where the surgical team can see it. This information includes elapsed fluoro time, image number, noise reduction setting, and system status messages.

100-image storage on Winchester disk permits surgeon to routinely store all images for later selection to multi-format camera.

Radiation dose reduction is possible with hold last image and digital snapshot modes. Evaluation of frozen fluoroscopic images can be made without continuous exposure to the patient or operator.

Dual video output allows simultaneous AP and lateral views on two separate monitors.

#### Better Documentation

Keyboard option allows better documentation. Patient name, identification, date, and hospital are permanently annotated on the digital recording, displayed on the screen and transferred with image to Winchester disk. Information is entered once on standard typewriter layout, and becomes part of all images for each patient—convenient when case loads are heavy.

#### Better Imaging

Continuous window/level option allows user to adjust gray scale of digitized image to enhance a specific area of interest on screen similar to CT scanner controls. Improves hard-to-image lateral spine views.

Selective noise reduction improves image quality. Useful life of older, noisier image systems can be extended. Signal-to-noise improvements of 4 to 14dB are possible.

Subtraction (with log amp) option provides improved imaging techniques. A stored "mask" enables faster, more accurate placement of catheters, guide-wires, chymopapain needles, implants, and prosthetic devices.

#### Multi-Format Camera Printing

MFC video output from Fluoro 100 is dedicated for hard copy of either AP or lateral views without recabling.

Continuous window/level adjustment of gray scale enhances hard-to-image views for output, eliminating timely MF camera corrections. A reset button automatically brings the Fluoro 100 back to standard linear setting.

Built-in test patterns stored on the Fluoro 100 provide reliable, digital patterns for adjusting monitor and camera to linearity.

Keyboard option transfers patient name, identification, and date to hard copy output, providing foolproof documentation for patient records.

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# DIGITAL IMAGE PROCESSOR

## Fluoro 100 (Cont'd)



### The Fluoro 100 Offers Better Installation And Maintenance Programs

The key to better images is superior installation and maintenance programs to accepted standards. The Fluoro 100 is especially helpful to technicians, engineers, and installers in meeting these standards.

The installation engineer can customize the system for each hospital by selecting internal DIP switch settings governing field or frame recording, power-up settings for noise reduction, record, and save modes, and use of the fluoro timer.

With one switch and a plastic overlay on the handheld remote panel to redefine button functions, the Fluoro 100 becomes a service, calibration, and system trouble-shooting center, allowing:

- Access to 5 built-in test patterns to align, calibrate, and trouble-shoot the system. For example, a regular alignment of a multi-format camera will use the patterns
- Access to a built-in histogram function, used as a means to evaluate system performance over time
- Reformat of the Winchester disk, excluding patterns, right in the hospital
- Systematic checking of the Winchester to ignore bad sectors, and using hidden spare tracks to maintain 100-image storage
- Positioning of the recording heads electronically to a safe track on the disk for shipping or traumatic movement within the hospital

The Fluoro 100 is interfaceable to all major C-Arm manufacturers.

### Specifications

#### General

**Power:** 105-120/210-240VAC, 50/60Hz  
**Consumption:** 300W  
**Temperature:** 40°F to 104°F  
**Humidity:** 10 to 90% RH, non-condensing  
**Dimensions/Weight**  
**Chassis:** 7.0" H x 17.0" W x 20.0" D, 50 lbs.  
**Remote:** 1.25" H x 3.5" W x 5.75" D, 2.5 lbs.  
**Keyboard:** 1.75" H x 13.75" W x 7.5" D, 2.5 lbs.

#### Video

**Input/Output:** 1.0V p-p, 75 ohms, RS-170/CCIR compatible  
**Bandwidth:** DC to 4.0MHz, -3dB  
**Memory:** 512 x 512 x 8-bit  
**Clock Rate:** 10.0MHz  
**S/N Ratio:** 54dB p-p video to RMS noise  
**Image Storage:** Solid-state 2 fields or frames  
 Winchester 100 fields or 50 frames

**Image Transfer Time:** 1 frame in 0.75 sec. from memory  
 2 fields/sec. Burst mode  
**Winchester:** 5.25"

#### Controls

**Chassis:** Power On/Off  
**Remote:** Hold Last Image (HLI); Digital Snapshot (DS), and compare (COMP) mode select. Monitor A/B, Noise Reduction, Timer, Disk REV/FWD, Keep (image), Window Up/Down, Level Up/Down, Reset, Invert, and Mask/Subtract  
**Keyboard:** Standard typewriter format for data input

**Service Controls:** A remote overlay and service port J6 provide access to 5 test patterns, including 50% APL (flat field), Crosshatch, Contrast/Resolution, Gray Scale, and Multiburst. Controls are provided for Recall Test Pattern, Record, Histogram, Format Winchester, and Park Heads

#### Connectors

**Video Input:** BNC (1)  
**Video Output:** BNC (3); Image A and B, Multi-format Camera  
**Keyboard:** D-25  
**Interface:** D-25  
**Test:** D-37  
**Remote:** D-37  
**Power:** 3-pin, AC connector

#### Fluoro 100

Image processor for mobile C-Arms. Full remote control includes Hold Last Image, Digital Snapshot, and Compare modes. Stores 2 fields or frames in dual 512 x 512 x 8-bit digital memories. System status and elapsed fluoro time is displayed on monitors. Dual outputs for AP/LAT viewing, plus special MF camera output. Winchester disk stores 100 TV fields (50 frames). Includes 4 stage noise reduction, continuous digital window/level, image invert, real time subtraction (with log). Keyboard for placing patient name, ID, date, and doctor's name on screen, disk, or hard copy film, includes 5 built-in test patterns and imaging histogram for TV and MF camera alignment. . . . . \$14,750.00

#### Fluoro 100E

Includes all features of Fluoro 100 Plus: Enhancement package which provides 1-button enhancing of hard-to-image body parts. Compare mode replaced by BURST mode, allowing rapid, successive images to be recorded/recalled on disk at 2 images/sec. . . . . \$17,850.00



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# DIGITAL FRAME STORE

## Floro-Stor 1 Digital Frame Store

- 2 separate field images in digital memory, recalled by front panel controls
- Images are automatically enhanced with built-in noise reduction
- 512 x 512 x 8-bit digital memory, giving 256 level gray scale
- Complete with interface box for easy installation via footswitch to any R/F or Specials room
- Automatically holds last fluoro image on footswitch release
- For use in R/F and specials rooms, to speed up needle and catheter positioning, and to examine images without additional radiation

The Floro-Stor 1 is a valuable aid during many interventional and surgical procedures requiring accurate positioning, such as:

- Cervical myelograms
- Biopsies
- Chymopapain
- Pacemaker implants
- Catheter placement for digital studies (carotids, etc.)

With the aid of the Floro-Stor 1, live fluoro is used more sparingly. On footswitch release, the last fluoro image is held on the screen from the Floro-Stor 1 digital memory, allowing time for full examination without radiation. The screen will revert to live fluoro on footswitch control until footswitch release again freezes the last fluoro image on the screen.

The Floro-Stor 1 digital frame store is a high performance, flexible, and economical field or frame storage system, suitable for a wide range of applications. Fully solid-state, it allows delicate and critical procedures to be more accurately monitored without increasing fluoro exposure. Stored images may be displayed for an unlimited time, and hard copy film can be output if necessary.

Only 3 1/2" high, the Floro-Stor 1 is compact enough to fit any standard monitor cart.



## Specifications

### General

Power:	105-120/210-240VAC, 50/60Hz
Consumption:	70W
Temperature:	40°F to 104°F
Humidity:	10 to 90% RH, non-condensing
Dimensions:	3.5" H x 17.0" W x 19.0" D
Weight:	20 lbs.

### Video

Input:	1.0V p-p, 75 ohms, RS-170/CCIR compatible
Output:	1.0V p-p at 75 ohms, RS-170/CCIR compatible
Bandwidth:	DC to 4.0MHz, -3dB
Memory:	512 x 512 x 8-bit
Clock Rate:	10.3MHz
S/N Ratio:	54dB p-p video to RMS noise

### Controls

Chassis:	Power On/Off, image 1, 2, both, and noise reduction (On/Off)
Remote:	Footswitch (supplied with Floro-Stor 1)

### Connectors

Video Input:	BNC
Video Output:	BNC (optional second memory video output)
Remote Control:	25-pin, D connector
Power:	3-pin, AC connector

FS-1	Floro-Stor, 512 x 512 x 8-bit digital memory with noise reduction for R/F rooms. Stores 1 TV frame (2 fields). Footswitch interface kit simplifies room installation . . . . . \$9,950.00
FS-1 (Dual)	Dual Image Floro-Stor, 8-bit digital memory with noise reduction. Stores 2 TV frames (4 fields). Footswitch interface kit simplifies installation . . . . . \$12,000.00

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## DSR-4 Series Digital Frame Stores

- Surgical C-Arm
- Pacemaker implants
- R/F applications

### DSR-4 FEATURES

Control Choices	DSR-4A	DSR-4C	DSR-4D	DSR-4E
<b>HLI-Hold Last Image</b> During live fluoro, the image is viewed directly. When the footswitch is released, the last image is displayed on the monitor. (This may be used in conjunction with the noise reduction).	■	■	■	■
<b>DS-Digital Snapshot</b> Depressing the footswitch initiates radiation through the imaging system. When the image is up to normal level, a "snapshot" is taken by the digital memory, and a signal sent to the generator to stop radiation. The footswitch must then be reactivated for additional radiation.  The benefit of "snapshot" mode is that minimum radiation is generated to get one good picture. The "Digital Snapshot," when used with noise reduction capability, creates a superior single image.	■	■		
<b>COMP-Comparator</b> In this mode, live fluoro images can be compared to a previously made recording. The record capability is blocked, allowing the older image in memory to be preserved for comparison with live fluoro.	■	■		
<b>Image Selection</b> <b>Image 1</b> A 512 x 256 vertical pixel resolution image, comparable to a TV "field," a 60th of a second scan	■	■	■	■
<b>Image 2</b> Can be recorded separately for an independent image. Orthopedic surgeons could use memory 1 for an AP view; image 2 for a lateral.	■	■	■	■
<b>Both Images</b> Can be combined for a full TV "frame" of 512 x 480 pixels (U.S. standard TV), or a 512 x 512 pixel frame for European standards. The 512 matrix is centered for 625 line systems. Line rates other than 525 or 625 cannot be accommodated by the DSR-4 series recorder.	■	■	■	■
<b>Feature Choices</b> <b>Noise Reduction</b> 3-6dB S/N improvement is achieved by averaging two images continuously during live fluoro. Upon release of the footswitch, four images are averaged, then displayed. This allows continuous motion viewing, with minimal "lag" due to averaging technique. When a specific image recording is desired, steady the imaging system, and release the footswitch.	■	■	■	■
<b>Subtraction</b> After a "mask" image is recorded via HLI or DS, the subtraction command inhibits record capability. Live fluoro images are then subtracted from the "mask" image.		■		■
<b>Gamma</b> The gray-scale balance is changed via gamma curves. Positive/negative image reversal is included. Typical curves are 0.3, 0.6, 1.0, and 1.3.	■	■	■	■
<b>Grey Scale</b> Each pixel is represented by 6 bits giving 64 different shades from black to white.  Each pixel is represented by 8 bits giving 256 different shades.	■		■	
<b>Dual Image Outputs</b> Simultaneous output of two frame memories can be recorded for a two-monitor system. Orthopedic surgeons often prefer simultaneous viewing of AP and lateral images, each on its own monitor.			■	■

# DIGITAL FRAME STORES



DSR-4 Series

### Specifications

**Power:** 70W  
**Voltage:** 115/230VAC, 50/60Hz  
**Matrix:** 512 x 512  
**Bandwidth:** 4MHz  
**S/N Ratio:** 4A/4D, 42dB; 4C/4E, 54dB  
**Sample Rate:** 10.3MHz  
**Linearity:** 1%  
**TV Standard:** RS-170/CCIR compatible  
**Dimensions:** 3.5" H x 17" W x 19" D  
**Weight:** 20 lbs.

**Remote Control:** 25D connector, low voltage 5-30VDC opto-isolator) allow remoting to the fluoro controls.

**Note:** All Eigen recorders are compatible with Multi-format cameras and video recorder feeds. Frame "grabbing," averaging, and subtraction can be done from a VTR feed.

### DSR-4A

Frame store, with HLI, DS, and COMPARE modes. Stores 1 TV frame or 2 TV fields in 512 x 512 x 6-bit digital memory. Noise reduction and 8 stage gamma adjustment. Powers up with digital test pattern . . . . . \$7,500.00

### DSR-4C

Same as above, but with 512 x 512 x 8-bit digital memory, subtraction and improved signal to noise ratio . . . . . \$10,500.00

### DSR-4D

Frame store, with HLI mode. Stores 2 TV frames or 4 TV fields in 512 x 512 x 6-bit digital memory. Noise reduction and 8 stage gamma adjustment. Dual video outputs for simultaneous two image views. Test pattern. . . . . \$10,500.00

### DSR-4E

Same as DSR-4D, but with 512 x 512 x 8-bit digital memory, subtraction and improved signal to noise ratio . . . . . \$12,000.00  
 Remote control for above units . . . . . 600.00

# EIKI/BELL & HOWELL AUDIO VISUAL/VIDEO PRODUCTS

27882 Camino Capistrano  
Laguna Niguel, CA 92677  
(714) 582-2511 FAX: (714) 364-6405

# VIDEO/GRAPHIC PROJECTION SYSTEMS

## High-Beam 250 Series/1000 Series

### Video and Data Projectors

All the models in the Hi-Beam range are quick to set up, easy to use and packed with professional features.

- Large, clear picture with excellent brightness to contrast ratio
- Dual focus lenses
- Top quality projection from all video sources, including cameras, video cassette recorders, TV tuners
- Accepts appropriate color standard for your material—NTSC 3.58 or automatic switching between PAL, SECAM or NTSC 4.43
- Projection of graphics and data from most computers
- Remote control facilities
- Floor or ceiling mounting
- Front or rear projection

The Hi-Beam line consists of five models. These comprise three versions of the Hi-Beam 250 Series with a typical brightness of 275 lumens and a variable screen size from 5'-10' horizontal and two Hi-Beam 1000 models which have an output of 560 lumens and a variable screen size from 5'-25' horizontal. All five models accept program sources from broadcast or cable TV; video tape, disc and cameras; as well as, computer generated information such as data and graphics. Completely flexible, Hi-Beam projectors accept composite video, RGB-Analog and RGB TTL (digital) inputs from up to six sources depending upon model and project bandwidths in ranges from 15-18kHz to 15-25kHz.

### Hi-Beam 250 Series

- **Projection Lenses**  
3 x f/1.0 color corrected high resolution lenses (1000 lines), dual focus adjustment for center and outer edges
- **Projection Tubes**  
3" x 7" Quick start, mesh cooled CRTs with chemically tempered face plates
- **Light Output**  
275 lumens typical high light brightness
- **Screen Size**  
Variable between 5'-10' horizontal. Optimum 8' horizontal flat or curved screen
- **Throw Distance**  
1.5 times screen width
- **Dimensions**  
9 1/4" H (235mm)  
22 1/2" W (575mm)  
32 1/2" L (820mm)
- **Weight**  
64 lbs. (29kg)

<b>Hi-Beam 250A</b>	Compatible video projector . . . . .	<b>\$4,000.00</b>
<b>Hi-Beam 250B</b>	Same as above but with TTL capabilities . . . . .	<b>4,000.00</b>
<b>Hi-Beam 250D</b>	Same as 250B plus high resolution input capability . . . . .	<b>5,000.00</b>

### Hi-Beam 1000A

- **Projection Lenses**  
3 x f/1.0 color corrected high resolution lenses (1000 lines). Dual focus adjustment for center and outer edges, capable of picture size up to 13' horizontal (optional lens for larger pictures available)



250A



1000A

- **Projection Tubes**  
3" x 7" liquid cooled CRTs with chemically tempered face plates
- **Light Output**  
560 lumens typical high light brightness
- **Screen Size**  
Variable between 5'-25' horizontal
- **Throw Distance**  
1.5 times picture width
- **Dimensions**  
9 1/4" H (235mm)  
22 1/2" W (575mm)  
36 1/4" L (922mm)
- **Weight**  
77 lbs. (35kg)

<b>Hi-Beam 1000A</b>	Highlight compatible projector . . . . .	<b>\$11,800.00</b>
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### Hi-Beam 250/1000 Accessories

<b>FM 2500</b>	Floor stand . . . . .	<b>\$395.00</b>
<b>CM 2500</b>	Ceiling mount . . . . .	<b>350.00</b>
<b>2500 RC</b>	Wired remote control . . . . .	<b>285.00</b>



# EIKI/BELL & HOWELL AUDIO VISUAL/VIDEO PRODUCTS

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## Color Digital Imager IV™ Color Output System

- Produce professional quality 35mm color slides, instant slides and prints, overhead transparencies, and high quality video output
- System plugs in like a printer—easy to install, easy to learn, and most important, easy to use
- Allows for output enhancement of many popular compatible word processing, spreadsheet, graphics and CAD packages
- Plug in any of a wide variety of available high quality typefaces to produce typeset quality visuals, no costly artwork or type to buy
- No waiting for slides to be produced, last minute revisions are easy
- Your presentation remains confidential until you choose to release it
- Works with any personal, mini or mainframe computer, only RS-232C serial port needed. Device can be easily shared on a local network

## Specifications

### Description

Automatic digital film imaging device for quickly producing presentation quality, high resolution 35mm color slides, instant slides, prints and overhead transparency output from any computer. High resolution analog color RGB output provided to drive video monitors and projectors. Systems' powerful internal intelligence makes output creation simple. Easily connects to mainframe, mini, or personal computers via a standard RS-232C asynchronous serial output. Plug in, high resolution type faces available to dramatically enhance textual output.

### Internal Intelligence

Intelligent imaging device provides for image generation and enhancement of digital data from your computer. Internal microprocessor and built-in graphic primitive commands require a minimum amount of information from your application software to create images. Functions available include polygon fill, automatic text control including kerning and rotation, film compensation curves and automatic film advance.

### Output Resolution

Unit resolution is independent from host computer's video output. The addressable resolution of 832 by 630 combined with image resolvability of 56nsec, image enhancement techniques and digital type fonts, produce quality which rivals that of a high cost system claiming 2000 lines or more.

### Color

4096 selectable colors with 16 displayable simultaneously.

### Software Package Compatibility

The Color Digital Imager IV is compatible with a number of popular graphics, word processing, spreadsheet, database management, and CAD packages operating on mainframe, mini and personal computers. Some of the more popular programs include Microsoft Chart, DRI GEM Collection, AutoCAD Autodesk, Lotus 1-2-3, Micropro Wordstar and Graphic Software Systems Virtual Device Interface (VDI).

### Camera Compatibility

Two camera backs standard. Motor driven 35mm single lens reflex camera with frame counter and battery eliminator. Polaroid 3 1/4" x 4 1/4" flat pack film back. Also available optionally in a Kodak 35mm Instant Color Slide back. Precision multielement lens included with each back.

### Film Types Supported

Using supplied 35mm camera back

Kodak—Ektachrome 100 and 64

Fuji Photo—Fujichrome 100

3M Colorslide CRT 100

Polaroid—Polachrome CS40

Using supplied Polaroid Film Back

Polaroid Type 669 print film

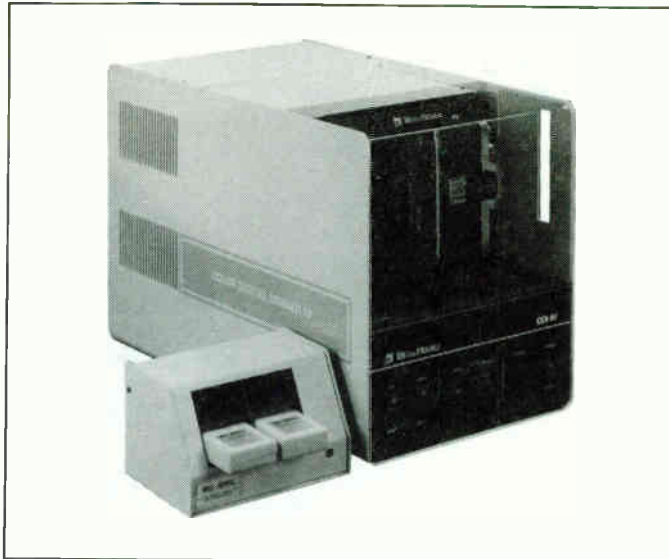
Polaroid Type 691 transparency film

Using optional Kodak 35mm Instant Color Slide Back

Kodak Instagraphic Color Slide Film

Optionally, user defined film exposure tables can be developed and downloaded from host computer. Software routine to allow exposure table development is included.

# COLOR OUTPUT SYSTEM



### Exposure Rate

40-80 slides or prints per hour typical. Kodak Ektachrome 100 requires approximately 32 seconds per exposure.

### Video Output

0-1V analog video RGB, 17.2kHz horizontal, 51.8Hz vertical interfaced. 6' RGB video cable included (DB-9 to 4 BNC connectors).

### Controls

Simplified controls provide for ease of operation. These include on/off, expose, number of copies, film type and reset. Other controls set the film recorder's communication parameters as well as the communication instruction set desired—either Native Graphic Primitive mode or a Hewlett Packard HP-GL instruction subset. Specific commands can be communicated to the Color Digital Imager IV to allow networking.

### Communications

EIA RS-232C Asynchronous Serial Standard. Configured to communicate with standard Data Terminal Emulation (DTE) devices with supplied 6' cable. Baud rate is selectable from 110 to 19,200 baud.

### Accessories

External Font Extension Module with one plug-in high resolution digital font cartridge containing five sizes supplied standard. Many other cartridges available as options. Polaroid Instant Film System included with 35mm Autoprocessor, Slide Mounter-Cutter and a supply of slide mounts, Kodak Instant Film System available as an option. This system contains a Kodak Instant Color Slide Back, a pack of Kodak Instagraphic Color Slide Film with side mounts and a Kodak Instant Slide Cutter-Mounter.

### Size

Color Digital Imager IV	Font Extension Module
Height 12.8" (375mm)	4.75" (120mm)
Width 10.19" (259mm)	4.75" (120mm)
Length 18.8" (476mm)	6.62" (169mm)

### Weight

Net—Approximately 36 lbs. (16.4kg)

Shipping—Approximately 46 lbs. (20.9kg)

Includes Color Digital Imager IV, Font Extension Module and Accessories

### Power Requirements

Domestic Version: 105-130VAC/60Hz, 75W, 6' cable, 3 wire ground type, FCC subpart 15J Class A, U.L.

International Versions: 100 220-240VAC/45-63Hz, 75W, 6' cable, 3 wire ground type (where appropriate)

### Included Software

System Test Diskette (5 1/4" double-sided MS or PC DOS compatible format). Routines are included to test the proper set-up of the hardware and to alter or develop new film exposure parameters. Also included is a program which allows imaging of any low resolution screen generated by the IBM PC Color Graphics Adapter (CGA) or Enhanced Graphics Adapter (EGA) in GCA emulation mode directly onto the Color Digital Imager IV.

**Imager IV . . . . . \$5,500.00**

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Prices and Specifications Subject to Change Without Notice.

V-417

# EIKI/BELL & HOWELL AUDIO VISUAL/VIDEO PRODUCTS

27882 Camino Capistrano  
Laguna Niguel, CA 92677  
(714) 582-2511  
FAX: (714) 364-6405

# VIDEO PRESENTATION SYSTEMS



**EVI-10**

## EV-10 Eikivision — VHS Self-Contained Video System

- Big 9" color monitor
- Standard 1/2" VHS. The world's most popular video format with up to 8 hours of continuous play with T-160 tape (6 hours with T-120 tape)
- 7-day touch-button programming
- Rugged tape handling mechanism. With industrial quality direct drive motors and a minimum of belts to wear out
- Pause control for discussion and review
- Video search to locate important program sections, at five times normal tape speed, forward or reverse
- Full function remote control
- Headphone jack for private listening
- Front-load convenience. Inserts and ejects tapes quickly and easily

Tape Speed	Play/Record Time	
	T-120	T-160
SP		2 hours
33.35mm/sec.	2 hours	40 minutes
EP		8 hours
11.12mm/sec.	6 hours	8 hours

## Specifications

<b>Power Requirements:</b>	120V, 60Hz, 70W
<b>Television System:</b>	EIA standard 525 lines 60 fields NTSC color signal
<b>Playback/Record System:</b>	VHS (1/2" cassette format); Luminance: FM azimuth recording; Chrominance: converted subcarrier, direct recording
<b>Video Search:</b>	5 X EP-11.12mm/sec.
<b>Tape Counter:</b>	Mechanical 4 digits
<b>Video Input:</b>	.5 to 2.0V p-p, 75 ohms, RCA type jack
<b>Video Output #1:</b>	1.0V p-p, 75 ohms, RCA type jack
<b>Video Output #2:</b>	1.0V p-p, 1.0K ohms, RCA type jack
<b>CRT Display:</b>	9" color monitor (diagonal measure)
<b>Audio Amplifier:</b>	1.0W
<b>Speaker:</b>	8cm
<b>Audio Input:</b>	.078VRMS, 50K ohms, RCA type jack
<b>Audio Output:</b>	.38VRMS, 1K ohm, RCA type jack
<b>Operating Temp.:</b>	41°F to 104°F (+5°C to +40°C)
<b>Operating Humidity:</b>	35% to 80%
<b>Storage Temp.:</b>	4°F to 140°F (-20°C to +60°C)
<b>Size:</b>	13 1/2" H x 17 3/4" W x 15 1/2" D
<b>Weight:</b>	37 lbs.
<b>EV-10</b>	.....\$699.00

## SHOWMATE™ 4

### Portable Video Presentation Systems with VHS Format — Player Only

- Plays any pre-recorded VHS cassette
- 7" (diagonal) screen size
- NTSC color format
- Power Requirements: Main: 120VAC, 50/60Hz
- Batteries: Optional, two 12VDC
- External Battery: 12VDC
- Carrying handle converts to viewing easel
- Compatible with other video components
- AC/DC selector
- Built-in battery charger
- 1/4" headphone jack permits private listening
- AC power cord storage
- Digital LCD tape counter with memory feature
- Dynamic speaker is front mounted for best viewer sound
- 3 video heads: 2 for SP/LP/EP, 1 for special effects
- Detachable remote control
- Dimensions: 6.8" H x 19.5" W x 13.2" D
- Weight: 25 lbs.

**6430 SHOWMATE 4** .....\$866.00



**Showmate 4**

## Accessories

<b>715744</b>	Soft carry case with shoulder strap	.....\$ 95.00
<b>715745</b>	Hard sided travel case	.....150.00
<b>715799</b>	DC car adaptor	.....24.00
<b>715746</b>	NiCad rechargeable batteries (2 required)	.....75.00

# ELCON

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TELEVISION EQUIPMENT ASSOCIATES, INC.

Box 393  
S. Salem, NY 10590  
(914) 763-8893 Telex: 49-30698

## 1200 Series Videotape Cleaner/Profilers

- Proven cleaning technique reduces dropout up to 90%
- Automatic 3-level grading system
- Lower tape costs
- User established sensitivity and grading levels
- Built to last
- Printer for permanent record
- High efficiency head patterns dramatically improve profile coverage
- Easy to use

An effective tape management program means that all tapes should be cleaned and tested before taping. All tapes deteriorate with use and occasionally, even a new tape will be defective. Taping on bad tape can mean lost opportunity or lost dollars. 1200 Series Profiler will clean and profile your 1" tapes automatically at 25 times playing speed with remarkable accuracy. The 1224 offers full track coverage for the ultimate in profiler performance. The 1200 Series Cleaner/Profilers are the assurance for your quality assurance program.

Non-technical personnel can easily grade tapes by pushing A, B and C buttons to automatically display defects exceeding pre-established levels—separate levels for top edge tracks, bottom edge tracks and video.

Precision ground tungsten carbide blades hone the tape surface, removing dirt, loose oxide and embedded particles. Continuously advancing tissues clean both tape surfaces.

A Cleaner/Profiler will pay for itself in reduced tape costs. Studies show that the 1200 Series cleaning technique reduces temporary dropout up to 90%. Typically, 80% of tapes retired for excessive dropout can be returned to service after cleaning. And cleaner, smoother tapes mean significantly longer head life on your other equipment. So, the 1200 Series means more than the highest

quality assurance standards—it means getting the most value for your money on tapes and heads, too.

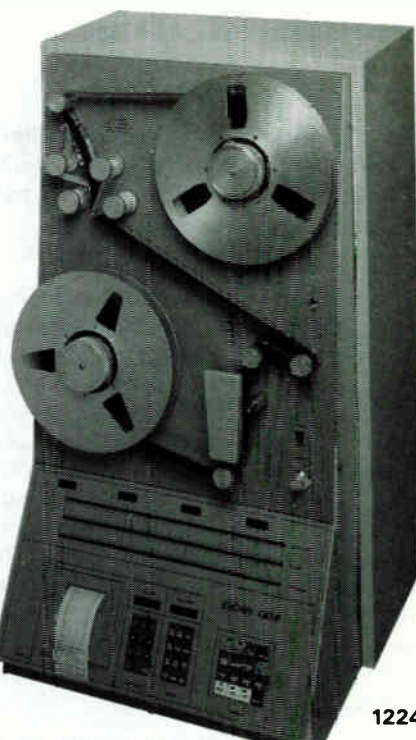
Sensitivity can be adjusted on a 100-point scale. Grading function features separate settings for top edge, bottom edge and video tracks. Numeric key pad also provides tape identification and date.

All 1200 series machines are precision engineered and built to exacting standards. The deck is constructed of 1/4" hardened aluminum plate. Circuitry reflects the latest state-of-the-art electronic technology. Three microprocessors ensure accurate, reliable operation.

Automatic operation and easy to read display system makes evaluation simple. After loading the tape, the machine will clean and profile the tape without supervision. A quick look at the display panel will reveal the quality level of the tape.

### Specifications

**Tape:** 1" (2.54cm) B and C format  
**Profile Capacity:** 204 minutes  
**Reel Capacity:** 14" (35.5cm)  
**Hubs:** NAB 1"  
**Transport:**  
Cleaning Speed: 290 ips (737cm/sec)  
Profile Speed: 192 ips (488cm/sec)  
Tension: Constant at 10 oz. (284g)  
Dual motor drive, automatic reverse, Dynamic/Servo braking  
**Integration Period:** 15 sec.



1224

The display also provides a detailed look in 15 second increments of the various track areas: top and bottom edges (audio/control) and video.

### Consumables:

Cleaning Edges—2 Tungsten Carbide Blades Life 3000 hours of tape  
Cleaning Tissues—2 Spools  
Life 160 hours of tape  
**Dimensions:**  
Height: 36" (91.4cm)  
Depth: 21" (53.3cm)  
Width: 20.5" (52.1cm)  
Machine Weight: 160 lbs. (70kg)  
Shipping Weight: 300 lbs. (135kg)  
Input Power: 100/120VAC 50/60Hz 220/240VAC 50/60Hz  
Power Consumption: 750W

Model No.	% of Total Area	Tape Coverage B Format	C Format	Recommended Use
1224	99	Full	Full	Master Stock Evaluation
1218	68	Excellent	Excellent	Broadcast B and C Format Evaluation
1217B	69	Excellent	Good	Broadcast B Format
1217C	69	Good	Excellent	Broadcast C Format
1212	48	Good	Good	Professional B and C Format



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## VIDEOTAPE CLEANER/PROFILER

### EA 750 Videotape Cleaner/Profiler

- Establish your own quality criteria
- Reduce temporary dropout up to 90%
- Optional printer
- Electronic evaluation technique

The EA 750 is a fully automatic, high speed tape cleaner and profiler, specifically designed and precision engineered for professional video cassette maintenance and evaluation. The EA 750 offers an LED linear display system that makes thorough tape evaluation quick and easy. Pushbutton accessing of three pre-established acceptance levels simplifies classification into common categories, i.e. "Master Stock", "Commercial", and "Dub" quality, making this system particularly suited to operation by non-technical personnel. In one pass, tapes are cleaned, evaluated and rewound in  $\frac{1}{10}$  the normal running time. Versatility and performance, combined with a simple operating format assures that the EA 750 will be a cost-efficient addition to any video cassette management program.

The savings resulting from the implementation of a tape management program utilizing an EA 750 can be substantial. Independent testing confirms that the EA 750's cleaning technique removes up to 90% of temporary dropout. Gone is the cost of re-shooting "wrecked" scenes or the loss of program material. Tape life can be extended up to an estimated 50% because of reduced particle abrasion.

Technical staff are not required to operate the EA 750. Operation is fully automatic.

After inserting either a standard or mini-cassette into the slot, the operator selects one of three operating modes: "Rewind Only" — "Rewind and Clean Only" — "Rewind, Clean and Profile". Switch interlock prevents accidental erasure of material. The machine draws a tape loop, rewinds and shuttles tape from head end to tail end—cleaning only. The tape reverses automatically. On the rewind pass, the tape is cleaned a second time, and if profile has been selected, the tape is degaussed and profiled electronically.

Electronic profiling will locate and identify damaged tape areas which register visually on the LED linear display panel. The panel is divided into three illuminated channels representing the "Top Edge", "Video" and "Bottom Edge" of the tape. These channels are calibrated in  $\frac{1}{2}$  minute segments from 0 to 64 minutes. (A 2X switch allows operation with longer cassettes). No light indicates that the number of defects is below the predetermined acceptability level.

After a tape has been profiled, the operator evaluates the tape by pressing the buttons labeled A, B and C.



### Specifications

<b>Input Power:</b>	95 to 135VAC, 50/60Hz 190 to 270VAC, 50/60Hz (switch selectable)
<b>Power Connector:</b>	3-wire with molded U-ground (North American) 3-wire I.E.C. color coded (European)
<b>Power Consumption:</b>	80W
<b>Front Panel Controls:</b>	On/off (with indicator) Stop (with indicator) Tissue (for replacement of tissue with "out of tissue" indication) Rewind (no loss of recorded signal) Clean (no loss of recorded signal) Profile (includes tape erasure, interlocked with Clean to prevent accidental erasure) Grade "A", "B" or "C" (determines the display on the front panel profiler)
<b>Front Panel Display:</b>	3 bar graph presentation of tape length and tape condition (profile mode only)
<b>Status Indications:</b>	Power on, out of tissue, stop, profile, rewind, clean, displayed grade (A, B or C)
<b>Depth of Erasure:</b>	Greater than 50dB (at 75 ips)
<b>Tape Handling:</b>	Constant speed Constant tension Dynamic braking Automatic reversal
<b>Additional Controls:</b>	Center sensitivity Edge sensitivity 3 sets of damage counters (for A, B and C tape grades) X2 display expansion switch
<b>Dimensions:</b>	Height: 9" (including rubber feet) Depth: 22 $\frac{1}{2}$ " Width: 21 $\frac{1}{4}$ "
<b>Processing Time (approx.):</b>	60 min. cassette—6 min., 20 sec. 30 min. cassette—3 min., 20 sec. 20 min. cassette—2 min., 20 sec. 10 min. cassette—1 min., 20 sec.
<b>Shipping Weight:</b>	100 lbs. (45kg) approx.
<b>Consumables:</b>	Lifetime Tissue spools, 15 hrs. of machine operation Blade rotation, 100 hrs. of machine operation New blades after 4 rotations
<b>Specifications</b>	Tissue (lint free, fibrous) 18 ft. per roll Blades (tungsten carbide, square edge) 2 per set

# ELECTROHOME, LTD.

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 FAX: (519) 749-3131

# DATA/GRAPHICS PROJECTION SYSTEMS

## ECP® 3000/ECP Graphics Data/Graphics Projection Systems

### Features Common to Both Models (Preliminary)

- f/1.0 lens capable of resolving 1024 x 1080 pixels • Electronics are capable of synchronizing over 1000 TV lines vertical • Electronic pin-cushion circuits separately correct top, bottom and sides for flat, curved, or rear screen applications • Aspect ratio 4:3 • Keystone circuitry to correct pictures for angles up to  $\pm 15^\circ$  vertically from screen axis • Input level 0.5V to 2.0V p-p,  $75 \pm 1\%$  terminated • Separate sync is automatically accepted in either polarity • DC restoration • Keyed clamp • Minimum video gain 40dB or 100X • Maximum video output 130V p-p drive

**Vertical Deflection**—Size: automatically regulated over frequency range and adjustable from 20% underscan to 10% overscan • Frequency Range: automatically locks from 45Hz to 120Hz

**Horizontal Deflection**—Size: automatically regulated over frequency range and adjustable to 10% overscan 10% underscan • Optional remote control receiver can be connected to projector for rear screen applications • Unit comes with 1 input module allowing 2 RGB sources to be connected. Second empty slot allows an additional input module to be installed in the projector • IR Remote Video/Data Switcher allows use of 6 additional input modules and master control of projector

- High Voltage 34.0kV regulated to  $> \pm 1\%$

### Accessories Included

- 25' signal cable, 10-pin keyed • RGB and sync splitter for BNC connections

## ECP 3000 High Brightness Data/Graphics Projection System

- **Maximum Brightness**—650 lumens peak light output, 370fL on a 6' diagonal 10 gain screen total light output

**Focused Data**—480 lumens, 280fL on a 6' diagonal 10 gain screen total light output • Functional 3 lens design allows simple adjustment for flat, curved or rear screens from 5' to 25' diagonal • Automatically switches to separate sync or sync on green • 60MHz bandwidth  $\pm 3dB$  • Linear non-differential amplifier accommodates 8 nsec pixels and digital clock rates over 130MHz

**Vertical Deflection**—Retrace Time:  $< 300ms$

**Horizontal Deflection**—Frequency Range: automatically locks from 15kHz to 50kHz • Retrace Time:  $3.6\mu s$  • Can be ceiling mounted on its optional ceiling mount or on a castered cart for portable applications • 105 lbs./41.3kg

ECP3000*	\$14,995.00
ECP3000 Cart	499.00
ECP3000 Ceiling Mount	355.00

## ECP Graphics 15-80kHz Data/Graphics Projection System

- **Maximum Brightness**—500 lumens peak light output • 290fL on a 6' diagonal 10 gain screen total light output • Single lens dichroic design converges colors accurately inside the projector, not at the screen • **VARI-FOCUS**—the ECP Graphics is not a fixed focus design. Three external controls allow simple, quick adjustment of center, corner, and top to bottom optical focus for screen sizes from 6' to 12' diagonal (5' to 14' using electronic sizing) • 80MHz bandwidth  $\pm 3dB$  • Linear non-differential video amplifier accommodates 6 nsec pixels and digital clock rates over 160MHz

**Vertical Deflection**—Retrace Time:  $< 300\mu s$

**Horizontal Deflection**—Frequency Range: automatically locks from 15kHz to 80kHz • Retrace Time:  $< 5.0\mu s$  15-34kHz,  $< 2.5ms$  34-80kHz • Can be ceiling mounted on its optional yoke or on a castered cart or desk stand for portable applications • 100 lbs./46kg



ECP 3000



ECP Graphics

### Additional Accessory Included

Projector mounting studs and knobs

ECP Graphics* 15-80	\$21,995.00
ECP Graphics Cart	550.00
ECP Graphics Ceiling Mount	200.00

### ECP3000/ECP Graphics Accessories

IR Remote Switcher**	\$1,495.00
RGB Loop 3/4/5 Wire Module	295.00
RGB/Sync (H & V) 10-Pin Module	295.00
RGB/Sync 2 Input Module	295.00
Enhanced PC Module	255.00
GP Analog Module	295.00
GP TTL Module	255.00
Monochrome 4 Input Module	255.00
Quad Std. Decoder Module	595.00
Case/Power Supply (For Ind. Module)***	125.00
Remote IR Sensor Kit w/25' Cable	150.00

\* Includes (1) RGB Sync (H & V)/10 pin module plus empty slot for additional module

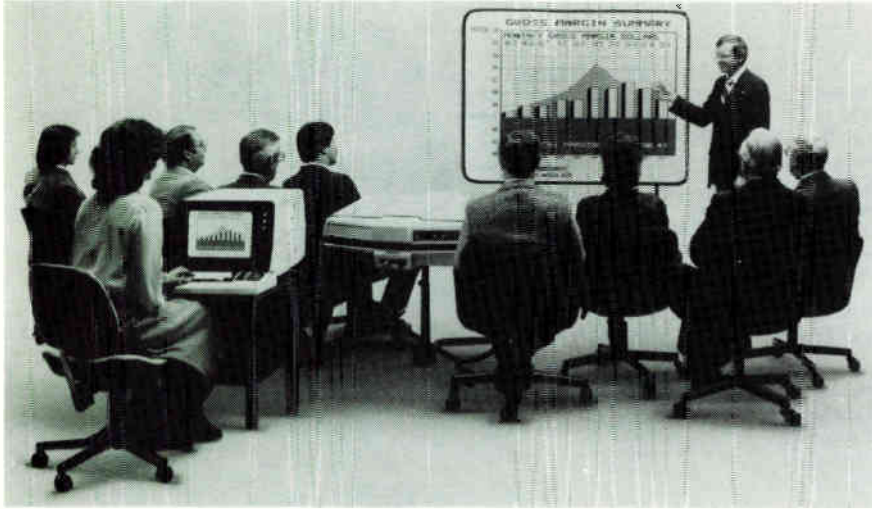
\*\* Switcher includes remote control board, power supply 120/240VAC, and 100MHz output with space for six boards. Includes rackmounting adaptor brackets

\*\*\* Case/power supply module converts any interface module to freestanding unit. (Except Quad Std. Decoder which must be used with switcher)

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# VIDEO GRAPHICS PROJECTION SYSTEM



ECP 2000

## ECP® 2000 Color Data/Graphics Projection System

- For computer or video tape projection
- Conveniently portable or ceiling mount
- Adaptable to most color and monochrome computers
- One cable plugs all computer and video tape signals
- Only three operating controls
- Adaptable to various screens
- Automatic positioning in relation to screen
- 1-button remote control automatic switching between computer and video tape images
- Removable modules simplify service
- Single lens dichroic design converges colors accurately inside the projector, not at the screen
- High gain front and rear screens may be used with no color shift due to viewing angle
- May be used with flat screens
- Electronic pincushion circuits correct separately for top, bottom, and side pincushion for flat screen display
- Throw distance of 87 1/2" (internally adjustable)
- Wide electronic size control allows 2 knob easy adjustment of picture size from 5' through 7' diagonal
- Keystone circuitry to correct picture for projection angles up to  $\pm 15^\circ$  vertically from screen axis. Easy 1 knob adjustment

The ECP 2000 color data/graphics and video projection system projects high resolution data and graphics or video from computer terminals, video cameras or video-cassette recorders. With its single lens design the colors are converged automatically within the unit rather than at the screen as with common three lens projection systems. As a result, set-up time is minimal and the image is in perfect convergence at all times. By mounting the unit on an optional wheeled cart, it becomes easily portable and can be moved from room to room for various presentations.

## Specifications

<b>Brightness:</b>	400 lumens/230fL 6' Diagonal 10 gain screen total light output
<b>Focused Data:</b>	300 lumens/175fL 6' Diagonal 10 gain screen total light output
<b>Resolution:</b>	f/1.0 lens capable of resolving 1024 x 1280 pixels Electronics are capable of synchronizing up to 1000 TV lines vertical
<b>Aspect Ratio:</b>	3:4
<b>Video Circuits Input:</b>	Input level 0.5 to 2.0V p-p, sync negative or positive. 75 ohms $\pm 1\%$ terminated, differential (floating) input rejects 14V p-p of power line hum voltage, automatically switches to separate sync or sync on green, separate sync is automatically accepted in either polarity, 10-pin multi-connector for RGB sync and remote brightness and contrast
<b>Frequency Response:</b>	30MHz bandwidth $\pm 3$ dB
<b>DC Restoration:</b>	Back porch keyed clamp (internally switchable to sync tip clamp)
<b>Power Requirements:</b>	90VAC to 132VAC can be internally reconnected for 180VAC to 264VAC Line frequency 50 to 60Hz nominal Power 250W maximum
<b>Weight:</b>	84 lbs./38kg Shipping weight: 120 lbs./54.4kg
<b>Accessories Included:</b>	<ul style="list-style-type: none"> <li>• 25' signal cable, 10-pin keyed</li> <li>• RGB and sync splitter for BNC connections</li> <li>• Projector mounting studs and knobs</li> </ul>
<b>ECP 2000</b>	\$11,995.00
<b>ECP 2000 NTSC Decoder</b>	.495.00
<b>ECP 2000 Cart</b>	.550.00
<b>ECP 2000 Ceiling Mount</b>	.200.00
<b>ECP 2000 Support Base</b>	.85.00



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# VIDEO/GRAPHICS PROJECTION SYSTEMS

## EDP-58XL

### Large Screen Monochrome Projection Monitor

- Precision f/1.0 lens is user focusable for 4' to 10' (1.2m to 3m) diagonal screens
- Precision optics and high speed electronics provide up to 1300 line resolution capability for sharp data/graphics display, exceeding 80 characters/line
- Scan reverse switch for rear screen projection
- Easy to use operator controls are on the rear panel; service controls are accessible through the control panel
- Video loopthrough
- Keystone adjustment
- DC restoration
- Data approved P53 green phosphor is standard. Optional phosphors available to match terminal manufacturer standards
- May be used on many different screen materials and sizes, including flat and rear projection screens
- Optional accessory 6', (1.8m) high gain, curved screen for viewing in higher ambient light areas
- Rugged and durable
- Washable reflecting surface
- Adjustable wall mounting hardware
- Accessory legs available for freestanding display applications
- Compact 24.75" x 14" x 8"
- Weighs only 45 lbs.
- Designed for ceiling, pedestal or desk stand mounting, the unit offers tremendous flexibility for display presentations
- Case and trim are made of aluminum and molded plastics
- Rear carrying handle
- Front trim protects the precision lens
- Compatible with composite video signals in NTSC, PAL, CCIR and SECAM systems
- Large monochrome pictures may be displayed directly from most VTR, Videodisc and television camera outputs

The EDP-58XL monochrome projection monitor is specifically designed for large screen, high resolution video displays of alphanumeric and graphic information from computer generated signals. It is uniquely designed to synchronize with almost all CRT-type computer terminals available today.\*

Extremely compact, the high brightness monochrome projector permits large group viewing in normal office lighting environments. Crisp, big picture impact replaces the need for several conventional sized monitors.

The EDP-58XL is ideal for demonstrations of new computer hardware and software developments. Classroom teaching of computer programming is made easy. It is equally dramatic for customer or trade show presentations.

This modular, solid-state unit is versatile, rugged and reliable, matching today's fast moving information needs. Set-up and operating ease, even by non-technical personnel, is inherent in the design of the EDP-58XL. It eliminates audience fragmentation and permits each viewer to enjoy maximum impact from data/graphics presentations.

Electronic circuitry in the EDP-58XL data/graphics projection monitor permits interfacing with almost all CRT computer terminals on the market today. The unit employs stabilized power supplies and picture-size circuitry that allows operation over a wide range of scanning frequencies without internal modifications.



EDP-58XL

For some terminals not supplying composite video outputs, an economical interface module may be used. The module simply supplies the necessary composite video (via coaxial cable) to input on the EDP-58XL.

The functional, easy-to-use control panel (shown) features convenient loopthrough BNC inputs to interface directly either with video terminals or the interface module.

Convenient user controls located on the rear control panel include Power Switch, Brightness and Contrast.

Other less frequently required set-up controls—Electrical Focus, Keystone Correction, Picture Size, Vertical, Horizontal Hold—are recessed to allow access for set-up adjustments. Easy rear panel optical focusing of the lens permits use with various screen sizes.

EDP-58XL \*\*Projection Monitor . . . . . \$3895.00

### Accessories

EDP	Support Base . . . . .	\$110.00
IM-56	Interface Module. . . . .	155.00
Harness	Wiring Harness . . . . .	85.00
PB-56	Pedestal Base . . . . .	390.00
MY-56	Ceiling Mount. . . . .	65.00
VS6-56	Curved Screen 6' . . . . .	495.00
SL-1000	Elevating Legs . . . . .	145.00
CC-56	25' BNC/BNC Coaxial Cable . . . . .	35.00
EDP	Carry Bag. . . . .	135.00

\*An optional Interface Module may be needed for your particular CRT terminal.  
 \*\*Special order phosphors (other than green P1)  
 —A minimum of 10-12 weeks lead time prior to product shipment  
 —A premium of \$600.00 per unit  
 —Optional P45 white phosphor 4-6 weeks additional \$250.00

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# VIDEO PROJECTION SYSTEMS

## EDP-58 XL (Cont.d)

### PERFORMANCE DATA AND SPECIFICATIONS

#### Resolution

- Up to 1300 lines resolution

#### Brightness\*

##### Maximum

- 500 lumens/300 foot lamberts 6' diagonal  
10 gain screen. Total light output

##### Focused Data

- 235 lumens/135 foot lamberts 6' diagonal  
10 gain screen. Total light output

\*Measured on 20% raster

#### Display

- Green P53 phosphor standard, other phosphors available on special order
- Throw distance approx. 1.25x screen diagonal size
- Continuously focusable from 4.5' (1.4m) diagonal projected picture to 10 ft. (3m) diagonal
- Aspect ratio 3:4
- Keystone circuitry to correct picture for projection angles up to  $\pm 10^\circ$  vertically from screen axis

#### Operating and Service Controls

##### Front External

- Curved/flat screen lens focus adjustment

##### Rear External

- Single knob optical lens focusing
- Power on-off switch
- Brightness control
- Contrast control
- Video input 75  $\Omega$  termination switch
- AC power input
- Electrical focus

##### Rear Internal (accessible)

- Keystone correction
- Vertical size (height)
- Vertical hold
- Horizontal size (width)
- Horizontal hold
- Primary fuse (1.5A slow blow std.)
- Reversed Scan Switch for rear screen projection

##### Internal

- 120/220/240/AVC plug connection (120 VAC std.)
- Vertical Linearity adjust
- Dynamic Focus adjust (Horizontal)
- Dynamic Focus adjust (Vertical)
- Horizontal Video Centering adjust
- D.C. Restoration switch: 1. back porch clamp (STD) 2. sync tip clamp
- G2 bias supply adjust

#### Video Circuits

##### Input

- 2 BNC connectors (looped through)
- 75  $\Omega \pm 1\%$  terminated
- 25k ohm shunted by 12pf open
- Input level 0.5 to 2.0V p-p sync negative
- Differential (floating) input rejects 14 V p-p of power line hum voltage

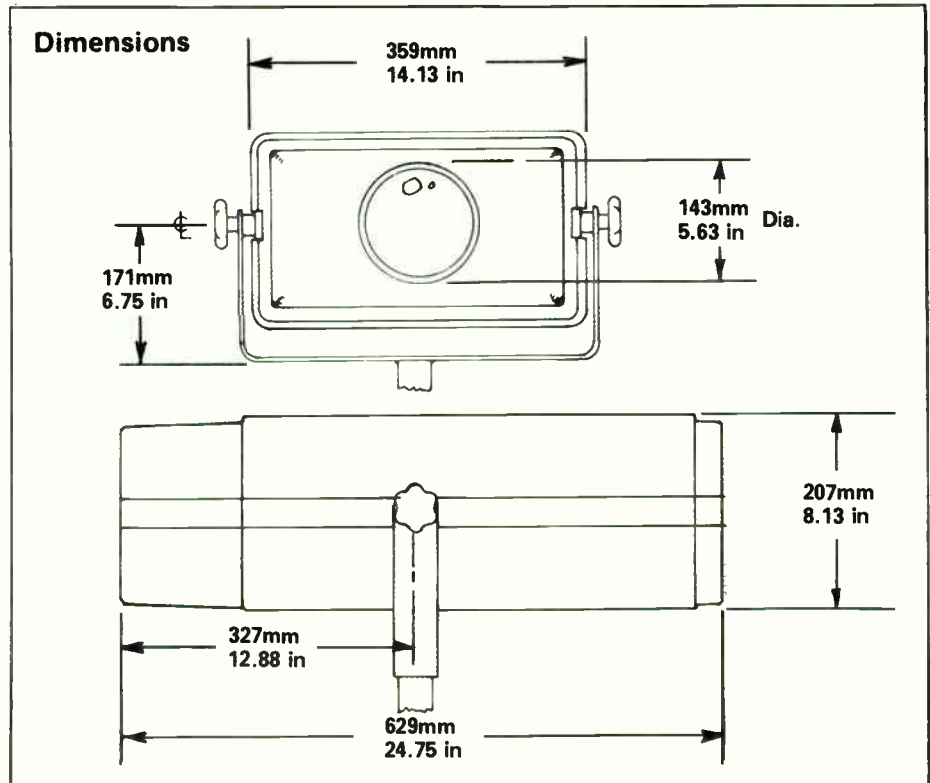
##### Frequency Response

- 20MHz bandwidth  $\pm 3$ dB

##### D.C. Restoration

- Back porch keyed clamp internally switchable to sync tip clamp

#### Dimensions



#### Gain

- Min. video gain 40 dB or 100X
- Max. video output 110V p-p drive

#### Deflection Circuits

##### Vertical Deflection

- Size: adjustable from 20% overscan to 10% underscan
- Frequency range: from 45 Hz to 90 Hz
- Retrace time less than 0.5 milliseconds

##### Horizontal Deflection

- Size: adjustable from 20% overscan to 10% underscan
- Frequency range: 15 kHz to 33 kHz
- Retrace time: less than 6 microseconds

#### High Voltage

- 32.0 KV regulated to better than  $\pm 1\%$

#### Power Requirements

- 120 VAC  $\pm 10\%$  can be internally re-connected for 220 VAC  $\pm 10\%$  or 240 VAC  $\pm 10\%$
- Line Frequency 50 or 60 Hz nominal
- Power 120 watts max.

#### Environment

##### Maximum Operating Range

- Temperature: 0° to 35°C
- Humidity: 0-90% non condensing
- Altitude: 0-10,000 ft. (3,000m)

##### Storage

- Temperature: -30° to 65°C
- Weight: 33 lbs.

This product is designed to meet or exceed safety standards and regulations of: FCC, DHHS, HWC and is CSA certified and U.L. Listed.

This product is covered by U.S.A. patent 439336. Canadian patent in 1984. Other patents pending.

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 (519) 744-7111 Telex 06-955449  
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# MONOCHROME VIDEO MONITORS

## MONOCHROME MONITORS

- Front operated A-B switching
- 18MHz bandwidth
- Scanguard\* circuit for size stability
- Primary and major secondary controls front accessible
- Internal/external sync capability
- Excellent black level stability
- Common mode rejection
- AC cord winder (9", 12", 15", 17")
- Switchable power supply for 110/220/240V operation
- Universal AC interlock
- Long life LED pilot light
- Wide variety of options
- P4 or P31 phosphor CRT (9" and 23")
- Antiglare panel (AG)

This full range of monochrome video monitors is designed to international performance standards. Cabinets are constructed of a Steltext textured steel for added durability. Attractive beige and earth brown tones have been utilized to further enhance the styling of each monitor design.

\*Scanguard is a special development for EVM 19/20 models to keep picture sizes constant over a wide range of brightness changes.

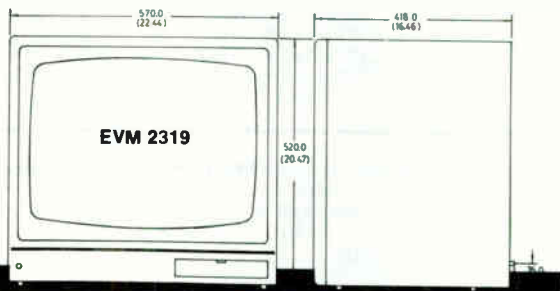
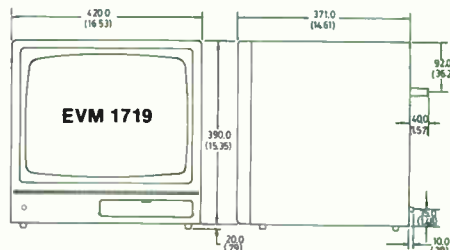
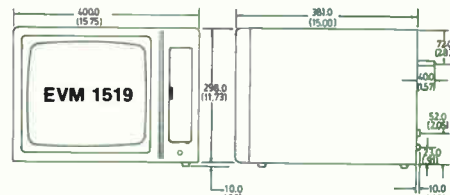
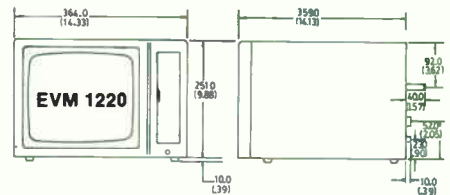
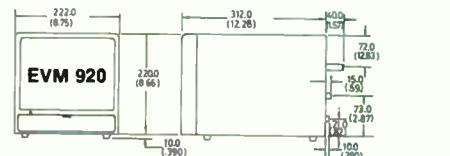
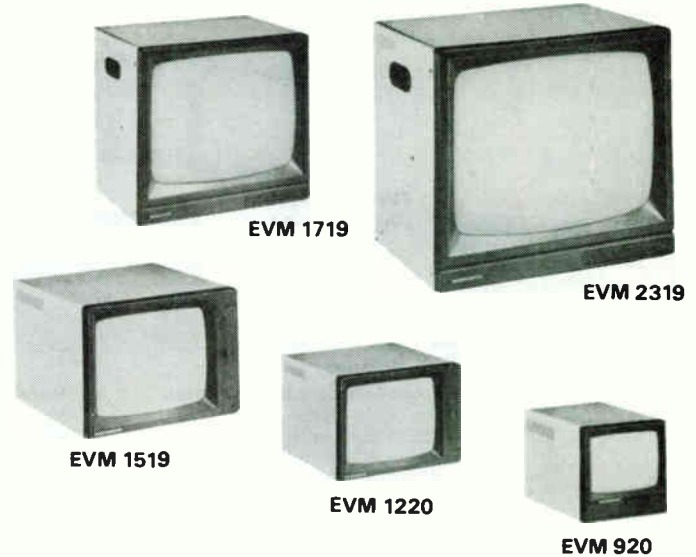
<b>EVM-920P4AG</b>	9" Monitor, 22 lbs.	.....\$ 590.00
<b>EVM-920P31AG</b>	9" Monitor, 22 lbs.	.....618.00
<b>EVM-1220P4AG</b>	12" Monitor, 33 lbs.	.....667.00
<b>EVM-1519P4AG</b>	15" Monitor, 39 lbs.	.....735.00
<b>EVM-1719P4AG</b>	17" Monitor, 48 lbs.	.....819.00
<b>EVM-2319P4AG</b>	23" Monitor, 80 lbs.	.....1004.00
<b>EVM-2319P31AG</b>	23" Monitor, 80 lbs.	.....1060.00

### Accessories

<b>ECM-3</b>	Ceiling Mount for 17" and 23", 16 lbs.	.....\$ 75.00
<b>EWM-1</b>	Wall Mount Adaptor for ECM-3, 13 lbs.	.....65.00
<b>EMS-3</b>	Mobile Stand, 24 lbs.	.....175.00
<b>RAK-9A</b>	9" Rackmounting Kit, 7 lbs.	.....70.00
<b>WMA-9</b>	Waveform Mounting Kit for use with RAK-9A, 5 lbs.	.....35.00
<b>RAK-12</b>	12" Rackmounting Kit, 9 lbs.	.....70.00
<b>RAK-15</b>	15" Rackmounting Kit, 9 lbs.	.....70.00
<b>RAK-17</b>	17" Rackmounting Kit, 10 lbs.	.....70.00

	CRT Diagonal (Phosphor)	CRT Display Area	Unit Weight (Unpacked)
<b>EVM 920</b>	8.55" 217.4mm	38" <sup>2</sup> 245.2cm <sup>2</sup>	17 lbs. 7.65kg
<b>EVM 1220</b>	11.69" 296.9mm	74" <sup>2</sup> 477cm <sup>2</sup>	25 lbs. 11.2kg
<b>EVM 1519</b>	13.86" 352.0mm	100" <sup>2</sup> 645cm <sup>2</sup>	29 lbs. 13.0kg
<b>EVM 1719</b>	16.25" 412.75mm	141" <sup>2</sup> 909.4cm <sup>2</sup>	39 lbs. 17.5kg
<b>EVM 2319</b>	22.31" 566.7mm	282" <sup>2</sup> 1819cm <sup>2</sup>	71 lbs.* 31.9kg

<b>RAK 9A</b>	18.97" (482mm)L; 8.75 (222mm)H; 5 lbs. (2.3kg)
<b>RAK 12</b>	18.97" (482mm)L; 10.47" (266mm)H; 7 lbs. (3.2kg)
<b>RAK 15</b>	18.97" (482mm)L; 12.20" (310mm)H; 7 lbs. (3.2kg)
<b>WMA 9</b>	3 lbs. (1.4kg)





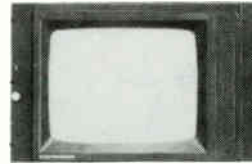
# ELECTROHOME, LTD.

809 Wellington St. N.  
Kitchener, Ont. CN N2G 4J6  
(519) 744-7111 Telex: 06-955449  
FAX: (519) 749-3131

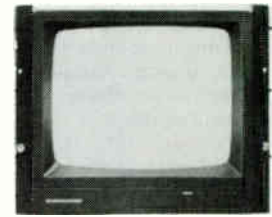
# MONOCHROME VIDEO MONITORS



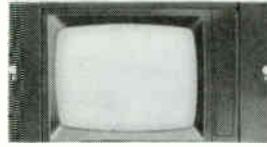
TWO EVM-920  
WITH RAK-9A



EVM-1519  
WITH RAK-15



EVM-1719  
WITH RAK-17



EVM-1220  
WITH RAK-12



EVM-920  
WITH RAK-9A

## Operation and Service

### Front Controls and Features:

On-off Switch  
LED Pilot Light  
Reduced Scan Switch  
VTR Switch  
Horizontal Hold  
Focus (screw driver adjust)  
Vertical Hold  
Height (screw driver adjust)  
Brightness  
Contrast  
A-B Switch  
Volume Control: (only with optional audio module).

### Rear Panel:

Input "A"-2 BNC Connectors, loop-through  
Input "B" or Ext. Sync  
2 BNC connectors, loop-through  
2 Termination Switches  
Ext.-Int. Sync Switch  
AC Connector  
Fuse Holder  
Width Control

### Internal Controls:

Preset Contrast  
Preset Brightness  
Black Level Control  
Vertical Linearity  
Horizontal Frequency centering Control  
Horizontal Phase (video centering)  
AC-DC Coupling Link (Factory set to DC position)  
Voltage Regulator Control  
Size Regulation Control  
Reduced Scan Width Coil

## Video Circuits

### Input Circuits:

Input via BNC connectors with isolated signal ground.  
Termination:  $75\Omega \pm 5\%$   
Return Loss:  $\geq 26\text{db}$   
Common Mode Rejection: better than 40db up to 6Vp-p.

### Video Amplifier:

Input Signal: 0.5-2Vp-p sync negative  
Gain: 35db  
Bandwidth: 9" & 12" CRT: 100Hz-18MHz  $\pm 3\text{db}$  at 30Vp-p at CRT cathode.

15" CRT: 100Hz-18MHz  $\pm 3\text{db}$  at 30V p-p.  
17" CRT: 100Hz-18MHz  $\pm 3\text{db}$  at 30V p-p.  
23" CRT: 100Hz-18MHz  $\pm 3\text{db}$  at 30V p-p.

## Deflection Circuits

### Vertical Deflection:

Adjustable from 130% to 65% of scan.  
Adjustment by size switching circuits and height control.  
Vertical Rate: Adjustable from 40Hz to 65Hz by vertical Hold control.  
Vertical Retrace: 650  $\mu\text{sec}$

### Horizontal Deflection:

Adjustable from 115% to 80% of scan  
Adjustment by size switching circuits and width controls  
**Horizontal scan rates:**  
Standard 15.75 KHz to 18KHz  
Option 18 KHz to 22.5 KHz  
Horizontal Retrace: 7.5  $\mu\text{sec}$

### Deflection Angles:

9" & 12" CRT's 90°  
15" & 23" CRT's 110°  
17" CRT 114°  
NOTE: For operation of the monitors at horizontal scan rates other than standard TV rates consult the Service Manual.

## Display

### Display:

All monitors have 4:3 aspect ratio.  
Front switchable from 105% to appr. 85% of full picture size.  
**Vertical linearity:**  $\leq 2\%$  of picture height  
**Horizontal linearity:**  $\leq 2\%$  of picture height

**Geometry:**  $\leq 2\%$  by EIA Ball chart.  
**Interlace:** 45/55 non tunable.  
Picture Size Stability:  $\leq 2\%$  change from 0 to 30ft/l peak brightness at 90% APL  
**Resolution:** (Anti-glare tube and P4 phosphor)  
15", 17" and 23" CRT's: 1000 TV

lines centre, 800TV lines corners at 30 ft/l (300 lux).  
Standard 9" CRT's 750 TV lines centre 600 TV lines corners at 30 ft/l (300 lux).  
Standard 12" and Optional 9" CRTs. 800 TV lines centre, 650 TV lines corners at 30ft/l (300 lux)

## Power Supply

### High Voltage:

9" & 12" CRT's 12KV at 0 $\mu\text{a}$   
15" CRT's 17.5KV at 0 $\mu\text{a}$   
17" CRT's 18KV at 0 $\mu\text{a}$   
23" CRT's 19.5KV at 0 $\mu\text{a}$

### Input Power:

9" & 12 CRT's 120V (220.240V), 50/60Hz 45 Watts  
15", 17" & 23" CRT's 120V (220/240V) 50/60Hz 60 Watts

### Asynchronous Operation:

All V19 and V20 monitors are designed for asynchronous operation e.g. there is no discernible movement of the display if the vertical and power line frequency differ.

## Environment

### Maximum Operating Range:

0° C to +50° C  
Humidity: 90% non-condensing  
Altitude: to 10,000 feet (3040 meters)

### Storage: -40° C to +65° C

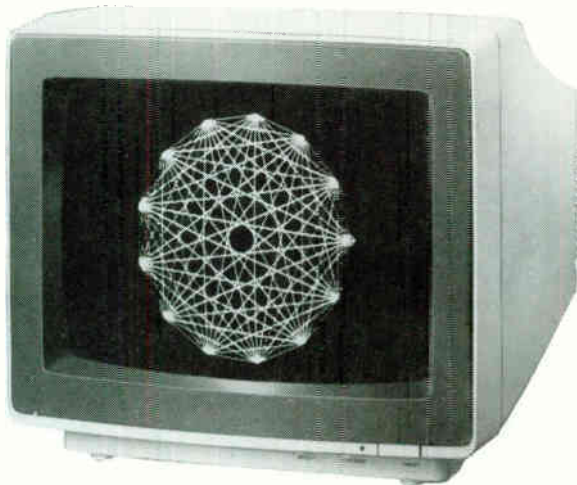
Electrohome's policy is to meet or exceed safety standards and regulations of: CSA, HWC, FCC, DHHS, UL. Television standards: EIA, CCIR.

All performance specifications apply for line variations from 100 to 132V (200-260V)

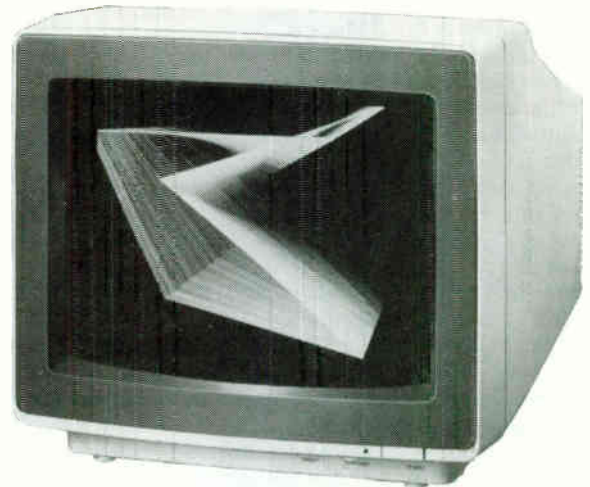
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# COLOR VIDEO MONITORS



1300 Series



1900 Series

## ECM 1310, 1311, 1312 High Resolution Color Video Monitors

- High resolution .31mm dot pitch
- Automatic adjusting horizontal scan rate 15.0 to 34.0kHz
- Capable of resolving 720 dot x 540 lines
- 30MHz bandwidth
- 8  $\mu$ sec horizontal retrace
- RGB/RS170 and IBMTTL inputs
- Line operated, automatic degaussing
- Enhanced color board signals such as the Conographics Cono Color 40 and other add-on PC boards

At the leading edge of monitor technology, these high resolution 13" RGB monitors accept both RGB/RS170 and IBMTTL inputs. They also incorporate an Automatic Horizontal Scan Adjustment that senses the frequency of input from 15.0 to 34.0kHz and locks onto it. This versatility makes these monitors the only logical choice for CAD/CAM and other graphics generated from a multitude of different computer signals.

Now there is a monitor to meet a wide array of display requirements: CAD/CAM, business graphics, process control, personal computer color graphics, graphic art.

- ECM 1310: 13" short persistence, anti-glare CRT . . . . . \$1198.00
- ECM 1311: 13" long persistence, anti-glare CRT . . . . . 1198.00
- ECM 1312: 13" long persistence, polished CRT . . . . . 1198.00
- IBM Cable . . . . . 38.00
- ECM TS Tilt and Swivel Base . . . . . 54.00
- Analog Cable . . . . . 43.00

## ECM 1910, 1911, 1912 High Resolution Color Video Monitors

- High resolution .31mm dot pitch
- Automatic adjusting horizontal scan rate 15.0 to 34.0kHz
- Resolution: 1024 x 512 (non-interlaced)  
 1024 x 800 (interlaced)
- 35MHz bandwidth
- TTL and Analog inputs through 9-pin DIN connector

The ECM 1900 Series comprises a family of three 19" high resolution Vari-Scan monitors, ideally suited for large images generated for CAD/CAM and other business graphics applications where a larger viewing image is desirable. All monitors feature automatic horizontal and vertical frequency adjustments and the ability to interface to a PC using a variety of add-on color cards and software.

- ECM 1910: 19" short persistence, tinted, anti-glare CRT . . . \$2795.00
- ECM 1911: 19" long persistence, tinted, anti-glare CRT . . . . 2895.00
- ECM 1912: 19" long persistence, clear, polished CRT . . . . . 2895.00
- IBM Cable . . . . . 38.00
- Analog Cable . . . . . 43.00

# ELECTRONIC SYSTEMS PRODUCTS, INC.

1301 Armstrong Dr.  
Titusville, FL 32780-7999  
(305) 269-6680 (800) 327-3644  
FAX: (305) 267-6211

# PROJECTION SYSTEMS

## ESPRIT™ SERIES PROJECTION SYSTEMS

### Features Common To All Models

- Greater video bandwidth and smaller spot size for sharp pictures and high contrast ratio
- User friendly remote control to facilitate set-up and operation
- 16 digit alphanumeric display of operational status and diagnostics
- Modular plug-in single function circuit board design with independent regulation for ease of servicing and reliability
- Automatic horizontal and vertical sweep frequency sensing with autolock
- Autosensing or manual selection of NTSC 3.58, NTSC 4.43, PAL and SECAM video formats
- RS-170 capability to accept RGB with autosensing for plus or minus sync
- Drift-free convergence that is immune to typical temperature, voltage and frequency variations
- Adjustable blue video enhancement to improve both foreground and background color resolution when used with personal computers
- Front and rear projection capabilities on flat or curved screens
- High efficiency thermally isolated switch mode power supply for cooler operation and longer life
- Dual 120/240V switchable input with built-in surge protection
- Throw distance approximately 1.5 times the image width
- Precision parallax optical system allows an adjustable image from 4' to 12' in width (up to 25' in width with an optional lens)
- Automatic video gain control
- Sweep direction LED indicators
- May be mounted in any position: floor, table, ceiling
- Vertical and horizontal focus modulation for improved corner resolution
- Adjustable four-sided blanking for sharp edges and elimination of VCR head switching noise

### Esprit 300 Color Video/Computer Projection System

- Upgradable to Esprit 535
- Simple installation with independent nine zone registration
- Compatible with most low resolution computers
- High light output—400 lumens (peak white)
- Self diagnostic capability
- Liquid cooled phosphors
- Large 16 character LCD operational status and diagnostics display
- Wide band RGB video amplifiers (13MHz bandwidth)
- ± 15° keystone correction
- Error diagnostics of all major circuit functions
- Electronic Resolution: 768 lines per picture width (RGB); 330 lines per picture width (NTSC)
- Scanning Rates: Horizontal—14kHz to 17kHz; Vertical—40Hz to 100Hz
- High resolution coated f/1.01 lenses

**Esprit 300 . . . . . \$5,995.00**



Esprit



### Esprit 535 Color Video/Computer Projection System

#### Same features as Esprit 300 plus:

- Compatible with most low and medium resolution computers
- 9 pin "D" TTL RGB input connector with loothrough connector (CGA and EGA compatible)
- RS-232 (computer control system compatible)
- Horizontal frequency width tracking
- Remote adjustable horizontal phasing
- Automatic keystone tracking
- Wide band RGB video amplifiers (30MHz bandwidth)
- Electronic Resolution: 1024 lines per picture width
- Scanning Rates: Horizontal: 14kHz to 36kHz

**Esprit 535 . . . . . \$9,995.00**

### Esprit 700 Color Video/Computer Projection System

#### Same features as Esprit 535 plus:

- High light output—350 lumens max.
- 6 element hybrid super-high resolution coated f/1.01 lenses
- Upgradable to Esprit 1000
- Compatible with most low, medium, and high resolution computers
- RS-232 network capability
- Sweep direction LED indicators
- Wide band RGB amplifiers (100MHz bandwidth)
- ± to 7° keystone correction
- Electronic Resolution: 4096 lines per picture width RGB
- Scanning Rates: Horizontal—14kHz to 48kHz; Vertical: 40Hz to 150Hz

**Esprit 700 . . . . . \$14,995.00**

### Esprit 1000 Color Video/Computer Projection System

#### Same features as Esprit 700 except:

- Internal frequency tracking test pattern generator
- 8 element ultra high resolution glass lenses
- Scanning Rates: Horizontal—14kHz to 75kHz

**Esprit 1000 . . . . . \$24,995.00**



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# VIDEO SWITCHERS



69019 Rackmount



69021 Tabletop

## 69019/69021 High Definition Video Switchers

- Modular design
- 19" rackmountable
- Stereo audio switching
- Front panel controls
- Wired remote control station
- Bright LED channel indicator
- High impedance loopthrough capability for paralleling switchers
- Up to 8 RGB, video, and stereo audio input channels
- Micro-processor controlled
- Computer terminal control via RS-232 input
- Gain and brightness level adjustment on each RGB input to match output levels between channels
- All remote connectors are 6-conductor telephone modular connectors
- Front panel controls include channel selects, volume control, mute audio, main power/illuminated switch and momentary contact switches

### Options

- Modular input assemblies for system expansion
- Remote control extension cables available in 25' increments up to 100'
- Wired remote control
- Infrared wireless remote control
- Decor cabinet
- System interconnect cables available in 25' increments up to 100'
- Computer interface box for IBM-PC and PC compatible computers

This system has been developed to meet the needs of those who require wide bandpass control, and distribution of video, computer (RGB), and audio signals.

The system is housed in a 5 1/4" high, 19" wide rackmountable enclosure. It also can be supplied in an optional attractive decor cabinet for desk/tabletop installation.

The switcher is expandable to accommodate up to 8 computer (RGB) inputs and/or 8 video inputs with stereo audio. A high impedance feed-through feature allows the capability of paralleling multiple switchers for a multi-output switching matrix. Individual gain and brightness controls match all output levels.

The system is micro-processor controlled, accessed by front panel controls or remotely via an optional wired remote control station or an infrared wireless transmitter.

The switcher may be controlled also by a computer keyboard via RS-232 interconnect.

Pushbutton operation offers automatic switching between input signal channels. The effect is smooth and professional switching with no delays or adjustments. A bright LED digit channel indicator prominently displays which input channel has been selected.

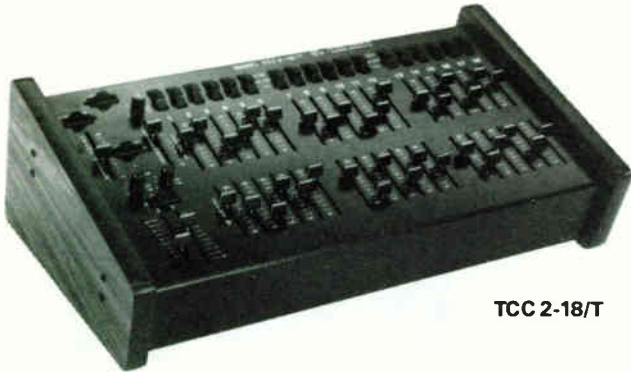
### Specifications

- Power Requirements:** 115VAC, 60Hz  
220VAC, 50Hz
- Consumption:** 28W max.
- Input**
- Number:** Up to 8 video, 8 RGB (sync) and 8 stereo audio sources
- Impedance:** 15K ohms unterminated  
75 ohms terminated
- Level:** Up to 2.0V p-p video  
Up to 5.0V p-p RGB  
Up to 7.0V p-p sync
- Output**
- Adjustable:** Up to 3.0V p-p into 75 ohms
- Number:** Two, separate and buffered
- Impedance:** 75 ohms
- DC Component:** < ± 0.1VDC
- Tilt:** < 0.1%
- Video**
- Frequency Response:** 60MHz RGB  
15MHz video
- Noise:** > 40dB below 1.0V p-p
- Crosstalk:** > 40dB below 1.0V p-p to 40MHz
- Dimensions:** Rackmount 5 1/4" H x 19" W x 9" D  
Decor cabinet 6 1/8" H x 17" W x 18 3/4" D
- Audio**
- Responses:** 20Hz-30kHz
- Input Impedance:** 10K ohms terminated  
10M ohms unterminated
- Output**
- Impedance:** 600 ohm
- Gain Control:** 0 to unity (600 ohm load) 60dB range in 1dB increments
- Internal Controls**
- RGB Channels:** Gain 0 to 1.5—brightness 0V to 5V pedestal adjustment when using four wire RGB inputs
- 69019 Rackmount, basic 2-channel . . . . . \$2495.00  
69021 Tabletop, basic 2-channel . . . . . 2695.00  
69018 Modular input assemblies for system expansion. . . . . 325.00

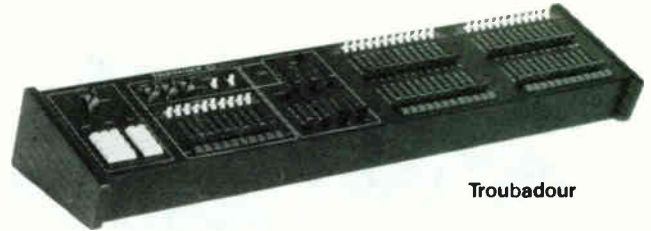
# ELECTRONICS DIVERSIFIED, INC.

1675 NW 216th Ave.  
Hillsboro, OR 97124  
(503) 645-5533 TWX: 910-240-0286  
FAX: (503) 629-9877

# LIGHTING CONTROL



TCC 2-18/T



Troubadour

## TROUPING SERIES

### Trouping Control Consoles

- Standard crossfader or split faders • Independent Master and Grand Master • Split dipless crossfader each with an electronic time fader
- Independent master with dedicated electronic time fader • 3 Way channel selector switches • Portable trouping cases or desk configuration
- Any console may master other controllers • Any controller compatible with any EDI dimmers, 2.4, 3.6, 4.8, 6, 7.2 or 12kW
- Crossfader selector switch and a black-out switch • Each channel circuit may be assigned to normal two-scene preset operation, to the time-adjustable Independent Master, or to a third position of completely Independent operation • Electronic circuitry including front panel controls is modularized • Plug-in circuit cards • Calibration is a single adjustment

TCC 2-6/T/WEP	(1) 8 pin Jones		\$ 660.00
TCC 2-12/T/WEP	(1) 15 pin Jones	16 lbs.	795.00
TCC 2-18/T/WEP	(3) 8 pin Jones	17 lbs.	935.00
TCC 2-24/T/WEP	(2) 15 pin Jones	25 lbs.	1155.00
TCC 2-36/T/WEP	(3) 15 pin Jones	37 lbs.	1520.00
TCC 2-48/T/WEP	(4) 15 pin Jones	45 lbs.	1995.00

#### Options

Add abbreviations to model numbers.

- WEP — Wood end panels
- C — Trouping Case
- APP — Applause (Bump) buttons
- S — Script lights
- M/S-2 — Master Slave cable

#### Script Lights Each —

(2 required for 2-24 and 2-36)	\$ 65.00
Bump Buttons per 6 Channels	30.00
Houselight Module	.POA
Trouping Cases for:	
TCC 2-6 thru 2-18	\$ 284.00
TCC 2-24 thru 2-36	338.00
TCC 2-48	480.00

### Troubadour +™ Control Console

- Up to 1000 dimmers controlled by 100 control channels • 100 memories • 10 full inhibiting submasters • X, Y crossfaders and independent master with timers • Full 2-scene manual mode • Special effects module • Disk drive • Color video monitor • USITT standard serial digital output, analog backup • Double-sided circuit cards, through hole plated, U.L. recognized G-10 fiberglass, rated FR-4 • Modular design easily adaptable • In case of power failure, patching and other internally stored information is protected by a 10 year lithium battery • Versatile lighting controls for portable or permanent use

Controls are grouped in modules. Each console must contain a Main Function module, a Patch, and at least one Channel module (12 channels per Channel module). Troubadour + may also be ordered with analog output. With Troubadour + 's digital/analog converter, any 0-10VDC or 2 to 7.6VDC analog dimmer can be used.



Scrimmerette II

TR Plus-24/WEP	1 or 2 Tier	86 lbs.	\$4500.00
TR Plus-36/WEP	2 Tier	100 lbs.	5100.00
TR Plus-48/WEP	2 Tier	125 lbs.	5500.00
TR Plus-60/WEP	2 Tier	200 lbs.	5900.00
TR Plus-72/WEP	3 Tier	250 lbs.	6675.00
TR Plus-84/WEP	3 Tier	300 lbs.	7275.00
TR Plus-96/WEP	3 Tier	350 lbs.	8000.00

#### Options

- WEP — Wood End Panels
- VCM — Video Color Monitor
- D — Disc Storage
- P — Printer
- FX — Effects Module
- B — Bump Buttons

Blank Panels, each	\$ 50.00
Bump Buttons, each	5.00
Effects Module	.895.00
12-Channel Module	.750.00
Disc Storage	.950.00
Special Panels	
Houselights	.POA
Non-Dims	.500.00
Printer	1500.00
Video w/color monitor	1500.00

### Scrimmerette-II™ Dimmer Packs

- Analog or digital control input • 15-pin Jones plugs; output connector allows daisy-chaining of packs • Load test outlet • One-step phase change block • 1.2kW to 12kW dimmers standard • Wall-mounted or portable • Interchangeable output panels • 20 Amp distribution
- Packs using digital control may be daisy-chained for separate address of up to 255 dimmers • Heavy-duty, iron-core, copper-wound toroidal chokes assure minimum lamp filibration and no interference • Fully magnetic primary breakers, one per dimmer • Plug-in type circuit breakers, double-sided, through-hole plated, U.L. recognized with G-10 fiberglass, rated FR-4

SCM II 12-2	.POA
SCM II 12-3	.POA
SCM II 6-6	.POA

P.O.A. — Price on application

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FAX: (503) 629-9877

# LIGHTING CONTROL

## SEC-600 Special Effects Controller

- Compatible with any EDI Dimmer 1.2 through 12kW • 6-channel controller with a 6-channel chaser and a 3-channel sound-to-light function
- Chase unit has over 20 internal functions plus audio-triggered chase
- Audio trigger is selectable between bass (20Hz-100Hz), midrange (450Hz-2000Hz), and treble (3000Hz to 20,000Hz).
- Bump buttons for momentary full on of a channel and skip switches allow the user to skip over channels while chasing
- Standard control output is an 8-pin Cinch Jones.

SEC-600/WEP ..... \$650.00  
SEC-600/RM ..... \$675.00  
SEC-600/C ..... \$835.00

WEP = Wood End Panels, RM = Rackmount, C = Trouping Case



SEC-600

## Dimmex™ Series Dimmers

- Pack or plug-in style • Six 1.2kW, twelve 1.2kW or six 2.4kW capacity dimmers • Heavy-duty, oversized, optically isolated Triacs or SCRs • Front accessible calibration • Heavy-duty, copper-wound toroidal chokes • Optional 6-channel non-dim control, integral, single-scene controls or remote control unit • Portable, wall mount, rackmount, or road rack • Wide range of control voltage calibration capabilities (0-10VDC is standard) — a low end of 0-5 and a high end of 5-14 • 8-pin Jones plug connects dimmer pack and controller. (DX 12-1 has two 8-pin Jones plugs.) Jones plug(s) not included on terminal model unless specified • Choice of output connectors

\*DX 6-1—Triac Only.

DX 6-2/20TS:6	35 lbs. ....	\$1495.00
DX 6-2/5-20R:12	35 lbs. ....	1495.00
DX 6-2/20GSP:12	35 lbs. ....	1550.00
DX 6-2/L5-20R:6	35 lbs. ....	1605.00
DX 12-1/20TS:12	37 lbs. ....	1995.00
DX 12-1/5-20R:12	37 lbs. ....	1995.00
DX 12-1/20GSP:12	37 lbs. ....	2085.00
DX 12-1/L5-15R:12	37 lbs. ....	2135.00

## DIMMEX CONTROLLERS

### MCC-12 Single-Scene 12-Channel Controller

- Digital multiplex output • Selectable dimmer output address • Compact size: 4 1/2" H x 13" W x 7" D. Wood end panels are standard
- Output is by a standard 5-pin XLR connector and a data output LED is included
- Multiplex output operates USITT DMX-512 compatible dimmers

MCC-12	1-Scene 12-Channel Controller	.....	\$775.00
DX-RC/6	1-Scene 6-Channel Remote	5 lbs. ....	.85.00
DX-RC/12	1-Scene 12-Channel Remote	8 lbs. ....	125.00
SSC/6	Pack-Mounted 1-Scene 6-Channel	.....	145.00
SSC/12	Pack-Mounted 1-Scene 12-Channel	.....	195.00

### Options

/B = Bump Buttons  
/6 = 6-Channels ..... \$30.00  
/12 = 12-Channels ..... 60.00

### Dimmex Multi-Link Series

- Supports USITT AMX 192, USITT DMX 512, Strand CD-80, Colortran Digital Multiplex and 0-10V analog control signals • Available in either twelve 2.4kW circuit or twenty-four 1.2kW circuit models
- 10,000 AIC U.L. listed, fully magnetic circuit breakers • Single or 3-phase input power • Simultaneous operation of digital and analog control signal • Built-in test buttons • Dimmer status indicator lights
- Toroidal chokes • Oversized solid-state relays • Input filter capacitors



DX 12-1

		Analog	Multi-Link
DXM 12-2/20TS:12	77 lbs.	\$2930.00	\$3130.00
DXM 12-2/5-20R:24	77 lbs.	2930.00	3130.00
DXM 12-2/20GSP:24	77 lbs.	3020.00	3220.00
DXM 12-2/L5-20R:12	77 lbs.	POA	POA
DXM 24-1/20TS:24	80 lbs.	3560.00	3760.00
DXM 24-1/5-20R:24	80 lbs.	3560.00	3760.00
DXM 24-1/20GSP:24	80 lbs.	3650.00	3850.00
DXM 24-1/L5-15R:24	80 lbs.	POA	POA

Add for Dimmex Multi-Link with indicator switches:

12-Channels ..... \$215.00  
24-Channels ..... 275.00

### Options

Triac Dimmers (DX 6-2 & DX 12-1) deduct ..... \$150.00  
Wall Mount Brackets ..... per set/15.00  
Rackmount Brackets ..... per set/25.00

### Multi-Link Control Units

The 12- and 24-channel control units can be used with the SPP and the Dimmex Series.

MCU-24L	Digital, with 24 test buttons/output indicators	.....	\$1050.00
MCU-12L	Digital, with 12 test buttons/output indicators	.....	.990.00
MCU-24	Digital, without test buttons/output indicators.	.....	
	For use with 24-dimmer modules.	.....	.775.00
MCU-12	Digital, without test buttons/output indicators.	.....	
	For use with 12-dimmer modules.	.....	.775.00
ACU-24L	0-10V analog, with 24 test buttons/output indicators	.....	.775.00
ACU-12L	0-10V analog, with 12 test buttons/output indicators	.....	.675.00
ACU-24	0-10V analog, without test buttons/output indicators. For use with 24-dimmer modules.	.....	.500.00
ACU-12	0-10V analog, without test buttons/output indicators. For use with 12-dimmer modules.	.....	.500.00

POA—Price On Application



# ELECTRONIC THEATRE CONTROLS, INC.

DISTRIBUTED EXCLUSIVELY BY TEATRONICS, INC.

3002 W. Beltline Highway

Middleton, WI 53562

(608) 831-4116 FAX: (608) 836-1736

# LIGHTING CONTROL

## Vision Lighting Control Console

Vision is a powerful memory console that's compatible with virtually every electronic dimmer ever built. It offers 100 control channels by 192 dimmers with a proportional softpatch. The memory holds 200 cues and the optional disk drive records 5 shows of 200 cues each. The two timed faders allow you to create overlapping fades and effects with Vision. Both faders allow for immediate manual override of fades in progress. Vision interfaces directly with most manual consoles, allowing cues set on a manual board to be recorded directly into the memory.

Vision is easy to learn and hard to forget. Its unique HELP system explains the board's features right on the monitor. Simply press HELP, followed by the button you don't understand, and receive a clear, concise description of what it does and an example of how to use it. In addition to the HELP system, Vision makes programming easy through the use of "prompt messages," which are always displayed on the monitor, telling the operator, step by step, what to do next. All of these onboard instruction features are backed by a written manual, unmatched in its clarity. Vision's manual includes a "Lessons" section, which leads the new user through the entire system, while providing a quick reference to Vision's features for the experienced operator.

You can upgrade your system to a full-function memory board, or own a backup computer that's compatible with your existing dimmers. From high school to off Broadway and industrial applications, Vision works as hard for your productions as you do.

## Specifications

**Cue Capacity:** 200 cues per show  
100 control channels  
192 dimmers  
Proportional softpatch  
5 shows on the optional disk

**Display Functions:** One monochrome RS-170 CRT:  
Fader status, Cue sheet, Stage display, Blind display, Softpatch display, Setup display, HELP display, RGB color monitor option



Vision

**Playback Controls** Two pairs of timed faders:  
.1 second to 99.59 split fade times, Instant manual override of upfade and/or downfade, Change only cues, Crossfade cues, Manual fades, LED fade progress indicators, Optional read-back from manual board, Grand master, Blackout function

**Keyboard Functions** Cue Functions:  
Clear cue, Split fade times, Linked sequences

**Channel Functions:**  
Channel selection, and and through functions, Remainder dim function, At full level entry function

**Interface** Input Options:  
Up to 96 analog channels

**Analog Output:**  
96 or 192 analog dimmers, 512 analog dimmers (with dimmer interface unit)

**Digital Output:**  
LMI digital protocol, Colortran digital protocol, DMX-512 digital protocol, Avab digital protocol, Kliegl K-96™ digital protocol

**Serial Analog Output:**  
AMX-192 (CD-80™), RS-232C printer output, Remote focus unit interface, Remote Go switch interface

**Power Supplies** Input Requirements:  
110VAC-120VAC at 5A max. (240VAC optional), 60Hz (50Hz optional)

## Impression Lighting Control System

**Cue Capacity:** 200 cues per show  
5 shows per micro floppy disk  
150 control channels  
Proportional softpatch to 512 dimmers

**Display Functions:** One monochrome RS-170 video output  
One color RGB video output

**Display Modes:**  
Stage display, Blind display, HELP display, Track sheet display, Softpatch display, Setup display menu

**Playback Controls:** Autofader Pairs (2) on 100mm potentiometers:  
.1 second to 99 min. 59 sec. programmable fade times, Manual override of upfade and downfade times, Manual fades, Pile on fades, Cross fades, Split time fades

**24 submasters:**  
Fully overlapping channel assignments, Proportional channel levels, Bump switches, Recordable fade and wait times, 12 submasters may be programmed for "inhibitive" operation, Grand master, Blackout function, Real time clock for programming of up to 10 events for play-back on prescribed days of the week

**Keyboard Functions** Cue Functions:  
Cue button selection for cue #'s, 1-999.9, Clear cue function (in blind), Sequence function, Fade type, Fade times. Discrete upfade and downfade times (00:00-99:59) for each cue, Link button to link a sequence of cues in any order, Delay button to allow the operator to set the time between the start of a cue and the start of the cue to which it is linked (lead and lag cues)

**Fader Wheel: Interfaces** Channel Functions:  
Channel button to allow channels to be selected by keypad, Group button to allow channels to be manipulated as proportionally balanced groups, And and through buttons for selection of channels, cues or dimmers, At button for entering intensity levels, Full button for selecting intensity of 100%, Dimmer button for selection of dimmers in soft-patch, Release button for release of captured channels, Remainder dim button to set all unselected channels to a level of 00%

For proportional intensity control of channels or groups

**Input Option:**  
Up to 96 analog inputs for load from manual or standalone patch

**Analog Output:**  
Up to 512 analog dimmer outputs, 0VDC-24VDC (192 internally)

**AMX-192 Output:**  
AMX dimmer outputs

**Digital Output:**  
LMI RD dimmers (internally), Colortran D-192 dimmers (512 internally), DMX 512 dimmers (512 internally), Kliegl K-96 dimmers (requires DIU), Parallel printer interface, RS-232 serial port for programming purposes, Remote focus unit interface, Remote Go interface

# ELECTRONIC THEATRE CONTROLS, INC. LIGHTING CONTROL SYSTEMS

DISTRIBUTED EXCLUSIVELY BY TEATRONICS, INC.

3002 W. Beltline Highway

Middleton, WI 53562

(608) 831-4116 FAX: (608) 836-1736

## Expression Lighting Control System

Expression is designed for use in applications in medium-to-large studios and theaters, road shows and concerts. It offers the sophistication you need for all types of program situations.

### High performance. Not high priced.

Five shows can be stored and accessed at any time, giving you up to 1000 cues for the events you need. Expression gives you immediate access to 250 channels controlling 1000 dimmers with proportional soft patch.

Two cue playback faders with independent controls for split fade times. The faders can also be utilized for dynamic control of effects. The rate and intensity of faders are completely variable.

Exciting and intricate special effects such as random fire effects or 24 part fade can be generated using the effects and subroutine packages. Expression can be used with virtually any dimmer available.

Twenty-four overlapping, proportional submasters allow control over any or all channels. This is especially important for live performances. All 24 submasters are provided with unique bump switches. The bump switches can be used for simple on/off control or can be programmed as timed faders, thus turning each of the 24 submasters into timed faders.

### Display modes keep you on top of the action

Six display modes are available and displayed on the color monitor. Confirm the current status of your program using the stage display. Preview an upcoming cue in the blind display. Look at any channel throughout a show as well as active dimmers in the track sheet and soft patch display. The setup display menu lets you customize a show to your particular hardware configuration. HELP screen offers on-line documentation.

### Sophisticated. Yet simple

You need a board that offers many control possibilities. You don't need to waste time learning and programming your show. Expression offers clear, concise operator prompts in plain language. There are no special codes to learn. HELP features provide on-line instruction every step of the way.

## Specifications

### Cue Capacity:

200 cues per show  
2 shows per micro floppy disk  
250 control channels  
Proportional softpatch to 1000 dimmers

### Display Functions:

One monochrome RS-170 video output, One color RGB video output

### Display Modes:

Stage display, Blind display, HELP display, Track sheet display, Softpatch display, Setup display menu

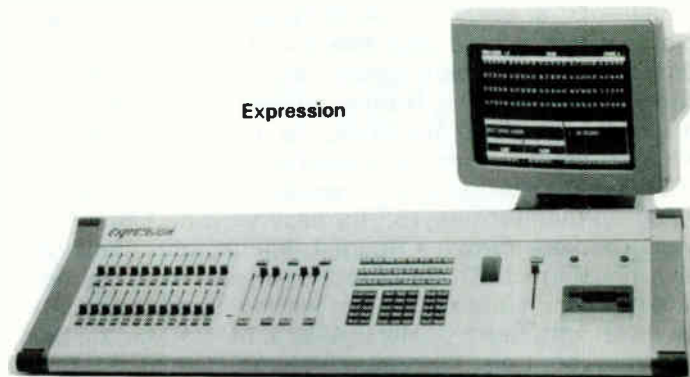
### Playback Controls:

**Autofader pairs (2) on 100mm potentiometers:**  
.1 second to 99 min. 59 sec. programmable fade times, Manual override of upfade and downfade times, Manual fades, Pile on fades, Cross fades, Split time fades

### 24 submasters

Fully overlapping channel assignments, Proportional channel levels, Bump switches, Recordable fade and wait times, 12 submasters may be programmed for "inhibitive" operation, Grand master, Blackout function, Real time clock for programming of up to 10 events for playback on prescribed days of the week

Expression



### Keyboard Functions

### Cue Functions:

Cue button selection for cue #'s, 1-999.9, Clear cue function (in blind), Sequence function, Fade type, Fade times. Discrete upfade and downfade times (00:00-99:59) for each cue, Link button to link a sequence of cues in any order, Delay button to allow the operator to set the time between the start of a cue and the start of the cue to which it is linked (lead and lag cues)

### Channel Functions:

Channel button to allow channels to be selected by keypad, Group button to allow channels to be manipulated as proportionally balanced groups, And and through buttons for selection of channels, cues or dimmers, At button for entering intensity levels, Full button for selecting intensity of 100%, Dimmer button for selection of dimmers in softpatch, Release button for release of captured channels, Remainder dim button to set all unselected channels to a level of 00%

### Effects Package:

User created, Full variability of intensity and rate during playback

### Fader Wheel:

For proportional intensity control of channels or groups

### Input Option:

Up to 192 analog inputs for load from manual or standalone patch

### Analog Output:

Up to 1,000 analog dimmer outputs, 0-24VDC (192 internally)

### AMX-192 Output:

Up to 1,000 AMX dimmer outputs

### Digital Output:

1,000 LMI RD dimmers (1,000 internally), 1,000 Colortran D-192 dimmers (512 internally), 1,000 DMX 512 dimmers (512 internally), 1,000 Kliegl K-96 dimmers (requires DIU), Parallel printer interface, RS-232 serial port for programming purposes, Remote focus unit interface, Remote GO interface

### Interfaces

# ELMO MFG. CORP.

70 New Hyde Park Rd.  
New Hyde Park, NY 11040  
(516) 775-3200 (800) 654-7628  
FAX: (516) 775-3297

# VIDEO PRESENTATION SYSTEM

## Astron VP-10 Portable Video Presentation System

- Built-in 3" speaker • Modular design for quick and simple servicing • 2 rechargeable batteries • 4-head video provides studio quality freeze-frame, variable slow motion and frame-by-frame advance • 90 minutes playback/record on batteries; up to 8 hours on AC • "Soft Touch" function switches • 4" EIA standard (525 lines) color monitor for exceptional picture clarity • Pop-up monitor tilts 15° for easy viewing • Standard VHS cassette format • Rugged, lightweight aluminum alloy housing • LCD multi-function display • 12-function remote control unit • 15.5 lbs. without batteries and 18 lbs. with batteries • 8" H x 9.4" W x 13" L • Monitor has separate controls for Power/Volume, Contrast, Tint, Color, Brightness, and Vertical Hold

The Astron VP-10 is an industrial quality video system. It is completely self-powered, and that means no more extra cables or fumbling on hands and knees for a wall outlet.

The VP-10's videocassette recorder features state-of-the-art technology, and utilizes a 4-head video system driven by 4 individual quartz servo-controlled direct-drive motors. This system provides precise and reliable tape movement, and delivers studio quality reproduction of over 240 horizontal lines resolution. With the 4-head video cylinder, you get noiseless playback even when using the special effects modes.

Although the Astron VP-10 is compact, it has all the features you would expect on bulkier models, such as slow motion, freeze frame, frame-by-frame advance, video editing and audio dubbing. The entire VP-10 system fits neatly into an attractive, durable, soft carrying case that is designed so that you do not have to remove the VP-10 to make a presentation.

### Specifications

**Power Source:** 12VDC  
**Power Consumption:** VHS Recorder/Player: 6W at playback, 4.7W at recording. Color Monitor: 14W  
**Color Monitor:** 4" diagonal; EIA standard; built-in 3" speaker; Power/Volume, Contrast, Tint, Color, Brightness and Vertical Hold controls. Video/Audio in and out jacks. NTSC color signal  
**Video Rec. System:** 4 video heads, helical scanning system. Luminance FM azimuth recording. Color signal converted subcarrier phase shift recording  
**Audio Track:** 1 track  
**Tape Format:** VHS Tape width 1/2" (12.7mm) high density tape  
**Tape Speed:** SP-1<sup>5</sup>/<sub>16</sub> ips; LP-2<sup>1</sup>/<sub>32</sub> ips; SLP-7<sup>1</sup>/<sub>16</sub> ips  
**Rec./Playback Time:** 120 min. with T 120 (SP mode)  
**FF/Rew. Time:** About 4 min. with T 120



Astron VP-10

<b>Video Input Levels:</b>	Video: RCA	1.0V p-p	75 ohm
	Tuner: (20 pin)	1.0V p-p	75 ohm
	Camera: (10 pin)	1.0V p-p	75 ohm
<b>Audio Input Level:</b>	Mike In jack	-70dB	600 ohm
<b>Video Output Levels:</b>	Video (RCA)	1.0V p-p	75 ohm
<b>Audio Output Level:</b>	Audio (RCA)	-8dB	600 ohm
<b>RF Modulated:</b>	Channel 3 or 4		
<b>Video Horiz. Resolution:</b>	Monochrome/Color; more than 240 lines		
<b>Audio Freq. Response:</b>	SP 50Hz-10kHz		
<b>S/N Ratio:</b>	Video > 45dB (Rhode & Schwarz noise meter). Audio > 43dB		

### VP-10 Presentation System Includes:

- VP-10: Professional VHS Recorder, 4" color monitor, presentation housing • 12-function remote control • Soft carrying case • 2 EA-BP10 rechargeable batteries • Dual battery charger • Shoulder strap • Coaxial quick connect • Audio output cord • 75 ohms transformer • VHF matching box • 300-75 ohms transformer • Antenna selector • Adaptor connector (RCA-BNC) • Earphone

<b>6200 DC</b>	Astron VP-10 Battery Package . . . . .	\$1575.00
<b>6200 AC</b>	Astron VP-10 AC Adaptor Package . . . . .	1666.00
<b>Accessories</b>		
<b>6604</b>	EA-BC 10 Dual Battery Charger (110/220V operating voltage) . . . . .	\$ 65.00
<b>6601</b>	EA-BP 10 Snap-In Rechargeable Battery (2 required) . . . . .	42.50
<b>6602</b>	EA-PA 10 AC Adaptor (2 required) (110/220V operating voltage) . . . . .	125.00
<b>Part</b>	Battery Charging Cord for EA-PA 10 or EA-BC 10 (as replacement) . . . . .	.640



# ELMO MFG. CORP.

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New Hyde Park, NY 11040  
(516) 775-3200 FAX: (516) 775-3297  
(800) 654-7628

# CCD CAMERAS



EM-101

### EM-101 CCD Color Video Camera

- CCD image sensor and superb optical system have been combined in a small camera head measuring 0.69" (17.5mm) in diameter and 2.26" (57.4mm) in length • Weighs 0.93 oz. (26.5g) • Camera head can be installed anywhere, out of the way or out of sight • Camera head and its control unit are separate and are connected by the 16.4' (5m) connection cord for easy handling • 200,000 picture elements CCD image sensor assures a sharp and crisp picture without after-image or streaking • Sensitivity up function for shooting low light condition (15 lux), Negative-Positive conversion function, Auto-white balance function are all included • 1/2" Interline-transfer CCD pick-up device • 398 (horizontal) x 493 (vertical) picture elements • 2:1 interlaced • NTSC compatible • More than 240 TV lines (horizontal) • More than 350 TV lines (vertical) • Video output 1.0V p-p 75 ohm unbalanced VBS • 200 lux with f/1.6 3000°K (recommended) 15 lux with f/1.6 3000°K (minimum) • Better than 46dB S/N ratio • f/1.6 7.5mm (camera with f/2.0 15mm lens is available as option)

8953 EM-101 ..... \$4990.00



EC-201

### EC-201 CCD Color Video Camera

- CCD image sensor is built into a compact camera head measuring 1.5" x 1.26" x 1.46" (38 x 32 x 37mm) • Weighs 3.5 oz. (100g) • Camera head and its control unit are separate and can be placed anywhere. Most of standard C-mount lenses can be used • 200,000 picture elements CCD image sensor assures a sharp and crisp picture without after-image or streaking • Sensitivity up function for shooting low light condition (15 lux), Negative-Positive conversion function, Auto-white balance function are all included • 1/2" Interline-transfer CCD pick-up device • 398 (horizontal) x 493 (vertical) picture elements • 2:1 interlaced • NTSC compatible • More than 240 TV lines (horizontal) • More than 350 TV lines (vertical) • 200 lux with f/1.6 3000°K (recommended) 15 lux with f/1.6 3000°K (minimum) • Better than 46dB S/N ratio

8954 EC-201 ..... \$2990.00



ES-301

### ES-301 CCD Color Video Camera

- Camera head can be separated from its power unit (max. 32.8', 10m) • Compact and lightweight camera head can then be placed freely anywhere. Most of standard C-mount lenses can be used • 200,000 picture elements CCD image sensor assures a sharp and crisp picture without after-image or streaking • Noise reduction circuit for better S/N ratio and Linear-matrix circuit for better reproduction are standard • 1/2" Interline-transfer CCD pick-up device • 398 (horizontal) x 493 (vertical) picture elements • 2:1 interlaced • NTSC compatible • More than 240 TV lines (horizontal) • More than 350 TV lines (vertical) • 100 lux with f/1.2 3000°K (recommended) 10 lux with f/1.2 3000°K (minimum) • Better than 46dB S/N ratio

8956 ES-301 ..... \$1990.00



8400

### 8400 CCD Black-And-White Industrial Video Camera

- Compact size and lightweight • Distortion-free image • Negligible after-image • No sticking • Extremely durable against vibration and shock • Unaffected by electric or magnetic field • Low power consumption • High sensitivity and resolution • Long life • Quick starting • Replaces existing standard TV cameras • Solid-state CCD (Charge Coupled Device) image pickup element

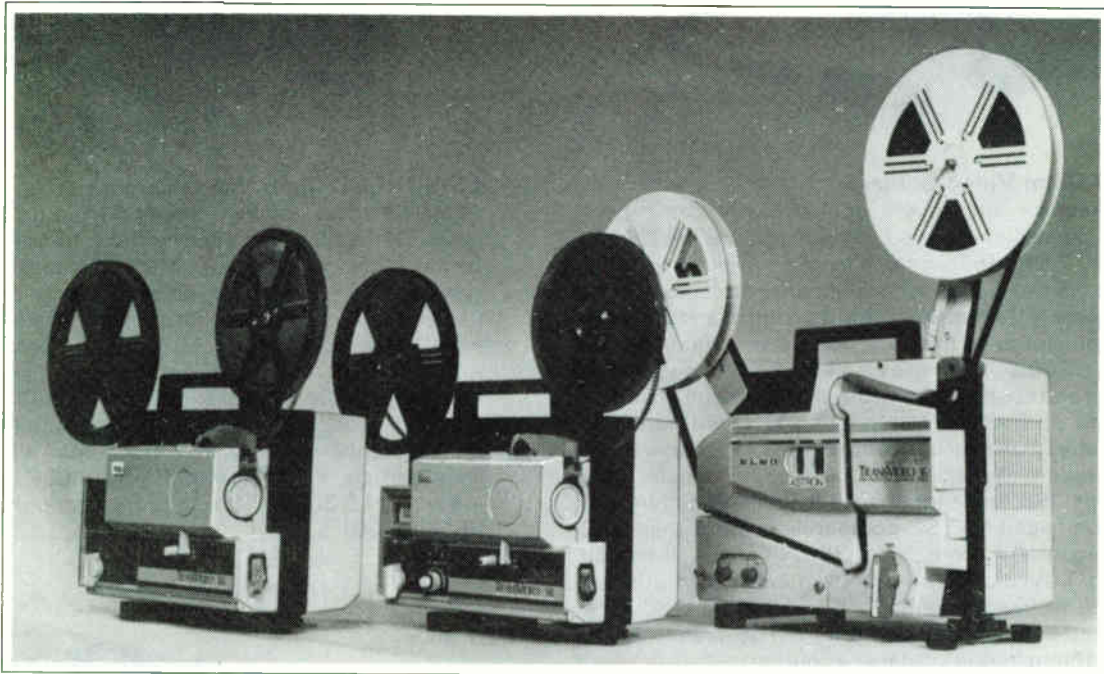
The 8400 is ideal for such applications as office or store monitoring, surveillance, hazard protection, process control, image analysis and medical and scientific inspection.

8952	CCD 8400 .....	\$990.00
8951-1	Piggyback Power Supply Unit P-8400 .....	279.00
8951	Power Supply Unit PA-8400 (w/o cable) .....	299.00
8968	Power Supply Cable (16.4 ft.) .....	45.00
8968-1	Coaxial Cable (16.4 ft.) .....	65.00
8958-2	f/1.8, 6.5mm Lens .....	199.00
8958-3	f/1.3, 8mm Lens .....	149.00
8958-4	f/1.3, 12.5mm Lens .....	149.00

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# FILM-TO-VIDEO CONVERTERS



TransVideo R8

TransVideo S8

TransVideo 16

## TransVideo Film-to-Video Converters

Convert 16mm, Super 8mm, Regular 8mm movie film or 35mm slides to video with a compact, totally self-contained "TransVideo" Film-to-Video Converter.

Choice of models in each of the most popular formats.

Each TransVideo Converter is a complete Tele-Cine Transfer System consisting of a renowned, foolproof film transport mechanism. A state-of-the-art CCD (Charge Coupled Device) video pick-up element is combined with a special flat-field lens to produce a grainless aerial image. Color control, iris control, video and audio output are built-in.

The TransVideo eliminates the need of separate video cameras, multiplexers or transfer screens; simply connect the TransVideo's video and audio output jacks to any video tape recorder and make your transfer. Or, you may connect the TransVideo directly to any projection video system or closed circuit video system.

The versatile TransVideo Converter solves almost every Film-to-Video requirement.

Available in the following formats:

- 16mm sound or silent at 24fps
- Super 8mm sound or silent 18fps film to be played back for video at 20fps
- Regular (standard) 8mm silent 18fps (and 16fps) film to be played back for video at 20fps
- 35mm, 2 x 2 mount slide film

## Specifications:

<b>Optics:</b>	Special flat-field lens built-in 16mm for Super 8mm, Regular 8mm film and 35mm slides; 25mm for 16mm film
	<b>Iris Adjustment:</b> Manual with fine adjustment
	<b>Focusing:</b> Manual with fine adjustment
	<b>Light Source:</b> 6V-10W halogen lamp (film) 12V-6W halogen lamp (slides)
	<b>Shading:</b> Less than 10%
<b>Video:</b>	<b>Pick-up Element:</b> 1/2" CCD built-in
	<b>Video Output:</b> 1.0V p-p 75 ohm
	<b>Resolution:</b> 240 TV lines
	<b>S/N Ratio:</b> More than 46dB
	<b>Color Compensation:</b> Red/Blue
	<b>Video System:</b> NTSC
<b>Sound:</b>	<b>Playback System:</b> Optical/Magnetic (16mm) Magnetic/Optical (Super 8mm) Silent only (Regular 8mm)
	<b>Audio Output:</b> 400mV, 600 ohm
	<b>Frequency Response:</b> Optical — 50Hz to 7kHz Magnetic — 50Hz to 12kHz (16mm) 50Hz to + 10kHz (Super 8mm)

TransVideo 16 (16mm) . . . . .	\$3550.00
TransVideo S8 (Super 8) . . . . .	3250.00
TransVideo R8 (Regular Standard 8mm) . . . . .	3250.00
TransVideo 35 (35mm slides) . . . . .	2550.00

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(800) 654-7628

# TELE-CINE EQUIPMENT

## Tele-Cine Projectors

### 16-CL TC 16mm

A professional 16mm Tele-Cine Projector with 24fps synchronous motor, 5-bladed shutter, and 2000' film capacity. A unique channel loading system makes threading and viewing safe and simple. A 15fps version is available as an option.

### GS-1200 TC Super 8

The ultimate Super 8 Tele-Cine Projector featuring a 24fps crystal controlled motor, 5-bladed shutter, 1200' reel capacity, magnetic/optical sound with magnetic stereo sound playback capability.

### ST-180 ETC(S) Super 8

Super 8 Sound Tele-Cine Projector for films taken at 18fps. Features a 20fps speed motor with fine speed adjustment, 3-bladed shutter, magnetic/optical amplifier, auto threading and 600' reel capacity. A 24fps version is available as an option.

### ST-180 ETC(R) Regular 8

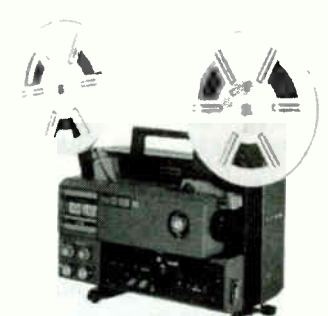
Regular 8 Silent Tele-Cine Projector. Features 20fps projection speed with fine speed adjustment, auto threading and 600' reel capacity. A 15fps version is available as an option.

### Omnigraphic 300 ETC 35mm Slide

Heavy-duty Tele-Cine Slide Projector. Rugged diecast housing with professional 3-motor drive system, opal light diffuser, uses standard circular tray. Remote control and timer optionally available.



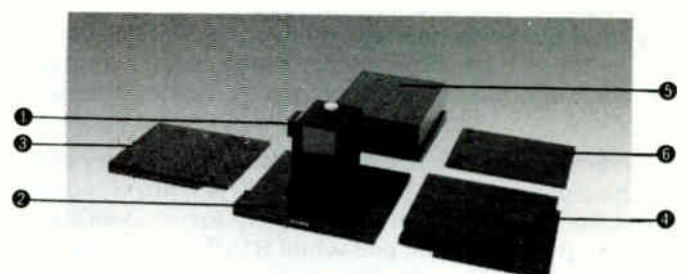
16-CL TC



GS-1200



ST-180  
Regular 8



ETC Multi

- ① Tri-Port Screen Unit
- ② Screen Unit Base
- ③ Primary Base  
—For 16-CL TC  
(required foundation for  
other projector bases)
- ④ ST-180 ETC Base  
(use with primary base)
- ⑤ Omnigraphic ETC Base  
(use with primary base)
- ⑥ GS-1200 TC Base  
(use with primary base)

8246	16-CL TC, 16mm Tele-Cine Projector, M/O playback, 24fps sound speed, 5-bladed shutter with synchronous motor and f/1.4 20mm lens (to be used with ELMO Tele-Cine Screen Units). Lenses also available for other manufacturers' systems) . . . . .	\$2490.00
8246-15	16-CL TC, 16mm Tele-Cine Projector, 15fps silent speed with 4-bladed shutter . . . . .	2610.00
1271	f/1.4 20mm lens (to be used with ELMO Tele-Cine Screen Units) . . . . .	180.00
1288	f/1.2, 50mm lens . . . . .	180.00
1274	f/1.8, 75mm lens . . . . .	180.00
Adaptor-4	49.5-55mm adaptor ring for use with user supplied + 2 close-up (required by some non-ELMO transfer systems). . . . .	29.95
1196	1600' aluminum auto reel . . . . .	33.00
1352	2000' aluminum auto reel . . . . .	39.00
1284	ELC halogen lamp (24V/250W) . . . . .	25.94
1179	BRK exciter lamp for 16-CL (ETC) . . . . .	10.26
8900	GS-1200 TC, heavy-duty Super 8 Tele-Cine Sound Projector, crystal controlled, 5-bladed shutter, 1200' capacity, 24fps. Remote control available. With f/1.0, 12.5-30mm lens (to be used with ELMO Tele-Cine Screen Units. Lenses also available for other manufacturers' systems) . . . . .	\$1890.00
8347	ST-180 ETC, Super 8 Tele-Cine Sound Projector, with variable speed and 3-bladed shutter for use with 18fps Sound or Silent Super 8 film at 20fps. 600' reel capacity. Supplied with f/1.3 15-25mm lens for use with ELMO Tele-Cine Screen Units . . . . .	\$749.95
8348	ST-180 ETC, Regular 8 Tele-Cine Silent Projector with variable speed motor and 4-bladed shutter for use with Silent Regular 8 film at 15fps. 600' reel capacity. Supplied with f/1.3 15-25mm lens for use with ELMO Tele-Cine Screen Units . . . . .	\$749.95
8348-15	As above, modified for 15fps with 4-bladed shutter . . . . .	814.95
4125-TC	Omnigraphic 300 ETC, 35mm slide projector standard. Opal diffusion condenser, 85mm lens plus two close-up lenses and adaptor, 80 slide circular tray . . . . .	549.95
4126-TC	Omnigraphic 300AF ETC. As above with auto focus . . . . .	649.95
2280	ELMO zoom, f/1.3 15-25mm . . . . .	68.50
2560	Super Hi-Fi zoom lens, f/1.0 12.5-30mm. . . . .	250.00
2558-TC	Super Tele-Cine zoom lens, f/1.2 25-50mm. . . . .	250.00
2253	400' auto reel with case . . . . .	8.50
2191-1	600' auto reel . . . . .	14.50
2163-1	800' auto reel . . . . .	10.90
2155	1200' aluminum auto reel . . . . .	32.50
2356	ESC halogen lamp (24V/200W) for GS-1200 TC/ETC . . . . .	30.09
1169	BRS exciter lamp . . . . .	10.06
2255	EFP halogen lamp (12V/100W) for ST-180 ETC and SC-18 ETC. . . . .	31.47

## ETC Multi Video Transfer Station

Designed for use with various ELMO Tele-Cine Projectors, 16mm/8mm/35mm, either individually or in combination for titles or special effects. It features projector alignment slots to eliminate the need for time consuming optical alignment.

Each projector module is designed to accept a specific TC projector eliminating the need to adjust for height or optical axis, which enables you to be ready to transfer in seconds after installing the proper projector for your needs.

### System Requires:

8300-1	Tri-Port Screen Unit . . . . .	\$700.00
8300-2	Screen Unit Base . . . . .	65.50
<b>Plus one or more of the following stations, which fasten to the Screen Unit Base:</b>		
8300-3	Primary Base Unit—Used for 16-CL TC (16mm) with 20mm lens and required for any other Projector Base . . . . .	\$66.50
8300-5	Projector Base for ST-180 ETC (either Super 8mm or Regular 8mm) . . . . .	49.50
8300-6	Projector Base for Omnigraphic Slide Projector with 70-125mm Pro-Zoom . . . . .	54.50
8300-4	Projector Base for GS-1200 TC with 12.5-30mm Lens . . . . .	49.50
<b>Note:</b> Screen Unit Base accepts up to three auxiliary projector bases, two of which can be used simultaneously.		
8373	Tele-Cine Screen Unit (ETC) III with height-adjustable, free-standing pedestal base . . . . .	119.00

Prices and Specifications Subject to Change Without Notice.



# ELMO MFG. CORP.

70 New Hyde Park Rd.  
New Hyde Park, NY 11040  
(516) 775-3200 FAX: (516) 775-3297  
(800) 654-7628

# ELECTRONIC COPYBOARD

## EB-101 Data-Saver Electronic Copyboard

- **Education:** The Data-Saver Copyboard ends the need for constant note taking and focuses the group's attention where it belongs
- **Sports:** The coach can demonstrate his plays live, then place them right into the hands of the players, making it easy for them to understand and memorize
- **Medical:** Formulas, and any medical information can now be easily preserved with the Data-Saver
- **Advertising:** Using the Data-Saver copyboard you can fine tune layouts and designs, make more dramatic client-presentations and get your selling message across
- **Engineering:** Diagrams of new designs can be shared with a small group or sent around the world
- **Corporate:** Chairman of the Board. No matter what type of business-needs you have, the Data-Saver can meet them. It can be used for making charts, graphs, or other corporate presentation material at any size meeting

This remarkable copyboard makes an exact copy of everything you put on it. Everything that is written or drawn on its 34 1/2" x 50" surface can be reduced, in seconds, to a sharp, crisp, black and white 8 1/2" x 11" duplicate, which can be copied in large quantities and distributed, or put on a telefax machine and sent anywhere in the world.

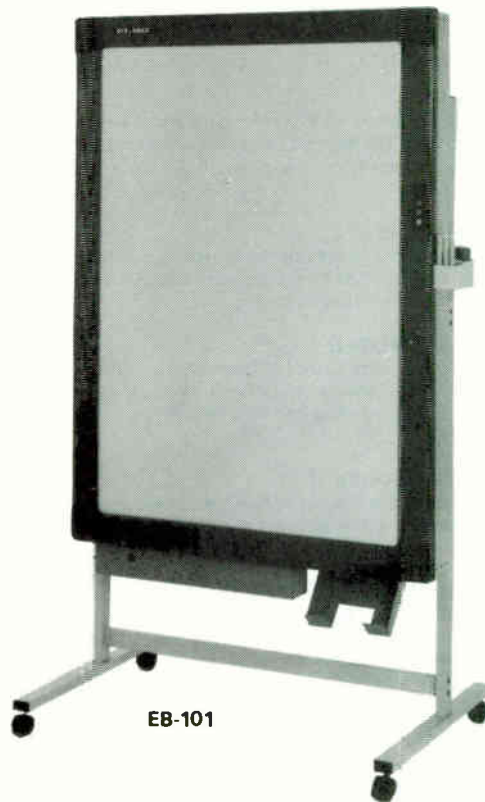
This rugged, attractive copyboard, because of its vertical design, is easy to move from room to room (or even from floor to floor), takes up much less space than horizontal boards...and, the copy fits a standard size page format. The writing surface is made of a durable white, erasable material, with faint grid lines, (which can be seen close-up, but are not visible to the audience) for making accurate and neat presentations.

The board uses standard dry-erase whiteboard markers, which come in a variety of colors and erase easily with a single stroke.

The Data-Saver is actually two boards in one. The "Turn" button rotates the board to a second writing surface, without smearing or erasing your original. This doubles the amount of writing surface, allowing you to continue your presentation on the new surface. At any-time during your presentation, you can just push the "Turn" button and the original screen can be called back.

### Specifications

Size:	80.7"H x 41.3"L 31.5" (leg width)
Weight:	121 lbs.
Power Required:	115VAC, 60Hz
Power Consumed:	Approx. 75W non-operating Approx. 180W operating



Ambient Temperature:	50° to 90°F (10° to 35°C) (for operation) 0° to 140°F (-20° to 60°C) (for storage)
Ambient Humidity:	30 to 95% Relative Humidity
<b>White Board</b>	
Size of Each Screen:	50.0"L x 34.6"W
Number of Screens:	2 Screens
Number of Copy-available Screens:	2 Screens
Writing:	Dry-Erase Whiteboard Markers
Eraser:	Dry-Erase Type
<b>Printer</b>	
Recording Paper:	Group III Thermal Recording Roll Paper Width: 8 1/4" x 165' w/1" core or 8 1/2" x 328' w/1" core 8 1/2" x 11" Letter Size Approx. 7 1/4" x 10 1/2"
Page Size of Printout:	8 1/2" x 11" Letter Size
Copy Area on Page:	Approx. 7 1/4" x 10 1/2"
Copy Time:	Approx. 20 second/sheet
Copy Color:	Black
Number of Copies Per Screen at a Time:	1 Copy
<b>Supplied Accessories</b>	
Marker Pens:	A set of three pens: black, red and blue 1 Piece
Eraser:	1 Piece
Marker/Eraser Holder:	1 Piece
Recording Paper:	1 Roll of 8 1/4"W x 165'L
8942 EB-101.....	\$2495.00

### Paper and Supplies

8949-1	Liquid, dry-erase markers (set of 3, 1—red, 1—blue, 1—black).....	\$4.75
8949-2	Dry-erase eraser.....	4.95
8949-4	Data-saver facsimile roll paper AccuFax Type 55 8.5" x 328'/roll.....	roll/16.96

# ESE

142 Sierra St.  
El Segundo, CA 90245  
(213) 322-2136  
Telex: 49-33079

## 70 Series Console Mount Clocks and Timers

ES 172 Six Digit—12 Hour Clock. Three setting controls: Fast Advance, Slow Advance, and Hold.

ES 172.....\$183.00

ES 174 Six Digit—24 Hour Clock. Otherwise identical to the ES 172.

ES 174.....\$183.00

ES 370 Four Digit, One Hundred Minute Up/Down Timer. Six controls: Count Up, Count Down, Stop, Minutes Advance, Seconds Advance, Reset.

ES 370.....\$233.00

ES 371 Up/Down Timer. Similar to the ES 370 except with Leverwheel Preset capability for faster setting of the desired time.

ES 371.....\$370.00

ES 570 Four Digit, Sixty or 100 Minute Timer. Select 60 or 100 minute mode on rear connector. Start, Stop and Reset controls. Runs continuously unless stopped. Reset will return all displays to zero. Unit will run if reset while running or will stay at zero if reset when stopped.

ES 570.....\$174.00

ES 572 Six Digit—12 Hour Clock or Timer. Five controls: Start, Stop, Reset, Fast Advance, Slow Advance. Will run continuously to 12:59:59. Advances to 1:00:00 and continues as clock unless stopped or advanced.

ES 572.....\$223.00

ES 574 A 24 hour version of ES 572.

ES 574.....\$223.00

ES 575 Exactly like ES 570, with the addition of a "freeze" button. When the button is released, the display "catches up" with the correct elapsed time. Dimensions: 2.16" H x 4.5" W x 4.13" D.

ES 575.....\$223.00

## ES 562E/564E Six Digit Clock/Timer with Memory

ES 562E/564E is a combination six digit clock and 24 hour timer with memory, allowing the user to set the clock to the correct time of day, switch to timer mode, then switch back to time of day by pushing one button; time of day will be correctly displayed, in hours, minutes and seconds. Six pushbutton controls are mounted on the top of the unit, near the front of the desktop case. When panel mounting is specified, they will be mounted on the front panel, below the display. The controls may also be remoted, through two rear-mounted five pin connectors (Option R or Option D). These controls are Reset, Timer, Fast/Start, Slow/Stop, Hold and Clock. Display: Six digits of .55" Planar Gas Discharge Display.

562E/564E.....\$362.00

## ES 112E/124E Digital Clock

ES 112E (12 hr.) and ES 124E (24 hr.) are solid-state, six digit clocks. Can drive 80 Series and 90 Series slaves. Displays are gas discharge, .55" high. Dimensions: 2 1/2" H x 8" W x 6" D.

ES 112E.....\$191.00

## 80 Series Jumbo Clocks and Timers

Large, bright 1" gas discharge displays provide effortless long distance viewing from 40 feet.

ES 182E Six Digit—12 Hour Clock. Three rear-mounted setting controls: Fast Advance, Slow Advance, and Hold.

ES 182E.....\$315.00

ES 184E Six Digit—24 Hour Clock. Otherwise identical to the ES 182E.

ES 184E.....\$315.00

ES 380AE Four Digit, 100 Minute Up/Down Timer Displays minutes and seconds, with rear-mounted connector to allow remote wiring of six momentary SPST Controls: Count Up, Count Down, Stop, Minutes Advance, Seconds Advance and Reset. Other features similar to ES 301E.

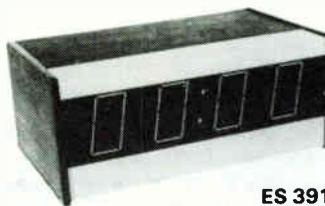
ES 380AE.....\$349.00

ES 381AE Up/Down Timer. Similar to ES 380E, except that leverwheel preset is used.

ES 381AE.....\$482.00

ES 580E Four Digit, 60 Minute Timer Displays minutes and seconds. Rear connector allows remote wiring of three momentary SPST controls: Start, Stop and Reset. Reset returns all displays to zero, and timer will continue to run from zero if reset while running.

# CLOCKS/TIMERS



ES 391



ES 992E/994E

80 Series slaves are also compatible with other ESE clocks and timers: ES 112E/124E, 301E, 302E and 510E. Dimensions: 4.45" H x 10.38" W x 6.58" D.

ES 580E.....\$264.00

## ES 510E Four Digit 60 Minute Timer

ES 510E is a four digit, sixty minute timer (59:59) with Start, Stop and Reset controls. If stopped, display will hold time reading and when restarted will continue with next count from last displayed figure. If reset while running, timer will continue to run. ES 510E can drive 80 Series and 90 Series Slaves. Dimensions: 2 1/2" H x 6" W x 6" D.

ES 510E.....\$174.00

## ES 232 Time Calculator

ES 232 is an eight digit, 24 hour, Up/Down Timer/Time Calculator displaying Hours, Minutes, Seconds, and Frames (30 frames per second) on bright red .4" LED's. In the Calculator mode, data may be added or subtracted, or stored in memory, or recalled from memory. There are 10 memory locations available. Data may be added or subtracted from the timer value, while the timer is counting either up or down, but not while the timer is stopped. When stopped, data moved from calculator to time serves to preset the timer. In the timer mode, ES 232 counts up or down, and can be reset while running or stopped. It can be preset to any number in the 24 hour range. While timer is running or stopped, it is possible to enter the value into memory without disturbing the operation. It is also possible to recall a value from memory and add or subtract while timer is counting up or down. ES 232 uses 24 keys, mounted on a desktop case, measuring 2" H x 5" W x 6" D.

ES 232.....\$262.00

## 90 Series 2-Inch Displays Viewable at 60 Feet

ES 391AE Presettable Up/Down Timer. 100 Minute Range, Displays Minutes and Seconds, uses Leverwheel Preset. Controls are Count Up, Count Down, Stop, Reset and Preset. Dimensions 4.45" H x 10.38" W x 6.58" D.

ES 391AE.....\$564.00

ES 590AE Sixty Minute Timer Displays Minutes and Seconds. Rear-mounted connector provides for wiring to user's single pole, momentary, push-button controls—Start, Stop and Reset. Reset returns all displays to zero, and timer will continue to run from zero if reset while counting. Dimensions: 4.45" H x 10.38" W x 6.58" D.

ES 590AE.....\$395.00

ES 992AE/994AE—6 Digit Clocks. ES 992E (12 hr.) and ES 994E (24 hr.) Hours and Minutes on Two Inch Gas Discharge Displays, Seconds on One Inch Gas Discharge Displays. Three to mounted setting controls—Fast Advance, Slow Advance, and Hold. Dimensions: 5" H x 12" W x 3 1/2" D.

ES 992AE/994AE.....\$495.00

## ES 301AE/302AE 100 Minute Up/Down Timers

ES 301E is a four digit, one hundred minute timer (99:59) with six controls: Count Up, Count Down, Stop, Minutes Advance, Seconds Advance, Reset. Counting can be activated up or down or set back to zero. When "Stop" control is pressed, the four digit display is held. Counting direction (up or down) can be changed or time can be reset to zero without stopping the count. The ES 301E can drive 80 Series and 90 Series Slaves. Displays are gas discharge .55" high.

With the ES 302E, the user can preset time much faster than with the ES 301E, because lever-wheel type switches are used for the preset feature. The ES 302E can drive 80 Series and 90 Series Slaves. Dimensions: ES 301E—2 1/2" H x 8" W x 6" D, ES 302E—2 1/2" H x 10" W x 6" D.

ES 301AE.....\$271.00

ES 302AE.....\$350.00

# ESE

142 Sierra St.  
El Segundo, CA 90245  
(213) 322-2136  
Telex: 49-33079

# CLOCKS/TIMERS

## Master Clocks

ESE Masters provide a means of keeping all time displays in the system in agreement, through the use of a Serial Time Code. Only one pair of wires is needed to distribute the time code to all remote serial input displays. An ESE Master Clock System can operate digital displays, clocks with sweep second hands, printers, and in addition, tell your computer what time it is. Twelve hours of standby battery operation is standard in ES 160 and 160/1.

**ES 160.** Mounted in a 5 1/4" relay rack panel and chassis, displays six digits of time information on .4" LED displays, in 12 hour format. The ES 160 has 3 sec. per month accuracy. Its standard output is serial BCD, CMOS compatible, and drives ES 161E, 166E, 171, 991, or 993 Remote Displays without buffering. All inputs and outputs are through rear-mounted connectors. Dimensions: 5 1/4" H x 19" W x 15" D . . . . . \$1250.00\*  
**ES 160/1.** One second per month version of ES 160 . . . . . \$1450.00\*

**ES 180.** NBS Master Clock receives and decodes the radio time broadcasts transmitted by the U.S. National Bureau of Standards (NBS). The unit provides an extremely accurate time reference that is available in several forms. These include:  
• 1 3/4" front panel, with LED display of hours, minutes and seconds  
• Serial time code output of the displayed time data • 1 PPS output (1 Pulse Per Second) • RS-232C output (1200 baud, switchable to other rates) • Audio output (speaker)

**Optional outputs available:**  
• Parallel BCD output • Relay contact closure on the hour and half hour  
The unit is supplied with a built-in battery backup supply to maintain clock timekeeping for up to 10 hours in the event of a power outage. Time Accuracy ± 10ms of UTC . . . . . \$1987.00

**ES 199.** Our most accurate Master, providing better than .5 seconds per month. It contains a 10MHz receiver, with audio output, to synchronize with WWV at the push of a button. WWV transmits a 1000Hz tone at the start of each minute, except for the first minute of each hour, when a 1500Hz tone occurs. If the button is pushed and held during this time, the seconds' counters of the clock will be reset to zero. The ES 199 is supplied with an antenna, battery and charger. An external sync input connector is provided, to allow introduction of a periodic logic "O" or contact closure at a once per second or slower rate. In order to simplify maintenance, test points are provided on the 1000Hz decoder board, to allow recalibration of the oscillator using only an oscilloscope. The serial output will drive 100 ES 161E, 166E, 171, 991 or ES 993E Remote Displays. Dimensions: 5 1/4" H x 19" W x 15" D. Electrical: 117VAC, 50/60Hz. Options: B (CMOS, 5V) J, 1 PPS Output, Relay Closure on Hour and 1/2 Hour, Impulse Driver (ES 162) . . . . . \$1687.00\*

**ES 192E/ES 194E.** The most economical Masters, ES 192E (12 Hr.) and ES 194E (24 Hr.) are constructed using ES 112 or ES 124 digital clocks and adding the ES 167B Serial Time Code Generator to provide the output needed to drive Remote Serial Displays ES 161E, 166E, 171, 991 and 993E. Displays are 6" incandescent type. Dimensions: 2 1/2" H x 8" W x 6" D . . . . . \$376.00

### Accessories

**ES 161E Remote Digital Display** decodes serial time data and displays six digits of time on .55" Gas Discharge Displays, in either 12 or 24 hour format. Dimensions: 2 1/2" H x 8" W x 6" D. . . . . \$191.00

**ES 161TZ Remote Slave Displays with Time Zone Offset.** Displays six digits of clocktime. Available in 12 or 24 hour format. Unit will be in 12 hour unless otherwise specified. To display 24 hour format master must also be 24 hour format. . . . . \$100.00

**ES 162 Impulse Driver** plugs into the ES 160 chassis, and can drive 20 Impulse Clocks. Designed so that if power fails, impulse always comes on with the same polarity when power is restored . . . . . \$232.00



ES 199



ES 160

**ES 165 Impulse Driver** was designed to provide synchronized power to the ES 168 Impulse Clocks. It is capable of driving 50 ES 168 clocks, and will keep them running accurately through 12 hours of power failure. The ES 165 derives its synchronizing pulse from any one pulse per second source, such as the ESE Master Clock, and can also accept the once per second, alternating 12 or 24V impulses from an existing impulse clock system . . . . . \$220.00

**ES 166E Jumbo 1" Clock Display** features six digits of 1" Gas Discharge Displays in 12 or 24 hour format. Receives serial time code input from any ESE Master Clock or ES 167B. Dimensions 4 1/2" H x 10 1/2" W x 6 1/2" D. . . . . \$284.00

**166ETZ Remote Slave Displays with Time Zone Offset.** Six digit display, 12 or 24 hour format. Unit will be 12 hour unless otherwise specified. To display 24 hour format master must also be 24 hour format. . . \$369.00

**ES 167B Serial Time Code Generator** is an integral part of ES 160, 190, 192E/194E and 196 Master Clocks, this unit can be added to many other ESE products, including ES 112, 124, 182, 184, 992, 994, 750, 751, 753, 754 and all 780 Series Time Programmers. Drives ES 161E, 166E, 171, 991, or 993 Remote Displays . . . . . \$169.00

**ES 168 Impulse Clock** operates from the 8 PPS output of the ES 165 Impulse Driver. As many as 50 ES 168s can be connected to a single driver, and they will continue to run during a power outage of at least 12 hours . . . . . \$149.00

**ES 171 Console Mount Remote Display** receives the serial time code generated by any ESE Master Clock, or any ESE product containing the ES 167B serial time code generator, and displays it on bright red .3" LEDs. Dimensions: 2 1/4" H x 4 1/2" W x 4" D . . . . . \$183.00

**Impulse Clock.** When a sweep second hand is desired specify the 3201 .003 "Extra Flat" Impulse Clock. It has a 12" dial protected by a glass cover and metal bezel and is approximately 1" thick. As many as twenty impulse clocks can be driven by a Master Clock which has ES 162 as an accessory . . . . . \$225.00

**ES 991AE 4-Digit Serial Input Slave** decodes serial time data and displays four digits of time on large 2" Gas Discharge Displays. Dimensions: 4 1/2" H x 10 1/2" W x 6 1/2" D, Desktop Case . . . . . \$376.00

**991TZ Remote Slave Displays with Time Zone Offset.** Four digit display, 12 or 24 hour format. Unit will be 12 hour unless otherwise specified. To display 24 hour format master must also be 24 hour format . . . . . \$100.00

**ES 993AE 6-Digit Serial Input Slave** features four digits of 2" high Gas Discharge Displays, and two digits (Seconds) of 1" Gas Discharge Displays. Receives serial time code input from any ESE Master Clock or ES 167B. Dimensions: 5" H x 12" W x 3" D (Wall Mount) . . \$520.00

**993TZ Remote Slave Displays with Time Zone Offset.** Six digit display, 12 or 24 hour format. Unit will be 12 hour unless otherwise specified. To display 24 hour format master must also be 24 hour format. . . \$595.00

\*Battery and charger are included in the ES 160, ES 160/1 and ES 199.



# ESE

142 Sierra St.  
El Segundo, CA 90245  
(213) 322-2136  
Telex: 49-33079

# TIME CODE READERS/ PROGRAMMERS

## Time Code Readers

**ES 253 SMPTE Time Code Reader** is an eight-digit SMPTE Time Code Reader displaying Hours, Minutes, Seconds and Frames . . . . . \$500.00

**ES 254 SMPTE Time Code Reader** is a bi-directional, multi-speed eight-digit reader, displaying Hours, Minutes, Seconds and Frames on .4" red LED displays . . . . . \$744.00

**ES 255** is a bi-directional, multi-speed, eight-digit SMPTE Code Reader, that can add the information to a video stream for recording time code on the video portion of a tape, or for displaying it on a monitor. Reading speed is 1/20 to 20 times playback speed . . . . . \$1095.00

**ES 256 "Smart" SMPTE Time Code Reader.** The ES 256 is a bi-directional multi-speed, eight digit SMPTE Time Code Reader which displays Hours, Minutes, Seconds and Frames on .4" red LED's. The ES 256 incorporates a digital error detection system: When a bad frame of time code is detected, the unit will switch to a frame-counting mode. . . . . \$1045.00

**ES 257 SMPTE Time Code Reader/Comparator** is capable of making two comparisons, as established by the two sets of thumbwheels located on the front panel. By specifying option "B" (four-line parallel BCD, 5V CMOS compatible), additional comparisons may be made by connecting one or more ES 258 "expander" units . . . . . \$875.00

**ES 258 SMPTE Time Code Comparator** has been designed as an "expander" for the ES 257. Two sets of eight-digit thumbwheels are located on the front panel, to allow comparison of two SMPTE code locations \$395.00

**ES 270 IRIG 8 Time Code Reader** Nine digits of time are shown on bright red LED's .4" character height. An RS232C interface (Hrs., Min., Sec. only) can be supplied as an option. ES 270 comes in a rackmounting enclosure 1 3/4" H x 19" W x 10" D . . . . . \$405.00

**ES 280 Audio Time Code Generator/Reader** is a 10 Digit Audio Time and Code Generator/Reader, capable of laying down a serial BCD time code on audio tape in the Generator Mode, and recovering and displaying it in digital form in the Reader Mode. The code has been designed by ESE. It is not a standard code, such as SMPTE or IRIG. The frequencies used to produce the code have been selected to be compatible with cartridge machines as well as other tape recording and playback equipment. Amplitude adjustment assures the right amount of signal for the particular machine being used . . . . . \$578.00

## 720 Series Programmable Clocks, Timers and Time Code Readers

10 events occur on 10 isolated output channels, in the form of momentary reed relay contact closures. Latched outputs may be specified at the time of order. When latched, the next event to occur serves to "unlatch" the previous event.

Programming is done through the front panel keyboard, or "on the fly" in the "Run" mode. As the keys are actuated, the data is displayed on bright red .4" LED's. Re-programming is accomplished by "writing" the new data over the old data.

A battery, battery charger and crystal timebase are provided, to prevent malfunction caused by a power interruption.

The 720 Series units have a 3 1/2" H front panel, 19" W, with chassis extending 8" behind the etched and clear anodized panel.

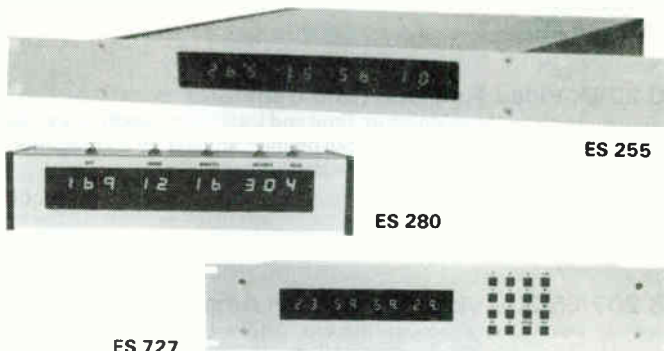
**ES 720** Contains its own 24 hour clock for comparison. . . . . \$845.00

**ES 722** Contains its own 24 Hour Presettable Up/Down timer for comparison . . . . . \$845.00

**ES 727** Contains a SMPTE Time Code Reader, similar to ES 254, for comparison. Code is received through a rear-mounted female XLR connector . . . . . \$1150.00

## Programmings

**780 Series Ram Time Programmings** are the most cost-effective way of programming more than eight events. They are flexible, easy to use, and



provide 32 events (expandable to 96). The size of the unit is 5 1/4" H x 19" W x 10" D—Relay Rack construction, totally enclosed, with a screen top. 780 Series units operate from the power line with a backup crystal time base and 72 hour battery/charger as an integral part of the equipment.

**Eight Digits of Programming Capability**  
**ES 780** 10 Days, 10 Outputs, Hours, Minutes, Seconds. . . . . \$1575.00  
**ES 781** 100 Days, Hours, Minutes, Seconds. . . . . 1433.00  
**ES 782** 16 Outputs, Hours, Minutes, Seconds . . . . . 1654.00

**Six Digits of Programming Capability**  
**ES 783** Hours, Minutes, Seconds . . . . . \$1365.00  
**ES 784** 100 Days, Hours, Minutes . . . . . 1365.00  
**ES 786** 16 Outputs, Hours, Minutes . . . . . 1600.00  
**ES 787** 16 Outputs, Minutes, Seconds . . . . . 1600.00

**Four Digits of Programming Capability**  
**ES 788** Hours, Minutes . . . . . \$1313.00  
**ES 789** Minutes, Seconds. . . . . 1313.00

**ES 790 Microprocessor-Based Programmable Timer** is a 1,000 event, 32 channel, microprocessor-based programmable clock. Events occur as reed relay contact closures (single pole, normally open). These closures may be all momentary, all latching, or 16 of each, at the user's option. A simple modification allows the use of 16 double pole relays, instead of 32 single pole relays.

1,000 time events can be programmed into the memory and they can be entered randomly, as opposed to chronologically.

An internal crystal with battery and battery charger is provided for uninterrupted operation.

The size of the unit is 5 1/4" H x 19" W x 10" D.

**ES 790** Totally enclosed in rackmounting chassis w/screen top . . \$2300.00  
**ES 790/1** 790 w/1 Sec/Mo accuracy, Master Clock Option . . . . . 2888.00  
**ES 790/3** 790 w/3 Sec/Mo accuracy, Master Clock Option . . . . . 2730.00

**750E Series Thumbwheel Programmer Comparators** are recommended when programming up to eight time events. Thumbwheel switches are set to compare the time information from an ESE Clock or Timer.

One set of thumbwheels is required for each event. The standard 750 Series units are enclosed in 3 1/2" high relay rack panel and chassis.

**ES 750E** ES 112 and one 6 Digit Program . . . . . \$364.00  
**ES 751E** ES 124 and one 6 Digit Program . . . . . 364.00  
**ES 753E** ES 112 and two 4 Digit Programs (Hrs. & Min.) . . . . . 435.00  
**ES 754E** ES 124 and two 4 Digit Programs (Hrs. & Min.) . . . . . 435.00  
**ES 756E** ES 510 and one 4 Digit Program (Min. & Sec.) . . . . . 358.00  
**ES 758E** ES 510 and two 4 Digit Programs (Min. & Sec.) . . . . . 452.00

**ES 760E ATS Clock** is a six digit, 24 hour, programmable clock designed specifically for Automatic Transmission Systems.

On the front panel are a six digit display of time, in hours, minutes and seconds, and two sets of four thumbwheels. These thumbwheels are used to program mode switching times in hours and minutes. 3 1/2" H x 19" W x 8" D.

Under normal operating conditions, the ES 760E will operate from the 60Hz power line. If, for any reason, normal power is interrupted, ES 760E will automatically switch to its internal battery and crystal time base. A built-in battery charger keeps the battery ready for such emergencies. Battery operation can continue for up to eight hours.

**ES 760E** . . . . . \$717.00

# ESE

142 Sierra St.  
El Segundo, CA 90245  
(213) 322-2136  
Telex: 49-33079

# GENERATORS/DISTRIBUTION AMPLIFIERS/ INTERFACES/AUDIO LEVEL INDICATORS

## ES 206A Video Time and Date Generator

Designed to allow the addition of Time and Date information to a video signal. Two rear-mounted video jacks permit "looping" the video information through the 206A to add the data.

ES 206A .....\$525.00



ES 206A

## ES 207/ES 208 Video Distribution Amplifiers

Controls are available through the top plate with a miniature screwdriver for video gain, DC level, and HF equalization. The amplifiers are clamped, providing a very stable output signal to the output terminals. A single pair of BNC connectors are wired for a loop-through input, although provision is made on the circuit board for a terminating resistor if desired. If operated with internal input termination, the terminal used as a loop-through input can be internally wired as a fifth output, in the case of ES-207.

These amplifiers can be used for distribution and for signal conditioning, equalizing up to 1000' of coaxial cable. A very wide range of chroma level control can be obtained with the DA. Output video is expected to be set for OVDC on the blanking or porch level, with video extending positive and sync negative. Nominal input and output signal level is 1V p-p. Typical gain control range is from 1/2V to 1 1/2V p-p.

ES 207 .....\$175.00  
ES 208 .....300.00



ES 209

## ES 209 Video/Stereo Distribution Amplifier

A 1 x 12 video distribution amplifier combined with a dual audio distribution amplifier. It was designed primarily to meet the needs of tape duplicating systems, especially the VHS and Beta Hi-Fi formats. It is housed in a rackmounted cabinet 1 3/4" H. Two BNC input connectors provide a loop-through video input signal. RCA jacks provide looped inputs for audio. Twelve outputs are provided per channel. An option is available on the circuit board to internally terminate the video input at 75 ohms, if desired. All twelve outputs will deliver identical signals, and unused outputs need not be terminated.

It may be used for signal distribution and for signal conditioning. It will equalize and compensate gain for up to 1000' of RG-59 cable (and up to 3000' of the higher grade video cables).

The audio portion of the DA package is designed to create twelve exact copies of the stereo input drive signals.

The audio DA is transformerless, and unbalanced. The input is hi-impedance, while the outputs are medium, and will drive either 600 ohm or hi-impedance inputs.

ES 209 .....\$495.00

## ES 261 SMPTE Time Code Generator

A pre-settable, eight-digit SMPTE/Time Code Generator, capable of Drop Frame or Non-Drop Frame operation

ES 261 .....\$875.00

## ES 86U Edit Control Interface "The Enhancer"

The ES 86U Edit Control Interface has been designed for "insertion" into existing VHS and 3/4" video tape editing systems. The additional features provided by ES 86U are: • Black Generator • Automatic or Manual Video Fade • External Source Editing • Stereo Mixing

ES 86U .....\$1250.00

## ES 212 Hybrid Telephone Interface "Phone Patch"

ES 212 uses a "heavy iron" transformer hybrid network, 600 ohm balanced line level inputs and outputs, switched metering, with full level and dynamics control.

ES 212 .....\$995.00

## ES 214 Dynamic Audio Level Indicator

A highly accurate audio level indicator, which is designed to simulate the action of a conventional VU meter but with superior dynamic characteristics. The LED meter is five to one hundred times faster in responding to complex waveforms than mechanical meters without sacrificing the familiar meter "movement."

The ES 212 has 14 LED Lamps in 3 colors. Scale +4, +3, +2, +1dB-Red. 0dB-yellow. -1, -2, -3, -5, -7, -10, -15, -20, -25dB-Green, with an input impedance of 2200 ohms at maximum sensitivity. 6800 ohms at +8dBm "House Level," 10,000 ohms at minimum sensitivity. The input circuit is transformer isolated, balanced bridging.

ES 214 .....\$125.00

## ES 216 Dynamic Audio Level Indicator

The unit displays audio levels in ten discrete steps using ten LED indicators. Levels of -20, -10, -7, -5, -3, -1, 0, +1, +2 and +3dB are displayed. Levels below 0dB are displayed using green LED's, 0dB is yellow and levels above 0dB are red. The ES 216 can be ordered in either the peak reading mode or in the VU response mode.

The ES 216 is designed to be console or panel mounted and can fit in the same space as many commonly used mechanical VU meters. It consists of a printed circuit board assembly mounted to a black plastic front bezel.

The audio input is balanced and presents an impedance of approximately 6000 ohms.

The input sensitivity is adjustable via a potentiometer located at the rear of the printed circuit board. Maximum sensitivity provides a 0dB reading with an input of -14dB ("Peak" mode) or -10dB ("VU" mode)

ES 216 .....\$60.00

# EXCALIBUR INDUSTRIES

12427 Foothill Blvd.  
Lake View Terrace, CA 91342  
(818) 899-2547  
(800) 521-3818  
FAX: (213) 461-4308

## CASES



Camera



Shock Isolation  
Rack Case

### EXCALIBUR CASES

- Standard sizes
- All models for every application
- Tough, professional

Excalibur cases meet or exceed ATA (Air Transport Association) specifications for construction. Every case is engineered for durability, long service, maximum security for your equipment and meticulous styling. The "Excalibur Look" is smooth, polished and professional.

#### For Delicate Equipment

The skilled craftsmen at Excalibur are familiar with late model Arri and other fine cameras. They are experienced at fitting camera cases with lining designed for maximum shock isolation and years of service.

#### For Rackmount and Shockmount

Excalibur's Rack — The professional way to transport all your 19" rackmounted gear for easy access and operation.

Rack cases are configured for 19" panels with rack-mount ears and 18" rackable depth (without lids).

These top-of-the-line cases are available in either fiberglass or ABS.

Colors: choose blue, gray, black, white, red, green, orange or yellow.

#### For "All Kinds Of Stuff"

The AKS Case — the professional way to organize and pack all kinds of things that:

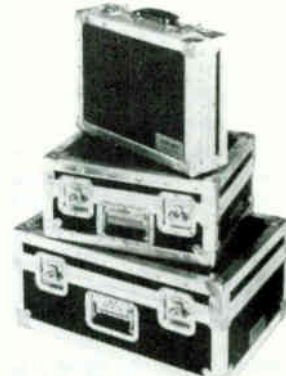
- You always need at your fingertips
- Won't fit easily into other cases

#### How To Order

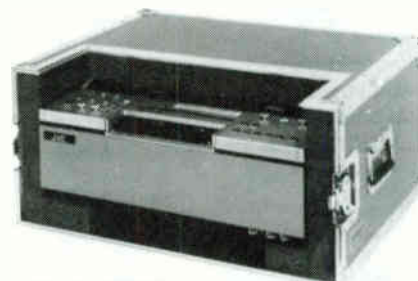
All we need to know is what equipment will go in the case, manufacturer and model number if applicable. You may select options such as accessory compartments, casters, locks, color.



EIA Standard  
Rack Case



AKS  
Cases



Top Load VCR-  
Operates In Case



# FAIRLIGHT INSTRUMENTS, INC.

2945 Westwood Blvd.  
Los Angeles, CA 90064  
(213) 470-6280  
FAX: (213) 474-9716

# DIGITAL EFFECTS PROCESSORS

## Computer Video Instrument

The Computer Video Instrument (CVI) is ideally suited to the economics and capabilities of 3/4" production facilities. It's also a unique tool for music video, storyboarding, video artistry, live performance, and educational and commercial applications — even some forms of video animation.

The CVI can take any video image from a live camera, tape, film, still, or slide and enhance or manipulate the image in real time through effects as well as by on-screen painting and drawing.

Still images, presets and sequences can be stored digitally onto video tape and recalled for later use.

The CVI is a computer based "real time" digital effects processor with paint, A/B wipes, keyer, sequencer and titling facilities, available in both NTSC and PAL. The CVI has a palette of 4096 colors, 54 brush shapes, and 54 textures. Since the CVI is menu driven and the control panel has "slider" controls of such functions as: Zoom, Stretch, Horizontal and Vertical Pan, Hue, Saturation, Value and Color Depth control it allows the user a "user friendly" atmosphere in which to create. Use any of the 100 factory presets or modify to your liking and store them for future use. There is an RS232 port for communications with other computers. Supplied with a 2 meter control panel cable.

CVI #32291 .....\$6,800.00  
CVI Rev 7 (Memory Module and Alphanumeric Keyboard) #32296 .....7,890.00  
CVI Rev 7 Graphics Pad #32297 .....8,790.00

## CVI Plus

The CVI Plus has all the features of the CVI and:

- Icon based menus
- The added features of the Memory Module as standard
- The Alphanumeric Keyboard as standard
- Digital and analog circuit boards
- 2 fields or 1 frame of memory
- Diagonal wipes, live picture inversions and more

CVI Plus #42291 .....\$ 9,950.00  
CVI Plus and Graphics Pad #42292 .....10,850.00

## Memory Module REV 7 and Alphanumeric Keyboard

For use with the CVI. Adds additional onboard memory to allow for storage of: 36 user defined brushes and textures, adds 72 new brushes/textures, 100 pages of title memory, and 8 fonts (1 user definable). The sequencer memory has been increased to allow for 10 sequences totaling 9000 lines of data. The encoded QWERTY keyboard allows for quick and accurate control of all CVI functions, input of titles, editing of sequences and sequencer start.

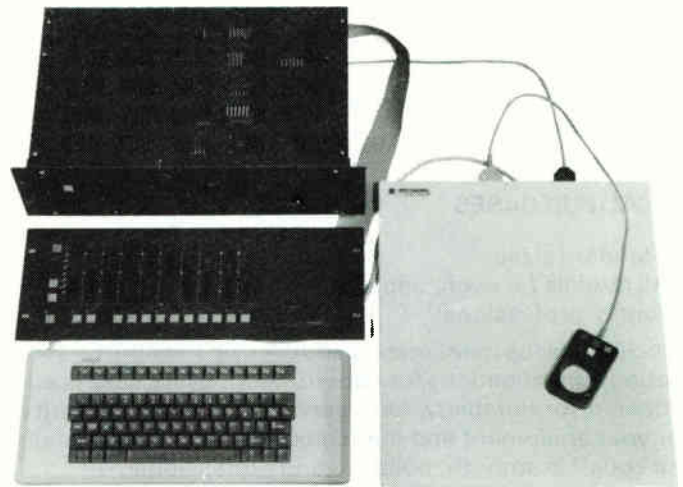
Memory Module REV 7 #32301 .....\$1,112.00

## Graphics Pad

A large drawing tablet with a 12 x 12 active area. Gives the user greater control in drawing and pixel placement. The menu area allows for complete control of menus. Comes standard with 4 button cursor, stylus and holder and cables.

Graphics Pad #32402 .....\$1,040.00

(Note: Memory Module is required for use on the CVI)



32297

## CVI Link — Amiga

Software and interface cable package to allow the CVI and CVI Plus to communicate with the Amiga Computer. Software package allows controlling of the CVI/CVI Plus from the Amiga, by using the Amiga to display the Fairlight menus. Future software updates will include SMPTE lock, IFF to/from CVI format.

CVI Link — Amiga #32602 .....\$795.00  
CVI Link — IBM .....795.00

## SMPTE Time Code Reader and Software — Amiga

A hardware and software package consisting of a SMPTE Time Code Reader, Edit Decision List Processor software, (EDLP), Time Code Window Display software (TCWD), Time Code Continuity Tester software (TCCT) and Time Code Edit Lister software (TCEL). Can be used without CVI/CVI Plus.

SMPTE Time Code Reader and Software — Amiga #32604 .....\$895.00

# FAROUDJA LABORATORIES, INC.

946 Benicia Ave.  
Sunnyvale, CA 94086  
(408) 245-1492

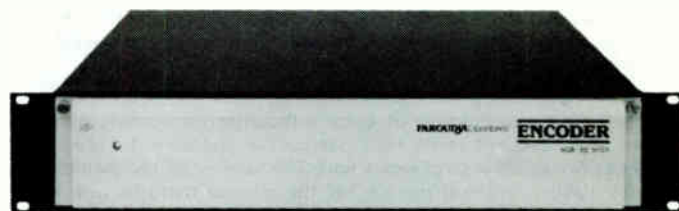
# ENCODER/DETAIL PROCESSOR

## CTE-N NTSC Encoder

The CTE-N pre-filters luminance and chrominance informations prior to mixing, in order to avoid spectral overlap and artifacts. It is the only NTSC encoder which generates an NTSC signal free of cross-color and cross-luminance components. If the signal generated by the CTE-N is decoded through a CFD-N decoder, the result is virtually indistinguishable from R,G,B.

Even if the CTE-N signal is observed on a home receiver, the picture quality will be noticeably improved, as cross-color and cross-luminance artifacts are much lower.

In fact, the quality of Faroudja encoding and decoding processes is such that now NTSC Video Matting is possible, under a form which defies detection and which is indistinguishable from R,G,B matting. As a result, high quality matting from 1" tape sources is now practical. Furthermore, computer graphics can be manipulated or stored under NTSC form and displayed or transmitted without loss of quality.



CTE-N

## Specifications

### Inputs — Looptthrough (High Impedance)

<b>Level</b>	
R:	0.7V p-p non-composite
G:	0.7V p-p non-composite
B:	0.7V p-p non-composite
<b>Composite Sync:</b>	4V p-p non-composite
<b>Composite Blanking:</b>	4V p-p non-composite
<b>Subcarrier:</b>	2V p-p non-composite

### Return Loss

R:	45dB at 45MHz
G:	45dB at 45MHz
B:	45dB at 45MHz
<b>Composite Sync:</b>	45dB at 45MHz
<b>Composite Blanking:</b>	45dB at 45MHz
<b>Subcarrier:</b>	45dB at 45MHz

### Outputs (75 ohms)

<b>NTSC1</b>	1V p-p composite 40dB
<b>NTSC2:</b>	1V p-p Sw/composite/non-composite 40dB
<b>Monochrome:</b>	1V p-p composite 40dB

### Performances, Luminance Channel

<b>Bandwidth:</b>	± 1dB to 5MHz, -6dB at 6MHz
<b>2T Sine-Square Pulse K Factor:</b>	< 1%
<b>Tilt:</b>	< 1%
<b>Signal-To-Noise Ratio:</b>	60dB
<b>Propagation Delay:</b>	1H + 1.6µs

### Performances, Chrominance Channel

<b>I Channel Bandwidth:</b>	< 2dB at 1.3MHz > 20dB at 3.6MHz
<b>I Channel Transient Response, 2T Pulse:</b>	Preshoot under 2% Overshoot under 2%
<b>Q Channel Bandwidth:*</b>	< 2dB at 400kHz < 6dB at 500kHz
<b>Q Channel Transient Response, 2 Pulse:</b>	Preshoot under 2% Overshoot under 2%
<b>Quadrature:</b>	90°, ± 0.5°
<b>Modulator Linearity:</b>	Under 1% error
<b>Modulator Carrier Unbalance:</b>	< 0.5 IRE
<b>White Balance:</b>	< 1 IRE
<b>Chroma to Luminance Delay:</b>	< 25ns

\*Q Bandwidth switchable to 1.3MHz

CTE-N ..... \$7850.00

### Encoder Options

CTE-Y Transcoder: Y, R-Y, B-Y Inputs	..... \$ 500.00
CTE-K Key Signal Delay Board	..... 1200.00
CTE-X Extender Board	..... 150.00
CTE-DP Detail Processor	..... 1200.00

## Vertical and Horizontal Detail Processor

The Vertical and Horizontal Detail Processor (VHP), which uses the patented boost principle, improves the visibility of small details whether they are present in the horizontal or vertical direction without enhancing large outlines. This approach presents numerous advantages over the use of a conventional enhancer: the picture is more natural and acquires a certain film-look, and does not show the plastic or "cartoon" effect typical of conventional enhancers or low-cost, limited bandwidth cameras and VTRs.

Available in the PAL/SECAM or NTSC standards, VHP is equipped with detail and video level threshold controls which make its operation virtually noise-free in noisy and dark picture areas. Horizontal and vertical boost levels are separately controllable.

## Specifications

<b>Input/Output</b>	
<b>Input Signal:</b>	1V p-p composite video, 75 ohms
<b>Output Signal:</b>	1V p-p composite video, 75 ohms

### Overall Performance (Detail Boost Off)

<b>2T Sine Pulse K Factor:</b>	2%
<b>Chroma-Luminance Delay:</b>	< 20ns
<b>Frequency Response:</b>	± 1dB until 4.2MHz
<b>Differential Phase:</b>	2.5%
<b>Differential Gain:</b>	2.5%
<b>Signal-To-Noise Ratio:</b>	60dB

### Performance at Maximum Detail Boost Level

<b>2T Sine Pulse</b>	
<b>K Factor:</b>	2.5%

### All other as above

### Detail Boost Performance for Maximum Detail Boost

#### Increase In Transitional Level

<b>Under 10 IRE Units:</b>	+ 200%
<b>20 IRE Units:</b>	+ 100%
<b>100 IRE Units:</b>	5%

<b>Connections:</b>	BNC Video In BNC Video Out
---------------------	-------------------------------

VHP-N NTSC standard	..... \$2200.00
VHP-P PAL/SECAM standard	..... 2200.00

# FAROUDJA LABORATORIES, INC.

946 Benicia Ave.  
Sunnyvale, CA 94086  
(408) 245-1492

# DECODER/TRANSCODER

## CFD-N NTSC Decoder with Chroma Enhancer

The CFD-N is a high quality NTSC to RGB comb filter decoder for use in critical applications where high resolution and absence of artifacts are required. Among these applications are large screen projection, precision color monitoring, tape-to-film transfer, computer generated information display, color keying and standard conversion.

The CFD-N uses an active comb filtering method which leads to a much more effective suppression of color subcarrier dot crawl problem present with standard comb filter designs. In addition, the resultant image has no visible loss of resolution. The luminance bandwidth extends to 10MHz, making the CFD-N the closest thing to true RGB possible. This comb filter approach results also into an inherent improvement in signal-to-noise ratio.

Features of the CFD-N include also, a luminance enhancer to improve narrow band input signals, and chroma enhancement circuitry which eliminates ringing, chroma/luminance delay errors, and apparent loss of chroma bandwidth often associated with NTSC signals.

With a standard NTSC input signal, the CFD-N decoder provides on the back panel: Separate RGB signals, combed chroma and luminance, R-Y, B-Y, G-Y, and sync outputs. All sources drivers are capable of handling three outputs.

The CFD-N is a moderately priced professional unit, housed in a rugged mount case only one module high.

## Specifications

### Inputs (75 ohms)

**Video:** 1V p-p NTSC  
**Subcarrier:** 4V p-p 3.58MHz

### Outputs (75 ohms)

**R, G, B:** 1V p-p  
**R-Y, B-Y, G-Y:** 1V p-p  
**Luminance:** 1V p-p  
**Chroma:** 3.58MHz, 1V p-p  
**Sync:** 4V p-p

### Performances, Luminance Channel

**Bandwidth:**  $\pm 1$ dB to 5MHz, -3dB at 8MHz  
**2T Sine-Square Pulse K Factor:**  $< 1.5\%$   
**Vertical Tilt:**  $< 2\%$   
**Signal-To-Noise Ratio:** 60dB  
**Subcarrier Rejection:** 32dB

### Performances, Chrominance Channel

**Demodulated Chroma Bandwidth:** 1.5MHz  
**Demodulation Quadrature:**  $90^\circ \pm 1^\circ$   
**DP:**  $< 1.5^\circ$   
**DG:**  $< 1.5\%$   
**Chroma-Luminance Delay Error:**  $< 25$ ns

CFD-N .....\$6250.00  
CFD-1H 1H Delay Option .....375.00

## CTC-N Transcoder

The CTC-N is a high quality bidirectional (RGB to components or components to RGB) transcoder. It contains a genlock sync generator with blanking processor and sync reinsertion.

A certain amount of color correction is provided through two black balance front panel controls.

The proc-amp controls provide for a  $\pm 15$  IRE set-up control, which allows for removal of set-up from the luminance signal if required. BNC and Betacam style 12-pin connectors are provided.

An internal color bar generator is available as an option.



CFD-N

## Specifications

**Inputs:** Y/R-Y/B-Y, or R/G/B Looping BNC or 12-pin terminated  
Y .7143V p-p non-composite or 1V p-p composite (100% white)  
R-Y .7V p-p (75% saturation)  
B-Y .7V p-p (75% saturation)  
or

R .7V p-p non-composite or 1V p-p composite (100% white)  
G .7V p-p non-composite or 1V p-p composite (100% white)  
B .7V p-p non-composite or 1V p-p composite (100% white)

**Outputs:** Sync: 4V p-p or Blackburst: .3V p-p  
R/G/B or Y/R-Y/B-Y 2 BNC and 1 12-pin of each  
R .7V p-p non-composite or 1V p-p composite (100% white)  
G .7V p-p non-composite or 1V p-p composite (100% white)  
B .7V p-p non-composite or 1V p-p composite (100% white)

or  
Y .7143V p-p non-composite or 1V p-p composite (100% white)  
R-Y .7V p-p (75% saturation)  
B-Y .7V p-p (75% saturation)

## Video Performance

**Bandwidth:**  $\pm .3$ dB to 8MHz  
**T Pulse K Factor:**  $< 1\%$   
**Tilt:**  $< 1\%$   
**Signal-To-Noise Ratio:** 60dB  
**Matrix Accuracy:**  $\pm .1\%$   
**Input to Output Accuracy:**  $\pm .2\%$   
**Relative Delay:**  $< 5$ ns  
**Return Loss (Power On):**  $> 50$ dB

## Processing

**Functions:** Blanking; Sync insertion; set-up adjustment; Y level adjustment; Output clamping

CTC-N .....\$1800.00  
CTC-N With Color Bar Generator .....2200.00



# FAST FORWARD VIDEO

3001 Red Hill Ave. Bldg. 6 #206  
Costa Mesa, CA 92626  
(714) 966-2114

# TIME CODE GENERATOR/READER



F21

## F21 SMPTE Time Code Generator/Reader Generator

- Drop or non-drop frame time code
- Free run mode syncs with internal crystal
- Hours, minutes, frames presettable
- Jam sync function initializes generator to match existing code

### Character Inserter

- Time code display is superimposed on video signal for "window dubs" or "burned in" copies
- Contrast adjustable from black on white to white on black
- Selectable large or small display

### Reader

- Reads from 1/30 to over 15 times play speed, forward and reverse
- Automatic error bypass
- Regen function reads time code, regenerates the time code it is reading and sends the regenerated time code out as an audio signal

The F21 is the latest model in the SMPTE Time Code Generator/Reader Series. Based on its predecessor, the reliable and popular F200, the F21 is an effective, easy to use tool that enables you to record and read time code and create "window dub" copies.

When generating, the F21 will present the time code as an audio signal at the time code out jack (RCA type), as characters superimposed on the video signal at the video out jack (BNC type) and on the LED display on the front panel. This configuration not only allows you to record time code as an audio signal on either channel 1 or 2 of your master tape, but you can also simultaneously create a work copy with a "window dub" by running the video out to a second VCR.

While in read mode the F21 will read any longitudinal SMPTE time code and once again display the time code on the outgoing video signal and on the LED display. Here the advantage of having both a generator and a reader in one unit becomes apparent since you can not only record time code on your master tapes but you can also make an unlimited number of "window dubs" when the need arises.

Two other features that are also very useful are the jam sync and regen modes. When in jam sync, the F21 will use the reader to determine the address and then will switch to gener-

ate mode. In this way time code that has been lost can be replaced or a tape that was only partially recorded can be completed. In comparison, when using regen, the F21 will read time code and then regenerate that time code and send it out the time code out jack as an audio signal as well as displaying it on the video out. This function is handy for making copies of the master tape since both the video and the time code on audio track 1 or 2 can be transferred together.

The F21 also gives you a choice of two display sizes and the ability to position the display anywhere on the screen as well as placing it in the vertical interval. The contrast of the display can be adjusted from black on white to white on black or the background can be eliminated altogether. Finally, the hours, minutes and seconds positions can all be preset within the SMPTE specification with the exception that the hours position will go all the way to 99.

Simply stated, the F21 is a complete time code system in one easy to use package.

## Specifications

<b>Video Input:</b>	1.0V p-p 75 ohm or high impedance. BNC connector
<b>Video Output:</b>	Characters are keyed into a unity gain pass-through of the input signal. When the F200's power switch is off, the input signal is looped through BNC connector
<b>Time Code Input:</b>	High impedance, unbalanced. Signal range 500mV to 8V p-p. RCA type phono connector
<b>Time Code Output:</b>	Adjustable from 0-5V p-p into high impedance, unbalanced
<b>Characters:</b>	Size approx. 2.5 $\mu$ s wide by 24 lines high. Double height characters may be selected
<b>Display:</b>	Contrast adjustable for white characters on black background or black characters on white background. Position fully adjustable with front panel controls
<b>Power Requirement:</b>	110-120VAC 60Hz
<b>Dimensions:</b>	19" x 6 $\frac{1}{4}$ " x 1 $\frac{3}{4}$ ". Standard rackmount face plate
<b>F21</b>	.....\$1295.00

# FIBERBILT CASES, INC.

601 W. 26th St.  
New York, NY 10001-1199  
(212) 675-5820  
(800) 847-4176

# CASES



## A/V and Video Cases

Fiberbilt has designed and engineered a wide range of A/V and Video, shipping and carrying cases specifically for hundreds of commonly used pieces of equipment.

## Padded Adjustable Cases

Quick, easy, do-it-yourself partitioning methods to fit your particular needs for carrying or shipping cases.

## Padded Partitions

A patented system of thickly padded partitions interlock with each other and with the padded sidewalls of the case by means of the tongue-and-groove principle. Slots spaced 1" apart in the padding of the partitions and sidewalls provide for any compartment arrangement to cushion your equipment perfectly with shock absorbing foam padding. The partitions can be rearranged or added to at any time and the case is fully insulated against heat, cold and dust.

## Diced Foam

Diced foam full depth padding "picks out" to provide any shape or size cavity for the ultimate in equipment protection.

A practical Adapt-A-Case concept lets you "pick out" the contour areas you need from the 1" thick layers of grid pattern, partially-cut-through foam.

## Sales Aid Cases

Fiberbilt's design and manufacturing expertise can help you achieve the perfect case to display and protect your product so that it remains in tip top condition.

Our stock cases are designed to display specific products to maximum advantage. Our individually designed cases can do the same job for your product no matter what it is.

Just send us your samples, and we will submit a sketch or layout without charge. Cost estimates also submitted on any quantity—whether a single case or thousands. Whatever the product, we have the experience to custom design a case to your exact specifications.

## Protective Carrying Cases

Your product, no matter how delicate, is protected by these strong, attractive, and lightweight carrying cases.

Our stock styles can be obtained with either specially die-cut foam inserts and partitions, or with our patented adjustable partitions. Special cases in any style or size can be manufactured and customized to your specific needs...economically, even in small quantities.

## Protective Shipping Cases

Your product is protected when shipped by land, sea, or air in one of Fiberbilt's protective shipping cases...rugged, durable, lightweight.

Aluminum, Polyplex, or Fiberglass exterior bonded to plywood—to give a lightweight, yet tremendously rigid and durable shell. Or, for lower weight and cost, choose a high density polyethylene case. No matter which you select, you've got a rugged exterior designed for heavy cameras, TV monitors and other delicate equipment that you want to travel safely.

Inside choose special padding, contoured foam, partitions or trays, designed by our engineers to cushion your equipment to take the roughest knocks.

## Rack and Shock Mount Cases

Shipping trunks for rackmount electronics, with 2" deep removable covers front and back. A 2" thick layer of shock-absorbing foam between the inner shell and the outer shipping case protects valuable electronic rack units.

## Computer Hardware Cases

Fiberbilt manufactures a complete line of cases for shipping and carrying computer equipment. Call for details on a case for your particular piece of equipment.

## Adapt-A-Case

Adapt-A-Case is a uniquely versatile and secure carrying case and shipping system for the equipment of the professional photographer.

It is unusually adaptable because the interior space can be partitioned and re-partitioned to give safe, snug, protective storage to any configuration for cameras, backs, lenses, film projectors, strobe lights, tripods, film packs.

Adapt-A-Case comes in rigid handsome aluminum, sturdy fabricated, or rugged molded plastic. 65 different styles and sizes. All cases available with adjustable padded partitions or diced foam.

Call for sizes and pricing.

# FILM/VIDEO EQUIPMENT SERVICE CO.

800 S. Jason  
Denver, CO 80223  
(303) 778-8616

# BATTERY BELTS/WIDE ANGLE LENS ATTACHMENTS

## SLA12100C/12100C/L Battery Belts with Charger

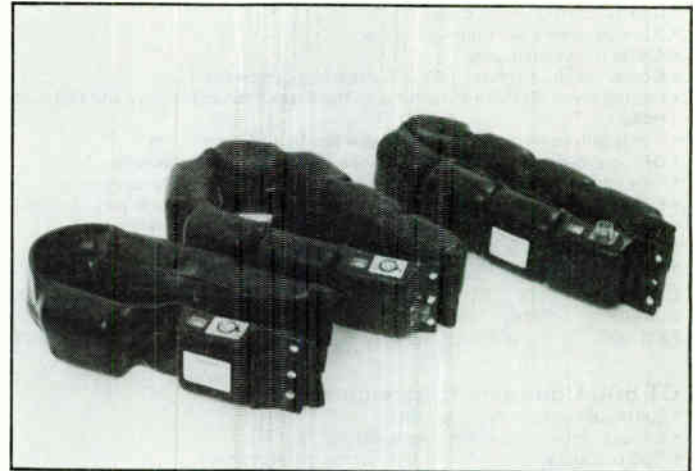
Portable Energy Products battery packs and belts for video cameras, recorders, and portable lights are unique: they feature rechargeable sealed lead-acid batteries in 25 AH, 12.5 AH, 10 AH, 5 AH, and 2.5 AH cells, with custom units and solar chargers available.

The design of sealed lead-acid batteries overcomes many of the limitations of other battery systems and offers reliability, ruggedness, and long shelf and service life in performance. The sealed lead-acid battery maintains excellent voltage regulation over a wide temperature range, exceeding the performance of nicad systems in cold weather operation. The sealed lead-acid battery does not develop a memory.

All cells in the Portable Energy Products battery systems are tested and matched for each unit. Battery belts are constructed of tough, crack-resistant Naugahyde casings with convenient velcro closures. Packs are constructed of ABS.

Portable Energy Products external battery chargers offer the most desirable characteristics for battery life and recharge performance. The hysteresis loop chargers are two-step constant current chargers which automatically sense and supply battery requirements. The chargers will automatically start up at a high rate and display automatic turn-on if battery is low.

**Model SLA 12100C Battery Belt with Charger.**  
12 volt, 10 AH, 11 lbs ..... \$595.00



**Model SLA 12100C/L "Two on One" Battery Belt with Charger.**  
12 volt, 10 AH, 12 lbs. (For dual operation of camera and 12 volt portable light.) ..... \$640.00

## Wide Eye 1/11 Wide-Angle Lens Attachments

- Made of high quality optical glass, with multiple high-efficiency anti-reflective coatings.
- Lightweight: Wide Eye I weighs less than 8 oz. Wide Eye II weighs less than 16 oz.
- Wide-angle range extension: Wide Eye I will extend the widest angle of the video zoom lens by a factor of 0.64; Wide Eye II will extend it by a factor of 0.51.
- Filters: Wide Eye I accepts all Series 9 special effects filters, such as star filters, polarizing filters, etc.
- Front-mounted Wide Eye I & II are readily attached to most ENG/EFP video lenses which have macro and/or adjustable back-focusing capabilities.

Ideally suited for ENG/EFP applications, the Wide Eye I and Wide Eye II wide-angle lens attachments are specially designed to provide the video cameraman in the field with an extra measure of versatility.

Simple and easy to attach onto most professional ENG/EFP video zoom lenses currently in use, the front-mounted Wide Eye I & II readily convert the widest angle of video zoom lenses into ultra wide-angle fixed focal length lenses, with no loss in light transmittance. The Wide Eye I delivers a sharp wide-angle image with minimal distortion. The Wide Eye II is ideal for accomplishing "fish eye" special effects. They are compatible with most professional ENG/EFP zoom lenses such as Fujinon, Canon, Tamron, etc.



**Wide Eye I**  
wide angle attachment ..... \$445.00  
**Wide Eye II**  
wide angle attachment ..... \$795.00



# FOR-A CORP. OF AMERICA

Nonantum Office Park  
320 Nevada St.  
Newton, MA 02160  
(617) 244-3223 FAX: (617) 965-5085

# SIGNAL PROCESSORS

## CVM-500 Component Video Mixer

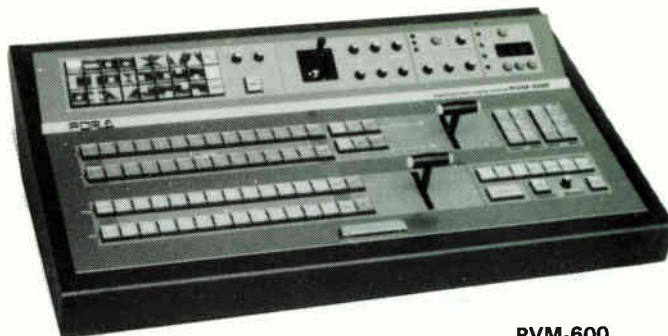
- 8 inputs including black and color background independent for RGB, Y/R-Y/B-Y or YIQ signals
- Full bandwidth for sharp colorizing in RGB graphics applications
- Mix/effect system with 22 programmable wipes, key inputs, matte generator and auto transition
- Program mix row with auto transition between program and preset buses
- Downstream keyer for titling
- 3 independent color matte generators
- 4 auto transition modes
- 6 camera sync outputs, 3 Black Burst and 3 Composite Sync
- Control panel can be interfaced with the Extrol Effects Memory and Edit Controllers
- Y only output on program and preview line for B/W monitoring
- GPI control extends editing capabilities, increases system flexibility
- Tally interfaces have been designed into both CVM and PVM mainframes
- Edge noise is reduced to minimum during keying, matting and wipe operations
- High resolution image is produced for all modes of mixer operation
- Compact, portable, interfaces easily with existing equipment
- Optional CCK-500 Exkey Chroma Keyer and FXM-500 Extrol Effects Memory

CVM-500	.....	\$14,900.00
CCK-500	Exkey Component Chroma Keyer	..... 1,000.00
FXM-500	Extrol Effects Memory models	..... 2,950.00

## CT-500 Component Transcoder

- Full matrix transcoding capabilities
- Simultaneous component output signals
- RGB outputs with or without sync on the green channel
- Internally adjustable gain controls to satisfy input and output interface level requirements
- High signal transparency; very flat frequency response; high S/N ratio and very low signal distortion

CT-500	.....	\$2,400.00
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PVM-600

## PVM-600 Production Video Mixer

- 4 buses—Program, Preset, A and B
- 12 inputs for effective editing capability
- Internal backcolor and black signal generator for easy title composition
- 24 wipes plus hard and soft border with modulation function
- 2 program outputs, 2 preview outputs, 2 Mix/Eff outputs for system connection expansion
- Auto transitions for effects, program, downstream keyer and fade to black; can be preset from 0 to 999 frames
- Colorizing functions for background, border and downstream keyer
- 2 key inputs can be colorized
- 3 reference black burst outputs
- Tally outputs
- GPI and serial interface ports for editor interface

PVM-600	.....	\$14,950.00
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## PVM-500 Production Video Mixer

- 4 bus, 6 input plus black and color background
- Independent transition rates for Effects, Program, Downstream Keyer and Fade to Black
- 3 independent colorizers for Background, Effects Keyer and Downstream Keyer
- 22 wipe patterns
- Program mix row with auto transition between program and preset buses
- Downstream keyer for titling
- 6 independently adjustable camera and video source Black Burst reference outputs
- 2 Program Line outputs and Preview Monitor output
- Edge generator in the DSK
- Compact size, easy operation and easy interface with other equipment make it the ideal small switcher for field production or studio applications
- Optional CCK-500 Exkey Chroma Keyer, FXM-500 Extrol Effects Memory and Editor Interface

PVM-500	.....	\$8,950.00
CCK-500	Exkey Component Chroma Keyer	..... 1,000.00
FXM-500	Extrol Effects Memory models	..... 2,950.00

## CCS-4360 Color Corrector

- Improves inferior sync and burst by consistently inserting new signals at the output when input signal disturbances occur
- Black stretch function enhances detail in low light level scenes
- Vertical blanking can be in 1 H steps within a range of 11 H to 21 H
- Independent R, G and B controls for white, black and gamma
- All operation modes (bypass, operate, off) have equal delay between input and output to eliminate system timing differences
- Differential and balance operation modes
- Rackmountable main frame and remote operation panel; can be used with up to 1,000' of multi-cable

CCS-4360	.....	\$6,950.00
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## CCS-4300 Color Corrector with Full Broadcast Processing Amp

- Full broadcast specifications
- 19" rackmounting processor and remote control unit
- Independent RGB controls for both white and black levels
- Vertical blanking set in 1H steps range 10H to 21H
- Designed for color balancing and leveling in production, post production and telecine operations

CCS-4300	.....	\$5,950.00
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CCS-4400

## CCS-4400 Component Color Corrector

- Y/R-Y/B-Y input and output interface with several internal level scaling capabilities
- RGB black and white level control
- Individual gamma correction for RGB
- Overall gamma correction
- NTSC (encoded) monitoring output
- Serial interface control unit; operates with up to 1000' of remote cable
- Color correction function can be inhibited for VITS
- Video and chroma gain and set up controls

CCS-4400	.....	\$7,750.00
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# FOR-A CORP. OF AMERICA

Nonantum Office Park  
320 Nevada St.  
Newton, MA 02160  
(617) 244-3223 FAX: (617) 965-5085

# DIGITAL TIME BASE CORRECTORS/ FRAME SYNCHRONIZER



FA-430



FA-440



VEC-440

## FA-430

### Digital Time Base Corrector/Image Processor

- Full feature processing for 3/4" and 1/2" VTR formats
- Includes Time Base Correction, Image Enhancement, Digital Color Correction and Noise Reduction
- System consists of the basic 19" rackmount main control unit and a compact remote controller containing controls for all correction functions
- Incorporates the major design and performance features of the Model FA-410
- Combines both H detail enhancement and selective noise reduction to provide pleasing pictures with appearance of greater bandwidth
- Color correction allows RGB correction to compensate for poorly aligned camera white and black levels as well as for camera-to-camera differences in shooting the same scene
- Special Black Stretch circuit that provides improved contrast in low light level scenes
- Allows directors to "paint" scenes to create special moods by changing overall picture hue
- Time Base Correction capabilities provide professional broadcast level performance
- Composite or non-composite video outputs, built-in sync pulse generator, and composite sync and VTR subcarrier outputs
- Dub-In, Dub-Out mode for editing and duplicating

FA-430 . . . . . \$9,950.00

## FA-440 Digital Time Base Corrector with VEC-440 Video Effects Controller

- Adjustable automatic freeze to exclude inferior signals
- Process amp controls (video level, chroma level, chroma phase, black level) easily accessible behind front panel
- Compact, lightweight unit
- Optional freeze remote control
- Multiple digital effects
- Programmable effects routines
- Built-in effects keyer with output key signal
- Full frame time base correction
- Frame memory provides field or frame freeze with adjustable strobe freeze
- Component processing
- Dropout compensator
- Compatible with a wide variety of 1/2" and 3/4" VTRs
- DOC

VEC-440 Video Effects Controller offers a selection of eye-catching special effects to make your video productions really stand out.

- Effects include negative; variable paint effect; variable mosaic; multiple images combining frozen and moving pictures; compression; invert; color background and a memory function that allows you to program up to 9 pages of 127 effects per page.

FA-440/VEC-440 . . . . . \$9,450.00



FA-450

## FA-450 Component Time Base Corrector

- Advanced 8-bit digital design providing full-frame TBC performance of the highest quality for PAL or NTSC systems
- Full color frame memory with field/frame picture freeze
- Highly versatile, with input capability for both component [RGB, YUV, Y, C685 (Y, C924) for PAL; RGB, Y, R-Y, B-Y, YIQ and Y, C688 for NTSC] and composite signals
- M-dub and Y/C dub input and output
- DOC
- Compatible with a wide range of existing and future video technology including component VTR, CVM-500 Component Video Mixer, U-matic VTR with dynamic tracking
- Compatible with both low and high band VTR (PAL only)
- M-dub connector for both YIQ and Y, R-Y and B-Y (NTSC only)

FA-450 . . . . . \$11,950.00

## FA-800 Autocor™

### Time Base Corrector/Frame Synchronizer

- Frame memory with automatic level control function which sets input video to the most suitable level
- V blanking line control to designate VITC time code, test, ID and teletext signals
- Automatic freeze function which freezes the last good video frame when the video input is interrupted
- Selectable video freeze or black signal output in automatic freeze mode
- Freeze is automatically released when video signal input starts again
- Selectable frame/field freeze in manual mode
- Top and bottom 4-bit data swap
- Automatic selection of color/black and white mode
- Built-in RS-170A standard sync signal generator with genlock capability
- Adjustable SCH of video output in the internal mode
- Full processing amp facility and optional remote control unit

FA-800 . . . . . \$8,950.00

Note: All For-A products are available in PAL standard. Call for pricing.

Prices and Specifications Subject to Change Without Notice.

# FOR-A CORP. OF AMERICA

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Newton, MA 02160  
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# TIME BASE CORRECTORS

## FA-200 Digital Time Base Corrector

- Built-in color picture freeze function, frame or field freeze
- Full-frame time base correction
- Standard NTSC signal output: can be incorporated in almost any video system even with non-V-lock VTR
- Built-in RS-170A standard sync signal generator with genlock function
- V blanking is controlled in one-line steps over a range from line 10 to line 20
- Compact, lightweight unit
- Remote control capability (optional) to control the video level, chroma level, chroma phase, set-up and all freeze functions (same remote control console as FA-420)

FA-200 ..... \$3950.00  
FA-420RU (Remote Unit for FA-200/FA-420) ..... 950.00



FA-200

## FA-410D Time Base Corrector with DT

- PAL/SECAM, NTSC standards
- 16H wide range time base correction for a large variety of popular VTRs (such as the 3/4" U-format, VHS and Betamax) in studio and production use today
- Designed especially for ENG and field production applications
- Component encoding of luminance and color difference signals
- Either external sync referenced or non-capstan servoed VTRs are corrected
- Built-in dynamic tracking
- Portable small size and low weight
- Unbeatable low cost compared with other available equipment with less capability in many instances
- Digital luminance/chroma delay correction
- Composite and non-composite outputs
- Chroma noise reduction with comb filtering
- Built-in sync pulse generator
- LED input level display
- White clip function
- Optional digital DOC is available (standard for NTSC)
- Dimensions: 3.46"H x 16.92"W x 19.88"D (88 x 430 x 505mm) (19" rack type)

FA-410D ..... \$6950.00  
DT Cable for Sony BVU-820 ..... 100.00



FA-410D

## FA-420 Time Base Corrector with Freeze Frame

- Compact, lightweight unit
- Full feature digital time base correction
- Full color frame memory
- Capable of correcting errors in 1/2" and 3/4" VTRs, or any V-lock or non-V-lock source
- TBC processes color in either the HETERO or VTR SC modes
- Optional remote control unit allows full operation away from the FA-420
- Full processing amp allows control of video level, chroma level, chroma phase, setup and freeze operation
- Comes with built-in digital DOC and a RS-170A standard sync signal generator with genlock function

FA-420 ..... \$6950.00  
FA-420RU Remote Unit for FA-400/FA-420 ..... 950.00



FA-420



## FA-740 Parallel Effects Time Base Corrector

- Reliable dual-channel time base correction
- High quality analog component signal processing using CCD comb filter
- DOC (dropout compensation)
- Individual signal proc amp for each channel
- Program memory capability (10 events x 10 pages)
- RS-422 and GPI ports for editing and external control

FA-740 ..... \$11,950.00



FA-740



# FOR-A CORP. OF AMERICA

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Newton, MA 02160  
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# SIGNAL PROCESSORS/ TIME CODE EQUIPMENT



DEC-100

### DEC-100 RGB Decoder

- Converts standard NTSC video signals to RGB components, primarily used to provide Chroma Key inputs on switchers or to mix with RGB Graphic Systems
- Converts composite video inputs from cameras and VTRs, etc. and provides RGB component signals as well as sync outputs

DEC-100 .....\$2000.00



DEC-110

### DEC-110 RGB Decoder

- High performance color decoder for demodulating composite video signals into separate R, G and B outputs
- Sync signal can also be provided, either as a separate output, or combined with the Green output
- Designed for use in component video systems
- Front panel controls include individual level adjustments for video, chroma, R, G and B, plus chroma phase and set up adjustments
- State-of-the-art "adaptive" comb filter circuitry

DEC-110 .....\$3000.00



ENC-110

### ENC-110 NTSC Encoder

- Specially designed to incorporate with the FVW-910, in conjunction with the CC-910, CS-710 and VTW-600 in conjunction with the CU-600, resulting in effective performance
- Encodes analog or digital RGB signals input
- Special mixing is performed providing certain and distinct superimposition
- Both NTSC and PAL standards are available

ENC-110 .....\$3000.00



ALC-4100

### ALC-4100 Automatic Level Controller

- PAL, NTSC standards
- Correction of video output level differences
- Automatic gain control
- Separate control for video, sync and burst signals

ALC-4100 .....\$3300.00



TGR-3300

### TGR-3300 Time Code Generator/Reader/Title

- PAL or NTSC standard
- Reads and generates both longitudinal and vertical interval time code
- EBU, SMPTE standard
- Reads LTC from 1/32 to 110 times normal speed, VITC from still to 10 times normal speed
- Color frame lock
- Slave lock
- Drop frame compensation
- Error bypass
- Time code display can be superimposed into the video program in black or white characters with both size and position control, plus black or white edge

TGR-3300 .....\$6500.00

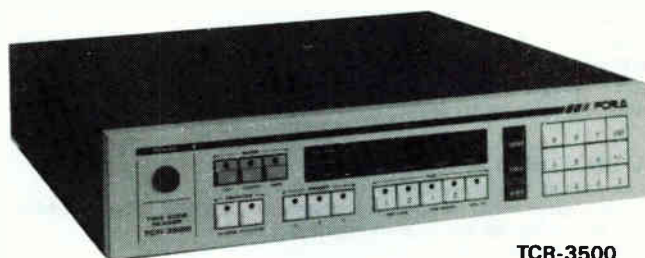


TCR-3300

### TCR-3300 Time Code Reader/Title

- Reads SMPTE and EBU standard time code
- Reads user bit code
- Reads both Longitudinal and Vertical Interval time code
- Reads LTC from 1/10 to 110 times normal speed, VITC from still to 5 times normal speed
- Selectable black or white characters with black or white edge vertical/horizontal position control for time code superimposition
- Two data I/O ports available for external time code input and remote control

TCR-3300 .....\$4950.00



TCR-3500

### TCR-3500 Time Code Reader/Title

- Low cost SMPTE and EBU standards time code reader for use in precision video tape editing systems
- PAL, NTSC standards
- It reads out SMPTE or EBU time code and 32 spare bits code
- Drop-out function
- Time code display function so it is not necessary to utilize TG-160 title generator
- Video time display function with frame numbers of the TG-55B video timer is included
- Built-in real time generator: full automatic running real time can be instantly displayed on the monitor
- 2 time code memories: retrievable instantly
- Identification number for the VTR tape can be displayed on the monitor

TCR-3500 .....\$4000.00

Prices and Specifications Subject to Change Without Notice.

# FOR-A CORP. OF AMERICA

Nonantum Office Park  
320 Nevada St.  
Newton, MA 02160  
(617) 244-3223 FAX: (617) 965-5085

# CHARACTER GENERATORS

## VTW-100 Video Typewriter

- Portable, easy to connect and easy to operate
  - 32 pages of memory
  - 20 characters x 8 lines per page
  - 1 month memory backup
  - Preview function
  - 4-step proportional character size control
  - Vertical and horizontal character positioning
  - Operates on AC or 12VDC power (AC adaptor supplied)
  - Compatible with CI-10 Color Interface for characters and background color
- VTW-100 . . . . . \$950.00

## VTW-220 Video Typewriter

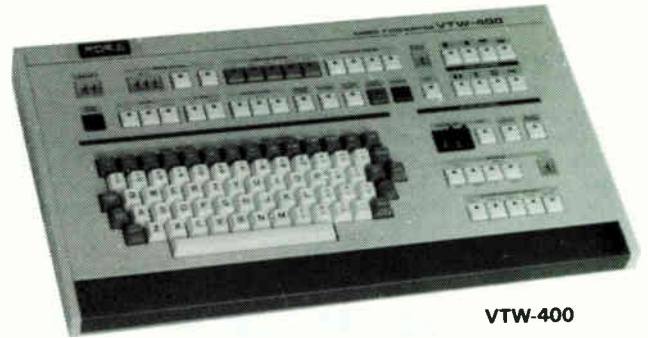
- Integrates easily into any video system to produce clear, legible, high quality characters in 4 different sizes
  - Ideally suited for a range of video production and information display applications including cable TV and corporate, institutional or educational networks
  - Provides 512-color selection with a working palette of 14 colors
  - Character-by-character underline in any of the 512 colors
  - 9-speed roll and crawl
  - Adjustable matte for edge and shadows as well as extensive text editing capabilities
  - A 32-page memory, expandable to 64 pages and capable of displaying up to 256 continuous lines of text, is included
  - RS-232C port is provided for computer interface
- VTW-220 . . . . . \$2950.00  
MC-220 Memory Card . . . . . 195.00  
TTL-220 TTL Cable for VTW-220 . . . . . 100.00

## VTW-400 Video Typewriter

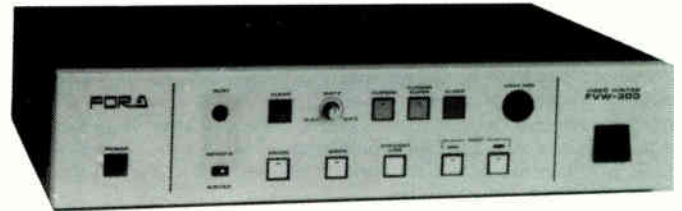
- Character generator has clear, extremely high-resolution characters in a choice of 3 sizes and 2 resident font styles
  - Includes a 4-step character slant
  - Character flash
  - Dropshadow and edge
  - 8-page memory in standard version
  - Displays 8 lines per page with 26 characters per line
  - An optional built-in floppy disk adds 300 pages of memory
  - 64 colors available for page by page character colorizing
  - Displays modes for automatic and manual sequential page switching
  - Time interval adjustable between 1-999 seconds
  - Word processing characteristics such as line skip, line and page shifts, and line check
  - Vertical position control
  - Optional extras are also available. The MU-400 floppy disk memory which provides up to 300 pages on one diskette and fits onto the control unit of the VTW-400, and the PU-400 preview unit which allows information to be typed onto a page while another page is being displayed on the line monitor
- VTW-400 . . . . . \$4950.00  
MU-400 Floppy Disk Memory . . . . . 1900.00  
DO-400 Second Disk Drive . . . . . 1000.00  
TTL-400 TTL Cable for VTW-400 . . . . . 100.00

## FVW-300 Video Writer

- Self-contained, extremely low cost freehand writer
  - Smooth writing: same picture elements as the FVW-910 (224 x 384 for NTSC, 256 x 384 for PAL) no line intermittence
  - Line thickness selection
  - Write, partial erase, total deletion functions
  - Automatic straight line drawing function
  - Cursor can be used as an instructional pointer. (Cursor superimposition)
  - Remote control capability
  - Tabletop use or 19" rack installation use
  - Optional MU-600 and RS-232C Serial Interface Unit are compatible
  - Dimensions: 3.46"H x 16.92"W x 11.81"D (88 x 430 x 300mm)
- FVW-300 . . . . . \$3500.00  
FVW-300RS RS-232C Interface . . . . . 300.00



VTW-400



FVW-300

## FVW-910 Video Writer

- Idealized freehand writer meets broad applications
- Any information can be smoothly written directly onto the screen by using the lightpen
- Line thickness selection
- 8 different directions roll operation
- Straight line drawing
- Write/erase function
- Optional 3-page memory for the B and W mode (1-page memory for the color mode)
- Tremendous potential in broadcasting, educational, medical, instructional and informational video systems
- Optional CC-910 and AA-910 are compatible
- Dimensions: Control Unit 4.72"H x 15.35"W x 13.98"D (176 x 390 x 355mm)
- Operation Unit 4.72"H x 15.35"W x 7.87"D (120 x 390 x 200mm)
- All units combined 18.50"H x 15.35"W x 22.44"D (470 x 390 x 570mm)

Note: Monitor console not included, and black and white monitor can be used with both the FVW-910 and the FVW-300.

- FVW-910 . . . . . \$6950.00  
CC-910 Color Control Unit . . . . . 650.00  
ENC-110 NTSC Encoder . . . . . 3000.00  
AA-910 Area Address Unit . . . . . 3000.00

# FOR-A CORP. OF AMERICA

Nonantum Office Park  
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# GENERATOR/ FRAME MEMORY/COUNTER/ POINTER/SYNTHESIZER



LG-100

## LG-100 Logo Generator

- PAL or NTSC standard
  - Custom designed logo is written into P-ROM and superimposed onto TV picture
  - One or two logos superimposed
  - H and V position control
  - Matte control for black or white logos
  - Capability for storing up to 8 different logo styles
  - Generates an output key signal, with or without sync
- LG-100 ..... \$1700.00



FM-60

## FM-60 Frame Memory

- Excellent device for video research and video surveillance
- B/W video signal is memorized in real time and frozen instantly frame by frame, or field by field
- Compact and lightweight yet reliable performance with low cost
- Automatic freeze function with freely set time interval
- Any of Video Timers, Video Measurement Units, Video Surveillance Units are effectively incorporated
- Dimensions: 1.75" H x 16.92" W x 11.81" D (19" rack type)

FM-60 ..... \$2250.00

## FM-80 Frame Memory

- Same B/W picture freeze functions as FM-60, plus data out facility for computer interfacing

FM-80 ..... \$3950.00



VC-81

## VC-81 Video Counter

- Slim-line video terminal unit
- Up to 8 digits, which counts from 0 to 9, are superimposed onto picture
- Display character format is 7 x 9 dot matrix
- Each character includes edge for maximum legibility
- Operation is performed either manually through the front panel facilities, or remotely through BCD or TTL 5V external input signals
- Start, stop, reset, matt control, V and H display position control facilities
- Wide applications such as program editing in broadcasting stations, time and score indications for sport events, traffic monitoring and control, data insertion in video research, security systems, etc.
- Dimensions: 1.75" H x 16.92" W x 11.81" D (19" rack type)

VC-81 ..... \$1250.00



VP-380

## VP-380 Video Pointer

- Compactly designed instructional instrument allows to superimpose 4 different directions of arrow pointers and 4 different symbol pointers (0, °, + and □) onto a picture
- Each pointer can be positioned anywhere within 80% of the effective picture area by using the joystick controller
- Black/white pointer selection
- Flash function
- Excellent for educational, medical and research purposes. (Effective use if incorporated with the video measurement unit)
- Dimensions: 1.75" H x 8.46" W x 9.84" D (half 19" rack type)

VP-380 ..... \$800.00



IV-530

## IV-530 Contour Synthesizer

- Unique device for analyzing X-ray and all types of difficult-to-interpret photographic data
- Differences in density within the image are converted into differences in contour (image enhancement), so that slight details of the picture will be easily discernible
- 21-step gradient switcher plus independent differential level control
- Negative/positive modes selection
- Dimensions: 1.97" H x 16.92" W x 14.17" D (19" rack type)

IV-530 ..... \$1750.00



# FOR-A CORP. OF AMERICA

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Newton, MA 02160  
(617) 244-3223 FAX: (617) 965-5085

# VIDEO MEASUREMENT EQUIPMENT/ GENERATOR



IV-550

### IV-550 Video Micro Scaler

- Specially developed for use with the microscope
- Horizontal length of an object in a picture can be precisely measured by using 1 horizontal and 2 vertical lines whose positions are independently varied
- High resolution: maximum 1999 horizontally
- Measured data is displayed on both the picture scene and front panel of the unit
- Calibration adjuster sets the most suitable measurement length based upon size of the object in a picture
- Edge enhancer function provides clear picture quality, assisting in precise measurement
- 5 different measurement units are selective (nm,  $\mu$ m, mm, cm and m)
- Dimensions: 3.46" H x 16.92" W x 13.78" D (19" rack type)

IV-550 .....\$3000.00



VPA-1000

### VPA-1000 Video Position Analyzer

- An excellent and accurate unit for researching and analyzing human actions and motions such as in sports, medical rehabilitation, etc.
- 1 each of horizontal line, vertical line and dot whose positions are independently varied are superimposed onto the picture, and position of the dot is expressed in XY coordinate value based upon position of the H and V lines, and displayed on both the picture and front panel of the unit
- The obtained data (XY coordinate values) can be fed to external equipment such as printer either automatically (every .5 second) or manually
- Slight differences in the regular movement of the object can be digitally analyzed
- Dimensions: 3.46" H x 16.92" W x 13.90" D (19" rack type)

VPA-1000 .....\$2750.00



IV-560

### IV-560 Video Measuring Gauge

- Superimposes circle, square, crosslines around any object in a TV picture
- Gives horizontal, vertical and diagonal values in XY coordinates
- "Trackball" controller for easy positioning

IV-560 .....\$4500.00

### IV-570 Crossline Generator

- Compact and easy operation design
- Essentially designed for observing, sizing, comparing or recognizing size, length or position of an object displayed in a picture
- One each of horizontal line and vertical line is displayed in either the straight line or dotted line display modes
- In either the straight/dot modes, each display line can be variably positioned on the monitor
- Also each display line can be set to the fixed position
- Graduations are included with horizontal and vertical straight lines
- Dimensions: 1.73" H x 8.46" W x 9.84" D

IV-570 .....\$875.00



TG-160

### TG-160 Title Generator

- Fixed character data is generated and superimposed through the built-in P-ROM
- External BCD input data (7 bits ASCII code) such as Time Code is superimposed independently or together with the fixed character data
- Up to 16 alphanumeric characters (7 x 9 dot matrix) are superimposed
- Black/white/off mask display at the back of the characters
- Matte control, V and H display position control and display size control facilities
- Excellent device to use with the Time Code Generator/Reader series
- Dimensions: 1.75" H x 16.92" W x 11.8" D (19" rack type)

TG-160 .....\$1750.00

# FOR-A-CORP. OF AMERICA

Nonantum Office Park  
320 Nevada St.  
Newton, MA 02160  
(617) 244-3223 FAX: (617) 965-5085

# TIMERS/GENERATORS/ DISTRIBUTION AMPLIFIERS



VTG-12

### VTG-12 12/24 Hour Time Date

- Compact size, low cost and high performance
- Battery backup function
- Generates a month-day-year, hour, minute, second display
- Character format is a 7 x 9 dot matrix with a built-in black border for maximum legibility
- Includes a built-in rechargeable battery

VTG-12 . . . . . \$825.00

### VTG-22 Portable Timer w/Stop Watch

- Designed for use with a video camera in field photography
- Easily attached to a VTR
- 12V power supply or external DC battery
- Built-in rechargeable battery for continual internal counting
- Two time modes available: Calendar Mode is standard and a Stop Watch adaptor can be added as an accessory

VTG-22 . . . . . \$980.00

10-Pin Camera Cable . . . . . 130.00



VTG-55B

### VTG-55B Video Timer

- Perfect timer for broadcasting use
- TV frame number display
- Time count-up in the range from -99 to +99 hours
- Independent display on/off for hour, minute, second and frame number
- 4-step display character size control
- Time freeze function
- Optional remote control box is available
- Time display, hour, minute, second and frame number

VTG-55B . . . . . \$2090.00

RG-55B Remote box for VTG-55B. . . . . 875.00

### VDA-106 Video Distribution Amplifier

- Up to 6 video outputs from 1 input
- 75 ohm high impedance input loopthrough for parallel connection (up to 10 sets)
- Can be rackmounted (half rack size) or used as a tabletop unit
- Ideal for video security and surveillance or CCTV applications

VDA-106 . . . . . \$350.00

### CC-106 Cable Compensator

- Combined cable compensator and distribution amplifier
- Reduces signal loss and deterioration in frequency response caused by long distance coaxial cable transmission
- Up to 6 video outputs from 1 input
- 75 ohm high impedance input loopthrough for parallel connection (up to 20 sets)
- Adjustment for video level and cable length

CC-106 . . . . . \$500.00



VTG-33

### VTG-33 Video Timer

- Perfect accessory to any television system, compatible with almost any existing installation
- Precision crystal controlled IC circuitry
- Accessible to video and VTR equipment users
- Compact, full-feature generator with wide operational flexibility

VTG-33 . . . . . \$980.00

RB-33 Remote box for VTG-33 and VTG-33F. . . . . 190.00

### VTG-55 Video Timer

- High performance professional unit formats
- Up-down counting versatility with freeze control
- Full remote control capability
- Crystal controlled IC reliability

VTG-55 . . . . . \$1925.00

RB-55 Remote box for VTG-55. . . . . 550.00



VA-310

### VA-310 Video/Audio Distribution Amplifier

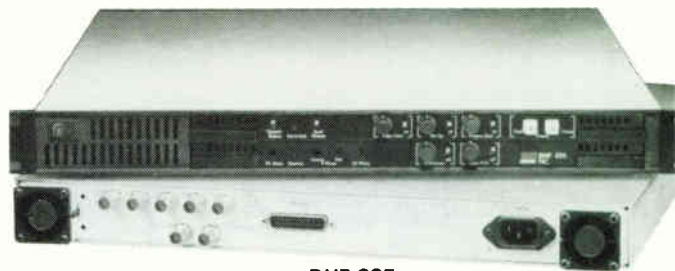
- Up to 10 video and stereo audio outputs from 1 input
- 75 ohm high impedance input loopthrough for parallel connection (up to 10 sets)
- 19" rackmountable
- High quality distribution amplifier particularly suitable for post production systems

VA-310 . . . . . \$800.00

# FORTEL, INC.

6420 Atlantic Blvd., Suite 100  
Norcross, GA 30071  
(404) 449-4343 Telex: 80-4822  
FAX: (404) 449-6437

# TIME BASE CORRECTORS



**DHP 625**

## DHP 525S Digital Time Base Corrector

- Infinite window correction range • S-VHS compatible • Frame freeze • Field freeze (interpolated) • Drop-out compensation • High speed shuttle • Horizontal enhancement • Luma noise reduction • NTSC composite in/out • Remote control option • CCIR-601 sampling • Provides digital high performance processing of 1/2" and 3/4" NTSC composite video signals • Compatible with most of the 1/2" and 3/4" VCRs around • 1 3/4" chassis • Front panel accessible PC boards ease troubleshooting and minimize downtime • Power consumption of < 100W

### Specifications

#### Signal Processing

**Sampling:** Per CCIR-601, 13.5MHz sampling, 4:1:1  
**Bandwidth:** 2.2MHz (-3dB) composite, 5.5MHz (-3dB) Y/C  
**Differential Gain:** < 1%  
**Differential Phase:** < 1°  
**K Factor:** 5% or less  
**Horizontal Tilt:** 1% or less  
**Vertical Tilt:** 1% or less  
**S/N Ratio:** 57dB

#### Residual Time

**Base Error:** ± 15nsec luminance  
± 2° chrominance

#### Inputs

**Y/C:** 3.58  
**Composite Video:** 1.0V p-p, ± 3dB, 75 ohms  
**Composite Genlock Signal:** 1.0V p-p, ± 3dB, externally terminated  
**VTR RF:** BNC connector, 75 ohms

#### Outputs

**Y/C:** 3.58  
**Video Out 1:** 1.0V p-p, 75 ohms, BNC connector  
**Video Out 2:** 1.0V p-p, 75 ohms, BNC connector  
**Advanced Sync:** 1V or 4V p-p, BNC connector, 75 ohms, ± 1.0dB

**Dimensions:** 1.75" H x 17.125" W x 20.75" D

**Operating Voltage:** 105 to 125VAC, 60Hz

**DHP 525S** ..... \$6495.00

## DHP 625 Digital Time Base Corrector

Same as DHP 525 except:

- Available in PAL
- EBU sampling rates
- For processing 1/2" and 3/4" PAL composite video signals

### Specifications

Same as DHP 525 except:

**Sampling:** Y 13.5MHz, U 3.375MHz, V 3.375MHz  
**Bandwidth:** 3.25MHz (-3dB)  
**K Factor:** 4% or less  
**Advanced Sync:** 1V or 2.2V p-p, BNC connector, 75 ohms, .3Y p-p

#### Operating

**Voltage:** 200-260VAC, 50/60Hz

**DHP-625** ..... \$6495.00

## Turbo 2 Time Base Corrector

- Infinite window correction range • Automatic detection of SP, Hi or Lo band dub inputs • Field or frame freeze with interpolation • VTR interface for slow motion operation • Horizontal enhancement • Noise reduction • 5MHz resolution from dub inputs • 1 rack unit high (1 3/4") • Available in NTSC or PAL • EBU sampling rates • Component outputs • Remote control option • Full-featured TBC intended for high-quality processing of video signals in a 3/4" recording environment • Picture quality associated with Y-688 "Dub" processing • Compatible with all 3/4" videocassette recorders • Power consumption of < 100W • Front-panel removeable boards and built-in circuit diagnostic testing speed troubleshooting and minimize downtime

### Specifications

**Sampling:** Y 13.5MHz, U 3.375MHz, V 3.375MHz  
**Bandwidth:** 5.0MHz (-3dB) Dub mode  
3.25MHz (-3dB) Encoded mode  
**Differential Gain:** < 1%  
**Differential Phase:** < 1°  
**K Factor:** 1% or less (Dub mode)  
4% or less (Encoded mode)  
**Horizontal Tilt:** 1% or less  
**S/N Ratio:** 57dB

#### Residual Time

**Base Error:** ± 15nsec luminance  
± 2° chrominance

#### Inputs

**Composite Video:** 1.0V p-p ± 3dB, 75 ohms  
**Composite Genlock Signal:** 1.0V p-p ± 3dB, externally terminated  
**Dub Input:** 7-pin connector, automatic SP, Hi or Lo band sensing and switching



**Turbo 2**

**VTR RF:** BNC connector, 75 ohms  
**VTR Interface:** Sony 18-pin VTR interface connector

#### Outputs

**Video Out 1:** 1.0V p-p, 75 ohms, BNC connector  
**Video Out 2:** 1.0V p-p, 75 ohms, BNC connector  
**Advanced Sync:** 1V or 2.2V p-p, BNC connector, 75 ohms, ± 1.0dB

#### Y Out:

1.0V p-p, 75 ohms, BNC connector, (Betacam compatible)

#### U Out:

0.7V p-p, 75 ohms, BNC connector

#### V Out:

0.7V p-p, 75 ohms, BNC connector

#### Dub Out:

7-pin connector, SP, Hi or Lo band switchable

#### Operating

**Voltage:** 200-260VAC, 47-63Hz

**Turbo 2 NTSC** ..... \$9550.00

**TBC Control\*** ..... \$750.00

#### Turbo 2 PAL

• Offers broadcast quality processing of 1/2" and 3/4" PAL format signals

**Turbo 2 PAL** ..... \$9550.00

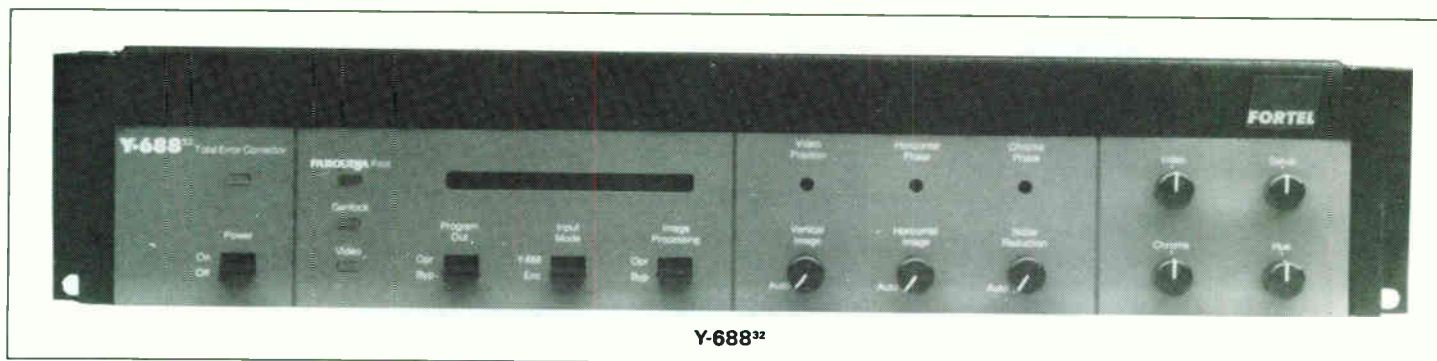
\* The TBC Control can be used to remote front panel functions of the Turbo 2 or DHP 525 TBC.



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# TIME BASE CORRECTOR



## Y-688<sup>32</sup> Total Error Corrector

- 32-line super-wide instantaneous window Phase Comp™ One and two line digital look ahead velocity compensator and phase error corrector
- Complete image processing including horizontal and vertical enhancement and horizontal detail improvement
- Luminance noise reduction through advanced compression and combing techniques to 10dB
- Chroma noise reduction to 10dB
- Chroma crispening
- Gyro-Trac™ automatic window re-centering for extraordinary errors without hue shift or horizontal movement
- Record 1™ pilot tone compatible for automatic setting of image processing controls
- Chroma Amplitude Correction through two line look ahead providing 4.2dB short term and 6dB long term correction
- Accepts shuttle speeds up to ten times normal
- Unitec™ construction features easy access to all components without board or unit removal from operating system
- Front panel image process bypasses control with internal programmable jumpers allowing anything from super transparent time base correction through extensive image reprocessing
- High efficiency, low power, low heat
- Accepts composite or component (Y-688<sup>32</sup>) signals and outputs both types
- Adjustable H and V blanking
- Automatic chroma/luminance delay compensation
- Adjustable video position
- Drop-out compensation based upon previous line information
- Single cable genlock sync generator
- Programmable jumpers and mode switches allow tailoring to specific system objectives
- Automatic color or monochrome operation
- Full proc amp
- Chroma combing

The circuitry of the Y-688<sup>32</sup> TEC accepts component or composite signals and performs all functions of time base correction and picture improvement in the component Y-688<sup>32</sup> form. This method bypassed the root cause of most errors before they occur.

Total Error Corrector for 3/4" professional series VTRs, featuring: Y-688 (dub) component input and output, NTSC composite input and output, 32-line TBC with DYNA-TRAC™ dynamic tracking and high speed shuttle, image processing with noise reduction, and full proc amp controls.

## Applications

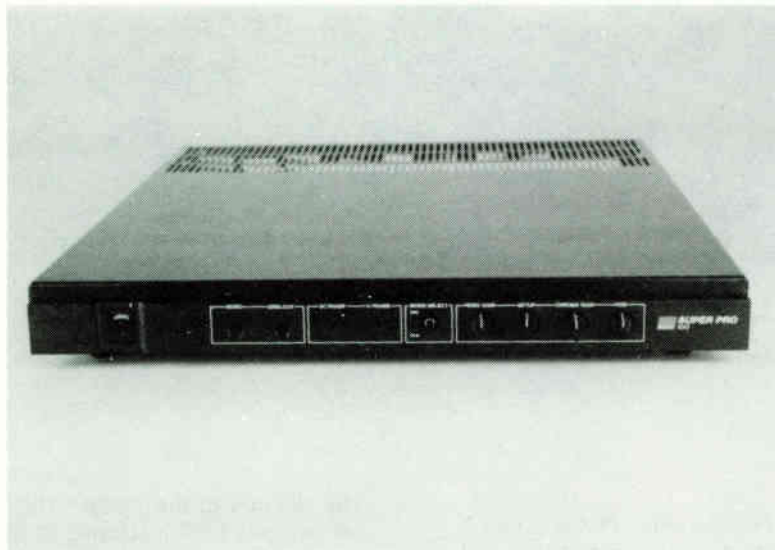
- Use Y-688<sup>32</sup> for time base and image correction of U-Matic masters when dubbing to other U-Matics, VHS or Beta formats
- Edit, special effects, or A/B rolls through Y-688<sup>32</sup> for third generation tapes that look like master tapes
- Use accessory adaptors or RGB switcher to do complete production in component format for final product approaching full bandwidth format
- Reprocess any color-under signal to reduce luminance noise by 10dB and chroma noise by up to 10dB
- Use in conjunction with Record 1 for completely automatic processing of the cleanest, sharpest pictures ever from U-Matic
- Remove transmission noise and distortions from satellite feeds
- Use with latest scan track U-Matics for broadcast stable pictures in slow motion
- Do field production in U-Matic format and all post production through broadcast or distribution copies for lower program costs
- Use with microprocessor controllers and U-Matics for high quality, economical, automatic program delay or remote broadcast

Y-688<sup>32</sup> ..... \$12,695.00

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# TIME BASE CORRECTOR



## SuperPro 100 S-VHS Time Base Corrector

- Super VHS and  $\frac{3}{4}$ " compatible
- 5.5MHz video bandwidth
- 4xSC sampling
- Full PROC AMP controls
- H phase control
- 2 composite video outputs

The SuperPro time base corrector accepts composite or Y/C signals from Super VHS recorders—and is compatible with sub-carrier feedback  $\frac{3}{4}$ " systems. It's engineered to provide highly transparent time base correction and make the most of Super VHS performance.

### Specifications

**Sampling:** 14.318MHz sampling  
**Bandwidth:** 5.5MHz (-3dB)

**Dub Chroma**  
**Frequency:** 3.58MHz

**Differential Gain:** < 2%  
**Differential Phase:** < 2°

**K Factor:** 1% or less  
**Horizontal Tilt:** 1% or less

**Vertical Tilt:** 1% or less  
**Signal-to-Noise Ratio:** 58dB

**Residual Time**  
**Base Error:**  $\pm$  15ns luminance  
**Correction Window:** 16 lines

**Inputs**  
**Composite**  
**Video Input:** 1.0V p-p  $\pm$  3dB, 75 ohms  
**Y/3.58 Input:** Standard 4-pin connector

**Composite Genlock**  
**Signal:** 1.0V p-p  $\pm$  3dB, externally terminated (video or blackburst)

### Outputs

**Video 1 Out:** 1.0V p-p, 75 ohms, BNC connector  
**Video 2 Out:** 1.0V p-p, 75 ohms, BNC connector  
**Advanced Sync:** 1.0V or 4.0V p-p, 75 ohms, BNC connector  
**VTR Subcarrier:** 2.0V p-p, nominal, 75 ohms, BNC connector

### Controls

**Set-Up:** Pot with knob  
**Chroma Gain:** Pot with knob  
**Hue:** Pot with knob  
**Fine H Phase:** Screw adjustable pot  
**Course H Phase:** Screw adjustable pot  
**Mode Select:** Switch

### Indicators

Video Presence—Green LED  
Genlock Presence—Green LED

### Environmental Conditions

**Operating Voltage:** 105-125 or 200-250VAC RMS  
**Operating Frequency:** 47Hz to 60Hz

**Operating**  
**Temperature:** 0° to 45°C  
**Operating Humidity:** 5%-95% Noncondensing

### Mechanical Dimensions

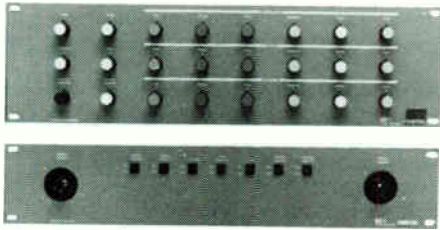
**Size:** 1.75"H x 17.25"W x 19.00"D  
**Weight:** 12 lbs.

SuperPro 100 . . . . . \$2995.00

# FORTEL, INC.

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# COLOR CORRECTORS



CC-1

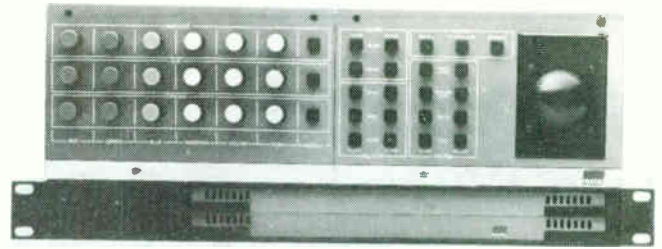
## CC-1 Color Corrector

- Individual color vector control over the three primary colors plus magenta, yellow and cyan
- Luminance, hue and saturation control over all six colors
- Black and white balance controls that let you produce pure neutral tones by balancing out the chroma
- Independent black and white gamma controls that let you stretch or compress luminance over a range of 0.3 to 3
- Enhances the colors in computer generated video (CGV), and expands the creative potential of CGV
- Matches black, white and color levels between live feeds, remote shots, and studio footage with precision
- Corrects colorimetry problems in video tapes

The CC-1 Color Corrector permits independent adjustment of Hue, Saturation, and Luminance of the 6 standard color-bar vectors. This capability provides a substantial improvement in the ease and ability to obtain precise color adjustment over systems which adjust only the primary color vectors.

### Specifications

Video In:	1V p-p, 75 ohm composite video
Video Out:	1V p-p, 75 ohm, composite video
RGB Out:	R&B .7V p-p, G 1V p-p, 75 ohm, Red-Green-Blue uncorrected video (for color keyer use)
S/N Ratio:	60dB
Differential Phase:	1.5°, 10 to 90 IRE
Differential Gain:	1.5%, 10 to 90 IRE
Frequency Response:	NTSC 4.2MHz, ± 1dB PAL 5.5MHz ± 1dB
K Factor (2T):	1.5%
Power:	105-125VAC or 210-250VAC, 50/60Hz, 75W
Weight (Chassis):	28 lbs. (10kg)
Remote Panels:	10 lbs. (2.7kg)
<b>Dimensions</b>	
(Chassis):	1.75" H x 19" W x 21.50" D (4.5 x 48.3 x 55.3cm)
Remote Panel 1:	5.25" H x 19" W x 1.75" D (13.4 x 48.3 x 4.5cm)
Remote Panel 2:	3.50" H x 19" W x 2" D (8.9 x 48.3 x 4.5cm)
<b>Luminance</b>	
Individual Color Control:	± 20 IRE
Master Control:	± 3dB
Setup:	± 20 IRE
Blacks Gamma:	Stretch or compress luma below 50 IRE
Whites Gamma:	Stretch or compress luma above 50 IRE
<b>Hue</b>	
Individual Color Control:	± 30°
Master Control:	± 20°
<b>Saturation</b>	
Individual Color Control:	± 5dB
Master Control:	± 3dB



CC-2

## Black and White Balance:

Compensates for mismatched RGB setups and RGB gains, and adds or subtracts color in blacks and whites

CC-1 NTSC .....	\$8,995.00
CC-1 PAL .....	8,995.00

### Accessories

VTR Interface Cable .....	\$250.00
CC-1 50' Cable .....	50.00

## CC-2 Color Corrector

- Provides broadcast quality control of video color in all common component formats
- Component operation is provided for RGB or Y, R-Y, B-Y and M-I-I formats
- Plug-in PC boards permit easy reconfiguration for either 525 or 625 standards
- Black, white and gray color balance adjustment
- Black and white gamma control
- Standard proc amp controls
- Independent hue, saturation and luma adjustments for each of the six color derivative vectors
- Trackball adjustment for color balance, gamma, and proc amp functions
- Store and recall functions allow the correction feature to be switched in and out for comparison with uncorrected material
- Shaft encoders and trackball can be automatically zeroed by push-button, eliminating manual reset

### Specifications

Frequency Response:	8MHz ± 0.2dB
K Factor:	1%
S/N Ratio:	60dB
<b>Master Control</b>	
<b>Ranges</b>	
Luminance:	± 3dB
Chrominance:	± 3dB
Setup:	± 20 IRE
Hue:	± 20°
<b>Balance Control</b>	
Ranges:	± 50 IRE (Black, Gray and White balance)
<b>Gamma Adjustment</b>	
Black:	Stretches or compresses luma values below 50 IRE
White:	Stretches or compresses luma values above 50 IRE
<b>Individual 6-Vector Color Control</b>	
Luminance:	± 20 IRE
Hue:	± 30 IRE
Saturation:	± 5 + dB
<b>Electronic</b>	
Chassis:	1.75" H x 19" W x 20" D 20 lbs.
Control Chassis:	5.25" H x 19" W x 5" D 8 lbs.
CC-2 Multi Format .....	\$12,490.00

Prices and Specifications Subject to Change Without Notice.



# FREZZOLINI ELECTRONICS INC.

5 Valley St.  
Hawthorne, NJ 07506  
(201) 427-1160

# BATTERY PACKS

## Frezzi On-Board™ Battery Packs "Superior To Camera-Manufacturer Supplied" FEATURES: EXTENDED LIFE WITH NO MEMORY

- Battery mounts direct to camera-manufacturer-supplied Anton/Bauer bracket or optional Frezzolini® camera battery mounting bracket.
- No cables or modification required.
- Full 4AH capacity—only premium selected nickel-cadmium cells used.
- Custom-designed mounting brackets available.
- Rugged welded aluminum case.
- Lightweight 2AH models available.
- Internal fuse & thermal protection—internal spare fuse included for field replacement.
- Complete charge compatibility with camera-factory-supplied charge systems, or Frezzolini® fast, overnight or multiple battery chargers available.

Frezzi On-Board™ BP-12 4AH, 12 volt .....	\$455.00
Frezzi On-Board™ BP-13 4AH, 13.2 volt .....	475.00
Frezzi On-Board™ BP-14 4AH, 14.4 volt .....	495.00
Frezzi On-Board™ BP-122 2AH, 12 volt .....	275.00
Frezzi On-Board™ BP-132 2AH, 13.2 volt .....	285.00
Frezzi On-Board™ BP-142 2AH, 14.4 volt .....	295.00

All battery packs have fast charge (1 Hr.) capability.

## Frezzi™ Premium-Grade Direct Replacement for Sony BP-90 Battery Packs Models: FBP-90 and Fast Charger Model FBP-90 FC

- Full 4AH capacity using premium-grade selected nickel-cadmium cells.
- Rugged & serviceable plastic case.
- Fuse & thermal protection
- Internal spare fuse for field replacement.
- High discharge capability to power 100W lighthead.
- Weight 3.5 lbs.
- Complete charge compatibility with:
  - Sony BC-210 charger.
  - Frezzi BC-124S overnight charger.
  - Frezzi MBC-5 8-battery overnight charger
  - Frezzi BC-77UB 1 hr. fast charger w/HV fast-charge adaptor cable.
  - Plus other Frezzi fast/slow multi-battery charging stations.

Model FBP-90 .....	\$275.00
Model FBP-90 FC .....	330.00

## Battery Pack Mounting Brackets

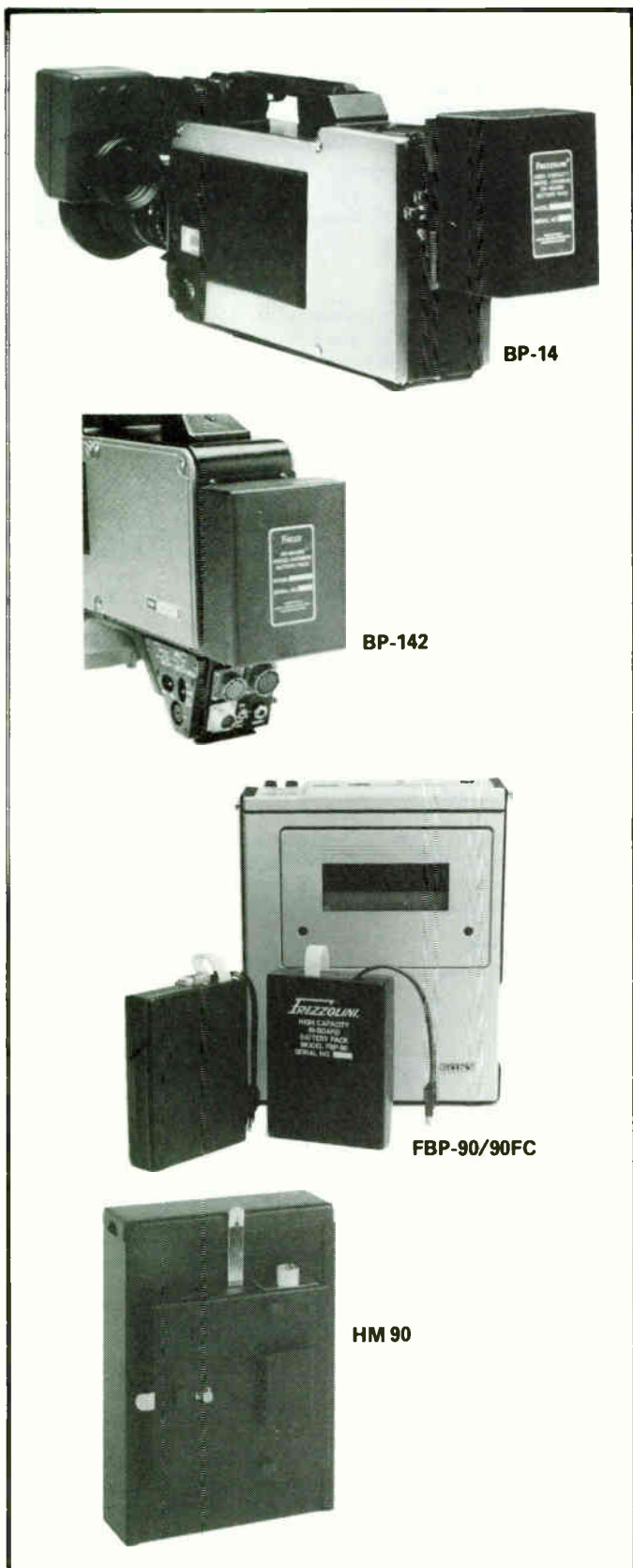
HM 90 BP90 Adaptor for on-board mount .....	\$198.00
HM90B Same as HM90 except for Betacam mount* .....	198.00
HM90BW Same as HM90B except has mount for wireless receiver* .....	248.00

\*Requires HMBVV1 Bracket

## Betacam Battery Mounting Bracket (Not Shown)

Model: HMBVV1  
Bracket mounts to the upper rear portion of the recorder, and accepts BP13/BP132 batteries or BP90 when used with HM90. Also accepts RPS-3 & RPS-40 on-board AC supply.  
Model HMBVV1 .....

\$105.00



# FREZZOLINI ELECTRONICS INC.

5 Valley St.  
Hawthorne, NJ 07506  
(201) 427-1160

# BATTERY PACKS/POWER BELTS



## 30 Volt DC Operation With EC-30 High-Capacity Battery Packs

- 30VDC at 4AH
- Operates 30V 250W DYG lamp 30 minutes
- Fast charge capability (1 hr.)
- Built-in overnight charger (12 hrs.)
- Rugged steel case
- Weight: 10 lbs.
- Premium grade selected nickel-cadmium cells used

Model EC-30 .....\$695.00  
Optional: BC-30D One (1) Hour Fast Charger ..... 395.00

## VB Series 12 Volt At 4AH "High-Tech" Battery Packs

- Premium-grade selected nickel-cadmium cells used
- Built-in belt clip
- Shoulder strap provided
- Includes VBCV 115V overnight charger

VB-12 4AH, 12V, 7.813" x 5.10" x 1.625", 4.0 lbs. ....\$165.00  
VB-12V 4AH, 12V, 8.125" x 5.10" x 1.625", 4.0 lbs. .... 225.00  
VB4X 4AH, 12V, 7.813" x 5.10" x 1.625", 4.0 lbs. .... 235.00  
VBSO\* 4AH, 12V, 8.125" x 5.10" x 1.938", 4.0 lbs. .... 245.00  
\*With additional XLR4 connector ..... 255.00

## Frezzi™ High Capacity 6AH Multi-Purpose Power Belts

### Features

- High capacity — full 6AH (at 6A discharge rate)
- Batteries housed in rugged aluminum cassettes mounted on a genuine leather belt
- Built-in overnight (14 hrs.) charger
- Fast charge (1 hr.) capability with Model BC-77U charger
- Fuse and thermal protection
- Low belt profile — only 4" wide

### Model F-12-EXFA

- 12.0V at 6AH
- Standard five (5)-pin XLR connector
- Weight: 8 lbs.

F-12-EXFA .....\$475.00

### Model F-12-77

- ± 6.0V at 6AH
- HL-77 connector
- Weight: 8 lbs.

F-12-77 .....\$475.00

### Model F-14-EXFA

- 14.4V at 6AH
- Four (4)-pin XLR connector
- Weight: 8.5 lbs.

F-14-EXFA .....\$495.00

## Frezzi™ Power Belts for 30 Volt Sun Gun

### 30 Volt DC Operation With Frezzi™ F-30-EC And F-30-EXFA High-Capacity Battery Belts

- Full 4AH capacity using selected nickel-cadmium cells
- Operates 30V 250W DYG lamp for 30 minutes
- Batteries housed in rugged aluminum cassettes which are mounted on a genuine leather belt
- Built-in overnight charger (14 hrs.)
- F-30-EXFA has fast-charge capability (1 hr.) with optional Frezzi™ BC-30D fast charger
- Fuse and circuit-breaker protection
- Weight: 10 lbs.

Model F-30 EC .....\$595.00

Model F-30-EXFA ..... 645.00

Model F-30/14EXFA Switchable 30V at 4AH, 14V at 8AH Power Belt ..... 795.00



**BC-77UB**

**MBC-2**  
Intermixed or same packs

**MBC-5**

**BC-124S**

**Fig. A**

**Fig. B**

**Fig. C**

**FTC-14**

**BC-122S**

## FREZZI™ SINGLE-BATTERY UNIVERSAL FAST CHARGERS

### Model BC-77U/Model BC-77UB Single-Battery Universal Fast Chargers

#### General:

The line of Frezzolini® Universal fast chargers was specifically designed to fast-charge (1 hr.) all models of Frezzolini 12V and 14.4V 2-6AH battery packs. The Frezzi chargers also have the capability to safely fast-charge Anton/Bauer 12V and 14.4V nickel-cadmium on-board battery packs. All chargers are transformer-type line-isolated and designed per European IEC-65 safety code specifications. The chargers are constructed of heavy-gauge aluminum in a compact size to withstand abuse in the field. The universal feature of this charger enables operation anywhere in the world.

**Model BC-77U/BC-77UB** . . . . . \$395.00  
**Model BC-30D** (for use with 30V batteries with fast charge capability) . . . . . 395.00

## FREZZI MULTIPLE BATTERY CHARGING STATIONS

**"We custom-design per your specific charging requirements"**

### MBC-2 (All Feature Model)

Fast-charges five (5) Frezzolini or Anton/Bauer 12-14.4V nickel-cadmium battery packs in less than one (1) hour while simultaneously charging eight (8) additional Frezzolini, Sony, JVC or Panasonic VTR battery packs overnight. Universal AC inputs. Deluxe shipping case available. Weight: 45 lbs.

**MBC-2** . . . . . \$2400.00

### MBC-4

Fast charges (1 hr.) five (5) Frezzolini or Anton/Bauer 12-14.4V nickel-cadmium battery packs while simultaneously charging eight additional Sony BP-90 type battery packs in 14 hours. Universal AC inputs. Deluxe shipping case available. Weight: 45 lbs.

**MBC-4** . . . . . \$2090.00

### MBC-4A

Fast charges (5) Frezzolini or Anton/Bauer 12-14.4V battery packs. Weight: 43 lbs.

**MBC-4A** . . . . . \$1595.00

### MBC-5, Charges Eight (8)

#### BP-90 Type Batteries Simultaneously

- Universal AC inputs
- Compact size
- Line-isolated
- Current-sensing LEDs
- Other models available for all VTR or camera battery packs

Charge eight (8) BP-90-type battery packs simultaneously in 14 hours with MBC-5 Charging Station. Universal AC inputs. Weight: 8 lbs.

**MBC-5** . . . . . \$495.00

## OVERNIGHT TRICKLE CHARGERS

- Fully charges battery packs in 14 hours
- Switchable 115-230VAC 50/60Hz input
- Miniature size
- Transformer-type line-isolated
- Current-sensing LED

**Model FTC-12/13/14** (For BP-12/13/14) Fig. B . . . . . \$ 80.00

**Model FTC-122/132/142** (For BP-122/132/142) . . . . . 90.00

**Model BC-122S** (For FBP-20/44/60) Fig. C . . . . . 90.00

**Model BC-124S** (For BP-90/FBP-90) Fig. A . . . . . 80.00

**Model CR-1** (Current regulated for BP-90, BP-12/13/14) . . . . . 125.00

Trickle charger for VB series batteries 115V input only.

**Model VBC** (For VB-12) . . . . . \$38.00

**Model VBCV** (For VB4X/VB-12V) . . . . . 38.00

**Model FTC-NP1** (For (1) NP1) . . . . . 95.00



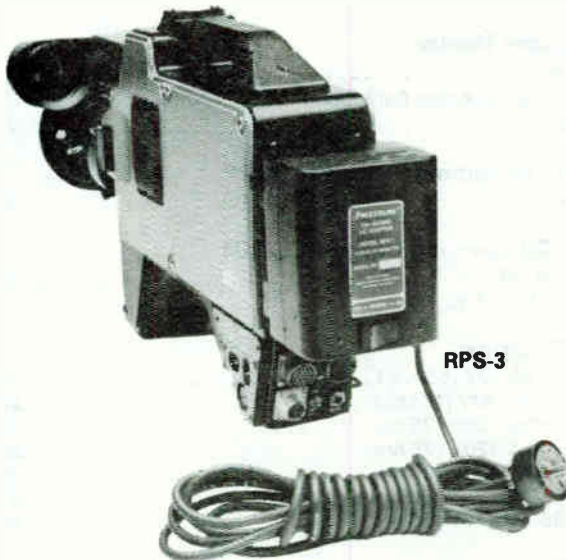
# FREZZOLINI ELECTRONICS INC.

5 Valley St.  
Hawthorne, NJ 07506  
(201) 427-1160 TWX: 710-988-4142

# CHARGERS/POWER SUPPLIES



RPS-2



RPS-3



RPS-40

## Frezzi™ Dual Channel AC Adaptor and Fast Charger

The RPS-2 Dual-Channel combination power supply/fast charger consists of two (2) totally independent power sources. Each power source has the capability of either functioning as a precise regulated power supply for ENG Camera/VTR Power or switching over to a nickel-cadmium battery fast charger. Either one or two battery packs are simultaneously fast charged with automatic high-charge termination when the battery packs reach full charge.

### Specifications

**AC Input:** 115/230VAC  $\pm$  10% 50/60Hz  
**Regulated DC Output:** 13.25VDC (3.0A max. each channel)  
**Line Regulation:**  $\pm$  .05% for 10% line charge  
**Load Regulation:**  $\pm$  .05% for 50% load change  
**Output Ripple:** 5.0mV p-p maximum  
**Overload Protection:** Automatic current limit/foldback  
**Fast Charge Time:** 12.0V battery-75 minutes  
 14.4V battery-180 minutes

**Size:** 8 1/2" x 5" x 5 1/2"  
**Weight:** 8.5 lbs.

Model RPS-2 ..... \$895.00

## Frezzi On-Board™ AC Power Supplies Models RPS-3 and RPS-40

Ultra light weight, compact size, mounts directly to ENG/EFP professional TV cameras with on-board battery mounts. Replacing battery with either unit allows for "continuous" operation when 120 or 240VAC 50 to 60Hz is available. Easy voltage selection slide switch on unit. On-off lighted switch. Advanced switching design with full RFI/EMI suppression. Supplied as OEM and replacement equipment to major manufacturers.

### Specifications

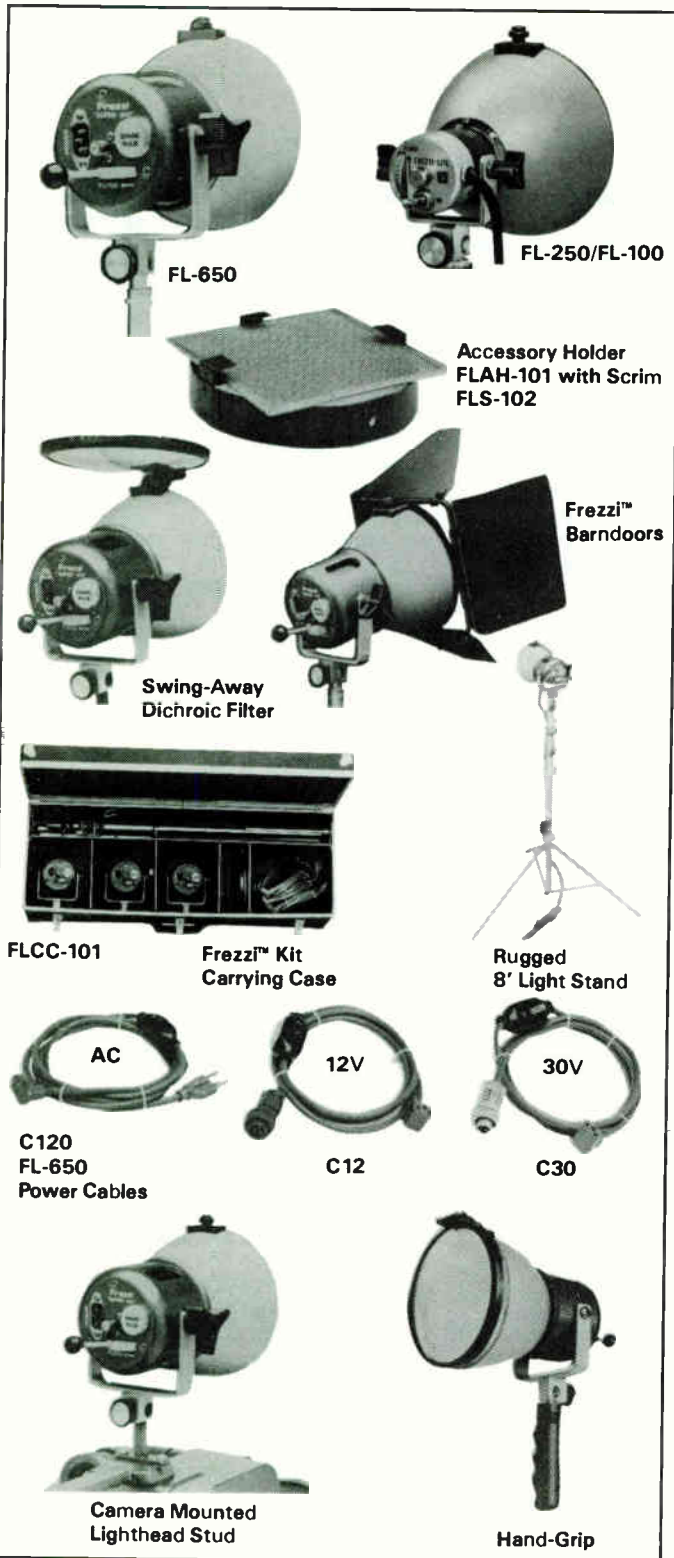
	RPS-3	RPS-40
<b>Power:</b>	50W	40W
<b>Output Current:</b>	4A max.	3A max.
<b>Output Voltage:</b>	13VDC Nominal	
<b>Output Ripple:</b>	10MV Typical	
<b>Input Line Selection</b>	SW:	
	120VAC/240VAC, 50/60Hz	
<b>Line Regulation:</b>	$\pm$ 0.1% (For 10% line change)	
<b>Load Regulation:</b>	$\pm$ 0.2% (For 50% load change)	
<b>Current Limit:</b>	Output protected and fully isolated	
<b>Size:</b>	5.0" x 4.0" x 3.4"	5.25" x 4.125" x 2.0"
<b>Weight:</b>	2.3 lbs.	1.8 lbs.

Model RPS-3 ..... \$595.00  
 Model RPS-40 ..... \$450.00

# FREZZOLINI ELECTRONICS INC.

5 Valley St.  
Hawthorne, NJ 07506  
(201) 427-1160

# PORTABLE LIGHTING



- Computer designed high luminance reflector
- Easy access flood-spot control
- Mounts to stand, camera or handgrip

### FL-650

- Ultra-lightweight—1 lb.
- Built-in spare lamp holder
- AC/DC operation from 12V-30V-115V-220V-240V
- 650W capability

FL-650 (Lighthead only) . . . . . \$ 165.00  
Lamp/Cable/Handle/Mount are additional

### FL-250 or FL-100

- Ultra-lightweight—1 lb.
- DC operation from 12V-30V
- Complete kits available
- Choice of power configurations

FL-250 . . . . . \$ 195.00  
FL-100 . . . . . 195.00  
Includes: Lamp, Attached Cable, Hand Grip

### Swing-Away Dichroic Filter

FLDF-101 . . . . . \$ 105.00

### Accessory Holder

FLAH-101 . . . . . \$29.00  
For scrim and Rotating Barndoors  
FLS-102 . . . . . 28.00

### Frezzi™ Barndoors — Rotate 360°

FLBD-102 . . . . . \$40.00

### Frezzi Kit Carrying Case FLCC-101

FLCC-101 (AC Kit) . . . . . \$ 125.00  
FLCC-103 (DC Kit) . . . . . 175.00

### FL-650 Lamps

EYL	100W 12V (50 hrs.)	\$ 17.00
DYG	250W 30V (15 hrs.)	28.00
EKB	420W 120V (75 hrs.)	36.00
DYS	600W 120V (75 hrs.)	26.00
EKD	650W 120V (25 hrs.)	32.00
DYR	650W 220V (50 hrs.)	43.00
DYR	650W 240V (50 hrs.)	43.00

### FL-250 Lamps

FAV	100W 12V	\$40.00
FBT	150W 30V	44.00
FBV	250W 30V	48.00

### FL-650 Power Cables

C12	(For 12VDC operation)	\$32.00
C30	(For 30VDC operation)	32.00
C120	(For 120VAC operation)	17.00

### Rugged 8' Light Stand

FLLS-101 . . . . . \$68.50

### Camera Mounted Lighthead Stud

Various sizes available . . . . . see page 10

### Handgrip

FLH-101 . . . . . \$ 12.00

# FREZZOLINI ELECTRONICS INC.

5 Valley St.  
Hawthorne, NJ 07506  
(201) 427-1160

# PROFESSIONAL LIGHTING KITS



### KIT MODEL SPK-1 INCLUDES:

- (3) FL-650 Lightheads
  - (3) C120-120V Cables w/In-Line Switch
  - (3) EKD or DYS Lamps
  - (2) FLBD-102 Rotating Barn Doors
  - (1) FLS-102 Scrim
  - (2) FLAH-101 Accessory Holder
  - (3) FLLS-101 Light Stands (8 ft.)
  - (1) C120EX 3-Way Extension Cable (25 ft.)
  - (1) FLCC-101 Carrying Case
- SPK-1 ..... \$975.00**

### 30 VOLT LIGHTING KITS

#### Kit Model SPK2

#### 30 Volt DC Kit Includes:

- 1—SP-650 Head Only
  - 1—C30-30V Cable, 6'
  - 1—DYG 250W Lamp
  - 1—FLH-101 Handgrip
  - 1—F-30-EC Belt
  - 1—Carrying Case
- Total ..... \$860.00**

#### Kit Model

**SPK2A** Same as SPK2 except includes "Fast-Charge" belt model F-30EXFA in place of F-30EC

**Total ..... \$910.00**

**BC30D** One (1) hour Fast Charger for F-30EXFA

**Total ..... 395.00**

Prices and Specifications Subject to Change Without Notice.

V-467



# FREZZOLINI ELECTRONICS INC.

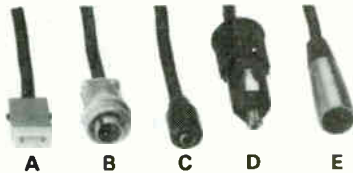
5 Valley St.  
Hawthorne, NJ 07506  
(201) 427-1160 TWX: 710-988-4142

# MINI-FILL LIGHTING



Single Light Configuration

Your choice of power connector



Dual Light Configuration

### Unique Mini-Fill Features:

- Extremely lightweight — only 12 oz.
- Compact size — 2" x 4 1/4"
- Operates from any 12-14.4 or 30V battery
- Utilizes the latest high efficiency multi-mirror lamps — (20-100W)
- Completely serviceable
- Field tested
- Field proven
- Mounts on camera, pistol grip or lightstand
- Dual-lighthead configuration from one power source
- Rugged construction — Built by Frezzolini® — The world leader in portable lighting and power

### Single Light Configuration (Including 100W or 75W Bulb)

MF12P	Mini-Fill w/cigarette lighter plug (Fig. D)	.....\$149.95
MF12C	Mini-Fill w/BP-90 type co-ax plug (Fig. C)	.....149.95
MF12V	Mini-Fill w/Frezzi amp connector (Fig. A)	.....149.95
MF5V	Mini-Fill w/short (18") cable and amp connector (Fig. A)	.....149.95
MF4X	Mini-Fill w/XLR-4 connector (Fig. E)	.....149.95
MF5X	Mini-Fill w/XLR-5 connector (Fig. E)	.....149.95
MF30	Mini-Fill w/2-pin amphenol connector for 30V operation (includes 80W bulb) (Fig. B)	.....154.95

### Dual Light Configuration

DMF12	Twin Mini-Fill interconnected for power from one (1) source. Choice of power connectors: Sony BP-90 In-Line, Frezzi™-Amp, XLR-4 or cigarette lighter type	.....\$295.00
DMF30	Same as DMF12 except wired for 30V operation including 2-pin amphenol connector	.....298.00

### Mini-Fill Lamp Guide

Lamp Code	Volts	Watts	Life (Hrs.)	Color Temp.	Typical Center Candlepower	Beam Spread
BAB	12	20	2000	2925°K	460	FLOOD
EKP	30	80	25	3350°K	1750	FLOOD
ESX	12	20	2000	2925°K	3300	NARROW SPOT
EXN	12	50	3000	3050°K	1500	FLOOD
EXT	12	50	3000	3050°K	9150	NARROW SPOT
EXV	12	100	50	3350°K	3300	FLOOD
EXZ	12	50	3000	3075°K	3000	NARROW FLOOD
EYC	12	75	3500	3050°K	2000	FLOOD
EYF	12	75	3500	3050°K	11500	NARROW SPOT

### Spare Lamps:

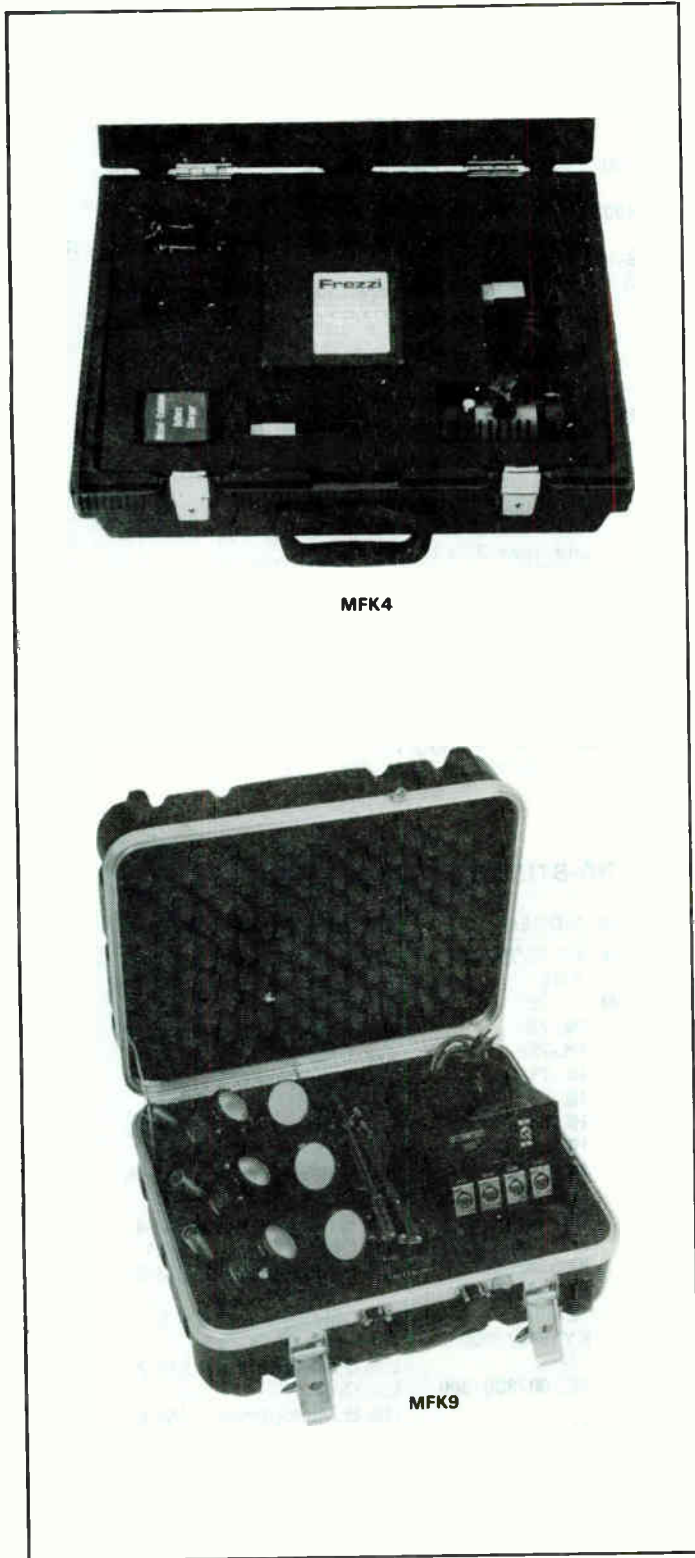
EKP	80W at 30V (for 30V battery operation)	.....\$30.00
EXV	100W at 12V (for 12V battery only)	.....33.00
EYC	75W at 12V (also for 13.2 and 14.4V operation)	.....25.00

Prices and Specifications Subject to Change Without Notice.

# FREZZOLINI ELECTRONICS INC.

5 Valley St.  
Hawthorne, NJ 07506  
(201) 427-1160

## MINI-FILL LIGHTING



### MINI-FILL KITS

#### MFK1 Includes:

- (1) MF12P Mini-Fill
- (1) VB12 Battery
- (1) VBC Charger
- (1) EYC or EXV Bulb

**MFK1** ..... \$295.00

#### MFK2 Includes:

- (1) MF12P Mini-Fill
- (1) VB-12 Battery
- (1) VBC Charger
- (1) EYC or EXV Bulb
- (1) MFDF Dichroic Filter
- (1) FLCC Carrying Case

**MFK2** ..... \$455.00

#### MFK3 Includes:

- (1) MF12V Mini-Fill
- (1) VB12V Battery
- (1) VBCV Charger
- (1) EYC or EXV Bulb

**MFK3** ..... \$355.00

#### MFK4 Includes:

- (1) MF12V Mini-Fill
- (1) VB12V Battery
- (1) VBCV Charger
- (1) EYC or EXV Bulb
- (1) MFDF Dichroic Filter
- (1) MFCC Carrying Case

**MFK4** ..... \$515.00

#### MFK5 Includes:

- (1) MF4X Mini-Fill
- (1) VB4X Battery
- (1) VBCV Charger
- (1) EYC or EXV Bulb

**MFK5** ..... \$365.00

#### MFK6 Includes:

- (1) MF4X Mini-Fill
- (1) VB4X Battery
- (1) VBCV Charger
- (1) EYC or EXV Bulb
- (1) MFDF Dichroic Filter
- (1) MFCC Carrying Case

**MFK6** ..... \$525.00

#### MFK9 Includes:

- (3) MF4X (LC) Mini-Fill
- (3) MFDF Dichroic Filter
- (3) FLCS-102 Short Stand
- (1) LPS-400 Power Supply
- (3) LS1 Stud
- (3) EYC Bulb
- (1) FLCC-104 Case

**MFK9** ..... \$1250.00

Other Custom-Designed Kits Available Per Your Specific Requirements.

# FREZZOLINI ELECTRONICS INC.

5 Valley St.  
Hawthorne, NJ 07506  
(201) 427-1160

# MINI-FILL ACCESSORIES

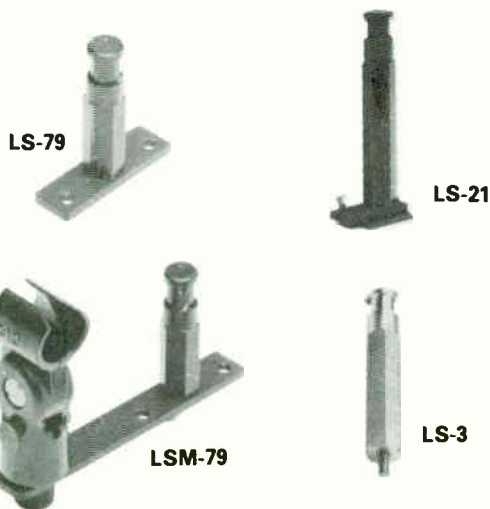


**FLIP-UP DICHOIC FILTER  
MODEL MFDF AND DIFFUSED  
FRONT SURFACE**



**LPS-100**

## Camera Mounted Lighthead Studs



<b>MFDF</b>	Mini-Fill "Flip-Up" Dichroic Filter .....	<b>\$ 88.00</b>
<b>MFCC</b>	Mini-Fill Carrying Case .....	<b>80.00</b>
<b>LP90</b>	Leather Pouch w/Belt Loops for BP-90 .....	<b>38.00</b>
<b>LPS100</b>	AC Adaptor/Power Supply, 100W w/Cigarette Lighter Type Mating Connector .....	<b>196.00</b>
<b>LPS400</b>	4-Channel AC Adaptor/Power Supply, 400W w/XLR4 Connector Output .....	<b>296.00</b>
<b>FLLS-102</b>	Mini-Fill Short Stand .....	<b>36.00</b>
<b>CLPA</b>	On-Camera Power Adaptor (XLP-4) .....	<b>126.00</b>

## CAMERA MOUNTED LIGHTHEAD STUDS

### Frezzi™ Stud Specification List

<b>LS1</b>	Lite-Stud, 3" x 1/2", 1/4—20 .....	<b>\$25.00</b>
<b>LS2</b>	Lite-Stud, 3" x 1/2", 10—32 .....	<b>25.00</b>
<b>LS3</b>	Lite-Stud, 3" x 1/2", 5mm .....	<b>25.00</b>
<b>LS4</b>	Lite-Stud, 3" x 1/2", 6mm .....	<b>25.00</b>
<b>LS5</b>	Lite-Stud, 3" x 1/2", 4mm .....	<b>25.00</b>
<b>LS21</b>	Lite-Stud for FP-21/22 .....	<b>29.00</b>
<b>LS79</b>	Lite-Stud for HL-79A/D .....	<b>29.00</b>
<b>LS83</b>	Lite-Stud for HL-83 .....	<b>38.00</b>
<b>LS95</b>	Lite-Stud, 1-1/2" x 1/2", 5mm .....	<b>25.00</b>
<b>LSM21</b>	Lite/Mic Holder for FP-21/22 (Shoe Type) .....	<b>65.00</b>
<b>LSM79</b>	Lite/Mic Holder for HL-79A/D .....	<b>65.00</b>
<b>LSM83</b>	Lite/Mic Holder for HL-83 .....	<b>65.00</b>
<b>LSM95</b>	Lite/Mic Holder for HL-95 .....	<b>65.00</b>

## CAMERA-STUD REFERENCE CHART

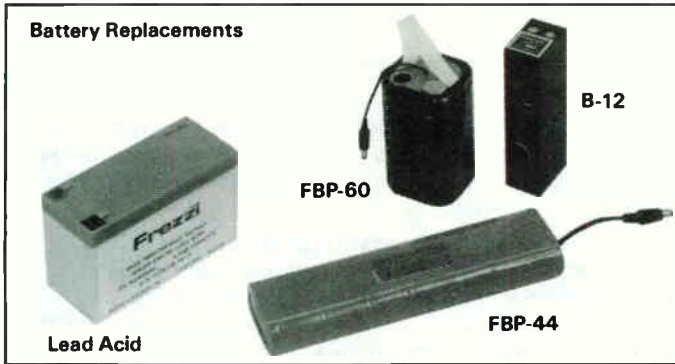
CAMERA	MODEL	DESCRIPTION	FREZZI P/N	PRICE
<b>HITACHI</b>	<b>FP-15/21/22 &amp; Z-31</b>	Lite Only	LS-21	<b>\$29.00</b>
		Lite & Microphone	LSM-21	<b>65.00</b>
<b>IKEGAMI</b>	<b>HL-79</b>	Lite Only	LS-79	<b>29.00</b>
	<b>HL-79</b>	Lite & Microphone	LSM-79	<b>65.00</b>
	<b>HL-79E</b>	Lite Only	LS-21	<b>29.00</b>
	<b>HL-79E</b>	Lite & Microphone	LSM-21	<b>65.00</b>
	<b>HL-83</b>	Lite Only	LS-83	<b>38.00</b>
	<b>HL-83</b>	Lite & Microphone	LSM-83	<b>65.00</b>
	<b>HL-95</b>	Lite Only	LS-95	<b>25.00</b>
	<b>HL-95</b>	Lite & Microphone	LSM-95	<b>65.00</b>
	<b>ITC-730</b>	Lite Only	LS-4	<b>25.00</b>
	<b>ITC-730</b>	Lite & Microphone	LSM-4	<b>65.00</b>
<b>JVC</b>	<b>KY110/210/310 &amp; KY320/950</b>	Lite Only	LS-21	<b>29.00</b>
	<b>KY1900/2000/2700</b>	Lite & Microphone	LSM-21	<b>65.00</b>
	<b>KY1900/2000/2700</b>	Lite Only	LS-2	<b>25.00</b>
	<b>KY1900/2000/2700</b>	Lite & Microphone	LSM-2	<b>65.00</b>
<b>SHARP</b>	<b>XC700/800/900</b>	Lite Only	LS-1	<b>25.00</b>
		Lite & Microphone	LSM-1	<b>65.00</b>
<b>SONY</b>	<b>All Sony Cameras</b>	Lite Only	LS-1	<b>25.00</b>
		Lite & Microphone	LSM-1	<b>65.00</b>



# FREZZOLINI ELECTRONICS INC.

5 Valley St.  
Hawthorne, NJ 07506  
(201) 427-1160

# BATTERY REPLACEMENTS



## Frezzi™ 2AH NiCad Replacements

**for Lead-Acid VTR Battery Packs**  
Model FBP-20 Replacement for Sony BP-20A  
Model FBP-44 Replacement for JVC PBP-1  
Model FBP-44 Replacement for Panasonic LCR-3012 VBP  
Model FBP-60 Replacement for Sony BP60  
Model FNP-1 Replacement for Sony NP-1

### Nickel Cadmium Batteries

Model B-12 (12V at 1AH) . . . . .	\$ 125.00
Model FBP-20 (12V at 2AH) . . . . .	.225.00
Model FBP-44 (12V at 2AH) . . . . .	.225.00
Model FBP-60 (12V at 2AH) . . . . .	.225.00
Model FNP-1HC (12V at 1.8AH) . . . . .	.85.00

### Sealed Lead Acid Battery

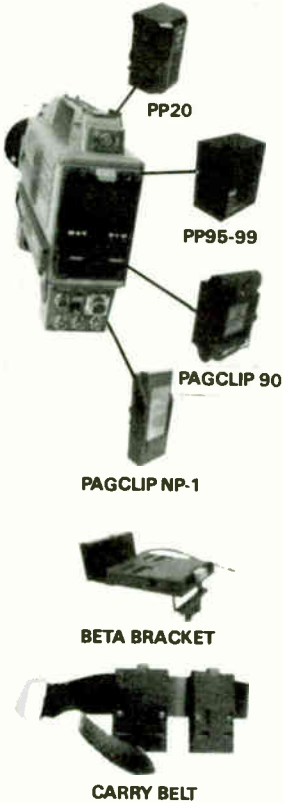
Model 12V 6.5AH-SGLA . . . . .	\$37.50
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Model	Price
<b>On-Board Battery Packs</b>	
BP12 . . . . .	\$455.00
BP13 . . . . .	.475.00
BP14 . . . . .	.495.00
BP122 . . . . .	.275.00
BP132 . . . . .	.285.00
BP142 . . . . .	.295.00
<b>On-Board AC Supply</b>	
RPS 1 . . . . .	\$515.00
RPS 3 . . . . .	.595.00
RPS 40 . . . . .	.545.00
<b>AC Supply/Charger</b>	
RPS 2 . . . . .	\$895.00
<b>VTR Replacement Batteries</b>	
FBP20 . . . . .	\$225.00
FBP44 . . . . .	.225.00
FBP60 . . . . .	.225.00
FBP90 . . . . .	.275.00
FBP90FC . . . . .	.330.00
FNP1HC . . . . .	.85.00
<b>On-Board/BP-90 Adaptors</b>	
CLPA . . . . .	\$ 125.00
HM90 . . . . .	.198.00
HM90B . . . . .	.198.00
HM90BW . . . . .	.248.00
HMBVV1 . . . . .	.105.00
HM76B/C . . . . .	.155.00
HM300 . . . . .	.105.00
<b>12 Volt Battery Packs</b>	
B12 . . . . .	\$125.00
VB4X . . . . .	.235.00
VB12 . . . . .	.165.00
VB12V . . . . .	.225.00
VBSO . . . . .	.245.00
<b>6AH Belts</b>	
F12-77 . . . . .	\$475.00
F12EXFA . . . . .	.475.00
F14EXFA . . . . .	.495.00
<b>30 Volt Batteries/Belts</b>	
EC30 . . . . .	\$695.00
F30EC . . . . .	.595.00
F30EXFA . . . . .	.645.00
F30/14EXFA . . . . .	.795.00
<b>Uninterruptible Power Supply</b>	
UPS-14P . . . . .	\$595.00

Model	Price
<b>Overnight Chargers</b>	
BC122S . . . . .	\$ 90.00
BC124S . . . . .	.80.00
CR1 . . . . .	.125.00
FTC 12/13/14 . . . . .	.80.00
FTC 122/132/142 . . . . .	.90.00
FTC-NP1 . . . . .	.95.00
VBC . . . . .	.38.00
VBCV . . . . .	.38.00
<b>Fast Chargers</b>	
BC30D . . . . .	\$395.00
BC77U/UB . . . . .	.395.00
RPS2 . . . . .	.895.00
<b>Multi-Chargers</b>	
MBC2 . . . . .	\$2400.00
MBC4 . . . . .	.2090.00
MBC4A . . . . .	.1595.00
MBC5 . . . . .	.495.00
<b>Fast Charge Adaptor Cables</b>	
HC . . . . .	\$30.00
HS . . . . .	.30.00
HV . . . . .	.30.00
<b>Light/Microphone Brackets</b>	
LS1 . . . . .	\$25.00
LSM1 . . . . .	.65.00
LS2 . . . . .	.25.00
LSM2 . . . . .	.65.00
LS3 . . . . .	.25.00
LS4 . . . . .	.25.00
LS5 . . . . .	.25.00
LSM4 . . . . .	.65.00
LS21 . . . . .	.29.00
LSM21 . . . . .	.65.00
LS79 . . . . .	.29.00
LSM79 . . . . .	.65.00
LS83 . . . . .	.38.00
LSM83 . . . . .	.65.00
LS95 . . . . .	.25.00
LSM95 . . . . .	.65.00
<b>Spare Lamps</b>	
DYG . . . . .	\$28.00
DYR . . . . .	.43.00
DYS . . . . .	.26.00
EKB . . . . .	.36.00
EKD . . . . .	.32.00
EKP . . . . .	.30.00
EYC . . . . .	.25.00
EYL . . . . .	.17.00
EXV . . . . .	.33.00

Model	Price
FAV . . . . .	\$40.00
FBT . . . . .	.44.00
FBV . . . . .	.48.00
<b>Portable Lights</b>	
DMF12 . . . . .	\$295.00
DMF30 . . . . .	.298.00
FL100 . . . . .	.195.00
FL250 . . . . .	.195.00
FL650 . . . . .	.165.00
MF12C . . . . .	.149.95
MF12P . . . . .	.149.95
MF4X . . . . .	.149.95
MF5X . . . . .	.149.95
MF30 . . . . .	.154.95
<b>FL650 Kits</b>	
SPK1 . . . . .	\$975.00
SPK2 . . . . .	.860.00
SPK2A . . . . .	.910.00
<b>Mini-Fill Kits</b>	
MFK1 . . . . .	\$ 295.00
MFK2 . . . . .	.455.00
MFK3 . . . . .	.355.00
MFK4 . . . . .	.515.00
MFK5 . . . . .	.365.00
MFK6 . . . . .	.525.00
MFK9 . . . . .	.1250.00
<b>Lighting Accessories</b>	
C12 . . . . .	\$ 32.00
C30 . . . . .	.32.00
C120 . . . . .	.17.00
C120EX . . . . .	.25.00
FLAH101 . . . . .	.29.00
FLBD102 . . . . .	.40.00
FLCC101 . . . . .	.125.00
FLCC103 . . . . .	.175.00
FLDF101 . . . . .	.105.00
FLH101 . . . . .	.12.00
FLLS101 . . . . .	.68.50
FLLS102 . . . . .	.36.00
FLS101 . . . . .	.44.00
FLS102 . . . . .	.28.00
LP90 . . . . .	.38.00
LPS100 . . . . .	.195.00
LPS400 . . . . .	.295.00
MFCC . . . . .	.80.00
MFDF . . . . .	.88.00

Prices and Specifications Subject to Change Without Notice.



**PAG-loc BATTERY SYSTEM**

The PAG-loc mount is an improved mechanical and electrical camera-to-battery interface system. Once a PAG-loc camera bracket is installed onto a camera, a variety of PAG-loc batteries and battery holders can be attached. PAG MICRO-MASTER charger is outfitted with PAG-loc connector.

- |  |                  |  |          |
|--|------------------|--|----------|
| #9522                                  | CAMERA BRACKET   | PAG-loc Camera Brackets are offered with an assortment of direct camera fittings. Specify camera manufacture and model. Accepts all PAG-loc batteries and clips. Has BP-90 socket to power light . . . . . | \$ 89.00 |
| #9515                                  | PAGCLIP 90       | PAG-loc PAGCLIP 90 holds any BP-90 type battery including PAG PP-90 or Master 90 batteries . . . . .   | 159.00   |
| #9516                                  | PAGCLIP NP-1     | PAG-loc PAGCLIP/NP-1 holds NP-1 battery . . . . .  | 159.00   |
| #9530                                  | BETA BRACKET     | PAG-loc Camera Bracket with special mounting plate for BetaCam VTR/tube camera combination . . . . .   | 99.00    |
| #9531                                  | BETA/CCD BRACKET | PAG-loc Camera Bracket with special mounting plate for BetaCam/VTR/CCD camera combination . . . . .  | 99.00    |
| #9523                                  | CARRY BELT       | Leather belt with 2 PAG-loc brackets for carrying spare PAG-loc batteries. . . . .   | 49.00    |
| <b>BATTERIES (with exterior fuses)</b> |                  |  |          |
| #9320                                  | PP20             | 13V, 2AH lightweight NiCad battery with PAG-loc mount . . . . .  | \$219.00 |
| <i>Specify black or white</i>          |                  |  |          |
| #9395                                  | PP95             | 13V, 4AH NiCad battery with PAG-loc mount . . . . .  | 399.00   |
| #9396                                  | PP96             | 14V, 4AH NiCad battery with PAG-loc mount . . . . .  | 429.00   |
| #9398                                  | PP98             | 13V, 4AH SUPER CELL NiCad battery with PAG-loc mount. . . . .  | 439.00   |
| #9399                                  | PP99             | 14V, 4AH SUPER CELL NiCad battery with PAG-loc mount. . . . .  | 469.00   |

Parts available to convert Anton Bauer batteries and camera brackets to PAG-loc.



**PAGPAC BATTERIES**

PAGPAC and PAG-loc batteries of high quality NiCad are approved for use in virtually all video equipment. All PAG batteries may be fast charged with any PAG microprocessor charger. Slow charge with appropriate PAG SOLOCHARGER. Use MULTICHARGER with 4AH batteries.

- |       |           |   |          |
|-------|-----------|---|----------|
| #9390 | PP90      | 12V, 4AH approved NiCad replacement for Sony BP-90 battery. Powers VTRs and portable devices. Attach to ENG cameras with PAGCLIP 90 battery holders. Case comes apart for service. Exterior fuse and spare fuse . . . . . | \$249.00 |
| #9391 | MASTER 90 | All new 12V, 4AH BP-90 type NiCad battery. Same as PP90 above but has new high performance cells to extend running time . . . . .   | 299.00   |
| #9360 | PP60      | 12V, 2.5AH NiCad replacement for Sony BP-60 Lead Acid battery. (Can also be charged on Sony charger.) . . . . .   | 229.00   |
| #9387 | PP86A     | 13V, 4AH NiCad battery for use on ENG cameras with Anton Bauer/Frezzolini mount . . . . .   | 469.00   |
| #9386 | PP86      | 14V, 4AH NiCad battery similar to PP86A described above. Can be used on same cameras for a longer running time. . . . .   | 499.00   |

**MICROPROCESSOR CHARGERS**

**SPEEDCHARGE 6000**

Model #9407

- MICROPROCESSOR CONTROLLED
- FAST AND SLOW CHARGES VARIETY OF NICAD BATTERIES/BELTS (10-15V; 2-12Ah)
- REVITALIZES POOR BATTERIES
- ACTS AS AC POWER SUPPLY
- CONNECTS TO SEQUENCER 6000

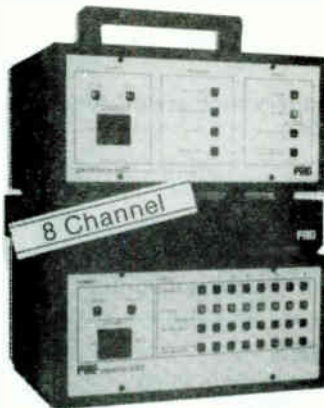
Built-in microprocessor selects correct charge for any NiCad battery or belt ranging from 10-15 Volts and 2-12Ah of **any manufacture**. Fast charges 4Ah in 1 hour. Slow charges and revitalizes. Balances batteries. Automatic 110/220V switching. Also is AC power supply (12-14V at 4 amps). Detects faulty batteries. Self diagnostics. XLR-4 pin cable. BP-90 adaptor supplied. Attach SEQUENCER 6000 to accommodate 8 batteries/belts. Variety of SPEEDCHARGES in other ranges available.

#9437 SPEEDCHARGE 6000 for batteries or belts of **12-30 volts** (2-12Ah). Fast charges 4Ah battery in 2 hours.

**SEQUENCER 6000**

Model #9418

Connect to SPEEDCHARGE 6000 to sequentially fast/slow charge or revitalize any assortment of 8 NiCad batteries or belts (2-12Ah) of **any manufacture**. Status indicators for all eight channels. Eight BP-90 sockets.



*"The only battery charging system you need."*

**MASTERCHARGER**

Model #9420

- MICROPROCESSOR CONTROLLED
- ACCEPTS ASSORTMENT OF 4 NICAD BATTERIES/BELTS (12-14V; 2-12Ah)
- FAST CHARGES 4 SEQUENTIALLY
- SLOW CHARGES 4 SIMULTANEOUSLY
- ACTS AS AC POWER SUPPLY

Microprocessor controlled 4 channel universal charger. Sequentially fast or simultaneously slow charges **any ENG NiCad** 12-14V/2-12Ah, then balances and trickle charges. Also is AC power supply (12-14V at 4 amps). Automatic 110/220V switching with auto circuit breaker. Detects faulty batteries. Self diagnostics. Four BP-90 and four Anton Bauer/Frezzolini type sockets on board.



**MICROMASTER**

Microprocessor controlled single channel fast charger and balancer. Accepts NiCad ENG batteries of **any manufacture** in 12 to 14 volt range. Automatic 110/220V switching. PAG-lok connector and BP-90 socket. Charging, ready, and faulty battery indicators. Under 2 lbs.

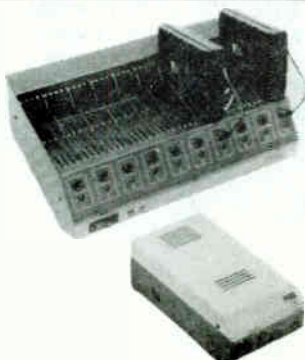
- #9526 **MICROMASTER** for 2-12Ah batteries (fast charge 4Ah in 1 hour).
- #9527 **MICROMASTER** for 1-6Ah batteries including NP-1 (fast charge NP-1 in 45 minutes/4Ah battery in 2 hours).
- #9529 **MICROMASTER MOBILE DC** for 2-12Ah batteries. Same as #9526 but 12V DC.
- #9528 **MICROMASTER MOBILE DC** for 1-6Ah batteries. Same as #9527 but 12V DC.



**10/90 MULTICHARGER**

Model #9408

Overnight charges and balances ten PAG PP90, Master 90 or Sony BP-90 equivalent NiCad batteries simultaneously. Ten BP-90 sockets.  
**Suitable for all 4Ah NiCad batteries or belts in 12-14 volt range.**



**SOLOCHARGER**

Model #9429

Lightweight low cost overnight battery charger **suitable for all 4Ah NiCad 12-14V batteries or belts of any manufacture**. Has BP-90 socket.  
 (4Ah, 7Ah, and 10Ah versions available in 12-14V or 24-30V models.)

Prices and Specifications Subject to Change Without Notice.



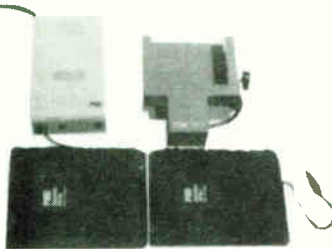
**PAGCLIPS**



*PAGCLIP battery holders easily attach to ENG cameras to hold BP-90 type battery such as PAG PP90 or Master 90. Each clip model outfitted with appropriate electrical camera mating.*

- |                                       |                               |
|---------------------------------------|-------------------------------|
| #9515 Fits Cameras with PAG-lok mount | #9505 Fits Sony M3A/DXC3000   |
| #9464 Fits Hitachi Z-31 or FP-15      | #9547 Fits Sony 330           |
| #9463 Fits Hitachi SK-97 or FP-22     | #9546 Fits Sony Betacam       |
| #9459 Fits Sony M3                    | #9456 Fits cameras with       |
| #9467 Fits JVC cameras                | Anton Bauer/Frezzolini mounts |

**CAMERA BATTERY PACKAGES**



Packages contain: 1 *PAGCLIP*. Holds BP-90 type battery like PAG PP90.  
 2 *PAG PP90* (12volt/4Ah) batteries.  
 1 *PAG SOLOCHARGER* for 12-14V/4Ah batteries.

- |                                      |                               |
|--------------------------------------|-------------------------------|
| #9510 Cameras with PAG-lok mounts    | #9506 Sony M3A/DXC3000 camera |
| #9486 Hitachi Z-31 or FP-15 cameras  | #9507 Sony 330 camera         |
| #9497 Hitachi SK-97 or FP-22 cameras | #9509 Sony Betacam            |
| #9498 Sony M3 camera                 | #9496 Cameras with Anton      |
| #9508 JVC cameras                    | Bauer/Frezzolini mounts       |

**CHARGER ADAPTORS**

- #9458 BP-90 plug to Anton Bauer/Frezzolini type connector (cable)
- #9455 BP-90 plug to XLR-4 male pin (cable)
- #9447 XLR-4 socket to BP-90 socket (box)
- #9468 XLR-4 socket to BP-60 socket (box)
- #9488 BP-90 plug to BP-60 socket (cable)
- #9577 BP-90 to JVC NB-P2U shoe (cable)

**PAG-lok CHARGER ACCESSORIES**

- #9514 PAG-lok to BP-90 plug (cable)
- #9518 PAG-lok to Anton Bauer convertor

**ACCESSORIES**

- #9469 Stacking bracket (stacks SPEEDCHARGE and SEQUENCER)
- #9472 Battery stand (holds four BP-90 type batteries for charging)
- #9500 Shipping case holds SPEEDCHARGE 6000 and SEQUENCER 6000
- #9501 Shipping case holds MASTERCHARGER
- #9502 Soft carrying case for MASTERCHARGER or SPEEDCHARGE or SEQUENCER

**NP-1 ADAPTORS**



- #9499 NP-1 ADAPTOR attaches to SPEEDCHARGE/SEQUENCER or MASTERCHARGER to charge four NP-1 (1.5Ah) batteries (45 min. each).
- #9576 BP-90 to NP-1 (shoe) cable adaptor for MICROMASTER #9527 and #9528 only. Accommodates one NP-1.

**LIGHTING ACCESSORIES**

**For PAGLIGHTS**

- #9801 Bulb for PAGLIGHT 100 (100 watts/12 volts)
- #9821 Bulb for PAGLIGHT 250 (250 watts/24 volts)
- #9841 Bulb for PAGLIGHT 250 (250 watts/30volts)
- #9804 Dichroic Filter (for PAGLIGHT 100 or 250)
- #9809 PAGLIGHT 100 or 250 Accessory Kit (4 leaf rotating barndoors, and clear safety glass)

**For PAGLIGHT MINI**

- #9831 Bulb for PAGLIGHT MINI (75 watts/12 volts)
- #9833 Bulb for PAGLIGHT MINI (100 watts/12 volts)
- #9837 Bulb for PAGLIGHT MINI (100 watts/14 volts)  
*Use with 13V or 14V batteries.*
- #9834 Dichroic Reflector for PAGLIGHT MINI
- #9835 Narrow Beam Reflector for PAGLIGHT MINI

**PAGBELTS**



World's only ALL LEATHER deep molded belts encasing top quality NiCad cells. With or without 14-hour internal charger (IC). Has XLR-4 socket. Fast charge all 12, 13, and 14 volt PAGBELTS with any PAG microprocessor charger. Slow charge with appropriate PAG SOLOCHARGER.

Indicate 1) Waist Size: Standard 32"-42" or Large 38"-48".  
 2) Buckle Type: Conventional Buckle or Quick Release.

WITH (IC) Charger	WITHOUT Charger		Description
#9203	#9103	12V/4Ah	Belt (runs 12V/100W light 26 min/use for microwave)
#9253	#9153	12V/7Ah	Belt (runs 12V/100W light 45 min/use for microwave)
#9283	#9123	12V/10Ah	Belt (runs 12V/100W light 65 min/use for microwave)
#9204	#9104	13V/4Ah	Belt (runs 12V/100W light 32 min/use for microwave)
#9254	#9154	13V/7Ah	Belt (runs 12V/100W light 55 min/use for microwave)
#9208	#9108	24V/4Ah	Belt (runs 12V/250W light 23 min/use for microwave)

PAGBELTS also available in 14, 24, and 30V models (4, 7 & 10Ah).



**PAGCLIP 90 BELT**

Model #9457

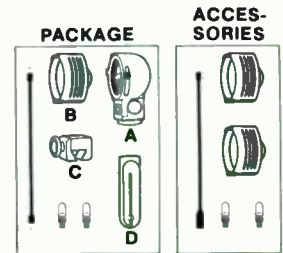
Belt mounted PAGCLIP 90 holder with adjustable quick release nylon belt. Holds PAG PP90, Master 90, or any BP-90 type battery (12V/4Ah). XLR-4 socket output for powering lights, microwave, etc.

**PAGLIGHT MINI**

Model #9832



Compact tiltable 12-14V/100 watt light with interchangeable reflectors. Designed especially for use on ENG cameras. Power by using PAGBELT, PAGCLIP 90 belt, or plug into special BP-90 socket in PAG-lok camera bracket. Specify BP-90 or XLR-4 cable. Bulbs available in 12V/75 watt, 12V/100 watt and 14V/100 watt. Use 14V/100 watt bulb in conjunction with 13V or 14V batteries.



Includes A) lamp head with focus range of 30° to 70°, B) reflector with safety glass, C) mounting clamp, D) handle, also 2 bulbs and cable.



**PAGLIGHT**

Robust but lightweight handlamps tilt on removable handle for bounce light. 1/4" screw bush provided for mounting. Spare bulb and fuses store in handle. Comes with bulb, 2 fuses, filter ring, and barndoor holder.

#9800 PAGLIGHT 100 (12V/100watts)

#9820 PAGLIGHT 250 (24V/250watts)

#9840 PAGLIGHT 250 (30V/250watts)

**PAGLIGHT KITS**

Includes PAGLIGHT indicated, PAGBELT with internal charger (IC) indicated, aluminum case, 2 bulbs, 3 fuses, barndoor holder and filter ring.



#9810 PAGLIGHT Kit (100 watt light & 12V/4Ah IC PAGBELT — runs light 26 min.)

#9811 PAGLIGHT Kit (100 watt light & 12V/7Ah IC PAGBELT — runs light 45 min.)

#9816 PAGLIGHT Kit (100 watt light & 12V/10Ah IC PAGBELT — runs light 65 min.)

#9823 PAGLIGHT Kit (250 watt light & 24V/4Ah IC PAGBELT — runs light 23 min.)

Other Kits with different PAGBELTS are available.

**OPERATING TIME FORMULAS**

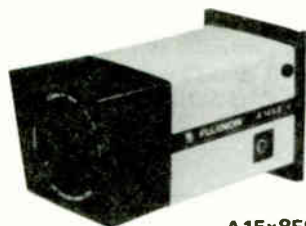
$$\text{Battery Operating Time in Hours} = \frac{\text{Ah of battery/belt}}{\text{Amps consumed}}$$

If watts not amps are known:  
 $\frac{\text{watts consumed}}{\text{volts required}} = \text{amps}$   
 Put into the first formula.

# FUJINON, INC.

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Telex: 68-18115

# ZOOM LENSES



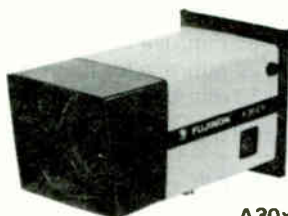
A15x8ESM



A3.5x6.5RM



A14x8ERM



A30x11ESM



A14x9ERM w/PJ



A20x7ESM

## 2/3" Format Zoom Lenses for Studio and Field Productions

Model No.	Focal Length	Zoom Ratio	Extender	Maximum Aperture Ratio	M.O.D.	Object Dimensions At M.O.D.	Angular Field Of View	Macro	Size	Weight (w/Lens Hood)
A3.5x6.5RM	6.5 ~ 23mm	3.5x	—	1:1.7	0.3m	6.5mm 340 x 454 23mm 97.3 x 129.7	6.5mm 68°11' x 53°50' 23mm 21°39' x 16°19'	—	187mm	1.38kg
A7x7RM	7 ~ 50mm	7x	—	1:1.7	0.3m	7mm 334 x 445 50mm 47.6 x 63.5	7mm 64°18' x 50°29' 50mm 10°0.3' x 7°33'	—	199mm	1.6kg
A8.5x5.5RM	5.5 ~ 47mm	8.5x	—	1:1.7	0.3m	5.5mm 492 x 369 47mm 57.9 x 43.4	5.5mm 77°19' x 61°55' 47mm 10°41' x 8°02'	—	216.5mm	1.75kg
A8.5x5.5ERM	(1x) 5.5 ~ 47mm (1.7x) 9.4 ~ 80mm	8.5x	1.7x	1:1.7	0.3m	5.5mm 492x369mm 47mm 57.9x43.4mm	5.5mm 77°19'x61°55' 47mm 10°41'x8°02'	—	235mm	1.85kg
A10x10RM	10 ~ 100mm	10x	—	1:1.6	1m	10mm 616 x 822 100mm 44 x 59	10mm 47°30' x 36°32' 100mm 5°03' x 3°47'	with Macro	152mm	1.3kg
A16x9.5RM	9.5 ~ 152mm	16x	—	1:1.8	0.95m	9.5mm 617 x 823 152 38 x 51	9.5mm 49°42' x 38°19' 152mm 3°19' x 2°29'	with Macro	160mm	1.36kg
A12x9ERM	(1x) 9 ~ 108mm (2x) 18 ~ 216mm	12x	2x	1:1.7	0.95m	9mm 658 x 877 108mm 55 x 73	9mm 52°06' x 40°16' 108mm 4°40' x 3°30'	with Macro	174mm	1.45kg
A14x8ERM	(1x) 8 ~ 112mm (2x) 16 ~ 224mm	14x	2x	1:1.7	0.7m	8mm 664x885mm 112mm 47x63mm	8mm 57°37'x44°50' 112mm 4°30'x3°23'	with Macro	237mm	2.3kg
A14x9ERM	(1x) 9 ~ 126mm (2x) 18 ~ 252mm	14x	2x	1:1.7	0.8m	9mm 550 x 733 126mm 39 x 52	9mm 52°06' x 40°16' 126mm 4°00' x 3°00'	with Macro	184.5mm	1.48kg
A18x18.5ERM	(1) 8.5 ~ 153mm (2) 17 ~ 306mm	18x	2x	1:1.7	0.9m	8.5mm 879 x 659 153mm 49 x 37	5.5mm 54°44' x 42°26' 153mm 3°17' x 2°28'	with Macro	199mm	1.55kg
A22x12.5ERM	(1x) 12.5 ~ 275mm (2x) 25 ~ 550mm	22x	2x	1:2.0	1.8m	12.5mm 894 x 1192 275mm 41 x 54	12.5mm 38°47' x 29°35' 275mm 1°50' x 1°23'	with Macro	286.5mm	3.8kg

Model No.	Focal Length	Zoom Ratio	Extender	Maximum Aperture Ratio	M.O.D.	Object Dimensions At M.O.D.	Angular Field Of View	Pattern Proj.	Size (mm)	Weight (w/Lens Hood)
A15x8ESM	(1) 8 ~ 120mm (2) 16 ~ 240mm	15x	2x	1:1.5	0.7m	8mm 915x686 120mm 61x46	8mm 57°37'x44°50' 120mm 4°12'x3°09'	Avail.	228x228x453	13kg
A18x8ESM	(1) 8 ~ 144mm (2) 16 ~ 288mm	18x	2x	1:1.5	0.7m	8mm 915x686 144mm 51x38	8mm 57°37'x44°50' 144mm 3°30'x2°37'	Avail.	228x228x453	13kg
A20x7ESM	(1x) 7 ~ 140mm (2x) 14 ~ 280mm	20x	2x	1:1.4	0.75m	7mm 1166x874mm 140mm 58x44mm	7mm 64°18'x50°29' 140mm 3°36'x2°42'	Avail.	228x228x481	15kg
A30x11ESM	(1x) 11 ~ 330mm (2x) 22 ~ 660mm	30x	2x	1:1.6	1.7m	11mm 929x1238 330mm 31x41	11mm 43°36'x33°24' 330mm 1°32'x1°09'	Avail.	200x208x474	9.2kg
A44x9.5ESM	(1x) 9.5 ~ 420mm (2x) 19 ~ 840mm	44x	2x	1:1.4	2.2m	9.5mm 1396x1862 418mm 31.7x42.3	9.5mm 49°42'x38°10' 420mm 1°12'x0°54'	Avail.	218x218x492	14.5kg
A44x9.5ESM	(1x) 9.5 ~ 420mm (2x) 19 ~ 840mm	44x	2x	1:1.2	2.5m	9.5mm 1583x2111 418mm 37.3x49.7	9.5mm 49°42'x38°10' 420mm 1°12'x0°54'	Avail.	260x252x657	25kg



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# ZOOM LENSES



P17x16.5ESM



R14x12.5ESM



R44x13.5ESM

## 2/3-INCH AND 1/2-INCH FORMAT TELECONFERENCING ZOOM LENSES FOR STUDIO AND FIELD PRODUCTIONS

### 2/3" Format Teleconferencing Lenses

Model No.	Focal Length	Zoom Ratio	Maximum Aperture	M.O.D.*	Iris Range**	Iris Control	Field Angle -Horizontal -Vertical	Front Thread	Weight (w/o Lens Hood)
A10x10MD	10mm-100mm	10X	f/1.6	1m	f/1.6-16	Auto, Remote/ Servo or Manual	47°30'-5°03' 36°32'-3°47'	72mm/P=0.75	1.3kg
A12x9MD	9mm-108mm	12X	f/1.7	0.95m	f/1.7-16		52°06'-4°40' 40°16'-3°30'		
A16x9.5MD	9.5mm-152mm	16X	f/1.8	0.95m	f/1.8-16	Manual	49°42'-3°19' 38°19'-2°29'	77mm/P=0.75	1.5kg

### 1/2" Format Teleconferencing Lenses

Model No.	Focal Length	Zoom Ratio	Maximum Aperture	M.O.D.*	Iris Range**	Iris Control	Field Angle -Horizontal -Vertical	Front Thread	Weight (w/o Lens Hood)
S10x7.3MD	7.3mm-73mm	10X	f/1.4	1m	f/1.4-16	Auto, Remote/ Servo or Manual	47°20'-5°01' 36°24'-3°46'	72mm/P=0.75	1.3kg
S12x6.6MD	6.6mm-80mm	12X	f/1.4	0.95m	f/1.4-16		51°44'-4°35' 39°58'-3°36'		
S16x7MD	7mm-112mm	16X	f/1.4	0.95m	f/1.4-16		49°30'-3°16' 36°32'-2°27'	77mm/P=0.75	1.5kg

\*0.07m or less with macro operation

\*\*Plus fully closed

## 1-INCH AND 1-1/4-INCH ZOOM LENSES FOR STUDIO AND FIELD PRODUCTIONS

### 1-Inch Format Zoom Lenses

Model No.	Focal Length	Zoom Ratio	Extender	Maximum Aperture Ratio	M.O.D.	Object Dimensions At M.O.D.	Angular Field Of View	Pattern Proj.	Size	Weight (w/Lens Hood)
R14x12.5ESM	12.5-175mm	14X	2X	1:1.6	0.75m	12.5mm 971x729 175mm 69x52	12.5mm 54°13'x42°00' 175mm 4°11'x3°08'	Avail.	260x252x595.5	22.5kg
R17x12.5ESM	12.5-215mm	17X	1.5X, 2X	1:1.6	0.75m	12.5mm 987x740 215mm 58 x 44	12.5mm 54°13'x42°01' 215mm 3°29'x2°33'	Avail.	244x232x547.5	19.5kg
R20x10.5ESM	10.5-210mm	20X	1.5X, 2X	1:1.6	0.75m	10.5mm 1168x876 210mm 58x44	10.5mm 62°44'x49°08' 210mm 3°29'x2°37'	Avail.	244x232x547.5	20.5kg
R44x13.5ESM	13.5-600mm	44X	2X	1:1.8	2.5m	13.5mm 2181x1636 600mm 50x37	13.5mm 50°44'x39°09' 600mm 1°13'x0°55'	Avail.	260x252x662	25kg

### 1-1/4-Inch Format Zoom Lenses

Model No.	Focal Length	Zoom Ratio	Extender	Maximum Aperture Ratio	M.O.D.	Object Dimensions At M.O.D.	Angular Field Of View	Pattern Proj.	Size	Weight (w/Lens Hood)
P17x16.5ESM	16.5-280mm	17X	1.5X, 2X	1:2.1	0.75m	16.5mm 1000x750 280mm 59x44	16.5mm 54°50'x42°31' 280mm 3°30'x2°38'	Avail.	244x232x559.5	19.5kg
P20x14ESM	14-280mm	20X	1.5X, 2X	1:2.1	0.75m	14mm 1171x898 280mm 58x44	14mm 62°x53'x49°16' 280mm 3°30'x2°38'	Avail.	244x232x559.5	20.5kg
P44x18ESM	18-800mm	44X	2X	1:2.4	2.5m	18mm 2181x1636 800mm 50x37	18mm 50°44'x39°09' 800mm 1°13'x0°55'	Avail.	260x252x677	25kg

Prices and Specifications Subject to Change Without Notice.

V-477

# FUJI PHOTO FILM U.S.A., INC.

## MAGNETIC PRODUCTS DIVISION

555 Taxter Rd.  
Elmsford, NY 10523  
(914) 789-8100

# VIDEO TAPE

### H621/H621B 1" Video Tape

• Optimum performance in helical scan machines • Fine and evenly distributed Berthollide iron oxide (BERIDOX) formulation contributes to the excellent S/N ratio, less headwear, greater resistance to banding and lower jitter from the capstan and drum • Available in different lengths in both Type C and Type B formats (Type B format is for BCN VTRs) • High-density particles of BERIDOX are specially sensitized, then held together and fastened to the tape's backing material with a special U-binder • Backing material has uniform thickness and an extremely fine finish to prevent edge damage during winding, and is treated to reduce static • U-binder helps prevent dropouts normally caused by repeated fast forward, frame by frame editing, prolonged stop-action viewing, and other tape use • Strong polyester base and antifriction back coating help prevent stretching, warping, and edge damage during winding or handling • BERIDOX formula captures the signal more thoroughly, and the U-Binder secures the coating to assure lasting picture and sound quality • Provides excellent picture detail, accurate color, and high fidelity audio recording—not only in masters, but in dub after dub • Smoother tape surface makes more uniform contact with machine heads, reducing abrasion and preventing irregular wear • The superior binding of the magnetic coating to the tape base reduces head contamination. Performance is optimized, downtime for head cleaning is reduced, and head life is prolonged • Tough, flame-retardant case



H621E

### H621E/H621EB Videotape

• C and B formats • An increase of +2dB in video and color S/N • Minimal dropouts, even after repeated use • Signal deterioration is extremely limited even after repeated use or extended still playback and stand-by • Excellent tape transport, even during special types of playback, such as slow motion • Reduced incidences of print-through, even after long storage periods • Capable of over 2,000 passes • The density of BERIDOX magnetic particles has been significantly increased for a super high density magnetic layer • Smoother base has been developed • Improved backcoating technology • Binder has been improved and made stronger • Available in an optional tough flame-retardant case which protects it against dust, heat and shock during storage and shipping.

### H621 (C Format)

Recording Time		Length	Reel	Case	Weight
525-line/ 60-field system	625-line/ 50-field system				
34 min	34 min	500 m (1,640 ft)	8"	10.5" FRS or 10.5" Carrying Case	2.3 kg (5.1 lbs)
66 min	67 min	970 m (3,170 ft)	9"	10.5" FRS or 10.5" Carrying Case	2.8 kg (6.2 lbs)
96 min	97 min	1,410 m (4,620 ft)	10.5"	10.5" FRS or 10.5" Carrying Case	3.5 kg (7.8 lbs)
105 min	107 min	1,547 m (5,070 ft)	10.5"	10.5" FRS or 10.5" Carrying Case	3.6 kg (7.9 lbs)
126 min	128 min	1,854 m (6,070 ft)	11.75"	14" FRS	5.5 kg (12.1 lbs)
157 min	160 min	2,302 m (7,540 ft)	12.5"	14" FRS	6.0 kg (13.2 lbs)
189 min	192 min	2,776 m (9,100 ft)	14"	14" FRS	6.5 kg (14.3 lbs)

### H621E (C Format)

Recording Time		Length	Reel	Case	Weight
525-line/ 60-field system	625-line/ 50-field system				
34 min	34 min	500 m (1,640 ft)	8"	10.5" FRS or 10.5" Carrying Case	2.3 kg (5.1 lbs)
66 min	67 min	970 m (3,170 ft)	9"	10.5" FRS or 10.5" Carrying Case	2.8 kg (6.2 lbs)
96 min	97 min	1,410 m (4,620 ft)	10.5"	10.5" FRS or 10.5" Carrying Case	3.5 kg (7.8 lbs)
105 min	107 min	1,547 m (5,070 ft)	10.5"	10.5" FRS or 10.5" Carrying Case	3.6 kg (7.9 lbs)
126 min	128 min	1,854 m (6,070 ft)	11.75"	14" FRS	5.5 kg (12.1 lbs)
157 min	160 min	2,302 m (7,540 ft)	12.5"	14" FRS	6.0 kg (13.2 lbs)
189 min	192 min	2,776 m (9,100 ft)	14"	14" FRS	6.5 kg (14.3 lbs)

### H621B (B Format/BCN VTR)

Recording Time		Length	Reel	Case	Weight
525-line/ 60-field system	625-line/ 50-field system				
34 min	34 min	500 m (1,640 ft)	8"	10.5" FRS or 10.5" Carrying Case	2.3 kg (5.1 lbs)
65 min	66 min	970 m (3,170 ft)	9"	10.5" FRS or 10.5" Carrying Case	2.8 kg (6.2 lbs)
95 min	96 min	1,410 m (4,620 ft)	10.5"	10.5" FRS or 10.5" Carrying Case	3.5 kg (7.8 lbs)
126 min	127 min	1,854 m (6,070 ft)	11.75"	14" FRS	5.5 kg (12.1 lbs)

### H621EB (B Format/BCN VTR)

Recording Time		Length	Reel	Case	Weight
525-line/ 60-field system	625-line/ 50-field system				
34 min	34 min	500 m (1,640 ft)	8"	10.5" FRS or 10.5" Carrying Case	2.3 kg (5.1 lbs)
65 min	66 min	970 m (3,170 ft)	9"	10.5" FRS or 10.5" Carrying Case	2.8 kg (6.2 lbs)
95 min	96 min	1,410 m (4,620 ft)	10.5"	10.5" FRS or 10.5" Carrying Case	3.5 kg (7.8 lbs)
105 min	106 min	1,547 m (5,070 ft)	10.5"	10.5" FRS or 10.5" Carrying Case	3.6 kg (7.9 lbs)
126 min	127 min	1,854 m (6,070 ft)	11.75"	14" FRS	5.5 kg (12.1 lbs)

# FUJI PHOTO FILM U.S.A., INC.

MAGNETIC PRODUCTS DIVISION

555 Taxter Rd.  
Elmsford, NY 10523  
(914) 789-8100



## H521E and H521EBR 3/4" U-Matic Videocassettes

The H521E has an increase of +1.5dB in video and color S/N, and +2.0dB audio S/N. H521EBR offers a +2.0dB improvement in video, color and audio S/N.

Superior backcoating and the low electrical resistance of the H521E/EBR tape surface, ensures minimal dropouts even after repeated use. Low electrical resistance helps prevent static electricity buildup. Ideal for field use, the H521EBR features a special anti-static shell which helps reduce dropouts to a typical value of 4. H521EBR is a broadcast version of the H521E. Improved "U" binder material significantly aids tape transport stability by maintaining the friction factor of the tape at an ideal level. Each H521E tape is packaged in a specially designed, rugged, shock resistant case equipped with a dust-proof seal.

The H521E offers reduced print-through. Designed to withstand still playback of over 3 hours, with minimal decrease in RF signal output.

The Beridox particle size has been reduced from 0.35µm, which increases the \*S-BET factor from 22m<sup>2</sup>/gm to 32m<sup>2</sup>/gm and creates a magnetic layer of much higher density.

Coercivity of the particles used in H521E tapes has also been raised from 620 to 640 Oersted.

H521E KCA	60 minutes	.....	\$40.96
H521E KCA	30 minutes	.....	31.22
H521E KCA	20 minutes	.....	30.15
H521E KCA	15 minutes	.....	28.11
H521E KCA	10 minutes	.....	25.01
H521E KCS	20 minutes	.....	30.15
H521E KCS	10 minutes	.....	25.01
H521E BR KCA	60 minutes	.....	46.20
H521E BR KCA	30 minutes	.....	35.33
H521E BR KCS	20 minutes	.....	34.18
H521E BR KCS	10 minutes	.....	28.30
H521E KSA-Bulk	60 minutes	.....	POR
H521E KSA-Bulk	30 minutes	.....	POR
H521E KSA-Bulk	20 minutes	.....	POR
H521E KSA-Bulk	15 minutes	.....	POR
H521E KSA-Bulk	10 minutes	.....	POR
H521E KSA-Bulk	5 minutes	.....	POR
Mini cassettes	For ENG/EPF use are available in 10- and 20-minute lengths		

## H421M/H321B Professional Super HG Videocassettes

In response to the introduction of 1/2" ENG and EPF video systems, Fuji offers professional-use 1/2" videocassettes: Super HG H421M (for the M-format) and H321B (for the Betacam format).

H421M	10 minutes	.....	\$16.39
H421M	20 minutes	.....	18.49
H321B	5 minutes	.....	12.39
H321B	10 minutes	.....	13.69
H321B	20 minutes	.....	15.99
H321B	30 minutes	.....	20.00

\*S-BET Factor: The value given to the specific surface area per unit of weight. The higher the value, the finer magnetic particles become.

# VIDEOCASSETTES



## M401 MII Videocassettes

Professional broadcast-quality 1/2" metal tape.

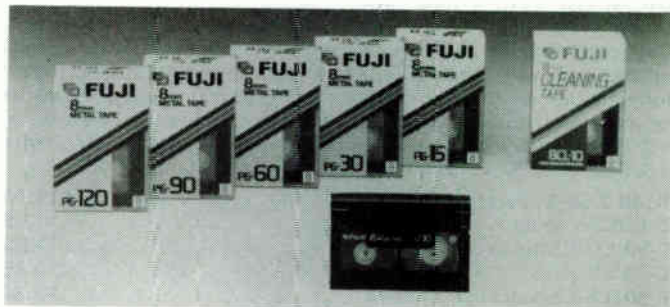
Super Fine Metallix metal magnetic particles permit ultra high-density recording for superior image quality. The particles are densely and uniformly distributed on the tape using Fuji's exclusive coating process to achieve an intrinsic coercivity 1500 Oe, with maximum retentivity of 2600 gauss. The MII metal tape also features a base which is strong and thin—with an ultra-smooth surface.

The magnetic layer, undercoating layer, and special backcoating layer are all applied to the tape base using ultra-thin coating processes. The resulting four-layer tape is only 13.5 microns thick.

Initial dropouts are absolutely minimized. Even after repeated recording, playback, and dubbing, the anti-static backcoating and tough durable binder keep dropouts extremely low.

The cassette shells are designed for maximum durability, and are constructed of impact-resistant hard resin to help maintain optimum tape tension and transport stability.

M401 MPL	10 minutes	.....	\$29.10
M401 MPL	20 minutes	.....	33.95
M401 MPL	30 minutes	.....	38.80
M401 MPL	60 minutes	.....	58.20
M401 MPL	90 minutes	.....	87.30
M401 MPS	10 minutes	.....	29.10
M401 MPS	20 minutes	.....	33.95



## 8mm Metal Videocassettes

These 8mm metal cassettes provide excellent performance indoors and out. Super fine Metallix particles provide a full four times the magnetic energy of standard tapes.

Static preventing backcoating and self-cleaning binder keep dropouts at a minimum even after repeated recording and playback.

P6-120	2 hours	.....	\$16.95
P6-90	1 1/2 hours	.....	14.95
P6-60	1 hour	.....	12.95
P6-30	30 minutes	.....	10.95
P6-15	15 minutes	.....	8.95
8CL-10	Cleaning tape	.....	14.95



# FUJI PHOTO FILM U.S.A., INC.

## MAGNETIC PRODUCTS DIVISION

555 Taxter Rd.  
Elmsford, NY 10523  
(914) 789-8100

# VIDEOCASSETTES



### HQ VHS/Beta Videocassettes

Renowned Fine Grain Beridox magnetic particles ensure vivid, lifelike color reproduction. HD (high density) binder technology allows for more uniform dispersion of these particles, resulting in enhanced standards for video and color signal-to-noise specifications. High-impact ABS housing.

#### VHS Format

T-160	.....	\$14.99
T-120	.....	9.99
T-90	.....	9.49
T-60	.....	9.09
T-30	.....	8.69
VCL-10 Head Cleaner	.....	13.99

#### Beta Format

L-750 1.5-4.5 hours	.....	\$ 9.99
L-500 1-3 hours	.....	8.59
L-370 0.75-2.5 hours	.....	7.99
L-250 0.5-1.5 hours	.....	7.49
L-125 0.25-0.75 hours	.....	6.99
BCL-10 Head Cleaner	.....	13.99

### Super HG-VHS Video Tape

Long-playing Super HG tape with thinner tensilized polyester base film. Designed to provide sharp pictures with vivid colors at slowest speeds or when used with cameras. Tape base is back treated and undercoated for smoother running and maximum durability. Anti-static VE leader tape for fewer dropouts. Polypropylene storage case. Video signal-to-noise + 4.0dB; color signal-to-noise + 4.0dB; audio sensitivity + 2.0dB; video RF sensitivity + 2.0dB; chroma output + 2.0dB.

T-160 2.66-8 hours	.....	\$16.99
T-120 2-6 hours	.....	11.99
T-90 1.5-4.5 hours	.....	11.39
T-60 1-3 hours	.....	10.89
T-30 0.5-1.5 hours	.....	10.39

### Super HG Beta Video Tape

Long playing L-830 incorporates thinner yet strong tensilized polyester base film. Features treated and undercoated tape base for smooth running and maximum durability. Anti-static VE leader tape for fewer dropouts. Polypropylene storage case. Video signal-to-noise + 4.0dB; color signal-to-noise + 4.0dB; audio sensitivity + 2.0dB; video RF sensitivity: + 2.0dB; chroma output: + 2.0dB.

L-830 1.66-5 hours	.....	\$16.59
L-750 1.5-4.5 hours	.....	11.99
L-500 1-3 hours	.....	10.59
L-370 0.75-2.25 hours	.....	9.89
L-250 0.5-1.5 hours	.....	9.19
L-125 0.25-0.75 hours	.....	8.59

### VHS SHG Compact Videocassette

The Fuji Compact Videocassette Super HG is one-quarter the size of a standard VHS videocassette. Super HG is designed for an excellent video signal-to-noise ratio for a rich, clear picture and a color signal-to-noise ratio that gives bright, pure colors. A unique dust-guard VE leader tape is intended to minimize dropouts.

TC-20 0.33 hour	.....	\$9.99
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### Super HG Hi-Fi VHS/Beta Video Tape

Specifically designed for optimum performance with the VHS Hi-Fi VCRs. Super smooth magnetic layer with 20% greater packing density than former Super HG. Super Duroback backcoating offers reduced friction, guaranteeing stable tape transport and color reproduction even under extreme environmental conditions. Antistatic leader works with this backcoating to minimize dropouts for clear, crisp sound reproduction. "Blue Shell" cassette and precision mechanism. Video signal-to-noise + 4.0dB; color signal-to-noise + 4.0dB; audio frequency response 20-20,000Hz ± 1.0dB; audio sensitivity + 2.0dB; video RF sensitivity + 2.0dB; dynamic range + 80dB; chroma output + 2.0dB.

T-60 1-2-3 hours VHS	.....	\$12.29
T-120 2-4-6 hours VHS	.....	13.59
L-500 1-2-3 hours Beta	.....	11.69
L-750 1.5-3-4.5 hours Beta	.....	13.59

### Super XG Pro-VHS/Beta Video Tape

Ultra-fine Beridox video tape. Magnetic layer 27 times higher in density than Super HG; Duroback coating. SR (Super Reliable) cassette mechanism provides superior resistance to thermal changes. Highly rigid tape pad and improved vertical precision tape guide provide more stable tape transport. Video signal-to-noise + 6dB; color signal-to-noise + 5dB; video RF sensitivity + 2dB; audio sensitivity + 2dB; chroma output + 2dB.

Super XG Pro T-120 VHS	.....	\$16.99
Super XG Pro T-60 VHS	.....	15.39
H351 L-500 Beta	.....	14.99
H351 L-250 Beta	.....	12.99



### Pro-S, S-VHS Video Tape

Beridox particles have been reduced to an ultra-fine grain size and given a coercivity characteristic optimally suited to S-VHS performance.

Using a binder system that excels in uniform dispersion characteristics, the magnetic layer has been formed and coated with an exceptionally high density. As a result the magnetic energy level is 80% higher than that of Super XG Pro and provides high-range output characteristics.

The magnetic layer surface has been thoroughly smoothed through the use of a super calendaring technique. Modulation noise is substantially reduced as a result, and, combined with the tape's high output characteristics, provides a dramatic improvement in the Carrier/Noise ratio.

Available in 30, 60, and 120 minute lengths, as well as 20 minutes in the S-VHS-C format. . . . . **POR**

# GALAXY AUDIO VISUAL, INC.

175 Commerce Dr.  
Hauppauge, NY 11788  
(516) 434-9467

# VIDEO PRESENTATION SYSTEM

## 2200™ VHS VIDEO-CENTER w/AC ADAPTOR and WALL PLUG

- Microprocessor controls
- Swing away carrying handle
- Tape and/or accessory storage
- Earphone
- Matching 300-75 ohm transformer
- Coaxial cable with RF connections
- Built-in RF modulator
- Humidity protection device
- Color, tint and bright controls
- 1/2" VHS format
- Totally self-contained
- 5" Color monitor
- Recording: SP for two hours; LP for four hours and EP for six hours. Eight hour recording possible with T-160 tape. Playback speed is automatically selected
- Automatic alignment control removes breakup from center of picture

Built right into the front panel of the Galaxy 2200 are: Freeze action, Slow motion, Frame to frame picture advance, Forward and reverse visible search. In its own small way, it's a big help for any business. Weighing only 16 lbs., and about the size of a briefcase, it's truly portable. With its optional battery pack, it can be used anywhere in the world, or may be plugged into any car lighter, or wall socket.

Looking at its large built-in color TV screen, you can make intimate color TV presentations to small groups. With its built-in RF modular you can connect quickly to any large TV set, or multiple of sets, and give color presentations to larger groups. If you need to edit tape, the Galaxy 2200 gives you many of the options you'd get in a professional studio. It dubs audio, edits video, and does sound on sound mixing. And with any video camera, it records programs up to eight hours long, and does the same thing for on-air programming, with its optional tuner. Three industrial grade recording heads insure professional picture quality, and rugged design.

### SPECIFICATIONS

Video	NTSC color EIA standard 1/2" VHS cassette
Recording	Rotary 2 head helical scan azimuth recording
Monitor	Color 5" diameter monitor fine pitch flat face type 55° deflection
Speaker	8 x 12 cm, 16 ohm
Power	Three sources available: 1) 110V 60Hz AC wall current 2) Rechargeable battery pack 3) Car battery, DC 12V
Dimensions	16.9" W x 5.5" H x 11.0" D
Weight	16.5 lbs.
Jacks	Video and audio input and output, RCA type. Camera, microphone, headset, DC 12V connector, RF and remote
Heads	3 Video Heads—2 for SP/LP/EP, one for special effects. 1 full track audio video erase head. 1 combination head for control track, audio erase and audio record/play. 3 Heads/single housing



GALAXY 2200

Tape Speed	With T-120 Video Cassette: 2 hours playback/recording (SP) 4 hours playback/recording (LP) 6 hours playback/recording (EP)
RF Output	Channel 3 or Channel 4
RF Input	VHF 75 ohm UHF 300 ohm
Included Items	2— Coaxial cable with F-type connectors 1— Matching transformer 300-75 ohm 1— Matching transformer 75-300 ohm 1— Cassette tape 1— AC Adaptor 1— Earphone 1— RF isolator switch 1— Adjustment screwdriver

2200 Video-Center ..... \$1149.00

### ACCESSORIES

#### Color tuner— TU-2201

With programmable timer for VHF/UHF operation (select channels 2 thru 83). Unit can be set to automatically record 6 programs for two weeks. Quartz clock. .... \$295.00

#### Master remote control— RM-2202

Palm sized unit allows you to adjust the rate of slow motion and control the play, record, audio dub, freeze frame, fast forward, reverse, visible forward and reverse search, frame by frame advance and tracking functions. .... \$49.00

#### Battery pack— BP-2203

Twelve volt rechargeable supplies approximately 60 minutes of continuous playback or recording per charge. Full charge takes approximately 6 to 8 hours. .... \$84.00

#### Battery charger— BC-2204

For battery pack, operates off AC power. .... \$89.00

#### Car battery cord— DC-2208

For true portable power to operate Galaxy 2200 Video Center from automobile lighter socket. .... \$31.00

#### Travel-all bag— TB-2206

Cushioned Travel-All Bag. Convenient shoulder strap for easy carrying. Holds Galaxy 2200, tapes and accessory items. .... \$79.00

#### Shipping case— SC-2207

Rugged shipping case with custom tailored foam interior. Holds Galaxy 2200, accessories and tapes. .... \$159.00

#### Attache case— AT-2211

Deluxe Executive Attache case to carry the Galaxy 2200—extra room for accessories. .... \$120.00

# GARLIN ENTERPRISES

P.O. Box 67  
 Exton, PA 19341  
 (215) 692-2076

# MOBILE WORK PLATFORMS

## Mobile Work Platforms, 250-lb. Capacity

Conform to OSHA 1910.29

No. of Steps	Platform Height, inches	Platform Dimensions, inches		Overall Length, inches	Specify Model Number*	Weight (lbs.)	Price
		Length	Width				

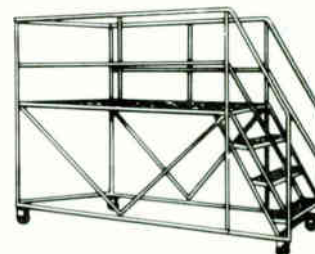
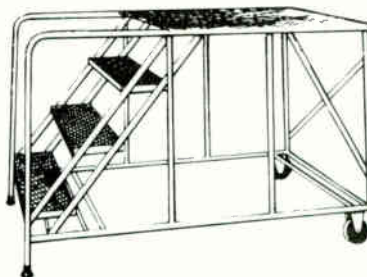
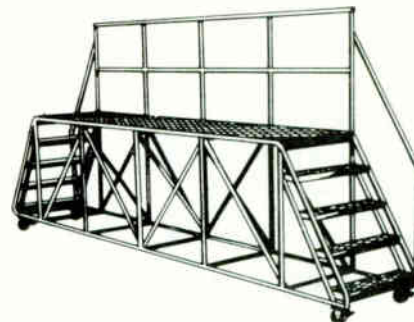
3 to 5 steps with 24" wide expanded metal platform

3	28 1/2	36	24	48	B32-3	84	\$260.
		48		60	B32-4	98	328.
		60		72	B32-5	114	376.
4	38	36	24	54	B42-3	99	319.
		48		66	B42-4	114	390.
		60		78	B42-5	130	435.
5	47 1/2	36	24	60	B52-3	129	431.
		48		72	B52-4	150	480.
		60		84	B52-5	179	563.

3 to 5 steps with 36" wide Gripstrut platform

3	28 1/2	36	36	48	B33-3	106	\$443.
		48		60	B33-4	117	538.
		60		72	B33-5	134	600.
4	38	36	36	54	B43-3	115	501.
		48		66	B43-4	133	600.
		60		78	B43-5	153	687.
5	47 1/2	36	36	60	B53-3	145	638.
		48		72	B53-4	172	712.
		60		84	B53-5	211	823.

\* Each platform has two 4" rigid casters at rear and stair rails. The 5-step models have 30" high deck rails.  
 Options: Two 4" swivel casters with locking step 30" deck rails on 3- or 4-step models.  
 Lock step—\$55. Rails—\$60.



## Single-Access Mobile Work Platforms, 500-lb. Capacity

Conform to OSHA 1910.29

No. of Steps	Platform Height, inches	Platform Dimensions, inches		Overall Length, inches	Specify Model Number*	Weight (lbs.)	Price
		Length	Width				

3 to 7 steps with Gripstrut platforms to 72"

3	30	36	28	48	SE3-3	150	\$648.
		48		60	SE3-4	170	683.
		60		72	SE3-5	196	758.
		72		84	SE3-6	215	795.
4	40	36	28	54	SE4-3	173	725.
		48		66	SE4-4	193	762.
		60		78	SE4-5	219	836.
		72		90	SE4-6	237	874.
5	50	36	28	60	SE5-3	191	799.
		48		72	SE5-4	213	836.
		60		84	SE5-5	237	907.
		72		96	SE5-6	257	944.
6	60	36	28	66	SE6-3	217	894.
		48		78	SE6-4	235	932.
		60		90	SE6-5	259	1002.
		72		102	SE6-6	284†	1072.
7	70	36	28	72	SE7-3	224	989.
		48		84	SE7-4	264	1043.
		60		96	SE7-5	285†	1143.
		72		108	SE7-6	305†	1176.

\* Each platform has two 5" swivel casters with combination wheel and swivel locks, two 5" rigid casters.  
 † 36" high steel-pipe rails (1" dia.) with midrails and a galvanized grating. Overall width 30 1/2".  
 ‡ Rails are removed for shipping.

## Double-Access Mobile Work Platforms, 500-lb. Capacity

Conform to OSHA 1910.29

No. of Steps	Platform Height, inches	Platform Dimensions, inches		Overall Length, inches	Specify Model Number*	Weight (lbs.)	Price
		Length	Width				

3 to 7 steps with Gripstrut platforms to 72"

3	30	36	28	60	DE3-3	161	\$ 849.
		48		72	DE3-4	179	886.
		60		84	DE3-5	198	932.
		72		96	DE3-6	215	989.
4	40	36	28	72	DE4-3	194	985.
		48		84	DE4-4	211	1002.
		60		96	DE4-5	230	1068.
		72		108	DE4-6	246	1101.
5	50	36	28	84	DE5-3	224	1110.
		48		96	DE5-4	242	1143.
		60		108	DE5-5	260	1209.
		72		120	DE5-6	279	1246.
6	60	36	28	96	DE6-3	266†	1288.
		48		108	DE6-4	283†	1325.
		60		120	DE6-5	302†	1391.
		72		132	DE6-6	318†	1424.
7	70	36	28	108	DE7-3	296†	1437.
		48		120	DE7-4	315†	1470.
		60		132	DE7-5	334†	1536.
		72		144	DE7-6	350†	1569.

\* Each platform has four 5" swivel casters with combination wheel and swivel locks. 36" high steel-pipe rails (1" dia.) with midrails and galvanized grating. Overall width 30".

† Rails are removed for shipping. Full rails are recommended on 5-, 6-, 7-step units to insure compliance.

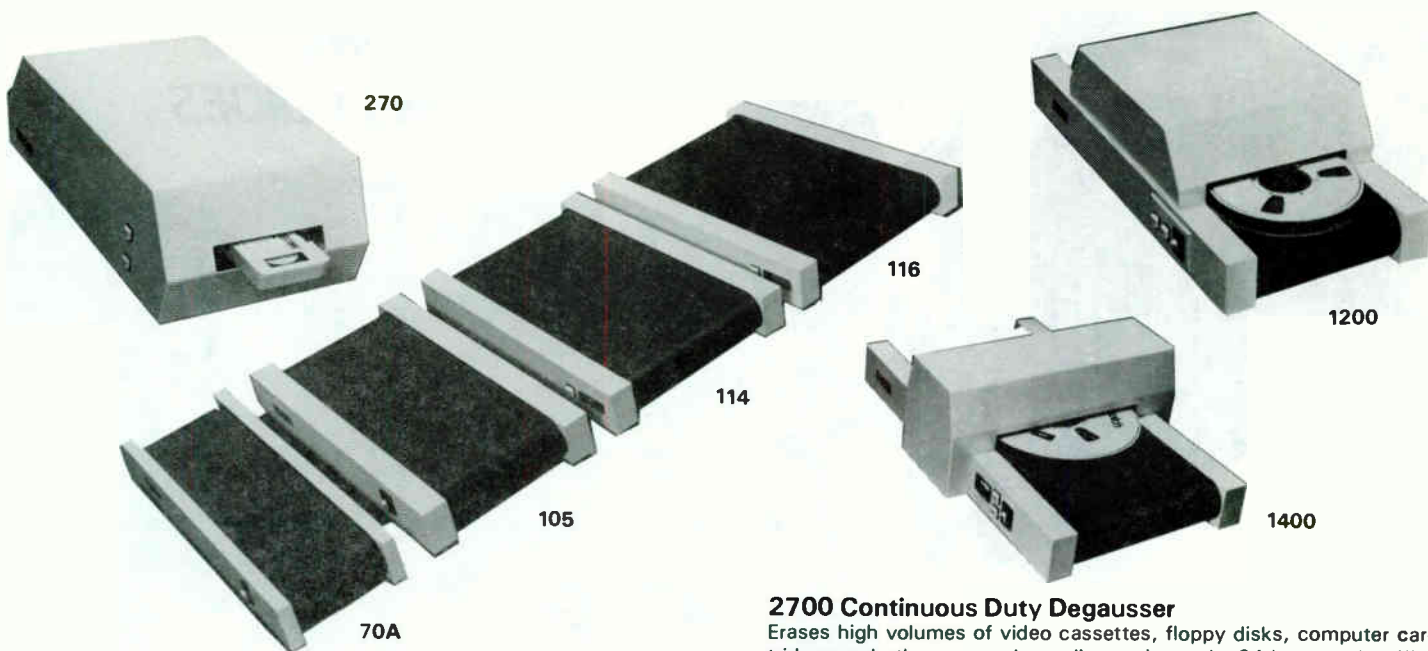
NOTE: One rail is standard. For full rails, add \$100.



# GARNER INDUSTRIES, INC.

4200 N. 48th St.  
Lincoln, NE 68504  
(402) 464-5911 Telex: 43-8068  
FAX: (402) 464-6960

# DEGAUSSERS



## Video and Computer Degaussers

Garner serves the video and computer industries with a full line of automated video tape erasers engineered for both the speed and effectiveness professionals demand.

- **Depth of Erasure:** Garner's erasure of a heavily saturated, high coercivity tape is the standard of the industry
- **Speed:** Erases high-energy tape completely in 5 to 15 seconds. Other erasers take many times that long
- **Ease of Operation:** Just touch the "on" switch and place the tape on the conveyor. There are no drawers, no spindles and no height adjustments

## Specifications

	270 (for 1/2" to 1" ** cassettes)	1200 (for 1" reels/ cassettes to 10 1/2" diameter)	1400 (for 1" reels/ cassettes to 14" diameter)	1600 (for 1" reels/ cassettes to 16" diameter)
<b>Overall Dimensions:</b>				
<b>Height:</b>	9"	11"	11"	11"
<b>Width:</b>	16"	20 1/4"	23 3/4"	25"
<b>Length:</b>	28 1/2"	33 1/2"	33 1/2"	33 1/2"
<b>Weight:</b>	90 lbs.	140 lbs.	160 lbs.	180 lbs.
<b>Max. Reel Dia.:</b>	8 1/2"	10 1/2"	14"	16"
<b>*Power:</b>	*120VAC	*208/220VAC	*208/220VAC	208/240VAC
<b>Erasure Level:</b>	-75dB	-90dB	-90dB	-90dB
<b>Price:</b>	\$2,990.00	\$4,890.00	\$5,790.00	\$6,590.00

## Audio/Computer Degaussers

Audio tape degaussers can completely erase audio reels, cartridges and computer tapes. Just touch the power button and place any reel, cartridge, cassette or disk on the endless belt. In four seconds it delivers a clean erasure that will meet the most stringent standards, save valuable time and do a better job of erasing. All models available in 220/240VAC/50Hz.

**Erasure Level (all models):** -80dB nominal.

**Method of Operation:** Tapes are passed on continuous belt over high flux coils and deposited at the end of the machine.

**Thermal Protection:** Overheating is prevented by automatic cut-off switch, which reactivates after cool-down period.

## 2700 Continuous Duty Degausser

Erases high volumes of video cassettes, floppy disks, computer cartridges and other magnetic media continuously, 24 hours a day. The unique dual coil design provides unmatched erasure of high coercivity media.

Window opening: 5.9" x 1.6"

## Specifications

<b>Height:</b>	18 1/2"
<b>Width:</b>	25"
<b>Length:</b>	42"
<b>Weight:</b>	485 lbs.
<b>Power:</b>	208/240VAC
<b>Erasure Level:</b>	-90dB
<b>Price:</b>	\$11,800.00

## 2400 Continuous Running Degausser

For large volumes of data cartridges, floppy disks, and other magnetic media with coercivity ratings of up to 800 oersteds. Window opening: 10.5" x 1.4" ..... \$9,880.00

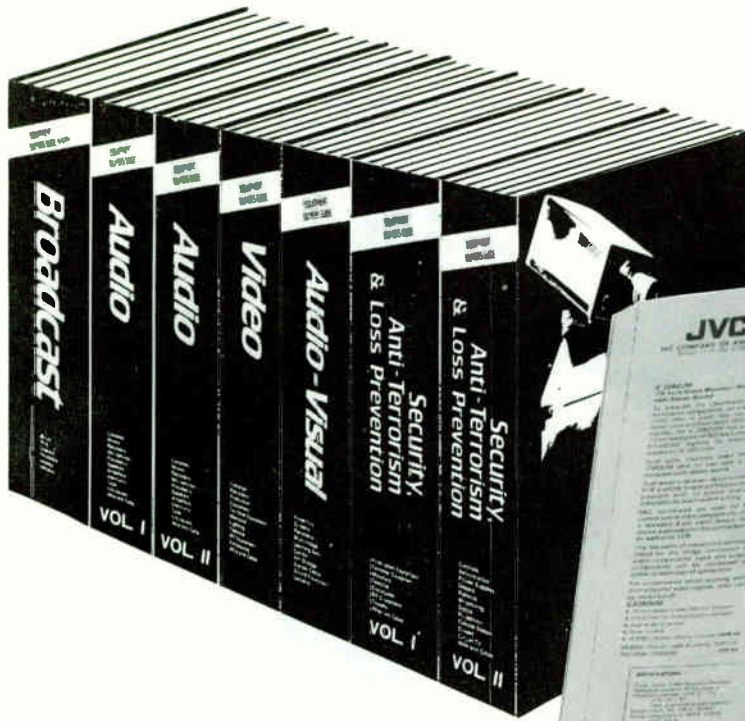
## 2400Z Continuous Running Degausser

For large volumes of data cartridges, floppy disks, and other magnetic media with coercivity ratings of up to 600 oersteds. Window opening: 10.5" x 2.75" ..... \$10,880.00

## Specifications

Overall Dimensions:	70A	105	114	116
<b>Height:</b>	5"	5"	5"	5"
<b>Width:</b>	10"	16"	19"	21"
<b>Length:</b>	27 1/2"	27 1/2"	27 1/2"	27 1/2"
<b>Weight:</b>	60 lbs.	80 lbs.	115 lbs.	127 lbs.
<b>Max. Reel Dia.:</b>	7"	10 1/2"	14"	16"
<b>*Power:</b>	*117VAC 4A	*117VAC 6A	*117VAC 10A	*117VAC 11A
<b>Price:</b>	\$990.00	\$1,590.00	\$2,190.00	\$2,390.00

\* All models available in 220/240VAC/50Hz.  
\*\* Erases 1" x 7" magnetic data tape cassettes also.



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**TRADE REFERENCES**  
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 ISSN# 0747-6167 **\$95.00**

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**BDC BILL DANIELS CO., INC.**

P.O. BOX 2056 Shawnee Mission, KS 66201



# GENERAL ELECTRIC CO.

Electronics Park 6-205  
Syracuse, NY 13221  
(315) 456-3304

# VIDEO PROJECTORS



Talaria

## Talaria® Large Screen Video Projectors

- One lens "no convergence" system
- High brightness picture allows use in high ambient light
- Requires no special screen; use of flat matte screen allows viewing by those off the projection axis
- Optional lenses allow variable throw distances from 4' to 175'
- Accommodates diverse inputs: NTSC, PAL/SECAM, RGB and a wide variety of computer interfaces
- User friendly television style controls
- Glass lenses for a sharper image corner to corner
- Selection of front or rear projection at the flip of a switch
- Creates picture size from 4' wide to 24' wide and larger
- Built-in diagnostic and color bar/gray scale generator
- Continuous tilt adjustment of  $\pm 15^\circ$  pitch
- Compact, and transportable (it only weighs about 145 lbs.)
- Modular construction and smartly-engineered design
- Single optical path light valve
- Accepts a wide variety of input signals: 1/2", 3/4", or 1" video tape, live camera feed, satellite feed, video laser disc, and closed circuit television (CCTV)
- Accepts on-line computer generated graphics
- Aspect ratio (ratio of width to height) is 4 x 3

### All projectors include as standard:

- Standard 3:1 (throw distance to picture width) lens
- Instruction manual
- 2 Day Operator and 4 Day Maintenance Training Courses held monthly in Syracuse, NY. Training will be held at customer location at extra cost
- Detachable operator control unit
- Mechanical tilting mechanism

### Accessories

Screens, cases, projection stands, raster masks and dowsers available

## Talaria Multiple Valve (MLV) Large Screen Video Projector

- Two light valves and two lamps in this one unique projector results in at least 80% more brightness and 50% more contrast than our single light valve projector
- Full color images up to 30' wide
- Two piece aluminum frame for ease of transportation and setup, or you can choose a one piece frame for fixed simulation or command control applications
- All Talaria Projector lenses may be used with the MLV, allowing front or rear screen throw distances of 1.5, 3.0, 4.2, 4.9 and 7 times the width of the screen
- Optional single output lens
- Accepts a number of different input signals, including videotape, live camera feed, satellite feed, video laser disk, closed circuit television (CCTV), and on-line computer-generated graphics
- 525/625 line standard video as well as computer compatible

## Talaria Professional Large Screen Video Projector Specifications

Input Standards <sup>1</sup> Color Projectors	Model	Brightness in Lumens <sup>2</sup>	Input Power Required		Price
			Watts	Voltage	
<b>Video and PC Compatible</b> Accepts NTSC or RGB Standard <sup>3</sup> 525 lines/60 fields per second 15.75kHz standard. Non-standard inputs from 15kHz to 32kHz can be accommodated.*	PJ4500	500	900	115 or 220	\$ 44,900.00
	PJ5050	1000	1100	115 or 220	88,850.00
	PJ5055	2000	1500	220	98,480.00
	PJ5055HB	2400	1750	220	99,760.00
<b>Computer Compatible</b> Accepts RGB video at line rate specified and composite sync 875 lines/60 fields per second 26.3kHz standard. Non-standard inputs from 23kHz to 28kHz can be accommodated.*	PJ5800	500	900	115 or 220	49,780.00
	PJ5850	1000	1100	115 or 220	73,850.00
	PJ5855	2000	1750	220	108,970.00
<b>Computer Compatible</b> Accepts RGB video at line rate specified and composite sync 1023 lines/60 fields per second 30.7kHz standard. Non-standard inputs from 28kHz to 38.5kHz can be accommodated.*	PJ5100	500	900	115 or 220	49,780.00
	PJ5150	1000	1100	115 or 220	73,850.00
	PJ5155	2000	1750	220	108,970.00

### Monochrome Projectors

<b>Video and PC Compatible</b> Accepts NTSC standard 525 lines/60 fields per second at 15.75kHz standard.	PJ7050	1500	900	115 or 220	32,860.00
	PJ7055	3000	1100	115 or 220	47,750.00
<b>Computer Compatible</b> 30.75kHz or 26.3 standard. <sup>4</sup> Non-standard inputs from 15.0kHz to 38.5kHz can be accommodated.*	PJ7150	1500	900	115 or 220	36,780.00
	PJ7155	3000	1100	115 or 220	52,780.00

### Notes:

1. Standard projectors are compatible with a single line rate. Other input options are available (including multiple line rates), contact General Electric Projection Display Products Operation or your nearest authorized sales agent
2. Light output given in terms of open gate minimum lumens. Modulated light output is typically 65% of open gate level
3. NTSC/PAL/SECAM switchable at line rate specified, available as option at additional cost
4. Accepts wideband monochrome video at line rate specified

\* Available at extra cost.

## Talaria Multi-Standard Large Screen Video Projector

- All the features of the Talaria professional video projector plus the ability to switch automatically between three preset scan rates
- Uses both standard video inputs and non-standard line rate inputs
- You can use any two input sources between 15kHz and 34kHz in combination with standard NTSC video
- Projects a picture from 4' to 30' wide
- With its interchangeable lenses, you can vary the throw distance anywhere from 12' to over 280'

Model	Light Output	Max. Power	Voltage	Price
PJ5100MS	1000 lumens	900W	115/220	\$ 64,760.00
PJ5150MS	1700 lumens	1100W	115/220	88,850.00
PJ5155MS	2400 lumens	1750W	220	123,970.00

Model	Input	Description	Price
MLV-5055-SC	525/625 line	Video projector with screen convergence . . . . .	\$178,980.00
MLV-5055-CO		Video projector with combining optics . . . . .	205,760.00
MLV-5155-SC	1023 line	Computer compatible projector with screen convergence . . . . .	192,940.00
MLV-5155-CO		Computer compatible projector with combining optics. . . . .	218,720.00
MLV-5155-HDTV-SC	1125 line	RGB High Definition Television Projector. . . . .	192,940.00

Prices and Specifications Subject to Change Without Notice.

V-485



# GENERAL ELECTRIC CO.

Electronics Park 6-205  
Syracuse, NY 13221  
(315) 456-3304

# VIDEO/DATA PROJECTOR

## Imager 300 Video/Data Projector

The Imager 300. It's the video and computer display projector that puts total performance control in the palm of your hand.

### Digital convergence means easy set up.

First connect the necessary cables from your input sources through the Imager 300's switcher. Connect one set of cables from the video switcher to the projector.

Aim the full-function handheld remote controller at either the projector or the switcher's built-in infrared receiver, call up the test pattern and proceed to converge the line rate you've selected, just by pushing the right buttons. You'll find this remarkably easy and fast. And when you're finished, just push the store button and the Imager 300 will automatically remember the convergence settings for that line rate.

### Digital convergence means excellent picture quality.

Unlike analog convergence, which allows a projector to drift over time, digital convergence locks on to the correct settings for a chosen line rate eliminating drift. So you get an optimum picture each and every time a preset line rate is selected.

### Digital convergence means easy to operate.

In addition to the full-function remote control you'll use to converge the Imager 300, we provide a second, "Executive remote." This is a simplified version for the boss to use. So he or she can control the presentation with just a push of a button, just like a TV set.

With a full field display of 2,000 characters, excellent contrast and over 900 lines resolution RGB, 525 lines (NTSC video) and 625 lines (PAL/SECAM video), you'll get a crisp, clear picture for all your front and rear-screen presentations. Which makes this perfect for management information systems, marketing, engineering and training.

The picture quality is due to our uniquely designed 7" Hi-Resolution CRT's and the powerful, optically coupled, all glass lenses.



Imager 300

### Imager 300 PSC7135

CRT variable line rate  
data/video projector  
Screen size: 70" -120" diagonally  
Resolution: Video 600 lines  
RGB 900 lines . . . . . \$9999.00

### Price Includes:

AVDU3000	Video switching unit
AREM3000-I	Remote control unit (full function)
AREM3001-X	Remote control unit (executive)
ACAB3004	4 Meter video cable
ACAB3104	4 Meter RGB cable
	All glass lenses
	75 ohm terminator
AREM3000-I	Infrared remote control
	Full function (extra) . . . . . \$250.00
AREM3001-X	Infrared remote control
	Executive (extra) . . . . . \$250.00
AREM3000-W	Wired remote control
	(15' cord) . . . . . \$250.00
ACAB3016	16 Meter video cable . . . . . \$290.00
ACAB3116	16 Meter RGB cable . . . . . \$330.00
ACMK3303	Ceiling mount kit assembly . . . . . \$120.00

## Specifications

**Power Source:** 120VAC, 50/60Hz  
**Power Consumption:** 260W  
**Projection Tube:** 7" liquid cooled CRT's optically coupled (RGB)  
**Brightness (typical):** 475 lumens (peak white)  
**Lenses:** 6 piece glass lenses, multi-coated  
**Throw Distance:** 70" screen; requires 7'2" throw (1.8m requires 2.1m throw)  
 90" screen; requires 9'10" throw (2.3m requires 3.0m throw)  
 120" screen; requires 11'8" throw (3.0m requires 3.6m throw)  
**Resolution:** Video - 525 TV lines; 625 PAL/SECAM  
 RGB 900 TV lines  
 Full field display; 2000 characters  
**Picture Size:** 70" to 120" (diagonal measurement) (1.8m to 3.0m)  
**Projection Capabilities:** Front or rear—ceiling or floor mount  
**Input Standards:** NTSC, NTSC 4.43, PAL, SECAM, RGB (15-34kHz)  
**Video Unit Inputs:** 8 presets available  
 Horizontal—15kHz to 34kHz  
 Vertical—38Hz to 100Hz  
**Input Levels:** Video - 2 video inputs  
 0.7-1.5V p-p, 75 ohms positive (BNC)  
 Loop thru—1 video  
 0.7-1.5V p-p, 75 ohms positive (BNC)  
 RGB (1) 9-pin IBM connector  
 RGB (2) and RGB (3)  
 R: 0.7-1.5V p-p, 75 ohms positive (BNC)  
 G: 0.7-1.5V p-p, 75 ohms positive (BNC)  
 B: 0.7-1.5V p-p, 75 ohms positive (BNC)  
 H/V Sync: 0.7V p-p-2.0V p-p, 75 ohms negative or positive (BNC)  
 G Sync: 0.3-0.6V p-p, 75 ohms negative (BNC)  
**Weight:** 112 lbs. (51kg)  
**Dimensions:** 11 1/2" H x 25" W x 27" D  
 (29 x 64 x 70cm)  
**Digital Convergence:** Digitally preset for desired line rates  
 < 0.2% of V-height  
 Internal microprocessor  
 Fine tuning optimization

Storage memory to save preset data  
 Convergence done remotely whether floor or ceiling mount  
**Preset**  
**Input #1:** Composite Video (50/60Hz)  
 Quad Standard (NTSC/NTSC 4.43/PAL/SECAM)  
**Input #2:** Composite Video (50/60Hz)  
 Quad Standard (NTSC/NTSC 4.43/PAL/SECAM)  
**Input #3:** RGB via 9-pin IBM® connector with TTL and analog processor.  
 CGA 15.75kHz 320 x 200 pixels  
 EGA 21.8kHz 640 x 350 pixels  
 PGA 30.5kHz 640 x 480 pixels  
**Input #4:** RGB BNC connector (R, G, B, H Sync, V Sync)  
 Variable line rate 15-34kHz  
**Input #5:** RGB BNC connector (R, G, B, H Sync, V Sync)  
 Variable line rate 15-34kHz  
**Input #6:** NTSC Video 60Hz  
 (direct connection to video projector)  
**Full Function Infrared Remote Control:**  
 ★ On/off power control  
 ★ Brightness  
 ★ Picture contrast  
 ★ Color, hue, sharpness  
 Multiple test pattern displays  
 Video black  
 Static convergence (digital)  
 Dynamic convergence (digital)  
 Point convergence (digital)  
 ★ Infrared executive remote regulates these items  
**Test Pattern Display:** Internal generated  
 Cross hatch—fine and coarse  
 Dot pattern—fine and coarse  
**Text Color Switch (for enhanced computer display):** Red, green, blue, yellow, cyan and magenta (digital input only)  
 ★ Imager 300E (PSC7135E) 220V, 50Hz Export Version

# GENERAL ELECTRIC CO.

Electronics Park 6-205  
Syracuse, NY 13221  
(315) 456-3304

# VIDEO/DATA PROJECTORS



**Imager 100**



**Imager 200**

## Imager 100/200 Projection Systems

- Easily moved using optional projection cart for inter-office use, or with optional carrying case for between local branches, schools, or libraries (30% smaller and lighter; approx. 73 lbs.)
- 48% brighter picture, with 400 peak lumens made possible with cooled CRT design
- Optional interface can talk to any computer like IBM's PC series and compatibles, NEC PC's, Apple III, IIC, IIE
- Service friendly design

Creates an affordable difference in top-of-the-line projection television for the growing education and business markets.

With the optional projection cart and its ease of use, corporate meeting centers can keep their clean, professional look...while educational centers can share the industrial projection technology from room to room...and need to need.

### Imager 100 CRT-Color Video Projection Unit

Screen Size: 84-120" Diagonally  
Resolution: 330 Lines  
Signal Sources: Video, TV Tuner, Phono  
PSC6110 . . . . . \$2198.00

### Imager 200/A CRT-Color Video Projection Unit

Screen Size: 50-84" Diagonally  
Resolution: Video 550 + Lines  
RGB 800 + Lines  
Signal Sources: RGB Computer, TV Tuner  
Video Camera, VTR/VCR,  
Video Disk  
PSC6115/72. . . . . \$5997.00

### Imager 200/B CRT-Color Video Projection Unit

Screen Size: 84-120" Diagonally  
Resolution: Video 550 + Lines  
RGB 800 + Lines  
Signal Sources: RGB Computer, TV Tuner  
Video Camera, VTR/VCR,  
Video Disk  
PSC6115/120 . . . . . \$5997.00

### Accessories for Imager 200 (PSC6115)

AREM2000 Remote control—rackmountable . . \$265.00  
ARGB2000 RGB interface—rackmountable  
15.75kHz horizontal line rate . . . . .470.00  
ACAB2000 IBM RGB interface cord connects  
computer to RGB interface. . . . .60.00  
ACAB2010 Apple RGB interface cord connects  
computer to RGB interface. . . . .60.00  
ACAB2020 NEC RGB interface cord connects  
computer to RGB interface. . . . .60.00  
ACAB2115 50' remote cord . . . . .175.00  
ACAB2130 100' remote cord . . . . .255.00  
ACAB2150 164' remote cord . . . . .365.00  
7178480 Projection stand . . . . .475.00

# GENEVA GROUP OF COMPANIES, INC.

7255 Flying Cloud Dr.  
Eden Prairie, MN 55344  
(612) 829-1724 (800) 328-6795  
TWX: 510-600-5005

# TAPE HEAD CARE PRODUCTS/ ACCESSORIES

## VCR-130/135 Head Cleaners

Weekly cleaning with this time-tested video head cleaner is the safe, easy way to remove abrasive household dust, tape residue and cigarette smoke from the entire VCR tape path. The package includes a cassette with special polyester cleaning tape, pure TF cleaning spray, easy to follow instructions—and an iron-clad limited warranty that provides an absolute assurance of safety for delicate tape heads. Provides approximately 52 cleanings.

VCR-130 (VHS) . . . . . \$29.95  
VCR-135 (Beta) . . . . . 29.95

## PF-350 8mm Head Cleaner

This 8mm video head cleaner delivers the same, wet system, full tape path cleaning effectiveness offered by our proven VHS and Beta cleaners. It safely removes household dust, tape residue and cigarette smoke with no risk of damage to delicate tape heads.

PF-350 . . . . . \$29.95

## PF-150/155 Camcorder Head Cleaners

We developed this full tape path head cleaner to accommodate the requirements of both VHS and Beta camcorders. It delivers the same safe, effective wet cleaning action offered by our other video head cleaners—but with a special cleaning tape that's designed exclusively for camcorders.

PF-150 (VHS) . . . . . \$29.95  
PF-155 (Beta) . . . . . 29.95

## VCR-111 Audio/Video Cleaning Solution

The perfect replacement spray for all tape deck and VCR wet-type cleaning systems. This head cleaner is 100% pure TF so it dries quickly and leaves absolutely no residue. It's non-flammable, non-toxic—and safe for all metal, plastic, rubber, painted or elastomer VCR components. 1.9 oz.

VCR-111 . . . . . \$4.40

## VCR-300 Dust Cover

This VCR dustcover provides an extra measure of protection from household dust and surface scratches. The clear vinyl front panel displays VCR controls—and the durable, 100% cotton top, side and rear panels breathe to allow quick cooling without an unpleasant vinyl odor. Fits nearly all standard VCRs (4" H x 18" W x 15" D).

VCR-300 . . . . . \$14.95

## VCR-820 Dubbing Cables

VCR dubbing cables are designed to deliver the highest quality video cassette copies. Includes professional grade cables with gold, electroplated connections—and complete, easy to follow, fully illustrated instructions. Length, 2 meters. Nominal capacitance 17pF per foot.

VCR-820 . . . . . \$11.95  
PF-840 Stereo version . . . . . 16.99

## PF-211/212 Video/Audio Tape Erasers

It only takes a few seconds for this powerful audio/video tape eraser to eliminate previous recordings—and prepare used tapes for like new performance. The 2300 gauss field intensity is excellent for VHS and Beta video tapes, audio cassettes and reel-to-reel tapes up to 1/2" wide. Includes simple step by step instructions. U.L./CSA approved. PF-211 and PF-212 for 220-250VAC.

PF-211 . . . . . \$59.95  
PF-212 (220V) . . . . . 73.49

## PF-208 Professional Head Demagnetizer

This powerful professional head demagnetizer has 1000 gauss field intensity to quickly remove residual magnetism from multi-channel, 2" studio tape heads and guides. The probe tip is rubber covered to protect delicate head surfaces. And when the demagnetizer is not in use, a momentary switch automatically shuts it off.

PF-208 . . . . . \$56.70



PF 208



PF-380



PF-350

## VCR-205/207 Video/Audio Demagnetizer

Regular use of this video/audio demagnetizer prevents residual magnetism from downgrading audio and video performance. Easy to follow instructions allow the user to quickly and safely demagnetize the entire tape path of VCRs, reel-to-reel and cassette audio decks. 290 gauss field intensity. U.L./CSA approved. VCR-205 and VCR-207 for 220-250VAC.

VCR-205 . . . . . \$39.95  
VCR-207 (220V) . . . . . 41.80

## PF-380 Broadcast Head Degausser

This professional unit is the same size as a broadcast cartridge. When inserted into a cart machine, its 400 gauss flux intensity demagnetizes record and playback heads in seconds.

PF-380 . . . . . \$43.79

## VCR-90 Audio/Video Swabs and Spray

This compact care kit for manually cleaning all audio decks and VCRs includes a 1.9 oz. can of pure TF cleaning solution, 18 lint-free foam swabs and instructions.

VCR-90 . . . . . \$9.99

## VCR-95 Manual VCR Head Cleaning Kit

This manual VCR head cleaning kit comes complete with a 1.9 oz. can of pure TF spray, 18 lint-free foam swabs, an anti-static dust cloth, a specially designed VCR screwdriver—and fully illustrated, easy to follow instructions.

VCR-95 . . . . . \$19.20

## VCR-50 Professional VCR Care Kit

Everything necessary to perform regular manual VCR maintenance. This professional care kit includes a large, 16 oz. can of pure TF spray, 25 foam swabs, an anti-static dust cloth, 280 lint-free cellular tissues, a can of Super Blast High Velocity Air Duster—and easy to follow, illustrated instructions.

VCR-50 . . . . . \$35.28

## QM-505 25 Foam Swabs

Soft, lint-free foam swabs are completely non-abrasive, yet have excellent cleaning ability. For use with our head cleaning liquid.

QM-505 . . . . . \$9.40



# GENIE INDUSTRIES

18340 N.E. 76th St.  
 P.O. Box 69  
 Redmond, WA 98073-0069  
 (206) 881-1800 (800) 426-8089  
 Telex: 15-2351

## Genie Tower

- Lifts to 30'
- Rolls into position
- Lightweight for single spots or multiple light systems

The Genie Tower is a portable, telescoping lift specially designed for lifting and supporting theatrical lighting systems. Tanks of compressed air or carbon dioxide (CO<sub>2</sub>) provide low cost power to quickly and effortlessly lift your lights as high as 30'.

Aluminum construction makes the Genie Tower durable enough to support up to 350 lbs.—but lightweight enough for one person to carry. The Genie Tower's flat black anodized finish lets it "fade" into the background so that the audience isn't distracted from the performance.

Durable 6" swivel casters allow the Genie Tower and mounted lights to be moved easily when in the lowered position. Then, just press the operation button and your lights elevate in seconds. An optional leveling jack base provides up to 12" of adjustment for stability, on uneven floors or stages. Guy wires "lock" legs into the base castings for additional support.

Model		2115	2120	2125
Load Capacity (load centered over column):	US-lbs.	350	300	250
	Metric-kg	159	136	113
Lifting Height (max):	US-ft./in.	15' 2"	20' 1"	25' 1"
	Metric-m	4.62	6.12	7.65
Loading Height:	US-in.	63	67 1/2	71 1/2
	Metric-cm	160	171	182
Unit Dimensions (base corner-to-corner x unit height)	US-in.	38x38x63	46x46x67 1/2	46x46x71 1/2
	Metric-cm	97x97x160	117x117x171	117x117x182
Dimensions for storage/transport (H x W x L):	US-in.	61x16x16	65 1/2x16x16	69 1/2x16x16
	Metric-cm	155x41x41	166x41x41	177x41x41
Net Weight (cylinder and leg assembly only):	US-lbs.	52	58	65
	Metric-kg	24	26	29
Shipping Weight (includes cylinder, leg assembly, tool box and optional full 20# CO <sub>2</sub> tank):	US-lbs.	62	68	75
	Metric-kg	28	31	34

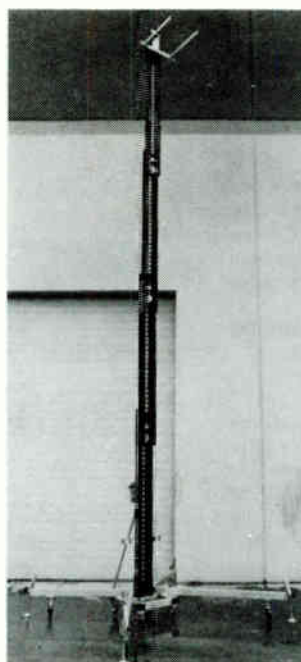
## Super Tower

- Lifts 650 lbs. to 24'
- Easy set-up and transport
- Compact base
- Perfect for heavy lighting systems

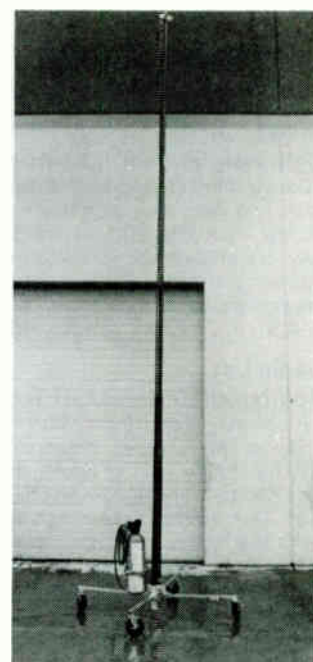
With a 650 lb. load capacity, the Super Tower is the ideal tool for lifting and supporting lighting systems, sound systems and stage scenery. Depend on it for flawless theatrical productions and entertainment events.

The Super Tower can be used as a single unit, or two or more can be used together to support trusses large enough to span a stage.

# THEATRICAL LIFTING EQUIPMENT



Super Tower, ST-24



Genie Tower, 2125

Set up is easy. Just install the outriggers and set the leveling jacks. To ensure load stability, the hand winch locks the load in place when the handle is released. In a stowed position, the Super Tower is easy to transport—with no bulky base to get in the way.

The Super Tower is available in two models offering lifting heights to 18' or 24'. Both models come standard with a flat black anodized finish so that the unit is nearly invisible to the audience.

Model		ST-24
Load Capacity (at load center 13"):	US-lbs.	650
	Metric-kg	295
Lifting Height (max):	US-ft/in.	22' 10"
	Metric-m	6.96
Loading Height (min.):	US-in.	9
	Metric-cm	22.8
Fork Dimensions (length from carriage plane x exterior width):	US-in.	18 1/2 x 26
	Metric-cm	47 x 66
Unit Dimensions (H x W x L):	US-inches	88 1/2 x 78 x 75
	Metric-cm	225 x 198 x 191
Dimensions for Storage/Transport (H x W x L):	US-in.	88 1/2 x 22 x 21
	Metric-cm	225 x 56 x 53
Net Weight:	US-lbs.	374
	Metric-kg	170
Shipping Weight:	US-lbs.	444
	Metric-kg	201

- 2115 Genie Tower . . . . . \$ 759.00
- 2120 Genie Tower . . . . . 859.00
- 2125 Genie Tower . . . . . 959.00
- ST-24 Super Tower . . . . . \*1749.00

\*Includes safety brake

# GENIE INDUSTRIES

18340 N.E. 76th St.  
P.O. Box 69  
Redmond, WA 98073-0069  
(206) 881-1800 (800) 426-8089  
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# MATERIAL LIFTING EQUIPMENT

## Load Lifter

### Lightweight Hand/Lift Truck

- Constructed of lightweight aluminum • Durable and extremely portable • Weighs only 45 lbs.—but lifts 200 lbs. to 55" • Comes fully assembled • Silent winch • Collapsible legs and platform • Compact storage size for easy transport

LL-4.5 .....\$595.00

## Genie Lift

### Combination Hand/Lift Truck

- Aluminum castings and extrusions • Strong, lightweight, maneuverable • Lifts 350 lbs. • Choose the model that will raise your load to the height you need: 4', 8', 10' or over 12' • Safety brake winch automatically locks the load in place whenever the winch handle is released • Legs and forks remove without tools for easy transport and storage

#4 .....\$499.00

#8 .....589.00

#10 .....669.00

#12 .....699.00

## Handy Lift

### Heavy-Duty Hand/Lift Truck

- Lifts 600 lbs. to 4 1/2' • Constructed of lightweight aluminum • Employs an extra heavy-duty cable and pulley mechanism • Safety brake winch automatically locks the load in place whenever the handle is released • Standard wheel and caster package includes 8" hard rubber wheels and dual 2" front casters • Two optional wheel kits are available

HL-4.5 .....\$599.00

#### Option\*

FP 10" full pneumatic rear tires, 3" front casters . . . \$75.00\*\*  
\*\*Price when substituted for standard tires and wheels.

## Mix-N-Match

### Heavy-Duty Lift Truck

- Lifts 800 lbs. to 5' or 9 1/2' • Available in a choice of three wheel and caster kits • Constructed with a heat treated, non-corrosive aluminum mast with removable steel forks and legs • Forks are adjustable in width from 10" to 21" • Legs lock into base sockets, eliminating the need for setup time and tools • Safety brake winch automatically locks the load in place whenever the winch handle is released • M-9.5 has a two section interlocking mast for greater lifting height, and a dual handle heavy-duty winch • Most commonly selected wheel and caster kits for each (M-5 with Kit A and Kit C; M-9.5 with Kit A and Kit B)

M-5 .....\$639.00

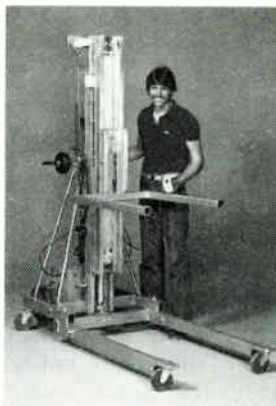
M-9.5 .....839.00

Be sure to specify a base kit (wheel and caster combination):

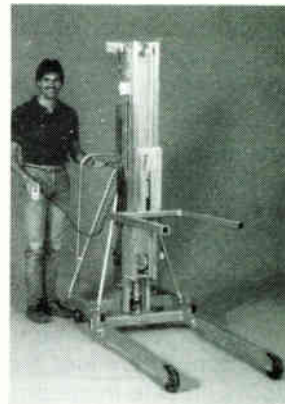
Kit A                      Kit B                      Kit C



Load Lifter



Powered Superlift



Load Handler

## Superlift Manual Material Lift

- Lifts loads maximum 650 lbs. • Choice of models offers lifting heights up to 12', 18', or 24' • Durable • One person portability • Lightweight aluminum construction includes a fully assembled telescoping mast • Safety brake winch automatically locks the load in place whenever the winch handle is released

SL-12 .....\$ 849.00

SL-18 .....949.00

SL-24 .....1149.00

#### Safety Brake System Option\*

Factory installed only

SB For SL-12 .....\$175.00

SB For SL-18 .....200.00

SB For SL-24 .....250.00

## Powered Superlift

### Powered Material Lift

- 750 lbs. to 18' or 500 lbs. to 24' • Fully assembled telescoping mast of heat treated aluminum supported by a rugged steel base • Lightweight construction and large 5" casters make it extremely maneuverable • 10" rear wheels offer one-person portability • Legs remove for compact storage • Reversible forks provide additional lifting height • Choose the electro-hydraulic power package that best suits your needs: a 115VAC motor or a 12VDC power package

PSL-12 .....\$2095.00

PSL-18 .....2295.00

PSL-24 .....2595.00

#### Power Options\*

P For 110VAC, single phase, 60Hz .....N/C

PDC For 12VDC, with charger and battery .....\$200.00

## Genie Hoist CO<sub>2</sub> Powered Hoist

- Lifts 500 lbs. to 24' • Automatic, telescoping, pneumatic jack weighs less than 70 lbs. • Constructed of heat treated, extruded aluminum • Cycles over 100 lifts on a 20 lb. charge of bottled CO<sub>2</sub> • Can be powered by a portable air compressor or in-plant compressed air system

2012M .....\$759.00

2018M .....829.00

2024M .....899.00

## Load Handler

### Powered Material Lift

- Lifts 1000 lbs. • Two models lifting to heights of 10' or 15 1/2' • Fully assembled telescoping mast of heat treated aluminum supported on a rugged steel base • Heavy-duty steering arm • Extra wide 4" casters in the rear and 5" fixed wheels in front make the unit easy to maneuver and position • Standard base is 29" wide • Optional 40" wide base is available • Reversible forks for additional lifting height (for a maximum 800 lb. load) and a choice of a 115VAC or a 12VDC electro-hydraulic power package

LH-10 .....\$2495.00

LH-15 .....2695.00

#### Power Options\*

P For 110VAC, single phase, 60Hz .....N/C

PDC For 12VDC, with charger and battery .....\$200.00

#### Option\*

WB Wide base, 40 1/2" inside width, (if not specified, unit will have standard base) .....\$125.00

\*To specify options, add appropriate letters as suffix to the model number.

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 Redmond, WA 98073-0069  
 (206) 881-1800 (800) 426-8089  
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# AERIAL WORK PLATFORMS



**Quik-Deck**

## Quick-Deck Stacking Work Platform

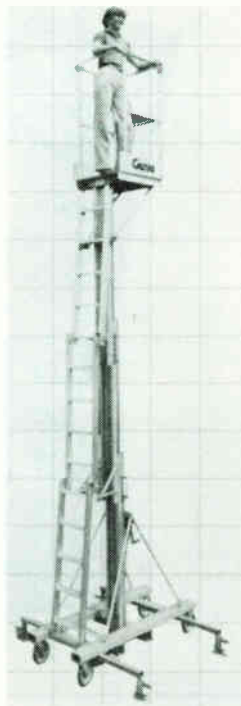
- Working heights to 13' or 19' • Rugged steel frame + plywood and aluminum platform • One Quick-Deck is a sturdy workstand offering platform heights from 13" to 6' • Two Quick-Decks stack to provide a safe, stable work tower with platform heights ranging to 12' • Set up in seconds with no loose parts • Roll easily from one site to the next on rugged 5" swivel casters with locking brakes • Folds instantly to a 10" width for storage or transport • Standard Quik-Deck unit includes one steel frame with four casters and one plywood and aluminum platform

**QD-6 x 6** . . . . . \$339.00  
**QD-6 x 8** . . . . . 349.00

## Quik-Stand Workstand

- Working heights to 11' • Platform heights ranging from 12" to 4' • Durable steel frame + 2 plywood and steel platforms means no loose parts • Rolls smoothly on sturdy 4" casters with locking brakes • Folds instantly to a 6" width • Supports up to 250 lbs. on each of two platforms • Standard Quik-Stand unit includes one steel frame with four casters and two plywood and steel platforms

**QS-4 x 4** . . . . . \$149.00



**Manual Easy-Up**

## Manual Easy-Up

- Working heights to 22', 300 lb. capacity • Constructed of corrosion resistant aluminum on a welded structural steel base • Winch-operated unit offers a platform height extending to 15' • Ground-operated safety brake winch and a sturdy interlocking ladder • Basket folds down for compact storage • Permanently installed outriggers • Passes through commercial sized doorway (36" x 80") • Option RT, rough terrain package

**EU-15M** . . . . . \$1795.00

## Powered Easy-Up

- Working heights to 26', 300 lb. capacity • Available in a platform height of 19' • Folds to a compact size for ease of storage and mobility • Ground level entry • Operator controls in the basket • Choice of 110VAC or 12VDC power packages • Permanently installed outriggers • Passes through commercial sized doorway (36" x 80") • Option RT, rough terrain package

**EU-19** . . . . . \$3195.00



**Powered Easy-Up**

## Power Options\*

**P** For 110VAC, single phase, 60Hz . . . . . N/C  
**PDC** For 12VDC, with charger and battery . . . . . \$200.00

## Other Options

**NP** For narrow basket (aluminum; available on powered models only) . . . . . \$ 95.00  
**FB** For fiberglass basket (standard width; available on powered models only) . . . . . 365.00  
**PB** Power to basket, 110VAC duplex receptacle in basket (factory installed at time of unit order; available on powered models only) . . 150.00

\*Unit cost not including batteries

## Tire Options

**13602** Foam filled tires for Z-30/20 . . . . . \$1,550.00\*\*  
**13900** Foam filled tires for Z-30/20HD . . . . . 1,550.00\*\*

\*To specify options, add appropriate letters as suffix to the model number.  
 \*\*Pricing when substituted at factory for standard air filled tires.



# GKM MFG. CORP.

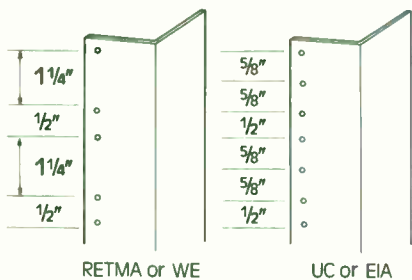
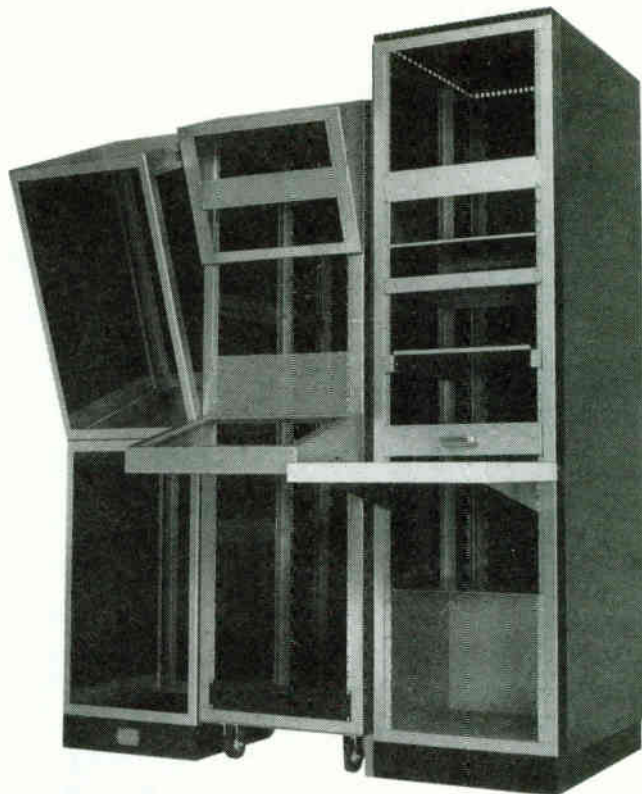
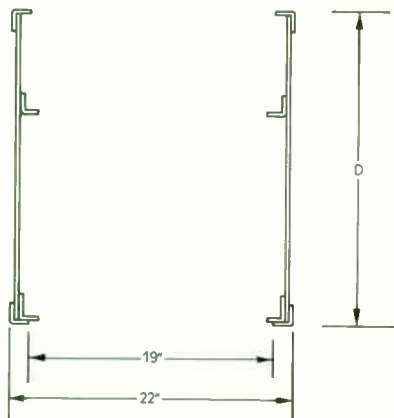
47 Bridgewater Street  
Brooklyn, NY 11222  
(718) 388-4114

# RACKS

**22" W Broadcast  
Rack Frame "FR"**  
45 Heights 5 Depths 47 Colors  
Other widths available.

**Specifications**

Basic Frame: 1/8" CR steel  
Construction: Welded  
Side Braces: 14ga CR steel  
Panel Mounting Angles: 1/8" CR steel  
Mounting Holes: For front and rear  
doors, sides, top and base  
Door: Hinged left or right



**Panel Mounting Angles "PM"**

Tapped 12-24 or 10-32

Centers RETMA or UC (EIA)

Front and rear mounting angles are adjustable. Two pair supplied with 22" frame. One pair supplied with other frames.

**20" W Monitor  
Rack Frame "MR"**

45 Heights 4 Depths 47 Colors  
Other depths available.

**Specifications**

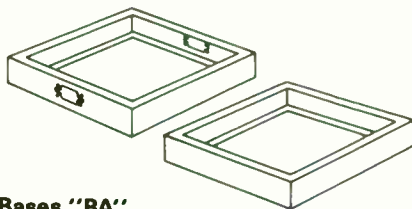
Same as 22" W Broadcast Rack Frame

**20 1/4" W Narrow  
Rack Frame "NR"**

45 Heights 4 Depths 47 Colors  
Other depths available.

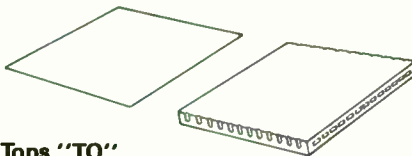
**Specifications**

Same as 22" W Broadcast Rack Frame



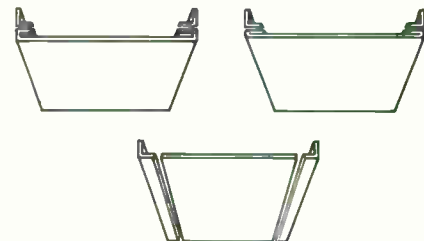
**Bases "BA"**

1/8" steel, 4" height, 22" width, 5 depths, plain or AC cutouts. Finish: Black



**Tops "TO"**

TOV-vented, 1" height, TOP-solid 1/16"H, 22"W, 5 depths. Finish: All colors.



**Side Panels "SP"**

Available in 3 types.

1. Hemmed—steel with hemmed edges, fits full depth.
2. Flush—fits between verticals
3. Pan—one inch deep, fits full depth

Finish: All colors.



**Copper Grounding  
Bars "GBA"**

Sizes to fit all GKM racks. Electrical copper alloy 110 busbar 1/16" or 3/16" thick x 1" wide. Tap holes for 10/32 screws conveniently spaced.



**Vertical  
Cable Distribution  
Bars "DBA"**

For fastening of cables inside racks. Sizes to fit all GKM racks. Multiple convenience holes for tying cables. Hard aluminum, 3/16" thick x 3/4" wide.

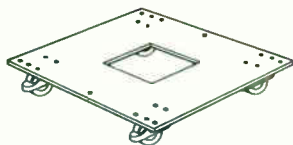


**Doors "DO"**

All doors are "universal" hinged permitting left or right handed hinging. Cup handle with 2 point latch or cup handle with magnetic strip.

# GKM MFG. CORP.

47 Bridgewater Street  
Brooklyn, NY 11222  
(718) 388-4114

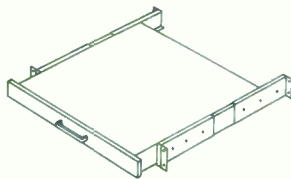


## CPD or CPP Caster Base

Sizes to fit all racks. CPD 400 lb. capacity per caster, 5" height. CPP 175 lb. capacity per caster, 3 5/8" height. Both with brakes. Bolts to rack. Finish—all colors.

## BAP or BAC Gang Base

Height 4". Depths—All. Common widths 44", 66", 88", 100". Other widths available. Plain or AC cut-outs. Finish—Black.



## SP Shelf Pullout

18" deep with 1 3/4" front panel. 75 lb. capacity slides with 16" travel. All colors.

## SPW Shelf Pullout with Writing Surface

18" deep with 1 3/4" front panel. Stainless, hinged writing surface. 75 lb. capacity slides with 16" travel. All colors.

## SF Shelf Fixed

18" deep with 1 3/4" front panel. Mounts to front and rear panel mounting angles. All colors.

## TNRC Twin Nut Rack Clip

With two locking screws.

## HW 12-24 Panel Mounting Screws

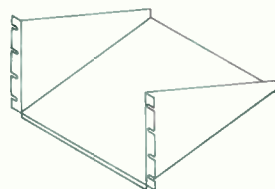
Phillips Pan Head, 12-24 x 1/2" long plus #12 nylon washer.

## RC Rack Divider Channel

Bent 1/16" steel. Fits between racks. Common widths 2", 3", 4", 6". Made in all rack heights. Other heights and widths available. All colors.

## LS Laminated Shelf

White laminated plastic bonded to plywood. Common widths 22", 44", 66". Common depth 19". Other depths, widths and colors available.



## ESA Equipment Support

Front mounting cantilevered support tray. All colors.

## DSA Desk Support

1/8" steel channel with mounting brackets for attaching desk to racks. Mounts to front and rear panel mounting angles, 36" long. Finish: Black textured.

## HRW Horizontal Wedge

Mounts horizontally between two racks allowing upper rack to be tilted 20° for easy viewing of instruments. Sizes to fit all racks. All colors.

## VRW Vertical Wedge

30° or 45° allowing wrap-around or corner designs. Removable rear panel. Sizes to fit all racks. All colors.

## BRP Blank Rack Panels

Steel or aluminum. 1/8" or 3/16" thick. Mounting holes. All colors.

## BRPS Blank Rack Panels Shimmied

Aluminum, 1/8" panel with 3/16" shims each end = total 5/16". Mounting holes. All colors.

## VRPS Vented Rack Panels

Bent 20 ga steel, .100 diameter holes, 42% open. All colors.

## RFP Rear Flush Panel

1/16" steel flat panel fits between verticals on 1/8" angle mounting brackets. Available for all racks. All colors.

## Narrow Panel Mounting Angles

2 1/32 narrow face panel mounting angles. 10-32 or 12-24, UC or RETMA, 78° or 92°. Finish: Black textured.

## SLF Slope Frame

20" welded frame with tapped holes to mount on front of standard FR or MR frames. Panel space from 7" to 29 3/4" available.

## DOVA Fully Vented Doors

Rigid construction, 1/2" square holes, magnetic strip, all heights.



## 1/2 Door

11" wide doors, vented or solid, cup handle with two point catch. Sold in sets.

## TSC Tape Storage Compartment

15 3/4"H x 19"D. Open front tape storage compartment. All colors.

## RE Rack Extender

1/16" steel, welded construction. Extends the rear of existing racks. All heights, widths and depths. All colors.

## HTB19 Horizontal Tie Bar

19" x 3/16" x 3/4" aluminum bar with mounting holes increases wire tying capacity. Finish: Caustic etch.

## 4A Horizontal Lacing Bar

1/8" x 1/2" steel with mounting holes. All colors.



## A22 Horizontal Lacing Bar

1/8" x 1/2" steel with mounting holes. Mounts between front and rear panel mounting angles, set 17 7/16" apart.

## 2B Terminal Block Mounting Bar

19" x 3/16" x 3/4" aluminum bar with mounting holes and 19 tapped holes. Finish: Caustic etch.

# RACK EQUIPMENT

## Ordering Information

Example:	Rack Type FR	Height 80	Depth 24	Width 22	Angles 2L or 2L UC 10-32	Color AL
	Base Type	Frame Depth	Frame Width	Color Other Than Black MB		
Example:	BAC	24	22	MB		
	Top Type TOV	Frame Depth 24	Frame Width 22	Color MB		
Example:	DOV <td>24</td> <td>22</td> <td>MB</td> <td colspan="2"></td>	24	22	MB		
	Side Panel Type SPH	Frame Height 80	Frame Depth 24	Color MB		
Example:	DOV <td>80</td> <td>24</td> <td>MB</td> <td colspan="2"></td>	80	24	MB		
	Door Type DOV	Frame Height 80	Frame Width 22	Latching Hardware CH	Color SB	
Example:	DOV <td>80</td> <td>22</td> <td>CH</td> <td>SB</td> <td></td>	80	22	CH	SB	
	Blank Rack Panel Type BRP	Width 19	Height in Units 6	Material A	Material Thickness .187	Color AL
Example:	BRP	19	6	A	.187	AL

Heights	Panel Mounting Angles	Description
17	2 Long Pair	2L
18.75	1 Long Pair/	
20.50	1 Short Pair	LS
222.25	1 Long Pair	1L
24	Finishes	
25.75	Ordering Code	Description
27.5	Beige	
29.25	BW	RCA Bone White
31	Textured	
32.75	8045	Textured
34.5	24369	Smooth
36.25	5035	RCA Light Taupe
38	18275	T-Bone
39.75	24369	Textured
41.5	20372	Textured
43.25	30-6205	Textured
45	Blue-light	
46.75	S8	RCA Shadow Blue
48.5	Textured	
50.25	20589	Textured
52	23586	Textured
53.75	16162	Blue Hemmertone
55.5	25184	Textured
57.25	30728	Blue Argotex
59	Blue-dark	
60.75	MB	RCA Midnight Blue
62.5	Textured	
64.25	19459	Textured
66	15148	Textured
67.75	28044	Lapel Blue Textured
69.5	25053	Textured
71.25	2188	Textured
73	Brown	Norsico Blue
74.75	27056	Textured
76.5	20059	Textured
78.25	20219	Textured
80	24091	Textured
81.75	30-0226	Textured
83.5	Gray-light	
85.25	AL	RCA Aluminum Epoxy
87	AOC111	Ampex
88.75	LG	CBS
90.5	SG	ABC Silver
92.25	Hemmertone	
94	2158	Norsico
18	4701	Willow Gray Textured
22	150908	MIL Semi-Gloss
24	ASA70	Textured
25	ASA-61	Baked Enamel
26	LJ	RCA Light Umber Gray
30	26492	Textured
22	Gray-dark	
24	DG	CBS
25	21184	Conrac Textured
30	26081	Oxford Textured
27	26122	Textured
30	5371	Maritime Gray
33	DU	Textured
	12408	RCA Dark Umber Gray
	Miscellaneous	Textured
	8T	Black Textured
	8B	Black Semi-Gloss
	4003	White Gloss Enamel
	15131	Light Green Textured
	15133	Dark Green Textured
	26-5448	Empire Green
	X	Customer Designated
		Finish

5" x 3" metal color chips available upon request

# GMI PHOTOGRAPHIC, INC.

1776 New Highway, P.O. Drawer U  
Farmingdale, NY 11735  
(516) 752-0066 Telex: 22-1637 GMI-UR

# VIDEO LIGHT SYSTEMS/ POWER PACKS

## QT™ Video Light Systems

QT Video Lights offer you the latest design technology in compact portable lighting for use with today's more advanced video cameras and camcorders. Featuring a convection cooling system, both the basic QT Video Light and broader use variable intensity version, remain surprisingly cool to the touch even after prolonged use.

An added feature of the variable intensity control version is a thermal sensitivity switch. If the QT Video Light is positioned in such a way that excess heat cannot properly dissipate, the unit is designed to automatically turn off until it has sufficiently cooled.

Available for the QT Video Light System, as well as for use with any other video, computer or electrical device requiring 12VDC power, are three rechargeable power packs. Other accessories include protective glass filter, four-leaf barndoor and replacement quartz halogen lamps.

### Specifications

<b>Power Source:</b>	12VDC
<b>Lamp:</b>	12V/50W BRL halogen lamp or 12V/100W FCR halogen lamp
<b>Angle of Coverage:</b>	40° horizontal and vertical
<b>Tilt Control:</b>	Up to 90° for bounce lighting
<b>Color Temperature:</b>	3300°K with 12V/100W lamp
<b>Power Cord:</b>	5' cord (straight) with 12V adaptor plug
<b>Dimensions:</b>	3.7" x 2.4" excluding mounting bracket
<b>Weight:</b>	8 oz. standard 9.6 oz. variable intensity
<b>Front Filter Thread:</b>	58mm (accepts QT protective glass filter, special effects filters, barndoor)

## QT Video Lighting Systems

- L4840** Video Lighting System I  
Includes: Video Light with 5' power cord, 12V/50W halogen lamp, Mini-SE Power Pak with battery charger . . . . . **\$119.95**
- L4842** Video Lighting System II  
Includes: Video Light with 5' power cord, 12V/100W halogen lamp, Pro-SE Power Pak with battery charger, Protective Glass Filter . . . . . **\$149.95**
- L4845** Video Lighting System IV  
Includes: Video Light with 5' power cord, 12V/50W halogen lamp, Pro-NC Power Pak with battery charger, Protective Glass Filter, Four-Leaf Barndoor. . . . . **\$199.95**

## QT Video Lighting Components and Accessories

- L4800** QT Video Light with 5' power cord and 12V/50W lamp . . . . . **\$ 59.95**
- L4801** QT Video Light with 5' power cord and 12V/100W lamp . . . . . **59.95**
- L4805** Mini-SE Power Pak with carrying case and charger. 12V/3A. . . . . **79.95**
- L4811** 110VAC Charger only (replacement). . . . . **29.95**
- L4806** Pro-SE Power Pak with carrying case and charger. 12V/6.5A . . . . . **89.95**
- L4807** Pro-NC Power Pak with carrying case and charger. 13.2V/2.5A NiCad . . . . . **139.95**
- L4810** Protective Glass Filter. . . . . **19.95**
- L4815** Four-Leaf Barndoor. . . . . **19.95**
- L4850** 12V/50W quartz halogen lamp (replacement) . . . . **15.95**
- L4851** 12V/100W quartz halogen lamp (replacement) . . . **15.95**

## Mini-SE Power Pak

Equipped in its own canvas case with belt loops and removable shoulder/belt strap, the Mini-SE is capable of supplying 3AH of power ...sufficient to operate a QT Video Light with 50W quartz halogen lamp for 30 minutes continuously.

Featuring an in-line safety fuse, the Mini-SE requires approximately 16-18 hours charging to achieve its maximum capacity.



Its universal "cigarette lighter" type socket allows the Mini-SE to work with virtually any video, computer or electrical device requiring 12VDC of power.

The Mini-SE is capable of running a portable VCR/camera outfit for an average of 1.5-2 hours. A camcorder system can be powered for up to 3 hours on average.

## Pro-SE Power Pak

Supplied in its own heavy-duty canvas pack with shoulder/belt strap and belt loops, the Pro-SE is designed for longer continuous use. Weighing 5.25 lbs., the Pro-SE can power a QT Video Light with 50W halogen lamp for 60 minutes continuously.

When used to power a portable VCR/camera outfit, an average of 4-5 hours running time can be expected. With camcorders requiring approximately 3/4 amp power, as much as 7 hours operating time can be expected from a single charge.

Offering the same excellent shelf storage as the Mini-SE, the larger Pro-SE can accept up to 500 recharges and requires 18-20 hours to reach maximum charged capacity.

## Pro-NC Power Pak

When used with the QT Video Light and 50W halogen lamp, an average continuous operating time of 45 minutes is to be expected. Times of 2-2.5 hours can be expected when using the Pro-NC to power portable VCR/camera outfits (requiring 1.2A). Camcorder users can expect from 3-3.5 hours continuous running time.

The Pro-NC Power Pak requires a charging time of approximately 16-18 hours for maximum efficiency. Long-term storage is also excellent with only an average 5% loss in power over a three month period.

### Specifications

	Mini-SE	Pro-SE	Pro-NC
<b>Battery Type:</b>	Starved electrolyte	Starved electrolyte	NiCad
<b>DC Voltage:</b>	12V	12V	13.2V
<b>Amp Hours:</b>	3AH	6.5AH	2.5AH
<b>Fuse:</b>	20A	20A	20A
<b>Weight:</b>	2.5 lbs.	5.25 lbs.	2.2 lbs.
<b>Dimensions:</b>	5.5" Hx2.75" W x2.5" D	6.5" Hx4.5" W 3" D	7" Hx3" W 1.5" D
<b>Charge Time (Average):</b>	12-14 hours	16-18 hours	14-16 hours
<b>Operating Time Using:</b>			
<b>50W Quartz*</b>			
<b>Halogen Lamp:</b>	30 minutes	60 minutes	45 minutes
<b>100W Quartz*</b>			
<b>Halogen Lamp:</b>	N/A	30 minutes	25 minutes
<b>Price:</b>	<b>\$79.95</b>	<b>\$89.95</b>	<b>\$139.95</b>

\*(Continuous on time)



# GML AMERICA, INC.

8150 Leesburg Pike, Suite 910  
Vienna, VA 22180  
(703) 790-0101 Telex: 27-7682 GMLA UR

# DIGITAL VIDEO EQUIPMENT

## X-Calibre Digital Video System

• Dual channel, multiple input DVE that, in a complete package, combines two full time base correcting frame store synchronizers with comb line NTSC decoders, full digital signal processing and a sophisticated mixer • Includes a brilliant zoom and trajectory capability, with further zoom variations combining slide, flip, tumble and spin • Other effects include vertical inversion, variable axis compression, segmented reveals and conceals between channels, variable borders and full re-entrant capability • State-of-the-art technology • Designed for compatibility with future hardware developments • Consists of three sections: Digital Effects Controller, Mainframe Unit and Zoom Processor • Digital Effects Controller is designed for desk-mounting and can be used alongside an edit controller or as a complete effects vision-mixer • Digital Effects Controller and Mainframe Unit are connected by a single cable RS-422 interface and can be located up to 1000 meters from each other • Mainframe contains one Frame Store Synchronizer, the interface logic to the Zoom Processor and houses the Digital Control Electronics, the Central Microprocessor and the Sync Pulse Generator • Zoom Processor Unit houses the second frame store, digital adaptive spatial filter and microprocessor control system • 3-axis joystick • A/B transitions may be performed automatically at any pre-programmed rate from 1 to 99 frames. Alternatively, the effect may be controlled manually with the 'T'-bar quadrant fader, which offers the unique feature of user-programmable damping • Full Edit Memory enables any combination of button push effects and joystick T-bar picture movements to be stored



X-Calibre

## Proteus Digital Effects Controller

• Dual channel multiple input, digital effects unit incorporating full time base correction, plus two full frame stores • State-of-the-art software and hardware • Designed to work with standard NTSC video inputs or any heterodyne VTR—both studio machines and portables • Comprises two sections: the Digital Effects Controller and the Mainframe Unit • Digital Effects Controller is a 7-unit panel designed to be desk-mounted either alongside an edit controller or as a comprehensive stand-alone effects vision mixer. It is connected to the Mainframe via a single cable RS-422 interface, enabling the units to be separated by a distance of up to 3000' • Full Edit Memory stores any combination of button push effects and joystick/'T'-bar picture movements • Mainframe Unit contains two full Frame Store Synchronizers each with a universal Time Base Corrector front end, and houses the Digital Control Electronics together with the Central Microprocessor and is responsible for actioning all commands received from the Effects Controller • Mainframe Unit also houses the Sync Pulse Generator which conforms to RS-170A and SMPTE four field specification for subcarrier to H phase timing with a field one ident pulse

X-Calibre Mainframe, Zoom Unit, Effects Controller, inter-connection and power cables, instruction manual . . . . . \$32,500.00

Proteus Mainframe, Effects Controller, inter-connection and power cables, instruction manual . . . . . 20,000.00

### Options and Accessories

Component output in place of dual output . . . . . NC  
Downstream luminance/linear matting keyer (third channel overlay) . . . . . \$ 750.00  
3 1/2" floppy disc storage system for X-Calibre . . . . . 1,125.00  
Sony BVU® 18-pin connector to 5-pin connector Dynamic Tracking® interface cable . . . . . 75.00  
Beta Component input cable: 12-pin connector to 6-pin DIN connector. . . . . 95.00  
Beta Component output cable: three BNC connectors to one 12-pin connector. . . . . 150.00  
Service Manual, Proteus or X-Calibre . . . . . 150.00

## System-DVP Digital Video Processor

• TBC and frame store synchronizer system • Expandable, each stage having a progressively larger repertoire • Starts with a single channel TBC which is capable of a number of digital effects including solarize, posterize, fully variable borders, false colors and one channel picture moves. This can be upgraded to a dual channel system providing reveals, conceals, push-offs, fades and a range of wipe transitions, all to frame accuracy • Dual TBC system can later be extended to a dual frame store unit which increases the effects range even further to include vertical transition, mosaics, freeze and strobe • Same mainframe housing is common to all four units and upgrading is easily and speedily effected • Mainframe incorporates a GPI for edit controller interface and is packaged in a 3U rackmountable chassis • Removable filter panel at the front of the system gives access to the processing amps controls • Operated from a compact control panel with illuminated switches and LED display connected to the main signal processing unit via a 6'6" cable

### System-DVP

#### Basic Configurations

Single Channel TBC*	\$4,575.00
Single Channel TBC/Framestore*	5,575.00
Dual Channel TBCs*	6,575.00
Dual Channel TBC/Framestores*	8,575.00
Effects Controller . . . . .	3,000.00

#### Upgrades

TBC to 2 Channel TBC**	\$2,300.00
TBC/Framestore to 2 Channel TBC/Framestores**	3,450.00
TBC to TBC/Framestore—with the return of an undamaged TBC board . . . . .	1,300.00
Refurbishing fee for damaged TBC board (when upgrading to TBC/Framestore) . . . . .	450.00

\*Includes mainframe and analog I/O board

\*\*Includes analog I/O board

Prices and Specifications Subject to Change Without Notice.

V-495

# G & M POWER PRODUCTS, INC.

943 N. Orange Dr.  
Los Angeles, CA 90038  
(213) 850-6800

## BATTERIES/CHARGERS

All G & M battery packs and belts are made of premium materials, high capacity Sanyo NiCad cells.



### GM140B/GM120B

14.4V      4AH      On-Board Battery Pack  
12V        4AH      On-Board Battery Pack

All G & M On-Board packs come with Anton-Bauer mounting plates, a solid all-metal case that is stronger, lighter and will not crack. On-Board pack charger is optional.



### GM12BP

12V              4AH BP-90      Replacement Battery

Comes in a hard case with a Sony connector and a pull strap. Case can be opened for service. Runs the Sony BVU-110 for about 4 hours. A BP Holder is available in order to power any 12V camera as an on-board. Holder comes with a built-in overnight charger.



### GM30B

30V              4AH              Sun-Gun Battery Belt

Runs a 250W light for 30 min. Comes with a built-in charger. Weighs 11 lbs. Available in slow and fast charge. Easy open Velcro closing and heavy-duty leather belt. Automatic cut-off charger is optional.

### GM12B/GM14B/GM1B

12V              4AH              Camera Battery Belt  
14V              4AH              Camera Battery Belt  
B.4-12-16.8V 4AH              Universal Battery Belt

All belts are made with high capacity Sanyo cells, heavy-duty leather belt and Velcro closing for one hand operation. All belts come with built-in overnight charger. Automatic cut-off charger is optional. Available in slow or fast charge.



### GM12X2-7P

Dual 12V      7AH              Battery Pack

Two separate 12V battery packs in one case that deliver 14AH combined. Will run any 12V camera. Ideal for Ar-riflex III high speed camera where two 12V power sources are needed. Comes with built-in overnight automatic cut-off chargers. Also available in dual 14V, 7AH.



### GM1C

One Hour Fast Charger

This sophisticated all solid-state fast charger employs both time and temperature sensing cut-off circuits for better battery protection. When battery is 90% charged, this charger switches itself to 'trickle charge mode' that keeps battery fully charged indefinitely. Available for any 4AH or 7AH packs and belts.

GM1C-OB      Same as GM1C except on board



### GM04CC-2

Dual Overnight Charger for BP-90 packs

A constant current charger that charges two BP-90's simultaneously. Lightweight, small size, connectors are recessed for protection. Also available in 4 bank model GM04CC-4.

# GRASS VALLEY GROUP

P.O. Box 1114  
 Grass Valley, CA 95945  
 (916) 478-3000 FAX: (916) 272-4855

# PRODUCTION SWITCHERS

## Model 100 Production Switcher

### Unique Three Bus Multi-Level Mix/Effects System

- Eight looping video inputs, plus black and color background
- DSK Preview, overrides look-ahead preview system
- Cut or mix key transitions with independent frame rate auto transition

### Master Fade-to-Black and Pulse Processor

- Independent frame rate auto transition for Fade-to-Black
- Preview system that shows program output when Fade-to-Black is engaged
- Pulse Processor re-inserts blanking from black burst on program output for stable output and recordings
- Standard contact closure editor interface (GPI) to each of the three auto transitions or a fourth "select" line which allows selection of any one
- Program and Preset buses for background transitions
- Video key bus for luminance keying, chroma keying, and pattern inserts, over the background transition
- Look-Ahead Preview System that shows the next effect; Wipe transition preview
- Auto transition, adjustable 0-999 frame, lever arm transition or cut button
- Ten wipe patterns, with modifiers: Hard or soft edges, Hard or soft bordered edges, Pattern reverse, Pattern aspect, Rate controlled positioner, Preset pattern size
- Independent Matte Generator for key fill and pattern borders

### Video Keyer

- Video or Matte fill
- External key input
- Optional RGB chroma keyer
- Key invert
- Key mask using pattern generator
- Preset Pattern insert filled from key bus

### Standard Downstream Keyer

- Key input from the video key bus or an external key input
- Key fill from an external video source or the independent DSK matte generator
- BORDERLINE® Generator option for black or white title borders, drop shadows, or matte filled outline
- Key invert
- Key mask using pattern generator
- Optional serial interface (RS 232/422) for external computer control
- Optional pulse regenerator for system timing

### Mechanical Specifications

- Control panel can sit on desktop (17"W x 14"D), or with rackmount adaptor, can be placed in modular rack enclosures (requires eight rack units)
  - Electronics frame requires three rack units and 20" depth
  - Single 15 conductor control cable
  - Full tally system
  - Selectable power ranges from 100 to 240V, 50 or 60Hz
- 100N NTSC Production Switcher . . . . . \$10,495.00

### Options

- 100-33 RGB Chroma Keyer . . . . . \$ 850.00
- 100-40 NTSC Digital BORDERLINE Generator . . . . . 1,500.00
- 100-41 NTSC Pulse Regenerator . . . . . 1,000.00
- 100-50 Serial Interface Adaptor . . . . . 1,500.00

## 100CV Component Video Production Switcher

The 100CV is a compact, flexible, economical component switching system with the traditional family characteristics of its older brother; quality, performance, economy and a comfortable drive. Designed for professional component video production, the 100CV has all the qualities expected by the most sophisticated user.



The 100CV features non-looping video inputs, 8 in all, and 3 sets of BNC connectors for every input. Utilizing the same control panel as the 100 Production Switchers, the 100CV Component Video Production Switcher has updated electronics that incorporates as standard equipment many of the features offered as options on the 100.

The electronics frame of the 100CV requires 6 rack units and 20" depth.

- 100CV-525B 100CV Basic System for 525 Line System — Beta Format . . . . . \$18,950.00
- 100CV-525M 100CV Basic System for 525 Line System — "M" Format . . . . . 18,950.00
- 100CV-3-525B 525/Beta Format — Frame and Maintenance Manual Only . . . . . 15,950.00
- 100CV-3-525M 525/"M" Format - Frame and Maintenance Only . . . . . 15,950.00

### Options

- 100CV-40 525 System - Digital BORDERLINE Generator . . . . . \$1,500.00
- 100-51 Key MEM Effects Memory System . . . . . 3,195.00
- AMX-100M Audio Mixer System (Mono) . . . . . 5,495.00
- AMX-100S Audio Mixer System (Stereo) . . . . . 6,695.00
- 50CV Component Video Dissolver . . . . . 5,000.00
- CV-21 Y, R-Y, B-Y to RGB Translator (for use in CV-20T Tray) . . . . . 995.00
- CV-22 RGB to Y, R-Y, B-Y Translator (for use in CV-20T Tray) . . . . . 995.00
- CV-23 Color Bar Generator (for use in CV-20T Tray) . . . . . 1,195.00
- CV-24N NTSC Decoder (for use in CV-20T Tray) . . . . . 1,500.00
- CV-25N NTSC Encoder (for use in CV-20T Tray) . . . . . 1,500.00
- CV-20T CV-20 Series 2 RU Tray with Power Supply . . . . . 895.00
- CV-20PS Backup Power Supply for CV-20T . . . . . 245.00
- CV-20EXT Module Extender . . . . . 110.00



# GRASS VALLEY GROUP

P.O. Box 1114  
 Grass Valley, CA 95945  
 (916) 478-3000 FAX: (916) 272-4855

# PRODUCTION SWITCHER

## Model 200 Production Switcher

- Linear keying
- Optional Linear Borderline® Key Edger provides a variety of modes including multiple-line drop shadow, border, outline, and transparent shadows
- Pre-set wipe
- Optional multi-format chroma keyer for up to eight sources. You can use an RGB signal from a camera or color difference signal from a Beta or MII component tape source
- Luminance key
- "Over" Function Switch-layer keyer priority in each mix effect
- Auto select mode
- Accumulative latch for fill and key signals
- Six assignable external key source inputs/mix effect
- Four external key fills/mix effect
- Standard Key Masking. You can create realistic key effects with the dedicated shutter (box) mask, external key mask or either ME wipe output in any keyer—including the downstream keyer. To optimize key appearance, the mask system also features invert and forced foreground modes
- Key Memory. Key selection recalls clip, hue and gain
- Horizontal and Vertical Multipliers. Multiply a basic pattern from one to four times on the horizontal or vertical axis
- Border, soft and border symmetry modes
- Rate controlled positioner
- Normal, reverse, and flip-flop wipe direction modes
- Four Learn User Wipe Registers. Saves wipe pattern and all modifiers, so you can recreate the setup at the push of a button

## Matrix Wipe Patterns

- 32 Programmed Wipe Patterns. Six patterns are available through dedicated buttons, and 26 through user personality assignment
- 64 x 48 Pattern. You can fill the screen with over 3,000 tiles
- Pattern Mix Mode. Modulates any analog wipe pattern with the selected matrix pattern for an endless variety of effects

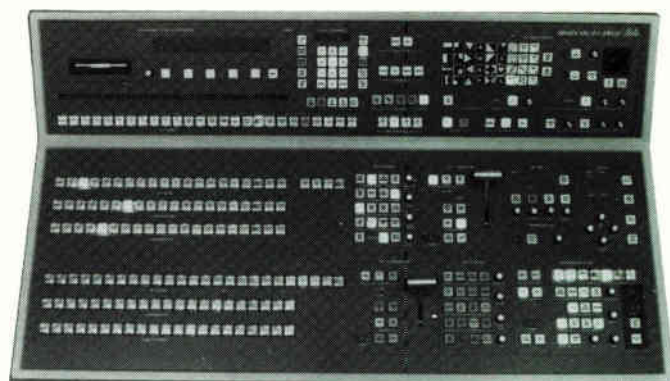
With 20 primary inputs and two mix effects, the 200 gives you more keying power than has ever been offered in a mid-sized production switcher.

For starters, the 200 gives you the creative freedom of five powerful keyers, two in each ME and one downstream. You can use either ME as a background for the downstream keyer, which also includes a fade-to-black and an output blanking processor.

The 200 gives you one matte generator for each keyer, one for each wipe system, and two background generators—for a total of nine—in addition to the color-black generator.

And for even more creative versatility, the background generators provide background wash.

The 200 standard effects memory system gives you the freedom to program effects with standard registers and quickly recall them on any switcher level.



Model 200

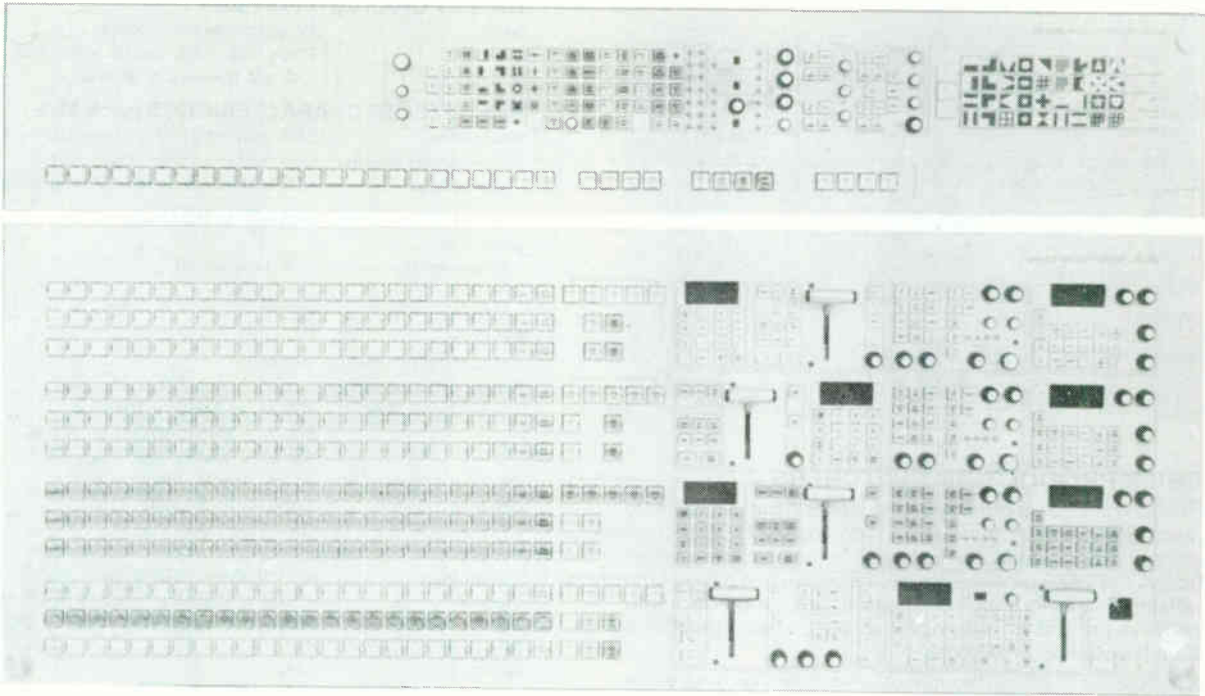
When you need to move fast, you'll appreciate the 200's easy-to-use features, including look-ahead preview, preset black mix and auto delegation. Plus display windows for mounting Horizon multi-destination routing displays.

## Model 200 Production Switching

System—NTSC . . . . . \$42,995.00

## Options

200-401	System control cable connector kit . . . . .	\$ 200.00
200-402	Bulk system control cable/per meter . . . . .	4.00
200-410	System control cable—10m . . . . .	200.00
200-425	System control cable—25m . . . . .	300.00
200-450	System control cable—50m . . . . .	400.00
200-499	System control cable—100m . . . . .	600.00
200-501	Linear Borderline key edge generator . . . . .	2,495.00
200-502	Linear Borderline key edge generator package (5) . . . . .	9,995.00
200-505	Quad component chroma key . . . . .	2,995.00
200-510	Enhanced analog wipe generator . . . . .	4,995.00
200-515	Matrix wipe generator . . . . .	3,995.00
200-520	Dual serial adaptor (DSA) . . . . .	1,995.00
200-530	Safe title generator . . . . .	495.00
200-540	Streamline effects controller and disk storage system . . . . .	4,995.00
200-550	Auxiliary bus output module . . . . .	2,595.00
200-551	Local auxiliary bus control panel . . . . .	1,295.00
200-552	Satellite auxiliary bus control panel . . . . .	995.00
200-553	Satellite tally module . . . . .	395.00
200-554	Satellite auxiliary bus panel kit . . . . .	595.00
200-601	Satellite auxiliary bus control cable connector kit . . . . .	200.00
200-602	Bulk Satellite auxiliary bus control cable/per meter . . . . .	3.50
200-610	Satellite auxiliary bus control cable 10m . . . . .	200.00
200-625	Satellite auxiliary bus control cable 25m . . . . .	300.00
200-650	Satellite auxiliary bus control cable 50m . . . . .	400.00
200-699	Satellite auxiliary bus control cable 100m . . . . .	600.00
200-700	Redundant power supply option (panel and frame) . . . . .	3,995.00
200-710	Second diagnostic pod . . . . .	395.00
200-720	Recommended spare component kit . . . . .	2,595.00
200-750	Spare operators handbook . . . . .	50.00
200-754	Spare maintenance manual set . . . . .	295.00
200-758	Spare diagnostic pod manual . . . . .	25.00



300-3AN

### 300 Series Production Switching System

- Unlimited re-entry of effects
- E-MEM® effects memory system on each Mix/Effects (M/E) with Effects Dissolve and sequencing
- Four input buses per M/E
- Independent title mix/cut per M/E
- Lever and title auto transitions
- Multi-source title keys
- Automatic key follow
- Chroma key memory per input
- Quad split from each M/E
- Personality Programming
- Omni-Key™ system—Linear Key Mode/Key Memory/Key Invert/External Key\*

The 300 Series Production Switching System has been developed to meet the demanding requirements of both live broadcast production, and complex program and commercial production in the studio or edit suite. It is the first production system designed specifically to integrate Digital Video Effects and E-MEM effects memory control. Careful attention to the human engineering of panel controls and computer assisted operation provide unmatched production power and ease of operation.

The fully integrated E-MEM system, standard in each mix/effects system, can learn up to 20 different M/E configurations (all switches and controls). Each E-MEM effects system is independent allowing for selective recalls during live programming. E-MEM's unique "Effects Dissolve" capability allows any combination of analog controls to be treated as a transitional device for unique transitions and effects previously impossible under manual control. Sequencing allows a series of changes in control set up and effects dissolves to be linked together for animated effects and complex productions. The E-MEM effects systems can be linked with control of the other switcher functions (Flip-Flop mix, DSK, Background, Quad Split) and the KALEIDOSCOPE digital effects system by the Master E-MEM effects memory option. This distributed E-MEM system allows frame accurate control of individual elements of very complex effects frequently used in post-production.

\* Available as standard on all 300 series switcher systems beginning May, 1985. Omni-Kit available to upgrade 300 series systems to include Omni-Key™ enhancements.

Four input buses per M/E handle most common effects sequences without re-entry. Transitions from one background to another, the addition of a video key (chroma key, DVE key, self key or matte key), a title key or any combination of the above, can be accomplished with one lever movement on a single M/E. Title hierarchy is selectable over or under the video key for full flexibility. Four input buses also permit a quad split output from each M/E. Thus dissolves or wipes are now possible between quad split from different M/Es.

An automatic preview function displays the exact results of the next lever movement (including all re-entries) in the Preview monitor.

Lever and title auto transitions with independent rate programming, are provided on each M/E. Titles can be added or deleted in combination with background or video key transitions or independently from title mix (auto transition) or title cut buttons.

The preset black function permits a transition to black (mix or wipe) between the on air effect and the previewed effect. The first lever movement is a transition to black (the crosspoint is automatically selected), and the second lever movement is a transition to the previewed effect.

High performance chroma keyers ignore luminance highlights in non-key areas, due to an exclusive Luminance Annihilator circuit. Encoded chroma key with shadow can be added to each M/E. For each primary input the appropriate chroma keyer (RGB or Encoded) and last key set up is memorized for automatic recall if selected.

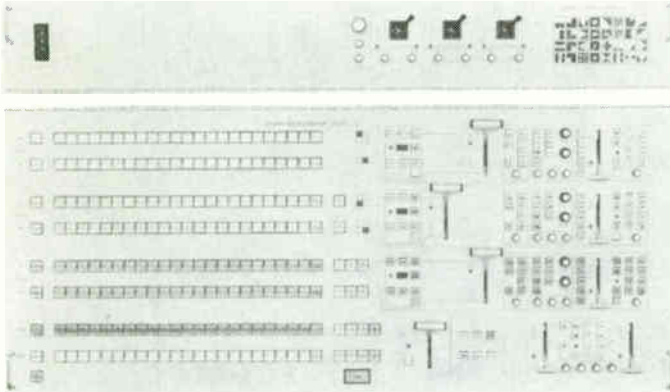
A program/preset mixer with downstream keyer feeds the Program output of the switcher. It operates just like an M/E, with the exception of wipes, non-additive mixes, and video keys. Downstream keyer functions are accomplished in the same manner as title keys in an M/E with the same sources available.

300-2AN 24 input 2 M/E switcher, NTSC	.....	\$113,540.00
300-2BN 16 input 2 M/E switcher, NTSC	.....	109,840.00
300-3AN 24 input 3 M/E switcher, NTSC	.....	161,235.00
300-3BN 16 input 3 M/E switcher, NTSC	.....	153,215.00

# GRASS VALLEY GROUP

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 (916) 478-3000 FAX: (916) 272-4855

# PRODUCTION SWITCHERS



## 1680 SERIES PRODUCTION SWITCHERS

With the 1680 there is another level of possibilities available to operators worldwide. With the same familiar drive of the 1600, there is more power, more control than ever before. Whether live broadcast or post production, the 1680 provides double the production power from each mix/effects system. Plus the 1680 has the ability to interface with peripheral devices integral to modern production. So your potential to create brilliant special effects explodes.

The evolution from the 1600 has brought other standard features to the 1680—expanding your ability to create visual messages. Non-Additive Mix greatly improves how supers look on the screen. Soft Bordered Wipes allow control of border width and degree of softness. And the Downstream Keyer is standard in every 1680. The Standard Title Keyers, Non-Additive Mix, Soft Bordered Wipes, and Downstream Keyer all add up to the production power needed to meet today's heavy demands.

### E-MEM® System

Although standard on the 1680-10X, the E-MEM System is an option on all other 1680 switcher models. The system provides effects memory for all switcher functions, plus the sequences created with the Post Production System. The system allows individual elements of complex effects to be adjusted and previewed separately, giving you precise control and effect repeatability.

### Serial Interface Adaptor

The serial interface adaptor expands the switcher/editor interface beyond the edit decision list to total switcher control. It is the central hub that allows the switcher to connect all peripheral devices, such as the E-DISK™ Effects Storage System, post production audio, your computer editing system, and many other external production tools.

### Post Production Audio

This integrates the control of audio sources with your system by placing your audio sources under computer editor control.

### E-DISK Effects Storage System

With the E-Disk floppy disk system, favorite effects can be stored permanently for future use. This allows effects to be created off-line then used in live programs with perfect repetition. The E-Disk System is particularly useful in fast-paced formatted programs, where visually exciting effects are consistently repeated.

### Peripheral Interface

The Peripheral Interface expands production capabilities by allowing your computer editor to control other intelligent devices, such as Digital Video Effects or character generators.

### Preliminary Specifications

#### INPUT CHARACTERISTICS

Video Input Level: 1V p-p composite or .714V noncomposite.  
 Pulse Input Level: 4V p-p ±6dB.  
 Subcarrier: 2V p-p ±6dB.  
 Input Hum Attenuation: ≥26dB (reference; 1V p-p hum).  
 Maximum Input  
 Hum Level: 1.5V p-p.

#### OUTPUT CHARACTERISTICS

Level: 1V p-p composite (nominal).  
 Available: Three; 75Ω ±1%, source terminated.  
 DC on Output: ±50 mV blanking to ground.

#### MIX/EFFECTS CHARACTERISTICS (each M/E)

Mix Tracking: ≤1% gain error. ≤10mV p-p DC error.  
 Chrominance Linearity  
 During Mix: ≤1.5% amplitude error. ≤2° p-p phase error.

#### VIDEO SYSTEM CHARACTERISTICS

Short Time  
 Waveform Distortion: ≤1% unweighted.  
 Line Time  
 Waveform Distortion: ≤0.5%.  
 Field Time  
 Waveform Distortion: ≤0.5%.  
 Frequency Response  
 (reference; 1MHz): 300kHz to 5MHz: ±0.2dB.  
 5MHz to 8MHz: +0.2dB to -0.7dB.  
 8MHz to 20MHz: 0dB maximum.  
 Differential Phase: ≤1.5° (10-90% APL).  
 Differential Gain: ≤1.5% (10-90% APL).  
 K Factor: 0.5% (2 T Pulse).  
 Chrominance/Luminance  
 Inequalities: ≤ 10ns delay. ≤0.2dB gain.  
 Crosstalk: ≥52dB at 3.58MHz; 50dB at 4.43MHz.  
 Signal-to-Noise Ratio: ≥65dB p-p signal/RMS noise to 5MHz.  
 Path Length Deviation: ≤1.5°.  
 Gain Stability: ≤1%.  
 Gain Uniformity: ≥0.1dB.  
 DC Stability: ≤30mV.

#### POWER

Input Power: 95-125 or 190-125 VAC, 48-62Hz.  
 Power Consumption: 450VA approx. (1680-24K/16K).  
 275VA approx. (1680-10X).  
 225VA approx. (1680-16F/24F).  
 200VA approx. (1680-10V).

<b>1680-10VN</b>	1680-10VN Production Switching System for NTSC.....	<b>\$23,450.00</b>
<b>1680-10XN</b>	1680-10XN Production Switching System for NTSC.....	<b>37,620.00</b>
<b>1680-16FN</b>	1680-16FN Production Switching System for NTSC.....	<b>51,640.00</b>
<b>1680-16KN</b>	1680-16KN Production Switching System for NTSC.....	<b>74,215.00</b>
<b>1680-24FN</b>	1680-24FN Production Switching System for NTSC.....	<b>56,960.00</b>
<b>1680-24KN</b>	1680-24KN Production Switching System for NTSC.....	<b>79,800.00</b>

#### Options

RGB Chroma Keyers with Shadow Key for 10V/10X .....	<b>\$ 1,480.00</b>
for 16F/24F-16K/24K .....	<b>1,560.00</b>
Chroma Key Switcher* .....	<b>720.00</b>
E-MEM III Effects Memory System**	
for 10V .....	<b>15,635.00</b>
for 16F/24F .....	<b>25,745.00</b>
for 16K/24K .....	<b>29,905.00</b>
E-MEM III System Serial Interface** .....	<b>1,250.00</b>
E-DISK Floppy Disk Storage .....	<b>6,250.00</b>
Digital Borderline® Generators .....	<b>1,990.00</b>
Analog Borderline® Generators .....	<b>4,160.00</b>
Encoded Chroma Key Systems	
for 10V/10X .....	<b>2,305.00</b>
for 16F/24F-16K/24K .....	<b>2,356.00</b>
Parallel Edit Interface with 8 x 2 Audio Mixer	
Video Only .....	<b>4,640.00</b>
Video and Audio .....	<b>6,640.00</b>
Quad Split Generator for F/K Models Only .....	<b>1,710.00</b>
Auxiliary Switching Bus with Separate Control Panel	
for 16F .....	<b>2,135.00</b>
for 24F .....	<b>2,655.00</b>
Dual Power Supplies	
for 10V/10X .....	<b>2,280.00</b>

\*Standard on F/K Models  
 \*\*Standard on 10X Models



# GRASS VALLEY GROUP

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# EDITING/ PRODUCTION SYSTEMS

## VPE-141 Editing System

- Computer electronics including drive controllers, memory, processor, I/O ports, and XGPI on a single PC board layout
- DEC LSI 11/73 high speed processor
- 512K bytes of RAM memory
- Ability to boot the operating program from battery backed up CMOS memory
- Edit decision list information is automatically saved in the event of power failure
- Control of GVG switchers, audio mixers, and the ability to store E-MEM (effects memory) information on the edit decision list disk is also standard with the 141
- Control of up to 7 SMPTE RS-422 VTRs is included in the price of the system. VTR transport control is enabled through a touch sensitive "Jog-Pad™" which allows the user to invoke VTR transport functions by sliding a finger along the surface area of the pad
- The user may select from two types of menu displays, TTL color or RS-170 monochrome

<b>Base Models</b>	
VPE-141	NTSC . . . . . \$25,000.00
VPE-141P	PAL . . . . . 25,000.00
<b>Keyboard Options (Choose 1)</b>	
141-JOGPAD	Keyboard with "Jog-Pad" motion controller (std.) . . . . . NC
141-JOGKNOB	Keyboard with rotary style knob (option) . . . . . \$300.00
<b>Options to Super Edit</b>	
EDL-XT	Includes 409, Trace, XEDL . . . . . \$5,000.00
EDL-XTP	(PAL) Includes 409, Trace, XEDL . . . . . 5,000.00
<b>Hardware Options</b>	
141-8DISK	8" Drive Kit . . . . . \$500.00
3-DISK	3.5" Outboard Drive Kit, GVG/Q-Bus Chassis . . . . . TBA
PTR-80	80 Column Line Printer (120V only) . . . . . 400.00
OM-12	12" TTL Color Monitor (120V only) . . . . . 850.00
OM-9	9" TTL Color Monitor (120V only) . . . . . 850.00



VPE-141

### GVG Video Switcher Protocols: - order 1

SS300-VPE	300 Serial Control . . . . .	NC
SS200-VPE	200 Serial Control . . . . .	NC
SS100-VPE	100 Serial Control . . . . .	NC
SS100CV-VPE	100CV Serial Control . . . . .	NC
S1680-VPE	1680-10X Serial Control . . . . .	NC
S10XL-VPE	Ten-XL Serial Control . . . . .	NC

### Audio Mixer Protocols: - maximum of 1

SSAMX100-VPE	AMX-100 Serial Control . . . . .	NC
SSA300-VPE	Model 300 Audio Control . . . . .	NC
SSA1680-VPE	Model 1680 Audio Control . . . . .	NC
SSA-GP600	Graham Pattern 608/612/616 . . . . .	\$950.00

### Special Protocol Options

SW-009	Kaleidoscope DPM-1 Editor Interface (max. 1) . . . . .	\$950.00
SW-006	Dubner Texta/CBG . . . . .	950.00
SW-006A	Dubner 5K, 10K, 20K Character Generators . . . . .	950.00



IPS-100

## IPS-100 Integrated Production System

- Full capability post production system
- Single chassis design
- Will control most RS-422 machines including 3/4", Beta and M-II 1/2" formats, and type "C"

The unit includes a 100 video switcher, Editor and edit keyboard with Jog-Pad, a sophisticated audio mixer called the AMX-170, a powerful edit controller with full list management capabilities, sync and pulse distribution with test signals, and an optional character generator. Also optional are shock mounted transport cases.

The compact unit can handle the post production needs of a small facility or efficiently add an economical suite to a larger production facility. Because of its single chassis construction it is also ideal for mobile applications.

IPS-100		\$54,500.00
IPS-100B	As above—excludes AMX-170 and 100 Control Panel. System is capable of video and audio cuts, transitions, and limited video wipes . . . . .	\$45,500.00
IPS-100VC	IPS-100 Video Control Panel . . . . .	3,000.00
IPS-170AC	Audio Control Panel . . . . .	7,000.00
EDL-XT	Package consisting of 409, Trace, Modem, XEDL . . . . .	5,000.00
PTR-80	Printer, serial I/F, buffer tractor feed (not available for 220V) . . . . .	400.00
IPS-CC1	Chassis carrying case . . . . .	1,900.00
IPS-AC1	Accessory carrying case . . . . .	1,900.00
IPS-JOGPAD	Jog-Pad keyboard for IPS-100 . . . . .	NC
<b>Choose 1</b>		
IPS-JOGKNOB	Optional edit keyboard with jobknob . . . . .	300.00
IPS-ODC	IPS-100 manual set . . . . .	200.00
IPS-EXT8	Extender board for IPS-100 . . . . .	250.00
IPS-CG	Character Generator Kit Includes CG card, 3.5" disk drive, interconnect cables and installation guide . . . . .	8,500.00
IPS-QC8	Quick connect cable set 8 meter Includes fan out panel for 4 VTRs, 4 interconnect cables, 4 "pig-tails" for the VTRs (video, reference, and audio interconnects included) . . . . .	1,150.00
OM-12	TTL type color display monitor 12" (120V only) . . . . .	850.00
OM-9	TTL type color display monitor 9" (120V only) . . . . .	850.00
100-33	RGB Chroma keyer for 100 . . . . .	850.00
100-34	Chroma key by-pass . . . . .	54.00
100-40	Digital border line . . . . .	1,500.00

# GRASS VALLEY GROUP

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# VIDEO TAPE EDITING SYSTEMS

## Systems 31/41M/51EM Video Tape Editing Systems

### Modular

Each editing system, while uniquely designed for specific applications, permits "personal tailoring" to satisfy individual editing needs.

### Expandable

As your demands increase for additional editing features and equipment, GVG editing systems expand to accommodate your growth by adding hardware of software modules.

### Flexible

GVG Editing systems have the industry's most flexible interfacing capabilities. Examples include RS-422 and RS-232 VTR Control as well as the ability to control a wide variety of switchers and other equipment.

### Help File

Sometimes an editor needs a quick solution to a complex editing request. Help File with sub-categories insures easy access to definitive help—help you will remember and repeatedly use.

## System 31

- DEC 11/23 CPU • 64K bytes of memory • Dual 0.5M byte floppy disk drives • Distributed processing control • 8 control ports for VTRs and switchers • 4 accessory ports • Sync interface • 132 column printer • DEC RT/11 operating system • Exclusive super edit • Assignable VTRs, video, audio • Video, dual audio editing • Edit list display, input-output • Multiple edit list disk files • Auto-track dissolve setup, anywhere in edit list • Match any edit, both sides of dissolves • Unique-timed action modes — XGPI, expanded switcher control, log in edit list • Full preview, edit functions • Sequential, checkerboard, and cue-ahead auto-assembly • Real-time edit mode • Replay any edits, with auto-scroll • Six-character alphanumeric reel ID • Multiple-record, synchronous replay • Help file • Event numbers to 999 • Notes in the edit list, with individual add, delete • User-bit time reference • Powerful edit list management, with/without ripple insert, delete groups, recall, replace, move groups, shift groups

The System 31 is an editing system of unusual functional dimension. With eight I/O ports, and exceptional features such as Super-Slave and Cue Ahead, the System 31 provides exceptional performance at an outstanding performance/cost ratio.

## System 41M

- Faster DEC 11/23 CPU • 64K bytes of memory • Dual 0.5M byte floppy disk drives • Distributed processing control • 8 control ports for VTRs and switchers • 4 accessory ports • Color-lock sync interface • 132 column printer • Jogger motion control • DEC RT/11 operating system • Exclusive super edit • Assignable VTRs, video, audio • Video, dual audio editing • Edit list display, input-output • 10 macro functions, with nesting • Multiple edit list disk files • Powerful edit list management, with/without ripple insert, delete groups, recall, replace, move groups, shift groups • Single-Keystroke dissolve • Auto-track dissolve setup, anywhere in edit list • Three freeze modes • Help file • Match any edit, both sides of dissolves • Auto-clean removes overlaps • Full preview, edit functions • Match to freeze, variable-speed • Replay any edits, with auto-scroll • Six-character alphanumeric reel ID • VTR speedometer • Event numbers to 999 • Notes in the edit list, with individual add, delete • Unique timed-action modes — XGPI, expanded switcher control, log in edit list • Fill mode computes VTR speed • User-bit time reference • Real-time edit mode • Multiple-record, synchronous replay • Super-slave — Slave 1 to 6 VTRs, easy slave setup, positive offset lock, easy offset change, slaves in edit list • Precise programmed motion control • Sequential, checkerboard, and cue-ahead auto-assembly

The System 41M has a faster CPU than System 31. It also has features which make variable-speed VTR control and editing precise and easy. System 41M software and hardware features permit full exploration of the professional's creativity.



System 51EM

## System 51EM

### Standard Equipment

- V3.0 Super Edit™ Software • 32 contact XGPI • 409™ list clean-up software • Trace™ software for film style rough cuts mode • Comprehensive diagnostics package

### System Capabilities

- "Effects-Jog" ability to move KALEIDOSCOPE™ Effects through key-frame sequences by utilizing the "Jogger" motion controller • Preview preselect, using the TEN-XL®, true record re-assign (audio and video paths follow the control path) and preview is possible • Start up menu is easy to use, yet provides rapid access to editing programs, EDLs, diagnostic programs, and utility files • Enhanced diagnostics package provides for ease in installation and self-check trouble shooting • Effects Memories are written to EDL Disk and restored to 300 and 100 Switchers • Film mode capability in 24 and 30 film frames/SEC and NTSC and PAL tape frames • Over 200 software improvements including: auto-match, assemble edit, "slaves" stored and recalled • 4 level highlighted display format, improves clarity and operational ease • High speed list display and scroll capability

### Interfaces

- KALEIDOSCOPE DPM-1 Digital Effects • AMX-100 • Dubner "Page" control for Texta and CBG • Abekas A-62 • Panasonic AU-600 MII format • Time line "Lynx" Synchronizers • Graham Patten 616 Audio Console • Harrison Pro-7 Audio Console • Improved Lexicon Dynamic Pitch Audio Pitch control

### Manuals and Installation Guides

- Super Edit Manual • Installation Guide • Video tape on installation and operations

The System 51EM gives you extraordinary control over the most complex editing tasks. Its performance, ease of operation, and unequalled complement of software functions allow full expression of your creativity. A DEC 11/23 CPU and large memory capacity make your work fast and flexible. System 51EM interfaces with virtually all of the industry's leading equipment, and its 16 ports permit unrestricted control.

### Pricing

<b>51EM-8</b>	System 51EM - one 8" Disk Drive/ 10M Byte Fixed Drive . . . . .	<b>\$46,900.00</b>
<b>41M-8</b>	System 41M - two 8" Disk Drive . . . . .	<b>35,900.00</b>
<b>31-8</b>	System 31 - two 8" Disk Drive . . . . .	<b>29,900.00</b>
<b>3141</b>	Conversion Kit for System 31 to 41M . . . . .	<b>7,000.00</b>
<b>3151</b>	Conversion Kit for System 31 to 51EM . . . . .	<b>19,000.00</b>
<b>4151</b>	Conversion Kit for System 41 to 51EM . . . . .	<b>13,000.00</b>

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# SYNCHRONIZATION GENERATORS

## 9500 SERIES

### NTSC REFERENCE SYNCHRONIZING GENERATORS

The 9500 Series Synchronizing Generators represent moderately priced sync generator systems. The SPG Gate Array IC, designed exclusively for the 9500 Series, has made accuracy, stability and reliability available in an affordable system.

With over 2,100 logic gates in a 44-pin package, the SPG Gate Array contains all critical circuitry for exact SC/H phase, regardless of external conditions.

Hybrid integrated circuits allow improved performance, manufacturability and reliability. Servicing can be kept to a minimum, since troubleshooting is done at the functional block level.

### 9505 Source Synchronizing Generator

The 9505 is a single module system available for either encoded subcarrier or color black reference. SC/H Phase is always correct. No adjustment is necessary.

Input Power: 100-125VAC or 200-250VAC, 50/60Hz

Power Consumption: 15W maximum

<b>9505-ES</b>	NTSC Source Synchronizing Generator . . .	<b>\$1,800.00</b>
	Encoded Subcarrier Reference	
<b>9505-ESX</b>	9505-ES with TCXO . . . . .	<b>2,000.00</b>
<b>9505-CB</b>	NTSC Source Synchronizing Generator . . .	<b>2,000.00</b>
	Color Black Reference	
<b>9505-CBX</b>	9505-CB with TCXO . . . . .	<b>2,200.00</b>
<b>9505-TCXO</b>	Temperature Compensated Crystal Oscillator (TCXO) . . . . .	<b>350.00</b>
<b>9505-TSG</b>	Test Signal Generator Module . . . . .	<b>800.00</b>
<b>9505-SID</b>	Source Identification Submodule for TSG . . .	<b>300.00</b>

### 9510 Reference Synchronizing Generator

The 9510 is designed for use when space requirements allow only a single rack unit, or a deluxe source sync generator is required, providing genlock to video or encoded subcarrier. Two color black and encoded subcarrier reference outputs are standard.

Power Consumption: 20W maximum

<b>9510</b>	NTSC Reference Synchronizing Generator . . . . .	<b>\$2,900.00</b>
<b>9510-TSG</b>	Test Signal Generator Module . . . . .	<b>800.00</b>
<b>9510-SID</b>	Source Identification Submodule for TSG . . .	<b>300.00</b>
<b>9510-PPC</b>	Phase Preset Control Module . . . . .	<b>350.00</b>
<b>Dual 9510</b>	Dual 9510 NTSC Sync Generator System . . . . .	<b>7,600.00</b>

### 9520 Master Reference Synchronizing Generator

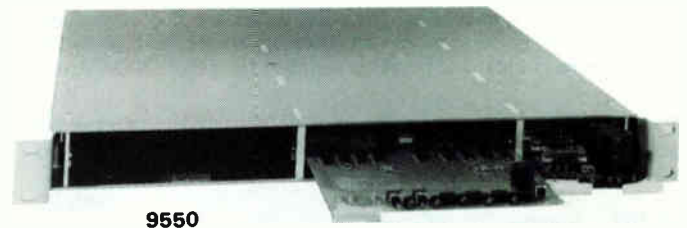
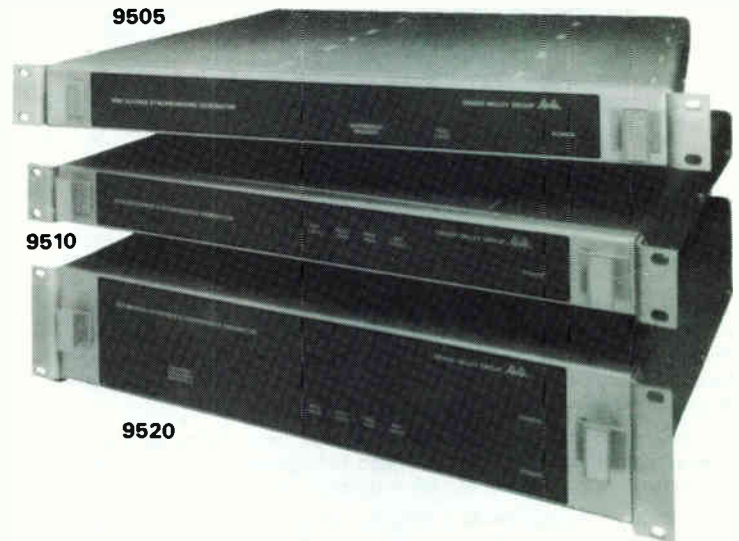
The heart of the 9500 Series, this two rack unit master provides two outputs each of pulse and subcarrier. Two color black and two encoded reference outputs are standard. The 9520 will genlock to video or encoded subcarrier signals.

The input power for the 9510 and 9520 are the same.

Input Power: 105-125VAC or 210-250VAC, 50/60Hz

Power Consumption: 30W maximum

<b>9520</b>	NTSC Master Reference Synchronizing Generator . . . . .	<b>\$3,500.00</b>
<b>9520-HS</b>	9520 with Ovenized Crystal Oscillator . . . .	<b>3,800.00</b>
<b>9520-TSG</b>	Test Signal Generator Module . . . . .	<b>800.00</b>
<b>9520-SID</b>	Source Identification Submodule for TSG . . .	<b>300.00</b>
<b>9520-OXO</b>	Ovenized Crystal Oscillator for 9520. . . . .	<b>550.00</b>
<b>9520-EFR</b>	External Frequency Reference Module. . . . .	<b>500.00</b>
<b>Dual 9520</b>	Dual 9520 NTSC Sync Generator System . . .	<b>8,800.00</b>
<b>Dual 9520-HS</b>	Dual 9520-HS NTSC Sync Generator System . . . . .	<b>9,400.00</b>



### 9550 Sync Pulse Generator Changeover Switch

The 9550 will monitor both the on-line and backup generators with visual and audible alarms in the case of failure, and has an LED status display to assist in identifying the faulty signal. The 9550 is mounted in a one rack unit tray with removable modules for easy servicing. It has automatic and manual switching, ten signal channel capability, and crosstalk suppression greater than 65dB.

<b>9550</b>	NTSC/PAL Automatic Changeover Switch . . . . .	<b>\$2,000.00</b>
<b>9550-RCK</b>	9550 Remote Connector Kit . . . . .	<b>35.00</b>
<b>9500-EXT</b>	9500 Module Extender . . . . .	<b>125.00</b>
<b>9500-PSM</b>	9500 Power Supply Module . . . . .	<b>235.00</b>
<b>9500-RCK</b>	Remote Connector Kit . . . . .	<b>35.00</b>
<b>STM-85N</b>	NTSC Source Timing Module (fits in 8500 VDA Tray). . . . .	<b>850.00</b>
<b>SCB-100N</b>	NTSC Sync/Color Bar Generator . . . . .	<b>1,500.00</b>
<b>3258</b>	NTSC SC/H Phase Meter . . . . .	<b>2,995.00</b>



# GRASS VALLEY GROUP

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# VIDEO PROCESSING/ TIMING SYSTEMS



3240-20

## 3240 Video Processing Amplifier

- SC/H phasing • Full regeneration of sync and burst • Adjustable blanking width • Soft and hard clippers • Cable equalization option
- Selectable line deletions: 10-21 • Sin<sup>2</sup> pulse edges • Color black output option • Optional accessories

The 3240 Video Processing Amplifier is a high performance sync and blanking regenerative amplifier designed for signal processing in studio, master control, remote, and transmitter locations.

The basic 3240-10 system is a fully functional processing amplifier, available in one rack unit (RU = 1.75") height. Controls are available on the card edge or at a remote control point.

The compact and rugged construction, coupled with low power consumption and wide supply voltage range, make it ideal for remote van applications. All active components are accessible from the front of the rack.

Conservative ratings, and a sealed air design that keeps contamination out, will assure years of trouble-free service.

The expandable 3240-20 system in the two-RU frame contains four additional cells for accessories. The accessories are plug-in modules that complement the basic processor. The frame has been prewired to accept the accessories, and power is supplied from the 3200A Power Supply.

3240-10	NTSC Video Processing Amplifier	.....\$4795.00
3240-20	NTSC Video Processing Amplifier	.....4995.00
3240-101	Fade-to-Black Control Panel (Console Mtg.)	.....465.00
3240-102	Remote Control Panel (Console Mtg.)	.....525.00
3240-103	Remote Control Panel (Rack Mtg.)	.....525.00
3240-104	Local/Delegate Control Panel (Rack Mtg.)	.....\$695.00
3240-105	Remote Panel Parts Kit	.....275.00
3240-001	Extra Fade-to-Black Control Cable/Meter	.....3.00
3240-002	Extra Remote Control Cable/Meter	.....6.00
3240-203	Video A.G.C. Module	.....895.00
3240-204	NTSC VIR A.G.C. Module	.....995.00
3240-205	NTSC Linearity Corrector Module	.....995.00
3240-206	Relay Bypass Module	.....295.00
3240-207	NTSC External Reference Module	.....995.00
3240-208	NTSC Pulse DA-3 Module	.....725.00
3200-PS1	Backup Power Supply Module for 3240-20	.....245.00

## 3258 SC/H Phase Meter

The 3258 SC/H Phase Meter is a measurement instrument specifically designed to aid in establishing and maintaining an SC/H phased video system. It has two video inputs plus a color frame pulse (VI) input, which are used to measure absolute SC/H phase of either video input, the difference between the two video inputs, and absolute SC/H phase of either video input with respect to an externally applied house reference color frame pulse (VI).

The 3258 SC/H Phase Meter comes with a power supply, module extender and two instruction manuals.

3258 .....\$2995.00



3274A

## 3274A Borderline Generator

- External matte • Complete downstream keyer • Matted inserts
- Three modes of caption enhancement • Insert fade-in and fade-out operation • Optional matte colorizer • Optional non-sync detector

The 3274A Borderline Generator is a caption inserting device normally installed at the output of studio production switching systems.

3274A-10 Borderline Generator in 1-RU tray, power supply, AC line cord, module extender, two instruction manuals, and a 1.75" H x 19" W (4.45 x 48.3cm) control panel with 8m (26') of control cable.

3274A-10 .....\$3995.00

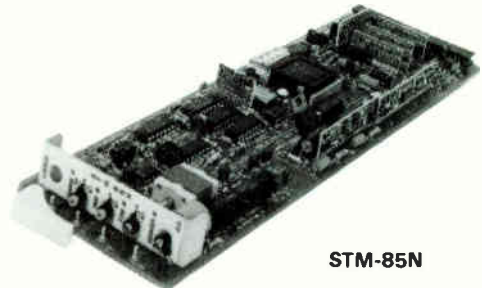
3274A-11 Borderline Generator in 1-RU tray, power supply, AC line cord, module extender, two instruction manuals, and a 2.25" H x 6.95" W (5.72 x 17.6cm) control panel with 8m (26') of control cable.

3274A-11 .....\$3995.00

3274A-101 Nonsynchronous Detector Submodule .....255.00

3274A-102 Matte Insert Colorizer Module .....925.00

3274A-001 Extra Cable/Meter for 3274A .....6.00



STM-85N

## STM-85N NTSC Source Timing Module

- Decodes the encoded subcarrier signal output of SPG generators, producing discrete sync, blanking and subcarrier, V1 and color black
- Output phase relative to that of the driving SPG is adjustable over the range of +27/-35µs, using front mounted controls
- Further adjustment of 2H advance and 1H delay is possible with internal dipswitch settings
- When phase is adjusted, subcarrier and H sync move together, ensuring accurate SC/H phase at all settings

STM-85N .....\$850.00



SCB-100N

## SCB-100N NTSC Sync/SMPTE

### Color Bar/Audio Tone Generator

- One rack unit • Fully SC/H phased • Sync generator provides four color black outputs, two outputs each of sync, blanking and subcarrier, and one each of V1 and encoded subcarrier, two outputs of SMPTE color bars and one balanced Lo-Z output for audio tone

SCB-100N .....\$1500.00

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# DISTRIBUTION AMPLIFIERS

## 8500 Series Audio/Video Distribution Amplifiers

The 8500 Series is a range of video and audio distribution amplifiers. The DA's feature both high performance and low cost as a result of innovative engineering coupled with advanced manufacturing techniques.

All 8500 Series models feature differential inputs with six outputs. Circuit building blocks such as input amplifiers, output amplifiers, and voltage regulators have been reduced to individual hybrid integrated circuits which provide improved performance, better unit-to-unit consistency, and ease of maintenance over conventional discrete designs.

Video DA's include the 8501, a basic non-equalizing DA; the 8502, an equalizing DA with dual range (0-500' and 500'-1000') variable equalizer; the 8503, an equalizing DA with precision stepped equalization (0, 100', 200', ...1000') plus vernier trim (0-125'); the 8504, a delay DA capable of up to 300ns delay (up to 1.1µsec. with optional plug-ins); and the 8505, a field DA which combines long cable eq (up to 3000' of 8281) and a two speed clamp. The line also includes the 8520, a pulse DA.

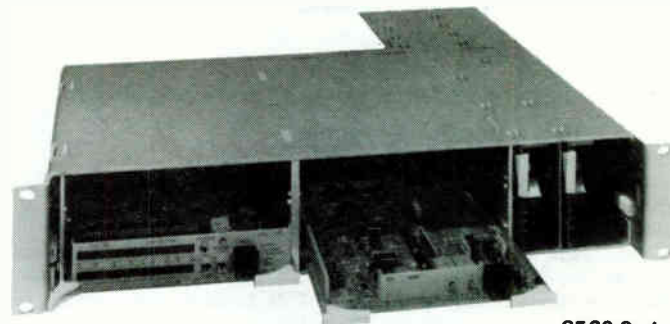
The 8551 is a high performance voltage-mode audio DA. It has an active, balanced Hi-Z input (input Z > 40K ohms) and six active, balanced Lo-Z outputs (output Z > 50 ohms). The 8551 will accommodate signal levels to + 24dBu; SNR is > 110dB.

The 8560 Stereo Audio Distribution System is a series of audio distribution amplifiers. Each amplifier handles two channels of audio, manipulated by a single gain control and a balance trim.

A two-rack unit frame of the 8560 Series houses up to four DAs, a meter board and power supplies. The meter board, with PPM and VU ballistics, allows monitoring of all DA inputs and outputs.

## 8500 Series

Model	Description	Price
8501	Video DA	\$160.00
8502	VDA with variable cable EQ (for 8281-type cables)	.260.00
8502-598	VDA with variable cable EQ (for "RG-59B/U" cable)	.260.00
8502-59	VDA with variable cable EQ (for "RG-59/U" cable)	.260.00
8502-SPL	VDA with variable cable EQ (for special cable types: 8500-EQ network required)	.260.00
8500-EQ	Custom equalizer network for special cable types (cable technical data required; contact factory for further information)	
	Setup charge	.125.00
	Unit price	.75.00
8503	VDA with step/vernier EQ (for 8281-type cables)	.375.00
8503-598	VDA with step/vernier EQ (for "RG-59B/U" cable)	.375.00
8503-59	VDA with step/vernier EQ (for "RG-59/U" cable)	.375.00
8504	Delay DA (with cable EQ for 8281-type cables)	.475.00
8504-598	Delay DA (with cable EQ for "RG-59B/U" cable)	.475.00
8504-59	Delay DA (with cable EQ for "RG-59/U" cable)	.475.00
8504-D300	300ns Delay submodule	.200.00
8504-D500	500ns Delay submodule	.250.00
8504-D800	800ns Delay submodule	.275.00
8505	Field VDA (with cable EQ for 8281-type cables)	.595.00
8505-59	Field VDA (with cable EQ for "RG-59/U" cable)	.595.00
8505-11	Field VDA (with cable EQ for "RG-11/U" cable)	.595.00
8506	Clamp VDA (with cable EQ for 8281-type cables)	.425.00
8506-598	Clamp VDA (with cable EQ for "RG-59B/U" cable)	.425.00
8506-SPL	Clamp VDA (for special cable types: 8500 EQ network req.)	.425.00
8510R	Remotely-controlled VDA (with cable EQ for 8281-type cable)	.525.00
8510R-598	Remotely-controlled VDA (with cable EQ for "RG-59B/U" cable)	.525.00
8510R-59	Remotely-controlled VDA (with cable EQ for "RG-59/U" cable)	.525.00



8560 Series

Model	Description	Price
8520	Pulse DA	\$ 250.00
8520-8281	Pulse DA with 8281 EQ	.375.00
8520-598	Pulse DA with "RG-59B/U" EQ	.375.00
8520-R	Pulse DA with regenerator	.350.00
8520-EQ1	8281 EQ submodule only	.125.00
8520-EQ2	"RG-59B/U" EQ submodule only	.125.00
8520-RGEN	Pulse regen. submodule only	.100.00
NOTE:	Loss characteristics vary considerably among cables with "RG-xx" designations. EQ networks on 8500 Series VDA's are optimized for the following specific cables:	
	"RG-59B/U": Belden 8263	
	"RG-59U": Belden 9259	
	"RG-11/U": Belden 8238	
	Exact loss curves are available upon request.	
8500T1-120	1 RU video tray with 120V PS (holds 4 DA's)	.650.00
8500T1-240	1 RU video tray with 240V PS (holds 4 DA's)	.650.00
8500T2-120	2 RU video tray with 120V PS (holds 8 DA's)	.795.00
8500T2-240	2 RU video tray with 240V PS (holds 8 DA's)	.795.00
8500T2R-120	2 RU video tray with 120V PS (holds 8 standard or remotely-controlled DA's)	.895.00
8500T2R-240	2 RU video tray with 240V PS (holds 8 standard or remotely-controlled DA's)	.895.00
8500PS-120	Backup PS for 8500T2-120 or 8500T2R-120	.250.00
8500PS-240	Backup PS for 8500T2-240 or 8500T2R-240	.250.00
8500EX	Extender card	.75.00
<b>AUDIO DISTRIBUTION EQUIPMENT</b>		
8551	Audio DA	\$ 250.00
8552R	Remotely-controlled Audio DA	.375.00
8553	Audio tone generator	.325.00
8550T1-120	1 RU audio tray with 120V PS (holds 4 DA's)	.725.00
8550T1-240	1 RU audio tray with 240V PS (holds 4 DA's)	.725.00
8550T2-120	2 RU audio tray with 120V PS (holds 8 DA's)	.895.00
8550T2-240	2 RU audio tray with 240V PS (holds 8 DA's)	.895.00
8550T2T-120	2 RU audio tray with taper pin connectors and 120V PS (holds 8 DA's)	.1475.00
8550T2T-240	2 RU audio tray with taper pin connectors and 240V PS (holds 8 DA's)	.1475.00
8550PS-120	Backup PS for 8550T2-120 or 8550T2T-120	.365.00
8550PS-240	Backup PS for 8550T2-240 or 8550T2T-240	.365.00
<b>STEREO AUDIO DISTRIBUTION EQUIPMENT</b>		
8561	Stereo audio distribution amp	\$495.00
8561-CS	Stereo ADA with channel switching	.620.00
8561-PCS	Stereo ADA with phase adjustable channel switch	.695.00
8561-RG	Stereo ADA with remote gain control	.695.00
8561SM-CS	Channel switching submodule	.125.00
8561SM-PCS	Phase adjustable, channel switch submodule	.200.00
8561SM-RG	Remote gain control submodule	.200.00
8562	Stereo audio metering module	.995.00
8560T2-120	2 RU (4 cell) tray with 120V PS	.995.00
8560T2-240	2 RU (4 cell) tray with 240V PS	.995.00
8560EX	Module extender	.125.00



# GRASS VALLEY GROUP

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# ROUTING SWITCHERS



TEN-XL

## TEN-XL 10 x 1 Routing Switcher

- Breakaway stereo audio comes with every unit
- Both local and remote control panels are available
- Binary control system
- Differential inputs for both video and audio
- Video inputs are DC restored and switching is done in the vertical interval line (line 10)
- Built-in expansion capability lets the TEN-XL be a 19 x 1, 28 x 1 or more
- 12-hour minimum crosspoint memory in case of power failure

The TEN-XL encompasses video, stereo audio, optional RS422/232 serial interface module, relay module, and dual power supply, all in a one rack unit frame.



TEN-XT

## TEN-XT Monitoring Station

- Combines the capabilities of the TEN-XL with the Tektronix 1740 or 1750, as well as the 528 and 1420 waveform/vector monitors.

## TEN-XTM Routing Switcher

- Designed to reside in a half-rack frame next to waveform and vector displays
- Incorporates all the features of the TEN-XT plus providing audio VU/Peak metering along with a built-in audio monitor/speaker combination
- Stereo audio monitoring is available via a front panel headphone jack
- Audio metering can be set to provide VU, Peak power, or both



TEN-XTM

All TEN-XL options can be used including serial interface, tally relay matrix, dual power supplies and the widest variety of useful remote control panels.

## TEN-XL and TEN-XT Routing Switchers Complete Units

TEN-XL	10 x 1 video/stereo audio switcher with local control panel . . . . .	\$1495.00
TEN-XLV	10 x 1 video only switcher with local control panel . . . . .	1195.00
TEN-XLVA1	10 x 1 video/single audio switcher with local control panel . . . . .	1345.00
TEN-XLRC	10 x 1 video/stereo audio switcher for remote control use (does not include remote control panel) . . . . .	1460.00
TEN-XLRCV	10 x 1 video only switcher for remote control use (does not include remote control panel) . . . . .	1160.00
TEN-XLRCA1	10 x 1 video/single audio switcher for remote control use (does not include remote control panel) . . . . .	1310.00
TEN-XLA	10 x 1 stereo audio switcher with local control panel . . . . .	1270.00
TEN-XLA1	10 x 1 single audio switcher with local control panel . . . . .	1120.00
TEN-XLARC	10 x 1 stereo audio switcher for remote control use (does not include remote control panel) . . . . .	1235.00
TEN-XLA1RC	10 x 1 single audio switcher for remote control use (does not include remote control panel) . . . . .	1085.00
TEN-XLCV	10 x 1 component video/stereo audio switcher with local control panel . . . . .	3950.00
TEN-XLCV-V	10 x 1 component video only switcher with local control panel . . . . .	3650.00
TEN-XLCVA1	10 x 1 component video/single audio switcher with local control panel . . . . .	3800.00
TEN-XT	10 x 1 video/stereo audio switcher for half rackmount with local control panel . . . . .	1650.00
TEN-XTV	10 x 1 video only switcher for half rackmount with local control panel . . . . .	1350.00
TEN-XTA1	10 x 1 video/single audio switcher for half rackmount with local control panel . . . . .	1500.00
TEN-XTM	10 x 1 video/stereo audio switcher for half rackmount with VU/peak meters and audio monitor . . . . .	2100.00

(For 220/240V operation add -2 to model number)

## Control Panel Options

TNX-RCP	Standard breakaway remote control panel . . . . .	\$ 150.00
TNX-CPL	Standard breakaway local control panel . . . . .	200.00
TNX-SMP	3" x 4" AFV escutcheon mount control panel . . . . .	525.00
TNX-AFV	AFV remote control panel with relegendable buttons . . . . .	525.00
TNX-2AFV	AFV dual remote control panel with relegendable buttons . . . . .	1050.00
TNX-AFV19	10 x 1 AFV remote control panel with relegendable buttons . . . . .	1050.00
TNX-TCP	Remote control panel, 3 RU half-rack . . . . .	200.00
TNX-SCP	Serial breakaway control panel . . . . .	1200.00

## Connector Kits/Cables

TNX-RCC	Remote control cable with connectors . . . . .	\$ 35.00 + 3.00/M
TNX-CON	Remote control connector kit . . . . .	25.00
TNX-ICC	Interconnect cable to Model 100 . . . . .	100.00
TNX-ICS	Interconnect cable to Model 300 . . . . .	100.00
TNX-IRS	RS-232 computer/terminal interface cable . . . . .	100.00
TNX-IEC	19 x 1 expansion cable . . . . .	100.00
TNX-CC8	RGB interconnect cable . . . . .	135.00
TNX-RYC	Remote control "Y" cable . . . . .	135.00
TNX-MIC	RS-232 modem I/F cable to TEN-XL . . . . .	100.00
TNX-CPS	Serial control panel interface cable . . . . .	135.00
TNX-CTM	RS-232 computer to modem cable . . . . .	100.00
TNX-AAD	Audio connector adaptor . . . . .	80.00
TNX-AIC	Audio interconnect cable (For TNX-AAD) . . . . .	60.00

## Options

TNX-RXP	Tally relay module . . . . .	\$ 125.00
TNX-SIO	RS-422/RS-232 serial interface module . . . . .	400.00
TNX-EXTV	Module extender, video . . . . .	350.00
TNX-EXTA	Module extender, audio . . . . .	165.00
<b>TNX-IES Input expansion hardware. (Includes cables and circuit board)</b>		
TNX-IES28	28 x 1 requires 3 TEN-XL's . . . . .	385.00
TNX-IES37	37 x 1 requires 4 TEN-XL's . . . . .	485.00
TNX-IES46	46 x 1 requires 5 TEN-XL's . . . . .	650.00
TNX-IES55	55 x 1 requires 6 TEN-XL's . . . . .	750.00
TNX-IES64	64 x 1 requires 7 TEN-XL's . . . . .	850.00
TNX-IES73	73 x 1 requires 8 TEN-XL's . . . . .	950.00
TNX-IES82	82 x 1 requires 9 TEN-XL's . . . . .	1050.00
TNX-IES91	91 x 1 requires 10 TEN-XL's . . . . .	1150.00
TNX-IES100	100 x 1 requires 11 TEN-XL's . . . . .	1250.00

## Spares/Replacements

TNX-VXP	Video crosspoint module . . . . .	\$575.00
TNX-AXP	Audio crosspoint module . . . . .	250.00
TNX-CTL	Control module (audio only) . . . . .	250.00
TNX-PSM	Power supply module . . . . .	185.00
TNX-8FC	Blank front cover for TEN-XL . . . . .	95.00
TNX-SPK	Spare parts kit . . . . .	150.00

TEN-X is a registered trademark of Grass Valley Group, Inc.



# GRASS VALLEY GROUP

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# ROUTING SWITCHERS

## TEN-20™/20-TEN™ Compact Routing Switcher Systems

- TEN-20 switcher ten input-by-twenty output
- 20-TEN switcher twenty input-by-ten output
- 4-level control, with numerous matrices per level
- Control via twisted shielded pair cables, for simple and cost-effective installation
- PC boards remove from the front for easy access
- "PROTECT" and locked panel features, standard on all control panels, guard your destinations against unauthorized intervention
- All systems available in component as well as composite versions
- Battery protected RAM saves your data for as long as 30 days

Choose from these versatile panel configurations:

- 20 input button per source—controls any combination of four levels
- 10 input button per source—controls any combination of four levels
- 4-level X-Y—controls all inputs and destinations

Each switcher is contained in a single rack unit frame, with both video and audio matrices available. Either may be configured video only, audio only or video plus multiple audio. A component video version is also available.

TEN-20 and 20-TEN video and audio routers feature high density, multi-layer boards with excellent bandwidth and signal-to-noise ratio.

These single crosspoint modules give you increased reliability and full functionality.

Options include the flexibility of an RS232/RS422 serial interface and the extra reliability of dual power supplies.

### Video Performance Specifications

**Differential Gain:** 0.1% at 1V p-p output, 10-90% APL  
**Differential Phase:** 0.1° at 1V p-p output, 10-90% APL  
**Frequency Response:** ±0.1dB, 100kHz-5.5MHz  
 ±0.5dB, 5.5MHz-10MHz  
 30V/μsec

**Slew Rate:**  
**Total Delay (Typical):** 20ns

**Crosstalk (worst case; all inputs and outputs driven):**  
 -60dB at 5.0MHz  
 -50dB at 10.0MHz

**Signal-to-Noise Ratio:** 75dB, 5.0MHz low pass

### Audio Performance Specifications

**Crosstalk (rel to +24dBu) (Worst case, all inputs and outputs hostile and synchronous):**

20Hz-2kHz: 90dB  
 20Hz-20kHz: 80dB

**Frequency Response:** ±0.1dB: 20Hz-20kHz

**Total Harmonic Distortion:** 0.05% at +24dBu, 20Hz-20kHz

**Signal-to-Noise Ratio (ref. +24dBu):**  
 120dB: 20Hz-20kHz  
 110dB: 20Hz-80kHz



TEN-20/20-TEN

<b>TEN-20-V</b>	10X20 Video Switching System . . . . .	\$ 5,500.00
<b>TEN-20-A</b>	10X20 Audio Switching System . . . . .	4,300.00
<b>TEN-20-SA</b>	10X20 Stereo Audio Switching System . . . . .	8,500.00
<b>TEN-20-CV</b>	10X20 Component Video Switching System . . . . .	16,350.00
<b>20-TEN-V</b>	20X10 Video Switching System . . . . .	5,500.00
<b>20-TEN-A</b>	20X10 Audio Switching System . . . . .	4,300.00
<b>20-TEN-SA</b>	20X10 Stereo Audio Switching System . . . . .	8,500.00
<b>20-TEN-CV</b>	20X10 Component Video Switching System . . . . .	16,350.00

### Control Panels and Options

<b>XYCP</b>	X-Y Control Panel, 120V . . . . .	\$650.00
<b>XYCP-2</b>	X-Y Control Panel, 240V . . . . .	650.00
<b>10BPS</b>	10 Button Per Source Control Panel . . . . .	615.00
<b>10BPS-2</b>	10 Button Per Source Control Panel, 240V . . . . .	615.00
<b>20BPS</b>	20 Button Per Source Control Panel, 120V . . . . .	650.00
<b>20BPS-2</b>	20 Button Per Source Control Panel, 240V . . . . .	650.00
<b>SERIM</b>	Serial Interface Module and Frame . . . . .	795.00
<b>RPSF</b>	Redundant Power Supply Frame . . . . .	595.00
<b>VPS</b>	Video Power Supply for RPSF . . . . .	550.00
<b>APS</b>	Audio Power Supply for RPSF . . . . .	550.00

### Spares/Replacement Modules

<b>TEN-20VXP</b>	10X20 Video Crosspoint Module . . . . .	\$4,500.00
<b>20-TENVXP</b>	20X10 Video Crosspoint Module . . . . .	4,500.00
<b>TEN-20AXP</b>	20X10 Audio Crosspoint Module . . . . .	3,300.00
<b>20-TENAXP</b>	20X10 Audio Crosspoint Module . . . . .	3,300.00
<b>VPSC</b>	Video Power Supply and Controller . . . . .	695.00
<b>APSC</b>	Audio Power Supply and Controller . . . . .	695.00
<b>EXT</b>	Video/Audio and Controller Module Extender . . . . .	550.00
<b>EMM</b>	Extra Maintenance Manual . . . . .	50.00

# GRASS VALLEY GROUP

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# ROUTING SWITCHERS/ DATA MATRICES

## HORIZON Routing Systems

HORIZON is designed as a versatile, affordable, high-performance audio/video distribution routing switcher suitable for a wide variety of applications including composite and component video, HDTV, stereo or even multiple audio, plus time code.

HORIZON is offered in a variety of frame sizes and configurations from 128 x 128 multi-level systems through 16 x 16 frames and all are intermixable. 64 x 64, 48 x 32, and 32 x 16 sizes provide intermediate steps; each size available with the number of modules to meet your needs. Plug-in modules transfer from frame to frame without causing downtime or system interruption.

### HX-16/HX-32

HX-16 and HX-32 are the most compact routing systems in the HORIZON family. Flexibility in control level selection makes HX-16 or HX-32 the ideal solution to component routing and stereo audio applications.

HX-16 or HX-32 frames may be used as part of larger HORIZON systems. So you can configure exactly the system you need.

Available in video and audio mixtures to suit your needs.

### HX-48

48 Input by 32 output video and audio capability are available in just 18 rack units—including power supplies. Also, space for optional dual power supplies and system controllers is part of this no-compromise, high efficiency package.

Despite its compact nature, video-to-audio crosstalk is not a consideration.

For multiple audio or component video applications, simple interlevel cable allows the HX-48 to drive one or more smaller systems. The same cable also allows you to use the HX-48 as part of a larger system.

Start with as few as 16 inputs by 16 outputs and build to frame capacity in 8 input/16 output steps. Available in video/video, video/audio and audio/audio frame capability.

### HX-64

Each HX-64 matrix may be structured up to 64 inputs by 64 outputs—with unlimited matrices in as many as four control levels. Each matrix is self-contained in an 18 rack-unit frame, including power supply, with space for an optional dual power supply and optional back-up controller.

The size of each matrix is fully independent from the rest of the system. Composite video matrices may be full size, for example, while audio and time code or component matrices are smaller.

### HX-128

The HX-128 is the largest member of the HORIZON family. Building block frames allow one-time system structuring for all your needs so you can grow at your own pace without retiming or rewiring.

Each matrix frame, video or audio, occupies just 12 rack units. Power for up to two matrix frames of the same type is supplied by a single 6 rack unit frame. As many as 128 inputs x 32 outputs are housed in 18 rack units. An extra-compact, 128 x 64 format is also available in 30 rack units, without adding extra frames for dual controllers or video/audio monitoring. Matrix frames may be stacked in 128 x 32, 128 x 64, 128 x 96 or 128 x 128 systems. Smaller matrices may be structured within each configuration.

You can expand your system and plug-in modules without system interruption.

### Options

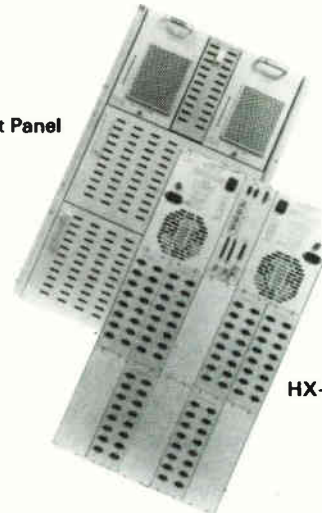
- 35 standard control panels • Dual power options • Dual controller option without adding frames • On-line programmability and real time system diagnostics
- Unlimited RS-232/422 control capability with HX-GPI • Interface option, including output exclusion • E-MEM™ Interface, with full 4-level breakaway capability for GVG production switchers • Full-time, real time video status display
- Source tally for production/master control • Status displays for in-panel readout of HORIZON sources selected to GVG production or master control systems • Integrated machine control • RS-422 matrix

## Specifications

### VIDEO

Diff. Gain:	< 0.1% at 1V p-p out, 10%-90% APL
Diff. Phase:	< 0.1° at 1V p-p out, 10%-90% APL
Frequency Response:	± 0.15dB, 100kHz to 5.0MHz, +0.15, -0.5dB to 8MHz
2T Pulse/Bar Response:	Pulse 0.25%; Bar 0.25%, Pulse/Bar 0.25%
Tilt:	< 0.5%
X-Talk:	-60dB at 5MHz (all inputs hostile and synchronous)
SNR:	> 75dB

HX-RS Front Panel



HX-RS Rear Panel

<b>Output DC (DC Rest. System):</b>	Blanking at 0V, ± 50mV
<b>Timing Scatter:</b>	± 1° (NTSC or PAL) max., input to input on any one bus
<b>Electrical Length:</b>	(HX-16, 32, 48, 64), typical: Outputs 0-15: 43.6ns; Outputs 16-31: 44.4ns; Outputs 32-47: 45.0ns; Outputs 48-63: 45.8ns
<b>Electrical Length:</b>	(HX-128), typical: Outputs 0-15 and 64-79: 48.1ns; Outputs 16-31 and 80-95: 49.7ns; Outputs 32-47 and 96-111: 51.4ns; Outputs 48-63 and 112-127: 53.0ns
<b>Input Char.:</b>	All inputs 75 ohms internal term., return loss > 40dB to 5MHz
<b>Output Char.:</b>	Two 75 ohm term. outputs per bus; ret. loss 40dB to 5MHz; output/output isolation 38dB to 5MHz
<b>Signal Level:</b>	1V p-p nom., 2V p-p max.
<b>Gain:</b>	Unity adj. ± 1.0dB
<b>AUDIO</b>	
<b>Frequency Response:</b>	± 0.1dB, 20Hz to 20kHz
<b>Harmonic Distortion:</b>	< 0.5% at + 24dBu, 20Hz to 20kHz
<b>SNR:</b>	> 100dB, ref. + 24dBu, 20Hz to 20kHz
<b>X-Talk:</b>	> -80dB, 20Hz to 20kHz, all inputs hostile
<b>Input Char.:</b>	Bal. Z = > 12.5K ohms; CMRR > 65dB
<b>Output Char.:</b>	One bal. output per bus, Z < 30 ohms
<b>Recommended Load:</b>	600 ohms or greater; 150 ohm available
<b>System Level:</b>	± 24dBu (12.28VRMS) max.
<b>Stereo Phase Acc.:</b>	< 0.72 = L to R diff. at 20kHz
<b>Gain:</b>	Unity, adj. ± 1.0dB

## HORIZON Data Matrices

HX-RS Data Matrices eliminate the complexity of data patching encountered when using sophisticated editing systems, graphics devices and VTRs.

Systems may be configured in sizes from 16 inputs x 16 outputs up to 64 x 64 and from 2-wire to 8-wire capability. The 64 x 32 4-wire size takes just 18 rack units of space and has the capacity to double in size with the addition of a simple 12 rack unit frame.

Reliable, low current relays switch bi-directional paths. Additional software allows the system to function traditionally or as an "exclusive" system, which allows any source to be taken to only one destination at a time.

HX-RS matrices may be used as stand-alone systems, or as one level in a larger HORIZON system. More than one HX-RS may also be used to simplify complicated intercom systems.

## Specifications

4 pole bi-directional switching	
9-pin "D" connectors for data paths, pin #9s at chassis ground	
<b>Max. End-to-End Resistance:</b>	2 ohms
<b>Max. Voltage Signal to Chassis:</b>	100V
<b>Max. Contact Current:</b>	1A
<b>Operate Time:</b>	< 20µs
<b>Release Time:</b>	< 10µs

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# COMPONENT VIDEO TERMINAL EQUIPMENT

## CV-20 Series Component Video Terminal Equipment

The CV-20 Series is a growing family of products providing component video system designers with signal generation and format conversion capability.

Whether the need is conversion between various component formats or conversion between the composite and component world, the CV-20 Series is an economical solution.

### CV-11/85 Translator

The CV-11/85 Translator is a simplified version of the CV-21. It may be used in any application where "straight through" conversion from Y, R-Y, B-Y to RGB is required, such as displaying the component output of a Betacam\* system on an RGB monitor. The CV-11/85 is designed to mount in a standard 8500 Series video DA tray, and may be used in conjunction with 8500 Series amplifiers to provide multiple RGB feeds.

### Specifications

**Inputs:** Y, R-Y, B-Y (75 ohms terminating)  
 Y = 1V p-p including sync; R-Y, B-Y =  $\pm 350\text{mV}$  (75% saturation)

**Outputs:** RGB (one each)

**Frequency Response:**  $\pm 0.2\text{dB}$  to 6MHz

**Gain Adjust:** Unity  $\pm 1\text{dB}$

CV-11/85 Y, R-Y, B-Y to RGB translator (mounts in 8500 Series DA tray) . . . . . \$385.00

### CV-21 Translator

The CV-21 converts Betacam or SMPTE standard Y, R-Y, B-Y signals to RGB. The CV-21 features full blanking processing which enables the user to delete sync on the RGB outputs, if desired, and to compensate for setup on the Y input signal.

### Specifications

**Inputs:** Y, R-Y, B-Y (75 ohms terminating)  
 Y = 1V p-p including sync; R-Y, B-Y =  $\pm 350\text{mV}$  (75% saturation)

**Outputs:** RGB (two each); Y

**Frequency Response:**  $\pm 0.2\text{dB}$  to 6MHz

**Gain Adjust:** Unity  $\pm 1\text{dB}$

**Setup Adjust:**  $\pm 15\text{ IRE}$

CV-21 Y, R-Y, B-Y to RGB translator (mounts in CV-20T tray) . . . . . \$995.00

### CV-22 Translator

The CV-22 converts RGB signals to Betacam or SMPTE standard Y, R-Y, B-Y. Full blanking processing and sync add/delete capability is provided to accommodate the large degree of variability which exists in RGB environments.

### Specifications

**Inputs:** RGB (75 ohms terminating) 700mV video with or without sync.  
 Sync/color black (looping) required if input video is non-composite

**Outputs:** Y (three); R-Y, B-Y (two each); Y = 1V p-p including sync; R-Y, B-Y =  $\pm 350\text{mV}$  (75% saturation)

**Frequency Response:**  $\pm 0.2\text{dB}$  to 6MHz

**Gain Adjust:** Unity  $\pm 2.5\text{dB}$

**Setup Adjust:** 0 to + 10 IRE

CV-22 RGB to Y, R-Y, B-Y translator (mounts in CV-20T tray) . . . . . \$995.00

### CV-23 Color Bar Generator

The CV-23 is a component color bar generator which generates full-field color bars in both RGB and Y, R-Y, B-Y formats. It requires comp sync or color black as a timing reference and is capable of operating in either 525/60 or 625/50 systems.

### Specifications

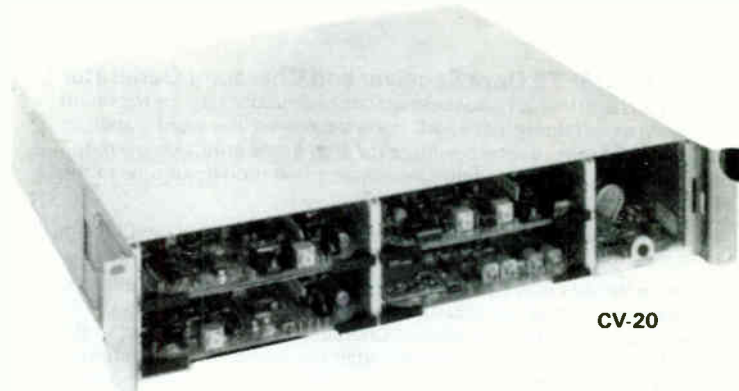
**Output Signal:** Full field color bars switch selectable to 75% or 100% saturation

**Outputs:** One set each RGB and Y, R-Y, B-Y

**Reference Input:** Composite sync or color black

**Timing Adjust:** Output timing may be adjusted to  $\pm 2\mu\text{s}$  with respect to the input timing reference

CV-23 Component color bar generator (mounts in CV-20T tray) . . . . \$1195.00



CV-20

### CV-24N NTSC Decoder

The CV-24N is a variable-Q notch filter design. Front panel controls are provided for input level, setup adjust, chroma phase and chroma gain. The output matrix may be strapped to provide RGB, Betacam, SMPTE, or YIQ outputs.

### Specifications

**Input:** NTSC video (75 ohms terminating), 1V p-p nominal, adjustable  $\pm 3\text{dB}$

**Outputs:** Two sets, strappable to any one of the following: RGB (700mV video/300mV sync); SMPTE-standard Y, R-Y, B-Y; Betacam; or YIQ

**Luminance Bandwidth:** DC to 6MHz  $\pm 0.2\text{dB}$  with 3.58MHz notched out to approximately -30dB

**S/N Ratio:**  $> 60\text{dB}$  (6MHz bandwidth)

**Propagation Delay:** Approximately 850ns

CV-24N NTSC Decoder (mounts in CV-20T tray) . . . . . \$1500.00

### CV-25N NTSC Encoder

The CV-25N produces high quality NTSC video (2 outputs) from composite or non-composite RGB. The CV-25N has a unique, onboard pulse regenerator which derives blanking from input sync, eliminating the need for separate blanking input, sync timing on the output may also be adjusted. An alignment test generator is also included.

### Specifications

**Inputs:** Number and Type: One each R, G, B video (internally terminated), sync, subcarrier (looping)  
 Levels: 700mV RGB video with or without sync, with  $\pm 1\text{dB}$  gain trim; 4V p-p sync  $\pm 6\text{dB}$ ; 2V p-p SC,  $\pm 6\text{dB}$ ; 2V p-p SC,  $\pm 6\text{dB}$   
 CMRR (RGB inputs):  $> 40\text{dB}$  at 60Hz  
 (75 ohm source terminated) Number and Type: Two each NTSC composite video; Level: 1V p-p nominal (714mV video, 286mV sync and burst)

**Outputs:** (75 ohm source terminated) Number and Type: Two each NTSC composite video; Level: 1V p-p nominal (714mV video, 286mV sync and burst)

**Frequency Response:**  $\pm 0.2\text{dB}$  to 5MHz (luminance)

**Black/White Balance:**  $< 0.5\text{ IRE}$  residual subcarrier

**I/Q Quadrature:**  $> 0.5^\circ$  of subcarrier

**Electrical Length:** 810ns  $\pm 40\text{ns}$  (RGB in NTSC out)

**Adjustments:** (Card Edge) H Phase, Fine Chroma Phase, Test Mode Enable, Green Tie Enable, I Black Balance, Q Black Balance, Setup

**Mounting:** Fits in CV-20T tray

**Power:** Provided by CV-20PS power supply

CV-25N NTSC Encoder (mounts in CV-20T tray) . . . . . \$1500.00

### CV-20 Tray

The CV-20T tray is a 2RU tray which will accept up to four CV-20 Series modules in any mix. It comes with one power supply; a second (backup) supply and module extender are available as options.

CV-20T 2RU tray with power supply (holds up to 4 CV-20 series modules) . . . . . \$895.00

CV-20PS Backup power supply for CV-20 tray . . . . . \$245.00

CV-20EXT Module extender for CV-20 series modules . . . . . \$110.00

\*Betacam is a trademark of Sony Corporation.

Prices and Specifications Subject to Change Without Notice.



# GRAY ENGINEERING LABORATORIES, INC.

504 W. Chapman Ave., Ste. P  
Orange, CA 92668  
(714) 997-4151

# SMPTE EDIT CODE PRODUCTS

## DR-107B SMPTE Data Receiver and Character Generator

The DR-107B offers an unusual number of capabilities in a minimum space at an economy price. All controls are on the front panel. In addition, there are internal selectors for drop frame status on the monitor, choice of monitor up-date change, and free running of time in the absence of code.

Reads and displays SMPTE, EBU or 24 frame time code or user bits on video monitors. Has restored output for dubbing.

Character heights may be varied from 8 to 64 lines in four increments, and the widths may be adjusted to the preferred aspect ratio. The characters may be plain or boxed. Characters may be inserted in the vertical interval, offering greater versatility to recording or transferring of tapes. Lines 12 through 19 are used in the vertical interval mode so no interference will occur. Size: 1<sup>3</sup>/<sub>4</sub>" high; standard 19" relay panel x 9<sup>1</sup>/<sub>2</sub>" deep excluding plugs.

DR-107B .....\$2795.00

## DT-113 SMPTE Time Code Transmitter

SMPTE edit code is generated from a master clock which may be selected for drop frame count by a front panel switch. Transmits code at 30, 25, or 24 frame counts, color frame sync mode. User bits may be inserted from a parallel 32 line input. Time or user bits can be displayed on an 8-digit hexadecimal readout. The master clock may be reset or loaded to a time on an 8-digit thumbwheel switch. The clock can be stopped by a hold button. The clock and transmitted code can be synchronized to the 60Hz line or to video/sync frames. Code start is within the ANSI spec. (1 H-line in the vertical interval). The clock can be synchronized to the color burst phase for odd or even frame count when the sub-carrier is in phase. Size: 1<sup>3</sup>/<sub>4</sub>" high; standard 19" relay panel x 9<sup>1</sup>/<sub>2</sub>" deep excluding plugs.

DT-113 .....\$2995.00

## Code Readers and Video Character Generators

DR-103A Data Receiver and Character Generator. Reads and displays edit code and equivalent film-frames on video monitor and has three switchable code inputs . . . \$4550.00

DR-115 Data Receiver and 4 Channel Character Generator. Provides four separate video character displays from one edit code input for Iso-Camera productions. . . . .4250.00

DR-120 Data Receiver, Character Generator, Identifier, and Demultiplexer. Reads and displays time code, multiplexed user bits, and video source identification on video monitors. . . . .3150.00

DR-122 Data Receiver and Dual Character Generator. Allows simultaneous video displays of both time code and user bits with video source identification capability and complete independent adjustment of character positioning. . . . .4450.00

## Code Readers and Local Displays

DR-109B Data Receiver, Display and Demultiplexer. Reads and displays time code or multiplexed user bits on an 8-digit hex readout. Has dub output . . . . . \$2795.00

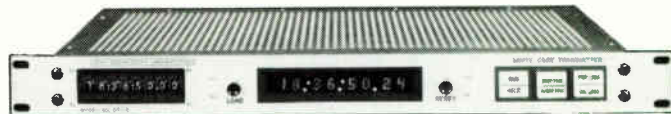
DR-109P EBU version of DR-109B . . . . .2795.00

TBC-117 Edit Code Time-Base Corrector. Converts wide-band erratic code input to a truly regenerated "ANSI" spec code output. Used for dubbing and distribution . . . . .3900.00

TCR-119 Time Character Reader. Reads the video characters generated by a Gray DR-107, DR-115, DR-120, or DR-122 from freeze to play speed and converts to longitudinal time code output for automatic computer editing . . .3950.00

## Special Equipment

ACO-238 Automatic Change-Over. With inputs from two independent SMPTE time code generators, this unit will automatically sense failure of one generator unit and switch to the other to allow resumption of code output . . . \$5750.00



DT-113



DR-107B

## Code Comparator

CC-114 Code Comparator. Compares a preset time with an incoming time code to produce an editing signal on coincidence. Must be used with a Gray time code reader. . . . . \$2330.00

CC-114A Reader Code Comparator. Same as CC-114 except unit incorporates a wideband reader. . . . .2750.00

## Code Generators

DT-104F Data Transmitter. Transmits code at 30, 25, or 24 frames/sec., has advanced slave decoding, color frame sync, a variable code simulator/generator, NTSC/PAL compatibility, field or frame rate time code selection plus many more functions . . . . . \$5950.00

DT-213 Data Transmitter and Character Generator. Transmits code at 30, 25, or 24 frames/sec., color frame sync mode in either frame or field rate time code. Sets and displays time code, and user bits in hex format. Slaves to incoming code and has a built-in character generator for both time code and user bits . . . . . \$3495.00

DTG-236 Dual Time Code Generator. Transmits two separate SMPTE format codes: 24 frames/sec. and 30 frames/sec. The two codes have a synchronous start every five frames on the 30 frame code. . . . .5750.00

## User Bit Equipment

MC-110 User Bit Modifier and Combiner. Combines time codes serially from two independent sources using user bits for the second time code . . . . . \$2595.00

MD-111 User Bit Modifier, Display and Demultiplexer. Modifies multiplexed user bits on incoming edit code from a 32 line parallel input . . . . .3295.00

UBE-118A User Bit Encoder. A 10 channel multiplexer that encodes user bits from parallel inputs. Encoder for VID-225, DT-104F, DT-113, DT-113P, or MD-111. A real time clock is provided for insertion into one channel of user bits. . . . . \$2550.00

## Safe Area Generators

VR-116 Video Reticle Generator. Allows precise positioning of titles and graphics from dead center to the edge of the vertical and horizontal blanking . . . . . \$2595.00

VR-216P PAL version of VR-116. . . . .2995.00

VR-121 Video Reticle Generator. Similar to VR-116 with the addition of monitor linearity check, variable reticle size and position with memory and recall and a keying switch to set the reticle areas from white to black . . . . .3950.00

## Code Phase Measurement Equipment

CPI-123 Code Phase Indicator. Measures and displays the phase difference between an actual code frame start on VTR versus ANSI spec to determine computer compatibility. . . . . \$2100.00

TCA-143 Time Code Analyzer. Measures, displays, and corrects the phase difference between the cue-track frame code and the video to allow computer acceptance. It also displays the code level and indicates phase error, bit count, sync word, and count error faults with memory. . . . . \$2595.00

## CPC-700 Series Code Phase Corrector

The CPC-700 Series equipment measures the difference between the actual SMPTE code start and the ANSI specification, displays this difference, re-phases and re-transmits the corrected code to specification and computer acceptance. This equipment will also correct drifting or unlocked time code caused when the video is recorded to a different sync source than the longitudinal code.

The basic 700 series rack comes equipped with the power supply module pair 701-1/701-2 and the frame pulse generator module pair 702-1/702-2. Space in the rack is provided for one or more code phase corrector module pairs 703-1/703-2. One of these pairs is required for each playback VTR machine in the edit bay.

**CPC-700** . . . . . \$1395.00  
**703-1** Code phase corrector module . . . . . pair/995.00  
**703-2** Code input-output rear module . . . . . pair/995.00

## VID-225 Vertical Interval Decoder

The VID-225 is a microprocessor based instrument which performs a dual function by decoding both an incoming Longitudinal Time Code (LTC) on a cue track and a Vertical Interval Time Code (VITC) present on a composite video signal.

A SMPTE longitudinal code is outputted at a rate proportional to either input. This allows the VITC input to be used from freeze frame to full wind speed and be automatically interfaced to most existing edit controllers, code readers/character generators, and other equipment that requires proportional LTC into their inputs.

The longitudinal decoder incorporates "The McFadin Window"® with wide range digital decoding from 1/100 to 100 times the VTR play speed. (Machine dependent).

Selection of the two codes can be automatic or manual, allowing the maximum advantage of both codes in various editing situations. At tape speeds below 1/4 play speed, the unit outputs longitudinal data at a 1/4 rate when VITC is present, and will squelch if an absence of time code is required by the edit controller when the tape is stopped.

Demultiplexing circuitry is provided to decode the display user bits that have been encoded using a time code generator in conjunction with the UBE-118A, FCM-227A or similar multiplexing devices.

The eleven position thumbwheel is used to instruct the demultiplexing circuitry which one of the ten frames of data to display, or to display all frames. This multiplexing scheme allows 10 times the normal 32 bits to be encoded.

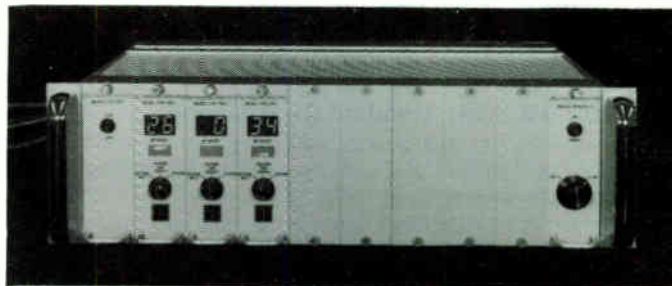
The VITC data is extracted from the incoming video, and made available for use in re-encoding with other video equipment such as the DSI-126, in an editing room environment.

**VID-225** . . . . . \$3950.00

**UBE-118A** User Bit Encoder. A 10 channel multiplexer that encodes user bits from parallel inputs. A real time clock is provided for insertion into one channel of user bits . . . \$2550.00

**DSI-126A** Data Selector and Inserter. Accepts up to eight channels of serial VITC data from VID-225's and selects one of these channels by tally information from a video switcher, to modulate the composite video with VITC information . . . . . \$2595.00

**FCM-227A** Film Counter, Multiplexer, and Character Generator. With tach and 3/2 inputs from a telecine system, an ASCII RS-232 terminal that provides scene, take, and reel information and a DT-104F SMPTE edit code generator that provides field rate time code, this unit will output vertical interval time code containing this data for inserting on one or more video lines. It will also output encoded parallel user bits to the SMPTE edit code generator. A character generator is included, which displays time code, user bits, and the multiplexed scene, take, and reel information . . . . . \$4950.00



CPC-700



VID-225



VIE-224

**DET-129** Data Entry Terminal. Provides data entry of edge numbers/starting footage count, scene, take, and reel numbers into the FCM-227A film counter/multiplexer . . . . . \$5450.00

**FC-142** Film Counter and Character Generator. Counts film feet and frames from a film projector or Telecine to precisely identify all film frames in a 3/2 scan transfer by inserting information in a window dub for viewing with complete video field accuracy. The information displayed can be feet and frames or edge numbers and frames for 16mm or 35mm . . . . . \$2995.00

## VIE-224 Vertical Interval Encoder

The VIE-224 modulates a composite video signal with VITC from an external incoming SMPTE LTC. A front panel display presents the time code or user bits by selection from a panel switch.

This unit is particularly useful when a facility that has a SMPTE LTC generator needs to encode video tapes with VITC. It is also useful when converting tapes with LTC to VITC for editing precision or freeing an audio track for stereo.

The incoming time code is updated before modulating the video to maintain real time. The user bits may be updated by a front panel switch whenever a secondary time code is transmitted in the user bits.

The incoming SMPTE longitudinal code is demodulated by a wide band decoder incorporating The McFadin Window and processed through microprocessor-based circuitry to provide time base correction. This assures that the same data is encoded on both fields of each TV frame, regardless of incoming edit code speed or phase.

VITC transmission can be programmed to modulate on any combination of vertical interval lines from 10 through 20 on either or both fields. Any signal that is on a selected line is erased before the VITC is encoded.

**VIE-224** . . . . . \$3450.00



# HAMEG, INC.

88-90 Harbor Rd.  
Port Washington, NY 11050  
(516) 883-3837 (800) 247-1241  
FAX: (516) 883-3894 TWX: 510-223-0889

# OSCILLOSCOPES

## HM203-6 20MHz Standard Oscilloscope

• Y: 2 channels, DC-20MHz, max. sensitivity 2mV/div. • X 0.2s-20ns/div incl. 10X magnification. Component tester • Triggering DC up to 40MHz • Active TV-sync-separator

The HM203-6 is an excellent oscilloscope. Both vertical amplifiers incorporate variable gain controls and maximum input sensitivity is 2mV/div. over the full bandwidth of the oscilloscope. A further feature permits display of the sum and difference of two signals.

Triggering facilities have also been extended. In addition to line and TV triggering, HF and DC triggering is possible. The HM203-6 will trigger reliably with a 0.5 div. display height up to at least 40MHz. Using the manual level control combined with the variable hold-off control, even relatively complex signals can be stably triggered. The time resolution has now been increased to max. 20ns/div including 10X magnification.

An 8x10 cm internal graticule permits parallax-free viewing over a wide angle. The effect of the earth's magnetic field upon horizontal trace position can be compensated for, externally, with a trace rotation control.

The HM203-6 has a built-in component tester, which is particularly useful in maintenance and service work. Among other applications, this device enables rapid in-circuit testing of semiconductors. Test voltage and current are rated so that normal semiconductors or other components cannot be damaged. Test results are displayed on the scope screen.

The HM203-6 was designed for general purpose applications in industry and service. Its many operating modes, front panel layout, and ease of operation also make it an ideal oscilloscope for training engineers and technicians.

**HM203-6 . . . . . \$590.00**

## HM205-2 20MHz Digital Storage Oscilloscope

• Y: 2xDC-20MHz, max. 2mV/div. • X: 0.2s-20ns/div. (Mag. 10X incl.) • Triggering: from DC up to 40 MHz

This HM205-2 combines a general purpose oscilloscope with a digitizing oscilloscope. In addition to its feature-packed analog operating modes, it provides very practical digitized waveform processing for signals and events with 5MS/s digitizing rate and dual channel acquisition. An 8-bit vertical resolution digital storage 1K record length per channel are great enough to store and display even the most minute waveform details. A dot join feature improves waveform recognition by linear interpolation between the sample points. X-Y plotter output for Hameg Graphic-plotter is standard. The HM205 also offers an active TV sync separator, jitterless triggering up to at least 40MHz, hold-off control, X-Y mode, Y-output and a built-in component tester. The IEEE-488 bus interface is optional.

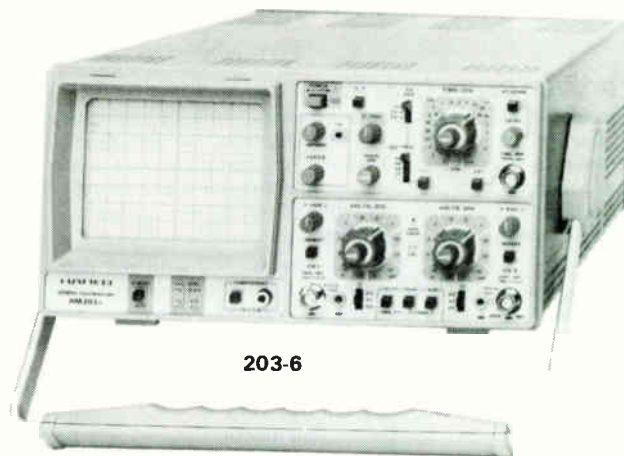
**HM205-2 . . . . . \$888.00**

## HM604 60MHz Multifunction Oscilloscope

• Y: 2 channels, DC-60MHz, max. 1mV/cm, delay line • X: 2.5s/cm-5ns/cm incl. 10X magnification, delayed sweep • triggering up to 80MHz • Var. hold-off time • Component tester.

The HM604 is a truly versatile scope satisfying a wide variety of exacting requirements in laboratory, production, and service. The maximum input sensitivity of 1mV/div. facilitates the display of extremely low-level signals. Despite their high sensitivity, the HM604's vertical amplifiers are of excellent stability and low drift design with not more than 1% overshoot.

The built-in delay line permits viewing of the trigger edge at all times. The overscan feature indicates if any part of the trace passes the vertical limits of the CRT screen. An analog Y-output, switchable to Channel I or II, allows further processing of the signal.



Reliable triggering is ensured up to at least 80MHz, and trigger facilities include vertical mode alternate triggering, line trigger and single sweep operation. Other trigger features are variable hold-off time. RF-and LF-filters at any sweep speed for TV frame and line displays, as well as normal and automatic peak-value triggering. An LED indicates when the sweep is triggered. Sweep ranges from 5ns/div. to 2.5s/div. ensure optimum resolution of slow and fast signals. The variable sweep delay facility enables any section of the waveform to be expanded by 1000 and more for detailed signal analysis. A rectangular 14kV CRT with illuminated graticule provides exceptionally bright and sharp displays.

A special feature for scopes in this price range is the built-in switchable 1kHz/1MHz squarewave generator providing 0.2V and 2V calibration signals with a risetime < 5ns. It is now possible to self-test instantly the transient response of the vertical amplifiers and compensation of modular attenuation probes for utilization of the full bandwidth of scope and probe.

A component tester is also incorporated. The HM604's outstanding price performance capability is not likely to be matched by similar products in the near future.

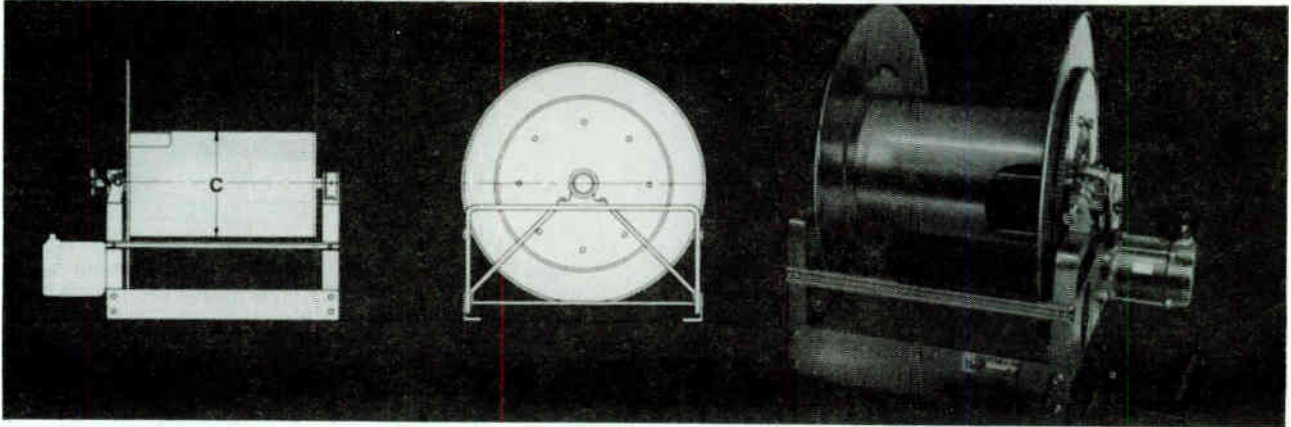
**HM604 . . . . . \$888.00**

## Oscilloscope Accessories

<b>HZ20</b>	Adaptor BNC-4mm Binding Posts . . . . .	\$ 12.00
<b>HZ22</b>	50 ohms BNC Feedthrough Termination . . . . .	20.00
<b>HZ23</b>	Attenuator 2:1 BNC . . . . .	31.00
<b>HZ30</b>	Test Probe 10:1 . . . . .	29.00
<b>HZ32</b>	Coaxial Cable BNC-4mm Plugs . . . . .	11.80
<b>HZ34</b>	Coaxial Cable BNC-BNC . . . . .	10.00
<b>HZ35</b>	Test Probe 1:1 . . . . .	29.00
<b>HZ36</b>	Switchable Probe 1:1/10:1 . . . . .	33.00
<b>HZ37</b>	Switchable Probe 1:1/10:1 with HF-(Compensation). . . . .	38.00
<b>HZ40</b>	Spares Kit (2 sprung hooks, 5 screw tips) . . . . .	7.00
<b>HZ47</b>	Viewing Hood for HM203, 204, 205, 208, 605 . . . . .	11.00
<b>HZ50</b>	Modular Test Probe 1:1 (30MHz) . . . . .	35.00
<b>HZ51</b>	Modular Probe 10:1 (150MHz) . . . . .	40.00
<b>HZ52</b>	Modular Probe 10:1 HF (250MHz) . . . . .	58.00
<b>HZ53</b>	Modular Probe 100:1 (150MHz) . . . . .	48.00
<b>HZ54</b>	Modular Probe Switchable 1:1/10:1 (10/150MHz) . . . . .	42.00
<b>HZ55</b>	Modular Demodulator Probe . . . . .	55.00
<b>HZ59</b>	HV-Probe 1000:1 (15kV) bandwidth 1MHz . . . . .	68.00
<b>HZ60</b>	Oscilloscope Tester, 1-10-100kHz/1MHz (crystal controlled), output 25mV/50 ohms, 0.25V and 2.5V open circuit . . . . .	88.00
<b>HZ65</b>	Component Tester . . . . .	62.00
<b>HZ71</b>	Plotter Cable (for HM208) . . . . .	28.00
<b>HZ96</b>	Carrying case for HM203-5, 203-6, 204, 204-2, 205, 208, 605, 606 . . . . .	78.00



**SERIES C Manual and Power Rewind Reels for Cable Storage**



These heavy-duty reels are designed for storage of all types of electric cable. A 4 1/2" x 5 1/2" opening in the drum permits end of cable to be inserted to initiate winding.

**Rewind:** Choose gear-drive crank rewind, or chain and sprocket drive powered by AC or DC electric motor, compressed air motor or hydraulic motor.

**Options:** Upon request, reels can be supplied with "B" dimension other than shown and with disc sizes ("E" dimension) in other diameters.

Divider discs, can be placed at almost any point on the drum you specify. Specify spacing of discs on your order.

A 15 1/2" diameter drum, in place of the standard to accommodate a bending radius of 7 3/4" or less, is available on all models. With this option the reel cable capacity is reduced.

**To Order:** Specify complete model number and include proper prefix for rewind wanted. Specify size, length, type and weight of cable. Specify AC or DC voltage and phase for electric rewind models. Specify standard or 15 1/2" diameter drum. Give spacing for divider discs, if required. Indicate how reel will be installed and used.

**Note:** Be sure to specify all options you require when ordering.

Cable Capacity of Reel in Feet						Model Number*	Reel Dimensions in Inches E, F, and G are overall Dimensions								Approx. Wt. Lbs. Crank Rewind			
O.D.							A	B	C	E	E	E	F	F	F	G	Net	Shipping
1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"					Crank/ Elec.	Air	Hyd.	Crank	Elec.	Air/ Hyd.			
3500	900	350	210	125	70	C24-19-21	20 1/2	15 1/2	10 1/2	19	20 1/2	19	21 1/2	27 1/2	24 1/2	21	80	120
4800	1200	475	300	170	90	C28-19-21	25	20	10 1/2	19	20 1/2	19	26	32	29	21	84	124
6700	1600	675	380	250	170	C24-23-24	20 1/2	15 1/2	10 1/2	23	24 1/2	23	21 1/2	27 1/2	24 1/2	24	90	130
8700	2000	890	500	325	210	C28-23-24	25	20	10 1/2	23	24 1/2	23	26	32	29	24	94	134
6000	1450	600	340	175	110	C20-25-26	16 1/2	11 1/2	10 1/2	25	26 1/2	25	17 1/2	23 1/2	20 1/2	26	86	126
8000	1950	800	475	250	160	C24-25-26	20 1/2	15 1/2	10 1/2	25	26 1/2	25	21 1/2	27 1/2	24 1/2	26	93	133
—	2500	1000	625	325	210	C28-25-26	25	20	10 1/2	25	26 1/2	25	26	32	29	26	100	140
7200	1700	700	400	225	175	C18-30-31	14 1/2	9 1/2	10 1/2	30	31 1/2	30	15 1/2	21 1/2	18 1/2	31	96	136
—	2400	1100	575	350	260	C22-30-31	18 1/2	13 1/2	10 1/2	30	31 1/2	30	19 1/2	25 1/2	22 1/2	31	100	140
—	3600	1500	900	550	375	C28-30-31	25	20	10 1/2	30	31 1/2	30	26	32	29	31	110	150

**\* WHEN ORDERING POWER REWIND MODELS, PREFIX MODEL NO. WITH:**  
**A = AIR REWIND**  
**E = ELECTRIC REWIND**  
**HD = HYDRAULIC REWIND**

**ADD 10" to E dimension when crank is in rewind position.**

**NOTE:** Weights shown in chart are for crank rewind models. **ADD** these amounts for power rewind models:

	NET	SHIP
<b>ELECTRIC</b>	<b>40</b>	<b>45</b>
<b>AIR</b>	<b>25</b>	<b>30</b>
<b>HYDRAULIC</b>	<b>25</b>	<b>30</b>

**To Order:** Specify Model Number and indicate if reel is to be equipped with handle. Specify Gauge/No. of Conductors, length and type of cable for factory installation.

# CLIFFORD B. HANNAY & SON, INC.

600 E. Main St.  
 Westerlo, NY 12193  
 (518) 797-3791  
 FAX: (518) 797-3259

## REELS

### Series C-3200



Series C-3200 reels are designed for storage of long lengths of electric cable. A 4 1/2" x 5 1/2" opening in the reel drum is provided for insertion of the cable to initiate winding. Equipped with a spring-actuated pin lock.

**Rewind:** Direct crank rewind. Crank attaches to reel axle and is removable.

**Options:** Upon request, reels can be supplied with "B" dimension other than shown and with disc sizes ("E" dimension) in other diameters.

Divider discs can be placed at almost any point on the drum you specify. Specify spacing of discs on your order.

### Series C-1500



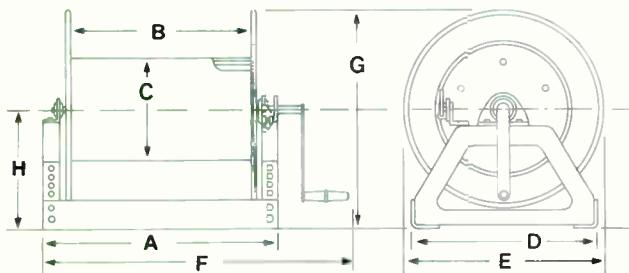
Series C-1500 reels are designed for storage of shorter lengths of electric cable. A 1" x 1 3/4" opening in the reel drum is provided for insertion of the cable to initiate winding.

**Rewind:** Direct crank, permanently attached to axle, is standard. Also available with chain and sprocket rewind, powered by 12VDC or 110/120V, single phase, AC electric rewind motor.

**Options:** Upon request, reels can be supplied with "B" dimension other than shown.

Divider discs can be placed at almost any point on the drum you specify. Specify spacing of discs on your order.

The standard color for these series is dark blue.



#### POWER REWIND OPTION

The frame design on the C-3200/C-1500 Series enables us to offer it with a chain and sprocket drive powered by a 12-volt non-explosion-proof electric motor or air motor.

**NOTE:** Weights and dimensions shown in the chart are for crank rewind models. **ADD** these weights for power rewind models:

	NET	SHIP
ELECTRIC	30	30
AIR	20	20

Capacity of Reel in Feet	Model Number	Reel Dimensions in Inches								Approx. Wt. Lbs. Crank Rewind			
		A	B	C	D	E	F	G	H	NET	SHIP		
O.D. 1/4" 1/2" 3/4" 1" 1 1/4" 1 1/2"													
1000 450 225 150 100	C3218-24-26	14 1/2	9 1/2	10 1/2	23 3/8	24	21 1/2	27	15	64	89		
2200 1000 500 325 200	C3228-24-26	25	20	10 1/2	23 3/8	24	32	27	15	80	105		
3000 1300 650 425 275	C3234-24-26	31	26	10 1/2	23 3/8	24	38	27	15	90	125		
4300 2000 975 650 425	C3246-24-26	43	38	10 1/2	23 3/8	24	50	27	15	126	158		
3900 1700 900 550 375	C3228-30-32	25	20	10 1/2	23 3/8	30	32	30 1/2	15 1/2	100	135		
5000 2300 1100 700 500	C3234-30-32	31	26	10 1/2	23 3/8	30	38	30 1/2	15 1/2	107	145		
3000 1350 675 400 375	C3224-32-34	20 1/2	15 1/2	10 1/2	23 3/8	32	27 1/2	32 1/2	16 1/4	90	125		
7500 3400 1700 1000 950	C3246-32-34	43	38	10 1/2	23 3/8	32	50	32 1/2	16 1/4	130	165		
1400 325 150 75	C1514-17-18	11	6	6 1/4	14	16 1/2	15 1/2	18	9 3/8	23	31		
2600 650 300 150	C1520-17-18	17	12	6 1/4	14	16 1/2	21 1/2	18	9 3/8	25	33		
4000 1000 450 225	C1526-17-18	23	18	6 1/4	14	16 1/2	27 1/2	18	9 3/8	27	37		
5000 1200 550 275	C1530-17-18	27	22	6 1/4	14	16 1/2	31 1/2	18	9 3/8	29	41		

\*WHEN ORDERING POWER REWIND MODELS, PREFIX MODEL NO. WITH:  
 A=AIR REWIND E=ELECTRIC REWIND

MANY MORE SIZES, FROM STANDARD COMPONENTS, AVAILABLE ON REQUEST.

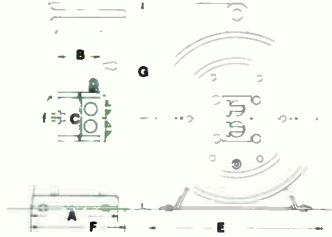
# CLIFFORD B. HANNAY & SON, INC.

600 E. Main St.  
 Westerlo, NY 12193  
 (518) 797-3791  
 FAX: (518) 797-3259

## REELS

### PORTABLE REELS

#### Series 1900 Portable Manual Rewind Reel



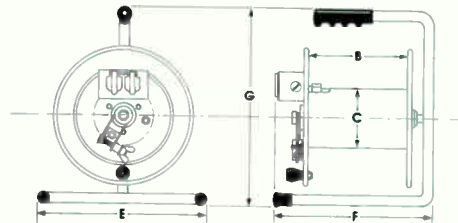
A rugged, lightweight portable reel for handling electric cord. Steel carrying handle and rewind knob are permanently attached. Rubber pads in base plates provide firm footing. Receptacle box is fitted with a strain-relief elbow for the feed line and a weather-resistant cover plate with

spring-actuated caps to protect the outlets. A duplex receptacle for 3-prong plugs is standard. A duplex twist-lock receptacle is available at no extra cost, when specified. Or, you may order a hybrid set-up with one of each.

Cable Capacity of Reel In Feet				Model Number	Reel Dimensions In Inches						Approx. Wt. Lbs.	
Gauge/No. of Conductors					E, F and G are overall Dimensions						Net	Shipping
16/3	14/3	12/3	10/3		A	B	C	E	F	G		
O.D.												
.390	.530	.600	.690		A	B	C	E	F	G	Net	Shipping
375	175	130	100	1900-4	9 1/4	4	6	16 1/2	9 3/4	20 1/2	20	28
580	275	220	150	1900-6	9 3/4	6	6	16 1/2	11 3/4	20 1/2	22	30

### PORTABLE WIRED CABLE REELS

#### LC16-10-11 To Handle Wired Electrical Cable.



The LC16-10-11 portable wired cable reel is a compact, lightweight and durable unit designed to handle long lengths of **wired** electrical cable. The LC16-10-11 reel has a waterproof, covered duplex receptacle for 3

pronged plugs and can be connected to up to 275' of 16/3 cable. (A twist-lock duplex receptacle is available at no additional cost when specified on order.) The reel is also outfitted with a spring drag device which is used to brake the reel.

The standard color for this model is red.

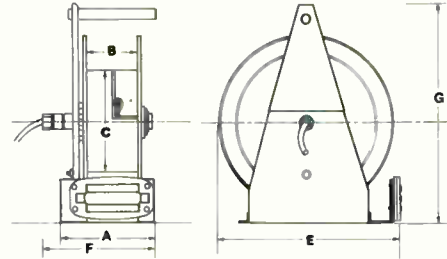
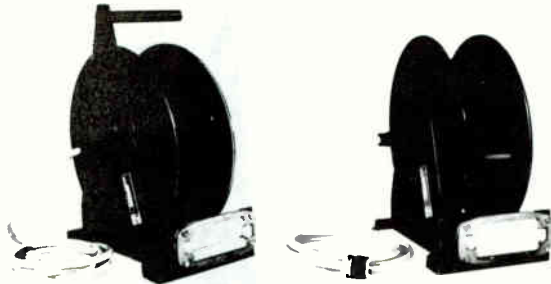
Cable Capacity of Reel in Feet			Model Number	Reel Dimensions in Inches				
Cable O.D.				E, F and G are Overall Dimensions				
1/2"	3/8"	1/2"		B	C	E	F	G
700	275	150	LC16-10-11	7 1/2	4 1/2	12	12 1/2	15

Prices and Specifications Subject to Change Without Notice.



## PORTABLE REELS

### SCR 10-17-19 Spring Rewind Reel



A compact, spring rewind reel to handle live 2 or 3-conductor cable. Rewind spring and collector rings are housed inside the drum. A 6-ft. power source lead of type SO cable, with 3-prong plug attached, is pre-wired to the reel. Wires from collector ring terminals extend

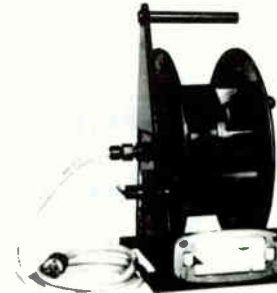
through grommets opening in the drum for accessibility. Available with pre-drilled mounting holes for permanent installation, or with steel carrying handle and rubber pads for portable use. 4-way rollers guide cable on and off reel.

Cable Capacity of Reel in Feet			Model Number	Reel Dimensions in Inches E, F and G are overall Dimensions						Approx. Wt. Lbs.	
Gauge/No. of Conductors				A	B	C	E	F	G	Net	Shipping
16/3	14/3	12/3									
O.D.											
.390	.530	.600									
100	100	80	SCR10-17-19 W/Handle	9¼	5	10½	18	11	20½	40	48
100	100	80	SCR10-17-19 W/O Handle	9¼	5	10½	18	11	17¼	38	46

To Order: Specify Model Number and indicate if reel is to be equipped with handle. Specify Gauge/No. of Conductors, length and type of cable for factory installation.

### CR-10-17-19 Crank Rewind Reel

Compact manual rewind reel to handle 2 or 3-conductor cable. Collector rings are housed inside the drum. Rewind knob is permanently attached to disc. A 6-ft. power source lead of type SO cable, with 3-prong plug attached, is pre-wired to the reel. Wires from collector ring terminals extend through grommets opening in the drum for accessibility. Available with pre-drilled mounting holes for permanent installation, or with steel carrying handle and rubber pads for portable use. 4-way rollers guide cable on and off reel.



Cable Capacity of Reel in Feet			Model Number	Reel Dimensions in Inches E, F and G are overall Dimensions						Approx. Wt. Lbs.	
Gauge/No. of Conductors				A	B	C	E	F	G	Net	Shipping
16/3	14/3	12/3									
O.D.											
.390	.530	.600									
290	150	140	CR10-17-19 W/Handle	9¼	5	8	18	13	20½	26	44
290	150	140	CR10-17-19 W/O Handle	9¼	5	8	18	13	17¼	24	42

Refer to line drawings at top of page for dimensional specifications on all models on this page.

To Order: Specify Model Number and indicate if reel is to be equipped with handle. Specify Gauge/No. of Conductors, length and type of cable for factory installation.

### C-10-17-19 Cable Storage Reel

A compact, lightweight crank rewind reel, without collector rings, for cable storage. Rewind handle is permanently attached to disc.



Cable Capacity of Reel in Feet				Model Number	Reel Dimensions in Inches E, F and G are overall Dimensions					Approx. Wt. Lbs.	
O.D.					B	C	E	F	G	Net	Shipping
.250	.375	.500	.750								
1150	300	200	100	C10-17-19 W/Handle	5	6	18	11	20½	20	28
1150	300	200	100	C10-17-19 W/O Handle	5	6	18	11	17¼	18	26

To Order: Specify Model Number and indicate with or without handle.

# HARRIS VIDEO SYSTEMS OPERATION

HARRIS CORP. BROADCAST DIVISION

960 Linda Vista Ave.  
Mountain View, CA 94043  
(415) 969-9100  
FAX: (415) 961-5353

# FRAME SYNCHRONIZERS



634

## HVS 634 Component RGB Frame Synchronizer

- Component RGB mode • Digital noise reduction • 3-cable or 4-cable RGB inputs • Freeze field or frame • Heterodyne time base corrector

The most recent synchronizer to join the Harris family—based on the reliable and proven HVS 632 synchronizer.

The 634 will synchronize and time base correct both Component RGB and Composite NTSC video sources, making it a versatile tool in most broadcast and production environments.

RGB component input capability, combined with DNR (Digital Noise Reducer) design makes the HVS 634 ideal for film to tape transfer applications.

Chrominance and luminance noise reduction is independently variable up to 10dB—without motion artifacts. RGB 3-cable (sync on Green) or 4-cable (separate black burst) operation is switch-selectable.

Full-bandwidth picture freeze increases production versatility by providing front panel selectable field or frame freeze. The 634 locks non-synchronous video sources—satellite, camera, studio feed, or heterodyne VTR—to station sync with precise accuracy. Hysteresis compensation is standard.

The component-coded architecture of the 634 results in a TBC that is inherently immune to color phasing problems and vertical or horizontal picture shift. The four-field NTSC color sequence is always correctly maintained.

**HVS 634 . . . . . \$28,000.00**



642

## HVS 642 Digital Frame Synchronizer

- High performance time base corrector • Exceptional noise immunity • Automatic noise reduction • High quality freeze field or frame • Audio synchronizer control • Separate, clean-switching TBC/synchronizer inputs • Full plug-in boards and power supply • Built-in diagnostic and troubleshooting aids • Optional full function remote

A proprietary input sync detection circuit maintains signal lock-up to 20dB in both synchronizer and TBC modes (patent pending). This feature enables the 642 to lock on noisy feeds, then reduce noise.

Smart Noise Reduction (SNR) provides true, automatic, frame recursive noise reduction up to 12dB. Depending on the amount of noise in the picture, noise reduction may be automatically switched off or reduced, to avoid the common motion artifacts from 3-dimensional filtering. (Patent pending).

The built-in Time Base Corrector (TBC) operates with any non-segmented, heterodyne 3/4" or 1/2" VTR that employs subcarrier feedback and advanced sync inputs. The TBC features picture-in-shuttle, slow motion for dynamic tracking VTR's, and dropout compensation (DOC) from RF or TTL signal.

The HVS 642 synchronizes a multitude of today's remote feeds, including networks, satellites, microwave and cable systems. The 642 is equally at home timing and synchronizing internal video signals in your production and post-production studios.

**HVS 642 Basic . . . . . \$7,900.00**  
**HVS 642 With Freeze and SNR . . . . . 9,495.00**

### Options and Accessories

Add-on Freeze and SNR . . . . . \$2,000.00  
Remote panel . . . . . 975.00  
BVU cable . . . . . 250.00



VW-3

## VW-3 TBC/Frame Synchronizer

- Exceptional degree of transparency in either TBC or synchronizer mode • Multiple source hot switching without video roll or breakup • Full frame "infinite window" TBC for direct or heterodyne signals. Superior time base corrector for 1", 3/4" and 1/2" format video tape machines • Electronic frame or field freeze for production applications • DOC: TTL or RF inputs • Velocity compensation in both direct and heterodyne TBC mode • Selectable freeze on loss of video—last good field or system black • High performance in a small package (only 1 3/4" high) • Remote control of all function switches, plus proc amp controls with presets • Match frame edit option

The VW-3 provides simultaneous time base correction and synchronization, making it possible to take random feeds from tape machines, microwave links, or satellites and "hot" switch them synchronously with program materials.

The VW-3 is a refinement in time base corrector/frame synchronizer technology. It is designed to provide the highest performance for a wide variety of time base correction and synchronization applications.

**Basic VW-3 . . . . . \$11,700.00**  
**VW-3 With Match Frame Edit option . . . . . 12,700.00**

### Options

Remote control . . . . . \$1,500.00

# HARRIS VIDEO SYSTEMS OPERATION

HARRIS CORP. BROADCAST DIVISION

960 Linda Vista Ave.

Mountain View, CA 94043

(415) 969-9100 FAX: (415) 961-5353

# TIME BASE CORRECTORS/ DIGITAL STILL STORE

## Time Base Correctors

### HVS 560

- High performance at an economical price
- Versatile heterodyne TBC
- 8-bit component architecture with separate chroma and luminance processing
- 16-line correction window
- RF or TTL DOC

The HVS 560 is a practical and hard-working member of the signal processing family. The 560 (Vision) is an economical, wide-application heterodyne TBC that provides time base correction for all 1/2" and 3/4" non-segmented video tape recorders which accept advanced sync.

**HVS 560 . . . . . \$2,995.00**

### HVS 550VT

- Wideband subcarrier feedback mode
- Heterodyne process mode
- 8-bit, 4Xfsc architecture provides virtually transparent signal performance
- 16-line correction window
- Automatic vertical advance
- Built-in proc amp
- RS-170A sync output circuitry
- Complete operator control of video signals and genlock of external equipment
- Dropout compensation, RF or TTL
- Full remote panel option (only 1/2 rack width)

The Variable Tracking (VT) feature allows the 550VT to be used with slow-motion heterodyne VTRs such as the Sony BVU 820 with its Dynamic Tracking mode. The 550VT will dynamically track from 1X reverse play speed to 3X forward play speed, and will hold color lock to  $\pm 5X$  shuttle speed. In addition, the 550VT will enable the VTR to present a stable picture in "Pause" as well as present a viewable picture in forward and reverse modes ( $\pm 40X$  normal speed).

**HVS 550VT . . . . . \$5,595.00**

**Remote Control Option . . . . . 975.00**

**Sony BVU Interface Cable . . . . . 250.00**



**HVS 560**



**HVS 550VT**

### HVS 540

The HVS 540 is a low-cost alternative to the 550VT TBC. The 540 offers many of the features of the 550VT, but operates in the 3.58MHz (subcarrier) feedback mode only and does not feature Variable Tracking.

**HVS 540 . . . . . \$4,325.00**

**Remote Control Option . . . . . 975.00**

## ESP II Digital Still Store

- Easy to learn, simple to operate
- Single independent user
- Single channel output, expandable to dual channel
- Digital effects transitions on separate output
- 1/2 second recall of stills
- On-line capacity up to 1700 stills (frames)
- Excellent for mobile and studio environments

The ESP II provides quality and versatility on a budget, combining still store features with digital effects.

With the ESP II, graphic artists can use multilayer art techniques as successive generations of stills. Up to 15 generations may be produced without degradation in picture quality.

Multilayer graphics can be built in a single memory channel. For future use, stills can be stored to disk at random or in a sequence. A five-digit identification/address number identifies both the still and the disk on which the still is stored.

ESP II can function as two independent freeze frame synchronizers, with a separate third channel for digital effects transitions: horizontal and vertical wipes, fades and dissolves, pushes and pulls. Transitions may be selected at four preset rates: 16, 24, 32, or 48 frames.

With a single channel ESP II, you can transfer slides, still photos, art-cards, titles and other graphics to digital frames for video production or special display. The freeze frame feature allows you to "grab" stills from live camera or tape productions. The single channel model is easily upgraded for dual channel operation.

The ESP II dual channel still store has sophisticated microprocessor control of sequence and stored image display, and a variety of digital effects transitions for on-air production or graphics generation.

With two independent channels, switching may be made between two still stores, two live pictures, or one of each. Dedicated pushbuttons for all key commands are incorporated for operational simplicity and accuracy.



**ESP II**

The modular architecture consists of two freeze frame synchronizer boards and a system genlock, control and transition effects board. These are housed in a mainframe that requires only seven inches of rack space.

Proc amp controls and mainframe and system timing adjustments are on the mainframe front panel or on an optional engineering remote panel. The engineering remote panel is only one rack unit high and is powered by the mainframe. Operation control of the system is afforded by a separate control panel measuring only 3 1/2" x 19".

**ESP II Single channel with 80M byte RSD . . . . . \$26,333.00**

**ESP II Single channel with 340M byte FSD . . . . . 32,666.00**

**ESP II Dual channel with 80M byte RSD . . . . . 30,995.00**

**ESP II Dual channel with 340M byte FSD . . . . . 35,995.00**

### Options and Accessories

Single channel remote panel . . . . . \$ 3,200.00

Dual channel remote panel . . . . . 3,500.00

ACR-20 engineering remote panel . . . . . 1,200.00

80M byte CDC/RSD cartridge drive . . . . . 8,000.00

80M byte data cartridge. . . . . 575.00

340M byte CDC/FSD fixed drive . . . . . 13,000.00

Single rackmount kit for RSD/FSD . . . . . 500.00

Dual rackmount kit for RSD/FSD . . . . . 775.00



# HARRIS VIDEO SYSTEMS OPERATION

HARRIS CORP. BROADCAST DIVISION

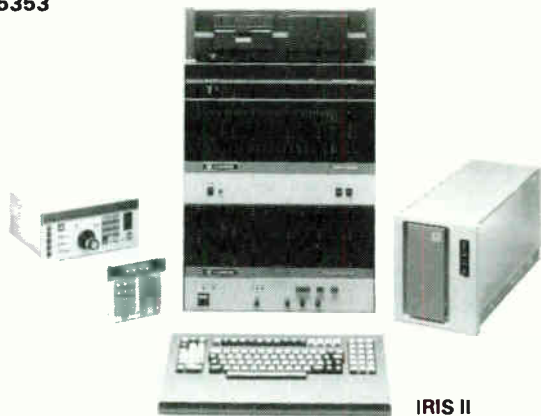
960 Linda Vista Ave.

Mountain View, CA 94043

(415) 969-9100

FAX: (415) 961-5353

# DIGITAL STILL STORE SYSTEMS



IRIS II



IRIS C

## IRIS II

- Up to 6 simultaneous users
- Up to 6 input channels
- Up to 12 output channels (6 with transitions)
- Digital graphics composition with up to 6 simultaneous user stations (ICS)
- Aurora interface (up to 5 Aurora systems on one IRIS)
- Over 20,000 picture storage
- On-line library
- Heterodyne TBC/synchronizer inputs
- NTSC, PAL, RGB

The IRIS II is a powerful and flexible system designed to meet modern demands.

Built with component-coded framestores and designed to evolve as the needs of the industry change, IRIS II accommodates up to 6 simultaneous users and can provide on-line access for 260 to 21,440 stills stored on 1 to 8 drives respectively.

Each user has capabilities for preview/program output, library management, production graphics, transition effects, and field-to-frame interpolation.

The modularity of the system gives maximum flexibility and easy expandability.

## IRIS C

- Up to 2 simultaneous users
- Up to 2 input channels
- Up to 4 output channels (2 with transitions)
- Digital graphics composition with IRIS Composition System (ICS)
- Aurora interface
- Over 20,000 picture storage
- On-line library
- Heterodyne TBC/synchronizer inputs
- NTSC, PAL, RGB

The IRIS C Still Store is a compact, cost-effective system that affords IRIS II quality and performance. The customer has the flexibility to install the IRIS C system and later upgrade it to an IRIS II configuration.

IRIS C supports 2 simultaneous users with dual channel operation, including preview and program capabilities, for each.

Because IRIS C occupies less than 24" of rack space, it's ideal for mobile van installation. IRIS C's stored picture data is compatible with IRIS II. Pictures stored by IRIS C are perfectly interchangeable with those stored by IRIS II.

## Common Features

### • User Stations

Keyboards provide dedicated keys for easy operation. Minicontrollers have an interactive user menu. May be freestanding or slaved to a keyboard or other minicontrollers.

### • 654 Framestore Synchronizer

The component-coded HVS 654 is available as a 2- or 4-output unit (field expandable). The 654's Transitions option provides dissolves

and left/right, up/down wipes with programmable transition frame rates between pairs. Transitions can be programmed into sequence lists.

### • IRIS Composition System (ICS)

With this option an artist can compose complex multilayer graphics quickly and easily, using the familiar joystick control and dedicated pushbuttons. This digital graphics option provides a wide range of effects:

- |   |                                     |
|---|-------------------------------------|
| Variable compression                          | Cut and paste                       |
| Variable expansion                            | Digital key                         |
| Variable aspect ratio                         | Field/frame interpolation           |
| Continuously variable border width/color      | Removable on-line memory of effects |
| Variable border/matte generator with softness | Transparency                        |

### • Storage Media Flexibility

IRIS is compatible with media storage drives from Control Data Corporation. Drives currently available are 80M byte RSD, 340M byte FSD, and 800M byte XMD

### • On-Line Library System

Stills are cataloged by a 6-character numeric or alphanumeric ID and a description (IRIS II only) of up to 20 characters. Up to 66 stills can be linked together in a sequence list, and more than 75 sequence lists may be linked. Sequence lists may be run manually or automatically

### • Interface Capability

Computer Port: (RS-232) For switcher or computerized station automation  
Aurora Videographics Interface: Links the graphics creation capability of the Aurora AU75 or AU220 directly with the Harris IRIS system  
Printer Port: For hardcopy capability. Centronix and TI-compatible parallel interface

### • Multiple Drive Access Capability

IMAC (IRIS Multiple Access Controller) allows two or more IRIS still store systems to share DCU's and drives. Up to six IRIS systems (IRIS II and IRIS C in any combination) may be interconnected with an IMAC

### • Troubleshooting and Diagnostics

Diagnostic Error Log  
Diagnostics Option

## IRIS II

Basic system with single user, 80M byte RSD, and one 654 (1 input/2 output) ..... \$68,800.00  
Basic system plus ICS ..... \$80,800.00

## IRIS C

Basic system with single user, 80M byte RSD, and one 654 (1 input/2 output) ..... \$54,500.00  
Basic system plus ICS ..... \$66,500.00

# KARL HEITZ, INC.

P.O. Box 427  
Woodside, NY 11377  
(718) 565-0004

# HEADS/LEVELING BALLS/ TRIPODS



## GITZO VIDEO EQUIPMENT

### 100% Fluid Heads

380	Fluid Head 3 with 100% fluid panning and 100% fluid vertical tilt, quick release plate, 15" handle, supports 5-15 lbs. . . . .	\$ 699.95
	Same, with 2 15" handles . . . . .	add 50.00
380/2	Additional quick release plate for 380 . . . . .	add 10.00
380/L	Additional quick release plate 2 x 2 1/2 for 380 . . . . .	39.95
382	Additional quick release plate 2 x 5 for 380 . . . . .	49.95
383	Fluid Head 4 with 100% fluid pan, 100% fluid vertical tilt, quick release plate, 15" handle . . . . .	1399.00
480	Same w/14-18" handles . . . . .	add 100.00
480/2	Fluid Head 5 with 100% panning, 100% fluid and counterbalanced vertical tilt, with 3 x 8" quick and shift release plate, extensible handle 14-22", supports 10-50 lbs. . . . .	2499.00
579	Same, with 100% fluid panning, counterbalanced vertical tilt, supports 10-50 lbs. . . . .	1899.00
680	Fluid Head 6: Same as 580 w/stronger counterbalance, supports 50-100 lbs. . . . .	2699.00
679	Fluid Head 6: Same as 579 w/stronger counterbalance, supports 50-100 lbs. . . . .	2099.00
586	580, 579, 680, 679, with second extensible handle 14-22" . . . . .	add 159.95
	Additional quick release plate for 580, 680, 579, 679 . . . . .	add 69.95
EM 580	Metal trimmed carrying case for 580, 579, 680, 679 . . . . .	179.95

### Leveling Balls With Locking Grip, Headlock, For Rapid Adjustment Of Fluid Heads, Without Or With Center Column For Height Adjustment

121 BR	Leveling ball with rapid column sport . . . . .	\$ 179.95
221 BR	Leveling Ball 2 w/Rapid column for Reporter . . . . .	189.95
221 BC	Leveling Ball 2 w/Cremalliere gearlift column for Cremalliere 2 . . . . .	189.95
321 BR	Leveling Ball 3 w/Rapid column for Studex . . . . .	199.95
321 BC	Leveling Ball 3 w/Cremalliere gearlift column for Cremalliere 3 . . . . .	199.95
421 B	Leveling Ball 4 for Super Pro Tele Studex, platform 3 1/4" diameter . . . . .	219.95
421 BR	Leveling Ball 4 w/Rapid column for Super Pro Tele Studex . . . . .	299.95
421 BC	Leveling Ball 4 w/Cremalliere gearlift column for Super Pro Tele Studex . . . . .	449.95
621 B	Leveling Ball 6 for Super Pro Tele Studex, platform 4 1/4" diameter . . . . .	319.95
621 BC	Leveling Ball 6 w/Cremalliere gearlift column 18" for Super Pro Tele Studex . . . . .	599.95
621 BCL	Leveling Ball 6 w/Long Cremalliere gearlift column 32" for Super Pro Tele Studex . . . . .	699.95
622 BF	Leveling Ball 6 F w/flat base 4 1/4" diameter, 3/8" socket . . . . .	419.95

### Tripods With Leveling Balls Without Or With Center Column For Height Adjustment

<b>Sport With Ball 1:</b>		
<b>Leg Diameter 7/8"</b>		
103 BR1	Sport Eco Ball 1/Rapid . . . . .	\$ 279.95
<b>Reporter, Cremalliere 2:</b>		
<b>Leg Diameter 1", For Cameras To 10 Lbs.</b>		
203 BR2	Reporter Eco Ball 2/Rapid w/2 leg sections . . . . .	\$ 299.95
204 BR2	Reporter Industry Ball 2/Rapid w/3 leg sections . . . . .	329.95
220 BR2	Reporter Performance Ball 2/Rapid w/3 leg sections, leg spreading . . . . .	369.95
224 BR2	Reporter Industry Performance Ball 2/Rapid w/3 leg sections, leg spreading . . . . .	379.95
210 BC2	Cremalliere 2 Industry Ball 2/Cremalliere gearlift w/3 leg sections . . . . .	399.95
212 BC2	Cremalliere 2 Industry Performance Ball 2/Gearlift . . . . .	429.95

<b>Studex, Cremalliere 3: Leg Diameter 1 1/4", For Cameras To 15 Lbs.</b>		
303 BR3	Studex Eco Ball 3/Rapid w/2 leg sections . . . . .	\$ 349.95
301 BR3	Studex Ball 3/Rapid w/3 leg sections . . . . .	389.95
323 BR3	Studex Compact Performance Ball 3/Rapid w/3 leg sections, leg spreading . . . . .	449.95
320 BR3	Studex Performance Ball 3/Rapid w/3 leg sections, leg spreading . . . . .	449.95
310 BC3	Cremalliere 3 Ball 3/Cremalliere gearlift w/3 leg sections . . . . .	459.95
312 BC3	Cremalliere 3 Performance Ball 3/Cremalliere gearlift w/3 leg sections, leg spreading . . . . .	509.95
<b>Super Studex Standard: Leg Diameter 1 3/8", For Cameras To 50 Lbs.</b>		
405 B4	Super Studex Compact Ball 4 w/4 leg sections . . . . .	\$ 459.95
405 BR4	Super Studex Compact Ball 4/Rapid w/4 leg sections . . . . .	539.95
405 BC4	Super Studex Compact Ball 4/Cremalliere gearlift w/4 leg sections . . . . .	689.95
400 B4	Super Studex Giant Ball 4 w/3 leg sections . . . . .	459.95
400 BR4	Super Studex Giant Ball 4/Rapid w/3 leg sections . . . . .	539.95
400 BC4	Super Studex Giant Ball 4/Cremalliere gearlift w/3 leg sections . . . . .	689.95
400/2 B4	Super Studex Giant Eco Ball 4 w/2 leg sections . . . . .	419.95
400/2 BR4	Super Studex Giant Eco Ball 4/Rapid w/2 leg sections . . . . .	499.95
400/2 BC4	Super Studex Giant Eco Ball 4/Cremalliere gearlift w/2 leg sections . . . . .	649.95
408	Super Studex Compact Luxe w/5 leg sections . . . . .	add 90.00
403	Super Studex Giant Luxe w/4 leg sections . . . . .	add 90.00
<b>Pro Studex Performance: Leg Diameter 1 3/8" w/Leg Spreading, For Cameras To 50 Lbs.</b>		
415 B4	Pro Studex Compact Ball 4 w/4 leg sections . . . . .	\$ 529.95
415 BR4	Pro Studex Compact Ball 4/Rapid w/4 leg sections . . . . .	609.95
415 BC4	Pro Studex Compact Ball 4/Cremalliere gearlift w/4 leg sections . . . . .	759.95
410 B4	Pro Studex Giant Ball 4 w/3 leg sections . . . . .	529.95
410 BR4	Pro Studex Giant Ball 4/Rapid w/3 leg sections . . . . .	609.95
410 BC4	Pro Studex Giant Ball 4/Cremalliere gearlift w/3 leg sections . . . . .	759.95
410/2 B4	Pro Studex Giant Eco Ball 4 w/2 leg sections . . . . .	469.95
410/2 BR4	Pro Studex Giant Eco Ball 4/Rapid w/2 leg sections . . . . .	569.95
410/2 BC4	Pro Studex Giant Eco Ball 4/Cremalliere gearlift w/2 leg sections . . . . .	719.95
418	Pro Studex Compact Luxe w/5 leg sections . . . . .	add 90.00
413	Pro Studex Giant Luxe w/4 leg sections . . . . .	add 90.00
<b>Tele Studex Performance: Leg Diameter 1 1/2" w/Leg Spreading, For Cameras To 50 Lbs.</b>		
510 B4	Mini Tele Studex Ball 4 w/4 leg sections . . . . .	\$ 599.95
510 BR4	Mini Tele Studex Ball 4 w/Rapid w/4 leg sections . . . . .	679.95
510 BC4	Mini Tele Studex Ball 4 w/Cremalliere gearlift w/4 leg sections . . . . .	829.95
505 B4	Tele Studex Compact Ball 4 w/4 leg sections . . . . .	599.95
505 BR4	Tele Studex Compact Ball 4/Rapid w/4 leg sections . . . . .	679.95
505 BC4	Tele Studex Compact Ball 4/Cremalliere gearlift w/4 leg sections . . . . .	829.95
500 B4	Tele Studex Giant Ball 4 w/3 leg sections . . . . .	599.95
500 BR4	Tele Studex Giant Ball 4/Rapid w/3 leg sections . . . . .	679.95
500 BC4	Tele Studex Giant Ball 4/Cremalliere gearlift w/3 leg sections . . . . .	829.95
500/1/2 B4	Tele Studex Giant Eco Ball 4 w/2 leg sections . . . . .	559.95
500/2 BR4	Tele Studex Giant Eco Ball 4/Rapid w/2 leg sections . . . . .	639.95
500/2 BC4	Tele Studex Giant Eco Ball 4/Cremalliere gearlift w/2 leg sections . . . . .	789.95
<b>Tele Studex Performance: Leg Diameter 1 1/2" w/Leg Spreading, For Cameras To 100 Lbs.</b>		
510 B6	Mini Tele Studex Ball 6 w/4 leg sections . . . . .	\$ 699.95
510 BC6	Mini Tele Studex Ball 6 Cremalliere gearlift w/4 leg sections . . . . .	979.95
505 B6	Tele Studex Compact Ball 6 w/4 leg sections . . . . .	699.95
505 BC6	Tele Studex Compact Ball 6/Cremalliere gearlift w/4 leg sections . . . . .	979.95
500 B6	Tele Studex Giant Ball 6 w/3 leg sections . . . . .	699.95
500 BC6	Tele Studex Giant Ball 6/Cremalliere gearlift w/3 leg sections . . . . .	979.95
500 BCL6	Tele Studex Giant Ball 6/Long Cremalliere gearlift w/3 leg sections . . . . .	1079.95
500/2 B6	Tele Studex Giant Eco Ball 6 w/2 leg sections . . . . .	659.95
500/2 BC6	Tele Studex Giant Eco Ball 6/Cremalliere gearlift w/2 leg sections . . . . .	939.95
500/2 BCL6	Tele Studex Giant Eco Ball 6/Long Cremalliere gearlift w/2 leg sections . . . . .	1039.95
513	Mini Tele Studex Luxe . . . . .	90.00
508	Tele Studex Compact Luxe w/5 leg sections . . . . .	add 90.00
504	Tele Studex Giant Luxe w/5 leg sections . . . . .	add 100.00
<b>Tripods With Counter Balanced Video-Cine Head/Column, Access, Supports</b>		
517/8	Wire hooks for Tele Studex, set of 3: 2 long, 1 short . . . . .	\$ 99.95
608	Chain between legs for Tele Studex . . . . .	99.95
<b>Extra Solid Video Tripods: Leg Diameter 1 1/2" w/2 Leg Sections For Cameras To 100 Lbs. And 250 Lbs.</b>		
600 B6	Video 6T/Ball 6F w/chain, leg spreading, supports 100 lbs. . . . .	\$ 799.95
800 B6F	Video 8T/Ball 6F w/4" diam. center column for extra support, 5" wheel dolly, supports 250 lbs. . . . .	2999.95

# KARL HEITZ, INC.

P.O. Box 427  
 Woodside, NY 11377  
 (718) 565-0004

# TRIPODS/HEADS

203-252



800B6F



## GITZO VIDEO EQUIPMENT

### Tripod Combinations with Leveling Balls and 100% Fluid Heads, Collapsible Dollies

203 BR2-180	Reporter Eco Ball 2/Rapid with 180 Fluid Head 1 . . . . .	\$ 468.00
	Same w/390 1 1/2" Wheel Dolly . . . . .	648.00
303 BR3-380	Studex Eco Ball 3/Rapid w/380 100% Fluid Head 3 . . . . .	945.00
	Same w/391 3" Wheel Dolly, Adjustable Metal Shoes . . . . .	1115.00
400 B4-380	Super Studex Giant Ball 4 w/380 100% Fluid Head 3 . . . . .	1043.00
	Same, w/392 5" Wheel Dolly, Adjustable Metal Shoes . . . . .	1313.00
410 B4-480	Pro Studex Giant Ball 4 w/480 100% Fluid Head 4 . . . . .	1736.00
	Same w/392 5" Wheel Dolly, Adjustable Metal Shoes . . . . .	2060.00
505 B4-480	Tele Studex Compact Ball 4 w/480 100% Fluid Head 4 . . . . .	1871.00
	Same, w/392 5" Wheel Dolly, Adjustable Metal Shoes . . . . .	2195.00
505 B6-580	Tele Studex Compact Ball 6 w/580 100% Fluid Head 5 . . . . .	2834.00
	Same w/492 5" Wheel Dolly, Metal Shoes, Stirrups . . . . .	3184.00
500 B6-580	Tele Studex Compact Ball 6 w/580 100% Fluid Head 5 . . . . .	2799.00
	Same w/492 5" Wheel Dolly, Metal Shoes, Stirrups . . . . .	3199.00
600 B6-680	Video 6T/Ball 6 w/680 100% Fluid Head 6 . . . . .	3168.00
	Same w/594 5" Wheel Dolly, Metal Shoes, Stirrups, Traveling Fixings . . . . .	3978.00
800 B6F-680	Video 8T/Ball 6F w/680 100% Fluid Head 6, w/4" dia. Column for Extra Support, 5" Wheel Dolly, Traveling Fixings . . . . .	5147.00

### Fluid Action Head, Base

180	Fluid Action Head 1 w/Rapid Adaptor, supports 2-7 lbs. . . . .	\$219.95
285	Fluid Action Base for 360° Panning of Non-Fluid Heads, supports 2-20 lbs. . . . .	169.95

### Video-Cine Heads, Spring Balanced

155	Video-Cine 1S for Weekend, Total/Sport, Cremaillere 0/1, supports 2-7 lbs. . . . .	\$ 99.95
252	Video-Cine 2S for Total/Sport, Reporter, Cremaillere 1/2, supports 5-10 lbs. . . . .	169.95

### Video Head, Not Counterbalanced with Quick Release

251	Video 2 for Total/Sport, Reporter, Cremaillere 1/2, supports 5-10 lbs. . . . .	\$119.95
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### Simple Video-Cine Heads, Not Counterbalanced

050	Video-Cine 0 for Loisir, Weekend, Cremaillere 0, supports 2-5 lbs. . . . .	\$ 79.95
150	Video-Cine 1 for Total/Sport, Cremaillere 1, supports 2-7 lbs. . . . .	89.95
250	Video-Cine for Reporter, Cremaillere 2, supports 2-10 lbs. . . . .	99.95
350	Video-Cine 3 for Studex, Cremaillere 3, supports 5-15 lbs. . . . .	109.95
450	Video-Cine 4 for Super Pro Tele Studex, supports 10-20 lbs. . . . .	129.95
450L	Video-Cine 4L with longer handle 15', supports 10-20 lbs. . . . .	149.95
450LL	Same with 2 longer handles 15' . . . . .	169.95
585	Side tilt attachment for more than 90°, also suited for Monopods . . . . .	69.95

### Quick and Shift Releases for Cameras to 20 lbs.

385	With 2" x 3" Plate, 1/4" Screw (3/8" on request) . . . . .	\$79.95
386	With 2" x 6" Plate (2) 1/4" Screws (3/8" on request) . . . . .	89.95
387	2" x 3" Plate only with (2) 1/4" Screws (3/8" on request) . . . . .	29.95
388	2" x 6" Plate only with (2) 1/4" Screws (3/8" on request) . . . . .	39.95

### Video Combi Tripods with 2 Leg Sections, Fluid Action, or Counterbalanced Video Head

03-180	Weekend Eco/Fluid Action Head 1, supports 2-5 lbs. . . . .	\$329.95
103-180	Sport Eco/Fluid Action Head 1, supports 2-7 lbs. . . . .	339.95
203-180	Reporter Eco/Fluid Action Head 1, supports 2-7 lbs. . . . .	359.95
03-155	Weekend Eco Video Combi w/155 Video 1S, supports 2-5 lbs. . . . .	199.95
103-155	Sport Eco Video Combi w/155 Video 1S, supports 2-7 lbs. . . . .	209.95
103-252	Sport Eco Video Combi w/252 Video 2S, supports 2-7 lbs. . . . .	289.95
203-252	Reporter Eco Video Combi w/252 video 2S, supports 5-10 lbs. . . . .	319.95

### Video Combi Tripods with 2 Leg Sections, Non-Counterbalanced Video or Simple Video-Cine Heads

103-251	Sport Eco Video Combi w/251 Video 2, supports 2-7 lbs. . . . .	\$239.95
203-251	Reporter Eco Video Combi w/251 Video 2, supports 5-10 lbs. . . . .	259.95
03-150	Weekend Eco Video Combi w/050 Video-Cine 0, supports 2-5 lbs. . . . .	189.95
103-150	Sport Eco Video Combi w/150 Video-Cine 1, supports 2-7 lbs. . . . .	209.95
203-250	Reporter Eco Video Combi w/250 Video-Cine 2, supports 5-10 lbs. . . . .	239.95
303-350	Studex Eco Video Combi w/350 Video-Cine 3, supports 10-15 lbs. . . . .	289.95
400/2-450	Super Studex Giant Eco Video Combi w/450 Video-Cine 4, supports 10-20 lbs. . . . .	399.95
410/2-450	Pro Studex Giant Eco Video Combi w/450 Video-Cine 4, supports 10-20 lbs. . . . .	469.95
500/2-450L	Tele Studex Giant Eco Video Combi w/450L Video-Cine 4L, supports 10-20 lbs. . . . .	559.95
500/2-450LL	Same w/2 handles . . . . .	579.95

### Video-Cine Tripods with 2 Leg Sections

03	Weekend Eco, leg dia. 3/4", supports 0-3 lbs. . . . .	\$129.95
103	Sport Eco, leg dia. 7/8", supports 2-5 lbs. . . . .	139.95
203	Reporter Eco, leg dia. 1", supports 5-10 lbs. . . . .	159.95
303	Studex Eco, leg dia. 1 1/4", supports 10-15 lbs. . . . .	199.95
400/2R	Super Studex Giant Eco, leg dia. 1 3/8", supports 20-50 lbs. . . . .	299.95
410/2R	Pro Studex Giant Eco w/Leg Spreading, leg dia. 1 3/8", supports 20-50 lbs. . . . .	369.95
500/2R	Tele Studex Giant Eco w/Leg Spreading, leg dia. 1 1/2", supports 25-65 lbs. . . . .	439.95

### Standard and Performance Tripods with Rapid Column, For Lightweight and Medium Weight Cameras

Total/Sport: Leg Dia. 7/8", For Cameras to 5 lbs.		
106	Total Luxe w/4 Leg Sections, 2 Section Column . . . . .	\$159.95
101	Sport w/3 Leg Sections . . . . .	159.95
104	Sport Luxe: 101 w/4 Leg Sections . . . . .	189.95
126	Total Luxe Performance: 106 w/Leg Spreading, 2 Section Column . . . . .	199.95
120	Sport Performance: 101 w/Leg Spreading, 2 Section Column . . . . .	199.95
124	Sport Luxe Performance: 120 w/4 Leg Sections . . . . .	229.95

### Reporter: Leg Dia. 1", For Cameras to 10 lbs.

206	Reporter Mode w/4 Leg Sections . . . . .	\$189.95
201	Reporter w/3 Leg Sections . . . . .	179.95
205	Reporter Luxe w/4 Leg Sections . . . . .	219.95
204	Reporter Industry w/3 Leg Sections . . . . .	189.95
226	Reporter Mode Performance: 206 w/Leg Spreading, 2 Section Column . . . . .	249.95
220	Reporter Performance: 201 w/Leg Spreading, 2 Section Column . . . . .	239.95
221	Reporter Luxe Performance: 220 w/4 Leg Sections . . . . .	279.95
224	Reporter Industry Performance: 204 w/Leg Spreading, 2 Section Column . . . . .	249.95

### Studex: Leg Dia. 1 1/4", For Cameras to 15 lbs.

302	Mini Studex w/6 Leg Sections, 2 Section Column . . . . .	\$269.95
304	Studex Compact w/3 Leg Sections . . . . .	239.95
306	Studex Compact Luxe: 304 w/4 Leg Sections . . . . .	289.95
301	Studex w/3 Leg Sections . . . . .	239.95
325	Mini Studex Performance: 302 w/Leg Spreading, 2 Section Column . . . . .	329.95
323	Studex Compact Performance: 304 w/Leg Spreading, 2 Section Column . . . . .	299.95
326	Studex Compact Luxe Performance: 323 w/4 Leg Sections . . . . .	349.95
320	Studex Performance: 301 w/Leg Spreading, 2 Section Column . . . . .	299.95



# KARL HEITZ, INC.

P.O. Box 427  
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# SUPPORT EQUIPMENT



550



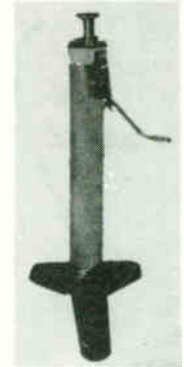
551



610



212  
Wide Base



615

## GITZO VIDEO EQUIPMENT

### Mono-Tripods with Detachable Monopod in 1 Leg, Charcoal Finish

122	Sport Luxe, Performance—mono: 124 with monopod	.....	\$289.95
222	Reporter Luxe Performance—mono: 221 with monopod	.....	.319.95
322	Studex Compact Luxe Performance—mono: 326 with monopod	.....	.389.95

### Standard and Performance Tripods with Cremaillere Gearlift Column for Light Weight and Medium Weight Cameras

#### Cremaillere 1: Leg Diameter 7/8", for Cameras to 5 Lbs.

110	Cremaillere 1 w/3 leg sections (Sport Type)	.....	\$209.95
114	Cremaillere 1 Luxe: 110, w/4 leg sections (Sport Luxe Type)	.....	.239.95
112	Cremaillere 1 Performance: 110 w/leg spreading	.....	.249.95
116	Cremaillere 1 Luxe Performance: 112 w/4 leg sections	.....	.279.95

#### Cremaillere 2: Leg Diameter 1", for Cameras to 10 Lbs.

207	Cremaillere 2 Compact w/4 leg sections (Reporter Mode Type)	.....	\$259.95
211	Cremaillere 2	.....	.249.95
20B	Cremaillere 2 Luxe w/4 leg sections (Reporter Luxe Type)	.....	.289.95
210	Cremaillere 2 Industry w/3 leg sections (Reporter Industry Type)	.....	.259.95
227	Cremaillere 2 Compact Performance: 207 w/leg spread, 5" short column	.....	.309.95
22B	Cremaillere 2 Luxe Performance: 20B w/leg spreading	.....	.339.95
212	Cremaillere 2 Industry Performance: 210 w/leg spreading	.....	.309.95

#### Cremaillere 3: Leg Diameter 1 1/4", for Cameras to 15 Lbs.

305	Cremaillere 3 Compact w/3 leg sections (Studex Compact Type)	.....	\$309.95
307	Cremaillere 3 Compact Luxe: 305 w/4 leg sections (Studex Compact Luxe Type)	.....	.359.95
310	Cremaillere 3 w/3 leg sections (Studex Type)	.....	.309.95
324	Cremaillere 3 Compact Performance: 305 w/leg spreading	.....	.359.95
32B	Cremaillere 3 Compact Luxe Performance: 324 w/4 leg sections	.....	.409.95
312	Cremaillere 3 Performance: 310 w/leg spreading	.....	.359.95

### Video-Cine Heads with Adjustable Counterbalance, Column for Height Adjustment

550	5T head/rapid column, 1 handle extensible 16-22", supports 10-65 lbs.	.....	\$499.95
551	5T head/Cremaillere gearlift column, same handle, supports 10-65 lbs.	.....	.599.95
5TDL	5T head with 2 handles	.....	.add 99.95

### Video-Cine Heads with Adjustable Counterbalance, Column for Height Adjustment

330	Studex Compact Performance 5T/rapid w/3 leg sections, leg spreading, 2 section column	.....	\$599.95
331	Cremaillere 3 Compact Performance 5T/Cremaillere gearlift w/3 leg sections, leg spreading	.....	.699.95
400/2-551	Super Studex Giant Eco 5T/Cremaillere gearlift w/2 leg sections	.....	.749.95
410/2-551	Pro Studex Giant Eco 5T/Cremaillere gearlift w/2 leg sections	.....	.799.95
505-551	Tele Studex Compact 5T/Cremaillere gearlift w/4 leg sections	.....	.899.95
500/2-551	Tele Studex Giant Eco 5T/Cremaillere gearlift w/2 leg sections	.....	.849.95
552	Intermediate plate for use w/large lenses	.....	.59.95
5TDL	5T head w/2 handles	.....	.99.95

### Extra Solid Tripods with Counterbalanced Video—Cine Head/Column for Height Adjustment

610	Video 6T/Cremaillere gearlift w/chain, leg spreading, supports 65 lbs.	.....	\$1999.00
810	Video 8T/Cremaillere gearlift w/4" diam. center column, for extra solid support, 5" wheel dolly, supports 250 lbs.	.....	.3499.00
4720	10 RT/Gearhead braces, level feet	.....	.3499.00
605/6	Quickchange dovetail attachment for 6T, 8T heads, 10RT: Base and Plate	.....	.549.00
6TDL	6T or 8T Head with 2 handles	.....	.add 159.95

### Ladderpods and Ladder Attachments, for Cameras, and Persons to 300 Lbs.

598 B4	Gitzechel Ball 4	.....	\$1599.00
598 BR4	Gitzechel Ball 4/rapid	.....	.1679.00
598 BC4	Gitzechel Ball/Cremaillere gearlift	.....	.1849.00
598 B6	Gitzechel Ball 6	.....	.1699.00
598 BC6	Gitzechel Ball 6/Cremaillere gearlift	.....	.1999.00
597	Transport wheels for Gitzechel (when collapsed)	.....	pr./ 99.95
599 B4	Gitfix Ball 4 attachment	.....	.399.95
599 BR4	Gitfix Ball 4/rapid attachment	.....	.479.95
599 BC4	Gitfix Ball 4/Cremaillere gearlift attachment	.....	.669.95
599 B6	Gitfix Ball 6 attachments	.....	.499.95
599 BC6	Gitfix Ball 6/Cremaillere gearlift attachment	.....	.799.95

### Monocolumns with Accessory Tray:

#### Diameter 4", for Cameras to 100 Lbs., Charcoal Finish

615	Monocolumn w/Cremaillere gearlift, diameter 1 1/2", 35"-54"	.....	\$1499.00
615 BGF	Monocolumn Ball 6F	.....	.1799.00
615 BGF-6B0	Same w/680 fluid head	.....	.4299.00

### Attachments for Cameras

568	Car and all purpose attachment	.....	\$169.95
520	Wall support 15", turnable	.....	.129.95
521	Same, extensible 24"-40", not turnable	.....	.199.95
522	Same as 520, but stronger 19", not turnable	.....	.99.95
522B	Same as 522, adjustable	.....	.129.95
523 PM	Simple tilt head, 2 small platforms	.....	.49.95
523 MM	Simple tilt head, 1 small-1 large platform	.....	.49.95
523 GM	Simple tilt head, 2 large platforms	.....	.49.95
F88	Accessory triangle bag, attaches to all tripods	.....	.59.95
582	Accessory tray, for Super Pro Tele Studex, monocolumn	.....	.79.95

### Twin Heads, Bracket

5B4	Twin heads, for 2 cameras of up to 5 lbs.	.....	\$59.95
539A	Twin (triple) bracket, for 2 (or 3) heavier cameras of up to 25 lbs.	.....	.79.95
539B	Same, center mounted	.....	.99.95

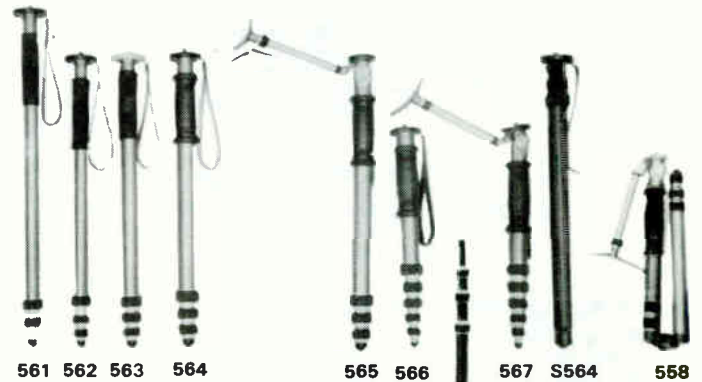
### Dollies, Collapsible with 3/8" Screw-in Center (Specify Tripod)

390	W/1 1/2" wheels, adjustable leather shoes, rubber foot	.....	\$169.95
391	W/3" wheels, adjustable metal shoes	.....	.299.95
392	W/5" wheels, adjustable metal shoes	.....	.359.95
491	W/3" wheels, metal shoes, stirrups (specify tripod for adaptors)	.....	.399.95
492	W/5" wheels, metal shoes, stirrups (specify tripod for adaptors)	.....	.499.95
590	Same, heavier duty, not collapsible (specify tripod for adaptors)	.....	.649.95
591	Same, with traveling fixings (specify tripod for adaptors)	.....	.799.95
593	Same, collapsible (specify tripod for adaptors)	.....	.749.95
594	Same, with traveling fixings (specify tripod for adaptors)	.....	.899.95
49B	Tripod adaptors for dollies with metal shoes, stirrups (specify tripod) set of 3	.....	.29.95

# KARL HEITZ, INC.

P.O. Box 427  
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(718) 565-0004

# MICROPHONE BOOMS/ MONOPODS/CASES



## GITZO VIDEO EQUIPMENT

Microphone Fishpoles/Lightbooms, With Soft Grips,  
Holes For Cord, 3/8" - 1/4" Screw,  
3/8" - 5/8" Adaptor, Charcoal Finish

555	2 Sections, range 2 1/2-4 1/2 ft., weighs 7/8 lb., supports 3 lbs.	\$ 89.95
556	3 Sections, range 2 1/2-6 1/2 ft., weighs 1 lb., supports 3 lbs.	109.95
557	4 Sections, range 2 1/2-9 ft., weighs 1 1/2 lbs., supports 1 1/2 lbs.	139.95
563 LM	5 Sections, range 2 1/2-10 1/2 ft., weighs 1 1/2 lbs., supports 1 1/2 lbs.	169.95
7680	6 Sections, range 2 1/2-12 ft., weighs 2 1/2 lbs., supports 1 1/2 lbs.	189.95
564 LM	5 Sections, range 1 1/2-7 ft., fits suitcases, etc., weighs 1 1/4 lbs., supports 3 lbs.	179.95
566 M	6 Sections, range 1 1/4-4 1/2 ft., fits briefcases, weighs 1 1/2 lbs., supports 3 lbs.	179.95
559	Clamp adaptor to fix fishpole/lightboom to tripods, heads, lightstands	49.95

Extra Solid Lightstand With Strong Braces, 5/8" PIN  
Reversible 3/8" - 1/4" Screw, Wheel, Charcoal Finish

105/4	Compact Lightstand w/4 section column, 3 1/2 lbs., range 2 1/2-9 ft.	\$ 149.95
105/5	W/5 section column	169.95

Monopods, With Wrist Straps, Soft Grips,  
Charcoal Finish

0056	Mono Loisir w/3 sections, leg diam. 5/8"	\$ 69.95
560	Mono Weekend w/2 sections, leg diam. 3/4"	69.95
560 H	Same, w/handle, also usable as walking stick, no grip, leg diam. 3/4"	69.95
560 B	Mono Weekend B w/3 sections, leg diam. 3/4"	79.95
560 L	Mono Weekend Luxe w/4 sections, leg diam. 3/4"	89.95
561	Mono Sport w/3 sections, leg diam. 7/8"	79.95
562	Mono Sport Luxe w/4 sections, leg diam. 7/8"	89.95
563	Mono Reporter w/4 sections, leg diam. 1"	99.95
563 L	Mono Reporter Luxe: 563 w/5 sections for tall people, leg diam. 1"	119.95
564	Mono Studex w/4 sections, leg diam. 1 1/4"	119.95
564 L	Mono Studex Luxe: 564 w/5 sections for tall people, leg diam. 1 1/4"	139.95
565	Mono Studex Super: 564 w/swivel head, chest & shoulder support, leg diam. 1 1/4"	159.95
565 L	Mono Studex Super Luxe: 565 w/5 sections for tall people, leg diam. 1 1/4"	179.95
566	Mini Mono Studex w/6 sections, leg diam. 1 1/4"	149.95
567	Mini Mono Studex Super: 566 w/swivel head, chest & shoulder support, leg diam. 1 1/4"	189.95
S564	Safari Mono Studex, w/reversed leg, olive green, no grip, leg diam. 1 1/4"	129.95
585	Side tilt attachment for more than 90°	69.95
175	Ball 1 for more than 90° tilts, 360° pans for 560, 561, 562	89.95
275	Ball 2 for more than 90° tilts, 360° pans for 563, 564, 565, 566, 567, 558	119.95

### Multipod

558	Gitzopod foldable chest-shoulder-knee-table-bi-mono-pod w/swivel head, chest and shoulder support, neck and carrying straps	\$239.95
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588/589



105/4

Soft Heavy-Duty Cases For Tripods And Heads,  
With Shoulder Strap, Black

E 01	For Weekend/Luxe, Cremaillere 0/Luxe	\$49.95
E 106	For Total Luxe, Weekend Compact	49.95
E 101	For Sport/Luxe, Cremaillere 1/Luxe	49.95
E 206	For Reporter Mode, Cremaillere 2 Compact	59.95
E 201	For Reporter/Luxe, Cremaillere 2/Luxe	59.95
E 210	For Reporter Industry, Cremaillere 2 Industry/Luxe	59.95
E 304	For Studex Compact/Luxe, Cremaillere 2 Compact/Luxe	69.95
E 301	For Studex, Cremaillere 3	69.95
E 405	For Super Pro Studex Compact/Luxe	79.95
E 505	For Tele Studex Compact/Luxe	79.95
E 500	For Super Pro Tele Studex Giant/Luxe	79.95

Hard Fiber Cases For Tripods And Heads,  
With Handgrip Blue w/Flat Bottom

EH 304	For Studex/Cremaillere 3 Compact Luxe, Lightstands, 25-30" x 8 1/2"	\$ 86.95
EH 405	For Super Pro Studex Compact/Luxe, Studex/Cremaillere 3, 30-40" x 8 1/2"	90.25
EH 400	For Super Pro Studex Giant/Luxe, 40-50" x 8 1/2"	91.25
EH 505	For Tele Studex Compact/Luxe, 30-40" x 10"	98.50
EH 500	For Tele Studex Giant/Luxe, 40-50" x 10"	100.25

### Projection Stands With 4 Legs,

Diameter 1 1/2", Platforms, For Projectors To 250 Lbs.

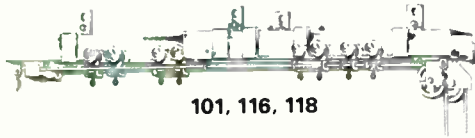
588	Quadripod w/2 leg sections, range 40-59" (specify, and add platform)	\$449.95
589	Quadripod w/3 leg sections, range 27-67" (specify, and add platform)	499.95
65	13 x 16" medium platform, attaches to Quadripods, tripods, dollies	69.95
66	16 x 26" large platform, attaches to Quadripods, tripods, dollies	119.95
67	20 x 36" giant platform, attaches to Quadripods, tripods, dollies	149.95
526	Cremaillere gearlift column 18", for 588 or 589	299.95
529	Cremaillere gearlift column 32", for 588 or 589	449.95
595	Dolly with 4 5" wheels for Quadripod	POR

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## STAGE TRACKS

Individual stage tracks are normally ordered on a per foot basis and supplied with a standard group of components for normal operation. This group includes track channel, carriers supplied on 12" (305mm) centers, one pair of master carriers, double and single end pulleys, 1 set of overlap clamps, clamp hangers, floor block, 1 pair of end stops, and operating line. This is called a "complete" track. Model numbers for complete tracks are indicated by the model number of the carrier supplied. All steel components except galvanized track channel zinc plated to resist corrosion.



101, 116, 118

### No. 100 Series Standard Duty Straight Track

#### No. 101 Specifications

Track constructed of galvanized roll-formed steel (or extruded mill finish aluminum) with continuous slot in bottom. Carriers 12" (305mm) on center constructed of two polyethylene wheels fastened to steel body by steel rivet. Carrier body with hook for attachment of curtain snap or "S" hook. Adjustable end pulleys of silent ball bearing 2 1/2" (63mm) nylon wheels enclosed in steel housing. End stops and adjustable floor block provided to maintain proper tension on stretch-resistant 1/4" (6.4mm) braided black polypropylene operating line.

Part No.	Std. Pkg.	Price
101 Carrier	150 ea.	ea./\$ 1.83
102 Master	10 pr.	pr./15.70
103 Double end pulley	10 ea.	ea./17.23
104 Single end pulley	10 ea.	ea./11.97
105 Overlap clamp	10 sets	set/8.26
106 Clamp hanger	50 pr.	pr./2.82
107 Splice	10 pr.	pr./24.82
108 Adj. floor block	10 ea.	ea./31.23
109 End stops	10 pr.	pr./5.00
110A Alum. track channel	6 ea.	ft./5.90
110S Steel track channel	4 ea.	ft./4.38
111 End stops	10 pr.	pr./4.05
112 1/4" rear fold guide	150 ea.	ea./1.17
113 3/16" rear fold guide	150 ea.	ea./1.17
114 Hand line-cut	as reqd.	ft./0.43
114 Hand line-coil	1000 ft.	ea./340.00
115 Cable-cut	as reqd.	ft./0.82
115 Cable-coil	1000 ft.	ea./656.00
116 Carrier	150 ea.	ea./6.45
117 Master	10 pr.	pr./33.16
118 Carrier	150 ea.	ea./6.95
119 Master	10 pr.	pr./35.10
126 Center pipe support	10 ea.	ea./16.00
127 Ceiling splice	10 pr.	pr./14.85
130 Rubber bumper	150 ea.	ea./0.12
132 Overlap master	10 pr.	pr./32.94
134 Side masking master	10 pr.	pr./58.04
135 Trim chain	150 ea.	ea./0.90
138 Detachable flr. blk.	1 ea.	ea./70.31
152 Curve, 90°	2 ea.	ea./161.07
153 Curve, 75°	2 ea.	ea./161.07
154 Curve, 60°	2 ea.	ea./161.07
155 Curve, 45°	2 ea.	ea./161.07
10 Pivot device	2 ea.	ea./70.49
10B Pivot device with brake	2 ea.	ea./103.34
10X Pivot device	2 ea.	ea./109.58
10XB Pivot device with brake	2 ea.	ea./142.43
101A Complete * 1		ft./10.93
101S Complete * 1		ft./10.17
116A Complete * 1		ft./14.68
116S Complete * 1		ft./13.92
118A Complete * 1		ft./15.18
118S Complete * 1		ft./14.42

### No. 200 Series Medium Duty Straight Track

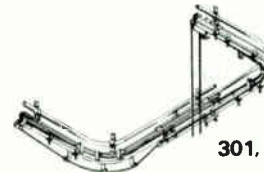
#### No. 201 Specifications

Track constructed of galvanized roll-formed steel (or extruded mill finish aluminum) with continuous slot in bottom. Carriers 12" (305mm) on center constructed of two polyethylene wheels fastened parallel to nylon ball bearing body by steel rivet. Neoprene bumper provided to reduce noise. Carrier body with heavy-duty swivel eye, hook, and trim chain for attachment of curtain snap or "S" hook. Adjustable end pulleys of silent ball bearing 4" (102mm) nylon wheels enclosed in steel housing. End stops and adjustable floor block provided to maintain proper tension on stretch-resistant 3/8" (9.5mm) braided black polypropylene operating line.

Part No.	Std. Pkg.	Price
201 Carrier	150 ea.	ea./\$ 5.62
202 Master	10 pr.	pr./26.80
203 Double end pulley	10 ea.	ea./32.32
204 Single end pulley	10 ea.	ea./17.85

# STAGE TRACKS

Part No.	Std. Pkg.	Price
205 Overlap clamp	10 sets	set/\$ 8.26
206 Clamp hanger	50 pr.	pr./2.82
207 Splice	10 pr.	pr./24.82
208 Adj. floor block	10 ea.	ea./31.23
209 End stops	10 pr.	pr./5.54
210A Alum. track channel	6 ea.	ft./5.90
210S Steel track channel	4 ea.	ft./4.38
212 3/8" rear fold guide	150 ea.	ea./2.32
213 3/16" rear fold guide	150 ea.	ea./2.32
214 Hand line-cut	as reqd.	ft./0.87
214 Hand line-coil	1000 ft.	ea./699.00
215 Cable-cut	as reqd.	ft./0.82
215 Cable-coil	1000 ft.	ea./656.00
221 Carrier	150 ea.	ea./2.83
222 3/8" Rear fold guide	150 ea.	ea./2.32
223 3/16" Rear fold guide	150 ea.	ea./1.17
227 Ceiling splice	10 pr.	pr./14.85
230 Rubber bumper	150 ea.	ea./0.12
231 Rubber bumper	150 ea.	ea./0.12
201A Complete * 1		ft./14.71
201S Complete * 1		ft./13.95
221A Complete * 1		ft./12.66
221S Complete * 1		ft./11.90



301, 316, 328

### No. 300 Series Standard Duty Curved Track

#### No. 301 Specifications

I-beam track constructed of .125" (3.2mm) extruded mill finish aluminum with top, intermediate, and bottom flanges. Carriers 12" (305mm) on center constructed of two nylon wheels fastened parallel to steel body by steel rivet. Nylon insert and neoprene bumpers attached to carrier body to reduce noise. Carrier body with heavy-duty hook for attachment of curtain snap or "S" hook. Adjustable end pulleys of silent ball bearing 4" (102mm) nylon wheels enclosed in steel housing. End stops and tension spring floor block provided to maintain proper tension on stretch-resistant 1/4" (6.4mm) braided black polypropylene operating line. Track rigidly supported using ceiling or hanging clamps. Curved tracks formed at jobsite or factory and equipped with required number of ball bearing spindles and idlers to properly guide operating line around track.

Part No.	Std. Pkg.	Price
301 Carrier	150 ea.	ea./\$ 4.82
302 Master	10 pr.	pr./54.10
303 Double end pulley	10 ea.	ea./27.68
304 Single end pulley	10 ea.	ea./23.03
305 Overlap clamp	10 sets	set/10.34
306 Clamp hanger	50 pr.	pr./1.08
307 Splice	10 pr.	pr./5.02
308 Tension floor block	10 ea.	ea./29.05
309 End stops	10 pr.	pr./9.36
310 Track channel-20 ft.	10 ea.	ea./6.37
311 Ceiling clamp hanger	40 ea.	ea./5.20
312 Bending tool	1 ea.	ea./74.17
313 Univ. bending tool	1 ea.	ea./271.72
314 Hand line-cut	as reqd.	ft./0.43
314 Hand line-coil	1000 ft.	ea./340.00
315 Cable-cut	as reqd.	ft./0.82
315 Cable-coil	1000 ft.	ea./656.00
316 Carrier	150 ea.	ea./7.77
317 Master	10 pr.	ea./65.86
318 Double spindle	10 ea.	ea./17.00
319 Single spindle	10 ea.	ea./11.95
320 Double idler	10 ea.	ea./8.80
321 End stops	10 pr.	pr./2.88
326 Double track hanger 6"	20 ea.	ea./25.00
327 Double track hanger 8"	20 ea.	ea./25.50
328 Carrier	150 ea.	ea./8.41
329 Master	10 pr.	pr./67.80
331 Suspension strap	150 ea.	ea./3.80
332 Joining strap	150 ea.	ea./4.40
335 Trim chain	150 ea.	ea./0.90
341 Center take-off	1 ea.	ea./77.34
30 Pivot Device	2 ea.	ea./98.73
30B Pivot device with brake	2 ea.	ea./131.58
30X Pivot device	2 ea.	ea./141.89
30XB Pivot device with brake	2 ea.	ea./174.74
301 Complete * 1, 2, 6, 7		ft./13.97
316 Complete * 1, 2, 6, 7		ft./16.35
328 Complete * 1, 2, 6, 7		ft./16.85

#### \*Footnotes

- 1 24' and longer
- 2 Cost of idlers must be added for curved operation
- 6 Bending available at additional cost. Consult factory.
- 7 There is a crating charge for shipping bent track. Consult factory.



# H & H SPECIALTIES, INC.

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# STAGE TRACKS

## 400 Series Heavy-Duty Straight Track

### 401 Specifications

Track constructed of 14 gauge (2mm) galvanized roll-formed steel (or extruded mill finish aluminum) with continuous slot in bottom. Carriers 12" (305mm) on center constructed of two polyethylene wheels fastened parallel to nylon ball bearing body by steel rivet. Neoprene bumper provided to reduce noise. Carrier body with heavy-duty swivel eye, hook, and trim chain for attachment of curtain snap or "S" hook. Adjustable end pulleys of silent ball bearing 4" (102mm) nylon wheels enclosed in steel housing to prevent operating line from escaping groove. End stops and adjustable floor block provided to maintain proper tension on stretch-resistant 3/8" (9.5mm) braided black polypropylene operating line. All steel components except galvanized track channel zinc plated to resist corrosion.

Part No.	Std. Pkg.	Price
401 Carrier	150 ea.	ea./\$ 5.62
402 Master	10 pr.	pr./26.80
403 Double End Pulley	10 ea.	ea./32.32
404 Single End Pulley	10 ea.	ea./17.85
405 Overlap Clamp	10 sets	set/9.60
406 Clamp Hanger	50 pr.	pr./4.13
407 Splice	10 pr.	pr./28.22
408 Adj. Floor Block	10 ea.	ea./31.23
409 End Stops	10 pr.	pr./5.54
410A Alum. Track Channel	6 ea.	ft./7.35
410S Steel Track Channel	4 ea.	ft./6.18
411 End Stops	10 pr.	pr./4.05
412 3/8" Rear Fold Guide	150 ea.	ea./2.32
413 3/16" Rear Fold Guide	150 ea.	ea./2.32
414 Hand Line-Cut	As Reqd.	ft./1.87
414 Hand Line-Coil	1000'	ea./699.00
415 Cable-Cut	As Reqd.	ft./1.82
415 Cable-Coil	1000'	ea./656.00
416 Carrier	150 ea.	ea./17.95
417 Master	10 pr.	pr./83.04
418 Carrier	150 ea.	ea./20.27
419 Master	10 pr.	pr./89.16
422 8" Adj. Floor Block	1 ea.	ea./174.34
423 8" Dbl. End Pulley	1 ea.	ea./259.32
424 8" Sgl. End Pulley	1 ea.	ea./139.37
426 Center Pipe Support	10 ea.	ea./16.00
427 Ceiling Splice	10 pr.	pr./18.16
428 Carrier	150 ea.	ea./17.77
429 Master	10 pr.	pr./79.16
430 Rubber Bumper	150 ea.	ea./1.12
431 Rubber Bumper	150 ea.	ea./1.12
432 6" Floor Block	1 ea.	ea./89.67
433 Double End Pulley	1 ea.	ea./150.10
434 Single End Pulley	1 ea.	ea./91.10
438 Detachable Fir Block	1 ea.	ea./70.31
40 Pivot Device	2 ea.	ea./73.93
408 Pivot Device with brake	2 ea.	ea./106.78
40X Pivot Device	2 ea.	ea./112.57
40XB Pivot Device with brake	2 ea.	ea./145.42
401A Complete *1		ft./16.30
401S Complete *1		ft./15.52
416A Complete *1		ft./28.25
416S Complete *1		ft./27.47
418A Complete *1		ft./27.51
418S Complete *1		ft./26.73
428A Complete *1		ft./25.01
428S Complete *1		ft./24.23

## 500 Series Heavy-Duty Curved Track

500 Series tracks are engineered for use with gym divider curtains, stage curtains, and motion picture screens. Heavy-duty carriers and masters provide trouble-free operation. 500 Series is ideal for straight, curved, and serpentine layouts. Curves are formed at the factory to any minimum radius of 2' (610mm). A 4' (1.22m) radius is recommended for ease of operation and for long or complex curves.

Track is most often motorized or may be manually operated for short runs and light weight curtains. A variety of curtain machines are available for use with the 500 Series.

### 501 Specifications

I-beam track constructed of .187" (4.7mm) extruded mill finish aluminum top, intermediate, and bottom flanges. Carriers 12" (305mm) on center constructed of two neoprene tired ball bearing wheels fastened parallel to steel body by steel rivet. HDPE insert and rubber bumper attached to carrier body to reduce noise. End pulleys constructed of 6" (152mm) cast iron wheels with precision sealed ball bearings enclosed in steel housing to prevent operating line from escaping groove. Nylon ball bearing cable guides furnished to properly guide operating line

around factory curved track channel. 3/16" (4.7mm) diameter braided mahogany colored wire centered cable provided for motorized operation and 3/8" (9.5mm) braided black polypropylene supplied for manual operation. Track rigidly supported using proper ceiling or hanging clamp. All steel components zinc plated to resist corrosion.

Part No.	Std. Pkg.	Price
501 Carrier	None	ea./\$ 21.34
502 Master	None	pr./213.34
503 Double End Pulley	None	ea./128.19
504 Single End Pulley	None	ea./65.73
505 Overlap Clamp	None	set/17.80
506 Clamp Hanger	None	ea./8.58
507 Splice	None	pr./13.17
508 Tension Floor Block	None	ea./23.92
509 End Stop	None	ea./3.52
510 Track Channel	None	ft./10.28
511 Ceiling Hanger	None	ea./13.88
514 Hand Line-Cut	None	ft./1.72
514 Hand Line-Coil	1000'	ea./575.00
515 Cable-Cut	None	ft./1.68
515 Cable-Coil	1000'	ea./540.00
516 Carrier	None	ea./19.43
517 Master	None	pr./205.90
518 Cable Guide	None	ea./23.41
521 Center Take-Off	None	ea./145.56
50 Pivot Device	None	ea./150.52
50X Pivot Device	None	ea./175.52
501 Complete Curved *3, 7		ft./52.63
501 Complete, Straight *3		ft./44.36
501 Complete, Walkalong *3		ft./37.39
516 Complete, Curved *3, 7		ft./50.72
516 Complete, Straight *3		ft./42.45
516 Complete, Walkalong *3		ft./35.48

## 600 Series Cyclorama Track

600 Series Cyclorama Tracks are designed for medium weight theatrical use where track channel must span a longer distance between supports. Available only as a walkalong track, the channel may be used in both straight and curved layouts. Channel is normally curved to a minimum radius of 2' (610mm). For ease of operation, a 4' (1.22m) radius is recommended.

### 601 Specifications

I-beam walkalong track constructed of .187" (4.7mm) extruded mill finish aluminum with top, two intermediate, and bottom flanges. Carriers 12" (305mm) on center constructed of two nylon wheels fastened parallel to steel body by steel rivet. Nylon insert and neoprene bumpers attached to carrier body to reduce noise. Carrier body with heavy-duty hook for attachment of curtain snap or "S" hook. Track rigidly supported using ceiling or hanging clamp. Curved tracks formed at factory or at jobsite. All steel components zinc plated to resist corrosion.

Part No.	Std. Pkg.	Price
601 Carrier	150 ea.	ea./\$ 4.82
602 Master	10 pr.	pr./31.80
606 Clamp Hanger	50 pr.	pr./1.08
607 Splice	10 pr.	pr./5.02
609 End Stops	50 pr.	pr./1.08
610 Track Channel-20'	6 ea.	ft./10.02
611 Ceiling Clamp Hanger	40 ea.	ea./5.20
616 Carrier	150 ea.	ea./7.77
617 Master	10 pr.	pr./41.56
621 End Stops	10 pr.	pr./2.88
628 Carrier	150 ea.	ea./8.41
629 Master	10 pr.	pr./43.50
631 Suspension Strap	150 ea.	ea./3.80
632 Joining Strap	150 ea.	ea./4.40
60 Pivot Device	2 ea.	ea./98.73
608 Pivot Device with brake	2 ea.	ea./131.58
60X Pivot Device	2 ea.	ea./141.89
60XB Pivot Device with brake	2 ea.	ea./174.74
601 Complete *4		ft./14.62
616 Complete *4		ft./17.57
628 Complete *4		ft./18.21

### \*Footnotes

1 24' and longer

3 48' and longer

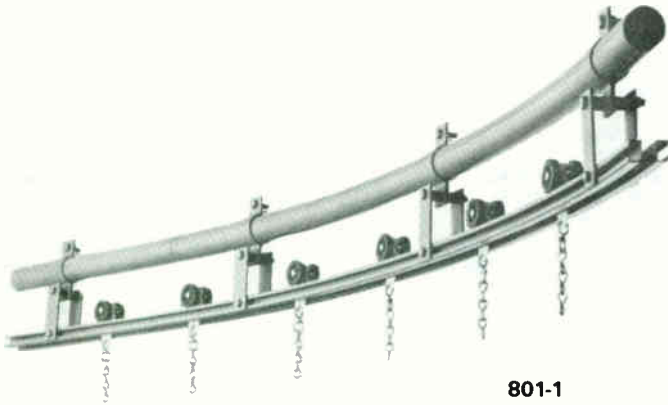
4 20' and longer

7 There is a crating charge for shipping bent track. Consult factory.

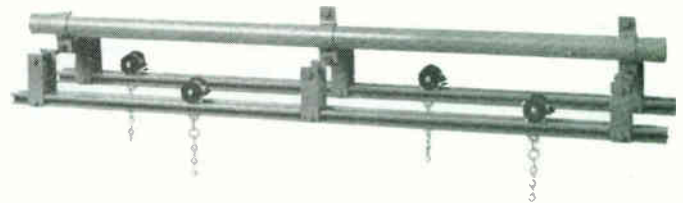
# H & H SPECIALTIES, INC.

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(213) 283-3562

# STAGE TRACKS



801-1



801-2

## 700 Series Light Duty Curved Track

700 Series tracks are designed for light duty theatrical and industrial curtain use. Available only as a walkalong track, the channel may be used in both straight and curved layouts. Channel is normally curved at jobsite to a minimum radius of 1' (305mm). For ease of operation, a 3' (915mm) radius is recommended.

## 701 Specifications

I-beam track constructed of .094" (2.4mm) extruded mill finish aluminum with top, intermediate and bottom flanges. Carriers 12" (305mm) on center constructed of two nylon wheels fastened to extruded aluminum body by steel rivet. Nylon insert attached to carrier body to reduce friction and noise. Carrier body with heavy-duty hook for attachment of curtain snap or "S" hook. Track rigidly supported using ceiling or hanging clamp. Curved tracks formed at factory or at jobsite. All steel components zinc plated to resist corrosion.

Part No.	Std. Pkg.	Price
701 Carrier	150 ea.	ea./\$ 4.08
702 Master	10 pr.	pr./27.32
706 Clamp Hanger	50 pr.	pr./1.33
707 Splice	10 pr.	pr./10.50
709 End Stop	25 pr.	pr./2.86
710 Track Channel-20'	25 ea.	ft./2.75
711 Clamp Hanger	40 ea.	ea./5.20
712 Bending Tool	1 ea.	ea./74.17
716 Carrier	150 ea.	ea./7.45
717 Master	10 pr.	pr./39.66
728 Carrier	150 ea.	ea./8.09
729 Master	10 pr.	pr./43.36
701 Complete *4		ft./8.63
716 Complete *4		ft./11.67
728 Complete *4		ft./12.31

## 801 Cyclorama Track

801 Cyclorama Track is especially suited for use in television studios. Equipped with neoprene tired ball bearing carriers and neoprene bumpers to insure quiet operation. Track available curved to a minimum radius of 4' (1.22m) and in straight sections. Standard lengths are in 10' and 20' (3.05m, 6.1m) sections.

## 801 Specifications

Walkalong track constructed of two 16 gauge (1.6mm) galvanized roll-formed 1" x 5/8" (25.4mm x 15.9mm) "C" channel carrier rails suspended from 2" (50.8mm) O.D. tubing backbone at 2'-0" (610mm) intervals. Carrier rails parallel with 3/4" (19mm) continuous slot for passage of carrier body. Carriers 12" (305mm) on center constructed of two neoprene tired wheels fastened parallel to nylon ball bearing body by steel rivet. Body with integrally molded glides to keep carrier aligned at all times. Neoprene bumper inserted into carrier body to reduce noise. Carrier body with heavy-duty swivel eye, hook, and trim chain for attachment of curtain snap or "S" hook. Support rigidly to roof structure or ceiling at intervals not exceeding 8' (2.44mm).

Part No.	Std. Pkg.	Price
801-1 Complete *5, 7	None	POR
801-2 Complete *5, 7	None	POR
801-3 Complete *5, 7	None	POR
801 Carrier	None	POR

## 1001 Heavy-Duty Straight Studio Track

1001 Heavy-Duty Straight Track was developed especially for use in television studios where an exceptionally quiet, heavy-duty track is desired. Equipped with neoprene tired ball bearing carriers and neoprene bumpers to insure the quietest operation available in a stage track. Track also furnished with rear fold guides which enable curtain to fold at offstage edges during operation. Track sections available in 10' and 20' (3.05m, 6.1m) standard lengths.

## 1001 Specifications

Track constructed of two 16 gauge (1.6mm) galvanized roll-formed 1" x 5/8" (25.4mm x 15.9mm) "C" channel carrier rails suspended from 2" (50.8mm) O.D. tubing backbone at 2'-0" (610mm) intervals. Carrier rails parallel with 3/4" (19mm) continuous slot for passage of carrier body. Carriers 12" (305mm) on center constructed of two neoprene tired wheels fastened parallel to nylon ball bearing body by steel rivet. Body with integrally molded glides to keep carrier aligned at all times. Neoprene bumper inserted into carrier body to reduce noise. Carrier body with heavy-duty swivel eye, hook, and trim chain for attachment of curtain snap or "S" hook. Adjustable end pulleys of silent ball bearing 4" (102mm) nylon wheels enclosed in steel housing to prevent operating line from escaping groove. End stops and adjustable floor block provided to maintain proper tension on stretch-resistant 3/8" (9.5mm) braided black polypropylene operating line. Rear fold guides provided to enable curtain to fold at offstage edges during operation.

Part No.	Std. Pkg.	Price
1001 Complete *5	None	POR

## Miscellaneous Track Hardware

343-5 Fan Switching Device	ea./\$484.63
343-CC Switching Device	ea./684.11
343-PP Positioning Pole	ea./88.32
6 Pivot Device	ea./46.60
6X Pivot Device	ea./69.04
1398 Carrier	ea./32.75
439B Carrier	ea./37.75
140B Carrier	ea./23.20
440B Carrier	ea./28.30
443 Tension Pulley	ea./43.14
435 Pipe Clamp	pr./6.37
436 Pipe Clamp	ea./2.48
437 Pipe Clamp	ea./3.09
442-2 Cast Iron Sash Weight	ea./6.65
444 Pipe Batten-21'	ft./1.90
444 Pipe Batten-Cut	ft./2.39
445 Pipe Batten	POR
446 Splice	ea./3.12
447 Splice	ea./18.50

### \*Footnotes

- 4 20' and longer
- 5 Available in 10' and 20' sections only
- 7 There is a crating charge for shipping bent track. Consult factory.

# HINES CASE CO., INC.

6301 J. Richard Dr.  
Raleigh, NC 27612  
(919) 783-9077

## CASES

### Cases

Each case is a custom order; no additional charge for special design requirements.

Unless otherwise specified,  $\frac{3}{8}$ " AC grade exterior plywood is used in all cases to afford greater strength and durability.

Each case is inspected during every step of construction to insure proper fit and longer lasting structural integrity.

All cases receive a final personal inspection while being dressed out and cleaned.

- Exterior laminates per customer request: Aluminum, Formica, or ABS plastic
- $\frac{3}{8}$ " AC grade exterior plywood
- Edging is an extruded aluminum angle secured with pneumatically driven rust-proof aluminum rivets, spaced as required
- Aluminum tongue and groove built to Hines' specifications provides secure closure
- SESSIONS recessed handles and latches are standard on all larger cases
- Piano-type continuous hinge
- Steel corner clamps
- Steel ball corners which raise the case  $\frac{1}{4}$ " above a flat surface to prevent excess wear of case covering and protect corners from direct hits
- Double-woven nylon lid straps, secured with  $\frac{3}{8}$ " carriage bolts to outlast conventional fasteners
- Interiors lined with esther foam or heavier etha foam, as required

### Options Available

- Weatherproofing seal
- Padlock and combination latches
- Casters with up to 1200 lbs. per wheel capacity
- Free stenciling, logo silkscreening
- Fabric, duck cloth or velvet linings

### Video Cases

Designed to provide maximum protection for delicate cameras, recorders, monitors or any other components. Also available in combination cases for greater portability.

### Audio-Visual Cases

Custom-built to your specifications or from those supplied by your equipment manufacturer. These cases will guarantee that equipment will arrive at a presentation ready to perform. We also offer complete system packages for motion, multi-image, strip and overhead projection including amplification and speakers.

### Computer Cases

CRT's, printers, keyboards and peripherals are costly to repair. Hines computer cases are the best insurance against demolition by the common carrier. Packed individually or in combination cases, sophisticated electronic hardware will reach its destination intact.



Video Cases



Audio-Visual Cases



Computer Cases



# HITACHI DENSHI, LTD.

175 Crossways Park West  
Woodbury, NY 11797  
(516) 921-7200

# PORTABLE COLOR CAMERAS

## Z-31A 3-Tube Portable Color Camera

The Z-31A can be used in full studio configuration with remote operation panel, in mobile units with triax, and ENG configuration for field shooting of all types including news and commercial production.

In addition to a wide choice of lenses, the Z-31A is offered with composite output and with modules for component output for use with any type small format VTR. The Z-31A features twist field type LOC MS Saticon tubes. These tubes offer 800 lines resolution and 60dB signal-to-noise.

This high resolution, auto setup camera features updated circuitry for improved registration, accuracy, and superior performance.

Even slight registration errors due to prism temperature changes are now corrected by a real-time correction circuit using a microcomputer to provide a stable picture at all times.

The 2H contour corrector with comb filter assures picture sharpness with minimal noise.

The horizontal contour signal is composed of both green and red signals.

With the built-in pre-set masking circuit even subtle color tones can be adjusted without affecting white balance.

The built-in automatic beam optimizer suppresses the comet-tails and expands the dynamic range to facilitate the highlight shooting.

The built-in shading correction circuit ensures a complete flat picture regardless of the pickup tubes and bias light shading.

The frame shading at the corners of the screen is corrected to offer a flat picture.

### Other functions include:

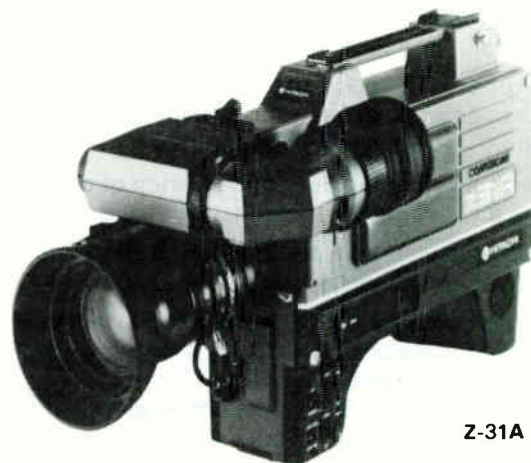
- Character display function
- Built-in color bars
- Microphone circuit
- Test pulse

The basic camera can be purchased and accessory kits such as studio panel, triax/coax digital adaptors, 4.5" viewfinder, and component module, can be added at any time.

## Specifications

**Color System:** NTSC, PAL-B  
**Camera Tubes:** Three 2/3" Twist Field type M-S Saticon tubes  
**Optical System:** f/1.4 prism (with bias light)  
**Encoding System:** IQ (NTSC), UV (PAL-B)  
**Sync System:** Internal sync or genlock (operation with composite video signal or black burst signal)

**Horizontal Resolution:** 800 lines (G-ch at center)  
**Sensitivity:** 2,000 lux (200fc), f/4 (89.9% reflection factor)  
**Min. Illumination:** 40 lux (f/1.6 + 18dB)  
**Signal-to-Noise Ratio:** 60dB (NTSC), 57dB (PAL-B) (typical)  
**Gamma Correction:** 0.35 to 1.0  
**Optical Filter:** 3200°K, 5600°K + 1/8ND, 5600°K, cap  
**Lens Mount:** Bayonet  
**Auto Functions:** Auto white balance  
 Auto black balance  
 Auto iris  
 Automatic beam optimizer (ABO)  
 Auto centering  
 Auto setup  
 Auto black set  
 Auto registration correction  
 Automatic fault diagnosis  
 Auto black level



Z-31A

### Standard Configuration:

Z31A — Camera  
 J15X9.5B4KRS (by Canon) — 15X power zoom lens  
 GM-6 — 1.5" viewfinder  
 AP-40 — AC adaptor  
 TA-Z31 — One touch tripod adaptor  
 CL-Z31 — Carrying case

Z-31AC With ASU and lens . . . . . \$9,700.00  
 Z-31AB Without lens . . . . . 8,240.00

## Z-31P ENG/EP Camera

This camera offers all the outstanding features of the basic Z-31A, but incorporates three 2/3" MS type low capacitance Diode Gun Plumbicon tubes.

## Specifications

**Horizontal Resolution:** 660 lines at center (G. ch)  
**Signal-to-Noise Ratio:** 57dB (NTSC)  
**Pickup Tube:** 2/3" LOC DG PbO tube  
**Optical System:** f/1.4 prism (with bias light)  
**Scan Standards:** NTSC 525/60 field/s or IQ (NTSC)  
**Encoding System:** IQ (NTSC)  
**Minimum Illumination:** 30 lux, f/1.6 + 18dB on  
**Sync System:** Internal sync or genlock  
**Gamma Correction:** Variable 0.35 to 1.0  
**Optical Filters:** 3200°K, 5600°K, + 1/8ND, 5600°K, cap  
**Lens Mount:** Bayonet  
**Auto Functions:** Auto white balance  
 Auto black balance  
 Auto iris  
 Automatic beam optimizer (ABO)  
 Auto centering  
 Auto setup  
 Auto black set  
 Auto registration correction  
 Automatic fault diagnosis  
 Auto black level

### Standard Configuration:

Z-31P Camera body, 15X power zoom lens, 1.5" viewfinder, tripod adaptor, AC adaptor, carrying case

Z-31PC With lens . . . . . \$13,900.00  
 Z-31PE Without lens . . . . . 12,950.00

# HITACHI DENSHI LTD.

175 Crossways Park West  
Woodbury, NY 11797  
(516) 921-7200

# CCD COLOR CAMERAS

## FP-C1/FP-C2 3-Chip CCD Color Cameras

### Features Common To Both Models

- Since the high sensitivity and low lag  $\frac{2}{3}$ " CCD 3-chip is used, the sensitivity is one stop higher than that of a 3-plumbicon camera, making the FP-C1/FP-C2 ideally suited to use in low light conditions
- Auto knee and flare correction functions
- Subtle color differences among cameras can be controlled by the preset masking circuit
- Computer-controlled auto functions and self-diagnostics improve operational flexibility
- High resistance to shock and vibration
- Immune to magnetic field interference
- Adoption of the image sensor and highly stable design provides high reliability
- Bayonet mount
- Auto white balance
- Auto black balance
- Auto iris
- Auto knee
- Auto black set
- Auto black level
- Self-diagnosis display

### FP-C1

- Over 280,000 picture elements offers a superb picture quality of 580 lines horizontal resolution
- Sensitivity: 2000 lux, f/6.7 (89.9% reflection factor)
- Auto white balance (2 memories)—Two kinds of memories for two different white balance data are available for the first time in a camera of this class
- Computer-controlled auto iris—The computer-controlled auto iris function offers a clear and natural picture. The auto iris operating point is adjustable for about  $\pm 1f$ /stop
- Masking (with preset on/off switch)
- Test pulses
- Warning indicator
- Status display
- Character display function
- Min. Illumination: 20 lux, f/1.7 (+ 18dB)
- Signal-to-Noise Ratio: 56dB (NTSC), 53dB (PAL)
- Sync System: Internal (conforming to RS-170A) or genlock

The FP-C1 is a 3-chip CCD color camera employing the high density and high sensitivity image sensor with over 280,000 picture elements packed onto a chip.

The adoption of the latest image sensor leads to a superb picture quality of high resolution, a high sensitivity and a high signal-to-noise ratio. The operational flexibilities are greatly improved by the various automatic functions and the self-diagnostic functions controlled by the microprocessors.

Since various accessories are available, the FP-C1 is usable as an EFP/studio camera in conjunction with a remote operation panel.

- FP-C1UC with 12 to 1 lens . . . . . \$6950.00
- FP-C1UD with 15 to 1 lens . . . . . 7300.00



FP-C1



FP-C2

### FP-C2 (Preliminary)

- Professional ENG camera is dockable to a Betacam VTR
- 620 line horizontal resolution
- High sensitivity 2000 lux with f/5.6
- Since there is no need for registration adjustment, the FP-C2 is ideal for ENG camera use
- Besides the ENG combo application, the FP-C2 can be used as a self-contained EFP studio camera with an optional camera adaptor
- Minimum illumination 16 lux with f/1.4 (+ 18dB)
- Signal-to-Noise Ratio: NTSC—57dB typ.; PAL 54dB typ.
- Sync system: Internal (conforming to RS-170A) or genlock (operation with composite video signal or black burst signal)

The FP-C2 is a 3-sensor CCD ENG dockable camera using a high density and high sensitivity image sensor for which precision special offset technology is utilized. Operational flexibility is greatly enhanced by superb picture quality with high resolution, high sensitivity and high signal-to-noise ratio, coupled with computer-controlled auto functions and self-diagnostic. Various accessories are available, making the FP-C2 usable as an EFP/studio camera in conjunction with an operational panel.

- FP-C2 . . . . . \$9950.00

# HITACHI DENSHI LTD.

175 Crossways Park West  
Woodbury, NY 11797  
(516) 921-7200

# MEDICAL CAMERAS

## DK-5050/5053 3-TUBE COLOR CAMERA

The DK-5050/5053 is a 3-tube color camera with an ultra-compact size, light weight and high performance. It is composed of a camera head and camera control unit, and is ideal for combination with surgical microscopes, endoscopes, biological and metal microscopes. It has horizontal resolution of 550 TV lines (NTSC).

When an f/1.6 lens is used, a signal-to-noise ratio of 53 dB (NTSC) can be attained minimum 16 lux (1.6 fc) illumination by a high-sensitivity pick-up tube and a low-noise pre-amplifier.

The camera sensitivity can be increased to 3 times or 8 times; usable picture is obtained under the illumination of 16 lux (1.6 fc) without changing the lens. A built-in contour correction circuit ensures clear and crisp pictures.

The DK-5050/5053 is used with an optional viewfinder and a zoom lens. A compact and high-performance prism and ICs make it possible to reduce the size and weight of the camera.

### ABO (Automatic Beam Optimizer) (only DK-5050)

The built-in ABO circuit ensures the dynamic range from dark portion to highlight portion.

### Built-in auto black and white balance controls with digital memory/color correction

Automatic light control is incorporated to activate the automatic light control device for a microscope and the auto-focusing device of the zoom lens.

An optical automatic setup unit using a microprocessor facilitates a correction of the deviation of the setting during operation.

This function has never been used in cameras of this class.

Video level is indicated by the level meter on the operation panel, and the video waveform is displayed on the viewfinder screen (option). Therefore, the adjustment of illumination and lens iris is facilitated even when the ALC is not used.

The color bar signal is used as a color reference signal and facilitates the inspection of color monitor.

### Remote control (only DK-5050)









Though the standard distance between a camera head and a CCU is 20m, the distance can be extended up to 300m by using a remote operation unit (option). Inter-communication between a remote operation unit and a CCU are available by headsets (option).

### STANDARD CONFIGURATIONS:

**DK-5050** Camera head (2m cable) x 1, camera control unit x 1, camera cable (18m) x 1

**DK-5053** Camera head (2.5m cable) x 1, camera control unit x 1

### ADAPTORS USED FOR COMBINING SCOPE WITH TELEVISION CAMERA

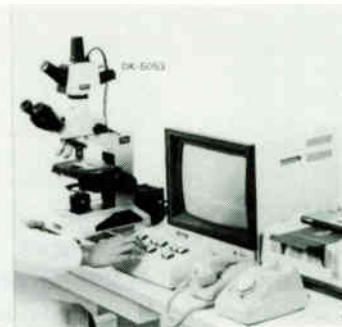
Applicable camera Manufacture	DK-5050/5053	Conversion adaptor
For OLYMPUS	 CP-302 (XK-OL) + ME-801 (XK)	 CP-301 (MA-ST)/(MA-WO)
For FUJINON	 CP-302 (XK-FU) + ME-801 (XK)	 CP-302 (ST-OL)/(WO-OL)
For MACHIDA	  CP-302 (XK-MA) + ME-801 (XK) CP-302 (XK-MA) + ME-801 (XK)	 CP-302 (ST-FU)/(WO-FU)
Others		 FOA-08

### CONNECTION WITH A SURGICAL MICROSCOPE



DK-5050

### CONNECTION WITH A BIOLOGICAL MICROSCOPE





DK-5053

### MEDICAL SERIES CAMERAS

ITEMS	CAMERA 3 TUBE COLOR CAMERA	
	DK-5050	DK-5053
Pick-up Tube	3/4" x 3	3/4" x 3
Output Signal	NTSC x 2 RGB x 1	NTSC x 2 RGB x 1
Synchronization	Internal External (GL)	Internal External (GL)
Resolution (H. Cntr)	550 TV Lines (G. Ch)	550 TV Lines (G. Ch)
Min. Illumination	16 lux (f/1.4 Max. Gain)	16 lux (f/1.4 Max. Gain)
Vertical Enhancer	2H	1H
Microphone Jack	Yes	No
Character Generator	No	No
Lens Mount	Bayonet	Bayonet
Camera Head Dimensions	3"W x 10.2"H x 7.2"L (76 x 259 x 183 mm)	3"W x 10.2"H x 7.2"L (76 x 259 x 183 mm)
Weight	2.4 lb. (1.1 kg)	2.4 lb. (1.1 kg)
Camera Cable	Std. 2m + 18m Max. 20m	2.5m 2.5m
Price	\$24,000.00	\$14,800.00
<b>OPTIONS</b>	<b>DK-5050</b>	<b>DK-5053</b>
Camera Cable	No	No
Tripod Adaptor	TA-505	TA-505
R.O.U.	OP-21A C-152CR (15m)	No
R.O.U. Cable	C-502CR (50m) C-103CR (100m)	No
Viewfinder	GM-3B	GM-3B

### ADAPTORS FOR SURGICAL OPERATION MICROSCOPES

These adaptors are used for combining a surgical operation microscope with a television camera.

Applicable camera Model	DK-5050	
	ME-901 (CZ)	ME-902 (CZ)
Exterior		
General	This adaptor is designed for use on CARL ZEISS surgical operation microscopes. It is provided with automatic aperture control and also the aperture can be controlled remotely. The television field is about 70%.	This adaptor is the same as that of the ME-901 (CZ)* with the addition of a photography function. By simply pressing the foot switch, it is possible to take unblurred pictures without interrupting the operation in progress. For a still camera, we recommend the separately available (at cost) Contax 137MD. Television field is about 70%.



# HITACHI DENSHI LTD.

175 Crossways Park West  
Woodbury, NY 11797  
(516) 921-7200

# MEDICAL CAMERAS

## DK-3000/3300 SINGLE TUBE COLOR CAMERAS

Compact, easy-to-operate cylinder type camera head suitable for combination with surgical microscopes, endoscopes, and biological microscopes. They are approximately 1.5" (38mm) in diameter and weigh approximately 0.8 lb. (370g).

Resolution of 350 lines, minimum illumination of 25 lux (2.5 fc), f/1.6, and SN ratio of 50 dB. A special circuit enables independent adjustment of red and green color phases and color saturation for the finest color reproduction. A compensation circuit is also built in for sharper pictures.

Special color bar for easy color adjustment of color monitor. LEDs are used for indication of the video level. ALC (automatic light control) and AGC (automatic gain control) detect the amount of light at the center of the screen, enabling a continuously stable picture. Auto to white, ALC, AGC and ABO (automatic beam optimizer) are provided.

### STANDARD COMPOSITION

Camera head with 10' (3m) camera cable (for DK-3000); with 10' (3m) + 23' (7m) camera cable (for DK-3300); camera control unit.

The DK-3300 has a very unique feature, the title generator, which superimposes title, date, patient name, etc. onto the picture screen.



## MEDICAL SERIES CAMERAS

CAMERA ITEMS	SINGLE TUBE COLOR CAMERA	
	DK-3000	DK-3300
Pick-up Tube	3/8" x 1	3/8" x 1
Output Signal	NTSC x 2	NTSC x 2
Synchronization	Internal	Internal External (GL)
Resolution (H. Cntr)	350 TV Lines	350 TV Lines
Min. Illumination	25 lux (f/1.4 Max. Gain)	25 lux (f/1.4 Max. Gain)
Vertical Enhancer	1H	2H
A B O	Yes	Yes
Microphone Jack	No	Yes
Character Generator	No	Yes
Lens Mount	C	C
Camera Head Dimensions	1.5" dia. x 7.7" D (38 x 195mm)	1.5" dia. x 7.7" D (38 x 195mm)
Weight	0.8 lb. (0.37 kg)	0.8 lb. (0.37 kg)
Price	\$4900.00	\$6800.00

### OPTIONS

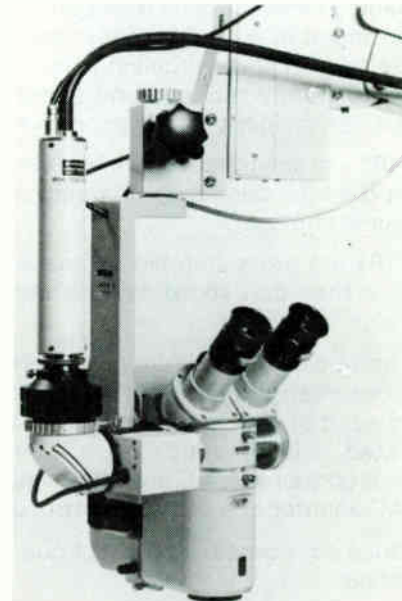
Camera Cable	7m, 17m	17m
Tripod Adaptor	TA-30, TA-3000	TA-30, TA-3000

### ADAPTORS FOR SURGICAL OPERATION MICROSCOPE

These adaptors are used for combining a surgical operation microscope with a television camera.

Applicable camera	DK-5050		DK-3300/3000
Model	ME-901(CZ)*	ME-902(CZ)*	ZEISS # 301519
Exterior			
General	This adaptor is designed for use on CARL ZEISS surgical operation microscopes. It is provided with automatic aperture control and also the aperture can be controlled remotely. The television field is about 70%.	This adaptor is the same as that of the ME-901(CZ)* with the addition of a photography function. By simply pressing the foot switch, it is possible to take unblurred pictures without interrupting the operation in progress. For a still camera, we recommend the separately available (at cost) Contax 137MD. Television field is about 70%.	This adaptor is designed for use on CARL ZEISS surgical operation microscopes. It has a television field of approx. 80%.

\*: Can be used with DK-3000 series using mounting adaptor LM-B48C.



DK-3000

### ADAPTORS USED FOR COMBINING SCOPE WITH TELEVISION CAMERA

Applicable camera Manufacture	DK-3300/3000	Conversion adaptor
For OLYMPUS	 MC-05 MC-08	 CP-301(MA-ST)/(MA-WD)
For FUJINON	 TVA-108 TVA-01/02	 CP-302(ST-OL)/(WD-OL)
For MACHIDA	 CA-16-AC	 CP-302(ST-FU)/(WD-FU)
Others	For STORZ WOLF SHIKO  MA-8300	 FOA-08

Prices and Specifications Subject to Change Without Notice.

# HITACHI DENSHI LTD.

175 Crossways Park West  
Woodbury, NY 11797  
(516) 921-7200

# MONOCHROME CAMERAS

## KP-180/181 Solid-State Shutter Camera

- Electronic shutter provides superb sensitivity and high reliability
- Shutter speed of  $1/600$  second  
A blur of a moving object is reduced to  $1/20$ , comparing with a conventional TV camera
- Small in size and light in weight
- With an imaging device in which imaging elements are precisely arranged in an order of microns, there is no picture distortion on photo receiving area
- After image is greatly reduced and burning does not occur even when incident light is excessively strong

The KP-180/181 are solid-state black and white TV cameras employing a high sensitivity imaging device and a unique electronic shutter.

The KP-180/181 are most suitable as image processing cameras, since they can shoot moving objects clearly without any blur.

The all solid-state cameras feature no picture distortion, no burning, low after image, in anti-vibration and anti-shock and no need of pickup tube replacement. The KP-181 is activated only by supplying a commercial AC voltage, since it contains an AC power circuit. There is no need for an AC adaptor or a camera control unit.

The KP-180 does not contain a power circuit and 12VDC must be supplied.

The camera unit is smaller and lighter than the KP-181.



KP-181



KP-180

## Specifications

	KP-181	KP-180
Imaging Device	2/3" CCD Solid-State	
Picture Elements (HXV)	EIA 510 x 492	CCIR 500 x 582
Sync. System	Internal/External	
Scanning System	2:1 Interlace	
Scanning Frequency	EIA Horizontal 15.734kHz Vertical 59.94kHz	CCIR Horizontal 15.625kHz Vertical 50Hz
Minimum Illumination	1.5 lux (f/1.4 3000°K High Gain)	60 lux (Shutter mode)
Resolution	Horizontal 370 lines	Vertical 350 lines
Video Output Signals	1.0V p-p (VS) x 1	(75 ohm BNC)
Shutter Speed	1/600 sec (fixed)	
Signal-to-Noise Ratio	46dB (Normal gain, $\gamma = 1$ )	
Lens Mount	C-mount	
Ambient Temperature	-10 ~ +50°C	
Power Requirements	U,C type 117VAC $\pm 10\%$ , 60Hz, 6.5W E type 220VAC $\pm 10\%$ , 50Hz, 6.5W K type 240VAC $\pm 10\%$ , 50Hz, 6.5W	12VDC, 300mA
Dimensions and Weight	53(H) x 56(W) x 164(D)mm, 1050g	53(H) x 56(W) x 84(D)mm, 450g
KP-180 .....	. \$2549.00	
KP-181 .....	. POR	

# HITACHI DENSHI LTD.

175 Crossways Park West  
Woodbury, NY 11797  
(516) 921-7200

# VIDEO FLOPPY SYSTEM/ COLOR PRINTERS



VY-50A

## VX-52A Video Floppy System

• Records and plays back video floppy disks • Accepting an NTSC input signal, it can be connected directly to a source of video signals—video camera, video recorder, TV, etc. • Simply pressing a button activates the recording mechanism and a single field is recorded on the floppy disk • After recording, the disks can be played back and still pictures seen on the TV or printed by either printer • Fast forward and reverse at four pictures per second • Automatic playback is possible at speeds of 0.5, 1.0 and 5.0 seconds per picture • Full-function remote control is provided as standard

VX-52A . . . . . \$1195.00

## VY-50A Color Video Printer

• Instantly receive color prints of any recorded color picture • Built-in IC memory memorizes last video frame • High resolution prints • Thermal transfer process • NTSC composite video • Wireless remote control • Prints in 80 seconds • Time/date display available • 100 prints per film pack

### Make Prints From:

• TV • Camera • VTR • Video disk player • Computer • Video floppy recorder

The VY-50A Color Video Printer is ideal for applications in which pseudo-frame pictures are acceptable. While maintaining the same ease of operation as the VY-100A, this has TTL RGB inputs and 32-gradation color

VY-50A . . . . . \$2495.00

## VY-100A Color Video Printer

• 2 NTSC composite video input terminals • Analog RGB and sync terminals for connection to a professional standard personal computer or 3-tube video camera • 64 color gradations • Frame memory



VY-100A

When used for the recording of individual fields, 2 different pictures can be held in memory; either of these can then be printed whenever required. For easy identification, the date and time are held in battery backed up memory and can be superimposed on the prints. Replacement of the ink cartridge is simple through a door in the side of the printer, while 100-sheet sets of cut paper are inserted in a front panel drawer.

A remote control is provided with the VY-100A for operations of the memory and printer; for convenience in remote operations, this is equipped with all required indicators. The remote control terminal of the VY-100A can be connected directly to a personal computer and the computer can then control printer operations, in an automated instrumentation system, etc.

VY-100A . . . . . \$3495.00

## Accessories

### VX-F50 Video Floppy Disk

• (60 x 54 x 3.6mm) • Standard video floppy disk records 50 field images . . . . . \$99.95

### VY-S100A Paper/Ink Set

• Contains everything necessary for 100 color prints . . . . . \$99.50

### VY-T50A Transparency/Ink Set

• With special inks and mylar film necessary for 50 transparencies . . . . . \$99.50

## Specifications

	VY-50A	VY-100A
		<b>VX-52A</b>
Recording Media:		Video floppy disk
Recording Capacity:		50 images (in field mode)
Resolution:		350 TV lines
Playback Picture:		Pseudo-frame
Input Terminal:		NTSC composite (US pin)
Output Terminal:		NTSC composite (US pin)
Remote Control:		Wired
Dimensions (HxWxD):		11.8" x 10.2" x 4.7" (300 x 260 x 120mm)
Weight:		7.7 lbs. (3.5kg)
	<b>VY-50A</b>	<b>VY-100A</b>
Printing System:		Sublimable dye thermal transfer printing
Print Picture Elements:		468 x 512 dots
Printing Time:		80 seconds/print
Printing Media		
Ink Paper:		Cartridge type 3-color sequential printing (Yellow, Magenta, Cyan)
Print Paper:		Cut paper 3.9" x 5" Picture size 3.1" x 2.8"
Video Memory:	One field	One frame (two fields)
Print Quality:	32-tone	64-tone
Input:	RGB TTL level 5V (D-sub, 9-pin)	R, G, B, 0.7V p-p, 75 ohm, SYNC 0.1-4.0V p-p, 75 ohm (H: 15.7kHz V: 60Hz) (BNC type)
Output:	RGB TTL level (through) (D-sub, 9-pin)	NTSC Video 1.0V p-p, 75 ohm (US pin) x 2 NTSC Video 1.0V p-p, 75 ohm (US pin) R, G, B, Sync (through) (BNC type)
Remote Control:	Wireless	Wired
Print Controls:	Tint, Contrast, Brightness	Tint, Contrast, Brightness, Color
Date/Time Insertion:		Month, day, year, clock
Dimensions (H x W x D):	4.7" x 17.1" x 14.2"	4.7" x 17.1" x 15.5"
Weight:	19.8 lbs.	22.0 lbs.

Prices and Specifications Subject to Change Without Notice.

V-533



# HITACHI DENSHI, LTD.

175 Crossways Park West  
Woodbury, NY 11797  
(516) 921-7200

# TEST EQUIPMENT

## V-069 Vectorscope (NTSC System)

- Guaranteed vector phase accuracy of  $\pm 1^\circ$ . This high measurement accuracy is unsurpassed in its class
- Two loop-thru inputs and a loop-thru external sync input are provided. The chrominance signal and sync signal may be independently selected and vector measurement of the input. A sub-carrier signal is also possible
- Input sensitivity can be calibrated to the 1V full scale, 75% saturation or 100% saturation and may be variable controlled over the range 0.5 to 5 times. The UNCAL lamp lights when variable controlled has been made
- The chrominance signal applied to an input may be used to display a non-synced circle to enable a self-check of gain balance and quadrature phase
- Differential gain and differential phase can be measured
- Differential gain is a change in color subcarrier amplitude as a function of luminance level. Differential phase is a phase modulation of the chrominance signal caused by change in the luminance level

V-069 ..... \$ 1950.00

## V-079 Waveform Monitor (NTSC System)

- A line selector function is provided to enable selection of any displayed line of lines 9 thru 22 or either field 1 or 2. This enables observation of VIR and VITS signals, as well as Teletext signals
- Guaranteed flat response ( $\pm 1\%$  over the range 25Hz to 3.6MHz and  $+1\% -2\%$  over the range 3.6MHz to 6MHz). This wide bandwidth ensures high-accuracy waveform observation and measurement
- Frequency response may be selected as FLAT, IRE, CHROMA, DIFF GAIN. The horizontal-axis sweep may also be selected as 2V, 2V MAG (X20 magnified), 2H or  $1\mu\text{s}/\text{div}$ , enabling measurements on a wide variety of video signals
- By applying signals to a 9-pin connector on the rear panel, it is possible to display RGB. Optionally, YRGB display is also possible
- DC restore ensures a stable display even in the presence in the amplitude, APL and burst variations
- Two loop-thru inputs are provided
- Horizontal-axis position may be fine adjusted using a 10-turn potentiometer
- Two units may be mounted side-by-side in a 19-inch rack (the V-069 Vector Scope is the same size)

V-079 ..... \$ 1750.00  
RM-079 Rackmount for Dual V-069 079 ..... 225.00

## V-089 (Type NTSC) Vectorscope

- Chrominance Processing = Chrominance Bandwidth: Subcarrier Frequency (Fsc)/3.57945MHz Pull in Range: Within 100Hz of Fsc, Pull in Time: Within 1 second with subcarrier frequency within 100Hz of Fsc, Phase Shift with Subcarrier Frequency change:  $\geq 1^\circ$  from Fsc to Fsc + 50Hz or from Fsc to Fsc - 50Hz, Change:  $\geq 1^\circ$  from unity to 2 times unity or from unity to one-half unity
- Amplifier = Maximum input voltage:  $\pm 5\text{V}$ , VARGAIN Control Range: X0.5 ~ X5.0, Input Return Loss:  $\leq 40\text{dB}$  down, 5MHz
- External Sync = Input signal requirement 1.6 to 4.5V composite sync. input impedance 15K ohm  $\pm 10\%$
- Dimensions = 3.5"H x 5.8"W x 15.6"D (88 x 145 x 395mm)
- Weight = 8.9 lbs./4kg

V-089 ..... \$ 1684.00  
AD-099 Battery Pack for V 089 099 ..... 310.00

## V-099 (Type NTSC) Television Waveform Monitor

- CRT = 3.5" square with 2kV acceleration potential
- Vertical Deflection = Frequency Response at 1V Full Scale or 4V Full Scale: Flat...Response from 25Hz to 5MHz with  $\pm 5\%$  of response at 50kHz, IRE...Response per 1958 IRE STD 235-1  $\pm 10\%$ , 3.58 Band Pass...Response at 3.58MHz does not vary between flat and 3.58 Band Pass by more than 1%
- Horizontal Deflection = 2V Sweep: = Frame Rate at applied Video or External Sync. 2V Mag Sweep: X20 within  $\pm 10\%$ , 2H Sweep: = half line rate of applied Video or External Sync,  $1\mu\text{s}/\text{div}$  Sweep:  $\pm 3\%$  (Accuracy)
- DC Restoration = Clamp time: Back Porch
- Dimensions = 3.5"H x 5.8"W x 15.6"D (88 x 145 x 395mm)
- Weight = 8.9 lbs./4kg

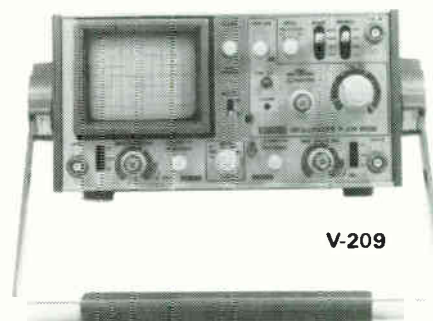
V-099 ..... \$ 1250.00  
AD-099 Battery Pack for V-089/099 ..... 310.00



V-089



V-099



V-209

## V-209 Dual Trace Portable Oscilloscope

- CRT = 3.5" square with 1.5kV acceleration potential
- Vertical Deflection = Sensitivity: 5mV/div to 5V/div  $\pm 3\%$ , Max. Sensitivity: 1mV/div  $\pm 3\%$  at X5 Magnifier extends, Bandwidth: DC to 20MHz (-3dB), DC to 5MHz (-3dB) at X5 Magnifier extends, Modes: CH1, CH2, ALT, CHOP, ADD (DIFF)
- Horizontal Deflection = Time Base: 0.5  $\mu\text{s}/\text{div}$  to 0.2s/div  $\pm 3\%$ , Max. Sweep Rate: 50ns/div at X10 Magnifier extends
- X-Y Operation (CH1: X, CH2: Y) = Phase Error: 3° from DC to 100kHz
- Dimensions = 4.3"H x 8.5"W x 13.8"D (110 x 215 x 350mm)
- Weight = 9.9 lbs./4.5kg

V-209 ..... \$ 1050.00  
AD-209 Battery Pack for V-209 ..... 92.00

## V-509 Dual Trace Delayed Sweep Portable Oscilloscope

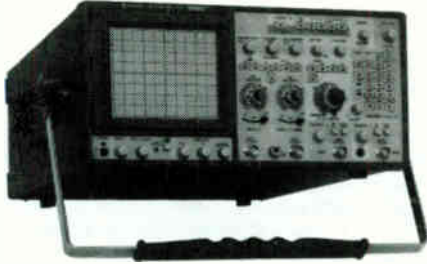
- CRT = 3.5" square with 12kV acceleration potential
- Vertical Deflection = Sensitivity: 5mV/div to 5V/div  $\pm 3\%$ , Max. Sensitivity: 1mV/div  $\pm 3\%$  at X5 Magnifier extends, Bandwidth: DC to 50MHz (-3dB), DC to 10MHz (-3dB) at X5 Magnifier extends, Modes: CH1, CH2, ALT, CHOP, ADD (DIFF)
- Horizontal Deflection = A Time Base: 0.1  $\mu\text{s}/\text{div}$  to 0.2s/div  $\pm 3\%$ , B Time Base: 0.1  $\mu\text{s}/\text{div}$  to 2ms/div  $\pm 3\%$ , Max. Sweep Rate: 10ns/div at X10 Magnifier extends, Display Modes: A, A inten, B
- X-Y Operation (CH1: X, CH2: Y) = Phase Error: 3° from DC to 100kHz
- Dimensions = 4.3"H x 8.5"W x 13.8"D (110 x 215 x 350mm)
- Weight = 11 lbs./5kg

V-509 ..... \$ 1445.00  
AD-509 Battery Pack for V-509 ..... 352.00

# HITACHI DENSHI LTD.

175 Crossways Park West  
Woodbury, NY 11797  
(516) 921-7200

# OSCILLOSCOPES



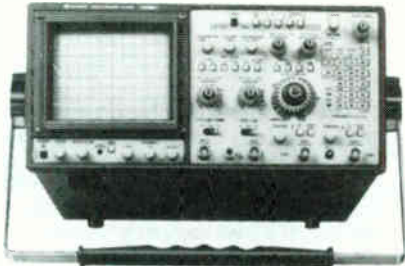
V-1150

## READOUT OSCILLOSCOPES

### V-1150 8 Trace, Delayed Sweep

- 15MHz bandwidth and quad channels/8 traces • Number of the events countable within delay time or delayed sweep time
- Built-in frequency counter of 5 digits and 0.1Hz resolution (minimum) • Built-in DVM for DCV, ACV and relative values
- Cursor keys variety of measuring functions • Ground reference level is simultaneously displayed with dotted line waveforms • User defined comments displayable on screen
- Vertical and horizontal deflection factors are digitally displayed on screen

V-1150 .....\$3100.00

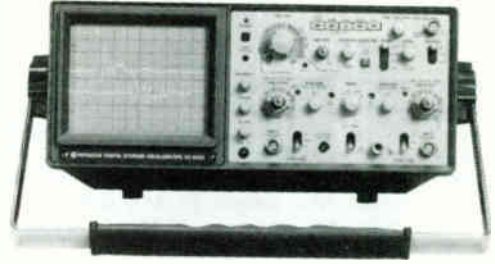


V-1100A

### V-1100A 8 Trace, Delayed Sweep

- Three digital display functions • The AC voltage (50Hz ~ 10MHz), DC voltage, and frequency (120Hz ~ 99.9MHz) of the Channel 1 input signal can be measured and the results displayed digitally on the CRT screen • An electronic CRT screen cursor may be used to digitally display such values as  $\Delta T$ ,  $1/\Delta T$ , phase, ground potential (Vabs),  $\Delta V$ , and ratio (%)
- The sweep and vertical axis sensitivity setting values are displayed digitally on the CRT screen • Dimensions: 6.3"H x 13"W x 16"D • Weight: 22 lbs.

V-1100A .....\$2490.00

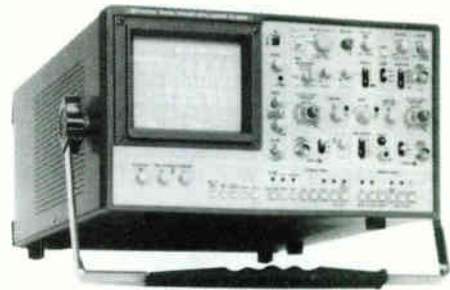


V-6020

### VC-6020 Digital Storage Oscilloscope

- One M Sample/S dual channels • 1024 words/channel
- Standard GP-1B • Send data to a host computer via a standard built-in GP-1B (IEEE488) interface • Compact size makes it invaluable in maintenance and inspections • 2 channels can be sampled at once by the 2 A-D converters, at a max sampling rate of 1 MS/S • An analog output connector provides output of stored data to drive a chart recorder or X-Y recorder • In the Non-Store mode, the VC-6020 can be used as a 20MHz dual channel oscilloscope

VC-6020 .....\$1950.00



VC-6050

### VC-6050 Digital Storage Oscilloscope

- High speed sampling up to 40M samples/s • CRT readout • 2 channels • Roll mode • X-Y display • Cursor displayed on the CRT can be used in the storage or non-storage mode to measure voltage difference, time difference and frequency with direct reading of these values • Panel settings value display
- Storage of single shot event is possible up to 10MHz (4 samples/cycle) or 5MHz for simultaneous 2-channel storage
- Storage of repetitive event up to 60MHz • Large capacity memory 4000-word/channel • Setting of the position of pre-triggering is possible in 1/10 div steps • Ability to sample with the B sweep enables you to set up any desired delay after the trigger point before storage is actually begun • Summation averaging up to 256 times can be performed to achieve an improvement in signal-to-noise ratio, enabling the extraction and observation of signals buried in noise • Ten-times digital magnification of a stored waveform or a 100-times magnification on the screen • Analog output • GP-1B (IEEE488) interface provided as standard • A plotter interface (option) can be used to create a hardcopy on an HP-GL type plotter • Usable as a real-time, 60MHz, 3-channel oscilloscope with delayed sweep and CRT readout

VC-6050 .....\$4900.00



# HITACHI DENSHI LTD.

175 Crossways Park West  
Woodbury, NY 11797  
(516) 921-7200

# OSCILLOSCOPES

## V-222 Dual Trace Oscilloscope

- CRT = 6" square with internal graticule • Vertical Deflection = Sensitivity: 5mV/div to 5V/div  $\pm$  3%, Max. Sensitivity: 1mV/div to 1V/div  $\pm$  5% at x 5 Magnifier extends, Bandwidth: DC to 20MHz (-3dB) DC to 7MHz (-3dB) at x 5 Magnifier extends, Modes: CH1, CH2, ALT, CHOP, ADD • Horizontal Deflection = Sweep Time: 0.2 $\mu$ s/div to 0.2s/div  $\pm$  3%, Max. Sweep Rate: 100ns/div at x 10 Magnifier extends • X-Y Operation (CH1: X, CH2: Y) = Phase Error: 3° from DC to 50kHz • Dimensions = 5.2"H x 12.3"W x 14.6"D (130 x 310 x 370mm) • Weight = 14.4 lbs. (6.5kg)

V-222 .....\$660.00



V-422

## V-422 Dual Trace Oscilloscope

- CRT = 6" square with internal graticule • Vertical Deflection = Sensitivity: 5mV/div to 5V/div  $\pm$  3%, Max. Sensitivity: 1mV/div to 1V/div  $\pm$  5% at x 5 Magnifier extends, Bandwidth: DC to 40MHz (-3dB), DC to 7MHz (-3dB) at x 5 Magnifier extends, Modes: CH1, CH2, ALT, CHOP, ADD • Horizontal Deflection = Sweep Time: 0.2 $\mu$ s/div to 0.2s/div  $\pm$  3%, Max. Sweep Rate: 20ns/div at x 10 Magnifier extends • X-Y operation (CH1: X, CH2: Y) = Phase Error: 3° from DC to 50kHz • Dimensions = 5.2"H x 12.3"W x 14.6"D (130 x 310 x 370mm) • Weight = 14.4 lbs. (6.5kg)

V-422 .....\$925.00

## V-212 Dual Trace Oscilloscope

- CRT = 6" square with internal graticule • Vertical Deflection = Sensitivity: 5mV/div to 5V/div  $\pm$  3%, Max. Sensitivity: 1mV/div to 1V/div  $\pm$  5% at x 5 Magnifier extends, Bandwidth: DC to 20MHz (-3dB) DC to 7MHz (-3dB) at x 5 Magnifier extends, Modes: CH1, CH2, ALT, CHOP, ADD • Horizontal Deflection = Sweep Time: 0.2 $\mu$ s/div to 0.2s/div  $\pm$  3%, Max. Sweep Rate: 100ns/div at x 10 Magnifier extends • X-Y Operation (CH1: X, CH2: Y) = Phase Error: 3° from DC to 50kHz • Dimensions = 5.2"H x 12.3"W x 14.6"D (130 x 310 x 370mm) • Weight = 13.3 lbs. (6.0kg)

V-212 .....\$560.00



V-223

## V-223 Dual Trace Delayed Sweep Oscilloscope

- CRT = 6" square with internal graticule • Vertical Deflection = Sensitivity: 5mV/div to 5V/div  $\pm$  3%, Max. Sensitivity: 1mV/div to 1V/div  $\pm$  5% at x 5 Magnifier extends, Bandwidth: DC to 20MHz (-3dB), DC to 7MHz (-3dB) at x 5 Magnifier extends, Modes: CH1, CH2, ALT, CHOP, ADD • Horizontal Deflection = Sweep Time: 0.2 $\mu$ s/div to 0.2s/div at x 10 Magnifier extends • X-Y Operation (CH1: X, CH2: Y) = Phase Error: 3° from DC to 50kHz • Dimensions = 5.2"H x 12.3"W x 14.6"D (130 x 310 x 370mm) • Weight: 15.5 lbs. (7.0kg)

V-223 .....\$795.00

## V-423 Dual Trace Delayed Sweep Oscilloscope

- CRT = 6" square with internal graticule • Vertical Deflection = Sensitivity: 5mV/div to 5V/div  $\pm$  3%, Max. Sensitivity: 1mV/div to 1V/div  $\pm$  5% at x 5 Magnifier extends, Bandwidth: DC to 40MHz (-3dB), DC to 7MHz (-3dB) at x 5 Magnifier extends, Modes: CH1, CH2, ALT, CHOP, ADD • Horizontal Deflection = Sweep Time: 0.2 $\mu$ s/div to 0.2s/div  $\pm$  3%, Delay Time: 1 $\mu$ s to 100ms, Max. Sweep Rate: 20ns/div at x 10 Magnifier extends • X-Y Operation (CH1: X, CH2: Y) = Phase Error: 3° from DC to 50kHz • Dimensions = 5.2"H x 12.3"W x 14.6"D (130 x 310 x 370mm) • Weight = 15.5 lbs. (7.0kg)

V-423 .....\$995.00



V-425

## V-225/V-425 CRT Readout Oscilloscopes

- V-225 DC to 20MHz, 2-channel, panel setting display, cursor readout • V-425 DC to 40MHz, 2-channel, panel setting display, cursor readout • Digital CRT readout of voltage/time differences and panel setting • Panel setting display function provides a digital CRT display of the CH1 sensitivity and the sweep time • Measuring 130 x 310 x 370mm and weighing 7.0kg these scopes have achieved a dramatic level of compactness and light weight • Large (8 x 10cm) CRT display with an internal graticule provides high-resolution with freedom from error causing parallax. In addition, convenient 0, 10, 90 and 100% scale markings have been provided to simplify pulse measurements • DC offset function provides up to  $\pm$  100V of DC offset, enabling high-accuracy vertically expanded measurements of any desired portion of a waveform • Simultaneous observation is possible of the X 10 magnified waveform and the original (non-magnified) waveform using a display mode which alternately displays the magnified waveform and the non-magnified waveform once each sweep • VERT mode triggering • Both voltage and time accuracy are guaranteed to be within  $\pm$  3% over the entire temperature range of 10°C to 35°C • Vertical sensitivity of 1mV/div • 8 divisions of dynamic range provides accurate, distortion-free waveform observation • Dedicated TV sync separation circuit provided to speed up measurements of video signals • Built-in signal delay line makes possible the measurement of the leading edge of even fast risetime signals, (V-425 only) • X-Y mode provides a convenient method of measuring the phase difference between two waveforms

V-225 .....\$795.00

V-425 .....\$995.00



# HITACHI SALES CORP. OF AMERICA

401 W. Artesia Blvd.  
Compton, CA 90220  
(213) 537-8383

# COLOR TELEVISIONS

## CT-1371 13" Color Television

- Tinted picture tube
- Signal tracker system

CT-1371 ..... \$219.95

## CT-1955 19" Remote Color Television

- VHF/UHF/36 cable channels
- 19 button random access electronic tuning with infrared remote control
- Signal tracker system
- Off timer
- On screen volume and channel indicator
- Earphone and record jacks
- Last channel recall
- Cabinet finish is wood-grain vinyl over wood products
- 18<sup>7</sup>/<sub>16</sub>" H x 23<sup>1</sup>/<sub>16</sub>" W x 18<sup>3</sup>/<sub>4</sub>" D
- Weight 48.5 lbs.

CT-1955 ..... \$369.95

## CT-2066 W/B 20" Flat Square Color Television

- VHF/UHF/49 cable channels
- Random access electronic tuning with infrared remote control
- Signal tracker system
- Channel on screen
- Input jacks
- Volume on screen
- Off timer
- 100% solid-state video system consists of miniaturized, high performance integrated circuits (IC's)
- Special optically tinted picture tube glass face reduces reflected glare from room light and improves contrast
- 20" flat square tube (FST) provides a flat picture with square corners that looks more natural
- Picture distortion in corners is reduced and there is much less reflection of room light
- The comfortable viewing angle is increased due to the flat tube surface
- The touch of a button on the remote hand unit instantly switches to the previous channel viewed
- 18<sup>3</sup>/<sub>4</sub>" H x 20" W x 19<sup>7</sup>/<sub>8</sub>" D
- Weight 62 lbs.
- Comes complete with antenna connections providing for a conventional 300 ohm connection and for a 75 ohm connection used for cable television or master antenna distribution systems

CT-2066W With Walnut Cabinet ..... \$419.95

CT-2066B Black Cabinet ..... 419.95

## CT2268W 22" Square VU Color Television

- 125 cable channel capability • Built-in multi TV sound
- Component TV 22" square corner tube • Distortion-free circuit • Volume on screen • ABLC circuit • Channel on screen
- Input-output jacks • Comb filter + wide band video amplifier • Signal tracker system • Random access electronic tuning with infrared remote control • Dual RF • 30 button TV/VCR unified remote

CT2268 ..... \$659.95

\*Local cable companies may require special adaptors for receiving regular or "premium programs"



CT-1955



CT-2066



CT-3175

## CT-2660 26" Color Television

- Multi TV sound jack
- VHF/UHF/125 cable channels
- Random access electronic tuning with infrared remote control
- Comb filter
- Channel and volume on screen
- Wide band video amplifier
- A/V input jacks
- Signal tracker system

CT-2660 ..... \$629.95

## CT-2667W/B 26" Color Television

- Built-in multi TV sound
- VHF/UHF/125 cable channels
- Random access electronic infrared remote control
- Channel and volume on screen
- Comb filter plus wide band video amplifier
- Video and audio input jacks
- Dual speaker system
- 30 button TV/VCR unified remote

CT-2667W Wood Grain ..... \$819.95

CT-2667B Black ..... 819.95

## CT3170 31" Square VU HS Color Television

- 31" aspherical high-performance square tube • 600 lines horizontal resolution • MTS built-in TV/monitor • Built-in surround sound • Retractable speakers • Full on screen picture/sound control • AV input jack and TV out jack • Signal tracker system • S input connector • 36-button TV/VCR unified remote control • VHF/UHF/125 cable channels • Dual RF • Off-timer • Last-channel recall • On screen volume control • On screen channel numbers

CT-3170 ..... \$2199.95

## CT3175 31" Square VU HS Color Television

- Same features as CT3170 except: • Double feature digital 2TV • 39-button TV/VCR unified remote control

CT3175 ..... \$2499.95

# HITACHI SALES CORP. OF AMERICA

401 W. Artesia Blvd.  
Compton, CA 90220  
(213) 537-8383

# CAMERA/RECORDERS

## VM-C30A Compact VHS Movie Camera/Recorder

- 2/3" Metal Oxide Semiconductor (MOS) Image Sensor contains 300,000 picture elements • 10 lux f/1.6 x 6 zoom • Horizontal resolution 350 lines • Tape Tracker and Cylinder Stabilizer design with a 50-micron bulge on the head cylinder surface prevents the tape rolling
- HQ circuitry • Detail Enhancer circuit emphasizes the electronic signal to make faint lines within the image sharper and bolder • White Clip Extender raises the white clip level of the luminance signal, for sharper results, with enhanced depth and vividness • State-of-the-art, highly rationalized IC circuitry, a slim direct motor, a streamlined mechanism, and a cube-type body • High sensitivity infrared auto focusing system • Auto white balance • Iris adjustment is automatic • Self Timer with two settings—30 seconds or unlimited • Electronic Viewfinder shows battery condition, tape counter, current mode (REC, FF, REW), and gives a 5-minute tape remaining warning • Recording Check • Synchro Edit • SP and LP Modes • Wind Noise Cut • Playback on TV or VHS VTR • Standby Slide Cap • Weight 3.08 lbs.



VM-C30A

VM-C30A . . . . . \$1399.95

## VM-3000A VHS Movie Camera/Recorder

- 2/3" MOS Image Sensor contains 300,000 picture elements • 7 lux at 50 IRE • Horizontal resolution 380 lines • Tape Tracker and Cylinder Stabilizer design with 50-micron bulge on the head cylinder surface prevents the tape rolling that degrades recording and playback quality
- Maximum record time: 160 minutes • Quick Shot High Speed Shutter provides five different shutter speeds (1/60 to 1/2000 sec) • HQ circuitry • Detail Enhancer circuit emphasizes the electronic signal to make faint lines within the image sharper and bolder • White Clip Extender raises the white clip level of the luminance signal, for sharper results, with enhanced depth and vividness • Through the lens auto white balance • High sensitivity infrared auto focusing system • Iris adjustment is automatic • Self timer with two settings—30 seconds or unlimited • Electronic viewfinder shows battery condition, tape counter, current mode (REC, FF, REW), and gives a 5-minute tape remaining warning
- Date recording • Recording review • Playback on TV or VHS VTR • Power Zoom: 6:1 • AV In, Out • Weight 6.2 lbs. with battery



VM-3000A

VM-3000A . . . . . \$1399.95

## VM-5000A Cam N' Cord with HQ

- Constant auto white balance control with manual set • Solid-state 2/3" MOS Image Sensor (MID IV) • Electronic viewfinder • Instant review • Horizontal grip for easy handling • Sharp f/1.2 motorized zoom lens (6X) with macro setting • Auto/manual iris • Date code • Infrared auto focus • Compact motors have a low power consumption • Audio/video input adaptor and RF adaptor • 7 lux • 50 IRE • Horizontal resolution 350 lines • Max record time: 160 minutes • AV In, Out • Weight 6.2 lbs. with battery



VM-5000A

VM-5000A . . . . . \$1399.95

### Accessories

VMBP21	1 Hour Battery Pack. . . . .	\$ 56.00
VMBP22	2 Hour Battery Pack. . . . .	70.00
VMC825AR	Carry Case . . . . .	149.00
VTCC7A	Cig. Lighter Cord. . . . .	25.00

# HITACHI SALES CORP. OF AMERICA

401 W. Artesia Blvd.  
Compton, CA 90220  
(213) 537-8383

# VIDEOCASSETTE RECORDERS

## VT-2000A with HQ

- Front load, 107 channel VS tuner • Auto power on/play • 4 program/14 day timer
- Special effects • Needs less than 4" of shelf space • Local VHF and UHF stations, plus 26 cable channels • Mode display
- Built-in tuner/timer allows preset recording of as many as four different programs up to two full weeks in advance • Instant Recording Timer (IRT) with a start button lets you set the length of recording in simple 30-

minute increments totaling up to 4 hours

- Wireless 23-function remote control unit is provided as standard equipment • Digitally "combs" the incoming signal to separate the black and white from the color signal • Fine edit • Auto power on/play • Auto rewind/shut-off • Repeat play mode • 10 key direct channel access remote control • Frame by frame mode • Rotary 2 head helical scanning azimuth recording

VT-2000A . . . . . \$349.95



VT-2000A

## VT-1320A with HQ

- Front load, 3 head • 4 prog./2 week timer • VS tuning, 107 channel • IRT, fine edit • 26 function, 23 button IR remote • SP and EP recording modes • Needs less than 4" of shelf space • Digitally "combs" the incoming signal to separate the black and white from the color signal. This results in 25% more picture producing lines • Memory rewind/stop—tape rewind halts automati-

cally when counter returns to the "0000" setting • Repeat play mode • Auto rewind/off at end of tape • Large-scale integrated circuit (LSI) logic controls • Tape-in indicator to confirm loaded cassette is in place • Auto playback speed selector • Rotary 2-head helical scanning azimuth recording, one head for special effects on playback

VT-1320A . . . . . \$379.95



VT-1320A

## VT-1350A HQ

- Front load • 3 head • 4 program/14 day timer • 107 channel cable ready • Touch N' View remote (30 function) • Slow motion, Frame advance, Repeat Play • IRT-fine edit • Mode display, auto power on

VT-1350A . . . . . \$399.95

## VT-1410A HQ

- Front load, 2 head • 4 program/14 day timer • 107 channel cable ready • IR remote (23 function) • Direct access • Special effects • LIN stereo rec/play Dolby NR • MTS jack • Auto power-on

VT-1410A . . . . . \$379.95

## VT-1430A HQ

- Front load, 2 head • 4 program/14 day timer • 107 channel cable ready • IR remote (23 function) • Direct access • Special effects • LIN stereo rec/play Dolby NR • MTS built-in • Auto power-on

VT-1430A . . . . . \$429.95

## VT-1450A HQ

- Front load, 3 head • 4 program/14 day timer • 119 channel cable ready • IR remote (35 function) • LIN stereo rec/playback Dolby NR • Touch N' View remote • IRT-fine edit • Mode display, auto power on • MTS built-in

VT-1450A . . . . . \$529.98

## VT-2500A HQ

- Front load, VHS Hi-Fi • 4 head high performance video 8 program/1 year timer • Special effects OSD • Touch N' View LCD remote • MTS broadcast stereo • Auto channel-memory tuner • All VHF/UHF + 125 cable channels

VT-2500A . . . . . \$749.95

## VT-2600A HQ

- Front load, VHS Hi-Fi • 4 head high performance stereo sound • 8 program/1 year timer • Digital special effects OSD menu • Touch N' View LCD remote • MTS broadcast stereo • Auto channel-memory tuner • All VHF/UHF + 125 cable channels • Auto play/rewind

VT-2600A . . . . . \$849.98

## VT-2700A HQ

- Digital XSE, OSD • PNP picture in picture • 12 picture-multi channel scan • 12 picture multi strobe • TV still • Mosaic/painting digital special effects • MTS broadcast stereo • Auto channel memory tuner • All VHF/UHF + 97 cable channels

VT-2700A . . . . . \$1299.00

## VT-1370A HQ

- Front load, 3 head • 4 program/14 day timer • 107 channel cable ready • IR remote (36 function) • Slow Motion, Frame Advance, Repeat Play • IRT-fine edit • Mode display, auto power on

VT-1370A . . . . . \$529.95

## VT-1570A HQ

- Front load, 3 head • 4 program/14 day timer • 119 channel cable ready • Auto programming • LIN stereo rec/playback Dolby NR • Digital interface unified (36 function) remote • Slow Motion, Frame Advance, Repeat Play • IRT-fine edit • Mode display, auto power on • MTS built-in

VT-1570A . . . . . \$699.95



# HOUSE OF METAL ENCLOSURES, INC.

500 W. 9<sup>th</sup> St.  
P.O. Box 225  
Hermann, MO 65041  
(314) 486-3111

# FLOOR RACKS

## 19" Modular Racks

### DR SERIES

- Sturdy welded construction of 16 Ga. CRS

### DR-HD SERIES

- Extra-sturdy 11 Ga. CRS welded construction

### OPTIONAL SIDE PANELS

- Removable for Multiple Bolt-Together assemblies

### PANEL MOUNTING

- Adjustable 11 Ga. angles tapped for 10-32 screws on standard E.I.A. spacing

### CABLE OPENING

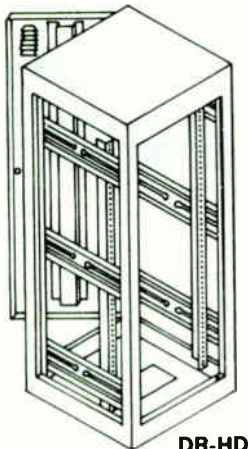
- Provided in bottom panel (5" x 16")

### REAR DOOR

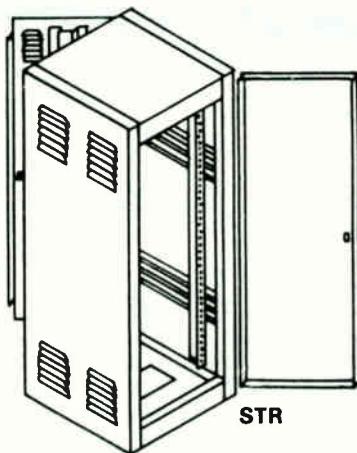
- Included with lock and handle

### COLOR

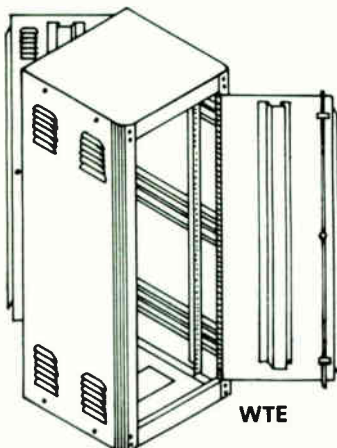
- Your choice of 20 standard baked enamel colors



DR-HD



STR



WTE

Model No.	Price	DIMENSIONS			
		Height	Panel Space	Width	Depth
DR-3675-19	\$ 409.60	42-7/8"	36-7/8"	22-1/8"	18-1/8"
DR-3675-22	460.80				22"
DR-4200-19	422.40	48-1/8"	42-1/8"	22-1/8"	18-1/8"
DR-4200-22	473.60				22"
DR-6125-19	499.20	67-3/8"	61-3/8"	22-1/8"	18-1/8"
DR-6125-22	601.60				22"
DR-7000-19	537.60	76-1/8"	70-1/8"	22-1/8"	18-1/8"
DR-7000-22	640.00				22"
DR-7700-19	563.20	83-1/8"	77-1/8"	22-1/8"	18-1/8"
DR-7700-22	691.20				22"
DR-HD-3675-19	896.00	41-3/8"	36-7/8"	23-5/8"	24"
DR-HD-4200-19	921.60	46-5/8"	42-1/8"	23-5/8"	24"
DR-HD-6125-19	972.80	65-7/8"	61-3/8"	23-5/8"	24"
DR-HD-7000-19	998.40	74-5/8"	70-1/8"	23-5/8"	24"
DR-HD-7700-19	1036.80	81-5/8"	77-1/8"	23-5/8"	24"

## 19" Transmitter Racks

### STR SERIES

- K.D. or Assembled only

### WTE SERIES

- Welded construction only

### MATERIAL

- 16 Ga. CRS with 11 Ga. bottom panel on STR series and 14 Ga. bottom on WTE series

### PANEL MOUNTING

- STR—16 Ga. punched with 9/32" holes

### ANGLES—ADJUSTABLE

- WTE—11 Ga. drilled and tapped for 10-32

### LOUVERS

- Inside for WTE Series; Outside for STR series

### DOORS

- Front and rear included with locks

### COLOR

- Your choice of 20 standard baked enamel color

Assembly Charge is \$25.00 Per Unit

Model No.				Dimensions			
STR Assembled or K.D.	Price	WTE Welded	Price	Height	Panel Space	Width	Depth
STR-3675	\$499.20	WTE-3675	\$537.60	42"	36-7/8"	STR	18-1/2"
STR-4200	537.60	WTE-4200	576.00	47-1/4"	42-1/8"	22-15/16"	18-1/2"
STR-6125	627.20	WTE-6125	678.40	66-1/2"	61-3/8"		18-1/2"
STR-7000	678.40	WTE-7000	716.80	75-1/4"	70-1/8"	WTE	18-1/2"
STR-7700	716.80	WTE-7700	755.20	82-1/4"	77-1/8"	22-1/8"	18-1/2"

Prices and Specifications Subject to Change Without Notice.

# HOUSE OF METAL ENCLOSURES, INC.

500 W. 9<sup>th</sup> St.  
P.O. Box 225  
Hermann, MO 65041  
(314) 486-3111

## FLOOR RACKS/ PEDESTALS/CONSOLES

### 19" Cabinet Relay Racks (Economy Series)

#### SCR Series

- K.D. or assembled WRE Series
- Welded only

Material — 16 Ga. CRS

#### Panel Mounting Angles — Fixed

SCR — 16 Ga. punched with 9/32" holes

WRE — 11 Ga. drilled and tapped for 10-32 screws

#### Louvers

WRE series have inside louvers

SCR series have outside louvers

Rear Door — Included with lock

Color — Your choice of 20 standard baked enamel colors

Model No.		Height	Dimensions		
SCR Assembled or K.D.	WRE Welded		Panel Space	Width	Depth
SCR-3675	WRE-3675	41 1/8"	36 7/8"	22 3/8"	18 1/2"
SCR-4200	WRE-4200	46 3/8"	42 1/8"		
SCR-6125	WRE-6125	65 5/8"	61 3/8"		
SCR-7000	WRE-7000	74 3/8"	70 1/8"		
SCR-7700	WRE-7700	81 3/8"	77 1/8"		

SCR/K.D.	Price	WRE Welded	Price
SCR-3675	\$307.20	WRE-3675	\$332.80
SCR-4200	320.00	WRE-4200	345.60
SCR-6125	371.20	WRE-6125	396.80
SCR-7000	422.40	WRE-7000	448.00
SCR-7700	448.00	WRE-7700	460.80

Assembly Charge is \$25.00 Per Unit.

### 19" Channel Racks

#### RR Series

- K.D. or assembled

Material — 16 Ga. CRS base with 11 Ga. bottom CRS channels

Panel Mounting — 11 Ga. channels tapped for 10-32 screws on standard E.I.A. spacings

Color — Your choice of 20 standard baked enamel colors

Model No.		Height	Dimensions		
RR/K.D.	Price		Panel Space	Width	Depth
RR-156	\$204.80	61 3/16"	56 1/8"	19 5/16"	20"
RR-163	217.60	68 3/16"	63 1/8"		
RR-170	230.40	75 3/16"	70 1/8"		
RR-177	243.20	82 3/16"	77 1/8"		
RR-184	256.00	89 3/16"	84 1/8"		

Assembly Charge is \$25.00 Per Unit.

### ERB Series Pedestals

- Panel mounting hardware is supplied with all units
- All units will be painted gray hammertone unless specified
- Units marked K.D. will be shipped Knockdown unless specified
- All writing surfaces will be finished in walnut unless specified

Material — 18 Ga. CRS of welded construction

Panel Mounting — Flanges recessed 9/16" and punched with 9/32" holes on standard E.I.A. spacing

Back Panel — Removable with 2 rows of 6" louvers

Knockouts — Five 7/8" knockouts provided in each pedestal

Knee Panel — Provided between each pedestal

Levelers — Four leg levelers provided

Top Surface — Available in two standard, attractive finishes with stainless steel edge trim

Louvers — 2 rows of 6" louvers in back and bottom panels

Color — Your choice of 20 standard baked enamel colors



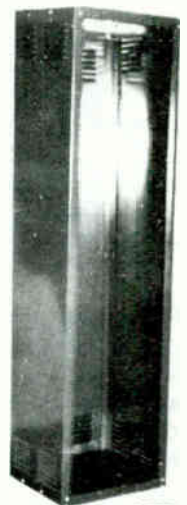
RR Series



ERB/200



CR-1004



SCR/WRE

Model No.	Height	Dimensions		
		Writing Width	Surface Depth	Panel Space
ERB-202	29 1/8"	70"	30"	21 1/8"
ERB-201		53"		
ERB-200		26"		

ERB-202 (Triple pedestal) .....	\$1175.00
ERB-201 (Double pedestal) .....	880.64
ERB-200 (Single pedestal) .....	611.84

### CR-1004 19" Modular Cabinet Console

Material — 14 Ga. CRS frame and base with 11 Ga. CRS mounting angles and 16 Ga. CRS rear door and front panel

Panel Mounting — Angles tapped for 10-32 screws on standard E.I.A. spacing

Slope — Upper panel space on 30° slope

Casters — 2 1/2" diameter with load capacity of 200 lbs. each

Rear Door — Provided with center support channel, 4 groups of six 6" louvers, spring hinge and 2 point chrome flush lock

Top Panel — Made of perforated metal

Writing Surface — Included; available in two standard finishes

Color — Your choice of 20 standard baked enamel colors

Model No.	Depth	Dimensions		Writing Surface	
		Height	Width	Size	Height
CR-1004	30"	50 1/8"	22 1/8"	15" x 22 1/2"	30"

CR-1004 .....	\$916.99
DSP92 Detachable side panels (optional) (sold in pairs) .....	\$165.10

Prices and Specifications Subject to Change Without Notice.

V-541

# HOUSE OF METAL ENCLOSURES, INC.

500 W. 9<sup>th</sup> St.  
P.O. Box 225  
Hermann, MO 65041  
(314) 486-3111

## DESK CABINETS

### 19" Desk Cabinet Series DCE

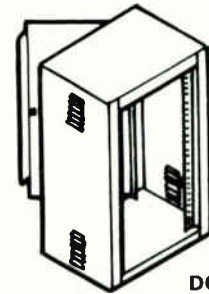
**MATERIAL**—16 Ga. CRS

**PANEL MOUNTING**—DC—Punched with 5/32" holes  
DCE—Drilled and tapped for 10-32 screws

**REAR DOOR**—Standard on DCE series

**COLOR**—your choice of 20 standard baked enamel colors

Model		Dimensions			
Rear Door	Price	Height	Panel Space	Width	Depth
DCE-700	<b>\$128.00</b>	9 1/8"	7 1/8"	22 1/2"	15"
DCE-875	<b>138.24</b>	10 1/8"	8 1/8"		
DCE-1050	<b>145.92</b>	12 1/8"	10 1/8"		
DCE-1225	<b>158.72</b>	14 1/8"	12 1/8"		
DCE-1400	<b>166.40</b>	16 1/8"	14 1/8"		
DCE-1750	<b>184.32</b>	19 1/8"	17 1/8"		
DCE-2100	<b>192.00</b>	23 1/8"	21 1/8"		
DCE-2450	<b>209.92</b>	26 1/8"	24 1/8"		
DCE-2625	<b>217.60</b>	28 1/8"	26 1/8"		
DCE-3150	<b>243.20</b>	33 1/8"	31 1/8"		
DCE-3500	<b>261.12</b>	37 1/8"	35 1/8"		



DCE

### 19" Turrets Series ERBT

**MATERIAL**—18 Ga. CRS

**SLOPE**—10° internal

**REAR PANELS**—Removable for easy access to components

**KNOCKOUTS**—Four (4) 1/4" knockouts provided in rear of each panel space

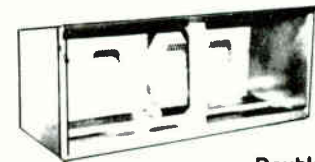
**PANEL MOUNTING**—Flanges recessed 1/4" at top and punched with 5/32" diameter holes on standard E.I.A. spacing

**COLOR**—your choice of 20 standard baked enamel colors

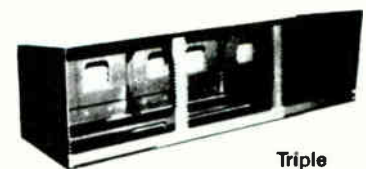
ERBT



Single



Double



Triple

Style	Model No.	Price	Dimensions				
			Height Front	Height Back	Depth	Panel Space	Width
Single	ERBT-200	<b>\$220.16</b>	15 1/8"	12 1/16"	16 1/8"	12 3/8"	19 1/8"
	ERBT-200-1	<b>238.08</b>	17 1/8"	14 1/16"		14 1/8"	
	ERBT-200-2	<b>217.60</b>	13 1/16"	11 1/16"		10 1/8"	
Double	ERBT-201	<b>353.28</b>	15 1/8"	12 1/16"	16 1/8"	12 3/8"	39 1/8"
	ERBT-201-1	<b>381.44</b>	17 1/8"	14 1/16"		14 1/8"	
	ERBT-201-2	<b>348.16</b>	13 1/16"	11 1/16"		10 1/8"	
Triple	ERBT-202	<b>496.64</b>	15 1/8"	12 1/16"	16 1/8"	12 3/8"	59 1/16"
	ERBT-202-1	<b>506.88</b>	17 1/8"	14 1/16"		14 1/8"	
	ERBT-202-2	<b>494.08</b>	13 1/16"	11 1/16"		10 1/8"	

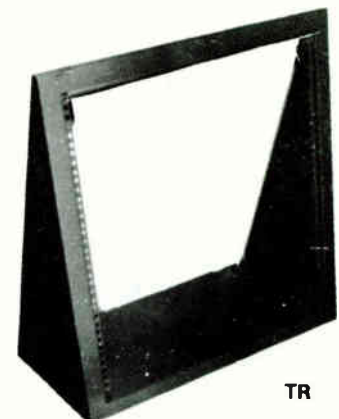
### 19" Table-Top Rack Series TR

**MATERIAL**—16 Ga. CRS, completely welded construction

**PANEL MOUNTING**—Flanges punched for 10-32 screws on standard E.I.A. spacing

**COLOR**—your choice of 20 standard baked enamel colors

Model No.	Price	Dimensions			
		Height	Panel Space	Width	Depth
TR-121	<b>\$115.20</b>	24"	21 1/8"	22"	12"
TR-128	<b>128.00</b>	31"	28 1/8"		



TR



# HOUSE OF METAL ENCLOSURES, INC.

500 W. 9<sup>th</sup> St.  
P.O. Box 225  
Hermann, MO 65041  
(314) 486-3111

# WALL CABINETS

## 19" Swingout Wall Cabinets 193 Series and EC Series

**MATERIAL**—16 Ga. CRS

**PANEL MOUNTING**—Angles tapped for 10-32 screws on 193 series and punched for  $\frac{9}{32}$ " holes on EC series—standard E.I.A. spacing

**FRONT DOOR**—Included with lock. Models also available without front doors.

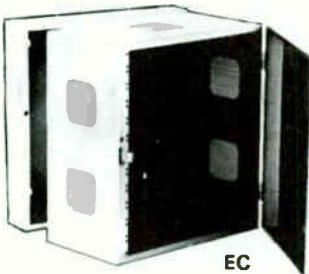
**KNOCKOUTS**—Eight (8)  $\frac{7}{8}$ " dia. knockouts in top and bottom of back section of 193 series and (3)  $\frac{7}{8}$ " dia. knockouts on EC series

**BRACING**—11 Ga. reinforcing angles available when components exceed 250 lbs. (optional)

**OPTIONAL SERIES**—193E (Three sizes) features slip joint hinges.



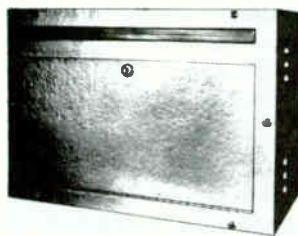
193



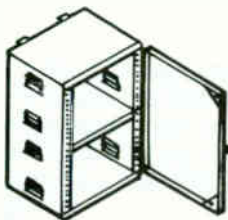
EC



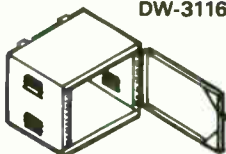
HTB



STB



DW-3116



DW-1616

Model No.	Price	Dimensions			Depth of Sections		
		Height	Panel Space	Width	Center	Rear	Front
193-A	\$256.00	18 $\frac{1}{16}$ "	15 $\frac{1}{16}$ "	20 $\frac{1}{8}$ "	11"	4 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "
193-B	409.60	31 $\frac{1}{16}$ "	28 $\frac{1}{16}$ "				
193-C	601.60	45 $\frac{1}{16}$ "	42 $\frac{1}{16}$ "				
193-D	716.80	64 $\frac{1}{16}$ "	61 $\frac{1}{16}$ "				
EC-1750	281.60	19 $\frac{1}{8}$ "	17 $\frac{1}{8}$ "	20 $\frac{1}{8}$ "	11"	4 $\frac{1}{2}$ "	2"
EC-2100	307.20	22 $\frac{1}{8}$ "	21 $\frac{1}{8}$ "				
EC-2625	332.80	27 $\frac{1}{8}$ "	26 $\frac{1}{8}$ "				

## 19" Pull-Out Cabinet Series HTB

**MATERIAL**—16 Ga. CRS cabinet with 11 Ga. CRS door frame

**PANEL MOUNTING**—Angles tapped for 10-32 screws on standard E.I.A. spacing

**RACK**—Completely removable and mounted on (4) nylon ball bearing slides

**KNOCKOUTS**—Four (4)  $\frac{7}{8}$ " dia. knockouts in top and bottom

**FRONT DOOR**—Standard with locking handle and 3" frame

**COLOR**—your choice of 20 standard baked enamel colors

Model No.	Price	Dimensions			
		Height	Panel Space	Box Width	Box Depth
HTB-2800	\$527.36	31 $\frac{1}{4}$ "	30 $\frac{1}{16}$ "	21 $\frac{1}{2}$ "	18 $\frac{1}{4}$ "
HTB-4200	616.96	45 $\frac{1}{4}$ "	44 $\frac{1}{16}$ "		

## 19" Fold-Out Cabinet Series STB

**MATERIAL**—16 Ga. CRS cabinet with 11 Ga. CRS door and frame

**PANEL MOUNTING**—Adjustable angles punched with  $\frac{9}{32}$ " holes on standard E.I.A. spacing. Supported in slotted brackets, adjustable 9 $\frac{1}{2}$ " front to rear

**DOOR**—Standard 10 $\frac{1}{2}$ " x 20" with flush lock

**VENTILATION**—Side louvers and grill above door

**CABINET MOUNTS**—Surface type with adjustable angles

**COLOR**—your choice of 20 standard baked enamel colors

Model No.	Price	Dimensions			Vertical Panel Space
		Height	Width	Depth	
STB-1200	\$202.24	16"	23"	12"	14 $\frac{1}{8}$ "
STB-1500	207.36			15"	
STB-1800	220.16			18"	

## 19" Deluxe Wall Cabinet Series DW

**MATERIAL**—16 Ga. CRS

**FLANGES**—Front flanges punched with  $\frac{9}{32}$ " holes on standard E.I.A. spacing

**SHELF**—DW-3116 has welded center shelf

**FRONT DOOR**—Features locking handle and tamper-proof inside hinges

**MOUNTING**—Back panel has two wall hanging channels

**KNOCKOUTS**—Four (4)  $\frac{7}{8}$ " knockouts provided along bottom of back panel

**COLOR**—your choice of 20 standard baked enamel colors

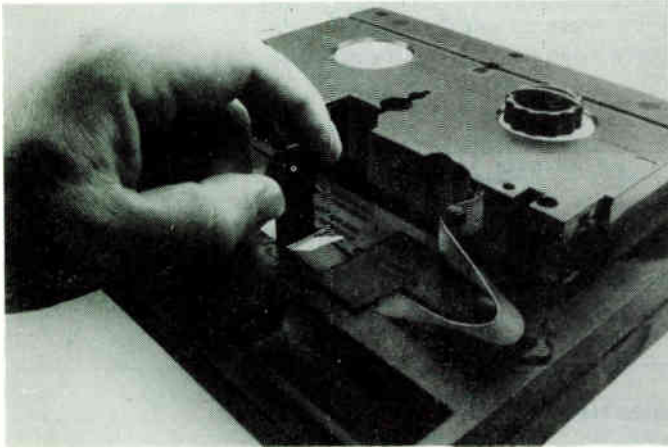
Model No.	Price	Dimensions				
		Depth	Height	Panel Space	Width	Shelf
DW-3116	\$261.12	16"	31"	29"	21"	Yes
DW-1616	179.20	16"	16"	14"	21"	No

Prices and Specifications Subject to Change Without Notice.

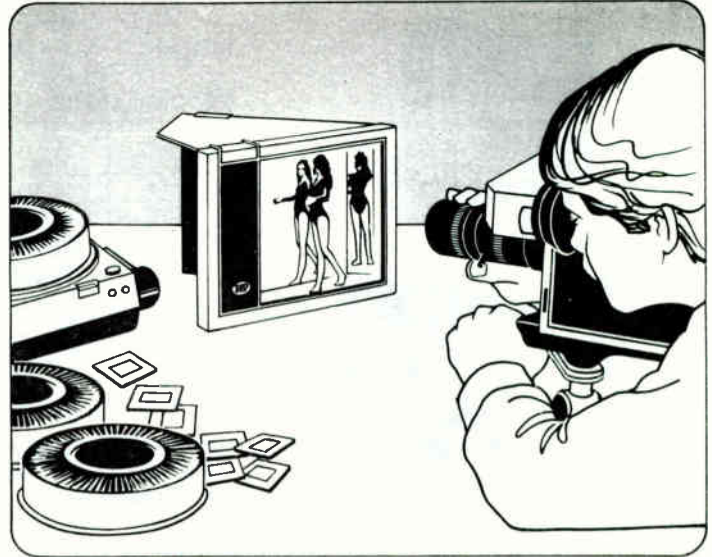
# HUDSON PHOTOGRAPHIC INDUSTRIES, INC.

P.O. Box 227  
Irvington, NY 10533  
(914) 591-8700

# REAR PROJECTION SCREEN/TAPE-MENDER



117



620

## 117 Video Tape-Mender Repairs VHS and Beta Format Cassettes

A unique, patented system for repairing damaged or broken video cassettes in either format, Beta or VHS.

The Video Tape-Mender holds a Beta or VHS Cassette in repair mode with the cassette door fully open. Guide pins built into the Tape-Mender guide the tape from the video cassette to the repair area with base side up. The tape can be shuttled left or right via a Hub Drive Unit.

Hold-down clamps position the tape in an alignment track where it may be cut. The clamps are then used to position the pre-cut adhesive backed splice tape. The tape supplied is very thin and strong so that the repair, once made, is permanent. The adhesive has high tack and will not bleed or change with age or use.

Hudson's Video Tape-Mender includes orientation pins, alignment track and clamps, sheers, cutting blade, Hub Drive Unit, Quik Splice pre-cut adhesive tabs and instructions. All tools are stored within the Tape-Mender Work Station. . . . . **\$43.00**

## 620 Video Transfer Screen

Easy video transfer is made possible from slides, motion pictures and filmstrips using this folding rear projection screen.

It can be used with existing slide, motion picture and filmstrip projectors for video transfers.

A video camera focused on the 8" x 8" screen surface of the Groupshow Mini Rear Projection Screen will allow the user to transfer still or moving images to a VCR or video tape recorder. Zooms, pans and close-ups are easy to do and allow the user to create special effects including motion from slides.

It is equipped with a "first surface" Mirrorlite Mirror and a grainless acrylic rear projection screen for high quality image transfers. It includes a top cover to exclude ambient light and measures just 1" x 9<sup>5</sup>/<sub>8</sub>" x 12<sup>1</sup>/<sub>4</sub>" when folded for storage.

Any type of film projector may be used with this rear projection screen. No special lenses are required. When not in use as a video transfer screen the Groupshow may be used for tabletop viewing or editing of slides and movies. Hudson also makes additional rear projection screens with larger screen dimensions . . . . . **\$64.00**

# HUGHES AIRCRAFT COMPANY

6155 El Camino Real  
 Carlsbad, CA 92009  
 (619) 931-3000 TWX: 910-322-1393

# DATA/GRAPHICS PROJECTOR SYSTEMS

## 1000 Color Projector

- 1000 lines resolution
- 3 projection lenses converged at screen
- Front or rear projection
- Digital convergence
- Electronic keystone correction
- Computer terminal available as option

## Specifications

**Light Output:** 800 lumens in the useful area using standard lens

**Contrast:** At least 50:1 full range white-field to dark-field

### Color

**Registration:** Maximum offset of red and blue with respect to green:

0.1% of picture height of a square raster, inside a circle whose diameter equals 0.8 times the picture height.

0.2% of picture height of a square raster, outside a circle whose diameter equals 0.8 times the picture height.

**Picture Linearity:** ± 1% maximum error, measured along major axes

### Projection

**Geometry:** Aspect ratio 4:3, 1:1, 3:4 or special, as ordered

Throw ratio (image diagonal to throw distance):

1:2.25 ± 5% standard lens

1:1.13 ± 5% wide angle lens

Projection Distance: 8'-75'

Maximum projector tilt angle from horizontal:

0° at 8' projection distance

12° at 20' projection distance

15° at 75' projection distance

**Resolution:** 1000 TV lines minimum at center of each RGB primary image using standard lens

**Raster Rates:** Horizontal: 15kHz to 75kHz

Vertical: 25Hz to 120Hz

Maximum Raster: 1225 lines, 60Hz non-interlaced  
 1 RGB video channel, analog, composite or non-composite, 0.5V p-p to 1.5V p-p, 75 ohms

### Signal Inputs:

1 RGB video channel, digital, 2 bits per color, 1.0V p-p to 5.0V p-p

Composite sync input, 1.0V p-p to 5.0V p-p

Separate sync inputs, H and V, 1.0V p-p to 5.0V p-p

### Video Specifications

**Bandwidth:** DC to 100MHz at -6dB

DC restored, selectable at sync tip or back porch

### Mechanical:

Projector console

50" H x 25" W x 40 1/2" D

Weight: 500 lbs.

Convergence and control unit

30 1/4" H x 23 1/8" W x 24" D

Weight: 200 lbs.

### Power

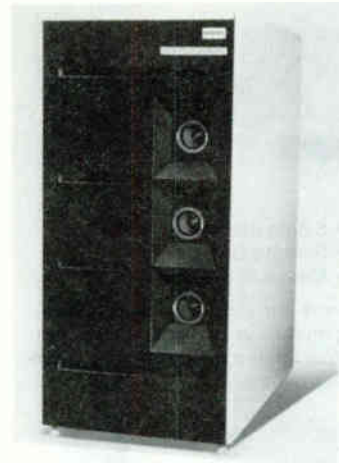
**Requirements:** 115VAC, 50/60Hz, 2.5kW

Dedicated 30A circuit required

125V 30A twist-lock connector standard

220-240VAC, 50/60Hz, 2.5kW, optional

1000 . . . . . \$145,000.00



1000

800

## 800 Large Screen Monochrome Projector

- High light output display gives a bright image in ambient light, does not require darkened viewing area
- Inherent properties of the liquid crystal light valve completely eliminate image flicker
- Quick setup, simple master controls, and convenient remote control make operation easy
- Solid-state design totally eliminates warm-up periods, provides quiet, trouble-free performance
- Raster shaping eliminates keystone effect, permits alternate room arrangements
- 80MHz bandwidth provides instant compatibility with today's higher performance computer systems, makes small text sharper, easier to read

This unique computer graphics projector combines high intensity illumination with the exclusive Hughes liquid crystal light valve to generate bright, high resolution, real-time projected displays in normal room light.

When combined with your computer, it becomes a complete information presentation system for learning or decision-making environments.

A special feature of the 800 graphics projector is its remote control operation, which gives the user greater flexibility in moving around. And with the standard RS-232 link, the remote unit provides truly effective interactive conferencing; in addition to controlling the computer's information, the projector functions can also be controlled by the computer.

The sleek simplicity of the projector's solid-state design results in a lightweight yet durable unit with long life and low maintenance cost. The unit can be positioned at the optimum distance from any screen, depending on the size of the audience and room area, and project an image as wide as desired.

800 . . . . . \$24,950.00

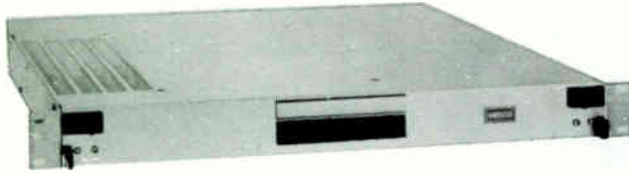


# HUGHES ELECTRONIC DEVICES CORP.

P.O. Box 1985  
Grass Valley, CA 95945  
(916) 273-9524 (800) 433-2648  
FAX: (916) 273-6948

# ROUTING SWITCHERS

## SRB 8/1 Video Switcher



- 8 Video Inputs
- Broadcast Quality
- LED Indicators
- Single RU Frame
- Remote Option
- Meets AVR-1 Specs

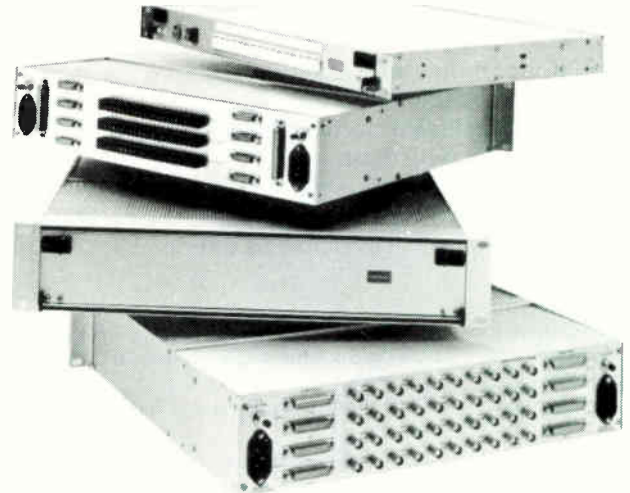
**SRB-8/1 Video Only Routing Switcher** is our plain vanilla unit. Frame houses one VSM-9 and one VPS-153 module with front panel access for maintenance. Local front panel displays video status on LEDs. Compact rackmounting with excellent performance.



**Rear Panel** shows loopthrough BNC video inputs which exhibit  $> 50\text{dB}$  return loss. Dual video outputs have  $> 0.1^\circ$  diff.  $\phi$ . 0.1% diff G and 0.1dB response. Equipped with captive AC cord and remote plug for parallel control.



**RCP-100 Remote Panel** has 8 LED switches mounted in 19" single RU panel. Single wire per crosspoint control.



### Ordering Information

**SRB 8/1** 8 input, video only

#### Options

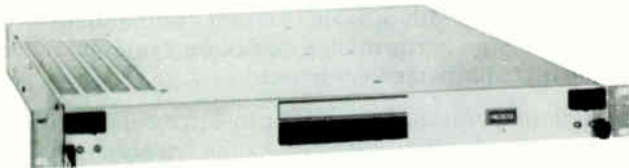
**RCP-100** Remote 8/1 Panel

**CAB-1** Cable for RCP-100

**SRX-162** Extender Module

**LCP-100** Local Control Panel

## SRB-182 AFV Switcher



- 8 Video Inputs
- 8 Audio Inputs
- AFV Operation Only
- One RU Frame
- Remote Option
- Meets AVR-1 Specs

The **SRB-182 AFV Switcher** frame construction is identical to the SRB 8/1 above except for the rear panel. Audio Follow Video operation is standard and controlled locally by LED switches mounted on the front panel. Audio response of 0.1dB from two outputs with  $< 0.1\%$  THD at levels up to  $+24\text{dBm}$  over the range of 20Hz to 20kHz.

**Rear Panel** of the SRB-182 AFV Switcher shows loopthrough BNC video inputs and dual video outputs. Audio inputs and outputs are through an RDI terminal block for ease of wiring. Equipped with captive AC cord and remote plug for parallel AFV control.

### Ordering Information

**SRB-182 AFV** Complete 8 Input AFV

#### Options

**RCP-100** Remote 8/1 Panel

**CAB-1** Cable for RCP-100

**SRX-162** Extender Module

**LCP-100** Local Control Panel

## SRB-481 Dual Video Switcher

- Dual Video
- 8 Input Groups
- Separate Control
- Vertical Interval
- Two Remote Panels
- Meets AVR-1 Specs

**SRB-481 Dual Video Switcher** provides two independent 8 input, dual output video switchers in a single RU frame. Frame houses one VPS-151 power supply and two VSM-9 video modules with fold down front panel access. Independent vertical interval switching on last video.

**Rear Panel** of the SRB-481 show an independent set of BNC looping inputs and dual outputs for each video group. Contact closure to ground on a single wire per crosspoint through the individual rear mounted connectors provides parallel remote control. Equipped with a captive AC cord and fuse protection.

### Ordering Information

**SRB-481** Dual Video, 8 + 8 Inputs

**SRB-381** Equipped as one channel

### Options

**RCP-102** or Remote Dual 8 + 8 Panel

**RCP-100 (2 ea.)** Remote 8/1 Panel

**CAB-1 (2 ea.)** Cable for above

**SRX-162** Extender Module

**LCP-100** Local Control Panel

**LCP-102** Local Control Panel

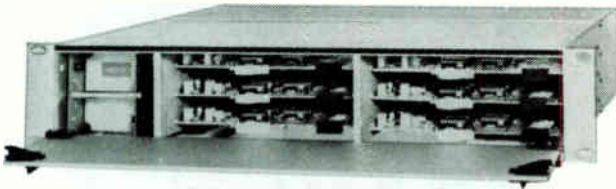


# HUGHES ELECTRONIC DEVICES CORP.

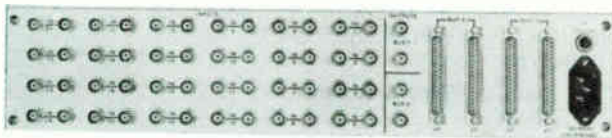
P.O. Box 1985  
 Grass Valley, CA 95945  
 (916) 273-9524 (800) 433-2648  
 FAX: (916) 273-6948

## SRU-YRGB Video Switcher

- YRGB or RGB Switching
- Single Control Panel
- Dual Outputs per Bus
- Two RU Frame
- Complements UltiMatte®
- Meets AVR-1 Specs



SRU-YRGB Video Switcher consists of four individual 8 input, one bus VSM-900 switchers in a two RU frame. Outputs are simultaneously controlled by one RCP-100 panel to provide Y, R, G, B switching. Dual outputs on each bus allow monitoring and direct feeds. Unit may be used for 3 channel RGB switching by removal of one VSM-900 module.



Back Panel Shows four groups of 8 loophrough BNC inputs for Luminance (Y), Red (R), Green (G), and Blue (B). Each channel has dual outputs. Equipped with a standard AC connector and a 1A Circuit Breaker/Switch.



RCP-100 Control Panel provides 8 LED switches for singular control of all channels. Panel is single RU high and mounts in a standard 19" rack.

### Ordering Information

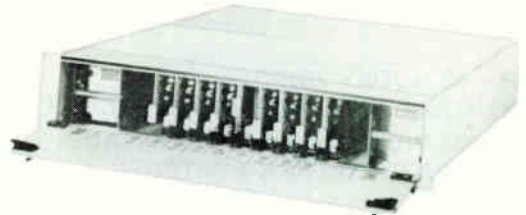
- SRU-YRGB 4 Channel YRGB Video Switcher
- SRU-RGB 3 Channel RGB Video Switcher
- RCP-100 Control Panel for 8 Inputs
- CAB-1 Cable for RCP-100

### Option

- SRX-162 Extender Module

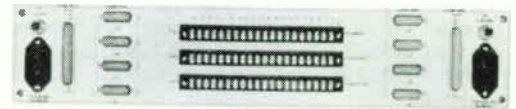
# ROUTING SWITCHERS

## MRA/MRB-8/8 Audio and Video Switchers



- 8 Inputs • Up to 8 Output Buses • Up to 4 Channels • Audio, Video, AFV • Dual Power Supplies • Vertical Interval Switch • Differential Audio In/Out • Meets AVR-1 Specs

MRA/MRB 8/8 Audio and Video Routing Switchers provide 8 buses which can select from 8 buffered inputs. Each bus including control logic, transparent switches and output amplifier is contained on one module. A separate buffer module feeds signals through a motherboard to each crosspoint module. Frame has space for redundant power supply and all modules are removable from the front.



MRA Rear Panel shows the eight looping inputs and dual outputs on each bus. Frame space for two redundant VPS-154 power supplies, one VBMB buffer module and eight VCM8 crosspoint modules. Individual connectors for looping and bus control. Separate AC inputs.



RCP-104 Control Panel controls up to eight buses using individual rotary pushbuttons plus take pushbuttons for selections. Panel is standard 19" width and requires only one RU of space. LED indicators.

### Ordering Information

Size	Video	Audio
8 Inputs/1 Out	MRA 8/1	MRB 8/1
8 Inputs/2 Out	MRA 8/2	MRB 8/2
8 Inputs/3 Out	MRA 8/3	MRB 8/3
8 Inputs/4 Out	MRA 8/4	MRB 8/4
8 Inputs/5 Out	MRA 8/5	MRB 8/5
8 Inputs/6 Out	MRA 8/6	MRB 8/6
8 Inputs/7 Out	MRA 8/7	MRB 8/7
8 Inputs/8 Out	MRA 8/8	MRB 8/8



MRB Rear Panel shows the RDI terminal blocks for audio differential inputs and outputs. Frame contains space for two APS-155 power supplies, one ABM8 buffer and eight ACM8 crosspoint modules. Individual connectors for bus control plus looping connectors. Separate AC inputs.



RCP-100 Control Panel is equipped with LED switches for control of 8 inputs on one bus. Up to eight panels may be used at separate locations for video, audio or AFV operations. Single wire per crosspoint.

### Control Panels

- RCP-100 Panel, 8 Inputs, 1 Bus
- RCP-102 Panel, Dual 8 In for 2 Buses
- RCP-104 Panel, TW/Take for 8 Buses
- CAB-1 Cable for RCP-100, RCP-102
- CAB-3 Cable for RCP-104 (2 RQD)

### Options

- REX-161 Extender Module
- VPS-154 Redundant Video P.S.
- APS-155 Redundant Audio P.S.

## IRS 48 x 48 AUDIO/VIDEO INTERMEDIATE SIZE ROUTING SWITCHER IRS 24 x 24 VIDEO AND 3 CHANNEL AUDIO INTERMEDIATE ROUTING SWITCHER

- No fans or blowers are required. Thermal design provides for efficient heat removal. All integrated circuits are state-of-the-art, require very little power and are mounted in high quality I.C. sockets. All components are off-shelf and most dual sourced, available from an electronic parts house near your location.
- All modules are identified by matrix card slot for the computer software, not by individual module. Permits total type interchange.
- Back-plane inputs and outputs (signal I/O) modules are direct plug-in, with no intervening cables or wires to cause signal degradation or timing changes which complicate future maintenance problems.
- Each module has close tolerance on-board voltage regulators for maximum isolation characteristics. The input to each regulator is fused and its output is protected by automatic thermal shutdown and current limit.
- The video buffer has Differential Inputs to assure a high degree of common mode or hum rejection.
- The video channels use vertical interval switching featuring back porch clamping to assure bounce-free switching between signals with widely different APLs. No SC traps are used. The circuit is designed to clamp only when there is a difference in DC levels, thus helping to maintain excellent system transparency.
- Audio input is balanced differential for either balanced or unbalanced sources, has input impedance greater than 50K ohms and operates at levels up to +24dBm.
- Dunker circuit gives "pop free" on-line audio switching.

### IRS 48 x 48

System can start as small as 12 x 12, single channel, and expand to 48 inputs by 96 outputs with up to four channels of Audio, Video and Time Code in any combination.

The IRS is available as individual Video, Audio 1, Audio 2, and/or Time Code Matrices with a maximum capacity of 48 inputs by 48 outputs in just 17 rack units, (29.75").

### IRS 24 x 24

Can start as small as 12 x 12, single channel, and expand to 24 inputs by 24 outputs with up to three channels of Audio.

### IRS CONTROL PANELS

This series of control panels can be used on all HEDCO microprocessor based routing switchers. Control is via shielded twisted pair (balanced) using RS 422 protocol, MPU 6803 based.

**RCP-301:** Basic single bus control panel. Keypad entry, Audio follow Video.

**RCP-302:** Single bus control panel. Keypad entry, separate Audio and Video selection.

**RCP-303:** X-Y control panel. Keypad entry for control of all buses. Audio follow Video.

**RCP-304:** Single bus control panel. Keypad entry, separate Video and two channel Audio selection.

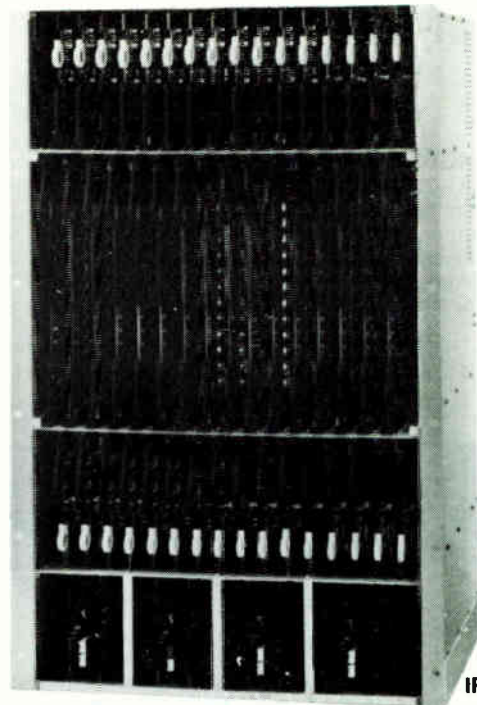
**RCP-311:** 1 R.U., 16 pushbutton "shot box" panel. Buttons can be easily programmed to access any 16 inputs of 24, all levels.

**RCP-306:** X-Y control panel. Keypad entry for control of all buses. Separate Video and two channel Audio selection.

**RCP-307:** Single bus control panel. Keypad entry, separate Video and three channels of Audio.

**RCP-310:** 2 R.U. 48 pushbuttons. (IRS 48 x 48 only)

**RCP-305:** 1 R.U. 24 pushbuttons. (IRS 24 x 24 only)



IRS 24 x 24

### IRS FRAMES

Both Models' Switchers are contained in 17 rack units 29.75".

### IRS MODULES

#### IVI-611 Video Input Buffer

- Back porch clamp
- Differential inputs
- Equalization for 200' of 8281 or equivalent cable
- On board power supply regulation
- 6 buffers per module

#### IXP-144 Audio or Video Crosspoint

- 12 x 12 array
- Crosspoints are transistor arrays in IC sockets
- Vertical interval switching (refer to house sync)
- On board power supply regulation

#### IVO-612 Video Output Amplifier

- On board power regulation
- 6 output amplifiers per module
- Two separate full level outputs per amplifier
- Output gain unity,  $\pm 3$ dB adjustable

#### IAI-601 Audio Input Buffer

- Accepts balanced or unbalanced audio lines
- Differential inputs
- S/N ratio > 90dB
- On board power regulation
- 6 buffers per module

#### IAO-602 Audio Output Amplifier

- 600 ohms or 150 ohms outputs
- 6 output amplifiers per module
- Two separate full level outputs per amplifier
- +24dBm max. at 600 ohms; +27dBm max. at 150 ohms

#### ICL-412 Computer

- One required for each 12 buses
- On board diagnostics
- Non-volatile E<sup>2</sup> RAM for unlimited memory retention
- MPU 6803 based at 76.8 Kbaud

#### ICI-401 Bus Interface

- One required for each 12 buses
- Uses RS-422 bi-directional controls
- Change module for RS-232-C

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# HUGHES ELECTRONIC DEVICES CORP.

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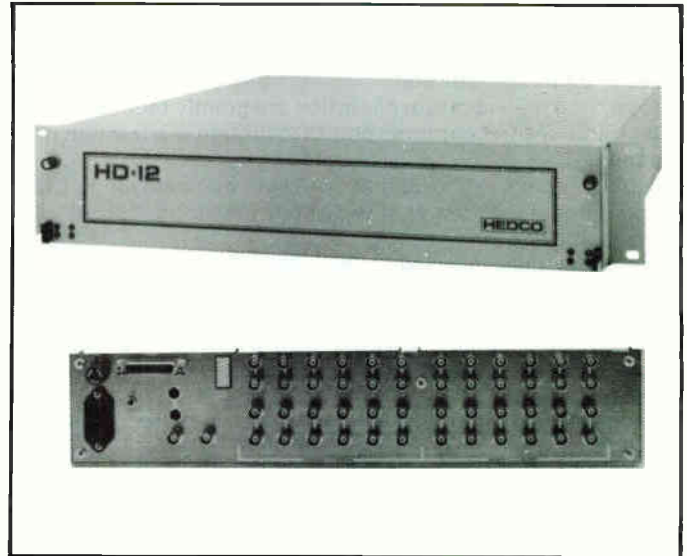
# ROUTING SWITCHERS/ DISTRIBUTION AMPLIFIERS

## HD-12 Routing System

- 12 X 12 Audio and video in one 2RU frame
- 12 x 12 Stereo audio in one 2RU frame
- Serial control card included in each frame, RS232 and RS422 ports
- High definition performance
- Multi level control-breakaway or AFV

The HD-12, 12-input, 12-output audio and video switcher series is designed to fill the requirements for routing switchers between the HEDCO's SR and MR series small switchers and the IRS, intermediate size switchers.

The HD-12V Video Switcher is housed in a two rack-unit frame, complete with power supply and RS232/RS422/RS485 serial control card. The HD-12A audio frame will house either single 12 X 12 audio or stereo 12 X 12 audio. A 12 X 12 video with stereo audio switcher is available in four rack units including power supplies and serial control. Also, a 12 X 12 Video and 12 x 12 Audio Switcher is available in one 2 rack unit frame. Since each switcher frame, either audio or video, has its own serial control card, the frames may be remotely controlled, together or separately, on the same common party line. Front panel local control is available as an option.



## HD Series Distribution Amplifiers

Any mixture up to twelve HDA modules or power supplies can be included in the HD series frame.

### AUDIO

**HDA-201** Audio line amplifier, 8 outputs, gain adjustment per output. (Available in configurations of 1 X 4 stereo, 1 X 8 stereo unbalanced, 1 X 16 unbalanced) . . . . . \$335.00

### Option:

**HDR-200** Remote gain cell (two cells maximum per HDA-201) . . . . . \$85.00

### VIDEO

**HDA-101** Video distribution amplifier, 8 output . . . . . \$295.00  
**HDA-102** Equalizing DA, 8 outputs (equalizes 1000 ft. of 8281 type cable) . . . . . \$355.00  
**HDA-103** Equalizing DA, 8 outputs (equalizes 2000 ft. of 8281 type cable) . . . . . \$355.00

### Frames and Power Supplies

**HDF-100** Distribution frame complete with single power supply, 3RU . . . . . \$615.00  
**HPS-100** Redundant power supply (120V or 240V) . . . . . \$335.00

## 600 Series Distribution Amplifiers

### VIDEO

**VDA-601** Video distribution amplifier, 6 outputs . . . . . \$175.00  
**VDA-602** Equalizing DA, 6 outputs . . . . . \$215.00  
**VDA-605** NTSC subcarrier DA, 6 outputs . . . . . \$205.00  
**VDA-606** PAL subcarrier DA, 6 outputs . . . . . \$205.00  
**VDA-608** Linear DA, 6 outputs . . . . . \$125.00  
**VDA-609** Regenerative pulse DA, 6 outputs . . . . . \$185.00

### AUDIO

**ADA-600** Audio line distribution amplifier, 6 outputs . . . . . \$185.00  
**ADA-601** Ultra low noise line amplifier, 12 unbalanced outputs . . . . . \$130.00  
**RAD-600** Remote gain line DA, 6 outputs . . . . . \$245.00  
**ADA-602** Audio line distribution amplifier 6 outputs 150/600 ohm . . . . . \$185.00

### Frames and Power Supplies

Frames are complete with a single power supply; redundant power supplies can be added to any of the 6000 series frames.

**ADF-6000** 10-DA Audio frame with one power supply, 2RU . . . . . \$675.00  
**ADF-6400** 4-DA Audio frame with one power supply, 2RU . . . . . \$540.00  
**VDF-6000** 10-DA Video frame with one power supply, 2RU . . . . . \$675.00  
**VDF-6400** 4-DA Video frame with one power supply, 1RU . . . . . \$540.00  
**AVF-6400** Combined 2 audio, 2 video DA frame with one power supply, 1RU . . . . . \$540.00  
**VPS-180** Redundant power supply (120V or 240V) . . . . . \$265.00  
**DEX-160** Extender . . . . . \$45.00

# IKEGAMI ELECTRONICS (U.S.A.), INC.

37 Brook Ave.  
 Maywood, NJ 07607  
 (201) 368-9171  
 FAX: (201) 569-1626 Telex: 21-9034 ITCNJ UR

# COLOR CAMERA

## CCD-770

### Compact 3-Chip ENG Color Camera

#### Preliminary

- Vertical smear problem is greatly reduced
- Free of panning distortion
- Moire, ringing and return distortion are greatly reduced
- Electronic shutter captures bodies in motion in a fraction of a second
- Highlight compression circuit and wide dynamic range CCD accommodate scenes with wide contrast range (600%)
- Free of sticking
- Free of microphone noise
- Not influenced by earth magnetics
- After image is greatly reduced
- Registration accuracy of within 0.05% (whole picture area)
- Small size, lightweight, well balanced on the shoulder for ease of operation
- Low power consumption; operates at least 2 hours using a 2.5AH battery
- CCD has long life span, regular CCD replacement is not required
- Registration adjustment not required

The CCD-770 is a high performance, lightweight, compact 3-chip CCD camera incorporating the latest advances in charge-coupled device (CCD) technology.

While turning to best advantage the salient features of CCD, such as freedom from sticking, light weight, miniature size, and long life, the CCD-770 incorporates significant improvements over conventional CCD cameras relative to vertical smear, panning distortion, moire, and other problems.

Also featuring incredibly enhanced operation, the CCD-770 lends itself especially to ENG applications.

#### Specifications

<b>Optical System:</b>	f/1.4, RGB prism beamsplitter
<b>Lens Mount:</b>	Bayonet type (same as ITC-730A)
<b>Color Temperature Filter:</b>	3200°K/5600°K/5600°K + ND (12.5%)/BLIND
<b>Transducer:</b>	TSL system MID
<b>Effective Picture Elements:</b>	649(H) x 491(V)
<b>Scanning System:</b>	2:1 interlace, 525 lines, 60 field/sec., 30 frame/sec.
<b>Sync System:</b>	Internal sync: sync signal generator built in External sync: Genlock system (Automatically switched to internal sync mode when external sync signal is not supplied.)
<b>Encoder System:</b>	I/Q
<b>Aspect Ratio:</b>	4:3
<b>Horizontal Resolution (G ch):</b>	480 TVL or better (whole picture area)
<b>Signal-to-Noise Ratio:</b>	≥ 53dB (p-p/rms, Isig 0.2μA, encoder output, with gamma and detail off)
<b>Illumination:</b>	a) Minimum 40 lux, f/1.6/3200°K (89.9% reflectance, + 18dB gain) b) Standard 2000 lux, f/4.0/3200°K (89.9% reflectance)



<b>Gain Switch Position:</b>	0dB/ + 9dB/ + 18dB
<b>Shading Correction:</b>	Black and white shading correction for both H and V
<b>Video Matrix:</b>	Built-in (with on/off switch)
<b>Flare Compensation:</b>	Built-in
<b>Highlight Compression:</b>	600%
<b>Detail Correction:</b>	H: balance (with comb filtering) V: balance (2H system)
<b>Color Bars:</b>	Split Field type (RS-189A)
<b>Registration:</b>	Within 0.05% (whole picture area)
<b>Automatic Function:</b>	Auto white balance Auto white balance memory Auto black balance and level Auto iris Auto knee (highlight compression)
<b>Shutter Function:</b>	1/100, 1/125, 1/250, 1/500 sec.
<b>Microphone Input:</b>	-60dBm, 600 ohms
<b>Audio Output:</b>	Balanced (-60dBm, 600 ohms) or Balanced (-20dBm, 600 ohms, with AGC) switchable
<b>Intercom:</b>	Mike on/off switch provided switchable between Carbon/Dynamic
<b>Video Output:</b>	VBS 1.0V p-p/75 ohms
<b>Monitor Output:</b>	VBS 1.0V p-p/75 ohms or VS 1.0V p-p/75 ohms R/G/B/R-G/B-G/ENC switchable)
<b>Power Requirement:</b>	DC + 12V nominal
<b>Stability:</b>	Stable when the DC input voltage fluctuates 11V ~ 32V
<b>Power Consumption:</b>	9W approx.
<b>Ambient Temperature:</b>	+ 14°F ~ + 104°F (-10°C ~ + 40°C)
<b>Dimensions:</b>	10.59" H x 3.74" W x 12.32" D (269 x 95 x 313mm)
<b>Weight:</b>	8.6 lbs. (3.9kg) approx.
<b>CCD-770-1</b>	Camera head only ..... \$ 5,545.00
<b>CCD-770-2</b>	Camera head, 1.5" viewfinder, 6' cable, case ..... 6,000.00
<b>CCD-770-3</b>	Same as CCD-770-2 plus A 12X 10F Fujinon lens ..... 7,130.00
<b>CCD-770-4</b>	Studio-4, EFP version CCU, 5" viewfinder, 25 meter camera cable, remote module, A12X10F Fujinon or choice of Canon J12X10B3 or Fujinon A13X10F lenses ..... 11,000.00

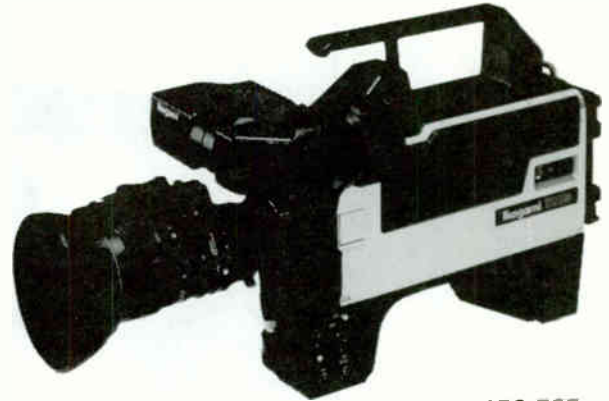
# IKEGAMI ELECTRONICS (USA), INC.

37 Brook Ave.  
Maywood, NJ 07607  
(201) 368-9171 Telex: 21-9034  
FAX: (201) 569-1626

# COLOR CAMERA

## ITC-735 ENG/EFP Color Camera

- High-speed f/1.4 prism optical system produces quality color reproduction, high sensitivity, excellent resolution and low shading
- Three Saticon® IV tubes with high voltage operation, and low-noise preamplifiers offer excellent picture quality with 750 TV lines resolution and 58dB S/N ratio
- 2:1 interlaced 525 lines, 60 fields/30 frames/sec. (NTSC)  
2:1 interlaced 625 lines, 50 fields/25 frames/sec. (PAL)
- Dramatically sharp pictures are achieved with a 2H detail corrector (standard) and a built-in comb filter, with crisp and level dependent circuits which maintain optimum setting for best picture quality
- A built-in switchable highlight compression circuit automatically enables reproduction of scenes, and contains up to 600% video level
- Operates under lighting conditions as low as 40 lux, using the high gain position (+ 18dB)
- Black shading circuit corrects for frame shading as well as sawtooth and parabola effects, so that the black level will be optimal throughout, even with + 18dB gain
- Sawtooth and parabola white shading correction is provided for each channel
- Employs a video matrix circuit for accurate color reproduction
- Dynamic focus compensates for R, G, and B tubes independently for sharper pictures in the corners
- Individual flair correction circuits correct flare generated in lens optical system, pick-up tubes, etc., thereby ensures satisfactory black levels
- Saticon IV tubes further improves LAG and high-light sticking characteristics
- Compact and lightweight camera head (4.7kg) is balanced to reduce operator fatigue during extended operation
- Furnished with advanced micro-computerized automatic functions required in an ENG camera
- Full range of character display functions, visible on the VF screen, contain overall condition of the camera, to minimize the risk of operational errors. Character displays can be switched off
- In the Auto Iris mode, a unique system allows shooting scenes with high luminance, such as the sky background, where peaked average values can be selected
- Automatic iris close protects tubes from damage wherever the power is off
- Tubes are also protected by a delay circuit, which opens the iris after the beam has stabilized
- Filter settings are:  
Indoors—3200°K, outdoors (cloudy weather), 5600°K, outdoors (sunny weather) 5600°K + 1/8ND, CAP (when not in use) BLIND
- For optimum matching of video levels, an easy-to-read zebra pattern indicator is displayed in the VF
- Power consumption can be reduced by using Standby mode (during Standby: approx. 2W)
- Memory of auto white, auto black and auto centering is retained with a 10-year lithium battery
- External switches and controls are functionally positioned to minimize operational errors



ITC-735

- Built-in stable genlock circuit makes external sync operation possible. Switching between external and internal sync operation is automatic
- Horizontal and vertical blanking widths are adjustable. For vertical blanking width, a 3-position switch is provided (18H/19H/20H)
- VTRs supplied with component signals can be connected by adding an optional module in the camera for the appropriate format
- The CCU can be operated from the camera head to a distance of up to 100 meters
- Optional remote unit connects directly to camera using a single coaxial cable for control
- The TCU-735 (option) is especially designed for teleconferencing applications. Four cameras can be controlled and powered simultaneously via coaxial and DC power cables
- Plug in modules
- Electronic rotation adjustment makes back focus much easier
- A monitoring switch is provided on the outside of the camera for convenience
- Bayonet mount
- Minimum 40 lux illumination at f/1.6/3200°K (+ 18dB gain)  
Standard 2000 lux at f/4.0/3200°K, 89.9% reflectance
- Automatic camera tube protection is provided in case of sweep failure of either horizontal or vertical scanning

## Accessories

- CCU-735 Camera Control Unit
- TCU-735 Tele-Conference Unit
- VFM-152 1.5" Viewfinder
- VFM-572 5" Viewfinder
- ACP-735 AC Power Pack
- RCU-735 Remote Control Unit

## CCU-735 Camera Control Unit

- Add the CCU-735 and a variety of remote control functions are possible
- Cable length: 300m maximum
- 2-wire/4-wire/RTS intercom system available, common/private selectable

ITC-735 ENG version ..... \$ 8,895.00  
ITC-735 EFP version ..... 12,320.00



# IKEGAMI ELECTRONICS (U.S.A.), INC.

# COLOR CAMERA

37 Brook Ave.  
 Maywood, NJ 07607  
 (201) 368-9171  
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## HL-379A

### Compact, Lightweight, ENG Camera

- Compact, lightweight, 3.1kg with VF
- Low power consumption, 13W
- Dynamic detail incorporated for correction of lens corner resolution
- White shading correction circuitry in lens extender use incorporated
- Auto highlight compression
- Knee aperture correction
- SMPTE color bars incorporated
- Genlock circuitry incorporated
- High grade picture quality obtained by horizontal three DTL
- Auto iris permits easy shooting of backlighted scenes
- External remote control using digital commands. The following functions can be remotely controlled: R/B Gain, R/B/M Ped, Iris, DTL Level, Iris Auto/Manual, VTR Start/Stop, Call, Auto White
- A built-in sound monitor speaker

The HL-379A is a broadcasting quality CCD ENG camera which has high-performance and high-stability despite its compactness and light weight. Besides its usefulness with various types of VCRs, it can be used as a multi-purpose camera with the host of various accessories.

This camera belongs to the UNICAM family which is compatible with all HL-95B accessories.

## Specifications

### Mechanical

**Dimensions:** 9.8" H x 3.7" W x 6.5" D  
 (250 x 95 x 165mm)  
**Weight:** 3.1kg (with 1.5" VF)  
**Lens Mount:** Bayonet (interchangeable with HL-95B/79EAL)  
**Optical Filter:** 1 2 3 4  
 3000°K 5600°K 5600°K OPTION  
 + 1/4ND

### Electrical

**DC Input Signal:** 12V (11 ~ 16V)  
**Power Consumption:** 13W  
**External Sync Input Signal for Genlock:** VBS 1V p-p or BBS 0.45V p-p  
**Return Video Signal:** VBS or VS 1V p-p  
**MIKE Input:** -20dBm, 600 ohm, balanced (with CA-95C)  
**Tally Input:** Power/Contact (with CA-95C)  
**Intercom:** 2-wire/4-wire/RTS (with CA-95C)  
**Sensitivity:** f/5.6  
**Gain Up:** •0, + 12, + 24dB  
 •0, + 6, + 12dB  
 •0, + 12, + 18dB (STD)  
 •0, + 6, + 18dB  
 \*Selectable by internal switches

### Signal-to-Noise Ratio:

> 58dB  
**Resolution:** H: 650 TVL  
 V: 380 TVL

### Video Output

**Signal:** VBS 1V p-p, 75 ohms, 1 output  
 Component output 1 CH  
 RGB output 1 CH  
**VF Video:** R+G+B (normal) or monitor output signal selected by the monitor switch

### Monitor Output

**Signal:** R, G, B, R-G, B-G, Y, ENC

HL-379A ..... \$17,000.00

# IKEGAMI ELECTRONICS (U.S.A.), INC.

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(201) 368-9171

FAX: (201) 569-1626 Telex: 21-9034 ITCNJ UR

# COLOR CAMERA



HL-95B

## HL-95B Unicam™

- High sensitivity: Max. 24dB
- Small size: 250H x 95W x 165D mm
- Weight: 3.0kg (Camera + 1.5" VF)
- Full shading correction: Black and white
- Dynamic focus correction
- Flare correction
- Geometry correction
- Color video matrix
- Knee aperture correction
- Viewfinder:
  - White balance indication
  - Battery warning indication
  - Tally (Red) indication
  - Gain up indication
  - Stand-by indication
  - Audio level indication (CH1, CH2)
  - Tape remaining time indication
  - Filter position indication
- Color bars: Split field, in accordance with RS-189
- Sync generator: RS-170A, adjustable H. V Blanking
- Automatics:
  - Auto iris
  - Auto iris close
  - Auto iris waiting
  - Auto white balance — A/B/Off (preset)
  - Auto beam, control
  - Auto highlight compression

The HL-95B Unicam provides handheld color camera flexibility, versatility, as well as higher performance, lower weight and power consumption than obtained with previous cameras based on three  $\frac{2}{3}$ " Plumbicon® pick-up tube configurations.

Utilizing a unique building-block concept, the HL-95B is available as a standalone camera, as well as in many other configurations, accommodating on-board professional  $\frac{1}{2}$ " and  $\frac{1}{4}$ " cassette format VCRs, as well as separate  $\frac{3}{4}$ " and 1" VTRs, and remote triax or multicore cable control units.

A  $\frac{2}{3}$ " Plumbicon (electrostatic focus/magnetic deflection) is incorporated into the HL-95B. This tube's photoconductor size, combined with a diode gun electron tube, results in a high sensitivity and high resolution for the camera.

By taking advantage of the low input capacity of the tube, circuit components and advanced circuit technology, a S/N ratio of -60dB is obtained. This allows video gain of up to +24dB for a maximum sensitivity of under 15 lux (using an f/1.6 lens).

## Specifications

<b>(Rating)</b>	
<b>Input Signal</b>	
<b>Return Signal:</b>	VBS 1.0V p-p (positive), 75 ohms
<b>External Sync (G/L):</b>	Optional BBS 0.45V p-p (negative), 75 ohms (using the optional adaptor)
<b>Power:</b>	12VDC
<b>Output Signal</b>	
<b>Composite Signal:</b>	VBS 1.0V, positive polarity, 75 ohms
<b>Monitor Signal:</b>	RGB, R-G, B-G, ENC
<b>Pick-up Tubes:</b>	$\frac{2}{3}$ " SM Diode Gun Plumbicon
<b>Filter:</b>	3000°K, 5600°K, 5600°K + 25% ND, CAP
<b>Lens Mount:</b>	Bayonet, interchangeable with HL-79A/D/E
<b>(Performance)</b>	
<b>Sensitivity:</b>	At 2000 lux — f/4.5 or greater lens opening
<b>S/N Ratio:</b>	-60dB
<b>Resolution:</b>	650TVL center (horizontal)
<b>Registration:</b>	Zone 1 < 0.05% of picture height
<b>(Deviations of R, B with respect to G)</b>	Zone 2 < 0.1% of picture height
	Zone 3 < 0.2% of picture height
<b>Geometric Distortion:</b>	< 1.5%
<b>Power Consumption:</b>	17W

## System

<b>(Weight)</b>	
Camera (includes VF and Shoulder Pad) . . . . .	3.5kg
VTR Adaptor . . . . .	0.6kg
Lens . . . . .	1.5kg
VTR (Bosch $\frac{1}{4}$ " ) . . . . .	2.9kg
Battery . . . . .	1.0kg
Total . . . . .	9.5kg

System 1 Stand-alone ENG System . . . . .	\$28,900.00
System 2 Camcorder System (w/o interface) . . . . .	26,504.00
System 3 Studio/EFP w/Triax RC System . . . . .	45,600.00
System 4 Studio/EFP w/Multicore RC System . . . . .	35,750.00
System 5 Basic Camera Configuration . . . . .	26,100.00

Prices do not include lens and genlock.  
Plumbicon is a Registered Trademark of N.V. Philips.

**SC-500/SC-500P Studio Camera**

- Three  $\frac{2}{3}$ " Saticon or Plumbicon pickup tubes available
- Dynamic focus to ensure superior corner resolution
- Deflection distortion corrector for extremely low registration error
- Detail corrector for crisp, sharp images
- Black and white full shading correction
- Video matrix to provide accurate color matching between cameras
- Servo-controlled filter disc
- +6/+12dB video gain switch
- Dynamic beam stretch
- Return video
- Level suppression to accommodate high-contrast scenes
- Horizontal resolution (at G channel)—700TVL at center, 600TVL at corners
- S/N ratio—57dB/NTSC, with Gamma, DTL off
- Automatic centering control
- Automatic iris with weighting system
- Auto cap for tube protection
- Auto white and black balance
- Auto black level
- A non-volatile memory retains all the automatic correction data for several years, even when power is removed

The SC-500 is an economical professional studio color TV.

The SC-500/SC-500P viewfinder camera employs three  $\frac{2}{3}$ " pickup tubes and a prism-optics system to produce pictures of superb clarity and color fidelity. The sturdily built, easy-to-service camera can be relied on to keep performing under the most demanding studio conditions. A zebra-pattern video signal indicator in the 7" viewfinder ensures optimum matching of video signals, and a built-in split-field color-bar generator is provided. A character display in the viewfinder permits easy monitoring of camera status while the camera is being used.

Fully modular construction is employed to simplify service and maintenance. Plug-in printed-circuit boards, divided according to circuit function, are utilized. All major controls are located in front of each unit to facilitate adjustments.

<b>SC-500</b> Saticon Tubes (less lens and cable) . . . . .	<b>\$25,009.00</b>
<b>SC-500P</b> Plumbicon Tubes (less lens and cable) . . . . .	<b>29,998.00</b>



# IKEGAMI ELECTRONICS (U.S.A.), INC.

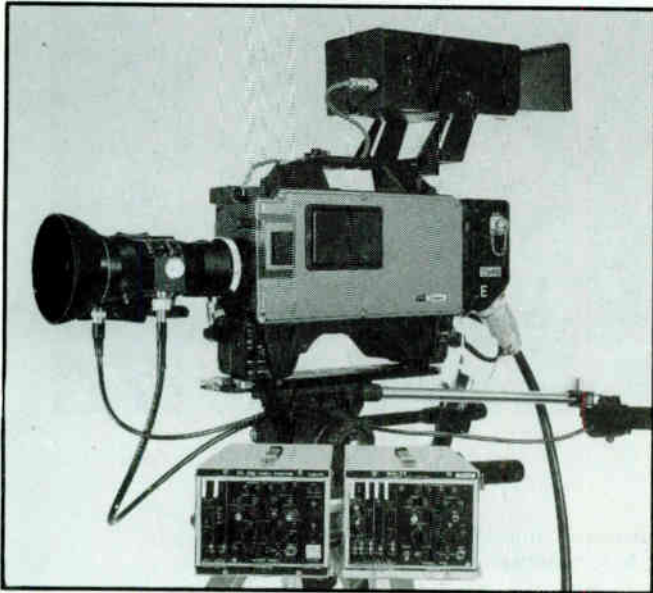
37 Brook Ave.

Maywood, NJ 07607

(201) 368-9171

FAX: (201) 569-1626 Telex: 21-9034 ITCNJ UR

# COLOR CAMERA



HL-79EAL

## HL-79EAL Color Television Camera

Although it is smaller and lighter than its HL-79 Series predecessors, the HL-79EAL uses the same proven 2/3" pick-up tubes, while achieving important performance improvements in the areas of sensitivity, signal-to-noise ratio, registration accuracy, resolution and RFI immunity. Picture quality is further enhanced by employing chroma aperture correction, dynamic detail correction, automatic highlight compression, which improves picture quality in highlight areas (particularly effective in exterior operations involving high dynamic light areas), and knee aperture correction.

The HL-79EAL is designed for ease of maintenance with a micro computer to carry out self diagnostic functions. The micro computer assesses the camera's operating condition and makes any necessary corrections in a short time.

The ADC-79E incorporated in the system prints out a statement of the camera's condition via an RS232C port, thus control of the camera can easily be made for the long term.

### Performance Parameters

Various fundamental performance parameters have been emphasized to achieve the superior performance desired by today's program originators.

**Sensitivity** Standard sensitivity is 2000 lux at f/5.0. Maximum sensitivity at +18dB video gain is 20 lux at f/1.4 (using 89.9% reflectance chart).

**Signal-to-noise Ratio** -59dB is achieved with low input capacitance tubes using conventional measuring techniques (0dB video gain).

**Registration** Deviation of Red and Blue with respect to Green is within 0.05% in Zone 1, 0.1% in Zone 2, and 0.3% outside of Zone 2 as a result of the Quadrant Geometry Correction Circuit used.

**Resolution** By operating the pick-up tube in a high voltage mode, center resolution of 650TVL limiting and corner resolution of 500TVL limiting is achieved (using Diode Gun pick-up tubes, measured at 2000 lux illumination on a standard RETMA resolution chart).

**Viewfinder Resolution** Crisp, high contrast pictures are assured by the use of an improved cathode-ray tube.

**Output Signal Characteristics** In accordance with EIA Standard RS-170A, blanking pulse widths and SC-H phase relationship adjustable.

### Performance Features

**RFI Immunity** Up to 10V per meter (140dB) from 100kHz to 600MHz for the entire camera surface (not including lens port).

**Chroma Aperture Correction** Generates aperture correction signal when Green information is absent from the signal, results in improved sharpness of picture in Red and Blue content areas.

**Dynamic Focus** Parabolic modulation of electrostatic focus voltage improves corner resolution.

**Dynamic Detail Correction** Parabolic modulation of detail correction signal improves corner picture sharpness.

**Knee Aperture Correction** Expands horizontal video frequency response in highlight areas of picture to compensate for aperture correction fall-off due to gamma compression of correction signal.

### Operational Conveniences

The HL-79EAL is provided with all the elements necessary to support the sophisticated user operationally:

- Selectable white balance corrections
- Dual concentric filter wheels
- Selectable video gain
- SC/H phase adjustment
- Adjustable blanking widths
- Viewfinder indicators

Numerous readouts available to assist the camera operator:

White Balance Mode (A, B, Preset)

Tally

Battery Warning

Auto white balance

Auto black balance

Video level (Zebra)

Gain mode

Standby mode

Lens extender On

• RGB outputs

• Color bar signals

• Gen-lock input

### Automatic Features

The HL-79EAL is a fully automatic camera configured to permit the camera operator to concentrate on artistic aspects with minimum attention required by the camera operators. The automatic features provided are:

Auto iris control

Auto white balance (2 modes)

Auto black balance

Auto iris closure

Auto iris waiting

Auto highlight compression

Auto beam control

HL-79EAL (Lens not included) . . . . . \$44,450.00

### Accessories

RDC-79E Digital remote control . . . . . \$ 5,378.00

ADC-79E Auto setup box . . . . . 10,703.00

MA-79 Multicore remote control system . . . . . 7,429.00

TA-79E Triax remote control system . . . . . 18,572.00

VF45-3 4 1/2" Studio viewfinder . . . . . 2,296.00

Remote paint box without cable . . . . . 499.00

### Lenses

Canon J13x9IRS-IIA f/1.6 \$ 5,750.00

Canon J18x9IRS f/1.6 9,300.00

Canon J8x6BKRS f/1.6 7,650.00

Canon J8x6BKRS

w/2X 11,800.00

Fujinon A12x9ERM f/1.7 2,750.00

Fujinon A14x9ERM f/1.7 5,800.00

Fujinon A18x8.5FERM f/1.7 9,300.00

# IKEGAMI ELECTRONICS (U.S.A.), INC.

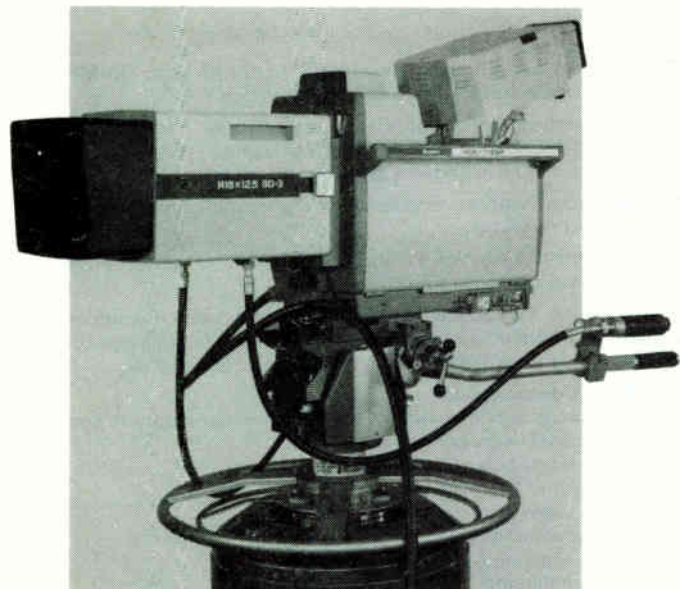
37 Brook Ave.

Maywood, NJ 07607

(201) 368-9171

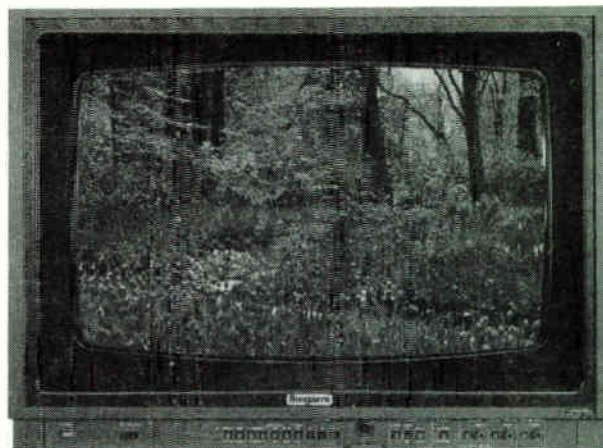
FAX: (201) 569-1626 Telex: 21-9034 ITCNJ UR

# COLOR CAMERA/MONITOR



## HDK-1125P High Definition TV Camera

- Top priority is given to picture quality; 1" high resolution tubes are used and a S/N ratio of 44dB (Y signal) is achieved
- Compact and lightweight. Size and weight are minimized without sacrificing a variety of functions typical of the new generation cameras; the size is smaller than that of the Ikegami 1 1/4" color camera and the weight is about 43kg
- Due consideration is given operational ease; a host of automatics are incorporated and the F-7 28-core camera cable with a maximum length of 200m is employed to increase camera mobility
- Automatic setup functions are provided to greatly reduce the setup time required for daily operation. To achieve labor saving purposes and enhance ease of operation, the camera has various computer control functions, such as filing functions, using preset memories for instant data retrieval
- High-resolution pick up tubes of 1" MS type are used providing 35% response with 800+ TVL at center
- An automatic geometric corrector circuit is incorporated to improve registration which constitutes a very important factor in camera performance. Further, zoom lens aberration correction (real-time dynamic lens distortion correction) and registration adjustment through zoom lens replacement are made to upgrade performance in the area of registration
- The viewfinder employs a 7", high brightness, high-resolution CRT. The image in the viewfinder may be overscanned enlarging the entire picture so the lens can be focused sharply. Further, this viewfinder allows complete black level clamping by the feedback method
- CCU consists of the following components:
  - 1) CCU rack
  - 2) 19" B/W picture monitor (DM-516H)
  - 3) Waveform monitor (1480HD)
  - 4) Control panel
  - 5) BAY-1  
(Main video and pulse system modules are accommodated.)
  - 6) ENC (option)
  - 7) Optical fiber cable adaptor (option)
  - 8) Power supply



## • Automatic functions

- 1) Automatic setup
  - a. Level
  - b. Registration
  - c. B/W shading
- 2) Auto beam control
- 3) Auto white balance
- 4) Auto black balance
- 5) Auto iris
- 6) Auto centering
- 7) Real time dynamic lens distortion correction
- 8) Auto geometric correction

HDK-1125P Camera Head (less lens) . . . . . \$559,405.00

## TM-751H 30" Color Monitor

- Designed to monitor the HDTV video program
- 30" high-resolution delta gun, black matrix type CRT produces sharp color image. An aspect ratio of 5:3 is most ideal for High Definition TV
- The majority of control circuits are of the DC control type
- The luminance is adjusted through the addition of the blanking gate luminance pulse. For this reason, the linearity of the circuit is not adversely affected
- The DC component in the video output is restored by the feedback gate clamping circuit. The black level is thus clamped, leading to a high-fidelity reproduction of the input signal
- The pulse cross operation consists of 3 functions, i.e., V Delay, H Delay, and V.H. Delay. Observation of the sync signal is thus facilitated
- Pincushion distortion is inconspicuous even on a laterally long screen with an aspect ratio of 5:3 because the pincushion distortion corrector is of the quadrant geometric type
- The 9-point geometric system convergence control circuit is incorporated. Unlike the conventional models, the TM-751H permits the adjustment of the left and right halves of the screen independently of each other
- An RGB signal and the encoded signal input may be applied to the TM-751H when a decoder unit is incorporated
- Two sets of the RGB signals may be applied to the TM-751H in the absence of the decoder unit

TM-751H Monitor . . . . . \$56,862.00

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# COLOR CAMERA

## HK-323 Fully Automatic Color Camera

Suitable for outdoor and indoor applications, the HK-323 is a small, lightweight, high quality and flexible color camera. The camera head itself can be used for self-contained application. For systems flexibility, the base station is provided.

### HK-323 Control System

- Maintenance Control Panel (MCP) and Operation Control Panel (OCP) can be included in the HK-323 system
- Up to 40 cameras can be controlled by one MCP using Camera Selection Units (CSU)
- The camera head and the base station can be connected via triax cable, multicore cable, or fiber cable
- The HK-323P portable camera is available, which may be connected to the HK-323 base station
- Using RS-232C interface the camera conditions can be printed out so that records can be maintained
- Various correction files available for ease of operation

### HK-323 Color Camera

- 1" Diode Gun Plumbicons® are utilized. Upon request 2/3" Diode Gun Plumbicon tubes are also available
- Full auto-setup function for easy operation
- By changing modules, triax cable, multi-core cable, and fiber cable can be used

Type of camera and extension:

Triax cable Belden 9267 (9.14mm dia.) . . . . .	750m
Belden 9232 (13.2mm dia.) . . . . .	1500m
Fujikura (8.5mm dia.) . . . . .	.900m
Fujikura (14.5mm dia.) . . . . .	1800m
Fiberglass cable Fujikura G2 80/125 . . . . .	3000m
Multicable TV24/TV39/TV36 . . . . .	.600m

- Size and weight are minimized for operability. The camera head is 410H x 230W x 390Dmm. 1" type camera head weighs 26kg. 2/3" type weighs 25kg
- High performance prism optics are used. Quartz filter is employed to improve polarization characteristics
- Broad contrast range provided by Highlight Compression circuitry
- Video Matrix is built-in for color correction and matching
- Comet tail is eliminated by Auto Beam Control (ABC)
- Chroma Aperture Function provides sharp pictures of the object regardless of scene color content or special color lighting
- The camera person's name can be indicated on the monitor at the base station
- Viewfinder indications include:  
 Box Cursor, Crossover Cursor, Safe Title Area, Center Cross (HK-323 only), Auto-Setup, Filter Position, R and G Tally, Lens Extender, Gain Up, Video Level (Zebra)
- In the event of camera head or base station trouble the self-diagnosis system alerts the operator, prompting him to take corrective action

## Specifications

### Construction

#### HK-323 Camera Head

<b>Pick-up Tubes:</b>	1" diode gun or equivalent (2/3" diode gun or equivalent)
<b>Viewfinder Tube:</b>	7" standard, 6" and color VF available as option
<b>Optical Prism:</b>	1" f/1.2, 2/3" f/1.2



HK-323 Camera Head

<b>Optical Filter:</b>	1	2	3	4	5
ND:	CAP	100%	25%	6.2%	1.6%
	A	B	C	D	E
CC:	EFF	3200°K	4300°K	6300°K	8000°K

### HK-323P Camera Head

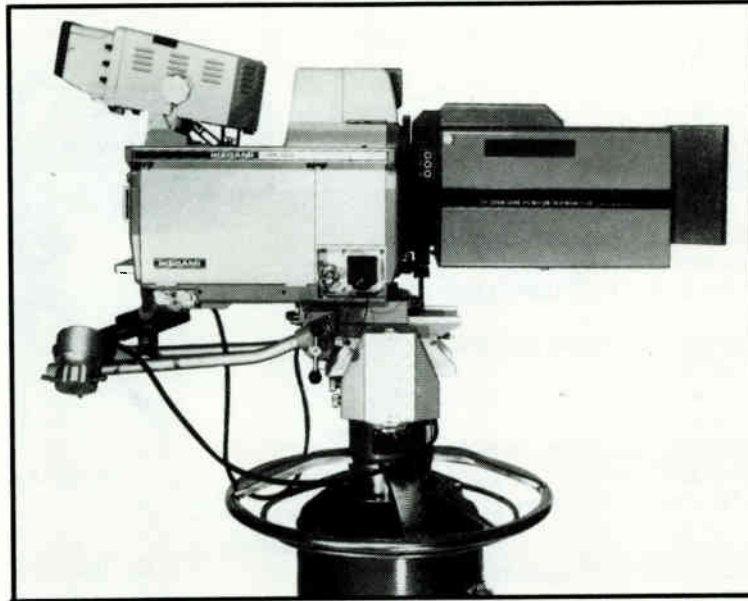
<b>Pick-up Tubes:</b>	2/3" diode gun or equivalent			
<b>Viewfinder Tube:</b>	1.5" standard, 4.5" VF available as option			
<b>Optical Prism:</b>	f/1.4			
<b>Optical Filter:</b>	1	2	3	4
ND:	CAP	100%	25%	6.2%
	A	B	C	D
CC:	EFF	3200°K	4300°K	6300°K

### Overall Performance

<b>Frequency Response:</b>	NTSC	
	Below 60Hz	Falling
	60Hz ~ 4.5MHz	Within ± 0.5dB
	4.5MHz ~ 6MHz	Within ± 1dB
	Over 6MHz	Falling
	With reference to 100kHz	
<b>Signal-to-Noise Ratio:</b>	1" 59dB (NTSC) 2/3" 60dB (NTSC) (with Gamma, Aperture, DTL, Matrix all off. Bandwidth: 4.2MHz NTSC, 5.0MHz PAL)	
<b>Sensitivity:</b>	1" f/5.6, 2/3" f/4.5	
	Under the following conditions:	
	Color temperature 3200°K	
	Illumination 2000 lux	
	Reflectance 89.9%	
	Gain control 0dB	
<b>Gamma:</b>	Step change over 1.0, 0.35, 0.4, 0.45	
	Fine adjustment ± 0.05 Continuously	
<b>Pedestal Variable Range:</b>	RGB > ± 5%	
	Master > ± 10% (with Gamma off)	
<b>Gain Control:</b>	Master -3dB, 0dB, +3dB, +6dB, +12dB	
<b>Resolution at Center:</b>	1" 700 line, 2/3" 650 line	
<b>Registration</b>		
Zone 1:	≤ 0.05%	
Zone 2:	≤ 0.1%	
Zone 3:	≤ 0.2%	
<b>Deflection Distortion:</b>	All areas within 1%	
<b>RFI:</b>	140dB (at Head self contained)	

HK-323S-18 Self-contained camera system with 2/3" (18mm) low capacitance diode gun Plumbicon tubes XQ 3427 RGB . . . \$53,750.00  
 HK-323S-25 Self-contained camera system with 1" (25mm) low capacitance diode gun Plumbicon tubes XQ 3070 G/B XQ 3075R . . . \$58,750.00





## HK-322-Broadcast Color Camera

The HK-322 is a fully automatic television camera system. The Master Control Panel contains a computer to perform all of the setup functions automatically.

Several other TV cameras have computerized automatic setup controls—but it takes a lot more than just a computer to produce top quality color.

Ikegami has that extra something: color technology. So, when you get an HK-322, you're not just getting a fully automatic camera — you're getting excellent picture quality, superior craftsmanship, and many non-computerized, automatic correction functions.

### Camera head

Camera setup functions are performed by the digital control system contained within the MCP. This information is stored in a camera memory system. The camera becomes a "black box", requiring essentially no internal adjustments.

Among the design highlights included are:

- Precise geometry of less than 0.1% distortion
- Superior registration accomplished digitally resulting in minimal errors, maintained with 0.05% throughout the entire picture area
- Independently adjustable bias lights for R, G and B channels
- 8 pre-programmable zoom lens and diascope error correction modes
- ND and Color Correction filter wheels quickly removable "CASSETTE fashion" for easy maintenance or special effects filter insertion
- Zoom lens heater power is available when the head power is turned off
- Video and power is provided for a video prompter system
- Dual tally system
- Two channel return video
- Dual Mic amplifiers
- S/N ratio of 56dB
- Horizontal resolution — 60% performance response at 400 TV lines, center

### Camera Control Unit

Similarly to the camera head, the CCU's memory system retains the setup control data from the MCP. The "black box" concept permits the mounting of the CCUs out of the control area. Several features are to be noted:

V-558

- Totally automatic cable compensation for up to 600m of small diameter multicore cable
- Plug in FM Triax system with an operational range of 1500m
- Digitally controlled automatic shading correction
- R/G/B Detail corrector employs a novel design. Picture detail is no longer lost in red or blue picture content as is common with the "contour out of green" principle
- Chromakey (option)
- Negative video (option)
- Color Corrector (option)

### Automatics

Basic automatics, other than CPU setup, include:

- Auto White Balance/Black Balance
- Auto Iris Control
- Auto Cable Compensation
- Auto Pedestal Control
- Auto Detail Level Control/Selection Control
- Auto Optical Cap
- Auto Highlight Compression

### Special Effects

- H and V deflection reversal, with stored linearity correction
- Negative video permits RGB video polarity reversal
- Horizontal deflection modulation for "dream scenes"
- Scene compression and expansion for improving high contrast and/or hazy scenes
- Various effects may be stored in a data file. Up to 8 presets may be retrieved on command

The Operation Control Panel controls the camera during normal "on air" operation

After initial setup, each camera may be operated by its individual OCP, independently of the MCP.

One Master Control Panel can control up to 24 cameras directly by using a Camera Switching Unit (CSU). By the addition of a Studio Selector Unit and other CSUs, up to 10 camera groups or a total of 100 cameras may be controlled by a single MCP. For backup purposes, a second MCP may be connected in parallel.

In addition, to provide up to 10 studio parallel Automatic Setup capability, additional CPUs may be added for each of the studios.

HK-322 Camera Head (less lens and tubes) . . . . . \$76,250.00

Prices and Specifications Subject to Change Without Notice.



TKC-970

## TKC-970 Color Telecine Camera

- Top-quality picture, faithful color reproduction
- By adopting a pre-preamplifier system employing high S/N FETs, the S/N ratio has been greatly upgraded to 56dB
- Registration has also been further enhanced by employing yoke assemblies and a registration corrector
- Thanks to adopting dynamic focus, resolution at the corners has been improved. (700 lines at center; 600 lines at corners)
- The TKC-970 is provided with a black shading correction circuit
- White shading correction is available in three modes
- A bias light incorporated in the TKC-970 reduces lag in dark picture areas
- A crisp, high-quality picture is attained by employing an optical black and a flare compensation circuit
- A horizontal/vertical detail corrector with an auto-edge circuit constantly provides appropriate corrected pictures

### Various Automatic Systems

Added to the conventional automatic systems (ALC, AWL, ABL, optical black, etc.) are these additional automatic systems.

- The edge circuit in the detail corrector circuit is provided with auto level control for assuring constant, most rational correction
- Auto Light Control (ALC) is incorporated in the TKC-970's optical system
- Auto Color Balance functions—Auto White Balance (AWB), Auto Gamma Balance (AGB), and Auto Black Balance (ABB)—are provided. These balance controls maintain the best color-balance pictures during On-Air

### Highly Reliable Control System

- Since all controls from the exterior are stored in the camera, an abrupt power failure does not require readjustment
- A digital semiconductor in the control system, including a monitor circuit, greatly enhances reliability
- Multiplexer control is possible from the camera thanks to the multiplexer select switch on the control panel

### Easy-To-Operate Monitor System

Selection is made from the following items through piano-key-touch operation.

- PM Select: R, G, B, R-G, B-G, -G and ENC
- WFM Select: Pre Sup, Pre Seq, Proce Sup, Proce Seq, Proce RG, Proce BG, ENC
- When the camera power supply is turned Off and then turned On again, PM Select is automatically set to 'ENC', while 'Proce Seq' is automatically selected on the WFM Select
- The SEQ indication employs a horizontal system
- Preamp as well as proc amp waveforms can be monitored

### Combinable With Other Equipment

Two types of field lenses are available, and the projection direction (right and left) for the TKC-970 can be selected, enabling a combination with various projectors. For 16mm film projectors, an aplanatic TV film lens (67mm, f/2.5) is available.

### Easy Operation and Maintenance

- A test chart, test pulse, and color bar are incorporated respectively in the optical system, amplifier system, and encoder
- Preamp and process-amp are composed of separate R, G, B amplifiers of the same structure, greatly facilitating replacement and maintenance
- Since all dual-in-line IC's are socket types, replacement and maintenance of semiconductors are facilitated
- The target voltmeter employs digital display
- The ND filter position is indicated by LED
- Various check meters for power supply voltage are provided
- Two timers (camera operation time display and tube operation time display) are provided
- The registration corrector circuit is incorporated for easy registration control
- Beam discharge at 150% can be easily set with the Beam Set switch

### Various Protective Circuits

- Camera Tube Protection: Automatic camera tube protection is provided in case of sweep failure either horizontal and vertical scanning
- Camera tube heater voltage is lowered during Beam-Off
- Should short-circuiting occur, the power supply is restricted by internal protection, preventing hazards

The TKC-970 employs a prism splitting system with 86 x 115mm image size. Thanks to the adoption of space focusing on an object, any dust adhering to the lens seldom appears as such on the picture. When a telecine camera with the same image size is replaced by the TKC-970, related equipment previously used can be employed without modification. By selecting a field lens, the TKC-970 can be freely combined with various projectors. Further, equipment layout planning can be effected with due regard to operability.

### TKC-970 Package

Consisting of—Camera head with: • 3VFK-7 optical system • Vidicon tubes 8507 • Yoke and assembly • Pre amp unit • Shading unit • Proc. unit • Masking unit • V. detail unit • H. detail unit • Auto black level on auto B unit • Auto white on auto B unit • Pulse unit • Sync. generator with SC/Sync genlock • Monitor unit • Deflection unit (hand V) • Geometric distortion corrector • Multi board • Encoder 1 • Encoder 2 • ALC assembly • Power supply • Interface • Control Panel • Monitor select panel • Set up panel • Module extender • Test slide • Lamps • Tool • Service manual . . . . . \$58,750.00

### Accessories

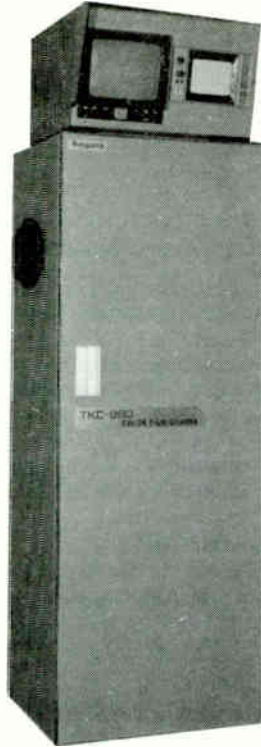
- Module extender • Test slide • Lamps • Tool • Service manual • Remote Control Panel w/30' Cable • Automatic Color Balance Module • Color Corrector w/Remote Control • Negative Video Module • Optical Axis Tester

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# COLOR TELECINE CAMERA



- Color separation is accomplished by a prism beam-splitter, with high transmission efficiency, minimum color shading, minimum ghosting and color errors
- Bias lighting to reduce pickup tube lag at low light levels is introduced via the prism. RGB bias lights, individually adjusted, automatically or manually, are utilized
- Yoke is mounted directly on the optical block to minimize registration errors
- An IR filter is provided to assure correct colorimetry

#### Pickup Tubes

- Vidicon or Saticon® tubes, operated in the high voltage mode are usable to provide high resolution (700 TVL at center)
- An improved coil assembly together with dynamic beam focus (DBF) to reduce beam landing errors, results in improved corner focus and resolution (typically 600 TVL in corners)
- Digital deflection and shading circuitry optimizes overall registration geometric distortion and shading performance and also assures ease of tube replacement. The registration is within 0.05% and is stored in digital memory
- Low noise FET pre-amplifier to establish a video signal with a minimum of -58dB S/N ratio

The TKC-990 is capable of automatically correcting the video signal generated to reduce or correct problems due to various film errors. Without prior programming, electronic analysis and adjustment of the R/G/B video signals developed by the camera accomplish auto color balance by correcting white, gamma, and black. The automatic White Balance (AWB), Automatic Gamma Balance (AGB), and Automatic Black Balance (ABB) functions are coordinated with auto level compensation functions which are Auto Light Control (ALC), Auto White Level (AWL), and Auto Black Level (ABL).

## TKC-990

### The High-Performance Telecine Camera With Computer Control

The TKC-990 is a multipurpose broadcast telecine camera suitable for "on-line" applications, such as local viewing or direct on-air broadcast and "off-line" applications, such as tele-production and video tape recording. For on-line applications, film characteristics can be uncorrected, manually corrected or automatically corrected.

For off-line applications, detailed operator scene-by-scene corrections can be established and stored for retrieval during subsequent playback of the film and transfer to video tape.

Outstanding performance and stability characteristics have been incorporated into the TKC-990. Setup, operation and maintenance controls for the camera, as well as color corrections for film types and corrections to normalize projector characteristics are microcomputer controlled and stored.

A 6-vector adjustable color matrix permits colorimetry setting to user preferences and match between cameras. The camera's built-in test pattern projector assures standardized setting of geometry and level parameters; simple centralized control of multiple cameras is made feasible by digitally addressing the memories built into each camera's body.

A sequential manual setup mode, fully automatic setup mode, as well as a rapid pre-operational auto check of user selected set-up parameters is available.

#### Optical System

- A built-in pattern projector permits computer control
- Large image field lens built into camera body assures long-term stability of optical alignment
- Built-in neutral density wheel with fast attack rate for automatic light control (ALC)

To simplify manual camera check-out, the TKC-990 is provided with the following:

- For monitoring purposes, the camera provides 2 sets of picture monitor (PXM) signals, 2 sets of waveform monitor (WFM) signals and the necessary keying signals for type 528 (or equivalent) waveform monitor
- For precision pickup tube adjustment, a synchronized focus wobble circuit is employed for the beam alignment procedure
- For accurate raster positioning, deflection overscan is available
- A SMPTE color bar is built-in

#### Specifications:

<b>Camera tube:</b>	1" Vidicon tube or 1" Saticon® tube
<b>Optical system:</b>	Dichroic prism system (Bias light for RGB built in) (Pattern projector built in) Image size: 86 x 115 (mm)
<b>Input signal:</b>	
<b>BBS</b>	0.45 Vp-p, 75 ohm or high impedance
<b>Sync</b>	4 Vp-p (negative), 75 ohm or high impedance
<b>SC</b>	2 Vp-p (sinewave), 75 ohm or high impedance
<b>Output signal:</b>	
<b>Line output</b>	4 channels (VB or VBS), 75 ohm
<b>Video monitor</b>	2 channels, 75 ohm
<b>Waveform monitor</b>	2 channels, 75 ohm
<b>Power requirements:</b>	AC 100V, 117, 200, 220, 240V; 50/60Hz
<b>Power consumption:</b>	600VA approx. (incl. picture monitor and waveform monitor)
<b>Tally input:</b>	DC 24V or contact closure
<b>Ambient temperature:</b>	0°C - +40°C
<b>Weight:</b>	220kg (approx.) (incl. picture monitor and waveform monitor)
<b>Dimensions:</b>	W: 550; H: 1,500; D: 430 (mm)

TKC-990 . . . . . \$85,000.00



# IKEGAMI ELECTRONICS (U.S.A.), INC.

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# PROJECTORS/MULTIPLEXER

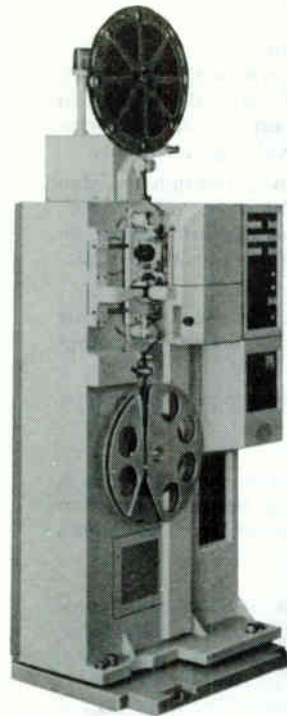
## FPH-16 Self-Threading 16mm Telecine Film Projector

The FPH-16 is a 16mm telecine projector for use with either the Ikegami TKC-970, TKC-990 or similar professional telecine cameras. It is designed to meet the requirements of direct on-air broadcast and off-line teleproduction. Provided are quick start and quick stop of picture and sound, still projection, fast forward run and fast reverse run, as well as the functions that a regular telecine projector provides. Film loading is accomplished quickly and accurately through use of the FPH-16's self-threading system. A common mechanism driven by a single motor operates both the shutter and the pull down claw, resulting in a simple, reliable mechanical system with a minimum number of parts.

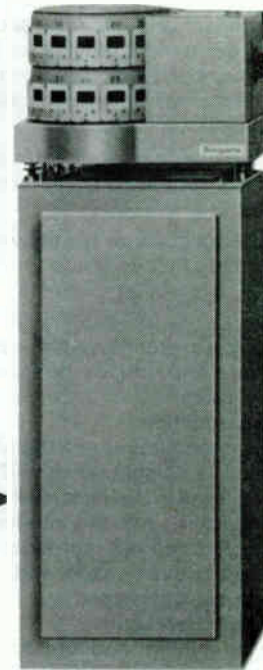
### Options

- Analyzing projection at the speed of 3 frames/sec
- Frame counter
- Frame pulse generator
- Frame search
- Air jet to remove dust on the film
- Automatic film rewinder
- On air tally
- Take-up reel positioning
- Inching knob

**FPH-16** . . . . . \$78,958.00



FPH-16



SPR-35



MPK-3V (R/L)

## SPR-35 35mm Slide Projector For Professional Applications

- Dual drum operation—32 slides per load, 16 slides per drum
- All slides illuminated for easy re-check  
A complete check on every slide in the drum can be accomplished quickly by pushing the Skip switch
- Easy maintainability  
Two covers at the top are easily removed for easy access to all the optical components. Two doors at both left and right sides may be opened providing easy access to all electrical components
- Remote control  
The lamp on/off, slide skip, slide change functions may be controlled remotely
- Built-in spare projection lamp with automatic replacement system
- Shade free illumination
- Slide cooling system  
Temperature rise at the slide surface is limited to 10°C above ambient

The SPR-35 35mm Slide Projector is for use in combination with the Ikegami TKC-970 or TKC-990 and similar professional telecine cameras. The SPR-35 is a dual drum type accommodating a total of 32 slides. Optical lap dissolve between slides is accomplished within 0.6 second.

**SPR-35** . . . . . \$24,432.00

## MPK-3V (R/L) Multiplexer

The MPK-3V (R/L) is a sturdily constructed professional quality 3 input 1 output optical multiplexer for photoconductive telecine camera systems. The front-surface mirrors have negligible light loss and are motor driven in a vertical plane; a switching cycle is accomplished in approximately 0.1 sec. Mirror motion is timed to avoid spurious light input to the camera from the center projector during mirror motion.

Contactless controls for motors and brakes eliminate glitch interference in the video signal.

Switching identification is provided from the multiplexer to the telecine cameras so that camera adjustments appropriate to the projector "on air" are facilitated. The multiplexer can be controlled remotely or locally from illuminated switches on the top of the unit.

Standard mirror orientation is for 16mm projectors that load from the left side (R Type) looking in the direction of projectors; an alternate version for projectors that load from the right side can be obtained as an option (L Type).

**MPK-3V** . . . . . \$21,791.00

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# MEDICAL COLOR CAMERA

## MK-309C

### Color Camera for Medical Applications

The MK-309C is an extremely compact television camera developed solely for the special requirements of the medical fields. In order to provide high-fidelity color reproduction, the MK-309C employs three pick-up tubes and prism optics with high sensitivity.

The color splitting prism and circuitry, such as the quality video amplifier and detail correction, provide for faithful color reproduction, unlike less expensive single tube cameras. Furthermore, an adoption of highly sensitive CdSe tubes assures quality color pictures even in low light conditions.

The lightweight compact camera head can be used for various medical requirements such as microscopic, endoscopic, or other special applications.

The MK-309C provides superior results with simple operation by using various automatic functions.

#### • Super Compact Camera Head

The camera head of the MK-309C with three pick-up tubes is small and lightweight in order to permit easier system connection with other apparatus and reduces the space required. The camera head weighs only 1.2kg

#### • Faithful Color Reproduction

The specially designed circuitry of the MK-309C always reproduces faithful color. The highly sensitive CdSe tubes enable beautiful color pictures, even in low light level conditions, especially in red, which is important since the interior of the human body is primarily red in color. The red reproduction of the MK-309C is finely tuned to a precise red shade, and built-in detail correction circuit gives a sharp and clean picture

#### • High Sensitivity with Low Light

The beam splitting system and sensitive pick-up tubes give a clear picture in low light levels. The +18dB/9dB gain switch can increase the sensitivity 8X/3X, electronically, which is important for both microscopic applications and endoscopic applications

#### • Easy Direct Input to Video Recorder

Since the MK-309C incorporates a color encoder and sync signal generator, the output signal of the MK-309C can be directly recorded on video tape. In this way, important and valuable information can be stored and replayed later with a clean and clear color picture.

#### • Simple and Easy Operation

The operation of the MK-309C is simple. Various automatic functions offer very smooth handling with no special training for operation necessary. Anyone can use this camera system with microscope, endoscope or fiberscope. The only control is the power on-off switch

#### • Simple White Balance Control

With the built-in white balance control, the camera operator can obtain well-balanced, faithful color reproduction by pushing the white balance button on the camera control unit

#### • Automatic Light Control

For microscope application, the MK-309C provides the automatic light density control system. A uniform brightness can be obtained automatically without any manipulation by the camera operator

#### • Built-In Test Pulse Generator

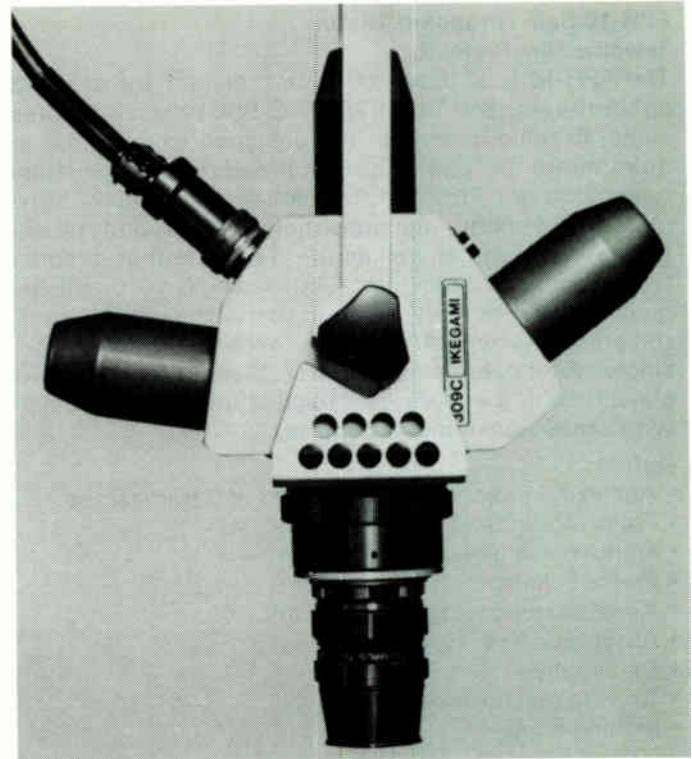
When the power switch is turned on, the pulse for setup testing automatically comes on to check the camera operation and monitors

#### • H and V Detail Corrector

Detail correction circuits are incorporated for both Horizontal and Vertical contours, giving improved clarity to picture information

#### • Color Painting

To facilitate color adjustment, and R&B color painting control is provided at the CCU



## Specifications

### Rating

Optical System: R/G/B prism beamsplitter

Pick Up Tube: 2/3" Chalnicon

Scanning System: 2:1 interlace, 525 lines, 60 fields 30 frames/sec or 2:1 interlace, 625 lines, 50 fields 25 frames/sec

Sync System: Internal sync operation with built-in sync generator or external sync drive (genlock)

Lens Mount: P mount

Dimensions: Camera Head 261H x 74W x 169Dmm  
Camera Control Unit 250H x 180W x 430Dmm

Weight: Camera Head 2.6 lb. (1.2kg)  
Camera Control Unit 19.8 lb. (9kg)

Ambient Temperature: 32°F ~ 104°F (0°C ~ 40°C)

Power Supply: 110VAC, 220V/240V ± 10%, 50-60Hz

Power Consumption: 70VA

### Output Signal:

(1) Color composite VBS 1.0V p-p; 75 ohms: 2 outputs

(2) RGB video V 0.7V p-p; 1 output

(3) Monitor out VS 1.0V p-p; 1 output

Genlock Input Signal: VBS 1.0V p-p, 75 ohms or BBS 0.45V p-p, 75 ohms

### Shading

Compensation: Standard provision

Gamma Correction: Standard provision

### Performance

Resolution: ≥ 500 lines at center (horizontal)

Signal-to-Noise Ratio: 54dB or better (NTSC) 52dB or better (PAL)

Sensitivity: 250 lux at f/2.0/6000°K

Registration: Max. 0.1% inside a circle having a diameter of 80% of picture height

MK-309C ..... \$24,200.00

## TPP-1125 HDTV Video Projector

The TPP-1125 video projector projects a high definition HDTV video on the big screen, offering realism with a feeling of presence.

Required input signals are R/G/B video signals and external sync signals of HD and VD or composite sync signal. Power supply accepts 117VAC, single phase.

Projection screen size is 100" diagonal with an aspect ratio of 5:3. Horizontal direction of the screen is flat.

In spite of its high brightness, the projector offers natural and distortion-free pictures.

### Specifications

#### TV system

- (1) Scanning Line: 1125-line HDTV system
- (2) H. Frequency: 33.75kHz or 33.716284kHz
- (3) V. Frequency: 60Hz or 59.940Hz

#### Projection Video

- (1) Aspect Ratio: 5:3
- (2) Screen Size (mm): 2,180(W) x 1,310(H)
- (3) Projection Distance: 4.15m (lens to screen center)
- (4) Projection Angle: 12° (screen inclination 3°)

**Input Signals:** R/G/B 0.7V p-p, positive, 75 ohm HD, VD or Sync 1 ~ 4V p-p, negative, 75 ohm

**Input Power:** 117VAC single phase, 60Hz, 600VA or less

#### Operating Condition

- (1) Temperature: 50°F ~ 86°F
- (2) Humidity: 20% ~ 80%
- (3) Room Illumination: 3 lux or less (on the screen)

**Resolution:** H: 800 TVL (single tube, center)  
V: 800 TVL (single tube, center)

**Brightness:** 50fL or more (Screen gain 10)  
**Linearity:** ± 1% or less (within a circle having a diameter of 60% of screen height)

**Convergence:** 0.1% or less (within a circle having a diameter of 60% of screen height)

**Video Adjustment:** Controls provided for contrast, brightness, sharpness, white balance, black balance

**Test Signal:** Crosshatch, staircase, color bar generator built-in

#### Protection

- (1) Warning on power/sweep failure
- (2) High-voltage power protection, CRT over current protection
- (3) ABL

#### Dimensions, Weight

- (1) Projection Head: 452H x 820W x 945Dmm, 125kgs
- (2) Power Supply: 218H x 477W x 447Dmm, 30kgs

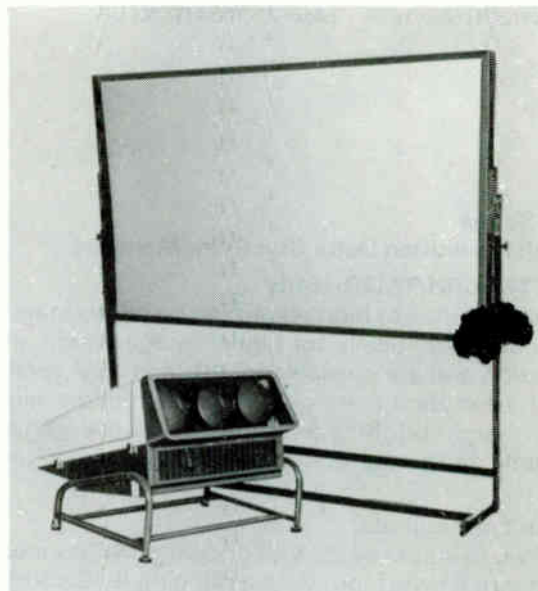
TPP-1125 .....\$85,795.00

### Options

#### DSC-1050 Digital Scan Converter

Incorporating the latest digital technology, Ikegami's Digital Scan Converter DSC-1050 performs digital processing and scanning line conversion for NTSC standard video signals to produce fine and beautiful visual images.

This converter doubles the number of NTSC color video signal scanning lines to provide RGB signals of 1050 TV-line, 30Hz frame frequency, interlace or 525 TV-line, 60Hz frame frequency, non-interlace.



TPP-1125

This converter produces high-brightness, fine pictures with little line flickering. When used in conjunction with the TPP-1125 and the TSW-502 this converter enables such images as TV camera and VTR pictures to be reproduced on a wide screen.

Two types of Y/C separation are employed to prevent picture fineness from degrading due to dot crawling or cross colors frequent in conventional Y/C separation. For motionless input signal, frame-to-frame Y/C separation is made that makes use of the frame correlation. For motion input, the Y/C separation is made by a 2H comb filter that takes advantage of line correlation. Besides the two NTSC encoded inputs, RGB input is optionally available.

**Input Signal:** NTSC VBS 1.0V p-p, positive, 75 ohm, 2 inputs  
bridge connection possible

**Output Signal:** RGB 0.7V p-p, positive, 75 ohm, 1 output (G-ch, sync on/off switchable)  
Switchable between 525 TVL, 60Hz frame frequency, non-interlace or 1050 TVL, 30Hz frame frequency, interlace

**Sync Output Signal:** H: 4V p-p negative 75 ohm  
V: 4V p-p negative 75 ohm  
Composite: 4V p-p negative 75 ohm

**Adjustable Range:** Chroma level 0 ~ +12dB (3 step)  
**Detail Enhancer:** H, V 0 ~ ±6dB (3 step)

**Power Requirements:** 117VAC, ±10%, 50/60Hz

**Power Consumption:** 450VA approx.  
**Ambient Temp.:** 0°C ~ 40°C  
**Relative Humidity:** 10% ~ 90% (non-condensing)  
**Dimensions:** 249H x 420W x 382Dmm  
**Weight:** 27kg approx.

#### TSW-502 Source Selector

The TSW-502 Source Selector switches the TPP-1125 projector input signals among 2 analog signals and 2 TTL signals.

**Input Signal:** TTL 2 inputs, 1K ohm or more, Hi 2.4-5V, Lo 0-0.4V  
Analog 2 inputs, 75 ohm terminated, 0-1V p-p

**Output Impedance:** 75 ohm  
**Power:** Supplied from TPP-1125 control unit



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# COLOR MONITORS

## 10-Series

### High Resolution Delta Gun Color Monitors

#### TM14-10RH/TM20-10RH

The 10-Series of high resolution color monitors were developed specifically for higher image quality in TV production and are available in 13V and 19V versions. The high resolution delta-gun CRT has realized high resolution, high brightness, and the convergence circuit greatly facilitates convergence adjustment and operation.

#### Functions include:

- 3 video inputs each with bridging BNC connectors
- External sync input with a bridging BNC connector
- Pulse cross for examination of horizontal and vertical blanking interval
- Underscan/overscan selection switch
- Switchable AFC time constants for 2msec, 0.5msec, and 7msec
- Pushbutton control for degaussing CRT Shadow Mask
- Blue phase verification—The Blue Gun On/Off switch facilitates chroma level and hue adjustments
- Preset controls for contrast, brightness, chroma level, and hue
- Residual sub-carrier verification, for evaluation of input signal condition
- Color/monochrome selection switch, to facilitate white balance adjustment
- Trap/Comb selection switch
- Corrective Matrix permits rotation of color decoding vectors towards NTSC aim points
- Multi-turn potentiometers are used for RGB Background controls, GB Gain control, Preset controls, and Height/Width controls for easy operation
- A tally lamp is provided

TM20-10RH . . . . .	\$6970.00
TM20-10RH/N/RGB . . . . .	7740.00
TM14-10RH . . . . .	6500.00
TM14-10RH/N/RGB . . . . .	7295.00

#### 19" Rackmountable

TM14-10RH's are available in cabinet or rack configurations occupying 10<sup>1</sup>/<sub>2</sub>" height. The TM20-10RH configurations are available in cabinet or rack configuration occupying 15<sup>3</sup>/<sub>4</sub>" height.

#### Remote Controls

- Video A/B/C
- Sync INT/EXT
- Color/Monochrome
- Tally On/Off
- V-VS Control



TM14-10RH



TM20-10RH

#### Controls found in pull-out drawer

##### TM14-10RH

- Operate-Setup Select
- Tally Int/Ext Power Select
- Height/Width (Wide and U-Scan)
- H/V Centering
- G/B Gain
- R/G/B Background
- Convergence

##### TM20-10RH

- Height/Width (Wide and U-Scan)
- Delay Bright
- Aperture
- H/V Centering
- Convergence
- R/G/B Background
- G/B Gain
- Video Front Selector Cross Hatch
- Video Local or Remote Select
- AFC Select 2ms or VAR (0.5ms or 7ms)
- Residual Subcarrier Verification on/off
- Trap-Comb Select
- Operate-Setup Select
- Matrix In-Out Select
- Tally INT/EXT Power Select
- Hue/Chroma/Brightness/Contrast Preset

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## COLOR MONITORS

### 15-Series Color Monitors

- Fine Dot Pitch Shadow Mask results in high resolution
- In-Line Self Converging Electron Gun assures convergence stability
- Controlled Phosphors (to American Broadcast Standards) provide consistent colorimetry
- Black Matrix surrounding Phosphor Dots assures high contrast under bright ambient lighting
- To simplify monitor set-up, the 15-Series uses a Digital Control System (DCS)
- Preset level modifications
- Two operator memories
- To insure long-term black level stability, the 15-Series monitor incorporates Beam Feedback System (BFS) which detects CRT current deviation and eliminates brightness changes due to changes in CRT emission.

By providing an optional Auto Set-up Probe, the 15-Series is menu driven, user friendly, with all instructions shown on the screen. An optional Remocon Box provides for remote control operation.

The 15-Series high resolution color monitors are available in 13V and 19V configurations.

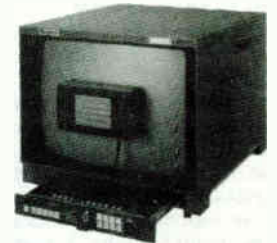
TM14-15RH units are available in cabinet or rack configurations, occupying 10<sup>1</sup>/<sub>2</sub>" height. The TM20-15RH configurations are available in cabinet or rack configuration occupying 15<sup>3</sup>/<sub>4</sub>" height.



TM14-15RH



ASP-15 Auto Set-up Probe



TM20-15RH Monitor with an Optional ASP-15 Auto Set-up Probe

TM14-15RH	14" Auto Set-Up Color Monitor . . . . .	\$6660.00
TM20-15RH	20" Auto Set-Up Color Monitor . . . . .	7120.00
ASP-15	Auto Set-Up Probe . . . . .	1658.00
C-TM14-15	Case for TM14-15RH. . . . .	239.00
C-TM20-15	Case for TM20-15RH. . . . .	300.00

### TM20-16R/TM14-16R (Preliminary)

#### 16-Series High Performance In-Line Gun Color Monitors Cathode Ray Tube:

- 500 Lines resolution
- In-line self converging electron gun assures convergence stability
- Black matrix surrounding CRT face assures high contrast under bright ambient illumination

#### Circuitry:

- Comb filter provides wide band luminance, switchable to notch filter at front panel varying APL
- Pre-set operating controls (hue, chroma, brightness, contrast)
- Sweep failure protection circuits prevent phosphor burns

#### System Conveniences:

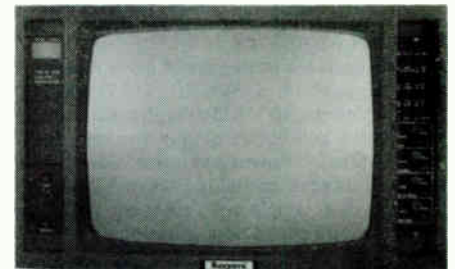
- 3 Video inputs (A/B/RGB), with front panel switchable
- 13V can be rackmounted in 10.5" height
- 19V can be rackmounted in 15.25" height
- Horizontal Time Constant can be selected either 0.5msec or 2msec

#### Test Facilities provided:

- Underscan Switch to permit observation of picture corners
- Pulsecross Switch for sync signal verification



TM20-16R



TM14-16R

16 Series are high performance, low cost monitors. The units are specifically designed for production or broadcast applications and produce high-fidelity video reproduction with easy operation by utilizing In-Line Gun CRT technology. Comb Filter and A/B/RGB video inputs.

TM20-16R	20" Monitor . . . . .	\$2320.00
TM14-16R	14" Monitor . . . . .	1995.00

# IKEGAMI ELECTRONICS (U.S.A.), INC.

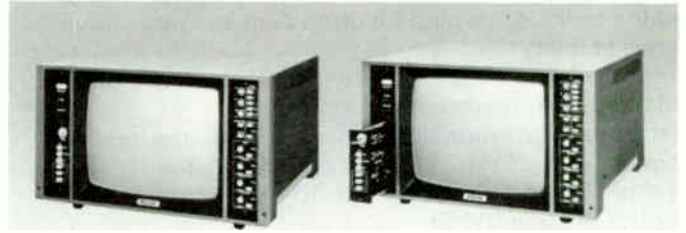
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# COLOR MONITORS

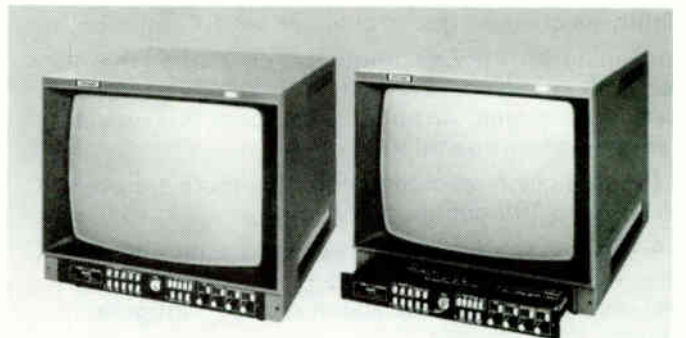
## 9-Series Color Monitors — In Line Gun CRT Type

- **In Line Electron Gun:** The CRT has an in-line electron gun; thus eliminating the need for convergence adjustments
- **High-Resolution CRT:** The display produces crisp, precise images because the monitors use a fine-pitch, dot-mask CRT. A black matrix effect is provided on the CRT screen, enabling pictures to be displayed with a high contrast ratio even under bright lights — more than 600 TV lines at center
- **Pulse Cross Circuit:** For observing sync signals, a pulse cross circuit with three functions has been included V. Delay, H. Delay, and V.H. Delay
- **Protective Circuits:** The power supply and high voltage circuits are equipped with excess-current and excess-load protection, to prevent the CRT from being damaged. Sweep failure detection circuits are also utilized for CRT protection
- **Signal Generator:** Internal cross-hatch signal generator facilitates a convenient means of checking deflection linearity
- **Video Input System:** A 3 video input system is used with a selector switch located on the front panel
- **Signal Demodulation:** The IQ standard is used for color signal demodulation; remarkably faithful color signals are reproduced
- **Automatic Frequency Phase Control:** Extremely accurate color locking is possible with AFPC system
- **Keyed Back-Porch Clamp System:** A keyed back-porch clamp system is used, to prevent black level fluctuation
- **Comb Filter:** The monitors have a comb filter for maintaining high-resolution in color images. Color trap/comb filter selection is possible
- **Degauss Circuit:** Internal degaussing circuit is provided. In addition, the CRT is equipped with a magnetic shield to prevent interference from external magnetic fields
- **Residual Subcarrier Test:** A switch is provided for checking if residual subcarrier is present on the incoming signal
- **Matrix Switching:** A matrix switching circuit is provided to reproduce color similar to a TV receiver or NTSC standard
- **Selectable Time Constants:** Three types of horizontal-AFC time constants are selectable
- **Optional Functions:** RGB operation, Switching between RGB and NTSC operation

Now, broadcasters have a second line of high-resolution color monitors to choose from; Ikegami's 9-Series Color Monitors. Like the RH-Series, these monitors were built to serve the professional. The 9-Series offer you in-line gun CRT's that do away with the bother of always having to adjust the convergence. You'll find the 9-Series easier to maintain with convenient pull-out panels on the front of the monitors. And to put you in step with the 80's, the 9-Series have a streamlined look coupled with the merit of low power consumption.



TM14-9RH



TM20-9RH

## 14" and 20" Series 9RH Monitors — In Line Tube

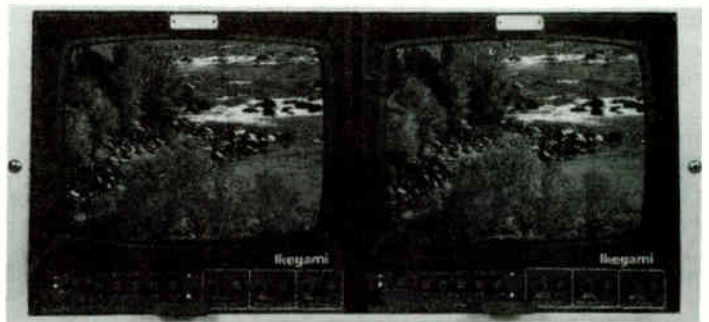
TM14-9RH/N 14" NTSC Rackmount (less case and chassis tracks) . . . . .	\$4490.00
TM14-9RH/N/RGB 14" NTSC/RGB Rackmount (less case and chassis tracks) . . . . .	5270.00
TM20-9RH/N 20" NTSC Rackmount (less case and chassis tracks) . . . . .	5110.00
TM20-9RH/N/RGB 20" NTSC/RGB Rackmount (less case and chassis tracks) . . . . .	5880.00

## 10" Series RH Monitors

The TM10-9RH portable professional color monitor complements Ikegami's broad range of 14" (13V), 20" (19V) and 25" (23V) broadcast color monitors. Using a 10" (8.5V) high resolution shadow mask cathode ray tube with a self-converging in-line gun, the TM10-9RH can be operated from AC or DC Power and is available in cabinet or rackmountable versions. The rackmountable versions are 8<sup>3</sup>/<sub>4</sub>" high and are furnished in single, dual, single with adjacent WFM space or single with adjacent Vectorscope space configurations.

American standard matched phosphors are utilized in NTSC versions of the TM10-9RH. Features including pulse cross, keyed back porch clamp, pre-set contrast/hue/saturation/brightness controls, on-demand degaussing, aperture correction, dual video inputs, sync mode selection, color/monochrome selection, individual electron gun cut-off switches, remote control capability, etc. are standard.

TM10-9RH . . . . . \$3250.00



TM10-9RH



# IKEGAMI ELECTRONICS (U.S.A.), INC.

37 Brook Ave.  
 Maywood, NJ 07607  
 (201) 368-9171  
 FAX: (201) 569-1626 Telex: 21-9034 ITCNJ UR

# MONOCHROME MONITORS

## 3HD-Series Monochrome Monitors

- Keyed back porch clamp, switchable to DC restorer
- Dual (A/B) inputs, front panel selectable
- Internal/external sync, front panel selectable
- Notch filter on/off, front panel selectable on 14"
- Tally light
- Remote control (Video Select, Sync Select, Tally On/Off)
- Cross-Pulse

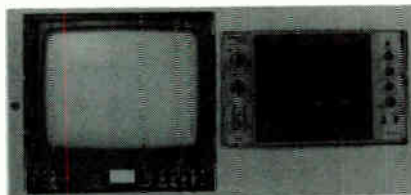
The 3HD-Series range of professional monochrome monitors provide the features and high performance necessary for sophisticated broadcast studio applications. 9" configurations are available as A) Bare chassis, B) Cabinet with handle and C) for 19" rackmounting in an 8<sup>3</sup>/<sub>4</sub>" height for single, single with WFM space, single with Vector-scope space, and dual unit uses. 14" configurations are for cabinet use or for 19" rackmounting in a 10<sup>1</sup>/<sub>2</sub>" height, slides are optional for the rackmount version.



PM9-3HDP 19" Dual Rackmount



PM9-3HDP Cabinet Type



PM9-3HDP Single with WFM



PM14-3HDP Cabinet Type

An illuminant-D phosphor, as well as pre-set controls for brightness and contrast are also standard on the 14" unit. Pulse delay is optional on the 14" monitors; pulse delay and/or an illuminant-D phosphor are available on special order with the 9" monitors.

Series-3HD monochrome monitors provide high resolution at high brightness, low geometric and differential gain distortion and excellent stability over a wide temperature, input voltage and APL range.

PM9-3HDP . . . . . \$1255.00  
 PM14-3HDP . . . . . 1810.00

## SPECIFICATIONS

### GENERAL

**Power:** AC 100, 120, 220, 240V  
 10% 50/60Hz, 55VA approximately

**Ambient Temperature:** -15°C ~ +50°C  
 (Rack type)  
 -15°C ~ +40°C  
 (Cabinet type)  
 90% or less relative humidity (non-condensing)

**External Dimension:** PM9-3H: 222W x 213H x 308Dmm  
 PM14-3H: 483W x 265H x 386Dmm

**Weight:** PM9-3H: approximately 6 kg (without case); approximately 7 kg (with case)  
 PM14-3H: approximately 13.5 kg (without case); approximately 15 kg (with case)

**Connector:** Video input: BNC type (2 systems)  
 Sync input: BNC type (1 system)

**Front Panel Controls:** Remote input; Tally input  
 Video A/B; Sync INT/EXT; Size NOR/WIDE; Contrast; Brightness; Power ON/OFF; Notch filter ON/OFF for 14-inch unit

**Optional Function:** H and V delay switches (single switch for PM9-3H)

**Standard Accessories:** Remote connector, power cord and manual are provided

**Optional Accessories:** Rackmounting slide bracket for 14" type

**Input Level:** 1 Sync input  
 Video signal: VS 1.0V p-p or V 0.7V p-p positive  
 Sync signal: 1 4V p-p

**Input Impedance:** Video input: High impedance, bridge connection [Return loss: 46dB (100Hz ~ 4.2MHz)]  
 Sync input: High impedance, bridge connection [Return loss: 40dB (5MHz)]

**Output Level:** 30Vp-p (at CRT drive voltage)

**CRT:** PM9-3H: M22JEA5WW  
 PM14-3H: 340CEB4

**Phosphor Colorimetry:** P4 phosphor, 9300°K [Option: 6500°K]

**Brightness:** 60 Ft-L (at rated output level)

**Operation:** Continuous

**Video Display Screen:** NOR/UNDER switching system, pulse cross circuit provided

### PERFORMANCE

**Mechanical Vibration:** No disturbance picture by shock, i.e. microphonic, etc., when dropped spontaneously from 50mm height

**Resolution at Brightness of 30 Ft-L:** Center: 800 Lines or more  
 Corner: 500 Lines or more

**Power Voltage Fluctuation:** Should the power voltage fluctuate in the range of ± 10% against the rated input voltage, monitor is operated stable and picture quality does not deteriorate

**VIDEO CIRCUIT**

**Maximum Gain:** Maximum contrast: 38dB or more

**Frequency Response:** 100kHz reference, 50Hz

**Waveform:** 10MHz ±1/3dB (at 30V p-p of output level)  
 (When square wave of rise time 0.05 sec is supplied at video input connector)  
 Rise time: 250kHz, 0.1 μsec or less  
 Over shoot: 250kHz, 8% or less

**Linearity:** Sag: 60Hz, 5% or less  
 Less than 5% DG (at rated output 30V p-p)

**Noise:** Coherent noise: -46dB  
 Hum noise: -55dB  
 Others: -55dB  
 (except blanking period)  
 Above measured at output terminal in condition of terminating video input 75 ohm and contrast VR max.

**DEFLECTION CIRCUIT**

**Sync Stability:** The stability of operation shall be met for the following conditions:  
 Internal sync: Video input level changed against rated value: -10dB; For video amplitude changes of 0 to 120% and sync levels greater than -8dB (0.15 to 0.3V sync)  
 External sync: Sync signal input level: 1~4V p-p, negative

**Horizontal AFC Time Constant:** Approximately 2 msec

**Deflection Distortion:** Less than 2% of picture height

**HIGH VOLTAGE CIRCUIT**

**High Voltage:** 18kV

**High Voltage Fluctuation:** ± 2% in range of 0 ~ 200μA as 100μA reference

Prices and Specifications Subject to Change Without Notice.

# IKEGAMI ELECTRONICS (U.S.A.), INC.

37 Brook Ave.  
 Maywood, NJ 07607  
 (201) 368-9171

FAX: (201) 569-1626 Telex: 21-9034 ITCNJ UR

# MONOCHROME MONITORS

## PM-580

- Triple rackmountable • X-ray protection circuit • Various performance options are available • Horizontal resolution > 600 lines at center • S/N ratio is  $\leq$  -60dB—hum and noise  $\leq$  -40dB—sync noise • Power consumption approximately 18W • 6.59" H x 5.78" W x 8.70" D • 7.72 lbs.

This 5" black and white video monitor provides stable performance despite fluctuations in power or temperature. Solid-state electronics means years of reliable operation.

PM-580 ..... \$ 428.00  
 PM-580/R3 (Triple rackmount version) ..... 1451.00



PM-580



PM9-5

## PM9-5

- 9" Broadcast Monochrome Monitor • 800 lines • D6500°K phosphor • Keyed back porch clamp, switchable to DC restore • Dual (A/B) inputs, front panel selectable • Internal/external sync, front panel selectable • Normal/wide scan, front panel selectable • Scan delay/normal • Tally light • Remote control (video select, sync select, tally on/off)

The PM9-5 provides the features necessary for professional broadcast studio applications, and combines high reliability, ease of maintenance, and superior picture quality, low power consumption. 9" configurations are available as cabinet and 19" rackmounting in an 8<sup>3</sup>/<sub>4</sub>" height, single with WFM space, single with Vectorscope space, and dual units.

PM9-5 ..... \$350.00



PM-930

## PM-930

- Horizontal resolution  $\geq$  600 lines at center • S/N ratio is 55dB (Except sync noise) • Power consumption < 25W • 8.64" H x 8.61" W x 9.45" D • 10.78 lbs.

A surveillance video series 9" black and white monitor built with the latest solid-state electronics. The unit offers front access to main operating controls, implosion-protected picture tube, VTR playback image stability and exceptionally low maintenance requirements.

PM-930 ..... \$308.00  
 PM-930/R2 (Dual rackmount version) ..... 757.00



PM-127

## PM-127

- Horizontal resolution  $\geq$  650 lines at center • S/N ratio matches that of the PM-580 • Power consumption is approximately 25W • 11.2" H x 12.6" W x 12.00" D • 16.98 lbs.

A low cost 12" black and white video monitor featuring X-ray protection circuit, VTR playback image stability, rackmountability and solid-state electronics.

PM-127 ..... \$439.00  
 PM-127R (Rackmounted) ..... 563.00



PM-175A

## PM-175A

- Resolution of > 800 lines • Video frequency of 15MHz • Linearity of 2%

The PM-175A is a monochrome monitor of excellent picture quality. Regular-use controls are conveniently arranged and located on the front panel below the escutcheon. The tube employed is a first-quality, integrally implosion protected 17" CRT, and the video chassis is a printed-board module.

PM-175A ..... \$768.00  
 PM-175/R (Rackmounted) ..... 939.00



PM-205A

## PM-205A

- Same as the PM-175A offering higher resolution and a 20" black and white monitor • 1,000 lines resolution • Low noise • Sharp picture quality

PM-205A ..... \$879.00



PM-206

## PM-206

- 1,200 lines horizontal resolution • Composite sync, underscan and overscan by switch selection

The PM-206 is a high resolution 20" black and white video monitor. It can be used as a high resolution precision TV monitor or as a high definition character display for computer terminals.

PM-206 ..... \$1719.00

# IMAGE AMPLIFICATION, INC.

P.O. Box 699  
Pine Brook, NJ 07058  
(201) 882-0584 Telex: 13-0236

# VIDEO PROJECTOR

## Ultra-Vision 4000

### 8' Large Screen Video Projector with MTS Stereo Sound

- 330 lines resolution, NTSC video
- 320 lumens peak output
- 10<sup>1</sup>/<sub>4</sub>" H x 31" W x 25" D, cabinet size
- 100% modular chassis
- Two 5" oval speakers
- Advanced color sentry
- Peak Resolution Picture (PRP) Circuit (comb filter)
- Quartz-controlled electronic tuning
- Magic-Touch tuning
- Phase-Lock loop tuning
- Electronic power sentry voltage regulator
- Picture control
- Sharpness control
- Video filter
- Digital True-Lock picture hold
- Automatic Fringe-Lock circuit
- Provision for CATV/MATV antenna connection
- Provision for remote antenna switch accessory
- Power source—120V (nom.), 60Hz AC

**Optical-Coupling**—Increases contrast and brightness by reducing the number of reflecting surfaces within each tube.

**Liquid-Cooled Tubes**—Enhance picture brightness. A liquid-cooling process in each tube allows them to be driven harder, providing even greater picture brightness.

**Viewing Options**—The projector comes factory set for floor location, front projection. Ceiling mounting for front projection or rear projection is also possible.

**Viewing Surface Requirements**—The viewing surface can be a white wall painted with a flat (non-gloss) paint, a good quality front projection screen with a flat white (matte) finish, or a rear projection screen. (Note: Screen is an optional accessory.)

**Viewing Distance Requirements**—The TV requires a minimum distance of 13' from the back of the TV to the viewing surface. Use the range finder control to determine optimum viewing distance. The TV should be placed in a room that can be darkened easily, as picture quality will be directly affected by lighting conditions. The product can be mounted onto an optional floor stand with casters or a ceiling mount.

**Stereo Sound System**—Reproduces Multi-channel Television Sound (MTS), when broadcast, in true stereo sound. Plus, second language or other second audio (non-stereo) programs being telecast.

### Stereo Amplification Sound System:

**Stereo Power Amplifier**—With output of 5W minimum continuous RMS power per each channel from 100Hz to 10,000Hz into 8 ohms with 2% or less total harmonic distortion, measured from auxiliary input to load.

**Stereo Controls**—Separate bass, treble and balance controls. Extended stereo control electronically increases apparent separation of speakers so that an "extended," more spacious stereo effect is perceived with stereo broadcasts.

**On-Screen Audio Display**—Shows whether stereo, monaural or second audio (second language) program is being broadcast. Audio modes can be selected by remote control.



4000

**178 Channel Tuning Capability**—All VHF/UHF and 122 cable channels. Select most available CATV channels without an external converter (except scrambled programs). Includes 110 midband, superband, hyperband and ultraband channels plus 12 VHF band channels. Band selector for VHF/UHF, CATV or CATV special frequency: Harmonically Related Carrier (HRC). Note: Cable systems vary. Check your cable company for compatibility.

**Remote Control**—Turn TV on/off, select channels, scan favorite programmed channels, adjust volume, mute sound, recall channel number and time, select TV stereo, monaural or 2<sup>nd</sup> audio sound.

**Flashback**—Pushbutton instant return to last channel viewed. Use to watch two programs alternately during the same viewing period.

**Parental Control**—Use your own secret code to lock-out for 12 hours any unwanted TV channels that could be viewed in your absence.

**Timed Entry Channel Selection**—2-second automatic channel change after selection. For instant change, press number, then Enter.

**Programmable Favorite Channel Scanning**—Can be programmed to scan up or down through locally available or favorite channels.

**On-Screen Channel Number/Time Display**—Visible each time change is made or Enter pressed.

### Video Monitor Capability:

**Auxiliary Jack Panel**—Permits you to use your TV as a monitor for various audio/video devices. Input jacks allow connection of a video camera, video disc players, or video cassette recorders. Output jacks provide a source of video and audio signals for recording purposes, or permit you to feed stereo TV sound to a stereo VCR or external speakers. You can even route the TV's stereo signal into your stereo amplifier and use the TV's remote control to adjust the volume.

4000	Video Projector; set for 8' diagonal image (4.8'H x 6.5'W), front projection, table mount	\$2850.00
4000 Opt. 01	Configuration changes: screen size (6' to 15' diagonal); front to rear projection; table to ceiling mt.	170.00
4000FS	Floor stand kit	130.00
1453-A	Mounting kit for suspended ceilings	215.00
1463-A	Mounting kit for concrete or steel beam ceilings	103.00
1465-A	Mounting kit for rafter or plaster ceilings	103.00
1445	Extension column; specify length (2' min.)	ft./10.00



# IMAGE AMPLIFICATION, INC.

P.O. Box 699  
Pine Brook, NJ 07058  
(201) 882-0584 Telex: 13-0236

# VIDEO PROJECTOR

## Ultra-Vision 3000

### Professional Color Video Projector

**Optical Coupling**—Increases contrast and brightness by reducing the number of reflecting surfaces within each tube.

**Liquid-Cooled Tubes**—Enhance picture brightness. A liquid-cooling process in each tube allows them to be driven harder, providing even greater picture brightness.

**Viewing Options**—The projector comes factory set for ceiling-mounted, front projection viewing. Floorstand, front projection or rear projection are also possible.

**Program Source**—The projector uses any program source supplying a composite video and audio signal, such as a Video Cassette Recorder, TV tuner, video camera, or video disc player. Check Technical Specifications to insure the compatibility of a particular source. Use the projector Video Out jack to run the incoming video signal to a second optional accessory, like a VCR.

**Viewing Surface Requirements**—The viewing surface can be a white wall painted with a flat (non-gloss) paint, a good quality front projection screen with a flat white (matte) finish, or a rear projection screen. (Note: Screen is an optional accessory.)

### Viewing Options

The Monitor adapts to fit your viewing area.

**Viewing Distance Requirements**—The Monitor requires a minimum distance of 13' from the back of the Monitor to the viewing surface. Use the range finder control to determine optimum viewing distance. The Monitor should be placed in a room that can be darkened easily, as picture quality will be directly affected by lighting conditions. The product can be mounted onto an optional floor stand with casters or a ceiling mount.

**Video Filter**—When on, it reduces picture noise and snow effect in color picture, automatically.

**Picture Control**—Keeps brightness level and color saturation in balance simultaneously as you adjust this control.

**Sharpness Control**—Permits adjustment of picture detail to desired sharpness.

**Electronic Range Finder**—Shows where monitor should be positioned for optimum viewing.

**5" Oval quality speaker.**

### Specifications

#### Inputs

**Video:** 1V p-p composite video, sync negative, 75 ohm unbalanced termination, phono input jack

**Audio:** 437mVRMS input for 1.5W output, input impedance 100K ohms, phono input jack. Maximum input voltage, 1.0 RMS

**Power:** 120V, 60Hz

#### Outputs

**Picture Size:** At 10' distance from screen: 4' 10" high, 6' 5" wide, 8' diagonal



3000

<b>Resolution:</b>	330 lines, NTSC video
<b>Brightness:</b>	320 lumens peak output
<b>Audio:</b>	1.5W, 5" oval speakers built-in
<b>Multiple Monitor Loophrough:</b>	Video loophrough phono jack for multiple monitor use; automatic termination
<b>Dimensions:</b>	10 1/4" H x 31" W x 25" D
<b>Color:</b>	Off white finish with silvergray accents
<b>Accessories Supplied:</b>	Phono to Phono 75 ohm video cable, 48", (1), yellow connector Phono to Phono shielded audio cable, 48", (1), red connector

Model	Description	Price
3000	Video Projector; set for 8' diagonal image (4.8'H x 6.5'W), front projection	\$2500.00
3000CR	Video Projector; remote-controlled operator functions; supplied with 25' control cable; set for 8' diagonal image, front projection, table mount	2800.00
3000 Opt. 01	Configuration changes: screen size (6' to 15' diagonal); front to rear projection; table to ceiling mt.	170.00
3000X	Custom length remote control cable for 2000CR. Replaces std. length control cable.	ft./2.00
3000RC	Remote on/off cable, 15' long	25.00
3000FS	Floor stand kit	110.00
1453-A	Mounting kit for suspended ceilings	215.00
1463-A	Mounting kit for concrete or steel beam ceilings	103.00
1465-A	Mounting kit for rafter or plaster ceilings	103.00
1445	Extension column, specify length (2' min.)	ft./10.00

# IMAGE AMPLIFICATION, INC.

P.O. Box 699  
Pine Brook, NJ 07058  
(201) 882-0584 Telex: 13-0236

# VIDEO PROJECTOR

## Ultra-Vision 2000 Professional Color Video Projector

Ultra-vision 2000 is a high performance large screen color video projector capable of delivering bright outstanding picture definition on any flat or curved screen.

Designed for consistent performance and high reliability, this projector is especially well suited for large screen video applications.

- Screen sizes from 6' to 15' diagonal
- Projects onto flat or curved screens
- Front or rear projection
- Floor or ceiling mounting
- Electronic range finder facilitates set-up
- Electronic border generator surrounds the picture with a black frame
- Comb filter NTSC decoder with enhancement circuitry provides crisp imaging
- Internal audio amplifier with 5" speaker

- Lenses:** Three Delta IID-OC Optical-coupled, flat field, f/1.0 high resolution, 3-element acrylic
- Focus:** Adjustable lens barrel rotation with mechanical lock
- Resolution:** Min. of 3 line pairs/mm across 5" image diagonal
- Display:** 8' diagonal (4.8'H x 6.5'W); projector throw distance 10' front projection; table mounting

Note: Dealer can reconfigure projector for screen sizes from 7' up to 12' diagonal; and can change to rear projection and/or ceiling mount

- Throw Distance:** Approx. 1.5 times image width
- Brightness:** 320 lumens peak output
- Resolution:** 330 lines
- Width:** 24"
- Length:** 23" cabinet, with lens mounted in full focus extension, 30.5"
- Height:** 12.5"
- Weight:** 80 lbs. net; 90 lbs. shipping
- Color:** Pecan finish with black and metallic accents



2000

Model	Description	Price
2000	Video Projector; set for 8' diagonal image (4.8'H x 6.5'W), front projection, table mount	\$2250.00
2000CR	Video Projector; remote-controlled operator functions; supplied with 25' control cable; set for 8' diagonal image, front projection, table mount	2500.00
2000 Opt. 01	Configuration changes: screen size (6' to 15' diagonal); front to rear projection; table to ceiling mt.	170.00
2000X	Custom length remote control cable for 2000CR. Replaces std. length control cable	ft./2.00
2000RC	Remote on/off cable, 15' long	25.00
2000FS	Floor stand kit	100.00
1453	Mounting kit for suspended ceilings	150.00
1463	Mounting kit for concrete or steel beam ceilings	60.00
1465	Mounting kit for rafter or plaster ceilings	65.00
1445	Extension column; specify length (2' min.)	ft./10.00
2000SM	Technical Service Manual for 2000	50.00
CV 512	Electronic TV Tuner; 157 channels; cable-ready; IR remote controlled	395.00

### VIEWING OPTIONS

The 2000 adapts to fit your viewing area...

Floorstand front projection viewing

Ceiling mounted front projection viewing

Floorstand rear projection viewing onto rear projection screen.

NOTE: Floorstands, ceiling mounts, and screens are optional accessories.

### 2000 SYSTEM COMBINATIONS

Monitor/VCR  
System Capability: Use the VCR's tuner to get big screen enjoyment of either broadcast TV signals or prerecorded tapes. Add a TV Tuner to record one program while viewing another.

Monitor/Stereo VCR/Stereo Amplifier/ Speakers  
Produce stereophonic sound in combination with the big picture for a large room, commercial application, or when stereo sound is simply a preference.  
NOTE: Other combinations are possible. Consult with your dealer to insure the compatibility of a particular system.

# IMAGE LABS CORP.

P.O. Box 15B  
 Pearl River, NY 10965-999B  
 (914) 737-4420

# SWITCHERS/DISTRIBUTION AMP

## MPS-50H Professional EFP/Studio 2 Input Production Switcher

- Studio Grade Performance
- Built-in test circuit adjust H-phase and subcarrier phase without need of a waveform monitor or vectorscope
- Two channel mix/dissolve, horizontal wipe, vertical wipe, A/B reverse/cut
- Portable small size, lightweight
- Battery operation + 12VDC with power loophrough
- AC operation with IL-AC12 AC adaptor included
- Comes with carrying handle

The MPS-50H is a miniature two-input vertical interval production switcher with studio grade performance. The switcher accepts two inputs that are genlocked and horizontally timed and subcarrier phased. The MPS-50H allows horizontal and vertical wipes, mix (dissolve) between video A and B and a vertical interval cut between video A and B.

### Specifications

**Frequency Response:** 50Hz-6MHz  $\pm$  0.5dB  
 6MHz-10MHz +0.5dB/-2dB  
**Signal to Noise:** 60dB  
**Gain In/Out:** Unity  $\pm$  1% (into 75 ohm load)  
**Gain Balance CH A vs CH B:**  $\pm$  0.5%  
**Differential Gain:** < 0.5%  
**Differential Phase:** < 0.5°  
**Inputs:** Two inputs-CH A and CH B (4xBNC)  
 Input Level-CH A 1V p-p nom.  
 CH B 1V p-p nom.  
 Input Impedance-CH A and CH B  
 > 10K ohm bridging loophrough  
**Outputs:** Two Outputs—Out 1 and Out 2 (2xBNC)  
 Out Level-1V p-p nom. (Into 75 ohm)  
 Output Impedance—75 ohm  $\pm$  2%  
**Power Requirements:** Voltage + 10.7 to + 17VDC  
 Current draw 150mA max.  
**Size:** 27/8" H x 8 1/2" W x 9 1/2" D

**MPS-50H** ..... \$844.00

### Accessories

IL-AC12 AC power adaptor  
 Input Voltage: 120VAC + 10/-15%  
 Output: + 12VDC at 400mA

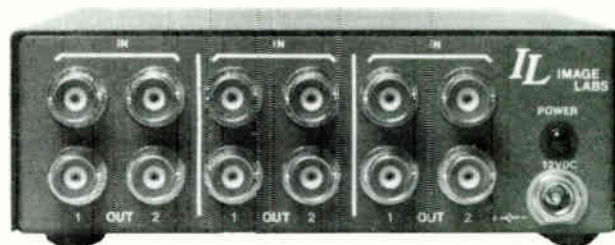
## MPS-55H Professional EFP/Studio 2 Input Production Switcher with Automatic Changeover

- Local/remote automatic control
- Capable of being activated by camera trigger
- Includes adjustable soft edge capability
- Automatic is adjustable

**MPS-55H** ..... \$979.00



FDA 30 Front



FDA 30 Back

## FDA 30 Flexible Video Distribution Amp

- Unit has 3 separate amps that can be configured to distribute 1, 2 or 3 different video signals
- Rackmount up to 3 units in a rack with connectors facing the rear or the front
- When connectors are mounted on front, unit can be used in conjunction with a patch panel for added flexibility
- 12VDC or battery operated

### Specifications

**Inputs:** 3 loophrough (high impedance)—  
 AC coupled 6xBNC connectors  
**Input Level:** 1V p-p nominal  
**Return Loss:** > 38dB at 3.58MHz each amplifier  
**Outputs:** 2 outputs per amplifier—AC coupled 6xBNC connectors  
 75 ohm  $\pm$  2%  
**Output Impedance:** 75 ohm  $\pm$  2%  
**Isolation Between Amplifiers:** > 50dB at 3.58MHz  
**Gain:** Unity nominal into a 75 ohm load  
**Gain Adjustment:** Internal adj. + 3dB/-1dB to compensate for cable loss  
**Frequency Response:** Flat 30Hz to 10MHz  $\pm$  .25dB  
**Frequency Compensation:** Internal adjustment approx. 3dB boost at 10MHz available to compensate for cable loss  
**H Rate Tilt:** < 1%  
**V Rate Tilt:** < 2%  
**Differential Gain:** < .5% each amplifier  
**Differential Phase:** < .15° each amplifier  
**Propagation Delay:** < 15ns each amplifier  
**Power:** Voltage 10.8VDC—17VDC  
 Current consumption: < 100mA at 12VDC

**FDA 30** ..... \$410.00



# IMAGE VIDEO, LTD.

705 Progress Ave., Unit 46  
Scarborough, Ont., CN M 1H2X1  
(416) 438-3940 Telex: 06-525392

# MACHINE CONTROL SYSTEMS

## 4100 MACHINE ASSIGNMENT SYSTEM

- Handles up to 160 Machines • Up to 24 Control Panels • Up to 25 Machines per Panel • Up to 35 levels of switching • Master start of preset functions • Tally of Remote/Local control • Communication via coaxial cable • Plug-in modules for flexibility and easy maintenance • Status generator and printer facility

### System Controller

The organization is built around the System Controller which is made up of two sections; the Assignment Controller, and the Machine Controller. Each section contains a microprocessor and they communicate with each other via a multi-conductor cable in parallel format.

The Assignment panels all contain a microprocessor and communicate with the Assignment Controller via coaxial cable. The Assignment Controller handles the assignment of control panels and machine interfaces.

The control panels also all have a microprocessor and communicate with the Machine Controller via coaxial cable. The Machine Controller handles communications between the control panels and the machine interfaces.

### Machine Assignment Panel

The machine assignment panel permits the assignment of any control panel to control any machine (VTR, Telecine) through the machine interface unit. It effectively interconnects the various control panels and the machine interfaces.

Assignment is made by simply entering the machine number and then the control panel number. Pressing ASSIGN completes the assignment. A machine cannot be assigned to more than one control panel. The communications link between a machine and a control panel is broken by entering the machine number and pressing CANCEL.

The machine and control panel numbers are three characters and do not have to be in any specific order.

### Machine Interface

The machine interface is a two rack unit assembly capable of remotely controlling the functions of a machine. It consists of five Relay Tally Boards, a DIP Switch Board, a Line Driver Tally Board, and a Microprocessor Board.

Each Relay Tally Board is capable of seven levels of relays and seven return tallies. Pushbutton functions, e.g. Fastforward, are associated with each relay.

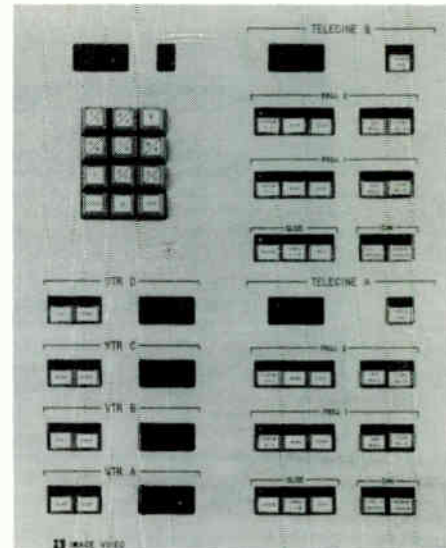
The Microprocessor Board communicates with the outside world and operates the relays etc.

The DIP Switch Board has DIP Switches for machine number assignment, relay close time, and baud rate etc.

The Line Driver Tally Board controls the remote tallies and confirms the presence of the power supplies.

Five 38-pin connectors at the rear of the frame interface between the relay boards and the actual machines being controlled.

VTR interfaces normally consist of 7 levels of control and Telecines normally have 21 levels. However, up to 35 levels may be controlled. The control is buffered via floating (form C type) relay contacts and the tally from the machine with an optical isolator.



Control Panel



Machine Assignment Panel

### Control Panel

This desk mount panel provides control of the machines assigned to it. The number of machines to be controlled varies depending on specific customer requirements. The standard configuration is 3 VTRs with 7 levels of control and 2 Telecines with 21 levels of control each. Special control panels with up to 25 machines and 35 functions per machine may be specially ordered.

A three character alphanumeric display shows which machine is assigned to the bus. The machine numbers do not have to follow any specific order and there can be a total of 160 machines in a system. The numbers assigned to the machines should be specified at the time of ordering. A blank machine number indicates that no machine is assigned.

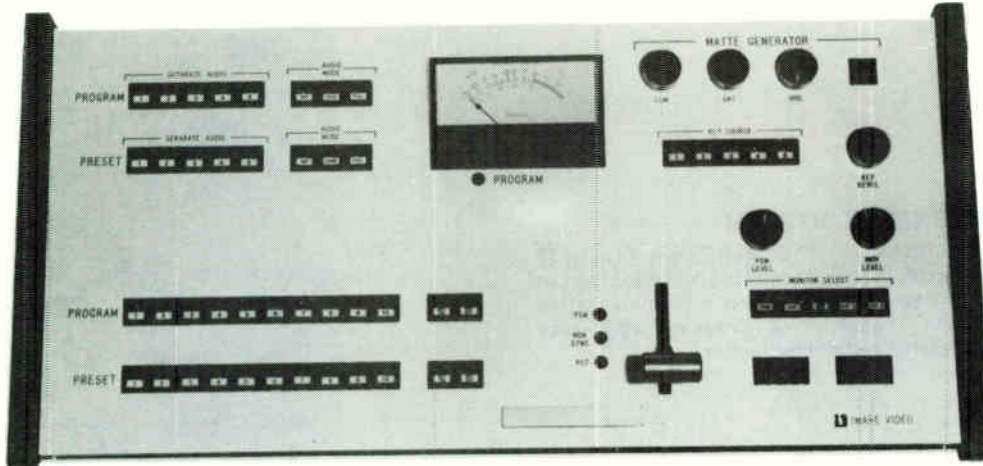
Operations may be preset on all of the busses of the control panel and with one button, the MASTER START, all the selected functions will be taken. Functions are preset by holding down the PRESET button and depressing the desired functions. Preset functions can be cleared by holding down the PRESET button and depressing the function button again. Presets can also be cleared when they are initiated by the MASTER START button.

A coaxial cable is used to interconnect the control panel and the System Controller. Clare Pendar or Shadow type pushbuttons are available.

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# MASTER CONTROL SWITCHER

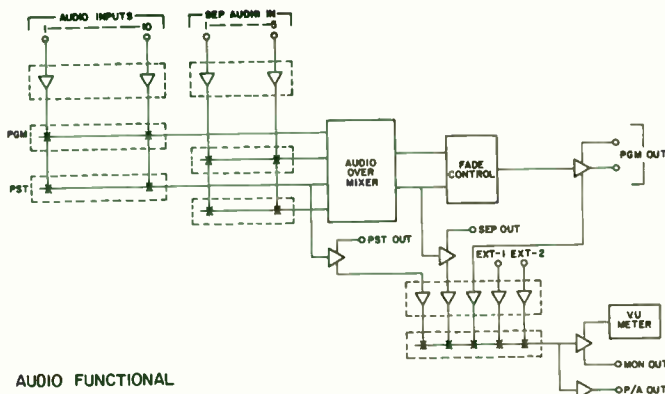


## 8010 MASTER CONTROL SWITCHER

- 10 input Program Bus
- 10 input Preset Bus
- Separate Audio on Program and Preset
- Audio Follow, Separate Audio, or Audio Over Modes
- 5 input Key Source Bus
- Matte Generator
- Auto Take (Cut) or Manual fader
- Monitor Bus with VU meter
- Manual Start for the Preset Bus
- Cart Start facilities on Program and Separate Audio Buses
- Open Collector Tallies on Program Bus
- Optional Stereo Audio

Introducing the 8010, a compact version of the new 8000 line of Master Control Switchers. The 8010 Master Control is now the obvious answer for small installations in search of both economical sophistication and simplistic operation.

A major criterion in the design and development of the 8010 Master Control Switcher has been to incorporate our traditional values of ease of maintenance and reliability. These values have not only been integrated into the 8010 Master Control Switcher but have also been refined to provide the superior dependability that smaller installations demand.



AUDIO FUNCTIONAL

## SPECIFICATIONS

### ELECTRICAL

Power ..... 120/240VAC ±10%, 50/60Hz

### VIDEO

Number of Inputs ..... 10 (standard)  
 Input Signal Level ..... 1V p-p Composite  
 Input Impedance ..... Bridging 75 ohms  
 Differential Gain ..... 1%, 10-90% APL  
 Differential Phase ..... 1°, 10-90% APL  
 Crosstalk ..... -56dB at subcarrier — all inputs and buses hostile except input and bus under test.

Frequency Response ..... ±0.1dB to 5MHz  
 0.3dB to 8MHz

Signal-to-Noise Ratio ..... 70dB rms to 1V p-p

### ELECTRONICS FRAME

..... 9 rack units

### CONTROL PANEL

..... 23" wide x 11" high

### POWER SUPPLY

..... 3 rack units

### AUDIO

Number of Inputs ..... 10 Standard, 5 Separate

Input Signal Level ..... +8dBm Nominal

..... +18dBm Test

..... +24dBm Max.

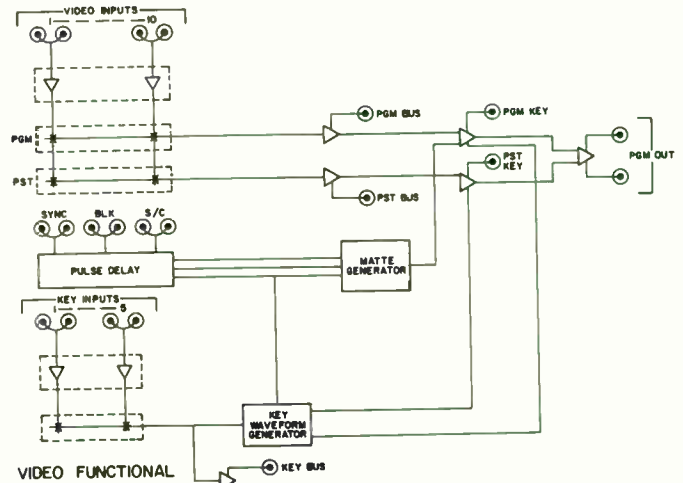
Input Impedance ..... 30K balanced

Frequency Response ..... ±0.5dB, 20Hz-20kHz

Harmonic Distortion ..... 0.1% at +18dBm

Crosstalk ..... 70dB to 15kHz

Signal-to-Noise Ratio ..... Better than -90dB relative to +18dBm

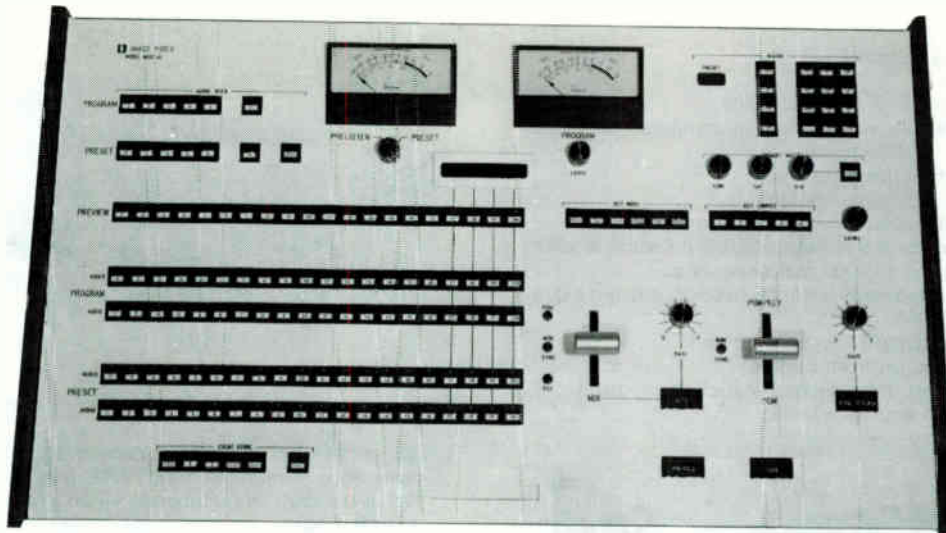


VIDEO FUNCTIONAL

# IMAGE VIDEO, LTD.

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# MASTER CONTROL SWITCHER



## 8020 MASTER CONTROL SWITCHER

- Program and Preset Buses with 20 inputs of video and 20 inputs of audio each and operational in the audio follow video mode or breakaway audio mode
- Optional Stereo Audio
- Preview Bus with 20 AFV inputs
- Take function
- Preroll
- Manual Mix
- Auto Mix with selectable rate
- Audio Over Bus with manual cart start facility on Preset Bus and auto cart start on Program Bus
- ON AIR TALLY Connector (open collector type) at rear of matrix
- Downstream Keyer with 5 Key Sources and a manual key fader, Matte Generator color pushbutton, level control, and 6 mode selection buttons for the key signal
- Fade-to-Black and Silence with selectable rate
- VU meter for the Preview and Preset Bus
- VU meter for the Program Bus with remote gain control potentiometer

The Model 8020 is one in the 8000 series of sophisticated new master control switchers built to accommodate the varying requirements of a myriad broadcast industry.

Various essential features have been added to the recognized reliability and dependability of our previous master control switchers.

The 8020 is designed for medium size television stations. It maintains all the essential features of a large master switcher while remaining economical, compact, and easy to operate. Features that give the 8020 the power of a full scale master.

### SPECIFICATIONS

#### ELECTRICAL

Power ..... 120/240VAC  $\pm 10\%$ , 50/60Hz

#### VIDEO

Number of Inputs ..... 20 (standard)  
Input Signal Level ..... 1V p-p Composite  
Input Impedance ..... Bridging 75 ohms  
Differential Gain ..... 1%, 10-90% APL  
Differential Phase .....  $1^\circ$ , 10-90% APL  
Crosstalk ..... -56dB at subcarrier — all inputs and buses hostile except input and bus under test.  
Frequency Response .....  $\pm 0.1$ dB to 5MHz  
 $\pm 0.3$ dB to 8MHz

Signal-to-Noise Ratio ..... >70dB rms to 1V p-p

#### AUDIO

Number of Inputs ..... 20 Standard, 5 Separate  
Input Signal Level ..... +8dBm Nominal  
+18dBm Test  
+24dBm Max.  
Input Impedance ..... 30K balanced  
Frequency Response .....  $\pm 0.5$ dB, 20Hz-20kHz  
Harmonic Distortion ..... 0.1% at +18dBm  
Crosstalk ..... >70dB to 15kHz  
Signal-to-Noise Ratio ..... Better than -90dB relative to +18dBm

#### ELECTRONICS FRAME

CONTROL PANEL ..... 29.5" wide x 17.50" high  
POWER SUPPLY ..... 3 rack units

#### Options

##### Event Store

Stores a minimum of twenty events for automatic on-air application. Includes a status generator for CRT display of events. The previous program event may become the last event stored or may be dropped completely. Events can be audio follow video, split audio/video or audio over.

##### Crosspoint Assignment

Six crosspoint assignable to a routing switcher via a built-in keypad with crosspoint status displayed on alphanumeric readouts.

##### Stereo Audio

Addition of a second audio channel. Mono or stereo mode is switch selectable and one channel is phase invertible.

##### RS 422 Interface

##### Ordering Information

Standard 8020 Master (no options) ..... 8020  
Standard 8020 plus Crosspoint Assignment ..... 8020A  
Standard 8020 plus Event Store ..... 8020E  
Standard 8020 plus Crosspoint Assignment and Event Store ..... 8020AE  
Redundant power supply ..... on request  
Stereo audio ..... on request at time of order  
RS 422 Interface ..... on request at time of order

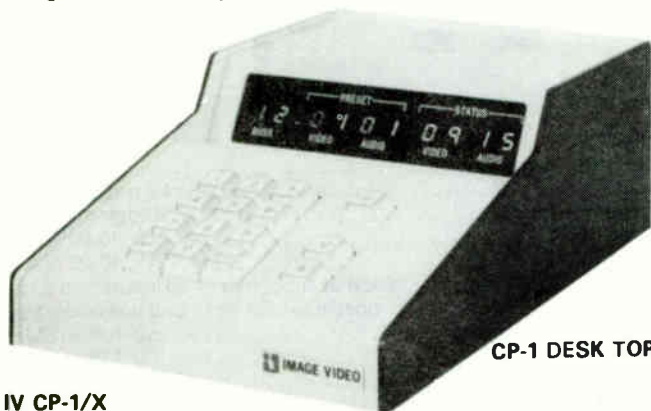


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## Control Panel

- Coax Cable Control Line
- Audio Cable Control Line Optional
- Multipanels per Line
- Large selection of control panel configurations
- Audio and Video may be selected married or unmarried on some panels
- Multilevel unmarried control panels available
- Standard 8 bit word serial communications
- Alpha numeric entry and display available on some panels
- Single or multi destination control panels available on some models
- Will operate the switcher up to 2000 feet using coax
- Multi source electronic components used, no hybrids, custom I.C.'s or mask programmable ROMs
- Custom panel requirements easily accommodated
- Milled plate aluminum used on front panels
- All front panels are brushed, deep etched and clear anodized
- Legends custom engraved and filled black



CP-1 DESK TOP PANEL

### IV CP-1/X

The CP-1/X is either a full matrix or restricted Keypad control panel. The "X" designation indicates full matrix control panel. If a digit is substituted for "X" then this digit identifies the total number of destinations which the panel controls. These destinations must be specified when ordering, but may be changed later by recoding a PROM. The panel is complete with 7 segment LED readouts for BUSS, VIDEO PRESET, AUDIO PRESET, VIDEO STATUS and AUDIO STATUS. Selection of new source may be 1 of 4 modes; Audio follow Video, Audio only, Video only or Audio/Video unmarried. The unit is built in a desk top configuration.

### IV CP-1/CX

This panel is similar to the CP-1/X, except the Keypad is coded for alpha input selection instead of numeric.

### IV CP-1/XK

This panel is similar to the CP-1/X, except the TAKE function is disabled by the use of a lock and key.

### IV CP-1/CXK

This panel is similar to the CP-1/X and also includes the features of the CP-1/CX and the CP-1/XK.



CP-2 RACK MOUNT PANEL

The CP2/X, XK, CX, CXK, are similar to the CP-1 but rack mounted. In addition, the CP-2 Panel can be restricted to any nine destinations, selected by DIP switches (provided) or may control the full matrix.

# ROUTING SWITCHER CONTROL PANELS



CP-4/3 CONTROL PANEL

### IV CP-3/1

Single thumbwheel control panel with access to all inputs on one destination. Complete with TAKE pushbutton and 7-segment LED status readout. Simultaneous audio and video selection. Desk top mounted box.

### IV CP-4/X

Rack mounted control panel. Thumbwheel input selection with TAKE pushbutton and numeric status display. Simultaneous audio and video selection.

A number (1 through 9) substituted for X indicates the total number of destinations the panel controls. Separate thumbwheel selection and status readout for each destination.

### IV CP-5

Shadow pushbuttons with gold contacts and relegendable caps. Mounted in a brushed anodized aluminum panel. Pushbuttons available in multiples of 10 to a maximum of 50.

### IV CP-6

Same as CP-5/X but with Clare Pendar S180 series illuminated pushbuttons.

### IV CP-7

Salvo panel capable of 10 presets. MASTER TAKE pushbutton for simultaneous take of preset inputs. Status, and preset numeric displays. Simultaneous or separate audio and video.

### IV CP-7/C

Same as IV CP-7 but with coded (alphanumeric) keypad.



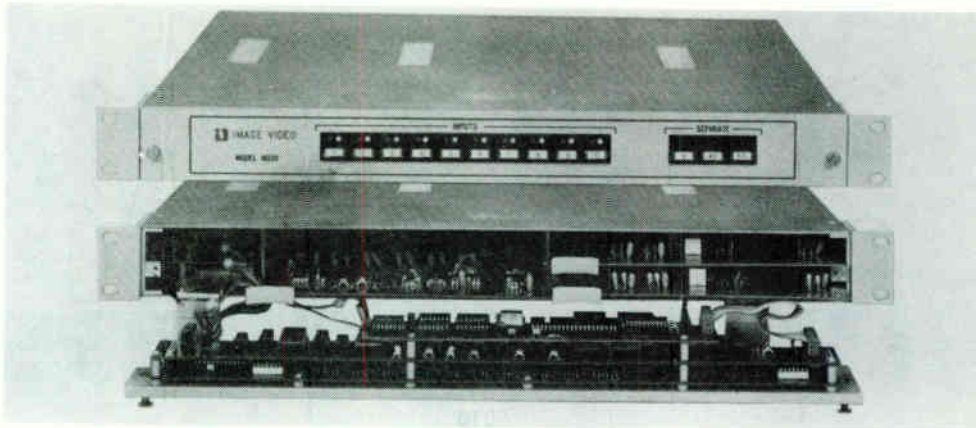
CP-7800 CONTROL PANEL

### IV CP-7800

Controls one destination only. Has four overrides and four breakaway levels. Alphanumeric thumbwheel selection and alphanumeric display.

### IV CP-9/1, IV CP-9/2

Similar to IV CP-4/1, IV CP-4/2 but with alphanumeric thumbwheel and numeric status display



## 6030 10X1 BROADCAST ROUTING SWITCHER

### With Full Three Level Breakaway

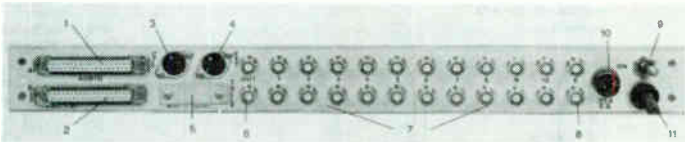
The 6030 is a self-contained high quality 10X1 switcher ideally suited for use throughout the television and radio industry. A flexible configuration and control system permits its use from production to monitoring applications and eliminates the need for customized equipment. The design for the 6030 is based on the established reliability and uncompromised quality of the 6010...the 10X1 switcher with a proven track record.

### FEATURES

- Relegendable pushbuttons with gold contacts and dual, two-color LED indicators for Audio/Video identification. A steady-on Audio LED indicates the first channel, flashing indicates the second
- Simultaneous selection of units when the control is in parallel mode (for RGB application, etc)
- Two outputs per bus, video and audio
- Loop through video inputs
- Bridging audio inputs
- Vertical interval switching
- Hinged front panel for easy access to plug-in modules
- Low power consumption
- Second audio channel may be retrofitted
- All electronic switching
- Crosspoint retention during power failure (optional)

### CONFIGURATION

- Basic switcher is 10X1, video only, mono or stereo audio only, or AFV with mono or stereo audio in one rack unit, with individual Audio Breakaway
- One or both audio channels may be replaced with time code or control bus
- Basic switcher may be field expanded to 20X1 or more with additional 6030's
- Remote control via shielded audio pair may be factory installed or field installed later (no soldering or adjustments required)
- Tally is optionally available (one open collector per input)
- RS232, RS422, or Image Video (Coax bus) control optionally available for automation interface
- Remote and local controls may be paralleled



### REAR PANEL FACILITIES

- |   |                          |
|---|--------------------------|
| 1. Audio channel 2 in/out connector                   | 6. Two video outputs     |
| 2. Audio channel 1 in/out connector                   | 7. Ten video input loops |
| 3. Remote control connector                           | 8. Extension input loop  |
| 4. Extension control connector<br>(for bus extension) | 9. Power switch          |
| 5. Tally out/BCD control<br>in connector              | 10. Fuse                 |
|   | 11. Power cord           |

### SPECIFICATIONS

#### ELECTRICAL

Power ..... 120/240VAC ±10%, 50/60Hz, 12VA

#### VIDEO INPUT

Input Signal Level ..... 1Vp-p  
 Input Impedance ..... Bridging 75 ohms, Loop through  
 Return Loss ..... > 46dB to 4.2MHz  
 Number of Inputs ..... 10 + Extension

#### VIDEO OUTPUT

Level ..... 1Vp-p  
 Number of Outputs ..... 2  
 Impedance ..... 75 ohms  
 Isolation ..... >36dB to 4.2MHz  
 Level Difference ..... <1%  
 Frequency Response ..... <0.1dB to 5MHz  
 Hum (p.p.) ..... +0, -5dB to 10MHz  
 Gain ..... 65dB below 1V p-p  
 Output Gain Range ..... Unity  
 Line Tilt ..... ± 1dB  
 Field Tilt ..... <.2%  
 Differential Gain (10-90% APL) ..... <.25%  
 Differential Phase (10-90% APL) ..... <.25%  
 Switching Timing ..... Vertical Interval  
 Crosstalk ..... 60dB to 4.2MHz  
 Noise (RMS) ..... 70dB below 1V p-p

#### AUDIO INPUT

Input Signal Level ..... + 8dBm nominal + 24dBm Max.  
 Common Mode Rejection ..... >60dB at 60Hz  
 Input Impedance ..... >20K Balanced  
 Number of Inputs ..... 10 + Extension

#### AUDIO OUTPUT

Number of Outputs ..... 2  
 Impedance ..... 600 ohms Balanced  
 Frequency Response ..... +0, -3dB 20Hz-20kHz  
 Total Harmonic Distortion ..... <.2% 20Hz-20kHz at + 24dBm  
 Maximum Output Level ..... + 24dBm  
 Hum and Noise ..... >78dB below + 8dBm  
 Gain ..... Unity  
 Gain Range ..... ± 3dB  
 Crosstalk ..... >70dB at 20kHz

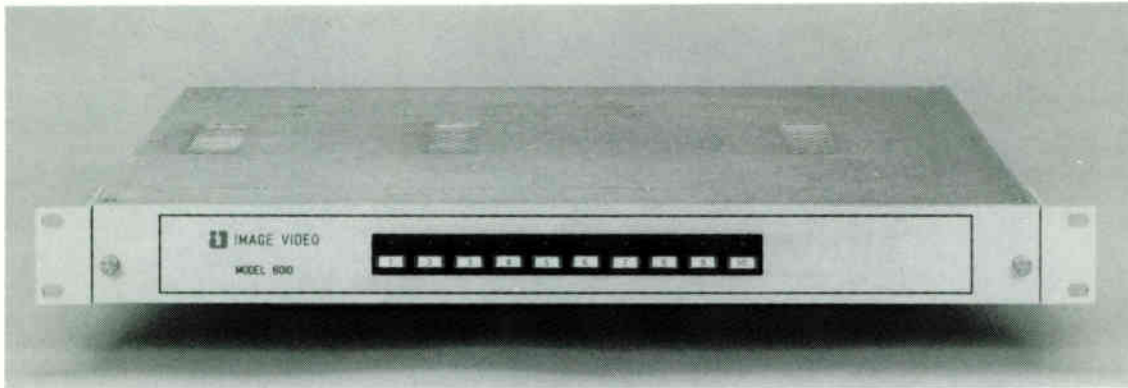
#### PHYSICAL DIMENSIONS

Height ..... 1-3/4"  
 Width ..... 19" Rackmount  
 Depth ..... 15" including connectors  
 Video connectors ..... BNC  
 Audio connectors ..... D Sub-miniature  
 Remote control connectors ..... 2-3 Pin DIN  
 Tally connector ..... D Sub-miniature

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# ROUTING SWITCHER



6010

## 6010 10 x 1 ROUTING SWITCHER

The 6010 self-contained switcher is a high quality 10 x 1 suitable for use throughout the television or radio plant, from production to monitoring applications. The flexible configuration and control system frees the engineer from handbuilt or customized equipment procurement.

- Releasable pushbuttons with gold contacts and LED indicators
- Two outputs per bus, video and audio
- Loop through video inputs
- Bridging audio inputs
- Vertical interval switching
- Hinged front panel for easy access to plug-in modules
- Low power consumption
- Second audio channel may be retrofitted
- All electronic switching
- Crosspoint retention during power failure (optional)

### CONFIGURATION:

- Basic switcher is 10 x 1, video only, mono or stereo audio only or AFV with mono or stereo audio in one rack unit
- One or both audio channels may be replaced with time code or control bus
- Basic switcher may be expanded to 20 x 1 or more with additional 6010's
- Remote control via shielded audio pair may be factory installed or field installed later (no soldering or adjustments required)
- Tally is optionally available (one open collector per input)
- Parallel BCD control optionally available for automation interface
- Remote and local controls may be paralleled

### SPECIFICATIONS

<b>Electrical</b>	
Power .....	120/240VAC ± 10%, 50/60Hz, 12VA
<b>Video Input</b>	
Input Signal Level .....	1VP-P
Input Impedance .....	Bridging 75ohms, Loop through
Return Loss .....	> 46db to 4.2MHz
Number of Inputs .....	10 + Extension
<b>Video Output</b>	
Level .....	1VP-P
Number of Outputs .....	2
Impedance .....	75 ohms
Isolation .....	> 36db to 4.2MHz
Level Difference .....	< 1%
Frequency Response .....	< 0.1db to 5MHz + 0.5db to 10MHz 65db below 1 VP-P
Hum (P.P.) .....	65db below 1 VP-P
Gain .....	Unity
Output Gain Range .....	± 1db
Line Tilt .....	< 2%
Field Tilt .....	< 2%
Differential Gain (10-90% APL) .....	< 25%
Differential Phase (10-90% APL) .....	< 25%
Switching Timing .....	Vertical Interval
Crosstalk .....	60db to 4.2MHz
Noise (RMS) .....	70db below 1 VP-P
<b>Audio Input</b>	
Input Signal Level .....	+ 8dbm nominal + 24dbm MAX
Common Mode Rejection .....	> 60db at 60Hz
Input Impedance .....	> 20K Balanced
Number of Inputs .....	10 + Extension
<b>Audio Output</b>	
Number of Outputs .....	2
Impedance .....	600 ohms Balanced
Frequency Response .....	+ 0.3 db 20Hz-20KHz
Total Harmonic Distortion .....	< 2% 20Hz-20KHz @ + 24dbm
Maximum Output Level .....	+ 24dbm
Hum and Noise .....	> 78db below + 8dbm
Gain .....	Unity
Gain Range .....	± 3 db
Crosstalk .....	> 70db @ 20KHz
<b>Physical Dimensions</b>	
Height .....	1 3/4"
Width .....	19" Rackmount
Depth .....	15" including connectors
Video connectors .....	BNC
Audio connectors .....	D Sub-miniature
Remote control connectors .....	2-3 Pin DIN
Tally connector .....	D Sub-miniature



REAR VIEW

### Rear Panel Facilities

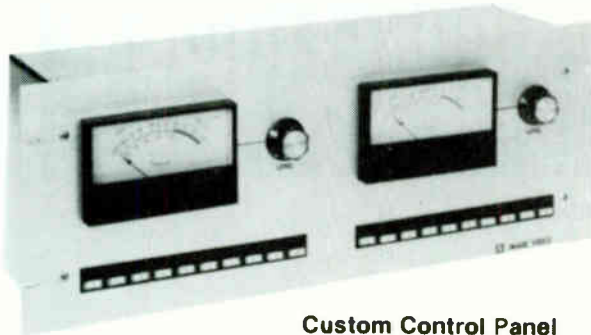
- |                                     |  |                         |
|-------------------------------------|--|-------------------------|
| 1. Audio channel 2 in/out connector | 4. Extension control connector (for bus extension) | 8. Extension input loop |
| 2. Audio channel 1 in/out connector | 5. Tally out / BCD control in connector            | 9. Power switch         |
| 3. Remote control connector         | 6. Two video outputs                               | 10. Fuse                |
|                                     | 7. Ten video input loops                           | 11. Power cord          |



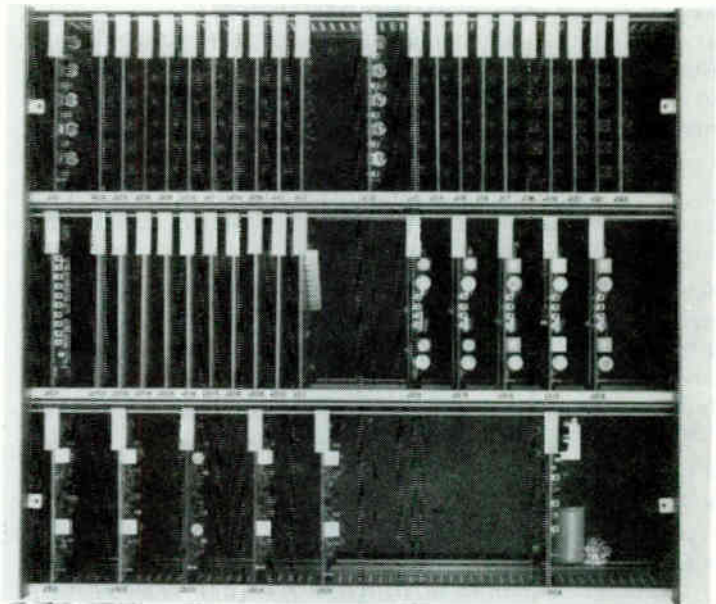
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# ROUTING SWITCHER



Custom Control Panel



Switcher Matrices

## 6000 Broadcast Routing Switcher

- Solid state vertical interval switching.
- Compact expandable modular construction used throughout.
- Excellent video and audio specifications for full color broadcast use.
- Video only, audio only, audio follow married or unmarried control available.
- Crosspoint retention during power interruption optional.
- Tally LED on each video crosspoint indicates exact switcher status at all times.
- Conservatively rated, overload protected power supplies for trouble free operation.
- One pushbutton per crosspoint or thumb-wheel control panels available.

The 6000 Series Switchers are specifically designed for small and medium audio/video routing systems. These versatile switchers are ideally suited as high quality electronic patch panels, delegate switchers or in any application where remote controlled switching is needed.

Compact 5 x 1 or 10 x 1 crosspoint modules plug directly into the motherboard assembly which also accommodates the input and output amplifier modules. This flexible configuration allows up to 24 outputs per 19-inch rack.

## SPECIFICATIONS

### ELECTRICAL

Power..... 120/240 V. RMS  $\pm$  10% 50/60Hz

### VIDEO

Input  
 Input Signal Level..... 1V P-P  
 Input Impedance..... Bridging 75 ohms  
 Return Loss..... > 46 db to 5 MHz  
 Number of Inputs..... As required.

### Output

Level..... 1V P-P  
 Number of Outputs Per Bus..... 2  
 Impedance..... 75 ohms  
 Isolation..... > 40 db to 5-MHz  
 Level Difference..... < .5%  
 DC on Output..... < .1%  
 Frequency Response..... < .05V

Hum..... +1, -5 db to 10 MHz  
 Gain..... 60 db below 1V P-P  
 Gain Range..... Unity  
 Line Tilt.....  $\pm$  1 db  
 Field Tilt..... < .5%  
 Differential Gain (10-90% APL)..... < .5%  
 Differential Phase (10-90% APL)..... < .5°  
 Switching Time..... < .5  $\mu$ SEC  
 Switching Timing..... 0.1  $\mu$ SEC  
 Crosstalk..... Vertical Interval  
 Noise(RMS)..... 60 db to 3.58 MHz  
 > 70 db below 1V P-P

### AUDIO

Input  
 Input Signal Level..... + 8 dbm nominal  
 Input Impedance..... Bridging 600 ohms  
 Balanced.

### Output

Number of Outputs Per Bus..... 2  
 Impedance..... 600 ohms Balanced  
 Frequency Response..... < 0.5 db  
 30 HZ-20 KHZ  
 Total Harmonic Distortion..... < .5%  
 30 HZ-20 KHZ  
 Hum and Noise.....  $\pm$  18 DBM  
 Gain..... > 70 db below + 8 DBM  
 Crosstalk..... Unity  
 > 70 db @ 15 KHZ

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# ROUTING SWITCHER

## 6200 BROADCAST ROUTING SWITCHER

The 6200 Series Switchers are designed for medium to large Routing Systems and are available in any combination of video, audio and timecode/control (SMPTE/EBU, I<sup>2</sup>) matrices.

Compact 10x1 crosspoint modules, input and output modules and control modules plug into a backplane assembly. This flexible configuration allows unlimited expansion.

A wide variety of microprocessor based control systems are available including button per crosspoint, X-Y, thumb-wheel, keypad or combinations of these. All systems may be equipped with interrogation, numeric only or alpha-numeric displays on the control panels, CRT status displays and rack mount alphanumeric displays.

- Expandable, modular construction
- Separate or married control of video, audio or multiple audio available
- Crosspoint retention during power interruption available
- Automatic switch to backup power supply available
- Tally indicators on all audio and video crosspoints for ease of maintenance
- Excellent video and audio specifications
- All bus related modules interchangeable—no proms or DIP switches to change
- In-service maintenance disables only 10 crosspoints on one bus (video) or two buses (audio)
- Readily available components—no custom LSI or hybrids
- Parallel interface available for automation control
- Extra audio or timecode matrices may be added at a future date without system modifications
- 8 bit word format used in serial control system

### SPECIFICATIONS:

#### Electrical

Power . . . . . 120/240 VAC 50/60 Hz

#### Video

##### Input

Input Signal Level . . . . . 1V P-P

Input Impedance . . . . . Bridging 75 ohms

Return Loss . . . . . Greater than 46 dB to 5 MHz

Number of Inputs . . . . . Unlimited expansion

##### Output

Level . . . . . 1V P-P

Number of Outputs per Bus . . . . . 2

Impedance . . . . . 75 ohms

Isolation . . . . . Greater than 40 dB to 5 MHz

Level Difference . . . . . Less than 1%

Frequency Response . . . . . Less than 0.1 dB to 5 MHz  
 +0, -.5 dB to 10 MHz

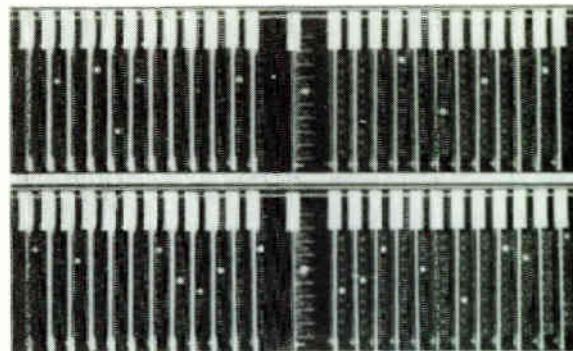
Hum . . . . . 60 dB below 1V P-P

Gain . . . . . Unity

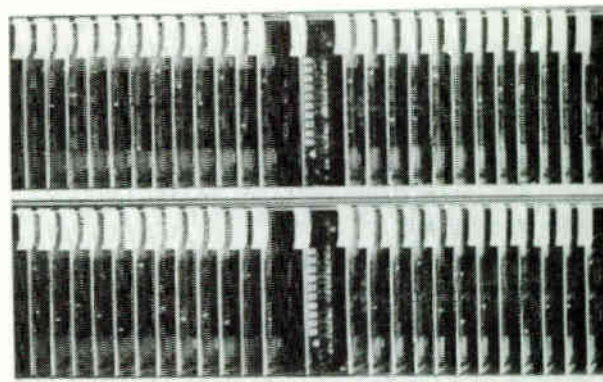
Gain Range . . . . . +/- 1 dB

Line Tilt . . . . . Less than .25%

Field Tilt . . . . . Less than .25%



VIDEO MATRIX



AUDIO MATRIX

Differential Gain (10-90% APL) . . . . . Less than .25°  
 Differential Phase (10-90% APL) . . . . . Less than .25°  
 Switching Timing . . . . . Vertical Interval  
 Crosstalk . . . . . Greater than 60 dB to 4.2 MHz  
 Noise (RMS) . . . . . Greater than 70 dB below 1V P-P  
 Path Length Differential . . . . . +/-1 degree

#### Audio

##### Input

Input Signal Level . . . . . + 8 dBm nominal, + 24 dBm MAX

Input Impedance . . . . . Greater than 30K Balanced

Common Mode Rejection . . . . . Greater than 60 dB at 60 Hz

##### Output

Number of Outputs per Bus . . . . . 2

Impedance . . . . . 600 ohms +/- 2% Balanced

Frequency Response . . . . . +0, -.3 dB 20 Hz to 20 kHz

Total Harmonic Distortion . . . . . Less than .02% 20 Hz to 20 kHz,  
 + 18 dBm

Less than .2% 20 Hz to 20 kHz, + 24 dBm

Hum and Noise . . . . . Greater than 80 dB below + 8 dBm

Output Gain Range . . . . . Unity +/- 3 dB

Crosstalk . . . . . Greater than 73 dB at 15 kHz

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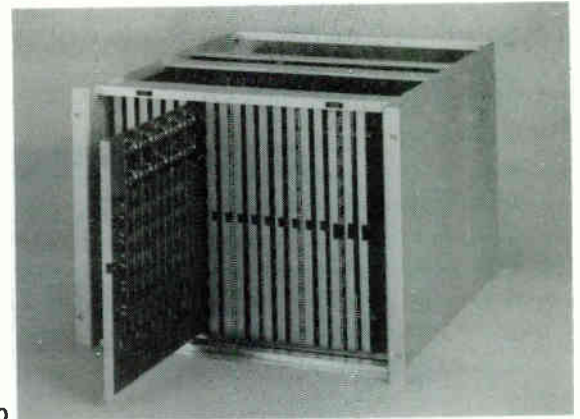
# ROUTING SWITCHERS

## 9600 High Density Routing Switcher

- Accurate indication of crosspoint status (true tally)
- Comprehensive diagnostics package
- Infinite number of levels
- Full breakaway capability

The 9600 is compatible with both MAC and high definition television standards. Compact design enables 40 x 40 video and 2 audio channels in just 16 rack units of space, or 80 x 80 video and 2 channels of audio in 48 rack units. The versatility of the system will allow both field expansion up to 320 x 320 and modification without disruption of normal operation.

External distribution amplifiers are not required for matrices. The 9600 is completely compatible with all existing Image Video control panels and operates in conjunction with the Image Video 10K Control System.



9600

### Specifications

#### VIDEO

**Input**  
 Input Signal Level ..... 1 VP-P  
 Input Impedance ..... 75 ohms 1%  
 Equalization ..... 200 ft @ 5MHz Belden

**Output**  
 Output Level ..... 1 VP-P  
 Number of Outputs per Bus ..... 2  
 — 1 equalized  
 — 1 non-equalized  
 Impedance ..... 75 ohms  
 Level Difference ..... < ± .5%, typical ± .05%  
 Frequency Response ..... < .1dB to 5MHz

Hum and Noise (RMS) ..... 70dB below 1 VP-P, typical 75dB  
 Gain Range ..... ± 1dB  
 Line Tilt ..... < .25%, typical .2%  
 Field Tilt ..... < .25%, typical .2%  
 Differential Gain (10-90% APL) ..... < .1%, typical .04%  
 Differential Phase (10-90% APL) ..... < .1°, typical .02°  
 Crosstalk ..... At 5MHz > 65dB, typical 70dB  
 Path Length Differential ..... ± 1 degree, typical ± .4 degrees

#### AUDIO

**Input**  
 Input Signal Level ..... +24dBm MAX.  
 Input Impedance ..... > 30K — balanced  
 CMRR @ 60Hz ..... > 75dB, typical 85dB

#### Output

Number of Outputs per Bus ..... 2  
 Impedance ..... high 600 ohms ± 2% balanced  
 ..... low 30 ohms ± 2% balanced  
 Frequency Response ..... 0, -25dB 20Hz-20KHz  
 ..... 0, -1dB 20Hz-100KHz  
 THD ..... < .02% 20Hz-20KHz, +18dBm  
 ..... < .2% 20Hz-20KHz, +24dBm  
 Max. Signal to Noise Ratio ..... > 96dB, typical 105dB  
 Output Gain Range ..... ± 3dB  
 Crosstalk @ 20KHz ..... > 75dB, typical 82dB

#### ELECTRICAL

Power ..... 120/240 VAC, 50/60Hz

#### MECHANICAL

40x40 Video Only ..... 8 rack units  
 40x40 Dual Audio ..... 8 rack units

## 9400 RGB (Y) Routing Switcher

The 9400 RGB (Y) is a fully self-contained switcher featuring built-in power supply and all necessary control circuitry.

The 9400 RGB (Y) is a DC-in, DC-out, full transparent unit with 3 x 20 inputs (4 x 20 optional) into 3 x 20 outputs (4 x 20 optional). Inputs are standard loopthrough, with no clamping or DC restore circuitry (all input signals should be on the same DC circuitry).

### Specifications

**Input**  
 Level: 1V p-p nom., 2V p-p max.  
 Impedance: > 10K ohm loopthrough ext. term.  
 Ret. Loss (5MHz): > 46dB loopthrough

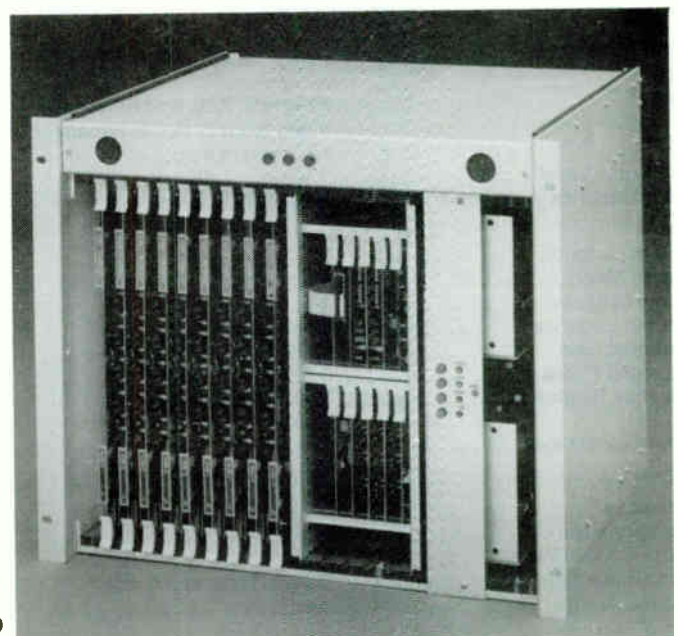
**Output**  
 Level: 1V p-p nom., 2V p-p max.  
 Impedance: 1 x 75 ohm/bus  
 Frequency Response: DC—10MHz + 0, -0.2dB  
 10—20MHz + 0, -1dB

Hor. and Vert. Tilt: < 0.25%  
 Signal-to-Noise: > 75dB RMS  
 Crosstalk: < 65dB (5MHz)  
 Diff. Gain: < .1°  
 Diff. Phase: < .1%  
 Diff. Path Length: 45.7ns (59° ± 1°)  
 (NTSC)

Electrical Power: 120/240VAC, 50/60Hz

Mechanical: 9 rack units

9400

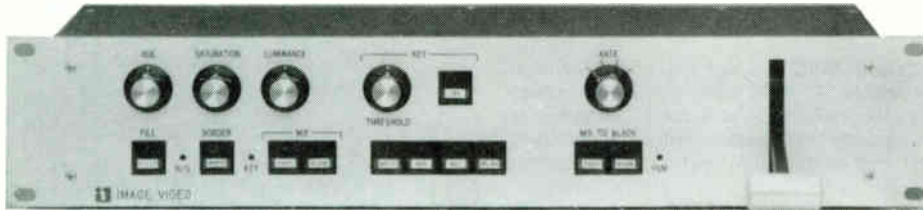




# IMAGE VIDEO, LTD.

705 Progress Ave., Unit 46  
Scarborough, Ont., CN M 1H 2X1  
(416) 438-3940 Telex: 06-525392

# BORDER GENERATOR



8105

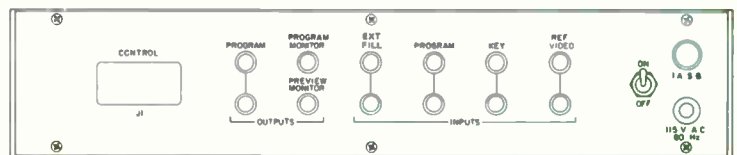
## 8105 Border Generator

The 8105 provides bordering facilities controlled from a remote control panel. One special feature is the elimination of bothersome dither associated with camera originated graphics.

- Built-in color fill generator locks in the incoming video
- Borders graphics or character generators
- Eliminates dither when bordering camera originated graphics
- Built-in linear keyer provides cut or auto-mix of key into program video
- Remote control panel with facilities for border, outline, color fill key, drop shadow, invert key, and variable key threshold control
- Master fade to black
- Advanced technology incorporating CCD delay lines
- External key fill

## SPECIFICATIONS

<b>Input</b>	
Inputs .....	Program, Key, and Reference video (usually tied externally to Program input).
Input Signal Level .....	1 V p-p 1 dB
Input Impedance .....	Bridging 75 ohms
<b>Outputs</b>	
Program Outputs .....	2
Program Monitor .....	1
Preview Outputs .....	1
Output Impedance .....	75 ohms
Differential Gain .....	0.5%, 10 to 90% APL
Differential Phase .....	0.5°, 10 to 90% APL
Frequency Response .....	± 0.1 dB to 5 MHz + 0.2, -0.5 dB to 8 MHz
Output Signal Level .....	1V p-p
<b>Power</b> .....	120 VAC ± 10%
<b>Dimensions</b>	
Electronics Rack .....	3-1/2"H, 19"W, 15"D
Remote Control Panel .....	3-1/2"H, 19"W, 4-1/2"D
Fade to Black Controls .....	Manual fader and 4-rate auto fade

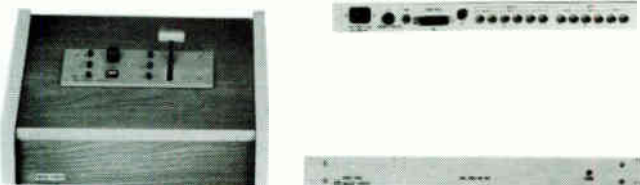


8105 Rear View

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# AUDIO/VIDEO COMPONENTS



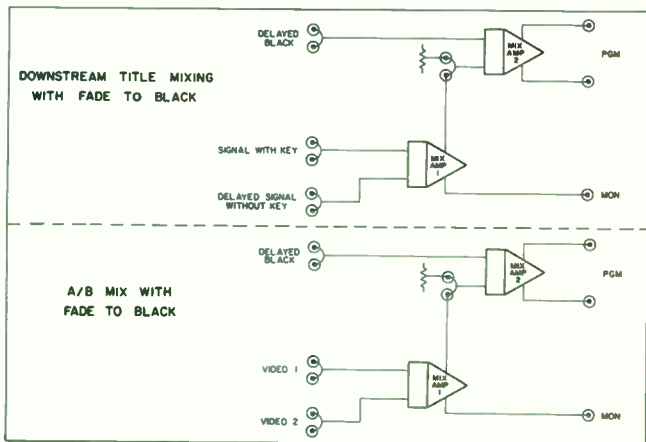
7001C

## 7001C — DUAL VIDEO MIX AMP

- Two separate video mixing amplifiers housed in a single rack unit
- Remote control panel
- Mix amps may be independently operated or cascaded
- Operates on synchronous video source — no external sync requirements
- Control and tally output on same connector on rear panel
- Standard AUTO-MIX permits variable rate and automatic mix on amp 1
- Easily conformed to existing system
- Audio-follow-video option available
- Manual fader on amp 2

The Dual Video Mix Amp — Model 7001C incorporates two independent video mixing amplifiers housed in a single rack unit and controlled from a remote panel.

The Model 7001C meets all broadcast specifications and is ideal for use in downstream title mixing and A/B mixing applications.



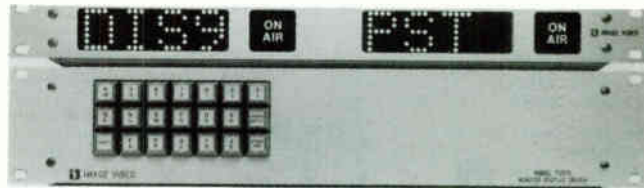
TYPICAL APPLICATIONS

## SPECIFICATIONS

Video Inputs .....	Four, 1V p-p, 75 ohms terminating
Video Outputs .....	Four, 1V p-p, (2 outputs per amp)
Frequency Response .....	$\pm 0.2\text{dB}$ to 5MHz, $\pm 0.5\text{dB}$ to 8MHz
Diff. Phase .....	$< 1.5^\circ$ (10-90% APL)
Diff. Gain .....	$< 1.5^\circ$ (10-90% APL)
Crosstalk .....	$> 55\text{dB}$ at 3.58MHz
Tilt (Vert & Horiz) .....	$< 1\%$
Signal to Noise .....	$> 60\text{dB}$
Path Length .....	25ns (through one amplifier)
Path Length Differential .....	$< 1^\circ$
Tally Output .....	Open Collector pull down
Electrical .....	117/230V, 50/60Hz
Electronics Frame .....	1 rack unit (1-3/4" x 19" x 10")
Control Panel .....	7" x 3" x 3-1/2"
Video Connector .....	BNC
Control and Tally Connector .....	D-Sub miniature

## 7707 — UNIVERSAL UNDER MONITOR DISPLAY

The basic system consists of 2 components: the monitor display driver and the monitor status display.



7707K DRIVER AND DISPLAY UNITS

### Driver Frame

- Two rack units high
- Will drive up to 9 displays
- Connects to displays by 37 pin flat ribbon cable
- Connects directly to the Routing Switcher or to an RS232 interface unit (7707 only)
- On Air Tally inputs connected by 25 pin D type connector—the user supplies the contact closures only
- Internal Power Supply
- Alphanumeric Keypad for message update (7707K only)

### Display Unit

- Single rack unit high
- Available in both rack and wall-mounted design
- Rack mounted units are available in a number of formats to accommodate the picture monitor layout: displays can be located in the center, to the left or right side, or two displays per panel

There are two types of systems available — the model 7707 and the model 7707K. Both systems use the same kinds of monitor status displays; only the display drivers are different.

The model 7707 system can be driven directly from Image Video routing or master control switchers or with an optional RS232 interface, can be driven directly from any routing or master control switcher that has a tally output. Each driver frame can handle up to nine display units and multiple drivers may be connected via the control inputs to accommodate requirements for more than nine displays.

The model 7707K system has a built-in alphanumeric keypad used to update message data on the display units. Up to nine display units may be driven from one 7707K driver, however, multiple drivers may be connected together to facilitate additional display units. Only one of these drivers requires a keypad. Each display output is internally assigned a display number (1 to 225) via a dip switch.

## 601, 602 10X1 PASSIVE ROUTING SWITCHERS

### Video 601 AFV Switcher

Transparent signal path ensures the integrity of the audio/video signal.

Video signal is fed through the switcher with excellent crosstalk specs and high stability with no noise interference. And, there is unity transmission gain. Input video is via isolated BNC connectors and is terminated with built-in 75 ohms 1% resistors. Selected input is indicated by an orange strip on input pushbuttons.

Crosstalk .....

Better than 40dB at 4.2MHz  
 (All other inputs hostile)

Physical Dimensions .....

19" x 1-3/4" x 4"

### 602 Dual Audio Switcher

Each audio input is terminated with built-in 600 ohms resistors. The inputs and outputs are brought to the panel via two 25-pin D-type connectors for wiring convenience. There is no degradation of the input signal.

Crosstalk .....

Better than 70dB at 20kHz  
 (All other inputs hostile)

Physical Dimensions .....

19" x 1-3/4" x 4"

### Ordering Information

For 10 x 1 audio follow video .....	601
For 10 x 1 dual audio .....	602

Prices and Specifications Subject to Change Without Notice.

# INNOVATIVE TELEVISION EQUIPMENT

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FAX: (818) 712-0589

# TRIPODS

## ITE-T1A WOOD TRIPOD (Miller Senior Model) Ball Leveling Bowl

Camera/Head Load Capacity  
Maximum Height  
Leg Angle  
Folded Length  
Folded Width  
Weight  
Finish



20 lbs. (6kg)  
59 in. (147.5cm)  
up to 85°  
35 in. (87.5cm)  
5 in. (12.5cm)  
8 lbs. (3.6kg)  
Natural Wood and  
Black Wrinkle  
\$270.00

Optional  
Accessories:

ITE-CB1 Claw Ball;  
ITE-RFP Rubber  
Foot Pads

## ITE-T4A WOOD TRIPOD (Miller Light Pro Model) Ball Leveling Bowl

Camera/Head Load Capacity  
Maximum Height  
Leg Angle  
Folded Length  
Folded Width  
Weight  
Finish



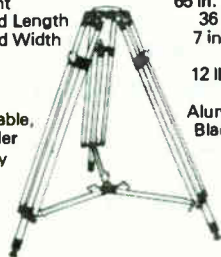
50 lbs. (22.5kg)  
65 in. (162.5cm)  
up to 80°  
40 in. (100cm)  
6 1/2 in. (16.25cm)  
12 lbs. (5.4kg)  
Natural Wood and  
Black Wrinkle  
\$495.00

Optional  
Accessories:

ITE-TS4 Spreader;  
ITE-CB3 Claw Ball;  
ITE-RFP Rubber Foot Pads

## ITE-T12 TRIPOD Pro Model — Ball Leveling Bowl

Camera/Head Load Capacity  
Minimum Height  
Maximum Height  
Minimum Folded Length  
Minimum Folded Width  
Leg Angle  
Weight  
Finish



50 lbs. (22.5kg)  
24 in. (60cm)  
(at maximum leg spread)  
65 in. (162.5cm)  
36 in. (90cm)  
7 in. (17.5cm)  
up to 80°  
12 lbs. (5.4kg)  
Anodized  
Aluminum and  
Black Wrinkle

\$695.00

Optional  
Accessories:

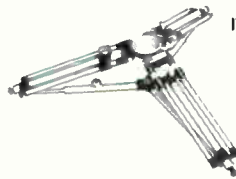
ITE-CB3 Claw Ball;  
ITE-RFPI Rubber Foot Pads;  
ITE-SPS Spike Set

## ITE-T9 TRIPOD — MINI Ball Leveling Bowl

Camera/Head Load Capacity  
Minimum Height  
Maximum Height  
Minimum Folded Length  
Minimum Folded Width  
Leg Angle  
Weight  
Finish

Includes removable, adjustable  
spyder (tyrod) assembly

Optional  
Accessories:



30 lbs. (13.5kg)  
13 1/2 in. (33.75cm)  
29 in. (72.5cm)  
21 in. (52.5cm)  
7 in. (17.5cm)  
up to 80°  
8 lbs. (3.6kg)  
Anodized Aluminum  
and Black Wrinkle  
\$695.00

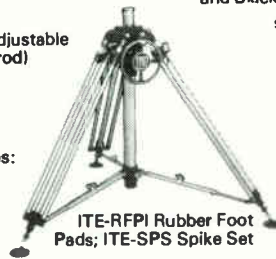
ITE-CB3 Claw Ball;  
ITE-RFPI Rubber  
Foot Pads;  
ITE-SPS Spike Set

## ITE-T13 ELEVATION TRIPOD

Camera/Head Load Capacity  
Minimum Height  
Maximum Height  
Elevation Adjustment  
Minimum Folded Length  
Minimum Folded Width  
Maximum Leg Angle  
Weight  
Finish

Includes adjustable  
spyder (tyrod)  
assembly

Optional  
Accessories:



ITE-RFPI Rubber Foot  
Pads; ITE-SPS Spike Set

60 lbs. (27kg)  
24 in. (60cm)  
(at maximum leg spread)  
83 in. (207.5cm)  
18 in. (47.5cm)  
36 in. (90cm)  
9 in. (17.5cm)  
35°  
17 lbs. (7.65kg)  
Anodized Aluminum  
and Black Wrinkle  
\$1475.00

## ITE-T6 ELEVATION TRIPOD

Camera/Head Load Capacity  
Minimum Height  
Maximum Height  
Elevation Adjustment  
Minimum Folded Length  
Minimum Folded Width  
Maximum Leg Angle  
Weight  
Finish

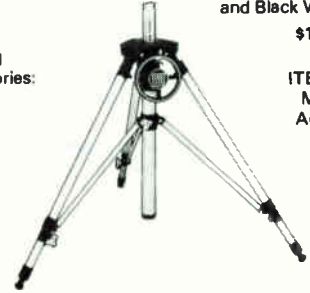


50 lbs. (22.5kg)  
29 in. (72.5cm)  
65 in. (162.5cm)  
18 in. (45cm)  
33 in. (82.5cm)  
8 1/2 in. (21.25cm)  
33 1/2°  
18 lbs. (8.1kg)  
Anodized Aluminum  
and Black Wrinkle  
\$795.00

## ITE-T10 ELEVATION TRIPOD

Camera/Head Load Capacity  
Minimum Height  
Maximum Height  
Elevation Adjustment  
Minimum Folded Length  
Minimum Folded Width  
Maximum Leg Angle  
Weight  
Finish

Optional  
Accessories:



140 lbs. (63kg)  
28 in. (70cm)  
59 in. (147.5cm)  
18 in. (45cm)  
35 in. (87.5cm)  
9 in. (22.5cm)  
33 1/2°  
26 lbs. (11.7kg)  
Anodized Aluminum  
and Black Wrinkle  
\$1295.00

ITE-H25T  
Mitchell  
Adaptor

## ITE-T14 FIELD TRIPOD

Camera/Head Load Capacity  
Minimum Height  
Maximum Height  
Minimum Folded Length  
Minimum Folded Width  
Maximum Leg Angle  
Weight  
Finish

Includes Mitchell base;  
footpad/ spike/spherical  
ball set



140 lbs. (63kg)  
25 in. (62.5cm)  
45 in. (112.5cm)  
34 in. (85cm)  
9 in. (17.5cm)  
38°  
20 lbs. (9kg)  
Black Wrinkle  
\$800.00



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# TRIPODS/HEADS

## ITE-T20A ELEVATION TRIPOD

Camera/Head Load Capacity	20 lbs. (9 kg)
Minimum Height	34 in. (86 cm)
Maximum Height	68 in. (170 cm)
Elevation Adjustment	16 in. (40 cm)
Minimum Folded Length	32 in. (80 cm)
Minimum Folded Width	9 1/2 in. (23.75 cm)
Maximum Leg Angle	15°
Tilt Angle	60°
Pan Rotation	360°
Weight	8 lbs. (3.6 kg)
Finish	Anodized Aluminum and Black Wrinkle

**\$145.00**



## ITE-H2 CAM HEAD

Camera Load Capacity	120 lbs. (54 kg)
Tilt Angle	up to ±50°
Pan Rotation	360°
Height	7 1/2 in. (18.75 cm)
Width	9 in. (22.5 cm)
Length	10 in. (25 cm)
Weight	25 lbs. (11.25 kg)
Base	Mitchell Type

**\$1575.00**

### Optional Accessories:

Dual handles;  
wedge adaptor;  
telescopic handles



## ITE-H8 MICROWAVE PAN/TILT HEAD

Camera Load Capacity	250 lbs. (112.5 kg)
Tilt Angle	±45°
Pan Rotation	360°
Height	7 in. (17.5 cm)
Width	8 in. (20 cm)
Length	9 in. (22.5 cm)
Weight	19 lbs. (8.55 kg)
Base	Mitchell Type

Mounting plate designed for standard L-bracket attachment

**\$1225.00**

### Optional Accessories:

Control Handle



## ITE-H6 HYDROCAM HEAD

Camera Load Capacity	130 lbs. (58.5 kg)
Tilt Angle	up to 50°
Pan Rotation	360°
Height	8 in. (20 cm)
Width	9 in. (22.5 cm)
Length	9 1/2 in. (23.75 cm)
Weight	23 lbs. (10.35 kg)
Base	Mitchell Type

Includes dual handles and wedge adaptor (requires wedge plate)

**\$2875.00**



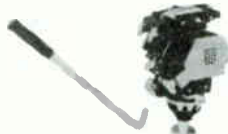
## ITE-H10 HYDRO HEAD

Camera Load Capacity	40 lbs. (18 kg)
Tilt Angle	±60°
Pan Rotation	360°
Height	6 1/2 in. (16.25cm)
Width	6 1/2 in. (16.9cm)
Length	6 1/2 in. (16.9cm)
Weight	9 lbs. (4.05kg)
Base	1 1/4 in. (4.4cm) Clamp or Claw Ball

Camera Mounting Plate/Quick Release:  
4 in. (L) x 2 in. (W) (10 cm x 5 cm) with 3/8 in. (.94 cm) slot for mounting cameras with 1/4 in. (.625 cm) or 3/8 in. (.94 cm) screws

### Optional Accessories:

**\$1900.00**  
Dual handles



## ITE-H11A FLUID HEAD (Miller Super "8" Model)

Camera Load Capacity	10 lbs. (4.5 kg)
Tilt Angle	±80°
Pan Rotation	360°
Height	5 in. (12.5 cm)
Width	3 1/2 in. (8.75 cm)
Length	4 in. (10 cm)
Weight	2 lbs. (.9 kg)
Base	Flat

Optional Accessories:  
Claw Ball leveling

**\$275.00**



## ITE-MT1 TRIPOD

For Camera and Microwave Applications

Camera/Head Load Capacity	250 lbs. (112.5 kg)
Minimum Height	25 in. (62.5 cm)
Maximum Height	43 in. (107.5 cm)
Minimum Folded Length	34 in. (85 cm)
Minimum Folded Width	9 1/2 in. (23.75 cm)

Maximum Leg Angle	38°
Weight	33 lbs. (14.85 kg)
Finish	Aluminum and Black Wrinkle

Includes spreader; foot pad/spike/spherical ball set; Mitchell base

**\$1275.00**



## ITE-T45 PNEUMATIC TRIPOD

Camera/Head Load Capacity	28 lbs. (12.7kg)
Minimum Height	24 1/2 in. (62.25cm)
Maximum Height at 40° Included Angle	78 in. (198cm)
Leg Angle (adjustable)	90° included (max)
Elevator Column Adjustment	12 in. (30.5cm)
Minimum Folded Length	32 in. (81.3cm)
Minimum Folded Width	7 in. (5.22kg)
Weight	11 1/2 lbs. (5.22kg)
Finish	Black Wrinkle

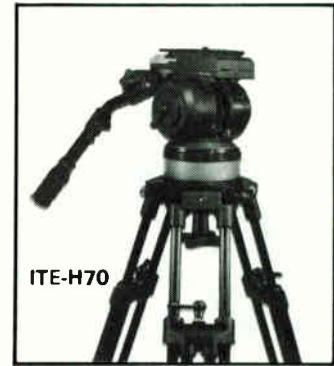
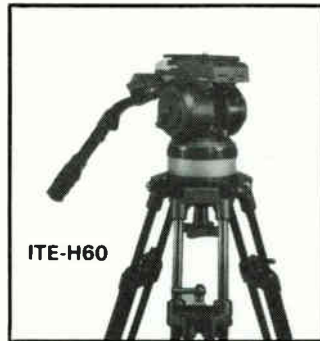
**\$570.00**



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# TRIPODS/HEADS



## ITE-T17 Tripod-ENG-Leveling Bowl

The T17 Tripod is a lightweight unit which has been designed for ENG applications. By use of lightweight space age alloys, this ball leveling tripod features unsurpassed stability.

<b>Load Capacity:</b>	25 lbs.
<b>Minimum Height:</b>	18"
<b>Maximum Height:</b>	66"
<b>Minimum Folded Length:</b>	29"
<b>Minimum Folded Width:</b>	6"
<b>Leg Angle (without spreader) Locked:</b>	Up to 80°
<b>Weight (including spreader):</b>	10 lbs.
<b>Finish:</b>	Black
<b>ITE-T17</b>	..... \$495.00

## ITE-T60 Tripod-ENG-Leveling Bowl

The T60 Tripod is a rugged compact unit which has been designed for ENG/EFP applications. By use of lightweight space age alloys, this ball leveling tripod features unsurpassed stability.

<b>Load Capacity:</b>	55 lbs.
<b>Minimum Height:</b>	16" (without spreader), 24" (with spreader)
<b>Maximum Height:</b>	58"
<b>Minimum Folded Length:</b>	33"
<b>Minimum Folded Width:</b>	7"
<b>Leg Angle (without spreader) Locked:</b>	Up to 80°
<b>Weight (including spreader):</b>	13 lbs.
<b>Finish:</b>	Black Wrinkle
<b>ITE-T60</b>	..... \$850.00
<b>ITE-T605 Tripod—ENG with Ball Leveling (Baby)—For H60</b>	..... \$850.00

## ITE-T70 Tripod-ENG-Leveling Bowl

The T70 Tripod is a heavy-duty unit which has been designed for field production applications. By use of lightweight space age alloys, this ball leveling tripod features unsurpassed stability.

<b>Load Capacity:</b>	85 lbs.
<b>Minimum Height:</b>	28.5"
<b>Maximum Height:</b>	60"
<b>Minimum Folded Length:</b>	37"
<b>Minimum Folded Width:</b>	9"
<b>Leg Angle (without spreader) Locked:</b>	Up to 80°
<b>Weight (including spreader):</b>	17 lbs.
<b>Finish:</b>	Black Wrinkle
<b>ITE-T70</b>	..... \$1150.00
<b>ITE-T705 Tripod—ENG with Ball Leveling (Baby)—For H70</b>	..... \$1150.00

## ITE-H17 Fluid Head

The H17 is a lightweight compact fluid head designed for low cost ENG/EFP cameras.

This system utilizes four step drag adjustment (dial-in type) with free wheeling in both pan and tilt modes, for smooth, effortless and trouble free control.

The H17 is equipped with a counterbalance mechanism that provides variable compensation for center of gravity adjustments for camera loads to 15 lbs. (6.8kg) and C.G. up to four inches.

The H17 directly interfaces with the T17 ENG/EFP tripod and other ITE claw ball base tripods.

<b>Camera Load Capacity:</b>	15 lbs. (6.8kg)
<b>Tilt Angle:</b>	± 90°
<b>Pan Rotation:</b>	360°
<b>Height:</b>	6" (153mm)
<b>Width:</b>	4" (100mm)
<b>Length:</b>	5" (127mm)
<b>Weight:</b>	5 lbs. (2.3kg)
<b>Base:</b>	75mm claw bowl
<b>Camera Attachment:</b>	1/4-20 & 3/8-16 camera screws
<b>Finish:</b>	Black wrinkle
<b>Optional Accessory:</b>	Second control handle
<b>ITE-H17</b>	..... \$1030.00

## ITE-H60 Fluid Head

This system provides counterbalancing of camera loads to 25 lbs. (11.4kg) by use of adjustable, toggle lever controlled helical springs and sliding quick release camera plate. Drag control (in both pan and tilt) can be dialed in for eight different levels of personal feel — from freewheeling to maximum drag. The H60 directly interfaces with the T60 ENG/EFP tripod and other ITE claw ball base tripods.

<b>Camera Load Capacity:</b>	30 lbs. (13.6kg)
<b>Tilt Angle:</b>	± 90°
<b>Pan Rotation:</b>	360°
<b>Height (incl. ball base):</b>	8" (20.3cm)
<b>Width (incl. handle brackets):</b>	6 1/2" (16.5cm)
<b>Length (incl. handle brackets):</b>	6 3/4" (17.2cm)
<b>Weight:</b>	9.2 lbs. (4.2kg)
<b>Base:</b>	110mm claw ball
<b>Camera Attachment:</b>	1/4-20 & 3/8-16 camera screws
<b>Finish:</b>	Black wrinkle
<b>ITE-H60</b>	..... \$2950.00
<b>ITE-RH60T Telescopic handle</b>	..... \$155.00

## ITE-H70/H90 Fluid Heads

Designed for remote and studio applications. These heads provide unsurpassed smoothness of pan and tilt action for heavy camera loads. Perfect counterbalance is obtained by simply preloading three groups of reactive spring elements and fine tuning by adjusting the sliding camera platform. This complete setup procedure can be accomplished with the camera mounted (on quick release plate) and ready to shoot.

Drag control is simple and precise. By dialing in one of 8 selections in pan and 7 selections in tilt, the camera person can obtain desired level of drag, from freewheeling (pan only) to maximum, with unmatched smoothness and precision.

<b>ITE-H70</b>	
<b>Camera Load Capacity:</b>	65 lbs. (28kg)
<b>Tilt Angle:</b>	± 90°
<b>Pan Rotation:</b>	360°
<b>Height (incl. ball base):</b>	9" (22.9cm)
<b>Width (incl. handle brackets):</b>	8 1/2" (21.6cm)
<b>Length (incl. handle brackets):</b>	7 3/4" (19.7cm)
<b>Weight:</b>	19 lbs. (8.63kg)
<b>Base:</b>	150mm claw ball
<b>Camera Attachment:</b>	1/4-20 & 3/8-16 camera screws
<b>Finish:</b>	Black wrinkle
<b>ITE-H70</b>	..... \$4875.00
<b>ITE-H70A Mitchell base adaptor</b>	..... \$285.00
<b>ITE-RH70T Telescopic handle</b>	..... \$155.00
<b>ITE-H90</b>	
<b>Camera load capacity:</b>	100 lbs. (45kg)
<b>Tilt Angle:</b>	± 90°
<b>Pan Rotation:</b>	360°
<b>Height:</b>	10" (254mm)
<b>Width:</b>	9" (206mm)
<b>Length:</b>	7" (180mm)
<b>Weight:</b>	30 lbs. (13.3kg)
<b>Base:</b>	Mitchell base
<b>Camera Attachment:</b>	Wedge plate
<b>Finish:</b>	Black wrinkle
<b>ITE-H90</b>	..... \$8500.00

# INNOVATIVE TELEVISION EQUIPMENT

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(818) 888-9421 Telex: 18-1028  
FAX: (818) 712-0589

# HEADS/PEDESTALS

## ITE-H12A FLUID HEAD (Miller Senior "F" Model)

Camera Load Capacity	20 lbs. (9 kg)
Tilt Angle	±80°
Pan Rotation	360°
Height	5 in. (12.5 cm)
Width	4 in. (10 cm)
Length	4 1/2 in. (11.25 cm)
Weight	5 lbs. (2.25 kg)
Base	Flat

Optional Accessories: **\$575.00**

Claw Ball leveling;  
dual handles;  
quick-release assembly



## ITE-H14A FLUID HEAD (Miller Light Pro Model)

Camera Load Capacity	30 lbs. (13.5 kg)
Tilt Angle	±80°
Pan Rotation	360°
Height	5 1/2 in. (13.75 cm)
Width	6 1/2 in. (16.25 cm)
Length	5 1/2 in. (13.75 cm)
Weight	8 lbs. (3.6 kg)
Base	Flat

Optional Accessories: **\$895.00**

Pro Claw Ball leveling;  
dual handles;  
quick-release assembly



## ITE-H15A FLUID HEAD (Miller V.G. 50 Model)

Camera Load Capacity	40 lbs. (18 kg)
Tilt Angle	±75°
Pan Rotation	360°
Height	6-3/4 in. (16.9 cm)
Width	6 in. (15 cm)
Length	7 in. (17.5 cm)
Weight	8 lbs. (3.6 kg)
Base	Flat

Optional Accessories: **\$1,040.00**

Pro Claw Ball leveling;  
dual handles;  
quick-release assembly



## ITE-H100 FLUID DRAG HEAD

Camera Load Capacity	250 lbs. (112.5 kg)
Tilt Angle	±53°
Pan Rotation	360°
Height	8 1/2 in. (21.25 cm)
Width (less handles)	12 in. (30 cm)
Length (less handles)	14 in. (35 cm)
Weight	31 lbs. (13.95 kg)
Base	Mitchell Type

Includes telescopic control handle; zoom stub  
handle; quick-release, lever-action wedge  
adaptor (requires ITE-WP100 wedge plate)

**\$3,450.00**

Optional Accessories: Right-hand  
telescopic handle



## ITE-P3 ELEVATION PEDESTAL

Camera/Head Load Capacity	60 lbs. (27 kg)
Minimum Height	31 in. (77.5 cm)
Maximum Height	49 in. (122.5 cm)
Elevation Adjustment	18 in. (45 cm)
Caster Radius	19 in. (47.5 cm)
Wheel Diameter	4 1/2 in. (11.25 cm)
Weight	36 lbs. (16.2 kg)
Finish	Black Wrinkle

Optional Accessories: **\$1,650.00**

Cable guards



## ITE-P2 ("LOW BOY") PNEUMATIC STUDIO PEDESTAL

Camera/Head Load Capacity	290 lbs. (130.5kg)
Minimum Doorway Clearance	30 in. (75cm)
Wheelbase	28-1/2 in. (71.25cm)
Dual Wheel Diameter	8 in. (20cm) (cast aluminum; polyurethane tires)
Steering Wheel Diameter	30 in. (75cm) (vinyl coated)
Steering Mode	Crab and Tricycle
Cable Guard	Adjustable from 1/8 in. (.31cm) to 1 in. (2.5cm) above floor
Air Pressure	Pressure relief valve opens at 200 PSI representing equivalent overload condition of 300 lbs. (135kg)
Construction	Cast aluminum structure with steel tank and outer column to ASME Pressure Vessel Safety Code; aluminum center column
Weight	180 lbs. (81kg)
Mount	Modified Mitchell Type
Finish	Black Wrinkle

Optional Accessories: Air Supply Charging System

## ITE-P2 ("LOW BOY")

Minimum Height	24-1/2 in. (62.25cm)
Maximum Height	45-1/2 in. (113.75cm)
	<b>\$10,700.00</b>

Min./Max. heights to cam head mounting surface



Prices and Specifications Subject to Change Without Notice.

V-587



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# PEDESTALS/DOLLIES/ CART

## ITE-P5 STUDIO PEDESTAL

Camera/Head Load Capacity 265 lbs. (119.25kg)  
(first 174 lbs. (78.3kg) spring counterbalanced)  
Minimum Height 34 in. (85cm)  
Maximum Height 52 in. (130cm)  
Minimum Doorway Clearance 32 in. (80cm)  
Dual Wheel Diameter 7 in. (17.5cm)  
(polyurethane tires)  
Steering Wheel Diameter 25 in. (62.5cm)  
Steering Mode Crab  
Base Construction Cast Aluminum  
Weight (less camera balance weights) 180 lbs. (81kg)  
Mount Mitchell Type  
Finish Black Wrinkle  
**\$6500.00**

Optional Accessories:



Additional capacity to 310 lbs. (139.5kg)

## ITE-P6 STUDIO PEDESTAL

Camera/Head Load Capacity 120 lbs. (54kg)  
Minimum Height 32 in. (80cm)  
Maximum Height 52 in. (130cm)  
Minimum Doorway Clearance 28 in. (70cm)  
Dual Wheel Diameter 7 in. (17.5cm)  
(polyurethane tires)  
Steering Wheel Diameter 20 in. (50cm)  
Steering Mode Crab  
Base Construction Cast Aluminum and Fiberglass  
Weight 125 lbs. (56.25kg)  
Mount Mitchell Type  
Finish Black Wrinkle  
**\$5250.00**



## ITE-P7 ELEVATION PEDESTAL

Camera/Head Load Capacity 75 lbs. (33.75kg)  
Minimum Height 32 in. (80cm)  
Maximum Height 49 in. (122.5cm)  
Elevation Adjustment 18 in. (45cm)  
Caster Radius 19 in. (47.5cm)  
Wheel Diameter 6-1/2 in. (16.25cm)  
Weight 45 lbs. (20.25kg)  
Finish Black Wrinkle  
**\$2200.00**

Optional Accessories:

Mitchell Mount Adaptor

Unit comes equipped with adjustable cable guards



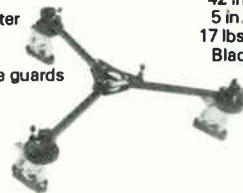
## ITE-D3 DOLLY

Load Capacity 90 lbs. (40.5kg)  
Folded Length 26 in. (65cm)  
Folded Width 12 in. (30cm)  
Height 7 in. (17.5cm)  
Diameter 42 in. (105cm)  
Wheel Diameter 5 in. (12.5cm)  
Weight 17 lbs. (7.65kg)  
Finish Black Wrinkle  
**\$650.00**



## ITE-D3G DOLLY

Load Capacity 90 lbs. (40.5kg)  
Folded Length 26 in. (65cm)  
Folded Width 12 in. (30cm)  
Height 7 in. (17.5cm)  
Diameter 42 in. (105cm)  
Wheel Diameter 5 in. (12.5cm)  
Weight 17 lbs. (7.65kg)  
Finish Black Wrinkle  
Includes cable guards  
**\$695.00**



## ITE-D5 DOLLY

Load Capacity 60 lbs. (27kg)  
Folded Length 23 in. (57.5cm)  
Folded Width 6 in. (15cm)  
Height 6 in. (15cm)  
Diameter 42 in. (105cm)  
Wheel Diameter 5 in. (12.5cm)  
Weight 7 lbs. (3.15kg)  
Finish Black Wrinkle  
**\$425.00**



## ITE-D6 DOLLY

Load Capacity 60 lbs. (27kg)  
Folded Length 23 in. (57.5cm)  
Folded Width 6 in. (15cm)  
Height 6 in. (15cm)  
Diameter 41 in. (102.5cm)  
Wheel Diameter 5 in. (12.5cm)  
Weight 7 lbs. (3.15kg)  
Finish Black Wrinkle  
Accessories Available: **\$380.00**  
ITE-D6G comes equipped with cable guards  
**\$395.00**



## ITE-D7 DOLLY

Load Capacity 250 lbs. (112.5kg)  
Folded Length 29 in. (72.5cm)  
Folded Width 15 in. (37.5cm)  
Height 9 in. (22.5cm)  
Diameter 45 in. (112.5cm)  
Wheel Diameter 6-1/2 in. (16.25cm)  
Weight 25 lbs. (11.25kg)  
Finish Black Wrinkle  
Includes adjustable cable guards  
**\$1475.00**



## ITE-D20A DOLLY

Load Capacity 15 lbs. (6.8kg)  
Folded Length 17 in. (43cm)  
Folded Width 6 in. (15cm)  
Height 5 in. (12.5cm)  
Diameter 32 in. (81.25cm)  
Wheel Diameter 2.5 in. (6.3cm)  
Weight 3 lbs. (1.36kg)  
Finish Anodized Aluminum  
**\$71.00**



## TRIPOD SPREADERS

ITE-SP1 Tripod Spreader For T1 (nylon) \$ 60.00  
ITE-SP4 Tripod Spreader For T4 (nylon) . . .60.00  
ITE-SP670 Tripod Spreader For T60 and T70  
(Aluminum) . . . . .365.00



## Carts

ITE-EFP1 Cart . . . . .**\$1700.00**  
ITE-EFP2 Cart with Quadpod and Leveling Bowl . . . . .**1900.00**



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ITE-H30



ITE-D30



ITE-H40

## ITE-H30 Fluid Head

Provides smooth pan and tilt control. Its counterbalanced design eliminates camera "nose dives." It features a quick-release camera mounting plate, a spirit level and is equipped with a single, adjustable control handle. Dual handles are optional. The ITE-H30 is compatible with other ITE Tripods.

Capacity: 10 lbs. counterbalanced for 2" vertical C.G.

Dimensions: 4" H x 5" W x 4" L

Weight: 2 lbs.

ITE-H30 . . . . . \$195.00

ITE-RH30 Right hand zoom handle . . .50.00

## ITE-T30 Tripod

Features 3-section legs with radial locks for extension and contraction. Its elevator column adjusts to 14". An adjustable, lockable spyder provides structural stability. The ITE-T30 is equipped with a spirit level and combination rubber leg tips and metal spikes.

Camera/Head

Load Capacity: 15 lbs.

Min. Height: 24"

Max. Height at 40°

Included Angle: 69"

Weight: 6 1/2 lbs.

ITE-T30 . . . . . \$230.00

## ITE-D30 Dolly

Completing the system is the ITE-D30 Dolly which provides a stable platform with sufficient radius for proper structural support.

A tripod attachment affords quick set-up and tear-down. Quiet movement is assured by bearing mounted casters with step-on brakes. A center-locking device offers excellent stability and allows the dolly to easily fold and lock in place.

Load Capacity: 20 lbs.

Folded Length: 19 3/4"

Folded Width: 6 1/2"

Height: 6"

ITE-D30 Dolly . . . . . \$195.00

## ITE-H40 Fluid Head

Counterbalanced for smooth, effortless control. It features separate controls for pan and tilt lock and is lightweight. The ITE-H40 utilizes a quick-release camera mounting platform. It comes equipped with a spirit level and

one control handle. Dual handles are optional. The ITE-H40 is compatible with other ITE Tripods.

Capacity: 30 lbs.  
Dimensions: 6 1/2" H x 7 1/2" W x 6 1/2" L

Weight: 7 lbs. (without handle)

ITE-H40 . . . . . \$495.00

ITE-RH40 Right hand zoom handle . . .50.00

## ITE-T40 Tripod

Lightweight, heavy-duty system that features 2-section, positive cam locked legs that are indexed for easy length adjustment.

An adjustable, lockable spyder for structural stability, the elevator column adjusts to 16" Spirit level and rubber-tipped legs are provided. The ITE-T40 will accommodate other ITE Fluid Heads.

Camera/Head

Load Capacity: 40 lbs.

Min. Height: 20 1/2"

Max. Height at 40°

Included Angle: 66"

Weight: 10 lbs.

ITE-T40 . . . . . \$420.00

## ITE-D40 Dolly

Completing the system is the ITE-D40 Dolly. It shares the same features as the ITE-D30 except:

Load Capacity: 50 lbs.

Folded Length: 22"

Folded Width: 8"

Height: 6"

Diameter: 40"

Wheel Diameter: 4"

Weight: 9 lbs.

ITE-D40 . . . . . \$225.00

## ITE-H50 Fluid Head

The H50 Fluid Head is a compact lightweight unit with a load capacity of 30 lbs.

Load Capacity: 30 lbs.

Tilt Angle: +90°

Pan Rotation: 360°

Dimensions: 7 1/2" H x 6 1/4" W x 5 3/4" L

Weight: 6 1/2 lbs.

Finish: Black Wrinkle

ITE-H50 . . . . . \$1150.00



ITE-T40

ITE-T30



ITE-H50



ITE-T50

## ITE-T50 Tripod

The T50 Tripod is a rugged lightweight all metal unit which provides outstanding rigidity and stability at an extremely low price.

Load Capacity: 40 lbs.

Min. Height (at max. leg spread): 17"

Max. Height: 56"

Min. Folded Height: 35"

Min. Folded Width: 7 1/4"

Weight: 7 1/2 lbs.

Finish: Black Anodize

ITE-T50 . . . . . \$800.00

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# ACCESSORIES

## Quick Release Assemblies

The ITE Quick Release Assembly provides for rapid attachment and removal of cameras from pan/tilt heads. Positive attachment of plate to adaptor is accomplished by rotating a spring-loaded lever. Inadvertent disengagement is impossible.

Assemblies are used in conjunction with all models of torsion, fluid and hydro heads.



ITE-QR

## Wedge Adaptor Assemblies

The ITE Wedge Plate and Adaptor combination provide for rapid attachment and removal of cameras from pan/tilt heads. Positive attachment of wedge plate to adaptor is accomplished by rotation of a locking screw which makes inadvertent disengagement impossible.

Assemblies are used in conjunction with ITE-H2 Cam Head.



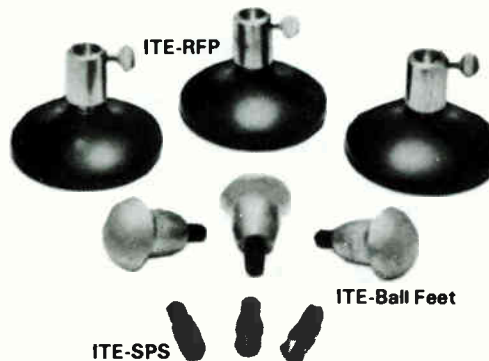
## Handles

A wide variety of handles and adaptors is available for all ITE heads.



## Tripod Accessories

Rubber foot pads. Ball feet and leg spikes are available for various ITE tripods. Contact ITE for availability.



ITE-RFP

ITE-Ball Feet

ITE-SPS

## Adaptors

**ITE-CB1 Claw Ball Assembly**  
For ITE-H11, H12 to T1 Tripods.



**ITE-CB3 Claw Ball Assembly**  
For ITE-T3, T4, T8, T9 and T12 Tripods



## Cases

Sturdy, high-impact carrying cases are available for all ITE products. Contact ITE for additional information.



ITE-C Cases

ITE-WA	Wedge Adaptor — H2	\$195.00	ITE-CBC	Column to Claw Ball Adaptor	\$310.00
ITE-WP	Wedge Plate	150.00	ITE-QR	Quick Release Adaptor Assy with QRP	155.00
ITE-WP100	Wedge Plate — H100	155.00	ITE-QRP	Quick Release Adaptor Plate	55.00
ITE-OSA	Offset Adaptor with Wedge Plate	375.00	ITE-SPS	Spike Set — for T6 & T10	45.00
ITE-RH	Right Hand Zoom Handle for H2 & H8	100.00	ITE-CTH	Shipping Case for T6, T10 & T13 Tripod with H10, H12A, H14A, H15A Head and MT1 Tripod	425.00
ITE-RH10	Right Hand Zoom Handle for H10	120.00	ITE-CD	Shipping Case for D3, D5, D6 & D7 Dolly	360.00
ITE-RH26T	Telescopic Handle for H2 and H6	180.00	ITE-CH	Shipping Case for H2, H6 & H100 Heads with Handles and Accessories	350.00
ITE-RH30	Handle for H30	50.00	ITE-MPC	Molded Poly Shipping Case for T4A, T12, T50 Tripod with H10, H12A, H14A, H15A & H50 Heads	245.00
ITE-RH40	Handle for H40	50.00	ITE-HC70	Shipping Case for H70 Head	295.00
ITE-RH45T	Telescopic Handle for H40 and H50	95.00	ITE-HC90	Shipping Case for H90 Head	350.00
ITE-RH100T	Telescopic Handle for H100	185.00	ITE-THC60	Shipping Case for T60 Tripod & H60 Head	330.00
ITE-RHF	Handle — for H12A, H14A & H15A	45.00	ITE-TC70	Shipping Case for T70 Tripod	330.00
ITE-H25T	Adaptor — for H2 and H6 to T6, T10, P3 & P7	130.00	ITE-APT	Air Pressure Tank Assembly for P2	895.00
ITE-FHT	Adaptor — for Flat Base Heads to T6, T10 & T13	85.00	ITE-BF	Set-ball feet to mount T1A, & T4 on D3, D5 & D7	65.00
ITE-H10P	Stub adaptor for H10 to P6	190.00	ITE-CG	Set-cable guards for D3, D6 & P3	80.00
ITE-FHH	Fixed High Hat — 6" — with Mitchell Mount	180.00	ITE-CBF	Set-ball feet to mount T60 & T70 on D3, D5 & D7	70.00
ITE-AHH	Adjustable High Hat — 6" — with 100mm Bowl	155.00	ITE-CG	Set-cable guards for D3, D6 & P3	80.00
ITE-CW	Counterweight Set (40 lbs.) for P5	225.00			
ITE-RFP	Rubber Foot Pad Set — for T1A, T4A	45.00			
ITE-CB1	Claw Ball Assy — for T1	60.00			
ITE-CB3	Claw Ball Assy — for T4, T12 & T50	95.00			



# INSTANT REPLAY

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Coconut Grove, FL 33133  
(305) 448-7088

# IMAGE TRANSLATOR/RECORDER/ PLAYERS

## 32/4096 Digital Color Image Translator™ Standards Converter

- Better immunity to dropouts and tape damage • Separate RGB controls • Flicker cancel circuitry • Bright, clear colors • Color correction possible • High resolution (.31mm) digital monitor • 32 color pattern generator • Includes the Image Translator RGB VHS Hi-Fi VCR for playback of NTSC, PAL or SECAM tapes

32/4096 . . . . . \$3995.00

## Image Translator VHS Hi-Fi RGB

- Industrial wireless remote • 4 heads • Headphone jack • No noise • Still frame (NTSC), sharpness control • World's only VCR that plays PAL, SECAM or NTSC Hi-Fi. Multiplex included in model 618 • RGB and surround sound optional • Plays back on most standard TVs or monitors

615 IT3 . . . . . \$1595.00

618 IT3 Multiplex included . . . . . \$1795.00

RGB . . . . . \$100.00

Surround Sound . . . . . \$399.00

## Image Translator Multistandard VCR

- Plays all PAL and NTSC tapes in color • SECAM in black and white • 3 speeds • Records NTSC in color—PAL and SECAM in black and white • 3 speeds • Wireless remote control • 4 event, 14 day programmer • HQ circuitry • Front load • Fast scan and preview • Still frame and pause • Sharpness control • NTSC based unit for better performance and ease of servicing

610 IT3 2 Head . . . . . \$ 859.00

611 IT3 4-Head . . . . . \$1075.00

## Image Translator World Traveler RGB

- Plays PAL and NTSC in color on an NTSC, RGB or PAL TV • Records NTSC, PAL, MESECAM, French SECAM in color • Includes tuners and modulators for PAL B/G/PAL I-NTSC-MESECAM plus RGB color out for modulators for use on RGB monitors for highest quality color playback • Wireless remote • 4 event, 14 day programming • Still frame • Pause • Fast scan • Forward and reverse • 4 head • 105 to 245V 50/60 cycle operation • VCR goes anywhere and records and plays any VHS tape on any kind of monitor-receiver • Weighs only 9.5kg • Optional carry case available • Fits in overhead aircraft luggage rack

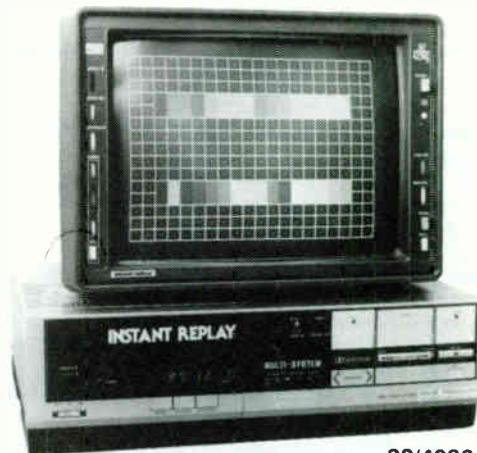
World Traveler . . . . . \$1995.00

## Caption Master™ VCR

- World's only caption equipped VCR • Ideal for hearing impaired (replaces standard caption decoder) • Perfect learning tool for studying English, improving spelling, writing and comprehension • Great for late night or news viewing • Captions controllable via remote • Multistandard version available • Special price for certified deaf

610 Caption Master 2 Head . . . . . \$795.00

611 Caption Master 4 Head . . . . . \$995.00



32/4096



615 IT3



610 IT3

## Super VHS Multistandard VCR

- Records on regular VHS tape • 420 line resolution in S-VHS mode • VHS Hi-Fi with new switching circuits for even better VHS Hi-Fi • Digital index and address search • On screen programming • 183 channel direct access remote control and it is the only Super VHS VCR that will play both PAL and NTSC tapes, standard and VHS Hi-Fi, on most regular NTSC TV's or monitors with RGB inputs • "S output" 400 + line S-VHS signal on any standard RGB input available on most monitors or better TV's • "Tape economy" switch which allows use of most regular VHS tapes in the S-VHS recording mode with only a slight increase in S/N ratio • Now you can enjoy the advantages of S-VHS without the high cost for S-VHS tapes

77 IT5S . . . . . \$1995.00

# INTERAND CORPORATION

3200 W. Peterson Ave.  
Chicago, IL 60659  
(312) 478-1700 Telex 91022-15279  
INTERANDCO CGO

# TELEPHONE LINE VIDEO COMMUNICATIONS

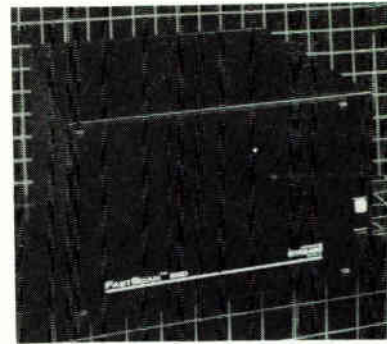
## FASTSCAN™ 200 Multipoint Freeze-Frame Transceiver and Image Processor

- A true communicating image processor
- Can accept future transmission/compression programs
- Easy to use
- Compact
- Microprocessor-based
- Remote control
- Full color
- High resolution - 640 by 480 pixels
- Fast transmission - initial image in 4 seconds (V2.3)
- Automatic error detection/correction
- Compatible with other members of the DISCON family
- Upgradeable

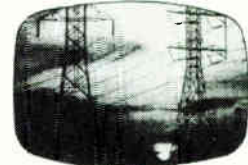
FastScan 200 is the entry level member of the DISCON™ family. Both affordable and upgradeable, it allows users to transmit to multiple locations any image that can be captured by a video camera or created by a video compatible professional computer. FastScan 200 systems can be used in a stand-alone network or as part of a DISCON 700 or 1000 network.

FastScan (with Image Processor Program 2.3) transmits the initial image over ordinary telephone lines to multiple sites in 4 seconds. As users discuss the image, the system adds color and detail. High resolution allows decision-makers to review such complex images as blueprints, mechanical parts, circuit boards, molded pieces, financial documents, seismic charts, typewritten copy, and photographs. Advanced Image Processor Programs can be installed as they are made available.

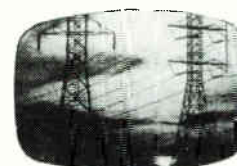
**FASTSCAN 200 ..... \$14,000.00**



4 Sec.  
Initial Image



21 Sec.  
First Color



47 Sec.



Completed Image

FastScan Transmission Time\*  
(Using Image Processor Program 2.3)

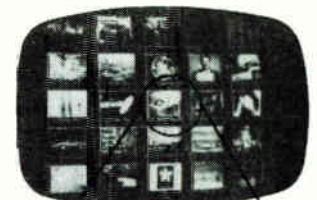
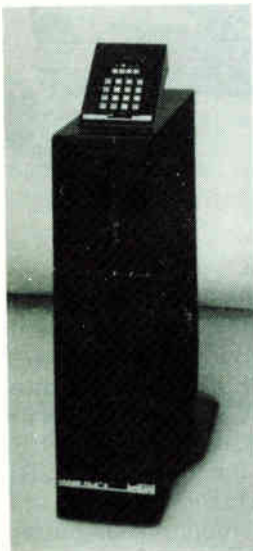
## IMAGE FILE™ II Video Image Storage System

- Easy to use
- "Help" menu
- Remote control
- Instant image storage and retrieval
- Automatically generated menu of images, including record of date and time of storage
- Automatic display mode
- Automatic send mode
- Tape drive for image backup and restore
- Capacity expandable from 200 to 1400 full-color high resolution images

A significant addition to DISCON™ 1000, 700, or FastScan™ 200, Image File allows storage and retrieval of any image that can be captured by a video camera or created by a video compatible professional computer. With expansion modules, up to 1400 full-color high resolution images can be stored, any of which can be called up on DISCON display terminals in less than three seconds.

Using FastScan, images can be transmitted over ordinary telephone lines and remotely stored in Image Files at all locations. Users can then call up any of these images simultaneously at all sites for fast, effective problem-solving and telepresentations. Images can also be sequenced for automatic display at all sites to create a remote electronic slide show.

**IMAGE FILE II ..... \$15,000.00**



Menu of Images\*



Displayed Image

\*Unretouched Photo From Display Monitor

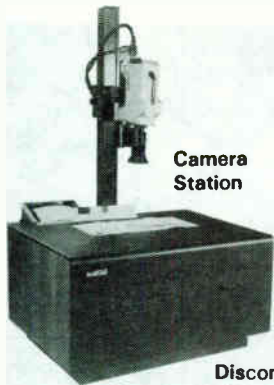
™ TRADEMARKS OF INTERAND CORPORATION



# INTERAND CORPORATION

3200 W. Peterson Ave.  
Chicago, IL 60659  
(312) 478-1700  
Telex: 91022-15279-INTERANDCO CGO

# TELEPHONE LINE VIDEO COMMUNICATIONS



Camera Station

Discon 1000



Control Center



Discon 725



Telestrator 100



Telestrator 440

## DISCON® 1000 Integrated Videographic Teleconferencing System Camera Station/Control Center

DISCON 1000 is the most powerful member of the DISCON family. A fully integrated videographic teleconferencing system, DISCON 1000 offers all features inherent in other DISCON systems and more. Using ordinary telephone lines, users can touch a stylus to the DISCON Interactive Graphics Display to transmit and annotate any image that can be captured by a video camera or created by a video compatible professional computer. DISCON 1000 is the ideal communications tool for decision-making, problem solving, crisis management, and education.

DISCON 1000 provides a 19" interactive graphics display, separate video outputs for operator and audience, the ability to have two separate FastScan transceivers, and substantial expansion capability. A typical DISCON 1000 configuration includes a Document Station and Control Center. Custom features, packaging, operating software, and room design are available.

The Control Center mounted graphics processor features multi-point communications controller, digitizing sensor surface with switching control for video input and output, seven color graphics option and color background image displayed on 19" RGB monitor.

**DISCON 1000 Control Center . . . . . \$62,475.00**

The Camera Station includes viewfinder monitor, Bogen lighting (high resolution color camera is extra).

**DISCON 1000 Camera Station . . . . . POR**

## DISCON 725 Compact Videographic Teleconferencing System

DISCON 725 is a compact, modular, integrated teleconferencing system designed for the small conference room, desktop, or even the plant floor. DISCON 725 combines the full-color, high resolution transceiver capabilities of FastScan with the seven color annotation capabilities of the DISCON 500.

Any image that can be captured by a video camera or created by a video compatible professional computer can be shared by decision-makers at remote locations. With a touch of the stylus to the DISCON Interactive Graphics Display, users can draw directly onto the video image and instantly transmit graphics over ordinary telephone lines. The DISCON display can also be used as a color display terminal for a professional computer.

**DISCON 725 . . . . . \$44,000.00**

## DISCON 500 Videographic Annotation System

The DISCON 500 is designed to operate in conjunction with a customer's own pre-installed freeze-frame video conferencing system and provides the same interactive graphics capability as the DISCON 1000. It also operates as a stand-alone audiographics system utilizing the same unique color and symbol characteristics as described with the DISCON 1000. The DISCON 500 consists of a display unit including a stylus-controlled sensor surface, a color monitor and an electronic microprocessor module. While the DISCON 500 does not provide error correction and network control of the background images supplied by

the customer's freeze-frame system, it does retain these features for the superimposed graphics which conference participants add to such images. The DISCON 500 offers the same ability to annotate in multiple colors and symbols as the DISCON 1000. The DISCON 500 can also be used as an "electronic blackboard" in which there is no background image. Principal blackboard applications are expected to be in tele-teaching and as an added component to ordinary voice-only telephone conferences.

**NTSC System . . . . . \$19,600.00**

## TELESTRATOR® 440

- 13" diagonal color monitor • Stylus selection of modes and symbols
- Symbol and mode indication in upper right corner of screen on local display only • Local stylus-selectable crosshair for exact stylus positioning • Moving symbol mode ("write-thru" cursor) • Eraser with exact-size symbol • Adjustment-free stylus calibration • Digital accuracy and repeatability • Color options • Variable symbol size option • Variable symbol orientation option • Symbol animation option • Customized menu selection with personality modules • Remote control options • High resolution (1024 x 480) for smooth graphics

Basic system including 12 customer-specified standard symbols and expansion capability.

The 440 includes all of the 100 capabilities plus an ability to work in seven colors. The 440 also permits the use of a large number of standard and custom symbols for specialties, such as sports, weather, current events and business news, together with many other functions, such as automatic straight line-connect, automatically sized and shaped rectangles, and other drafting aids. In addition, the 440 can be supplied with custom software capable of producing animated effects. This system is designed for pre- and post-production settings, as well as for "on-air" use.

**NTSC System . . . . . \$13,995.00**

**PAL System . . . . . 15,995.00**

## TELESTRATOR 100

### Monochrome Graphics (colorizable)

- 13" diagonal color monitor • All symbol and mode selection by stylus • Symbol and mode indication in upper-right corner of screen on local display only • Local crosshair (stylus selectable) for exact stylus positioning • "Write-thru" cursor mode—moving symbol • Eraser with exact size symbol • Automatic stylus calibration—no adjustments required • Digital accuracy and repeatability • High resolution (1024 x 480) for smooth graphics

The TELESTRATOR systems allow television commentators and others communicating with video audiences to instantly add explanatory markings, annotations and symbols to live scenes, instant replays and pre-recorded video materials. The 100 is a simple to operate monochrome system that is a natural for use during live coverage of events, i.e., news, sports, presentations.

**Complete NTSC (525 line, 60Hz) system . . . . . \$9,500.00**



# INTERAND CORPORATION

3200 W. Peterson Ave.  
Chicago, IL 60659  
(312) 478-1700 Telex: 91022-15279  
INTERANDCO CGO

# TELEPHONE LINE VIDEO COMMUNICATIONS

## IMAGEPHONE

- Simple one-touch controls
- 12" monochrome screen
- Viewing of full 8 1/2" x 11" documents
- Scrolling for 8 1/2" x 14" documents
- Very high resolution images
- Mouse-activated controls/pointer
- Floppy storage disk, standard
- Hard disk storage option
- Flexible input/output
- No special installation required
- Compatible with other members of the DISCON family
- Compact and practical

Now you can Show and Tell with precision, using instantaneous video "snapshots" of objects, documents, plans, parts, drawings, or people. With the compact DISCON® IMAGEPHONE, you send high quality video images over the phone, using everyday voice-grade lines.

IMAGEPHONES are for people who make decisions: From engineers, planners and corporate trainers, to physicians, brand managers and sales reps. They cost much less than typical large-scale video conferencing systems, while offering day-to-day operational support, improved communications, and decisive action at the touch of a phone.

The unit is designed with the latest 32-bit computer technology. Easy installation and simple, one-touch controls have been combined with a flexible, mouse-activated video pointer and a high resolution camera. You and your co-workers can store multiple images on hard or floppy disks—both built-in. And, with IMAGEPHONE'S 12" monitor, you see every detail, even the text on a complex, legal sized document. This versatile unit is self-contained, portable, very easy to use, and compatible with larger DISCON systems.

Furthermore, IMAGEPHONE will grow as your grow. Thanks to its advanced 32-bit architecture, new features and capabilities can be added at will.



IMAGEPHONE

## Specifications

Display	Size	12" diagonal	
	Type	Monochrome	
	Resolution	640H x 480V x 256 levels of gray—Normal 320H x 240V x 256 levels of gray—Fast 1280H x 480V x 3 levels of gray—Document 1280H x 480V x 16 levels of gray—Special Modes	
Camera Memory	Video	500 TV lines resolution	
	Hard Disk	5 1/4" Winchester, 20M byte (formatted)	
	Floppy Disk	3 1/2", 1.3M byte (formatted)	
	RAM	1.625M byte	
CPU	Main	National Semiconductor 32016	
	Communications	Intel 80186	
Inputs	Video	1V p-p, 75 ohm per RS-170	
	Digital	Centronics interface, 36-pin connector	
Outputs	Video	RS-170, BNC connector	
	Communications	RJ11	
	Digital	IBM Centronics interface, 25-pin connector	
Communications	Physical Protocol	Internal modem providing V.29 or V.27	
		DISCON: IRND 1.1 self-bridging protocol IRND 2.0 single line protocol	
	Transmission Speed	Normal	9600 bits/second FastScan™ (progressive transmission) First image, four seconds Typical completion, 80 seconds
		Fast	FastScan (progressive transmission) First image, two seconds Typical completion, 30 seconds
		Document	Typical completion, 16 seconds
	Controls	Front Panel	Touch switch array
		Mouse	Three button Interactive pointer
	Graphics		

IMAGEPHONE With Cohu Camera . . . . . \$11,230.00  
With Inter and Camera . . . . . 9,950.00

# INTERGROUP VIDEO SYSTEMS, INC.

2040 N.W. 67th Place  
P.O. Box 1495  
Gainesville, FL 32602-9990  
(904) 335-0901 (800) 874-7590  
TWX 810-825-2307

# PRODUCTION/ROUTING AND MASTER CONTROL SWITCHERS

## 9600 Series Video Production Switchers

• 16 or 24 inputs • 6 matte generators including black/color background • 8 buses • 1 or 2 mix/effects • 42 basic wipe patterns • Program/preview flip/flop mixer • Combination mix • Wipe • Key • 12 input external key bus with 12 input key fill bus • Second keyer with edging in each mix/effects • Panel microprocessor • Frame microprocessor • Serial RS-422 link • 4000' max. separation • 5 input downstream keyer with edging • Mask generator per mix/effects and DSK • Auto transitions • Event storage/recall (Reflex I) • Dual auxiliary bus • Serial editor interface • Diagnostics • Technical manual • Extender cards • 50' (15m) cable

- 9616-1 Video Production Switcher—Illuminated Pushbuttons (16 inputs, 1 ME) . . . . . \$30,775.00
- 9616-2 Video Production Switcher—Illuminated Pushbuttons (16 inputs, 2 ME) . . . . . 39,545.00
- 9624-1 Video Production Switcher—Illuminated Pushbuttons (24 inputs, 1 ME) . . . . . 35,775.00
- 9624-2 Video Production Switcher—Illuminated Pushbuttons (24 inputs, 2 ME) . . . . . 44,545.00

## 9400 Series Production Switchers

• 10 or 20 inputs • Black/color background generator • 6 buses • 2 independent mix/effects systems • 16 patterns • Program/preview flip/flop mixer • Combination mix • Wipe • Keys • Internal • External • Chroma keys • Normal/reverse wipe direction • Hard, soft or bordered wipes • Modulation • Rate controlled positioners • Pattern preset • Spotlight, DSK/edger with 4 input source selector • Master fade-to-black • Blanking processor • Microprocessor controlled • Serial editor interface • Diagnostics • Technical manual • Extender card(s) • 25' (7.6m) cable

- 9420 Video Production Switcher—Illuminated Pushbuttons (20 inputs) . . . . . \$28,500.00
- 9410E Video Production Switcher—Illuminated Pushbuttons (10 inputs) . . . . . 21,300.00

## 9310E Production Switcher

• 10 inputs • Blackburst/color background generator • 4 buses • 2 mix/effects with shared pattern generator • 14 patterns • Program/preview mixer • Combination mix • Wipe • Key • Internal • External • Normal/reverse wipes • Hard, soft or bordered wipes • Modulation • Rate controlled positioner • Pattern preset • Spotlight • Master fade-to-black • Blanking processor • Microprocessor controlled • Serial editor interface • Diagnostics • Technical manual • Extender card(s) • 25' (7.6m) cable • Illuminated pushbuttons

- 9310E . . . . . \$11,900.00

## 8001 Master Control Switcher

• 8 AFV inputs • Colorblack generator • 2 audio breakaway inputs • Audio over • Autotransitions • Machine control • Black hold • Serial interface • Diagnostics • TBC bypass • Technical manual • Extender card • 25' (7.6m) cable

- 8001 . . . . . \$7,400.00

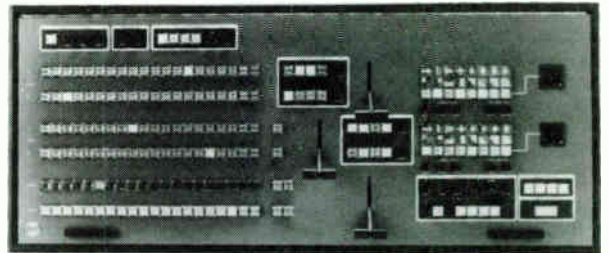
## 8012/8020/8030 Master Control Switchers

• 12 to 30 AFV inputs • 5 audio breakaway inputs • Black/color background generator • Autotransitions • Audio over/under • DSK/edger with 4 input preselect • Monitor amplifiers • Blanking processor • Master fade-to-black • Technical manual • Extender cards • 50' (15m) control cable

- 8012 Master Control Switcher (12 inputs) . . . . . \$21,500.00
- 8020 Master Control Switcher (20 inputs) . . . . . 24,500.00
- 8030 Master Control Switcher (30 inputs) . . . . . 29,500.00



9600



9420



8012



1616

## 1616 Series Video Only Routing Switchers

• 16 video inputs • Vertical interval switching • Loopthrough inputs • Self-contained • Basic • Effects and component versions

- 1616B Basic 16 X 1 Video Only . . . . . \$ 850.00
- 1616E Effects (Preset/Take, Chop) . . . . . 1,350.00
- 1616R Remote Control Kit for above models [25' (7.6m)] . . . 180.00
- 1616C Component (16 X 3, RGB or M Format) . . . . . 2,950.00
- Additional Cable/Per Foot . . . . . 1.25
- Additional Cable/Per Meter . . . . . 4.13

## 982 Series 10 X 1 AFV Routing Switchers

• 10 input • AFV system • Vertical interval switching • Loopthrough inputs • Self-contained • Remote controllable

- 982 Routing Switcher 10 X 1 Audio Follow Video . . . . . \$930.00
- 972 Two Additional Channels . . . . . 650.00
- 992 Remote Control, Includes 25' cable . . . . . 280.00
- Additional Cable/Per Foot . . . . . 1.25
- Additional Cable/Per Meter . . . . . 4.13

## 1100 Series (BCD Controlled) or 1100C Series (Microprocessor Controlled) Routing Switchers

• Available in NTSC, PAL, and PAL-M • Vertical interval switching • Field expandable • Multiple audio channels • BCD controllers • Microprocessor controller • Modular construction • Audio breakaway capable • Individual frame power supplies • Various controllers available • Technical manuals • Extender card • 50' (15m) controller cable

Matrix Pricing on Request

# INTERGROUP VIDEO SYSTEMS, INC.

2040 N.W. 67th Place  
 P.O. Box 1495  
 Gainesville, FL 32602-9990  
 (904) 335-0901 (800) 874-7590  
 TWX: 810-825-2307

# PRODUCTION SWITCHER ACCESSORIES



908-4S



9026

## 640 Downstream Key Edger

- Built-in colorizer • Outline, drop-shadow, border and normal keys (external cut with video fill) • 4 input selector • Remote control • 3 1/2" self-contained unit

640 Downstream Keyer/Edger . . . . . \$2980.00

## 4001 Digital Pattern Generator

- 30 creative digital patterns • Frame accurate auto transition (0-99) • 4 input key source selector • Normal/reverse wipe directions • Remote control via RS-422 • Self-contained • Field installable • Desktop mounted • NTSC/PAL/PAL-M • Optional oak side panels

4001 Digital Pattern Generator . . . . . \$1650.00

## 660, 660-4 RGB Chroma Keyer

- Saturation selective • Soft keying • Full remote control • Full 360° hue selection • 660 uses one (1) module space in 5010 rack frame; 660-4 uses four (4) module spaces in 5010 rack frame

660 RGB Chroma Keyer . . . . . \$1410.00

660-4 RGB Chroma Keyer (4 inputs) . . . . . 2080.00



640

## 1240, 1240-4 Encoded Chroma Keyer

- Wide range of encoded video sources • Minimum chroma crawl • Uses one (1) module space in 5010 rack frame [two (2) with input selector]

1240 Encoded Chroma Keyer . . . . . \$2870.00

1240-4 Encoded Chroma Keyer (4 inputs) . . . . . 3150.00

## 924 Blanking Processor

- Self-contained unit with fade-to-black • Insert new blanking intervals into program output

924 Blanking Processor with FTB . . . . . \$1500.00

## 9026 Autotransition/Event Storage Unit

- Autotransitions on M/E's Mix, FTB and DSK • General Purpose Interface (GPI) • 100 event storage/recall • Chaining of events for longer sequences • Editor interface built-in RS-232 or RS-422 • Stores entire switcher setup • Operated with 9300 or 9400 switchers

The 9026 offers both autotransitions for the 9300 or 9400 Production Switchers and Event Storage and Recall of 100 different panel "snap shots." The autotransitions may be triggered through the GPI with either a momentary closure or TTL active low to ground. Multiple events may be sequenced to perform complex series of events. A Serial Editor interface allows either RS-232 or RS-422 editor control in concurrent operation.

9026-3 9300 Switcher only . . . . . \$2800.00

9026-4 9400 Switcher only . . . . . 2800.00

## 908 Audio Follow Video

- 10 audio follow inputs • 5 audio breakaway inputs • Auto or manual control • Follows M/E1, M/E2, or mixer • VU meter for program out • Level adjust for program out • Linear fader for manual control • Stereo version available



4001

The Audio Follow Video package gives you the ability to mix audio sources concurrent with Fader movement on either the 9400 or 9300 Production Switchers. In addition to audio follow the 908 has 5 separate audio inputs for breakaway. Stereo operation is also available.

908-4 9300/9400 Switchers only . . . . . \$3700.00

908-4S Stereo Version 9300/9400 Switchers only . . . . . 5600.00

### Special Function Options:

5010 Rack Frame . . . . . \$ 250.00

5050 Power Supply . . . . . 200.00

924 Blanking Processor with Fade-to-Black . . . . . 1500.00

4001 Digital Pattern Generator . . . . . 1650.00

**NOTE:** Certain options require the use of a 5010 rack frame and 5050 power supply. This frame will accommodate up to seven (7) modules of options or audio/video terminal processing equipment.



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 TWX: 810-825-2307

# TERMINAL PROCESSING EQUIPMENT

## 5000 Series Distribution Amplifiers

The rack frames which house the electronics used in Intergroup products are constructed so that different models can be mixed in one frame. A 5010 rack frame will house a power supply like the 5050 and seven card spaces for terminal equipment and/or options. Each option or piece of terminal equipment when ordered will include:

1. A rear assembly with connections for inputs and/or outputs wired to one or more card edge connectors.
2. One or more printed circuit boards.
3. Front handles or shields (where applicable) attached to each PC board.

## 5010 RACK FRAME

With 5050 (Video) and 7050 (Audio) Power Supply.

- Rugged steel construction
- Modular design to customize rack
- Seven plug-in modules
- Audio and video modules may be intermixed providing both power supplies are installed

The 5010 Rack Frame, equipped with our 5050 Video Power Supply and 7050 Audio Power Supply is our basic.

The 5050 Video Power Supply provides a source for the distribution of pre-regulated 10V and -10VDC to an entire rack frame of seven modules. The 7050 Audio Power Supply provides a distribution source for 15V and -15VDC to the rack of seven modules.

5010 .....	\$250.00
5050 .....	200.00
7050 .....	200.00

## 5130 Video Distribution Amplifier

- Specifically designed for NTSC and PAL standard color video systems
- Six isolated outputs
- Flat frequency response
- Minimum chroma-luminance delay (less than 10ns) minimal phase and gain distortion

5130 .....	\$.180.00
------------	-----------

## 5160 Video Equalization Amplifier

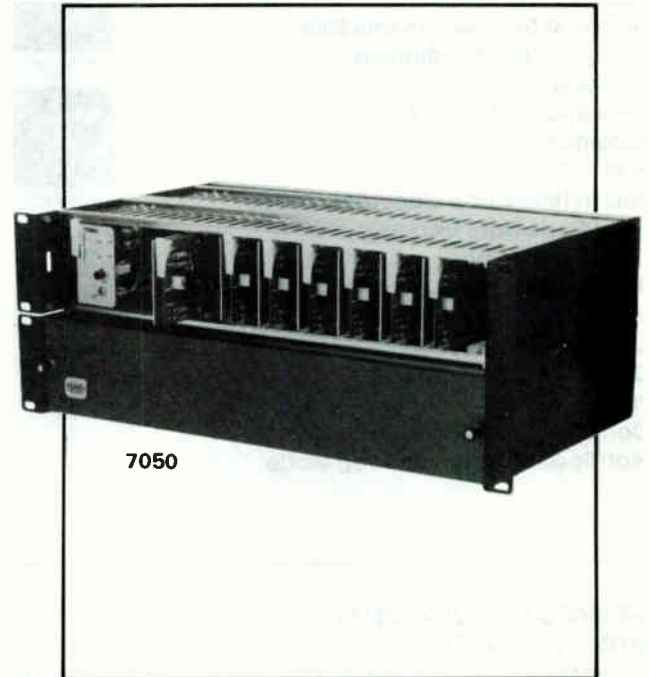
- Six isolated outputs
- Continuously variable equalization and t-15 phase adjustment at 3.58MHz
- Feedback, sample and hold clamp circuit for stable DC reference
- Common mode rejection greater than 60dB at 60Hz
- Self-regulation of incoming DC voltages
- Uses one (1) module space in 5010 rack frame

5160 .....	\$.250.00
------------	-----------

## 5190 Pulse Distribution Amplifier

- Four outputs, each individually driven
- Total regeneration of pulses allow any of the outputs to be operated unterminated
- Circuits or regenerative devices sensitive to hum or other low frequency disturbances are not utilized
- Shaped rise times (less than 100ns)
- Self-regulation of incoming DC voltages

5190 .....	\$.190.00
------------	-----------



## 5220 Quad Pulse Delay Distribution Amplifier

- Four outputs, each individually driven
- Variable delay range of 0.25 to 2.25 microseconds
- Self-regulation of incoming DC voltages

5220 .....	\$.230.00
------------	-----------

## 5250 Subcarrier Distribution Amplifier

- Subcarrier output level independent of input level
- Two step continuously variable 0-170° and 170-340° phase control
- Self-regulation of incoming DC voltage

5250 .....	\$.290.00
------------	-----------

## 7070 Audio Distribution Amplifier

- 20dBm maximum output level
- Six outputs, 600 ohms balanced
- Flat frequency response
- Self-regulation of incoming DC voltage

7070 .....	\$.230.00
------------	-----------

## 7200 Five Watt Monitor Amplifier

- Delivers up to 5W into a 4 ohm load
- Bridging input design
- Integrated circuit driver
- Discrete output stages
- Direct coupled fuse output

7200 .....	\$.270.00
------------	-----------

# JVC PROFESSIONAL PRODUCTS COMPANY

41 Slater Dr.  
Elmwood Park, NJ 07407  
(201) 794-3900  
FAX: (201) 523-3601

## FEATURES

- Superb Picture Quality
- Noiseless Slow Motion and Stills
- Dolby® C Noise Reduction
- FM Audio
- Tape Speed Override
- Automatic Editing
- Built-in TBC
- Built-in Time Code Generator/Reader
- Time Code Data Display
- Confidence Heads
- Remote Control of Source VTR
- 9-Pin Serial and 45-Pin Parallel Remote Connectors
- Clean and Accurate Edits
- Preroll
- Confidence Heads
- High Speed Search and Jog Mode



KR-M860U

## KR-M860U VIDEOCASSETTE EDITING RECORDER

The KR-M860U is an extremely sophisticated editing recorder built to the MII format and is the end of a production chain, which makes it possible to maintain a single format from the initial field recording right up to broadcasting, with quality that rivals the 1" C-format.

The CTCM (Chroma Time-Compressed Multiplex) recording system with its exclusive time code track and the built-in Time Base Corrector make the KR-M860U suitable for a full range of editing and broadcasting functions. The 1/2" metal particle cassette tapes used in the MII format, with maximum recording times of 90 and 20 minutes, offer further advantages in terms of improved operability and station automation.

**Superb picture quality.** Through the use of the MII format with CTCM, the pictures recorded and played back maintain full broadcast quality over several generations, for a performance that rivals the 1" C-format.

**Noiseless slow motion and stills.** AT (Automatic Tracking) heads incorporate piezoelectric elements and use microprocessor-controlled actuators for

noiseless still and slow-motion playback in both directions, as well as in forward search at up to twice normal speed.

**Dolby® C noise reduction.** For an improved audio signal-to-noise ratio, Dolby® C noise reduction is provided to eliminate the tape hiss inherent in magnetic recording.

**FM audio.** As well as the longitudinal audio tracks, the KR-M860U has two FM audio channels (channels 3 and 4) which are recorded embedded in the chroma track.

**Tape speed override.** In playback, the standard tape speed can be overridden by pressing the + and - trim buttons.

**90-minute recording.** The higher recording density of the metal particle tape and CTCM recording in the MII format make possible a continuous recording and playback time of 90 minutes with a single cassette.

**Ideal for archival purposes.** As 90-minute MII cassettes are approximately the size of VHS cassettes, they are ideal for tape libraries which are required to hold many hours of

broadcast-quality material.

**Cassette flexibility.** In addition to the standard 90-minute cassettes, the smaller 20-minute cassettes designed for ENG applications can be loaded without an adaptor.

**Automatic editing.** Automatic insert and assemble edits are possible with the KR-M860U either using it as a stand-alone editor or with an optional controller. Edit In/Out, Trim, Go To, Preview and Review are also provided, for a comprehensive range of editing features.

**Built-in TBC.** To synchronize the components of the signals in playback, the KR-M860U incorporates a TBC with a correction capability of 32H; with this, it is also possible to genlock with a base-band video signal in a multi-component configuration.

**Built-in time code generator/reader.** The KR-M860U incorporates an SMPTE Time Code Generator/Reader and the MII format provides a dedicated time code track for the recording of time codes. VITC (vertical interval time codes) can also be recorded.

# JVC PROFESSIONAL PRODUCTS COMPANY

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Elmwood Park, NJ 07407  
(201) 794-3900  
FAX: (201) 523-3601

**Time code data display.** SMPTE time code addresses can be superimposed on the video signal from the Video Out 3 connector. A front-panel switch can be used to change over the display between the time code or user bits.

**Remote control of source VTR.** The KR-M860U has a 9-pin serial connector for the connection of a source VTR; this makes possible the configuration of a complete editing suite without providing a separate editing controller.

**9-pin serial and 45-pin parallel remote connectors.** For flexible combination in editing systems, both serial and parallel remote control units can be connected.

**Clean and accurate edits.** A frame synchronization capability with vertical interval switching and capstan motor speed override makes possible clean and accurate edits.

**Preroll.** A preroll button is provided to reverse the tape to predetermined cue points (set internally to 5, 7 or 10 seconds) before entering the standby mode.

**Confidence heads.** The KR-M860U is equipped with confidence heads for video and audio (channels 1 and 2); as the signals being recorded can be monitored in real time, it is possible to correct any problems as soon as they occur.

**Comprehensive character display.** The fluorescent display shows the current address, edit in/out point and other information in an easy-to-understand format.

**Front loading mechanism.** For convenience and to make rack-mounting possible, the KR-M860U has a front loading tape mechanism.

**High speed search and jog mode.** High speed search is possible at up to 32 times normal speed in either direction while a quick-response jog control is provided for access to the required frame.

**Tiltable operating panel.** For convenience, the operation panel can be tilted by up to 90°; it can also be detached and used as a remote control.

**Waveform adjustment.** The waveform output signal can be adjusted internally as well as from an external controller.

**Encoder adjustment.** The TBC encoder can be adjusted internally or from an external controller.

**Tape transportation system.** The tape transport system was designed for optimum operation with a front loading system, so that the extremely thin metal particle tape runs stably in the still, jog and high-speed search modes in both forward and reverse directions. To ensure this level of stability, there are four brushless direct-drive motors, for the head drum, capstan and both reels. The KR-M860U has a total of ten heads arranged around the head drum—a pair of record/play heads for the Y signal, a pair of record/play heads for the C signal, a pair of Auto-Tracking playback heads for the Y signal, a pair of Auto-Tracking playback heads for the C signal and a pair of flying erase heads.

\*Dolby and double-D symbols are trademarks of Dolby Laboratories Licensing Corporation.

# MII EDITING RECORDER

## SPECIFICATIONS

### GENERAL

**Tape:** 1/2" metal particle (MP) tape  
**Recording System:**  
Rotary 4-head, 2-track helical scanning  
**Recording Time:** 90 min. with MPL90  
**Tape Speed:** 67.693mm/sec.  
**Search Speed:** Shuttle: Still  $\pm 32X$   
Slow: -1—+2X with AT (Automatic Tracking)  
Jog: with AT  
**Weight:** 95 lbs. (43kg)  
**Power Consumption:** 300W

### VIDEO

Test and measurements shall be made under following conditions.

1. 1st generation transfer.
2. Component input and composite output.

### Television System:

NTSC system, 525 lines, 60 fields

### Modulation System:

Y: Frequency modulation

C: Time-compressed multiplexing (R-Y, B-Y)

### Bandwidth:

Y: 30-4.5MHz + 0.5/-3dB

C: 30-1.5MHz + 0.5/-3dB

### Signal-to-Noise Ratio:

Y: Better than 49dB (Hpf 100kHz, Lpf 4MHz) component

Better than 47dB (Hpf 100kHz, Lpf 4MHz) composite

C: Better than 50dB (Hpf 10kHz, Lpf 1MHz)

**K factor:** Less than 2%

**Differential Gain:** Less than 2%

**Differential Phase:** Less than 2°

**Y/C Delay:** Within 20 nsec.

**Sag:** Less than 2%

### AUDIO

#### Longitudinal Track

#### Frequency Response:

50-15,000Hz + 1.5dB/-2.0dB

#### Signal-to-Noise Ratio:

Better than 55dB at 3% distortion (NR off)

#### Distortion:

Less than 1% at 1kHz standard input level

**Wow & Flutter:** Less than 0.15RMS

**Erase:** -70dB

**Crosstalk:** -50dB

**Phase Difference:** Within 30° at 15kHz

#### FM Track

#### Frequency Response:

20-20,000Hz + 1.0dB/-2.0dB

**Dynamic Range:** More than 80dB (w/dbx)

**Distortion:** Less than 0.6% (1kHz, 0VU)

**Wow & Flutter:** Less than 0.005% WRMS

**Crosstalk:** Less than -60dB (1kHz)

#### Dimensions:

17<sup>3</sup>/<sub>16</sub>" (W) x 10<sup>7</sup>/<sub>16</sub>" (H) x 23<sup>1</sup>/<sub>4</sub>" (D)  
(436 x 265 x 590mm)



# JVC PROFESSIONAL PRODUCTS COMPANY

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## MII EDITING RECORDER

### FEATURES

- High Quality Picture
- CTCM/Component Switchable Output and Y/C Output Connectors
- CTCM/Component/Composite Switchable Input
- Dolby\* C Noise Reduction
- High Speed Search and Jog Control
- Clean and Smooth Edits
- Separate Audio and Video/Tracking Meters



KR-M800U

### KR-M800U VIDEOCASSETTE EDITING RECORDER

The KR-M800U editing recorder uses the same component video recording system employed by an increasing number of broadcasters; it makes it possible to maintain the same high video quality from the initial field recording right up to studio editing in video production applications. The Chroma Time-Compressed Multiplex recording system and 1/2" high recording-density metal particle cassette tapes used in the MII format make possible maximum recording times of 90 minutes (with standard tapes) and 20 minutes (using the special compact ENG/EFP tapes). So that it can be used conveniently in post-production, the KR-M800U editing recorder is packed with features that improve operability together with advanced circuitry for an extremely cost-effective performance.

**High-quality picture.** Through use of the MII format with CTCM (Chroma Time-Compressed Multiplexing), pictures maintain high quality over several generations of recording and playback.

**Improved S/N and pulse response.** The preamplifier circuitry has especially good RF characteristics for an improved video signal-to-noise ratio while noise is cancelled in both luminance and chrominance circuits, minimizing any

degradation in pulse response; this better video performance maintains a higher signal quality that you can actually see.

**CTCM/Component switchable output and Y/C output connectors.** The output can be switched between CTCM (with Y and time-compressed color difference signals, for MII equipment) and component (Y and independent color difference signals); a Y/C output is also provided for dubbing to a VCR which accepts separate luminance and chrominance signals.

**CTCM/Component/Composite switchable input.** The input can be switched to accept three signal formats for greater flexibility in systems configuration.

**Dolby\* C noise reduction.** For an improved audio signal-to-noise ratio, Dolby C noise reduction is provided to eliminate the tape hiss inherent in magnetic recording.

**High-speed search at up to  $\pm 32X$  normal speed.** High speed search is possible at up to 32 times normal speed in either direction. The speed is continuously variable from  $\pm 1/32X$  to  $\pm 2X$  normal speed, with fixed search speeds of  $\pm 4X$  normal speed with both types of

cassettes and  $\pm 32X$  normal speed with a standard cassette and  $\pm 20X$  normal speed with compact ENG cassettes.

**Color search at up to  $\pm 4X$  normal speed.** A Y/C timing adjustment circuit makes color search possible at up to  $\pm 4X$  normal speed without using a time base correction circuit. The Y signal follows the timing of C signal so the relative jitter between components is compensated within  $\pm 20ns$ .

**Capstan servo control system.** This has an extremely high-speed response so that it can handle sudden speed changes.

**Tiltable operation panel.** For ease of use, the operation panel can be tilted by up to 90°, in 7 steps.

**Jog control.** The jog control on the front panel makes possible fast access to any required edit point.

**Clean and smooth edits.** The KR-M800U has a comprehensive range of editing features when used either as a stand-alone editor or with an optional controller.

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**Separate audio and video/tracking meters.** Illuminated meters with level controls are provided for audio channels 1 and 2 and for video/tracking. During playback, the Video/Tracking meter shows the level of the video carrier; in the stop and record modes, it shows the level of the input video signals.

**Fluorescent display.** This single-line display shows the current address, the next edit in/out point and other information in an easy-to-understand format.

**45-pin parallel remote connector.** For combination in editing systems, a remote control unit can be connected via the 45-pin connector.

**SMPT E time code input/output.** SMPT E time codes can be input from an external generator and the addresses can be recorded on the exclusive time code track.

**XLR line audio connectors.** To avoid possible interference, the KR-M800U is equipped with professional-standard XLR line audio connectors.

**RF output for DOC.** An external dropout compensator can be connected to this RF output.

**EXT sync/sub-carrier input, REF sync output.** This is necessary when the system in which the KR-M800U is used is synchronized with signals from an external source, while a reference sync output is available for the synchronization of other components.

**Microphone input connectors.** For the connection of microphones for audio dubbing.

**Digital drum servo.** This improves reliability and ensures accuracy because no adjustment is required.

**More accurate tension detection.** The sensitivity of the tension detection mechanism to external disturbances is minimized because it uses a contactless, differential magnetic resistance device and pivot bearings.

**Die-cast chassis.** All components are mounted in a rugged die-cast aluminum chassis; this protects the precision-engineered mechanical part and delicate electronic circuitry, for enhanced reliability.

**Direct-drive system.** Direct-drive motors are used throughout, for the head drum, the capstan and the reels; these rotate at precisely the correct speed, ensuring years of trouble-free operation.

**Switching regulator power supply.** This delivers stable power to all sections of the recorder while weighing much less than conventional power supplies.

**Hour meter.** The hour meter provided on the sub-panel shows the accumulated head running time up to 1000 hours for convenience in scheduling maintenance.

\*Dolby and double-D symbols are trademarks of Dolby Laboratories Licensing Corporation.

# MII EDITING RECORDER

## SPECIFICATIONS

### GENERAL

**Format:** MII standard  
**Power Requirement:** 110-127VAC, 50/60Hz  
**Power Consumption:** 190W (200W with remote control unit)

**Tape Speed:** 1/2" metal particle tape  
**Recording Time:** 90 min. (with JVC KC-MPL90)  
**Rewind/Fast Forward Time:** Within 3.5 min. (with JVC KC-MPL90)

**Search Speed:** Shuttle search:  $\pm 1/32$  to  $1/4X$  (8 steps),  $\pm 32X$ , Jog: Still to  $\pm 1X$   
**Dimensions:** 17 $9/16$ " (W) x 11 $3/16$ " (H) x 23 $5/16$ " (D) (446 x 284 x 604mm)  
**Weight:** 89 lbs. (40kg)

### VIDEO

**Signal System:** NTSC system, 525 lines, 60 fields  
**Modulation System:** Y: Frequency modulation  
C: Time-compressed

multiplexing

**Bandwidth:** Y: 4.5MHz + 0.5dB/-3.0dB  
C: 1.5MHz + 0.5dB/-3.0dB

### Signal-to-Noise Ratio:

Y: Better than 46dB

C: Better than 48dB

Y/C Delay: 20 ns

### INPUT

**Composite:** 1.0V p-p, 75 ohms On/Off, unbalanced

### Component/CTCM

**Component:** Y: 1.0V p-p, 75 ohms; R-Y: 0.7V p-p, 75 ohms; B-Y: 0.7V p-p, 75 ohms

**CTCM:** Y: 1.0V p-p, 75 ohms; R-Y/B-Y: 1.009V/0.7V p-p, 75 ohms; Y DO pulse:

negative; C DO pulse: negative

**SC:** 2.0V p-p, 75 ohms, unbalanced

**Ext. Sync:** 4.0V p-p, 75 ohms, unbalanced

### OUTPUT

**Composite:** 1.0V p-p, 75 ohms, unbalanced

**8-Pin TV:** 1.0V p-p, 75 ohms, unbalanced

### Component/CTCM

**Component:** Y: 1.0V p-p, 75 ohms; R-Y: 0.7V p-p, 75 ohms; B-Y: 0.7V p-p, 75 ohms

**CTCM:** Y: 1.0V p-p, 75 ohms; R-Y/B-Y: 1.009V/0.7V p-p, 75 ohms; Y DO pulse:

negative; C DO pulse: negative

**Y/C 358:** Y: 1.0V p-p, 75 ohms; C: 0.286V p-p, 75 ohms

**Reference Sync:** 4.0V p-p, 75 ohms, unbalanced

**DOC RF:** 0.5V p-p, 75 ohms, unbalanced

### AUDIO

**Frequency Response:** 50-15,000Hz  $\pm 3.0$ dB

### Signal-to-Noise Ratio:

Better than 55dB (with Dolby NR off)

### INPUT

**Line Switchable:** -20/+4dBs, high impedance/600 ohms, balanced

**Microphone:** -60dBs, 3K ohms, unbalanced

### OUTPUT

**Line:** Switchable: -20/+4dBs, low impedance 600 ohms load, balanced

**Monitor:** +4dBs, low impedance 600 ohms load, balanced

**TV:** 0dBs, low impedance, unbalanced

**Time Code Input:** 2.2V p-p, 600 ohms, unbalanced

**Time Code Output:** 2.2V p-p, 600 ohms, unbalanced



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## MII PORTABLE RECORDER

### FEATURES

- Superb Picture Quality
- Dolby® C Noise Reduction
- FM Audio
- 90-Minute Recording with Cassette Flexibility
- Confidence Playback
- Automatic Backspace Editing
- TBC Connector
- Built-in Time Code Generator/Reader
- Rugged Construction
- Search Function
- Field Color Playback
- Warning Indicators
- Camera Connector



KR-M460U

### KR-M460U PORTABLE VIDEOCASSETTE RECORDER

The revolutionary MII format solves one of the biggest problems of broadcasters involved in field production; it allows them to maintain the same format from the initial recording, through editing, to broadcasting. The KR-M460U Portable Videocassette Recorder is an essential link in this chain. It uses full-size MII videocassettes to record over 90 minutes of material that's so good that the signals can be used for broadcasting without changing formats and also accepts compact 20-minute ENG cassettes without an adaptor. In MII, this is done with high-density metal particle tape and CTCM (Chroma Time-Compressed Multiplex) recording system. The KR-M460U is designed for action; weighing less than 14 lbs., it's rugged, it has all the features that professionals need—and using these features is no problem, even when working under pressure in real-life conditions.

**Superb picture quality.** Through use of the MII format with CTCM, picture recorded by the KR-M460U maintain full broadcast quality over several generations so that tapes can be transferred directly to editing and broadcasting equipment without any format transfer.

**Dolby® C noise reduction.** For an improved audio signal-to-noise ratio, Dolby® C noise reduction is provided to eliminate the tape hiss inherent in magnetic recording.

**FM audio.** As well as the longitudinal audio tracks, the KR-M460U has two FM audio channels (channels 3 and 4) which are recorded embedded in the chroma track.

**90-minute recording.** The higher recording density of the metal particle tape and CTCM recording in the MII format make possible a continuous recording time of 90 minutes with a single cassette.

**Cassette flexibility.** In addition to the standard 90-minute cassettes, the smaller 20-minute cassettes designed for ENG applications can be loaded without an adaptor.

**Automatic backspace editing.** Automatic backspace editing with an accuracy of  $3 \pm 2$  frames results in edit points that are almost undetectable, a great convenience when working on location.

**TBC connector.** The KR-M460U has a

socket for the connection of an external time base corrector, giving its playback output the quality and accuracy required for broadcasting.

**Built-in time code generator/reader.** The KR-M460U incorporates an SMPTE Time Code Generator/Reader and the MII format provides a dedicated time code track for the recording of time codes. VITC (vertical interval time codes) can also be recorded.

**8-digit LCD display.** This low power consumption display shows the SMPTE time code and the charging condition of the battery.

**Rugged construction.** The KR-M460U was designed for use in the field; it's light, compact and sturdy. Enclosed in a die-cast aluminum chassis that can take rough handling, its high-precision mechanism and direct-drive motors are reliable however it's used. For further enhanced field operation, the cabinet of the KR-M460U is sealed so dust and moisture cannot interfere with operations.

**Confidence heads.** The KR-M460U is equipped with confidence heads for video and audio (channels 1 and 2); as the signals being recorded can be



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monitored in real time, it is possible to correct any problems as soon as they occur.

**Search function.** The KR-M460U enables search at  $\pm 5$  times normal speed in either direction for quick and easy access to the required segment.

**Color playback.** The KR-M460U incorporates a color playback circuit with a simplified dropout compensator so that results can be checked in full color.

**Battery compartments.** This allows the insertion of two battery packs; continuous operation is possible as one battery pack can be replaced during operation.

**3-way power supply convenience.** In addition to battery operation, power can be supplied from an external DC source or an optional AC adaptor.

**Audio dubbing capability.** Audio dubbing is possible onto either of the longitudinal audio tracks.

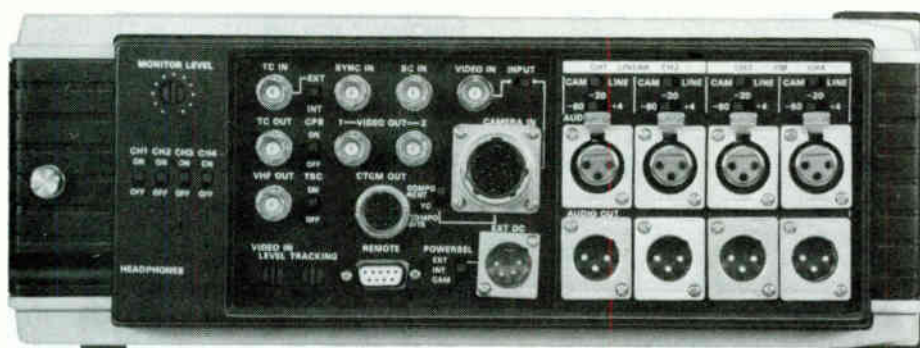
**Warning indicators.** A variety of indicators are provided in the camera

viewfinder and on the recorder to ensure that recordings are always in the best possible condition.

**Built-in RF modulator.** This allows direct connection of a regular TV for monitoring; the RF modulator can be tuned to VHF channel 3 or 4.

**Camera connector.** For wider applicability, the 26-pin camera connector will accept both component and composite signals.

\*Dolby and double-D symbols are trademarks of Dolby Laboratories Licensing Corporation.



## MII PORTABLE RECORDER

### SPECIFICATIONS (KR-M460U)

#### GENERAL

**Tape:** 1/2" metal particle (MP) tape  
**Recording System:** Rotary 4-head, 2-track helical scanning  
**Recording Time:** 90 min. with MPL90  
**Tape Speed:** 67.693mm/sec.  
**Search Speed:** FF/Rew:  $\pm 16X$ ; Search:  $\pm 5X$   
**Dimensions:** 11" (W) x 5" (H) x 13" (D)  
(279 x 127 x 330mm)  
**Weight:** 13.2 lbs. (6kg)  
**Power Requirement:** 11-15VDC  
**Power Consumption:** 30W

#### VIDEO

Test and measurements shall be made under following conditions.

1. 1st generation transfer.
2. Component input and composite output.

#### Television System:

NTSC system, 525 lines, 60 fields

#### Modulation System:

Y: Frequency modulation

C: Time-compressed multiplexing (R-Y, B-Y)

#### Bandwidth:

Y: 30-4.5MHz +0.5/-3dB

C: 30-1.5MHz +0.5/-3dB

#### Signal-to-Noise Ratio:

Y: Better than 49dB (Hpf 100kHz, Lpf 4MHz) component

Better than 47dB (Hpf 100kHz, Lpf 4MHz) composite

C: Better than 50dB (Hpf 10kHz, Lpf 1MHz)

K Factor: Less than 2%

Differential Gain: Less than 2%

Differential Phase: Less than 2°

Y/C Delay: Within 20 nsec.

Sag: Less than 2%

#### AUDIO

##### Longitudinal Track

#### Frequency Response:

50-15,000Hz + 1.5dB/-3.0dB

#### Signal-to-Noise Ratio:

Better than 55dB at 3% distortion (NR off)

#### Distortion:

Less than 1% at 1kHz standard input level

Wow & Flutter: Less than 0.15RMS

Erase: -70dB

Crosstalk: -50dB

Phase Difference: Within 30° at 15kHz

#### FM Track

#### Frequency Response:

20-20,000Hz + 1.0dB/-2.0dB

Dynamic Range: More than 72dB (w/dbx)

#### Distortion:

Less than 0.6% (1kHz, 0VU)

Wow & Flutter: Less than 0.005% WRMS

Crosstalk: Less than -60dB (1kHz)

#### Dimensions:

11 1/8" (W) x 4 3/4" (H) x 13" (D)

(282 x 120 x 330mm)

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## MII CAMERA RECORDER

### FEATURES

- High Picture Quality
- Dolby® C Noise Reduction
- FM Audio
- Rugged Construction
- 20-Minute Recording Time
- B/W Playback through Viewfinder
- Speaker
- Confidence Playback
- Automatic Backspace
- Built-in Time Code Generator
- Warning Indicators



KR-M260U

### KR-M260U CAMERA RECORDER

With the KR-M260U Camera Recorder, tapes recorded in the field can be used directly for broadcasting with no change in format. The secret is the MII format which makes it possible to maintain the same format from recording, through editing, to broadcasting. Using high-density metal particle tape and the CTCM (Chroma Time-Compressed Multiplex) recording system, signals recorded using an EFP/ENG camera have the high quality required in broadcasting. The KR-M260U records 20 minutes of video on cassettes which can be post-processed for broadcasting using the KR-X800U studio unit. With the MII format, the signals maintain their broadcast quality for several generations, making the system ideal for news gathering and other on-location applications.

**High picture quality.** Through use of the MII format with CTCM, pictures recorded by the KR-M260U maintain full broadcast quality over several generations so the tapes can be transferred directly to editing and broadcasting equipment without any format transfer.

**Dolby® C noise reduction.** For an improved audio signal-to-noise ratio, Dolby® C noise reduction is provided for the longitudinal audio tracks.

**FM audio.** As well as two longitudinal audio tracks, the KR-M260U has two high-quality audio channels (channels 3 and 4) which are recorded embedded in the chroma track to record a high-quality stereo soundtrack in the field.

**Rugged construction.** The KR-M260U was designed for demanding ENG/EFP applications. Enclosed in a rugged die-cast aluminum chassis, its high precision mechanism with direct-drive motors is reliable wherever it's used. For further enhanced field operation, the cabinet is sealed to protect the mechanism from dust and moisture.

**Maximum recording time of 20 minutes.** 1/2" metal particle tape and CTCM recording make possible a continuous recording and playback time of 20 minutes using a cassette that's specially designed for ENG applications. In the MII

system, studio VCRs are designed to accept these smaller cassettes directly, without an adaptor.

**B/W playback through viewfinder.** A B/W playback circuit that works with the chroma confidence circuits is provided so that recorded material can be reviewed in the field.

**Speaker.** A speaker is provided for the monitoring of the audio level.

**Power supply flexibility.** For greater flexibility in power supply, the KR-M260U has a terminal for the connection of an external DC input.

**3-way power supply.** Power can be supplied from a battery pack held in an inboard compartment, from an external DC power supply or via the optional AC power adaptor.

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**Confidence heads.** Video confidence heads are provided for both the luminance and chrominance channels; the off-tape B/W picture can be displayed in the viewfinder of the camera while the off-tape mode is indicated by an LED.

**Automatic backspace editing.** The KR-M260U has an automatic backspace editing capability with an accuracy of  $3 \pm 2$  frames, a boon when recording in the field.

**Built-in Time Code Generator.** An SMPTE Time Code Generator with an 8-digit LED display is provided; the MII format includes a dedicated time code track for convenience in editing.

**External time code input terminal.** A rear-panel terminal accepts time codes from an external generator for synchronization in multi-component configurations.

**Warning indicators.** Various warning indicators that assure correct recording are provided, both LEDs on the recorder itself and indicators in the camera viewfinder.

\*Dolby and double-D symbols are trademarks of Dolby Laboratories Licensing Corporation.

# MII CAMERA RECORDER

## SPECIFICATIONS

### GENERAL

**Tape:** 1/2" Metal Particle (MP) tape  
**Recording System:** Rotary 4-head, 2-track helical scanning  
**Recording Time:** 20 min. with MPS20  
**Tape Speed:** 67.693mm/sec.  
**FF/REW Speed:** Less than 5 min. with MPS20

### Dimensions:

4.5"(W) x 9"(H) x 9"(D)  
(114 x 229 x 229mm)

**Weight:** 7.3 lbs. (3.3kg)

**Power Requirement:** 11-15VDC

**Power Consumption:** 15W

### VIDEO

Test and measurements shall be made under following conditions.

1. 1st generation transfer.
2. Component input and composite output.

### Television System:

NTSC system, 525 lines, 60 fields

### Modulation System:

Y: Frequency modulation

C: Time-compressed multiplexing (R-Y, B-Y)

### Bandwidth:

Y: 30-4.5MHz + 0.5/-3dB

C: 30-1.5MHz + 0.5/-3dB

### Signal-to-Noise Ratio:

Y: Better than 49dB (Hpf 100kHz, Lpf 4MHz) component

Better than 47dB (Hpf 100kHz, Lpf 4MHz) composite

C: Better than 50dB (Hpf 10kHz, Lpf 1MHz)

**K factor:** Less than 2%

**Differential Gain:** Less than 2%

**Differential Phase:** Less than 2°

**Y/C delay:** Within 20 nsec.

**Sag:** Less than 2%

### AUDIO

#### Longitudinal Track

##### Frequency Response:

50-15,000Hz + 1.5dB/-3.0dB

##### Signal-to-Noise Ratio:

Better than 55dB at 3% distortion (NR off)

##### Distortion:

Less than 1% at 1kHz standard input level

**Wow & Flutter:** Less than 0.15RMS

**Erase:** -70dB

**Crosstalk:** -50dB

**Phase Difference:** Within 30° at 15kHz

#### FM Track

##### Frequency Response:

20-20,000Hz + 1.0dB/-2.0dB

**Dynamic Range:** More than 72dB

(w/dbx)

**Distortion:** Less than 0.6% (1kHz, 0VU)

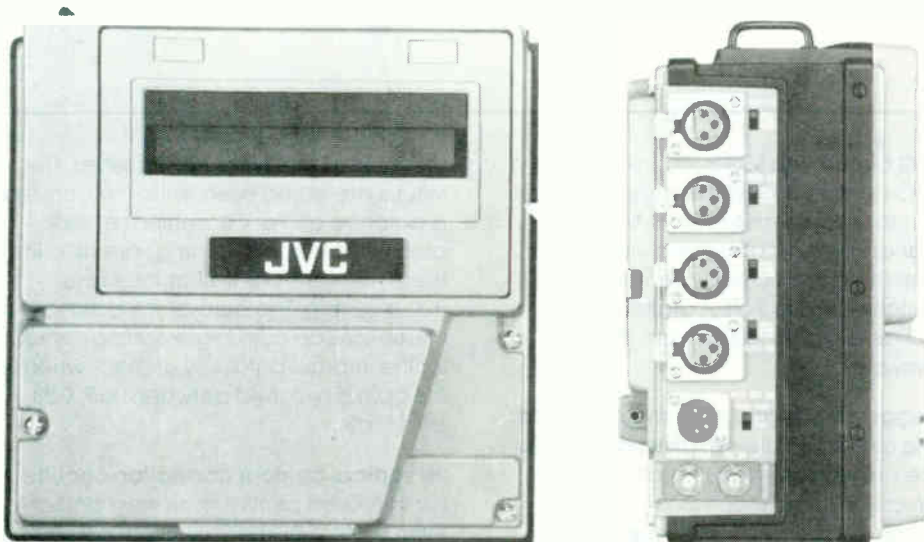
**Wow & Flutter:** Less than 0.005%WRMS

**Crosstalk:** Less than -60dB (1kHz)

### Dimensions:

7<sup>7</sup>/<sub>8</sub>"(W) x 7<sup>1</sup>/<sub>2</sub>"(H) x 4<sup>9</sup>/<sub>16</sub>"(D)

(200 x 190 x 115mm)





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## COLOR CAMERA

### FEATURES

- High Resolution/High Signal-to-Noise Ratio
- Compact and lightweight with Rugged Design
- Wide Dynamic Range
- SSG Circuit Conforming to RS-170A
- f/1.4 Prism Optical System
- Auto-Shift Registration Circuit
- 2H Vertical Contour Correction Circuit
- Split-type Color Bar Generator
- Color Matrix Masking Circuit
- Full Remote Control

KY-950BU	3-tube color camera head
KY-900U	3-tube color camera less lens (ENG)



### PROCAM™ KY-950BU/900U COLOR PRODUCTION CAMERAS

**Resolution 700 lines, S/N 59dB.** The initial amplification of the very low level signals from the LOC diode gun Plumbicon tubes is critical in determining the overall S/N ratio of the camera. For this reason, JVC uses a preamp circuit board with three preamps for the initial amplification of the R, G and B tube signals. In combination with the preamplifiers, the f/1.4 prism optical system and the LOC diode gun Plumbicon tubes make possible the high resolution of 700 lines and an S/N of 59dB.

**Registration circuit.** Registration accuracy has been improved to 0.05% for Zone I, 0.1% for Zone II and 0.3% for Zone III. This has been done by providing separate horizontal and vertical pin and trapezoidal distortion correction circuits, an improved linearity circuit and an additional electrical rotation circuit. V-Shift variations when there are changes in temperature are improved by the prism temperature compensation circuit.

**SSG circuit.** The SSG is incorporated in a JVC-designed IC with excellent stability. This fully conforms to the RS-170A standard and is equipped with a color framing pulse output which can be switched on and off. A digital H/V variable blanking width circuit is also provided.

#### **Rugged body and easy maintenance.**

The aluminum die-cast body combines the strength needed to protect the precision internal components with compact size and light weight. For convenience, controls which are used most frequently—the gain switch, preset white balance switch and color bar switch—are on the front of the camera. So that the camera cable does not get in the way, it plugs in at an angle. To simplify routine adjustments without using extension boards, adjustment points are on the edges of the PCBs.

**Automated functions.** For greatly simplified operation, the auto-shift registration, auto-white balance and auto-black balance circuits are all activated by single-action switches. The automated circuits use 8-bit digital

memories; backed-up by batteries, the setups are stored even when the camera is switched off. For convenience, two auto-white balance settings are held in these memories as well as the preset 3200K setting. The auto-black balance circuit uses an auto-black setting circuit for the improved stability of black when the gain is switched between 0dB, 9dB and 18dB.

#### **2H vertical contour correction circuit.**

For improved picture sharpness and an even better S/N, the 2H vertical contour correction circuit is equipped with a comb filter, a level dependent circuit and noise slice circuit.

**Color matrix masking circuit.** The accurate reproduction of color is further improved by the color matrix circuit.

**Wide dynamic range.** Pictures are sharp and details are clear even when shooting high-contrast subjects through the use of state-of-the-art technology including an upper section weighting circuit, a NAM-type auto-iris circuit and a processor circuit with a wide dynamic range that can accept signals with a 300% level.

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**System versatility.** Using the RS-500U multi-core type remote control unit, RS-T900U triaxial unit, KA-3U component adaptor, etc., systems based on the KY-950BU can be used for ENG/EFP, OB van and studio applications.

## OTHER FEATURES

- H/V dynamic shading correction circuit
- Frame shading correction circuit
- Auto dynamic shading correction when X2 extender is used (specific lenses only)
- ABL (Auto Black Level) On-Off Switch
- R/G/B flare correction circuits
- ABC (Auto Beam Control) circuit
- Master black level control potentiometer
- Optical turret filter (3200K, 5600K, 5600K + 25% ND)
- Zebra display video level indicator (on/off switchable)
- Video recorder triggering mode select switch (with 3 positions)
- VTR start/stop switch
- Video Recorder power-save/camera preheating circuit
- Audio monitor jack
- Hot-shoe type microphone connector incorporating power supply terminal (for the M-K50U microphone)
- Test signal generator
- Scan-failure protection circuit
- Focus wobbling circuit

## Accessories

<b>A-22x12.5</b>	22:1 with
<b>BERM</b>	2X extender
<b>A-14x9</b>	14:1 zoom lens with
<b>BERM</b>	2X extender
<b>A-16x9.5</b>	16:1 teleconferencing
<b>BMD-D9</b>	lens
<b>A-18x8.5</b>	18:1 zoom lens with
<b>BERM-9</b>	2X extender
<b>AA-C50U</b>	AC adaptor/charger
<b>CB-95</b>	Molded shipping case
<b>DC-C50U</b>	Rechargeable NiCad battery (3.5AH)
<b>ECM-025F</b>	25' lens cable (A16x9.5BMD-D9 to RMD-2)
<b>ECM-050F</b>	50' lens cable (A16x9.5BMD-D9 to RMD-2)
<b>ECM-100F</b>	100' lens cable (A16x9.5BMD-D9 to RMD-2)
<b>FM-ZS14U-II</b>	Studio conversion kit A14x9 BERM-9
<b>HZ-510U</b>	10:1 zoom lens
<b>HZ-516U</b>	16:1 zoom lens
<b>HZ-CA23U</b>	C-mount adaptor
<b>HZ-E512U</b>	12:1 zoom lens with 2X extender
<b>HZ-FM12U</b>	Cable drive manual focus control
<b>HZ-NK23U</b>	Nikon lens adaptor
<b>HZ-ZS12U</b>	Cable drive servo zoom control
<b>KA-3</b>	Component adaptor
<b>KA-500U</b>	Tripod mounting plate (3/8" or 1/4")
<b>KA-D50U</b>	Battery adaptor (DC-C50U)
<b>KM-2000U</b>	Special effects generator
<b>KA-M50U</b>	Pistol handgrip for M-K50U
<b>M-K50U</b>	"Hot Shoe" microphone
<b>PK-C320BU</b>	Board kit for KY-320B
<b>PK-C950BU</b>	Board kit for KY-950B
<b>PK-950</b>	Part Kit
<b>PK-900</b>	Part Kit
<b>Q-95</b>	Battery bracket for B-20 battery
<b>RM-D2</b>	Remote control unit (A16x9.5BMD-D9 Lens)
<b>RS-500U</b>	Camera remote control
<b>RS-L501</b>	Local control panel for RS-500U
<b>RS-T900U</b>	Triax unit with chroma key out
<b>UC-1003U</b>	Rackmount adaptor
<b>UM-P1004U</b>	Rackmount for RS-L501
<b>VC-511BU2</b>	14-pin to 10-pin camera cable (2m)
<b>VC-512BU</b>	14-pin to 14-pin camera cable (4m)
<b>VC-544U</b>	RCU cable (65')
<b>VC-545U</b>	RCU extension cable (160')
<b>VC-582BU</b>	10-pin to 10-pin extension cable (33')
<b>VC-586U</b>	12V power extension cable (16')
<b>VC-589BU</b>	14-pin to 14-pin extension cable (33')
<b>VC-454U</b>	26-pin cable to KA-3
<b>VF-P915U</b>	1.5" electronic viewfinder
<b>VF-550U</b>	5.5" studio viewfinder

# COLOR CAMERA

## SPECIFICATIONS (KY-950BU)

**Optical System:** f/1.4 3-tube R/G/B prism system (with quartz filter)

**Focusing/Deflection System:** Electromagnetic focusing, electromagnetic deflection

**Pickup Tubes:** 2/3" LOC diode gun Plumbicon\* (XQ3427) X3

**Encoder:** NTSC (IQ encoder)

**Synchronizing System**  
Internal: Built-in SSG (conforming to RS-170A)  
External: VBS or BB

**Lens Mount:** Bayonet

**Sensitivity (typical):** f/4.5 at 2000 lux, 89.9% reflectance

**Minimum Illumination (typical):** f/1.7, 38 lux (3.6fc) (+ 18dB On, 89.9% reflectance)

**Signal-to-Noise Ratio (typical):** 59dB (contour correction Off, gamma 1, bandwidth 4.2MHz, Matrix Off, I/Q Off)

**Horizontal Resolution:** 700 lines (G CH center)

**Registration:**  
Zone 1: Within 0.05% (circle 80% of picture height)  
Zone 2: Within 0.1% (circle of picture width)  
Zone 3: Within 0.3% (area outside Zone 2)

**Colour Correction:**  
Horizontal: Dual-edged  
Vertical: 2H, with comb filter

**Color Bar Generator:** Split bar (100% white) / full field (75% white) switchable

**Optical Filters:** Closed, 3200K, 5600K, 5600K + 25% ND

**Gain Boost:** 0dB, +9dB, +18dB

**Variable Blanking:**  
H: 10.6µs/10.8µs/10.9µs switchable  
V: 18H/19H/20H switchable

**Input Signals:**  
Return Video Signal (VBS): 1.0V p-p, 75 ohm  
Genlock Signal: VBS (1.0V p-p, 75 ohm) or BB (0.43V p-p, 75 ohm)  
Microphone Signal: -52dBm, 600 ohm balanced

**Output Signals:**  
Composite Video Signal (VBS): 1.0V p-p, X2 (BNC/14-pin connector)  
Test Signals (VS or VBS): R, G, B, -G, ENC  
Audio Signal: -52dBm, 600 ohm balanced/-20dB, unbalanced or balanced (switchable)  
Audio Monitor Signal: 8 ohms, -20dB  
VCR Control Signal: Contact or 4V supply (switchable)

**Power Supply:** +12VDC (10.5 to 17V)

**Power Consumption:** 1.95A

**Ambient Temperature:** -20°C to +50°C (-4°F to +122°F)

**Weight:** 9.9 lbs. (4.5kg)

**Dimensions:**  
4 9/16" (W) x 10 3/4" (H) x 11 13/16" (D)  
(115 x 271.5 x 299mm)

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## FEATURES

- High Resolution/High Signal-to-Noise Ratio
- Compact and lightweight with Rugged Design
- JVC developed SSG Circuit
- Automated Functions
- 2H Vertical Contour Correction Circuit
- Color Matrix Masking Circuit
- Viewfinder
- Full Remote Control

<b>KY-320BU</b>	3-tube color camera head (w/o case)
<b>KY-320BCH</b>	3-tube color camera head w/CB-95 case
<b>KY-320BUP</b>	3-tube color camera ENG system—includes: VF-P915U 1.5" Electronic VF; AA-C50U AC adaptor/battery charger; DC-C50U 3.5AH NiCad battery; CB-95 shipping case, Q-95 battery bracket for B-20 battery



## PROCAM™ KY-320BU 3-TUBE COLOR VIDEO CAMERA

With its newly-designed circuits, the KY-320BU gives further high performance, reliability and stability.

**S-M PbO\* Tubes.** The electrostatic-focus, electromagnetic-deflection Plumbicon\* tubes achieve extremely high stability while they operate at high voltage with a lower power consumption.

**Resolution 650 lines, S/N 57dB.** The PbO tubes, the f/1.4 prism optical system and independent R/G/B preamplifiers give a 650 TV line resolution and 57dB signal-to-noise ratio.

**Registration Circuit.** Registration accuracy has been improved to 0.1% for Zone I, 0.2% for Zone II and 0.3% for Zone III. This has been done by providing separate horizontal and vertical pin and trapezoidal distortion correction circuits, an improved linearity circuit and an additional electrical rotation circuit. V-Shift variations when there are changes in temperature are improved by the prism temperature compensation circuit.

**Easy access for maintenance.** To simplify routine adjustments without using extension boards, adjustment points are on the edges of the PCBs.

**Automated functions.** For greatly simplified operation, the auto-shift registration, auto-white balance and auto-black balance circuits are all activated by single-action switches. The automated circuits use 8-bit digital memories; backed-up by batteries, the setups are stored even when the camera is switched off. For convenience, two auto-white balance settings are held in these memories as well as the preset 3200K setting. The auto-black setting circuit combined with the auto-black balance circuit improves the stability of black when the gain is switched between 0dB, 9dB and 18dB.

**Wide dynamic range.** Pictures are sharp and details are clear even when shooting high-contrast subjects through the use of state-of-the-art technology including an upper-section weighting circuit, a NAM-type auto-iris and a processor circuit with a wide dynamic range that can accept signals with a 300% level.

**Rugged body design.** The aluminum die-cast body combines the strength needed to protect the precision internal components with compact size and light weight. For convenience, controls which are used most frequently—the gain switch, preset white balance switch and color bar switch—are on the front of the camera. So that the camera cable does not get in the way, it plugs in at an angle.

**SSG circuit.** The SSG is incorporated in a JVC-designed IC with excellent stability. This fully conforms to the RS-170A standard and is equipped with a color framing pulse output which can be switched on and off. A digital H/V variable blanking width circuit is also provided.

**2H vertical contour correction circuit.** For improved picture sharpness and an even better S/N, a 2H vertical contour correction circuit with a comb filter, a level dependent circuit and noise slice circuit are provided.

\* Registered trademark of N.V. Philips



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**RS-189A color bar circuit.** Together with this SSG circuit, the KY-320BU is equipped with a split-type color bar generator which conforms to RS-189A; these features allow the camera to be incorporated in an existing broadcast camera system.

**Color matrix masking circuit.** The accurate reproduction of color is further improved by the color matrix circuit.

## OTHER FEATURES

- H/V dynamic shading correction circuit
- Frame shading correction circuit
- Auto dynamic shading correction when X2 extender is used (specific lenses only)
- ABL (Auto Black Level) On-Off Switch
- R/G/B flare correction circuits
- ABC (Auto Beam Control) circuit
- Master black level control potentiometer
- Optical turret filter (3200K, 5600K, 5600K + 25% ND)
- Zebra display video level indicator (on/off switchable)
- Video recorder triggering mode select switch (with 3 positions)
- VTR start/stop switch
- Video recorder power-save/camera preheating circuit
- Audio monitor jack
- Hot-shoe type microphone connector incorporating power supply terminal (for the M-K50U microphone)
- Test signal generator
- Tube heater protection circuit

\* Registered trademark of N. V. PHILIPS

## Accessories

- A-22x12.5** 22:1 with
- BERM** 2X extender
- A-14x9** 14:1 zoom lens with
- BERM** 2X extender
- A-16x9.5** 16:1 teleconferencing
- BMD-D9** lens
- A-18x8.5** 18:1 zoom lens with
- BERM-9** 2X extender
- AA-C50U** AC adaptor/charger
- CB-95** Molded shipping case
- DC-C50U** Rechargeable NiCad battery (3.5AH)
- ECM-025F** 25' lens cable (A16x9.5BMD-D9 to RMD-2)
- ECM-050F** 50' lens cable (A16x9.5BMD-D9 to RMD-2)
- ECM-100F** 100' lens cable (A16x9.5BMD-D9 to RMD-2)
- FM-ZS14U-II** Studio conversion kit A14x9 BERM-9
- HZ-510U** 10:1 zoom lens
- HZ-516U** 16:1 zoom lens
- HZ-CA23U** C-mount adaptor
- HZ-E512U** 12:1 zoom lens with 2X extender
- HZ-FM12U** Cable drive manual focus control
- HZ-NK23U** Nikon lens adaptor
- HZ-ZS12U** Cable drive servo zoom control
- KA-3** Component adaptor
- KA-500U** Tripod mounting plate (3/8" or 1/4")
- KA-D50U** Battery adaptor (DC-C50U)
- KM-2000U** Special effects generator
- KA-M50U** Pistol handgrip for M-K50U
- M-K50U** "Hot Shoe" microphone
- PK-C320BU** Board kit for KY-320B
- PK-C950BU** Board kit for KY-950B
- Q-95** Battery bracket for B-20 battery
- RM-D2** Remote control unit (A16x9.5BMD-D9 Lens)
- RS-500U** Camera remote control
- RS-L501** Local control panel for RS-500U
- RS-T900U** Triax unit with chroma key out
- UC-1003U** Rackmount adaptor
- UM-P1004U** Rackmount for RS-L501
- VC-511BU2** 14-pin to 10-pin camera cable (2m)
- VC-512BU** 14-pin to 14-pin camera cable (4m)
- VC-544U** RCU cable (65')
- VC-545U** RCU extension cable (160')
- VC-582BU** 10-pin to 10-pin extension cable (33')
- VC-586U** 12V power extension cable (16')
- VC-589BU** 14-pin to 14-pin extension cable (33')
- VC-454U** 26-pin cable to KA-3
- VF-P915U** 1.5" electronic viewfinder
- VF-550U** 5.5" studio viewfinder

# COLOR CAMERA

## SPECIFICATIONS (KY-320BU)

- Optical System:** f/1.4 3-tube R/G/B prism system (with quartz filter)
- Focusing/Deflection System:** Electrostatic focusing, electromagnetic deflection
- Pickup Tubes:** 2 2/3" S-M Plumbicon\* (S4803) X3
- Encoder:** NTSC (I/Q encoder)
- Synchronizing System:** Internal: Built-in SSG (conforming to RS-170A) External: VBS or BB
- Lens Mount:** Bayonet
- Sensitivity (typical):** f/4.5 at 2000 lux, 89.9% reflectance
- Minimum Illumination (typical):** f/1.7, 38 lux (3.6fc) (+ 18dB On, 89.9% reflectance)
- Signal-to-Noise Ratio (typical):** 57dB (contour correction Off, gamma 1, bandwidth 4.2MHz, Matrix Off, I/Q Off)
- Horizontal Resolution:** 650 lines (G CH center)
- Registration:** Zone 1: Within 0.1% (circle 80% of picture height) Zone 2: Within 0.2% (circle of picture width) Zone 3: Within 0.3% (area outside Zone 2)
- Contour Correction:** Horizontal: Dual-edged Vertical: 2H, with comb filter
- Color Bar Generator:** Split bar (100% white) /full field (75% white) switchable
- Optical Filters:** Closed, 3200K, 5600K, 5600K + 25% ND
- Gain Boost:** 0dB, +9dB, +18dB
- Variable Blanking:** H: 10.6µs/10.8µs/10.9µs switchable V: 18H/19H/20H switchable
- Input Signals:** Return Video Signal (VBS): 1.0V p-p, 75 ohm Genlock Signal: VBS (1.0V p-p, 75 ohm) or BB (0.43V p-p, 75 ohm) Microphone Signal: -52dBm, 600 ohm
- Output Signals:** Composite Video Signal (VBS): 1.0V p-p, X2 (BNC/14-pin connector) Test Signals (VS or VBS): R, G, B, -G, ENC Audio Signal: -52dBm, 600 ohm balanced/-20dB, unbalanced or balanced (switchable) Audio Monitor Signal: 8 ohms, -20dB VCR Control Signal: Contact or 4V supply (switchable)
- Power Supply:** +12VDC (10.5 to 17V)
- Power Consumption:** 1.45A
- Ambient Temperature:** -20 to +50°C (-4 to +122°F)
- Weight:** 9 lbs. (4.1kg)
- Dimensions:** 4 7/16" (W) x 10 3/4" (H) x 11 13/16" (D) (115 x 271.5 x 299mm)

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## COLOR CAMERA

### FEATURES

- LOC Diode Gun Plumbicons\*
- Modular Docking Camera for Wide Variety of ENG, EFP and Remote Van Applications
- Component Video Output, Including the MII Format as well as Composite Video Output



KY-80U

### KY-80U THREE-TUBE PLUMBICON CAMERA FOR DOCKING VCR

The KY-80U three-tube Plumbicon camera was designed to dock with the MII component recorder. By installing a camera adaptor or triaxial cable adaptor, it can be used as a system camera for use in EFP applications.

Pickup tubes are LOC diode gun M-S Plumbicons with improved picture quality through component signal processing, 700 lines of resolution and a signal-to-noise ratio of 59dB.

**User Friendly Features for ENG, EFP and OB Van Applications.** Ease of operation during shooting is enhanced for the professional camera person thanks to the extensive incorporation of microprocessors specifically designed for controlling registration, auto-iris, auto-shift, auto-black, and auto white functions.

Inside the viewfinder, a safety area is clearly marked for ease of shooting, while the entire scene can still be viewed in the underscanned picture. This information is displayed by the built-in character generator which includes self-diagnostics, status and mode displays.

Also new to ENG cameras for camcorder applications is a power-operated dual

filter system (ND and color) which provides simplified operation when the camera is used with a remote control unit.

### High Performance Audio Capabilities.

To provide the high level of audio performance required to complement component video, the KY-80U incorporates as standard a variety of advanced audio features, including two-channel audio input at the camera adaptor.

\*Plumbicon is a registered mark of N.V. Philips.

### MI-F30U Automatic Fader

#### FEATURES

- 3-Bus Crosspoint Matrix System
- 2-Channel Gang Operation
- Over and Preset Transition Rates Are Variable From 0 to 999 Frames and Able to Settle  $\pm 1$  Frame Tolerance
- Transition From Program-Bus to Preset-Bus Has 4 Modes: V Cut, Cross Fade, Fade Cut, Cut Fade
- States of Cross Point, Over and Preset Transition Rate and Transition Mode are Able to be Memorized to 100 Patterns and Each State is Easily Able to Play Back
- 3 Kinds of General Purpose Interface (GPI) Mode (Over Trans/Preset Trans/Preset Cut)
- GPI and Serial Interface is Standard

### SPECIFICATIONS KY-80U

**Pick Up Tubes:** MS, DG  $\frac{2}{3}$ " P60 xQ 3457 (KY-80)  
**Optical System:**  $\frac{2}{3}$ " f/1.4 prism  
**Optical Filter:** 1) ND  
Close/25%/100%/OP1  
2) Color 3200/4500/5600/OP2  
**Sensitivity:** f/4.5 2000 lux  
**Signal-to-Noise:** 59dB  
**Gain Boost:** 0/ +9/ +18dB  
**Registration:** I: 0.05%, II: 0.1%, III: 0.2%  
**Horizontal Resolution:** 700 lines  
**Geometric Distortion:** I: 0.5%, II, III: 1%  
**Power Requirement:** 24W, 12VDC, 2A  
**Ambient Temperature:** -20 ~ +50°C  
**Weight:** 4.5kg (with VTRAD w/o VF)  
5.4kg (with VTRAD with VF)

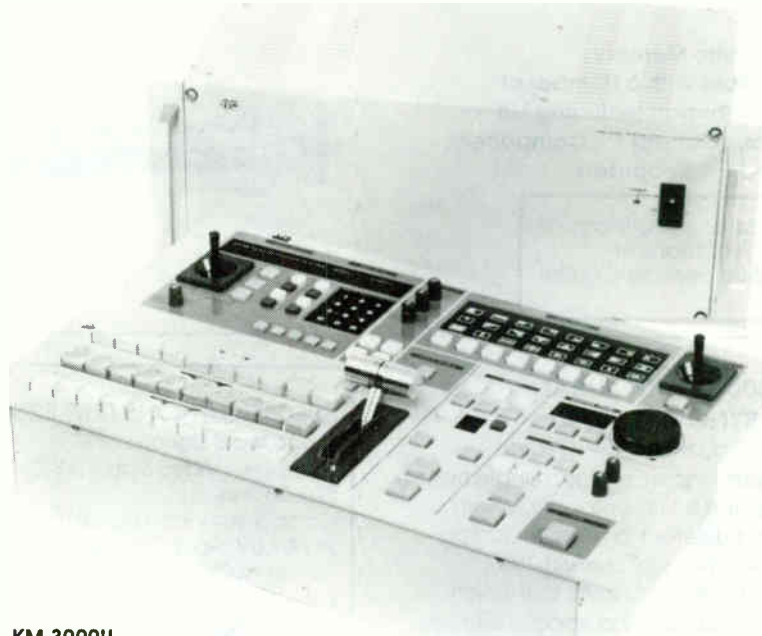
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## COMPONENT POST PRODUCTION SWITCHER

### FEATURES

- Eight Component Video Inputs
- 23-Wipe Patterns
- Hard/soft Edges and Borders
- Chroma Keyer
- Luminance Keyer
- Color Matte Generator
- Color Bar Generator
- RS-422 Serial Interface



KM-3000U

### KM-3000U COMPONENT POST PRODUCTION SWITCHER

The KM-3000U Component Post-Production Switcher answers the industry's demand for switchers which can process component signals for improved picture.

The KM-3000U has eight Y/R-Y/B-Y component video inputs. Three of these can be switched to accept R/G/B signals for the DSK (downstream keyer) input. There are 23 wipe patterns, hard/soft edges and borders. Manual or auto dissolve is possible, and four of the wipe patterns can be positioned as required.

A chroma keyer, luminance keyer, color matte generator (background color, border color, DSK color) and color bar generator are standard. The built-in sync generator conforms to the RS-170A standard. In auto-transition, the Mix/Wipe, DSK and Fade timing can be set between 0 and 255 frames, using either a rotary dial or numeric keypad.

The program buses and preset/preview buses are flip-flop buses making possible

smooth scene transitions. For greater efficiency in editing, up to 16 panel setups can be stored in memory using the numeric keypad. The hue, saturation, luminance, duration and border width can also be input using the numeric keypad, the joysticks, or the switches. Connection to the editor can be made through the GPI interface as well as the RS-422 serial interface.

### SPECIFICATIONS

#### Video Inputs:

8 Program: Y/R-Y/B-Y, 0.7V p-p, 75 ohms. Input 6.7.8 can accept R/G/B signal by selection  
3 Key: VB, 0.7V p-p, 75 ohms. Input 6.7.8 has key input.  
2 DSK: RGB/Y/R-Y/B-Y  
Ext Wipe: VB, 0.7V p-p, 75 ohms

#### Video Outputs:

2 Program: Y/R-Y/B-Y 0.7V p-p, 75 ohms, program-2 is selectable between key bus output  
Preview: 1 switchable VBS, 1.0V p-p, 75 ohms, Y/R-Y/B-Y, 0.7V p-p, 75 ohms  
Y/C Dub: Y-1.0V p-p, 75 ohms.  
C-0.3V p-p, 75 ohms  
Composite: VBS, 1.0V p-p, 75 ohms  
Chroma Key: VB, 0.7V p-p, 75 ohms

#### Wipe Patterns: 23

**Signal-to-Noise:** 60dB (100kHz-4.5MHz) measured by Rohde Schwarz noise meter

**TV Standard:** NTSC RS-170A

**Power:** 120VAC, 50-60Hz, 40W

**Dimensions:** 482mm(W) x 176mm(H) x 350mm(D)



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## FEATURES

- Single Frame Memory
- Compatible With a Number of Different Formats Including MII
- Time Base Correct 1", Component, 3/4", and 1/2" Recorders

**KM-F250U** Multiformat Frame Synchronizer  
**RM-P250U** Remote Control Unit

# MULTIFORMAT FRAME SYNCHRONIZER



## KM-F250U MULTIFORMAT FRAME SYNCHRONIZER

The KM-F250U Multiformat Frame Synchronizer incorporates a single frame memory, and is fully compatible with a number of different formats, including MII. It is designed for use with the RM-P250U Remote Control Unit which provides for a variety of special effects.

The multiformat transcoder in the KM-F250U is most useful for editing various formats with a variety of VCRs, and the KM-3000U Component Switcher with its RS-422 serial interface for VCR editing controllers.

The KM-F250U utilizes a 1M byte memory chip as its 1 frame memory, and can time-base correct errors in 1", 3/4", 1/2" and MII VCRs. Its inputs include composite, Y/C, and component inputs. With its multiformat transcoder function, the corresponding outputs are provided. If the composite signal is input, then composite, Y/C and component signals are output.

The signal processing method complies with CCIR 601 (4:2:2) using an 8-bit 13.5MHz sampling. The sync generator conforms to the RS-170A standard. Dropout compensator, field and frame freeze functions are provided as standard.

The RM-P250U Remote Control Unit is designed for use with the KM-F250U, providing special effects such as negative/positive inversion, frame freeze, field freeze, and strobe.

## SPECIFICATIONS (KM-F250U)

### Video Input Signals:

Composite Video Signal (VBS) x1 (1.0V p-p, 75 ohms)  
Component Video Signal (Same Phase) x1 (Y: 1.0V p-p, 75 ohm/R-Y, B-Y: 0.7V p-p, 75 ohm 100% Color Bar R-Y, B-Y: 0.525V p-p, 75 ohm 75% Color Bar)  
Y/C Dub Signal (C=688kHz) x1 or separate Y/C signal (C=3.58MHz) x1 (Y: 1.0V p-p, 75 ohm/C: 0.286V p-p, 75 ohm)

### Video Output Signals:

Composite Video Signal (VBS) x1 (1.0V p-p, 75 ohms)  
Component Video Signal (Same Phase) x1 (Y: 1.0V p-p, 75 ohm/R-Y, B-Y: 0.7V p-p, 75 ohm 110% Color Bar R-Y, B-Y: 0.525V p-p, 75 ohm, 75% Color Bar)  
Y/C Dub Signal (C=688kHz) x1 (Y: 1.0V p-p, 75 ohm/C: 0.85V p-p, 390 ohm) or Separate Y/C Signal (C=3.58MHz) x1 (Y: 1.0V p-p, 75 ohm/C: 0.286V p-p, 75 ohm)

### Genlock Input Signal:

BB x1 (0.43V p-p, 75 ohm or high)

### Genlock Output Signals:

Advanced sync (4H or 8H advanced) x1 (4.0V p-p, 75 ohm)  
BB x1 (0.43V p-p, 75 ohm)  
Reference composite sync x1 (4.0V p-p, 75 ohm)  
SC x1 (1.0V p-p, 75 ohm)

### DOC Input Signal:

RF Signal x1 (0.2 ~ 1.0V p-p, 75 ohm)

### Signal Format:

NTSC (Conforms to the RS-170A)

### Frequency Response:

Composite Mode Y: 4.0MHz-3dB  
Component Mode Y: 5.5MHz-3dB/R-Y, B-Y: 2.5MHz-3dB  
Y/C Mode Y: 5.5MHz-3dB

### Signal-to-Noise Ratio:

58dB p-p/rms (100kHz ~ 4.0MHz)

### TBC Range:

525H

### Genlock Jitter:

Less than 2° p-p

### Input Select:

3 positions selectable (composite, component, Y/C)

### Field Freeze:

Provided with the non lock illuminated push switch

**Frame Freeze:** Provided with the non lock illuminated push switch

**Video Level Control:** Variable more than  $\pm 35$ IRE

**Chroma Level Control:** Variable more than  $\pm 35$ IRE

**Hue Control:** Variable more than  $\pm 20^\circ$

**Set-Up Level Control:** Variable more than  $\pm 10$ IRE

**Video Timing:** Variable more than  $\pm 1.5\mu s$

**External Genlock Mode:** H Phase: Variable more than  $\pm 2\mu s$

SC Phase: Variable more than 360°

**Power Requirement:** 120VAC, 50/60Hz

**Power Consumption:** 40W

**Operating Temperature:** 5°C to 40°C

**Storage Temperature:** -20°C to 60°C

**Dimensions:** 487(W) x 52(H) x 438(D)mm

**Weight:** 6.8kg

**Video Level Control:** Variable more than  $\pm 35$ IRE

**Chroma Level Control:** Variable more than  $\pm 35$ IRE

**Hue Control:** Variable more than  $\pm 20^\circ$

**Set-Up Level Control:** Variable more than  $\pm 10$ IRE

**Strobe Time Set:** Variable

**Nega/Posi Select:** Provided with non lock illuminated push switch

**Input Select:** 3 positions selectable (composite, component, Y/C)

**Operate/By Pass Select:** Provided with the non lock illuminated push switch

**Field Freeze:** Provided with the non lock illuminated push switch

**Frame Freeze:** Provided with the non lock illuminated push switch

**Max. Distance:** 30m between the KM-F250U and the RM-F250U

**Power Consumption:** 12VDC, 70mA/-12VDC, 5mA (Supplied from the KM-F250U)

**Dimensions:** 113(W) x 61(H) x 198(D)mm

**Weight:** 0.9kg

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# TIME BASE CORRECTOR/ TIME CODE GENERATOR

## SA-T300U DIGITAL TIME BASE CORRECTOR FEATURES

- The SA-T300U digital TBC uses component input signals (Y/R-Y/B-Y) to output both component (Y/R-Y/B-Y) and composite signals
- Wide range correction -32H p-p time base correction of the base bands of the Y and C (R-Y/B-Y) signals

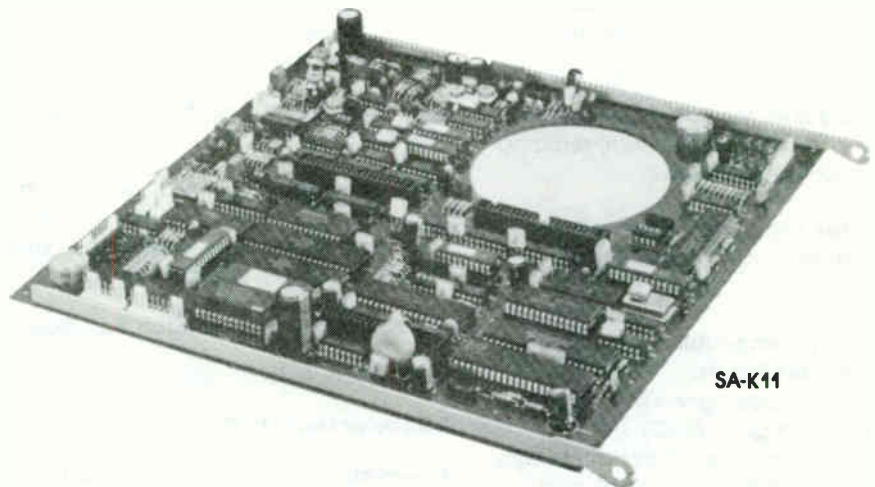
- The reproduced signal is A/D converted by 8-bit sampling at 858 fH for almost imperceptible bandwidth and S/N degradation due to quantization noise
- Compact and lightweight, the SA-T300U occupies only one unit in an EIA 19" rack

## SPECIFICATIONS (SA-T300U)

Digital Sampling: 8-bit/13.5MHz  
Bandwidth (Y): +0/-3dB at 4.5MHz  
(C): +0/-3dB at 1.5MHz  
Correction Window:  $\pm 16$  lines  
Signal-to-Noise Ratio: More than 56dB  
Differential Gain: Less than 2%  
Differential Phase: Less than 2°  
K factor (2T pulse): 2%  
Y/C delay: Less than 20 nsec  
**Input Video Signal**  
Y: 1.0V p-p, 75 ohms unbalanced  
R-Y: 0.7V p-p, 75 ohms, unbalanced  
B-Y: 0.7V p-p, 75 ohms, unbalanced  
**Output Video Signal**  
Y: 1.0V p-p, 75 ohms unbalanced  
R-Y: 0.7V p-p, 75 ohms, unbalanced  
B-Y: 0.7V p-p, 75 ohms, unbalanced  
**Composite Video:** 1.0V p-p, 75 ohms, unbalanced

## SA-K11 TIME CODE GENERATOR/READER MODIFICATION KIT FEATURES

- Generation and readout of SMPTE (NTSC)/EBU (PAL) time codes
- Generation and readout of time code data, generation of user's bits
- Jam sync for recording by splicing time code
- Superimposition of time code on monitor (video output 2 only)
- Switching of counter function between time code base and control (CTL) signal base
- Time code readout from  $\frac{1}{5}$  to 20 times normal tape playback speed. When the tape speed is below  $\frac{1}{5}$ , the time code counter is switched automatically to the control (CTL) signal counter



SA-K11

The SA-K11 Time Code Generator/Reader Modification Kit has been designed for the modification of the JVC CR-850U/CR-600U NTSC  $\frac{3}{4}$ " VCR or PR-900E PAL  $\frac{3}{4}$ " high-band VCR.

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# MULTIFORMAT COLOR MONITOR

## FEATURES

- Accepts Composite Video Signals
- Video Signals of MII Format
- RGB Analog and TTL Signals
- Front Panel Service Adjustment
- Mountable in an EIA Standard Rack



VM-R190SU

## VM-R190SU 19" V COLOR VIDEO MONITOR

Featuring tremendous convenience and versatility, the VM-R190SU from JVC accepts composite video signals, component video signals of MII format and both RGB analog and TTL signals, in addition to giving front-panel service adjustment controls and being encased in a heavy-duty metal cabinet—all promoting superior performance to satisfy the essential monitoring requirements for broadcast stations and professional video production houses.

**19" V in-line gun.** Medium-high-resolution CRT with a dot pitch of 0.4mm, realizing clearer-than-ever images.

**Comb filter.** Minimizes cross-color distortion for an improved resolution of more than 600 lines.

### Multi-format compatibility accepting a variety of video inputs:

1. Composite video signals (BNC/8-pin)
2. RGB analog signals (BNC)
3. RGB TTL signals (9-pin compatible with IBM PC CGA 8/16 color mode), and
4. Component video signals of:  
MII (12-pin)  
Betacam (12-pin) and  
Other component video signals (BNC)

**Internal/external sync.** Bridged connection is also featured.

**Pulse-cross circuit.** The sync phase can be shifted  $\frac{1}{4}$  horizontally and  $\frac{1}{2}$  vertically so that the required portion of the sync signal can be observed.

**Front panel service adjustment controls.** Easy adjustment after installation.

**Notch filter.** Substantially reduces horizontal noise, or "dot-interference" resulting when a video signal is applied.

**Underscan switch.** Enables full-screen check by switching between overscan and underscan.

**Tally lamp.** Remote-controlled, and is provided.

**Remote controls.** Input, scan, sync (internal/external) and color (monochrome/color) switchings, and lighting of the tally lamp are possible.

**Horizontal AFC select switch.** Fast/Slow

**Disc switch.** Auto/50Hz/60Hz

**RGB select switch.** TTL/Analog

**Mountable.** EIA standard rack (rack-mount adaptor optionally available)

**Metal cabinet.** Minimizes effect of various interferences, while assuring durability.

\* IBM is a registered trademark of International Business Machines Corporation.

## SPECIFICATIONS

### Type:

Color video monitor

### Color System:

NTSC system

### CRT:

19" V (diagonally measured), in-line gun medium-high resolution CRT, tri-dot pitch 0.4mm

### Power Requirement:

120VAC, 60Hz

### Power Consumption:

100W max.

### Horizontal Resolution:

More than 600 TV lines

### External Input Terminal

#### Composite Video:

(2 inputs) BNC/8-pin connector, 1.0V p-p, bridged output possible

#### RGB Analog:

BNC, 0.7V p-p, bridged output possible

#### RGB TTL:

9-pin D sub connector

#### Component Video:

(3 inputs) 12-pin connector (for MII), 12-pin connector (for Betacam), BNC (for R-Y/B-Y/Y)

#### Sync:

BNC, internal/external, sync on green, 1-4V p-p, bridged output possible

#### External Dimensions:

16 $\frac{1}{2}$ " (W) x 17 $\frac{1}{2}$ " (H) x 18 $\frac{5}{8}$ " (D)  
(418 x 449 x 473mm)

#### Weight:

TBD

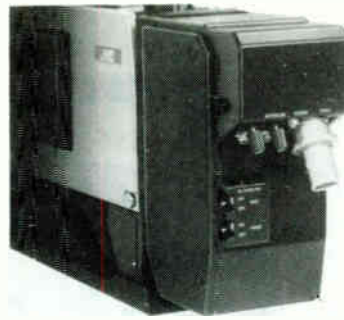


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## FEATURES

- Extends Broadcast Cameras up to 4,920' (1,500M)
- Links up to 12 Separate TV Network Studios to a Master Control Room
- Separate Chroma Keying Outputs for Each Camera
- Separate Intercoms for Engineer and Producer
- Automatic Phase Control



RS-T900U



## RS-T900U TRIAXIAL ADAPTOR

The RS-T900U Triaxial Adaptor for extending ENG, EFP and outside broadcast van cameras up to 4,920' (1,500m) away from their base stations, or for linking up to 12 separate TV network studios to a master control room in the same building.

In addition to extending mobility with lightweight cable while maintaining a S/N ratio of 55dB, the RS-T900U offers separate chroma keying outputs for each camera. Separate intercoms for engineer and producer, and automatic phase control are standard features.

**Prevents Signal Loss and Provides Chroma Key Capability.** Each camera that is connected to a triaxial adaptor automatically becomes a chroma key camera with individual monitor and chroma keying outputs on the back of the RS-T900U.

**Intercom That Links Producers, Engineers, and Talent.** The RS-T900U generates two intercom outputs so that engineers and producers may use separate channels. By allocating the production channel to the RS-500, the intercom operates on a two-wire or four-wire system for both channels.

**Complete Camera Set-up and Remote Control Package.** When combined with the RS-500 remote control unit, the RS-T900U provides everything needed for field production camera set-up and remote control operation at your fingertips. The two are compact and lightweight (10.6 lbs. for RS-T900U), mounting together in a standard EIA rack, and fully compatible with the Procram® line of cameras, including the KY-950B, KY-320B.

**Safety and Simplicity of Operation.** The RS-T900U has a safety feature which will automatically shut down the power once the cable is disconnected from the KA-9 camera connector. Also, a built-in safety feature is provided to prevent overloads by unintended operation.

## SPECIFICATIONS (RS-T900U)

### Frequency Response:

-3dB to 6MHz

### DG:

2% max.

### DP:

2° max.

### Signal-to-Noise Ratio:

55dB (with KY-950U) or 53dB (with KY-950E)

### Input Signals

#### Genlock Signal:

VBS, 1.0V p-p, 75 ohms, or BB, 0.45V p-p, 75 ohms. Loop-through output.

#### Intercom:

Prod. 2/4-wire system. 0/+ 6dBm, 600 ohms, balanced.

#### TO RS-500

#### Return Video (AUX):

VBS, 1.0V p-p, 75 ohms. Loop-through output

#### Tally Signal:

Make-contact or power supply (5 to 24VDC or 6VAC)

#### PGM Audio:

-10dBm, 10K ohms, balanced

#### Power Supply:

220/240V (PAL) or 120VAC (NTSC), 50/60Hz

#### Power Consumption

RS-T900U main unit: Approx. 32W

#### Camera adaptor:

Approx. 9W

#### Weight:

RS-T900U main unit:

9.1 lbs. (4.1kg)

#### RS-500:

10.6 lbs. (4.8kg)

#### Camera adaptor:

5.3 lbs. (2.4kg)

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## FEATURES

- HQ (High Quality) circuit incorporated for operation in the VHS mode
- Rugged construction using aluminum die-cast body
- AEF (Automatic Editing Function) for clean assemble edits
- Audio level meters and LCD electronic counter
- Independent inputs for Hi-Fi and normal audio
- Hi-Fi audio recording can be defeated
- Input switching between Camera/Line/YC
- Four audio recording level controls, allowing control of both Hi-Fi and normal audio for each channel
- Two standard 6mm microphone jacks
- Dolby\*\* noise reduction system for normal audio
- Switchable between VHS and S-VHS modes (SP mode only)
- Long pause/still mechanism
- Comprehensive warning system

# S-VHS PORTABLE RECORDER



BR-S410U

## BR-S410U

### S-VHS Portable Recorder

With its superior picture quality realized by the S-VHS format, and for its mobility and flexibility, the BR-S410U is sure to be appreciated by telejournalists, production houses, businesses, institutions, schools and other organizations. The BR-S410U can be integrated with a specific camera and used as a camcorder, or used separately as a portable VCR. For systems flexibility, it also functions as a feeder in S-VHS editing systems through use of an exclusive editing control unit.

### More than 400 Lines of Horizontal Resolution.

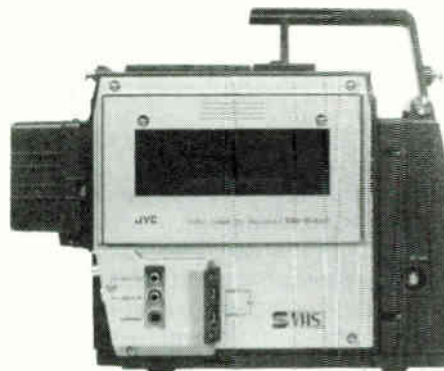
Conforming to the S-VHS format, the BR-S410U offers a picture with well over 400 lines of horizontal resolution which renders dramatic improvements in detail, clarity and presence, and fully justifies professional applications.

### As a Camcorder or a Portable.

The BR-S410U forms a compact camcorder in combination with a specific camera, or can be used as a separate portable recorder together with an existing camera.

### Systems Flexibility.

Equipped with input/output connectors for both the composite and separated Y/C signals\*,



the BR-S410U flexibly interfaces with other video equipment. High quality software programs can be produced using the BR-S410U as the master player and a current VHS or 3/4" U-VCR editing recorder (with or without Y/C 358 connectors), together with an optionally available editing controller. Upcoming S-VHS editing recorders will further simplify editing.

\* A Y/C filtering technique incorporated under license from Faroudja Laboratories, Inc.

\*\* Dolby noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation. Dolby and the Double-D symbol are the trademarks of Dolby Laboratories Licensing Corporation.

## SPECIFICATIONS

**Format:** VHS/S-VHS standard

**Signal System:** NTSC

**Record/Play Time:** 120 minutes (with T-120/ST-120 cassette)

**FF/REW Time:** Within 4 minutes (with T-120 cassette)

**Power Source:** 12VDC

**Power Consumption:** 14W

**Dimensions:** 13<sup>1</sup>/<sub>8</sub>" (W) x 9<sup>1</sup>/<sub>16</sub>" (H) x 5" (D)

(248.4 x 352 x 127mm)

**Weight:** 10.4 lbs. (4.7kg) (12.3 lbs./5.6kg with NB-G1)

### VIDEO

**Input:** 0.5—2.0V p-p, 75 ohms, BNC

**Output:** 1.0V p-p, 75 ohms, BNC

**Y/C Input:** Y: 1.0V p-p, 75 ohms

C: 0.286V p-p, 75 ohms (7-pin)

**Y/C Output:** Y: 1.0V p-p, 75 ohms

C: 0.286V p-p, 75 ohms (7-pin)

**Horizontal Resolution:** > 240 lines (VHS color)

> 400 lines (S-VHS color)

**Signal-to-Noise Ratio:** 45dB

**RF Out:** Channel 3 or 4 (VHF)

### AUDIO

**Line Input:** -6dB, 10K ohms, unbalanced (Hi-Fi and normal) RCA

**Line Output:** -6dB, < 1K ohm

**Microphone Input:** -67dBs, 3K ohms, unbalanced, 6mm dia.

### Hi-Fi Audio

**Frequency Response:** 20Hz-20,000Hz

**Dynamic Range:** > 80dB

### Normal Audio

**Frequency Response:** 40Hz-12,000Hz

**Signal-to-Noise Ratio:** > 44dB (with NR off)

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## FEATURES

- Heavy-duty mechanism using direct-drive motors and an aluminum chassis
- Separate Hi-Fi and normal audio inputs for recording independent soundtracks
- Automatic video head cleaning mechanism
- Independent meters for channel 1/channel 2 audio levels and video level/tracking
- Centralized indications for tape running, recording mode and warning
- Erasure prevention tab override
- Large tape guides
- Dolby® noise reduction for two-channel linear audio track

- Cleaning window provided in top panel for easy servicing
- Installation in a 19" EIA rack is possible



BR-S711U

## BR-S711U Hi-Fi Stereo S-VHS Recorder/Duplicator

The BR-S711U S-VHS recorder was developed to meet professional video requirements with its high picture quality. In addition to the high horizontal resolution of more than 400 lines, achieved by S-VHS picture improvement technology, the BR-S711U employs a separate Y/C input/output system which reduces luminance and chrominance signal interference and improves color reproduction. To complement its superlative picture, two-channel Hi-Fi and two-channel normal audio tracks are provided for flexible audio programming. In terms of reliability, systems flexibility and durability that professionals require, the BR-S711U more than fits the bill. Moreover, for its compatibility with conventional VHS, the BR-S711U will be appreciated by users as a dependable recorder, or duplicator in a dubbing system.

**High Picture Quality.** In addition to recording and playing back regular VHS signals in the SP (standard play) mode, the BR-S711U is capable of S-VHS recording and playback in the SP and EP (extended play) modes. S-VHS makes possible the recording and playback of video signals with higher resolution and better quality. When used in a serial code remote control system, switching between S-VHS SP, S-VHS EP and VHS SP

can be remote controlled.

**Hi-Fi Audio.** A pair of rotary heads is provided exclusively for the recording and playback of Hi-Fi audio signals with an extended frequency response and dynamic range as well as minimal wow and flutter. The Hi-Fi audio recording feature can be switched on and off locally or by using the serial remote control.

**Dual Remote Control Systems.** Parallel and serial remote controls can be used. The parallel model has a VTR information feedback function and uses a 34-pin connector, while the serial model is connected using an RCA pin plug for easy setting up of dubbing systems. (Both remote controls are optional.)

**Front Panel Test Points and Hour Meter.** To facilitate testing and maintenance, test points for Hi-Fi audio head output, video head output, Hi-Fi audio output and normal audio output are provided on the front panel together with an hour meter showing the total running time up to 2000 hours.

## SPECIFICATIONS

### GENERAL

**Format:** S-VHS/VHS standard  
**Power Consumption:** 55W (Max. 67W with remote control unit, 12VDC, 550mA)

**Power Requirement:** 120VAC, 50/60Hz

**Dimensions:** 16<sup>15</sup>/<sub>16</sub>" (W) x 7<sup>7</sup>/<sub>16</sub>" (H) x 20<sup>5</sup>/<sub>16</sub>" (D)  
(429 x 188 x 515mm) (Excluding protrusions)

**Weight:** 48.4 lbs. (22.0kg)

**Fast Forward/Rewind Time:** < 4 min. for 120 min. tape

### VIDEO

**Video Signal System:** NTSC-type color signal/NTSC-type Y/C signal

**Input Line Video:** 0.5 ~ 2.0V p-p, 75 ohms, unbalanced

**Output Line Video:** 1.0V p-p, 75 ohms, unbalanced

**Signal-to-Noise Ratio:** > 45dB (SP)

**Horizontal Resolution:** > 400 lines (S-VHS)  
> 240 lines (VHS)

**External Sync Input:** 0.5 ~ 4.0V p-p, 75 ohms, unbalanced

### AUDIO

**Input (line):** -6dBs, 10K ohms, unbalanced

**Output (line):** -6dBs, 10K ohms, unbalanced (Normal/Hi-Fi)

**Signal-to-Noise Ratio:** > 44dB (NR-off) (Normal) (with 3% distortion)

**Frequency Response:** 40 to 12,000Hz (Normal) 20 to 20,000Hz (Hi-Fi)

### CONNECTORS

**Video Input/Output:** BNC-type connector

**Y/C Input/Output:** 7-pin connector

**Audio Input/Output:** RCA-type pin connector

**Audio Monitor:** RCA-type pin connector



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# MULTIFORMAT MONITORS

## 14" Color Video Monitor

- Internal/external sync is possible. Bridged connection is also featured
- Pulse-cross circuit; the sync phase can be shifted  $\frac{1}{4}$ " horizontally and  $\frac{1}{2}$ " vertically so that the required portion of the sync signal can be observed
- Notch filter substantially reduces horizontal noise, or "dot-interference" resulting when a video signal is applied
- Scan size switch enables full-screen check by switching between widescan and narrowscan
- Tally lamp provided
- Remote control of input, scan and switchings, and lighting of the tally lamp is possible
- Horizontal AFC select switch
- Optional EIA rackmounting



VM-R140SU

**Multi-Format Compatibility.** In addition to accepting a composite video input (BNC/8-pin), the VM-R140SU also accepts the following signals:

- 1) Component video signals of: R-Y/B-Y/Y; 12-pin connector (for MII); 12-pin connector (for BETACAM); BNC; Y/C; 7-pin connector (for S-VHS)
- 2) RGB analog signals (BNC)

**High-Quality Pictures.** The VM-R140SU incorporates a 14" medium-high resolution CRT with a 0.43mm dot-pitch.

## SPECIFICATIONS

**Type:** Color video monitor  
**Color System:** NTSC system  
**CRT:** 14" (diagonally measured), in-line gun medium-high resolution CRT, stripe-dot pitch 0.43mm  
**Power Requirement:** 120VAC, 60Hz  
**Power Consumption:** TBD  
**Horizontal Resolution:** > 500 lines  
**External Input Terminal:** Composite Video: (2 inputs) BNC/8-pin connector; 1.0V p-p, bridged output possible  
**Component Video:** (4 inputs)  
1) R-Y/B-Y/Y  
**RGB Analog:** BNC; 0.7V p-p, bridged output possible  
**Sync:** BNC; internal/external, separate sync, 0.3V p-p  
**External Dimensions:** TBD  
**Weight:** TBD

## TM-91SU

### 9" COLOR VIDEO MONITOR

- Multiple input terminals include:
  - 1) Composite video signals: BNC (bridged-connection possible)/8-pin
  - 2) Y/C separate video signals: 7-pin (for S-VHS)
  - 3) Audio input terminal: RCA (bridged-connection possible)/8-pin
- An 8cm round speaker provided
- Metal cabinet minimizes interference
- Two TM-91SU units can be mounted in an optional EIA-standard rack

**Ready for S-VHS.** The TM-91SU employs a Y/C separate input terminal to accommodate S-VHS, the high-quality video format. This video signal separation reduces crosstalk and dot-interference between the Y and C signals, resulting in improved picture quality in terms of color.



TM-91SU

**High-Quality Pictures.** The TM-91SU incorporates a 9" CRT with a 0.47mm dot-pitch. In addition, a host of advanced circuitry including a comb filter that reduces cross-color distortion assures high-fidelity color reproduction. As a result, superior horizontal resolution of more than 300 lines is achieved.

## SPECIFICATIONS

**Type:** Color video monitor  
**Color System:** NTSC system  
**CRT:** 9" (diagonally measured), in-line gun medium-high resolution CRT, stripe-dot pitch 0.47mm  
**Power Requirement:** 120VAC, 60Hz  
**Power Consumption:** TBD  
**Horizontal Resolution:** > 300 lines  
**EXTERNAL INPUT TERMINAL**  
**Composite Video:** (2 inputs) BNC/8-pin connector; 1.0V p-p, bridged output possible  
**Y/C Separate Video:** 7-pin connector  
**Audio:** RCA; 390mVRMS (-6dBs), high impedance, bridged output possible  
**Audio Output:** 1W  
**Speaker:** 8cm round x 1  
**External Dimensions:** 223(W) x 227(H) x 343(D)mm  
**Weight:** TBD

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# CCD COLOR CAMERA

## FEATURES

- Three CCD's Housed in Lightweight, Die-cast Aluminum Body Designed to Resist the Rigors of Field Production
- Self Contained, Full Function Component or NTSC Camera for ENG or Studio
- Large Viewfinder and Remote Control
- MII Docking VCR can be Attached with Optional MII Format Adaptor



KY-20U

## KY-20U CCD COLOR CAMERA

KY20-U series of solid-state cameras incorporates three charged couple devices (CCDs) housed in a lightweight, die-cast aluminum body designed to resist the rigors of field production.

At the heart of this series is a CCD camera which reaches a level of performance higher than that previously available to video professionals.

The KY-20U is a self-contained, full function component or NTSC camera for ENG or studio applications requiring a large viewfinder and remote camera control. An MII docking VCR can be attached to the KY-20U by replacing the standard camera adaptor with an optional MII format adaptor.

Included are such features as an IQ encoder, RS-170A type SSG, 2H vertical contour circuit, color matrix circuit, genlock circuit, and most important, the component output signal.

A S/N ratio of 56dB, a resolution of more than 530 lines for all channels, and a registration error of less than 0.5% in all zones, these cameras feature performance that makes them ideal for

VCR recording as well as providing RGB input for image processing systems. The minimum illumination required is 23 lux (2fc) using the standard 13X lens when gain is boosted to +18dB.

Auto-setup and self-diagnostics make these cameras easy-to-operate and user-friendly. Stereo audio inputs are provided for use with portable VCRs from JVC, including the MII portable recorder.

## SPECIFICATIONS

**Optical System:** f/1.4 RGB prism system  
**Pickup Device:** 2/3" interline-transfer CCD, 3-chip  
**Encoder:** NTSC (component R-Y/B-Y system, wide band)  
**Synchronizing System:**  
Internal: Built-in SSG conforming to RS-170A  
External: VBS or BB  
**Lens Mount:** Bayonet  
**Sensitivity:** f/5.6 at 2000 lux (186fc)  
**Minimum Illumination:** f/1.7 23 lux (2.1fc) at +18dB switch on  
**Signal-to-Noise Ratio:** 56dB typical  
**Horizontal Resolution:** 530 TV lines  
**Registration:** All area less than 0.05%  
**Input Signals:**  
Aux Video Signal: VBS  
Genlock Signal: VBS or BB  
Audio: -52dB (stereo selectable)  
Audio Monitor Signal: 8 ohm, -20dB  
**Output Signals:**  
Composite Video Signal: R/G/B, Y/R-Y/B-Y or Y/C 358 selectable  
Test Video Output Signal: Composite, R, G, B, Aux selectable (Internal switch)  
Audio Output Signal: -52dB balanced or -20dB unbalanced switchable  
**Electrical Shutter:** Built-in  
**Contour Correction:**  
Horizontal: Dual edged  
Vertical: 2H (with comb filter)  
**Color Bar Generator:** Full-field  
**Optical Filter:** Close, 3200K, 5600K, 5600K +25%ND  
**Gain Boost:** +9dB, +18dB  
**Diagnostic:** Built-in  
**Power Requirement:** +12VDC 1.4A (16.8W) (including 1.5" viewfinder)  
**Weight:** 3.0kg (camera head)

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## FEATURES

- Outstanding Picture Quality: 750 Lines Resolution, 58dB S/N
- Excellent Low Light Performance: 32 Lux 93.8 fc0 at +18dB
- Compact and Lightweight Diecast Construction
- High Quality Prism Optical System
- Full RS-170A SSG with Color Framing Output
- 2H Vertical Enhancement with Level Depend Circuit
- Split-Field Color Bars (RS-189A Standard)
- Built-In Genlock Circuit
- "Hot Shoe" Adjustable Viewfinder with Diopter
- Numerous Auto Circuits and Functions
- Full Complement of Studio Options



KY-210BU

## KY-210BU COLOR VIDEO CAMERA

**Excellent Picture Quality.** Utilizing three H4101 Saticon tubes (the same tubes used in popular KY-1900U cameras), JVC engineers have incorporated a high quality f/1.4 prism beam splitter to achieve a high resolution of 750 TV lines (G channel, center).

Picture sharpness is further improved through the use of a 2H vertical enhancement circuit. As with any enhancement circuit, a certain amount of noise is also enhanced. To eliminate this under low light conditions, a level depend circuit is incorporated which controls the enhancement, so that the pictures produced are sharp and well defined, yet quiet even under gain boost situations. At +18dB boost, the minimum illumination required is only 32 lux (3.8 fc) using the standard lens, which makes the KY-210BU one of the most sensitive three tube cameras available today.

To provide the most natural color reproduction possible, a linear matrix masking circuit is employed. Briefly, what it does is adjust the pickup characteristics of the camera to be identical to the human eye, compensating for the negative energy portion of the ideal color characteristics. (Without this circuit the camera cannot "perceive" the color picture the way the

human eye does). Camera performance in bright light is just as important as in low light, and the KY-210BU contains several circuits which achieve performance not equalled by other cameras in its class.

With the processing circuitry, the slope circuit compresses 300% video level to 110% so that the gradation in highlight sections is greatly improved.

An automatic black level (ABL) circuit always offers a sharp, black image even when shooting outside under bright lighting conditions.

A NAM-type servo iris circuit including a weighted detection circuit improves pictures taken outdoors in bright sunlight by placing greater emphasis on the illumination of the subject in the lower part of the frame.

### Compact, Light & Rugged Construction.

The KY-210BU incorporates a diecast aluminum body. Extensive use is made of miniaturized components, and the entire camera head weighs only 7.8 lbs. (3.5kg). Controls are logically placed, and protected from damage and mis-operation.

**RS-170A Color Framing.** The sync signal generator (SSG) in the KY-210BU conforms

to RS-170A specification. A color framing pulse, required in some editing systems, is output through the VCR connector. This assures the widest range of compatibility today, and with post-production systems in the future.

**Genlock Circuit.** To genlock the KY-210BU, simply plug-in a stable composite video signal to the genlock input on the camera. The camera will then be locked to the external source. To control the phase (color shift) of the camera, an adjustment is provided inside the camera to match it with the external source.

**Split Field Color Bars.** The KY-210BU has a built-in split field color bar generator, meeting the RS-189A standard. Color bars are useful for checking and making adjustments to color monitors and provide a consistent reference for checking the performance of the videocassette recorder. The advantages of split field bars (as opposed to full field) are as follows: Both 75% white and 100% white are displayed, making it easier to check these levels; The I & Q signals of the encoder are provided and easily displayed on the vectorscope; Virtually all broadcast and high-end production systems use the split field bars.



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**1.5" Electronic Viewfinder.** The VF-515BU is unique in that it combines the adjustability of the cable-connect type of viewfinder, with the advantages of the direct connect (Hot Shoe) system. The VF-515BU connects directly to the KY-210BU camera head without cables, thus eliminating cable related problems (such as RF interference, bad connections, etc.) It is also unique in that it is adjustable both horizontally and vertically and has both a flip-up eyepiece and a diopter. The diopter allows the eyepiece to be adjusted for people who wear eyeglasses.

Indications provided by the viewfinder are: Front tally lamp; Video recorder/camera battery warning; High sensitivity indication; Tape run/tape end warning; Peaking (with on/off switch).

## Wide Range Of Automatic Functions Auto-Shift Registration (Auto Centering).

Provides automatic adjustment of vertical and horizontal alignment (shift) of blue and red channels. Adjustment is accomplished by simply flipping a switch on the front panel. The circuit is digital, and registration data is stored in the camera's memory (battery back-up provided).

**Auto White Balance Circuit.** White color balance can be adjusted automatically by flipping a switch, or the camera can be operated on the "preset" position (3200K). White balance data is stored in the camera's memory circuit.

**Auto black balance circuit.** Flipping a switch automatically closes the iris and adjusts pedestal balance of the individual channels.

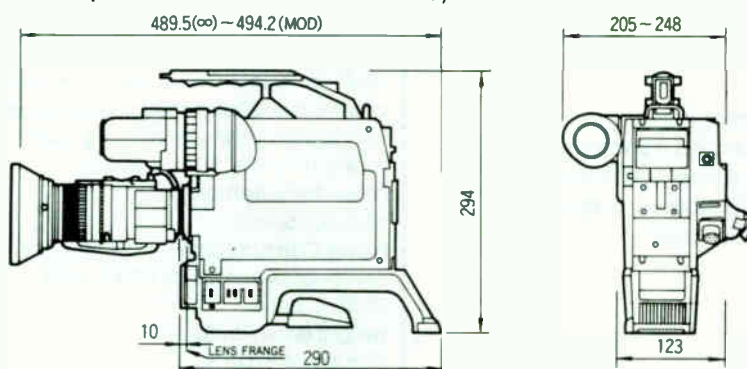
**Auto Beam Control Circuit.** Reduces or eliminates comet tails in most cases.

**Auto black level circuit.** The ABL circuit offers sharp black images even when shooting outdoors under bright conditions.

**Auto (Servo) Iris Circuit.** The iris responds quickly to objects with varied contrast and slowly for those with little contrast for natural automatic iris operation. The weighting detection circuit compresses the video signal level of the upper screen for smooth iris operation, with the NAM system (which controls the iris by separate R, G, and B signals) guaranteeing the correct response. The iris level can be switched to over (0.5/f-stop open) the normal setting.

To protect the pickup tubes, the iris closes automatically when the Operate switch is off, or when the color bar switch is on.

## Dimensions (with VF-515BU and HZ-E512U)



Unit: mm

# COLOR CAMERA

## SPECIFICATIONS

### COLOR VIDEO CAMERA KY-210BU

#### Optical System:

f/1.4 three-tube RGB prism system

#### Focusing/Deflection System:

Electrostatic focus/electromagnetic deflection

#### Pickup Tubes:

2/3" Saticon\* (x3) (H4101)

#### Encoder:

NTSC (IQ encoder)

#### Synchronizing System:

Internal: Built-in SSG conforming to

RS-170A with color framing pulse output

External: Composite video or black burst

#### Lens Mount:

Bayonet

#### Sensitivity:

f/4.0 at 2000 lux (186 fc)

#### Minimum Illumination:

f/1.6 32 lux (3.8 fc)

(+ 18dB switch On)

#### Signal-to-Noise Ratio:

58dB (Contour correction Off, Gamma 1, Bandwidth 4.2MHz, matrix off, I/Q off)

#### Horizontal Resolution:

750 lines (G ch center)

#### Registration:

Zone 1: Within 0.1% (circle 80% of picture ht.)

Zone 2: Within 0.2% (circle of picture width)

Zone 3: Within 0.4% (area outside Zone 2)

#### Input Signals:

Return video signal: VBS, 1.0V p-p, 75 ohms

Genlock Signal: Composite video (VBS, 1.0V p-p, 75 ohms) or black burst (B.B., 0.43V p-p, 75 ohms)

Microphone: -52dBm, 600 ohms unbal.

#### Output Signals:

Composite Video Signal: 1.0V p-p, 75 ohms (x2 from BNC and 14p connector)

Test Signal: R, G, B, -G, ENC

Audio Signal: -52dBm, 600 ohms unbalanced -20dBs, unbalanced (switchable)

Audio Monitor Signal: 8 ohms, -20dB

VCR control signal: Contact or 4V supply (switchable)

#### Contour Correction:

Horizontal: Dual-edged

Vertical: 2H (with comb filter)

#### Color Bar Generator:

Split bar

#### Optical Filters:

Closed, 3200K, 5600K, 5600K + 25% ND

#### Gain Boost:

0dB, +9dB, +18dB

#### Power Requirement:

+12VDC (10.5 to 17V), 1.45A

#### Ambient Temperature:

-20°C to +45°C (-4°F to 113°F)

#### Weight:

7.8 lbs. (3.5kg)



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**VF-550U 5.5" Viewfinder.** A large-screen viewfinder for studio and EFP applications, incorporating a high-resolution CRT. Pan and tilt mechanisms are provided so that the position can be set according to the scene being shot and for the ease of the camera operator.



**HZ-E512U 12:1 Servo Zoom Lens W/Extender.** 9-108mm Fujinon lens. Motorized zoom and iris. Bayonet mount (B type). With 2X extender built-in.



**RS-L501 Local Remote Control.** The RS-L501 Local Remote Control is used for the operation of the RS-500 Remote Control Unit so that the required images can be created while watching the picture. Up to four RS-L501 units can be mounted in the optional UC-P1004 Unit Case which fits in a standard EIA rack.

- Single-Knob Control of Iris, Master Black Level and Preview Switching (make-contact supply)
- Control Select Switch
- "Iris Preset Mode" Enables Fine Adjustment of Preset Iris Value By Up To  $\pm 2$  f-stops
- On-Air/Tally Indicator



**HZ-516U 16X Power Zoom Lens.** The HZ-516U is a power zoom lens for use with the KY series cameras. A high zoom range of 16:1 (9.5 to 152mm) and max. aperture of f/1.8 will capture any object, precisely and sharply.



**HZ-CA23U C-Mount Adaptor For KY Series Cameras.** This adaptor fits the bayonet mount of the 3-tube prism cameras (KY series) and permits use of standard C-Mount lenses.



**HZ-NK23U Nikon Lens Adaptor For KY Series Cameras.** This adaptor fits the bayonet mount of the 3-tube prism cameras (KY series) and permits use of 35mm Nikon camera lenses.



**M-K50U "Hot Shoe" Microphone** Mounts to side of camera without cable. Power is provided by the camera. Uni-directional. Windscreen. For handheld use, use KA-M50. Can also be used with BY-110U.

## CAMERA ACCESSORIES



**KA-3 Component Adaptor.** The KA-3 Component Adaptor is to be used when component signals (Y/R-Y/B-Y or Y/I/Q signals) are required to be output from a KY series color video camera.

- Easy Attachment Onto the Rear of Camera Head
- DC-C50 Mount Shoe and 4-Pin (Cannon) Power Supply Connector Provided
- Output Selector Switch for Y/R-Y/B-Y Signals or Y/I/Q Signals

### ACCESSORIES

<b>AA-C50U</b>	AC Power Adaptor—can be used as an AC power adaptor for the camera as well as a battery charger for the DC-C50U
<b>DC-C50U</b>	Battery Pack—can be attached to the rear of the camera, 3.5AH
<b>HZ-E512U</b>	12:1 Servo Zoom Lens (w/ Extender) (9-108mm)
<b>HZ-516U</b>	16:1 Servo Zoom Lens for KY Cameras (9.5-152mm)
<b>HZ-FM12U</b>	Manual Focus Unit for 12X/16X Lenses
<b>HZ-ZS12U</b>	Zoom Servo Unit for 12X/16X Lenses
<b>HZ-CA23U</b>	C-Mount adaptor
<b>HZ-NK23U</b>	Nikon lens adaptor
<b>KA-3</b>	Component VCR Adaptor for KY Cameras
<b>M-K50U</b>	"Hot Shoe" Microphone
<b>RS-L501</b>	Local Remote Control
<b>UC-1003U</b>	Rackmount Adaptor for two RS-500U's
<b>VC-544U</b>	Camera Cable (65'/20m)
<b>VC-545U</b>	Camera Extension Cable (160'/50m)
<b>VC-586U</b>	16' Extension Cable for AA-C19U, AA-C50U
<b>VF-515BU</b>	1.5" Viewfinder
<b>VF-550U</b>	5.5" Viewfinder



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## FEATURES

- Extremely Compact & Lightweight—8.2 lbs. with Lens and 1" Viewfinder
- Low Power Consumption—15.0 watts with 1" Viewfinder
- f/1.4 Prism Optical System
- 3 Newly Designed 1/2" Hi-Voltage Saticon Tubes
- Hi-Resolution of 600 Lines
- Excellent Signal-to-Noise Ratio of 54dB
- Genlock Input (through AC power connector)
- Auto-Shift Registration
- Auto White/Black Balance
- Auto Beam Control (ABC)
- Auto Black Level Circuit (ABL)
- Servo Iris Control Circuit with Auto Iris Close
- Color Bar Circuit
- + 6dB/ + 12dB Gain Boost For Low Light
- Built-in Color Temperature Filter Wheel
- "Hot Shoe" Viewfinder, Lens and Optional Microphone
- Extended Life Memory Backup Battery



**BY-110UL 10A** 3-Tube ENG Package with 10:1 Lens

**BY-110UL 16A** 3-Tube ENG Package with 16:1 Lens

## BY-110U COLOR VIDEO CAMERA

**Extremely Compact, Extremely Light.** Computer aided design and manufacturing techniques have made possible drastic reductions in size and weight without reducing performance and features. Strength and protection are provided by an aluminum die-cast body. Total weight of the camera including lens and 1" viewfinder is only 8.2 lbs. (3.7kg).

**Low Power Consumption.** Power consumption is a low 15.0 watts when the 1" viewfinder is used. When a fully-charged DC-C11U battery pack is used, the camera will operate for approximately 60 minutes at normal temperatures (about 77°F). The camera may be powered from a range of 10.5 to 15VDC. The BY-110U has a quick warm-up time and is stabilized sufficiently for normal use about 40 seconds after switching the power on. (Perfect stabilization will require 10 minutes or more.)

**Excellent Picture Quality.** Three 1/2" Saticon (SM) tubes assure accurate color

reproduction and 600 lines of horizontal resolution. The BY-110U has a superb signal-to-noise ratio of 54dB. The new 1/2" tubes (H9392) were chosen because of their excellent reproduction quality and compact size. A fast f/1.4 glass prism assures superb resolution and accurate color separation.

### Wide Range of Automatic Functions

#### Auto Shift Registration (auto centering).

Provides automatic adjustment of vertical and horizontal alignment (shift) of blue and red channels. Adjustment is accomplished by simply flipping a switch on the front panel. The circuit is digital, and registration data is stored in the camera's memory (battery back-up provided).

**Auto White Balance Circuit.**...white color balance can be adjusted automatically by flipping a switch, or the camera can be operated in the "pre-set" position (3200K). White balance data is stored in the camera's memory circuit.

**Auto Black Balance Circuit.** Flipping a switch automatically closes the iris and adjusts pedestal balance of the individual channels.

**Auto Beam Control Circuit.** Reduces comet tails in most cases.

**Auto Black Level Circuit.** The ABL circuit offers sharp black images even when shooting outdoors under bright conditions.

**Auto (Servo) Iris Circuit.** The iris responds quickly to objects with varied contrast and slowly for those with little contrast for natural automatic iris operation. A weighting detection circuit controls the video signal level of the upper part of the screen to optimize the over-all brightness when the sky is very bright, etc. To protect the pickup tubes, the iris closes automatically when the Operate switch is off, or when the color bar switch is on.

**Extended Life Back-Up Battery.** To retain the memory of the digital auto circuits, a back-up battery is employed. This allows the camera to retain its white balance, black balance, and auto-shift settings even when the power is turned off. A new long-life battery is utilized for this function and has a rated life of approximately 4 years.

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**Excellent Operability.** Good human engineering went into the placement of switches and other camera controls. Switches are "touch coded" and some are protected from accidental mis-operation. The auto centering and auto white/black controls are located on the front panel behind a small door. A diopter is provided in the 1" electronic viewfinder for people who wear eyeglasses. An optional adjustable chest rest is available which improves stability and comfort. The chest rest, model KA-111, is similar to the one provided with the KY-210U cameras.

**"Hot Shoe" Connection System.** To eliminate problems with cables and connectors, the camera head and its portable accessories are designed to connect together without the use of cables. Direct connection is provided for: 10:1 zoom lens; 1" electronic viewfinder; M-K50U microphone; DC-C11U NiCad battery pack. When in operation, the only exposed cable is the VCR cable. This feature not only solves the usual problems associated with cables, it greatly enhances the appearance of the camera, giving it a very "solid" look.

**Genlock Circuit.** The BY-110U has built-in genlock facilities for locking up to other cameras in multi-camera operations. Instead of the usual genlock connector on the camera, to save space the genlock input and external power inputs are provided through the AA-C11U AC adaptor. Connection between the camera and AC adaptor is provided by the VCR cable (VC-511BU-2). The BY-110U will lock to any stable composite video signal or black burst (B.B.).

**Built-in Color Bars.** The BY-110U has a built-in full field color bar generator. Color bars are useful for checking and making adjustments to color monitors and they provide a consistent reference for checking the performance of the videocassette recorder.

**Gain Boost For Low Light.** The BY-110U has a +6dB and +12dB gain booster for operation in low light conditions. Also provided is a level-depend circuit which adjusts the starting point of

enhancement, according to the light level. Together, these circuits enable maximum low light performance with a minimum of noise in the picture. The minimum illumination required is 65 lux (70% video level) with +12dB of gain. Even at this light level, the picture is quiet, with well defined images and natural colors.

**Wide Choice Of Lens Options.** The BY-110 is available in a variety of configurations and offers a wide choice of lens options. For ENG/EFP applications, the 10:1 HZ-110U (f/1.4, 7-70mm) and 16:1 HZ-116U (f/1.4, 7-112mm) are recommended.

## ACCESSORIES

<b>AA-C11U</b>	AC Adaptor/Battery Charger
<b>DC-C11U</b>	2.2AH Battery Pack
<b>HZ-FM11U</b>	Manual Focus Control for HZ-110U
<b>HZ-ZS11U</b>	Servo Zoom Control for HZ-110U Lens
<b>HZ-110MDP</b>	10:1 Motorized Zoom Lens
<b>HZ-M110U</b>	Microscope Attachment
<b>HZ-110U</b>	10:1 (f/1.4, 7-70mm) Servo Zoom Lens
<b>HZ-116U</b>	16:1 (f/1.4, 7-112mm) Servo Zoom Lens
<b>HZ-CA11U</b>	C-Mount Lens Adaptor
<b>HZ-NK11U</b>	Nikon Adaptor
<b>HZ-TCL11U</b>	1.5X Teleconversion Lens
<b>HZ-WCL11U</b>	Wide Angle Conversion Lens
<b>KA-110U</b>	Quick Release Tripod Base
<b>KA-111U</b>	Adjustable Chest Rest
<b>KA-D50U</b>	Adaptor for DC-C50U 3.5AH Battery
<b>KA-130U</b>	Camcorder Adaptor for use with BR-1600U and BY-110U
<b>KA-M50</b>	Pistol Handgrip for M-K50U
<b>M-K50U</b>	"Hot Shoe" Microphone
<b>RS-110U</b>	Remote Control Unit (RCU)
<b>TE-1000U</b>	Telecine Attachment
<b>TE-3000U</b>	Multiplex Telecine Adaptor for BY-110U
<b>VC-515U</b>	65' Camera to RCU Cable
<b>VC-516U</b>	65' Extension Cable for VC-515U
<b>VC-511BU-2</b>	14p-10p Camera to VCR/2M AC Adaptor Cable
<b>VF-400U</b>	4" Studio Viewfinder for BY-110U

# COLOR CAMERA

## SPECIFICATIONS

### COLOR VIDEO CAMERA BY-110UCH

#### Optical System:

f/1.4 three-tube RGB prism system

#### Focusing/Deflection System:

Electrostatic focus/electromagnetic deflection

#### Pickup Tubes:

1/2" Saticon \* (x3)

#### Encoder:

NTSC type (R-Y, B-Y)

#### Synchronizing System:

Internal: Built-in SSG

External: Composite video or black burst

#### Lens Mount:

Special mount

#### Sensitivity:

f/2.8 at 2000 lux (186 fc)

#### Minimum Illumination:

f/1.4, 65 lux (6 fc)

#### Signal-to-Noise Ratio:

54dB

#### Horizontal Resolution:

600 lines (G ch center)

#### Registration:

Zone 1: Within 0.1% (80% of picture ht.)

Zone 2: Within 0.4% (picture width)

Zone 3: Within 0.8% (outside Zone 2)

#### Input Signals:

Return video signal: VBS, 1.0V p-p, 75 ohms

Genlock Signal: Composite video (VBS

1.0V p-p, 75 ohms) or black burst (B.B.,

0.43V p-p, 75 ohms)

Microphone: -60dBm, 600 ohms unbal.

#### Output Signals:

Composite Video Signal: 1.0V p-p, 75 ohms

Test Signal: R, G, B, R-G, B-G, ENC

Audio Signal: -20dB unbalanced

Audio Monitor Signal: From video

recorder used

Video Recorder Control Signal: Contact

or 4V supply (switchable)

#### Contour Correction:

Horizontal: Dual-edged

Vertical: 1H, single-edged

#### Optical Filters:

Closed, 3200K, 5600K, 5600K + 25% ND

#### Gain Boost:

0dB, +6dB, +12dB

#### Power Requirement:

+12VDC (10.5 to 15V), 1.05 A (camera head only)

#### Ambient Temperature:

-5°C to +45°C (23°F to 113°F)

#### Weight:

5.3 lbs. (2.4kg)

#### Dimensions:

4 1/8" (W) x 10 1/16" (H) x 10 7/8" (D)

(104.5 x 254.5 x 276mm)

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## RS-110U Remote Control Unit For BY-110U.

Despite its surprisingly low price, the RS-110U offers a full range of features and capabilities. Using only one standard rack space (1 $\frac{3}{4}$ " ), the RS-110U may be used to power and control many of the functions of the BY-110UP. In addition, the RS-110U provides individual red, green, and blue channel outputs from the camera.



## HZ-NK11U Nikon Lens Adaptor For

**BY-110U.** This adaptor was designed to enable a wide variety of photographic lenses to be used with the BY-110U. Using a standard Nikon mount, literally hundreds of special effects lenses become available. Extreme wide angle and extreme close-up lenses are the most popular of this type.

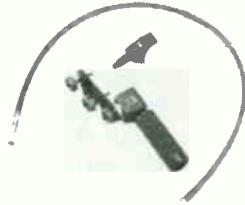


## HZ-CA11U C-Mount Adaptor For BY-110U.

Because the BY-110U uses  $\frac{1}{2}$ " pick-up tubes and a prism optical system, conventional lenses would not normally be able to be used on it. For this reason, the HZ-CA11U was designed. Actually a lens itself, this adaptor enables most any standard C-Mount lens to be used on the BY-110U.



**HZ-TCL11U Teleconversion Lens For BY-110U.** This adaptor screws onto the front of the BY-110U lens to increase the focal length by 1.5 times.



## HZ-FM11U, HZ-FM12U Manual Focus

**Control.** Rear focus and zoom controls are essential for most studio operations. The HZ-FM11U (for HZ-110 lens) and HZ-FM12U (for HZ-116 lens) are manual focus units which attach to the lens and to the tripod.



## HZ-ZS11U, HZ-ZS12U Servo Zoom Control.

The HZ-ZS11U (for HZ-110 lens) and HZ-ZS12U (for HZ-116 lens) are electronic zoom units which plug into the lens and attach to the tripod. Use the HZ-FM11U/ HZ-FM12U, VF-400 and RS-110U to make a complete studio package.



## TE-1000 & 3000 Telecine Attachments.

The TE-1000 & 3000 Telecine Attachments can easily be attached on the front of the lens of the KY-210 or BY-110 for the transfer of film images onto videotape. The amount of light is adjusted by the automatic iris of the lens and, as it is mounted on the front of the lens, it takes up only a small space and makes it easy to use the cameras for both normal shooting and telecine operations. It can be used with a wide range of projectors using 8mm, 16mm and 35mm film.

# CAMERA ACCESSORIES



**HZ-WCL11U Wide Angle Converter For BY-110U.** This adaptor screws onto the front of the BY-110U lens to decrease the focal length by 0.7 times.



**HZ-M110 Microscope Attachment.** The HZ-M110 Microscope Attachment is designed exclusively to use the BY-110 in combination with a microscope made by Olympus, Nikon, etc. for applications such as analysis, research, education, process control and inspection.



**HZ-110MDPU 10X Motorized Zoom Lens & Remote Control Unit.** The HZ-110MDPU 10X Motorized Zoom Lens was developed specially for the BY-110. Included with it is a Remote Control Unit; zooming, focusing and iris operation can be controlled from a distance of up to 1970' (600m). The HZ-110MD is ideal for surveillance, teleconferences, computer graphics stands, etc.



**VF-400U 4" Viewfinder.** A large-screen viewfinder is desirable for studio and EFP applications. The VF-400U incorporates a high resolution CRT (more than 500 TV lines), pan-tilt mechanism, and tally lamps.



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## FEATURES

- **Excellent Picture Quality:** 360 Line Resolution, 48dB S/N
- **Ultra-Low-Light Performance:** 30 Lux (2.8fc) (+ 12dB)
- **C-Mount 10X Variable-Speed Servo Zoom Lens**
- **2 Line Enhancement Circuit**
- **Built-In Genlock Circuit**
- **Built-In Color Bar Generator**
- **Built-In Character Generator with Time/Date Function**
- **Auto Fade In/Out Circuit**
- **Computerized On-Screen Read-Out Warning System in VF**
- **Stereo Microphone Provided**
- **Snap-On Battery Power System**
- **Simple Operation with Variety of Automatic Functions**



GX-S700U

## GX-S700U COLOR VIDEO CAMERA

**Excellent Picture Quality.** Featuring a  $\frac{2}{3}$ " high-band Saticon tube with a multiplex crystal filter between the lens and tube. The result is a clear, sharp picture, 360 lines and 48dB S/N. Picture sharpness is further improved by the use of a 2H vertical enhancer circuit. For operation in low lighting conditions, a +6dB/+12dB gain booster is provided.

**10:1 Variable Motorized Zoom Lens.** The f/1.8 lens has a zoom range of 10.5mm to 105mm, making it ideal for telephoto operation. In addition, a macro feature is included.

**Built-In Color Bars.** The GX-S700U has a built-in full field color bar generator. Color bars are useful for checking and making adjustments to color monitors. The lens iris is automatically closed, if it is in the Audio mode.

**Built-In Character Generator w/Lap Time/Date.** A 12-key character generator with 8-hour memory backup time enables titles, dates, and lap time to be recorded over the scene being shot.

**Modular Power System.** As it is packaged, the camera can be powered from the VCR's battery using the standard VCR cable (provided). Power consumption is 9.2 watts (peak at 12VDC). (Under normal operation, power consumption will be around 8.0 watts.)

The GX-S700U can be used with either the NB-P3U (0.7AH) or the NB-P4U (1.4AH) NiCad battery packs which snap directly onto the rear of the camera.

### 1.5" Electronic Viewfinder w/Computerized Warning System.

Warning/status system displays, in alphanumeric characters, various indications on the screen. These include iris, pause, tape run, battery alarm, white balance, filter setting, gain switch, etc.

### ACCESSORIES

<b>AC-P3U</b>	Snap-On AC Adaptor
<b>AP-P3U</b>	Snap-On Car Battery Cord
<b>BB-P3U</b>	Battery Charger for NB-P3U/NB-P4U
<b>NB-P3U</b>	.7AH NiCad Battery Pack
<b>NB-P4U</b>	1.2AH NiCad Battery Pack
<b>VC-235-10U</b>	33' Camera Ext. Cable (10p-10p)

## SPECIFICATIONS

### Color System:

Frequency separation color system  
5MHz chrominance carrier frequency

### Scanning System:

30 frames, 525 lines, 2:1 interlaced

### Video Output:

1V p-p, 75 ohms, NTSC

### Horizontal Resolution:

Better than 360 TV lines

### Video Signal to Noise Ratio:

Better than 48dB (contour off)

### Minimum Illumination:

30 lux with +12dB gain

### Audio Output:

CH-1 and CH-2, -20dB, 1K ohm

### External Microphone Input:

CH-1 and CH-2, -72dB/low impedance,  
3.5mm stereo jack

### Headphone Output:

-6dB/low impedance, 3.5mm stereo jack

### White Balance:

Preset and automatic

### Viewfinder:

1.5" Electronic, detachable

### Genlock Input:

BNC; 1.0V p-p composite (NTSC)

### Color Bar Generator:

Built-in; full field

### Power Requirement:

+12VDC from VCR or battery pack

### Power Consumption:

9.2 watts

### Weight:

2.95kg with lens, VF, mic, shoulder pad

### Dimensions:

415(D) x 190(W) x 238mm(H) w/lens hood, VF & shoulder pad

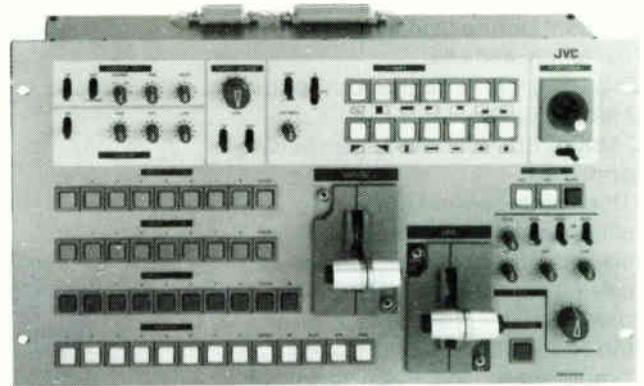
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## FEATURES

- Eight Inputs (VBS), Three Buses
- Two Fader Levers
- Non-Synchronous Input
- Built-In RGB Chroma Keyer
- 13 Wipe Patterns with Soft Edge
- Built-In Color Background Generator
- Adjustable Background Color
- Color Downstream Keyer
- B/W Superimpose Circuit
- External Key Input
- Built-In S.S.G. with Genlock
- Intercom and Tally Circuits Provided
- Auto Fade-to-Black
- Auto Take

KM-2000U



The JVC KM-2000U Color Special Effects Generator is designed to meet the needs of users of professional and industrial video systems.

**Two-Piece Design.** The KM-2000U actually consists of two components: a control unit and an electronics unit. The control unit is compact (only 3<sup>5</sup>/<sub>8</sub>" deep and 6 rack units high) and is connected to the main electronics unit by two ribbon cables. The electronics unit houses the primary electronics and all connections to peripheral equipment.

**Eight Inputs.** There are eight synchronous video inputs, each with loop-thru BNC connectors. In addition, a non-synchronous input is provided, which can be routed to the program line via a pushbutton on the control panel.

**Downstream Keyer.** The KM-2000U's downstream keyer (DSK) has a built-in color background generator (adjustable). The polarity of this circuit can be switched so that a reversal of the key effect may be obtained. The circuit also allows the user to manually fade the effect in and out—independently of the fader controls.

**RGB Chroma Keyer.** Utilizing the RGB signals obtained from most 3-tube cameras, this feature allows the user to selectively replace any color in the picture with a signal from another camera.

**Three Buses, Dual Faders.** The KM-2000U's three bus system allows an effect to be created and previewed before actually putting it "on-line". The effect can then be inserted into the program output with a dissolve, using the second fader. The 13 built-in wipe patterns, together with joystick positioning and soft edge control provide most popular effects.

### ACCESSORIES AR-2000 Auto Ramp Generator—

Allows a Video Tape Editor—The PALTEX/ABNER to trigger the KM-2000U with a GPI command during an A/B roll edit sequence. The AR-2000 has thumb wheel switches that provide up to a 299 frame dissolve or wipe in either direction.

## SPECIFICATIONS

### Video Inputs:

x8, VBS, 1.0V p-p, 75 ohms or high (BNC)

### Aux Input:

x1, VBS, 1.0V p-p, (non-synchronous) 75 ohms or high (BNC)

### Chroma Key Inputs:

RGB, VB, 0.7V p-p 75 ohms or high (BNC)

### External Key Input:

x1, VBS or VB 1.0/0.7V p-p, 75 ohms or high (BNC)

### DSK Input:

x1, VBS, 1.0V p-p, 75 ohms or high (BNC)

### B/W Superimpose Input:

x1 VBS, 1.0V p-p, 75 ohms or high (BNC)

### EXT, Wipe MOD Input:

0dBm mini jack (plug provided)

### Program Output:

x3, VBS 25 ohms (BNC)

### Preview Output:

x1, VBS 75 ohms (BNC)

### Frequency Response:

60Hz to 5MHz ± 0.2dB

### DG/DP:

Less than 1.5%, 1.5° at 10 to 90% APL

### Crosstalk:

More than 50dB at 3.58MHz

### Signal-to-Noise Ratio:

More than 55dB (p-p/rms)

### Sync Output:

HD, VD, sync, black burst x2

### Power Consumption:

110VAC 60Hz 50W

### Tally:

5VDC or dry contact

### Dimensions & Weight:

Electronics Unit:

482(W) x 175(H) x 250(D)mm

Standard EIA rack size (4 unit size)

Weight: 10.5kg

Control Units:

482(W) x 265(H) x 90(D) mm

Standard EIA rack size (6 unit size)

Weight: 5.0kg

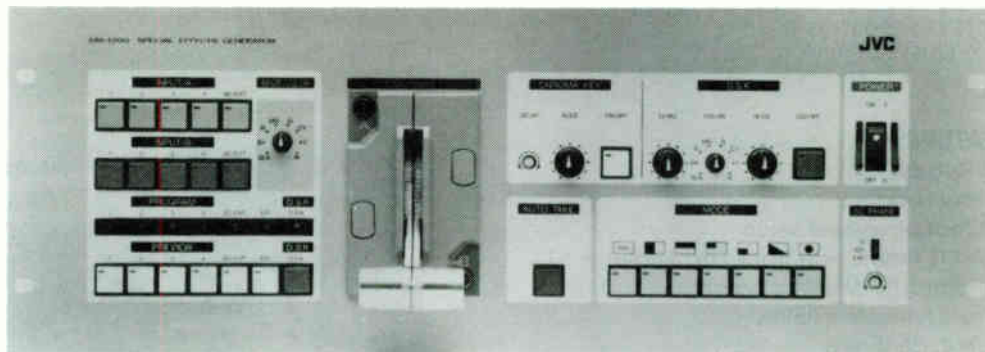
# JVC PROFESSIONAL PRODUCTS COMPANY

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# SPECIAL EFFECTS GENERATOR

## FEATURES

- RGB Chroma-Keyer
- Low-Cost, Economical
- 8-Color Generation
- 6 Wipe Patterns
- Smoother Fades and Dissolves



KM-1200U

## KM-1200U SPECIAL EFFECTS GENERATOR

The KM-1200U is designed for mounting in a standard EIA rack and has 4 video inputs, a chroma key input, a background color generator and a DSK input. It incorporates an SSG and genlock operation is possible using composite video or blackburst signals. With its Autotake switch, the signal selected to be previewed can be supplied to the program line with a single operation. Both AC and DC power supplies can be used so that use on locations is possible.

**RGB Chroma Keyer/External Keyer.** By the use of 3 discrete signals the RGB Chroma Keyer allows for an extremely sharp key. These individual signals allow the decoder circuit to more easily distinguish subtle color differences, thus producing a more accurate and clean key.

An external keyer is also supplied for Black and White key sources, usually a CCTV type camera. This mode is selected by a back panel control, which switches between Background Color and external key. The external key circuit can also be used with a color character generator. The character generator supplies a B/W signal to cut the key hole and a color video signal to 1 of the 4 video inputs, which is in sync with the key hole.

**D.S.K. — Down-Stream Keyer.** The D.S.K. circuit is identical to the External Key circuit except for its electronic position in the flow of the video signal path.

The D.S.K. circuit has the capability of colorizing itself. This internal generator has the ability to make the following 8 colors: Black, Blue, Red, Magenta, Green, Cyan, Yellow and White.

**Sync Generator and Genlock.** The sync generator in the KM-1200U is multi-faceted because of its many modes and outputs. It is capable of generating RS-170 sync or Genlock to any source, including a VCR.

The KM-1200U also supplies the following signals: Two Black Burst outputs. Composite Sync; Horizontal Sync; Vertical Sync; Blanking (Switchable as third Black Burst output).

**Auto Take.** The purpose of Auto-Take is to allow for preselection and confirmation of cuts, before they go to air.

**Background Generator and External Input.** The Background and External position is input 5 on the KM-1200U. These two sources are selectable from a back panel switch.

When in the Background position the following 8 colors are available: Black, Blue, Red, Magenta, Green, Cyan, Yellow and White.

## SPECIFICATIONS

### Video Inputs:

x4, VBS, 1.0V p-p, 75 ohms or High (BNC)

### Chroma Key Inputs (EXT. KEY):

RGB, VB, 0.7V p-p, 75 ohms or High

### DSK Input:

x1, VBS or BB, 1.0/0.45V p-p, 75 ohms or High

### Program Output:

x2, VBS, 1.0V p-p, 75 ohms (BNC)

### Preview Output:

x1, VBS, 1.0V p-p, 75 ohms (BNC)

### DSK Preview Output:

x1, VBS, 1.0V p-p, 75 ohms (BNC)

### Sync Genlock Output:

HD, VD, SYNC, x1 each,  
\*Blackburst x3 (\*VD/BB-3 selectable)

### Sync System:

- (1) Internal mode
- (2) External mode; Genlock by VBS or BB

### Subcarrier Phase:

Adjustable from 0° to 360° in steps of 0°/120°/240°, continuously variable between steps

### Horizontal Phase:

± 0.1 μs (with reference to the input sync signal)

### Chroma Keying (EXT.):

Blue only

### Wipe Patterns:

x6

### Tally Outputs:

x5, 5V (10mA) DC (6-pin terminal)

### Background Colors:

x8, Black/Blue/Red/Magenta/  
Green/Cyan/Yellow/White (1 color selectable)

### Power Supply:

110/220/240VAC or 12VDC

### Power Consumption:

AC 15W, DC 12VA

### Dimensions:

19" (W) x 7" (H) x 3<sup>5</sup>/<sub>8</sub>" (D)  
(482 x 176 x 90mm)

### Weight:

Approx. 13.2 lbs. (6kg)



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## 3/4" EDITING RECORDER

### FEATURES

- 4-Heads
- Front Loading
- Direct Drive Reel Servo
- SMPTE Time Code Track (3rd Audio)
- Diagnostic Warning System
- Front Panel Test Points
- S/N 47dB Video
- Vertical Interval Head Switching
- Improved Drop-Out Compensation
- Die-Cast Chassis
- LED Indication for Fuse Condition Status
- Record, Playback and Editing Capabilities



CR-850U

### CR-850U 3/4" EDITOR

The CR-850U is a very high quality 3/4" editing VCR with characteristics that make it suitable for a wide variety of applications. It was designed with the following objectives in mind:

It should have a picture reproduction quality second to none.

It should be easy to use.

It must adapt to a wide variety of systems and applications. Above all, it must be reliable.

The CR-850U achieves all of these goals and more. It incorporates a variety of innovations in VCR technology and will certainly set new standards of performance.

**Signal Quality, Performance.** The most important attribute of a 3/4" editor is its picture quality. Design engineers made every effort to see to it that the CR-850U would have absolutely the best picture reproduction quality of any 3/4" VCR on the market.

Through the use of a variety of circuits, the CR-850U has exceptionally low noise — 47dB signal to noise ratio in the color mode. And the less noise produced by a VCR, the cleaner the picture. This is especially important in the editing process, since noise is usually compounded as multi-generation dubs are being made.

**Y-688 Dubbing System.** Normal tape-to-tape transfers result in deterioration of the video signal. To minimize this, the CR-850U employs a Y-688 dubbing system, utilizing a standard 7-pin cable (provided).

**Convenience.** Line Input Switcher. On the CR-850U there are two video inputs labeled "Line A" and "Line B". These inputs are selectable by pressing a pushbutton on the front panel. An LED lights to indicate which input is active.

When switching from Line A to Line B, the CR-850U performs the switching in the vertical interval. If the signals are genlocked together, then the transition is glitch-free, even when it is recorded. To further this benefit, a connector is provided on the rear panel for remote operation of this function. Contact closure of this connector causes the VCR to switch from Line A to Line B. The VCR can actually be used as a "mini-switcher."

**Built-In Editing Control Functions.** In many instances, a separate editing controller is not necessary to perform editing functions. The CR-850U has a built-in Z-80 microprocessor which controls these functions. A close look at the control panel on the CR-850U shows many of the same functions found on

popular editing controllers: Preroll, Preview, Entry In, Entry Out, Assemble, Insert, Edit Start, Edit Stop.

**Digital Tape Counter.** The LED digital tape counter on the CR-850U displays Hours, Minutes, Seconds, and Frames. Its count is based on the FG pulse from the capstan circuit, and will continue to read even if control track is lost. If the control track reference is desired, a DIP switch can be flipped internally to make this selection. In addition to displaying tape travel, the counter in the CR-850U has another function unique to a VCR: it has a built-in Lap Timer. This is like having a separate tape timer working independently of the normal counter. It can be used to measure tape travel distance from a given point. It is especially useful when doing fixed length edits.

**Visible Picture Search.** The front panel search dial on the CR-850U provides a convenient way to shuttle the tape with a viewable picture at speeds from 1/30<sup>th</sup> to 15 times normal in forward and reverse.

**Jog Mode.** In addition to visible picture search, another function is provided, which can be accessed when using a serial editing controller. "Jog" is a feature

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which allows the picture to accurately follow the movement of the search dial on the controller, as it is turned to the right or left.

Full Capstan Control In All Modes. When the cassette is inserted into the CR-850U, mechanism fully loads the tape around the head drum. The tape remains threaded in this fashion until the eject button is pressed. This permits much faster cueing times, as well as more positive control over the tape. A special "standby" mode is provided which stops the head drum and disengages the pinch roller after 10 minutes in still. This permits rapid drum-up to full picture while protecting the tape and vital components.

Independent Audio Limiters. Besides adjusting the audio levels manually, the CR-850U can adjust levels automatically with its built-in limiter circuit. Separate on/off switches are provided for each channel, a JVC exclusive feature.

Flexibility. It is fitting that an editing VCR as advanced as the CR-850U be able to adapt to a wide variety of systems and applications. For this reason, JVC incorporated a number of features which are explained below.

Front Loading Design. Besides saving space the front loading design permits mounting in a standard 19" rack, with an optional rack slide kit. All operational controls are mounted on the front panel.

Serial (RS-422) Control. A 9-pin "D" type connector is located on the rear panel for connection to editing controllers and other components. Using the serial port permits connection to a wide variety of sophisticated controllers. The serial connector is also used for the JVC RM-G850U controller.

Parallel Control. A 45-pin connector is located on the rear panel for connection to existing JVC editing controllers. Direct connection can be made to the RM-86U or VE-90AT/VE-93 controllers.

SMPTE Time Code Capability. SMPTE time code is a digital code which can be recorded on one of the VCR's audio channels, to provide accurate indexing

of the tape and to provide an accurate reference for editing. The CR-850U is equipped with a 3rd audio track (address track) for SMPTE code. A front panel LED illuminates when a signal is present on this track.

Balanced XLR Audio. The audio inputs and outputs on the CR-850U are balanced, and utilize standard 3-pin XLR connectors. The inputs can be switched for three levels, depending on the audio source.

Reliability, Diagnostic Warning System. Advanced microprocessor technology was applied to a sophisticated array of sensors and detectors throughout the CR-850U. If a problem occurs the VCR will immediately detect it and go into the "warning" mode. All functions will immediately be terminated so as to protect the tape and the machine. A digital readout on the front panel will display a code number from 01 to 99. This code number corresponds to the type of problem detected.

Front Panel Test Points. To aid in troubleshooting and preventive maintenance, test points were placed onto the front panel. A technician would normally connect test gear to these points and analyze the machine's performance. Adjustments can be made by opening the top or side panels.

Direct Drive Motors. The CR-850U uses a fully direct drive reel servo system (separate motors for the supply and take-up reels), which keeps tape tension constant during all modes. In addition, the head drum and capstan are also directly driven. There are no belts, pulleys, or idlers to require maintenance.

Die-Cast Chassis. All critical components are mounted into a heavy-duty die-cast chassis. This assures stability, even when the machine is moved around a lot. Circuit boards are easy to access, and can be unplugged from the machine if necessary.

## 3/4" EDITING RECORDER

### SPECIFICATIONS (CR-850U)

#### GENERAL

**Format:**

U-VCR

**Video Signal System:**

NTSC

**Power Requirements:**

85-135V/170-270V (switchable)

**Dimensions:**

17<sup>9</sup>/<sub>16</sub>" (W) x 11<sup>3</sup>/<sub>16</sub>" (H) x 21<sup>1</sup>/<sub>8</sub>" (D)  
(446 x 284 x 535mm)

**Weight:**

73 lbs. (33kg)

**Operating Temperature:**

5°C-40°C (-4°F to 140°F)

**Storage Temperature:**

-20°C to 60°C (-4°F to 140°F)

**Operation Position:**

Horizontal

#### VIDEO

**Input:**

0.5 to 2.0V p-p, 75 ohms BNC x2

**Output:**

1.0V p-p, 75 ohms BNC x2

**Resolution:**

(B/W) 340 line, (Color) 260 lines

**Signal-To-Noise Ratio:**

47dB (Color)

**Video Input Select:**

Line (A or B)/DUB

**H-Phase Adjustment:**

Auto

**Dubbing Systems:**

Y-688

**RF Out for DOC:**

0.5V p-p, 75 ohms

**Audio Output:**

+4/-20dB (Low impedance) balanced XLR

**Monitor Output:**

4dB (Low impedance) balanced XLR

**Headphones:**

-46 ~ -24dB variable, 6.3mm jack, 8 ohms

**Frequency Response:**

50 to 15,000Hz

**Rec. Level Adjustment:**

Manual with meter, Limiter On/Off

#### OTHER

**FF/REW Time (w/KCA-60):**

4 min. (FF), 3 min. (REW)

**Wow/Flutter (by JIS):**

0.15% RMS

**Search:**

1/30 to 15 times

**Jog Mode:**

Yes (with RM6-850U Serial Controller)

**Tracking Adjustment:**

Yes

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## 3/4" RECORDER/PLAYER

### FEATURES

- Superb Picture Quality
- Front Loading
- Direct-Drive Reel Servo
- SMPTE Time Code Track
- Diagnostic Warning System
- Front Panel Test Points
- S/N 47dB Video
- Vertical Head Switching
- Improved Drop-Out Compensation
- Die-Cast Chassis



CR-600U

### CR-600U

#### 3/4" VIDEOCASSETTE RECORDER

The CR-600U shares the same technology as the JVC CR-850U, making the perfect match in an editing system and a superior machine in a recording situation.

**Superb Picture Quality, Performance.** A full range of noise canceling and correction circuits are provided to eliminate distortion from every possible source including interference from time-code signals, resonance of the video heads, channel switching and the deterioration of differential gain inherent in playback and recording. Drop-out compensation after the off-tape signal has been demodulated reduces picture noise considerably. These features are important in editing, where noise from any source is compounded in multi-generation dubbing.

Circuits used in this system include:  
Improved DOC (Drop-Out Compensator)  
Direct APC (Automatic H-Phase Control)  
Separate channel FM equalizer  
Channel switching noise canceler  
Side-band equalizer  
Line correlation noise canceler  
Current-drive recording amp for each channel  
Time code noise canceler  
Differential gain canceler  
Linearity corrector  
Luminance/chroma delay adjustment circuit

**Vertical Interval Head Switching.** The head switching line has been moved to the vertical interval so that it is never visible in the picture.

**Y-688 Dubbing via 7-pin DUB connectors.** This allows cleaner transfers with minimum discoloration. Y-688 dubbing eliminates the conversion of the chrominance signal necessary in other systems. By transferring the demodulated luminance (Y) signal and unconverted 688kHz chrominance signal separately using multiconductor cable, superior results can be obtained.

**Y-Frequency Response Control.** The level of the luminance signal in the 3MHz range can be controlled by a 7-position dial to adjust detail for sharper or softer pictures.

**Video output processing switch.** This switch allows for optimum monitor playback or machine-to-machine dubbing. Circuits like APC and the noise cancelers, when turned on, are designed for final viewing. When turned off, they allow for a smarter signal for dubbing.

**Convenience**  
**Built-in preroll function and backspace editing (assembled recording).** For seam-free edits, the CR-600U automatically prerolls the tape at edit points.

**Audio Dubbing.** This allows for channel 1

soundtrack to be replaced, so that a narration, etc. can be added to a previously recorded tape.

**Digital Tape-Time and Frame Counter.** The 7-digit counter indicates the tape running time in hours, minutes, seconds and frames, taking cues from the capstan FG pulse so that counting continues even if the control signal is lost. The counter also has a lap mode, to indicate time from the last edit point. This is a convenient feature when using the CR-600U in an editing configuration.

**Variable-Speed Visual Search.** The CR-600U's Search dial makes search possible at any speed between 1/30 and 15 times forward + up to 20 times in reverse.

**Jog Mode.** The CR-600U can be used in the jog mode when connected to a serial editing controller; the picture movement will respond responsively to the Jog dial on the controller.

**Full Capstan Control in All Modes.** The tape is threaded when the cassette is inserted and stays in this condition until it is ejected: This provides accurate control of the tape position and shorter cueing times. In the Standby mode, the head drum rotates and the pinch roller is engaged so a picture can be obtained extremely quickly. If left in the Standby mode for about 10 minutes, the CR-600U enters the Stop mode to protect the tape.



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## Separate Audio, Video/Tracking Meters.

Three meters are provided, for audio channel 1 and 2 and for video/tracking. The audio meters have independent concentric controls allowing the recording level to be adjusted as required. During recording, the Video/Tracking meter shows the level of the FM carrier; in other modes, it shows the level of the input video signal. Tracking and video level controls are provided with switchable AGC for the automatic control of the video level.

**Independent Audio Limiters.** The CR-600U utilizes limiter circuits which prevent distortion by clipping the incoming signal. Manual adjustment can be achieved by switching off the limiters and trimming the front panel controls.

**Electronic Skew Control.** To control bending or flagging at the top of the picture usually due to minor differences between the recorder used for playback and the recorder on which the recording was originally made, the Skew control provides slight adjustment of tape tension. The electronic skew corrector in the CR-600U provides smoother, more precise control than the mechanical system used in most other  $\frac{3}{4}$ " VCRs.

**Large Illuminated Pushbuttons.** The large, illuminated pushbuttons that control the tape functions are easy to see from a distance.

## Flexibility

**Front Loading.** The front-loading feature of the CR-600U makes it possible to mount in a standard 19" rack. All operation controls are conveniently placed on the front panel.

## Serial and Parallel Edit Control

**Connectors.** A 9-pin "D" connector is provided for connection to editing controllers using an RS-422 serial interface, while a 45-pin parallel connector allows connection to JVC editing controllers.

**SMPT E Time Code Channel.** The CR-600U uses an independent address-track for the recording of time codes.

## Balanced XLR Line Audio Connectors.

To eliminate the hum and interference of an electrically noisy environment such as a broadcasting station, the CR-600U has

balanced line audio inputs and outputs using standard XLR connectors.

**Video/Audio Monitor Outputs.** An 8-pin TV connector on the rear panel provides for the connection of a monitor TV. The monaural audio signal selected with the front-panel audio monitor selector (audio 1, audio 2 or mixed) is available from an RCA pin jack, the headphone jack and the 8-pin TV connector, so that the audio can be monitored without an external mixer.

**RF Output for External DOC.** A rear-panel BNC connector provides the RF output for an external dropout compensator.

**External Sync and Subcarrier Inputs.** So that a variety of time base correctors can be connected, the CR-600U is equipped with external sync and subcarrier inputs.

**Switching Regulator Power Supply.** The CR-600U will accept a wide range of power supply voltages (90-132V, 50/60Hz).

## Reliability

**Diagnostic Warning System.** With sophisticated sensors and detectors used wherever trouble could develop, providing input signals to an advanced microprocessor, this system provides a wide range of warnings. Any problems in the drum servo system, the tape path, the loading mechanism, etc. are detected by this system which sets the recorder to the alarm mode.

**Front Panel Test Points.** To facilitate troubleshooting and preventive maintenance, test points for the connection of test equipment are provided on the front panel.

**External Hour Meter.** An hour meter is provided on the rear panel. This indicates the cumulative running time of the head drum cylinder, in order to help in determining cleaning and maintenance schedules.

## Complete Direct-Drive Transport System.

Reliable and high-precision direct-drive motors are used in the CR-600U to keep the tape tension constant in all modes.

**Die-Cast Chassis.** The components of the CR-600U are given extra reliability because they are mounted in a heavy-duty die-cast chassis.

# $\frac{3}{4}$ " RECORDER/PLAYER

## SPECIFICATIONS (CR-600U)

### GENERAL

**Description:**  $\frac{3}{4}$ " Recorder/Player, deck type

**Video Signal System:** NTSC

**Recording and Playback System:**

Rotary two-head, helical scanning

**Luminance:** FM recording

**Color:** Down-converted, sub-carrier direct recording

**Cassette Loading:** Front loading

**Tape Speed:** 95.3 mm/s

**Recording Time:** Max. 60 minutes with KCA-60K

**Fast Forward/Rewind Time:** 4.0/3.0 minutes

**Wow and Flutter:** Less than 0.15% RMS

**Power Requirement:** 120VAC

**Dimensions:** 17 $\frac{9}{16}$ " (W) x 11" (H) x 22 $\frac{3}{16}$ " (D) (446 x 279 x 562mm)

**Weight:** 66 lbs. (30kg)

**Operating Temperature:** 5°C to 40°C (40°F to 104°F)

**Storage Temperature:** -20°C to +60°C (-4°F to +140°F)

**Operating Humidity:** Less than 80%

### VIDEO

**Input:** 0.5 to 2.0V p-p, 75 ohms, unbalanced

**Dub Input (7-Pin):** Y: 1.0V p-p, 75 ohms, unbalanced

C: 0.85V p-p, 390 ohms, unbalanced

**Output:** 1.0V p-p, 75 ohms, unbalanced

**Horizontal Resolution:** 260 lines (Color), 340 lines (B/W)

**Signal-to-Noise Ratio:** 47dB

### AUDIO

**Mike Input:** -60dBs, 3K ohms, balanced

**Line Input:** -20/+4dBs, 10K ohms, balanced

**Line Output:** -20/+4dBs, 600 ohms, balanced

**Monitor Output:** +4dBs, low-impedance

**Headphones Output:** -24 to -46dB, 8 ohms

**Frequency Response:** 50 to 15,000Hz

**Signal-to-Noise Ratio:** More than 48dB (at 3% distortion)

### CONNECTORS

**Video Input:** BNC-type connector

**Audio Input/Output:** XLR-type

**Microphone Input:** Used in common with line audio input

**Headphone:** M6 jack

**Monitor (TV):** EIAJ 8-pin

**Remote Controller:** 45-pin/9-pin

**Time Code Input/Output:** RCA-type pin

**SC Input:** BNC-type

**SYNC Input:** BNC-type

**Audio Monitor Output:** RCA-type pin

**RF Out (For D.O.C.):** BNC

**Y-688 Dub Input/Output:** 7-pin

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## FEATURES

- SMPTE Address Channel
- Balanced Line Audio
- Vertical Interval Head Switching
- Full Metering (CR-6650/CR-8250)
- H-Phase Control
- Full Capstan Control with Standby Mode
- Real-Time Electronic Tape Counter
- Professional Quality Editing Functions (CR-8250 only)
- FM-FM Dubbing System for High Quality Copies
- Color Dubbing Switch
- Automatic Pre-Roll (CR-6650, CR-8250)
- Capstan Servo System with External Lock Function
- Automatic Search Mechanism
- Automatic Repeat Mechanism



CR-8250

## CR-8250U/CR-6650U/CP-5550U 3/4" TAPEHANDLERS

JVC's full-featured Tapehandler series is a proven alternative to higher priced 3/4" production VCRs. These models offer features and capabilities that far exceed other decks in their price range, yet offer the simplicity and reliability JVC machines are famous for. The flagship of the series, the CR-8250U, is a 3/4" editor with flying erase heads. The CR-6650U is a recorder-player version of the same machine without flying erase heads, and without insert editing capability. The CP-5550U is a player-only model.

**Wide Editing Flexibility.** When used with an appropriate editing controller, such as the RM-86U, the JVC Tapehandlers offer a wide range of editing options. For maximum flexibility, CR-8250U editors can be used as both source and record decks. A more economical alternative is to use the CR-6650U recorder-player as the source along with a CR-8250U as the recorder. For maximum economy, the CP-5550U player can be used as a source. Regardless of which of these combinations is used, the same quality, reliability, and performance is assured.

**45-Pin Parallel Editing Control.** All three models have 45-pin connectors for editing controllers, compatible with other JVC VCRs, such as the BR-8600U VHS editor. This makes it easy to configure a 3/4" editing system using VHS as a source,

or a VHS editing system using 3/4" as a source. The Tapehandlers are also perfect upgrades for existing JVC VHS editing systems.

### Professional Quality Editing Functions.

The CR-8250U has flying erase heads and a blanking switcher which make possible assemble and insert editing with virtually no distortion at the edit points. Editing flagging is minimized by use of a framing servo and extremely stable horizontal phase lock. A manual H-phase control also allows the CR-8250U to be accurately synchronized with the horizontal phase of the player.

**Direct-Drive Reel Servo System.** Using separate direct-drive motors for supply and take-up reels, these decks are capable of variable picture search speeds of up to 15 times in both directions. This advanced drive system, similar to the one used in the top-of-the-line CR-850U, keeps tape tension constant during all modes and at all speeds. Operation is smooth and very quiet, with none of the "clickety-clank" sounds found on other 3/4" editors. In addition, the rotary head drum and capstan are directly driven. There are no belts, pulleys, or idlers to require maintenance.

**Die-Cast Chassis.** The advanced mechanisms used in the Tapehandlers are supported by a rugged durable aluminum die-cast chassis. A two motor

gear-driven tape loading mechanism and powered cassette eject mechanism are used to further assure reliability.

**Variable Search Speeds.** Unlike the "stepped-speed" search mechanisms used in most VCRs, the Tapehandler series has a continuously variable search range from still to 15 times, in both forward and reverse. Operation is extremely quiet. Even when changing tape direction in the high speed mode, tension remains smooth and constant. This excellent tape handling capability makes these models ideal for use with synchronizers in audio systems. To access the variable speed search capability, it is necessary to use the RM-70U remote control, or an appropriate editing controller.

**Full Capstan Control with Standby Mode.** The tape remains threaded in all modes except load and eject, permitting faster cueing times as well as better control. A special mode is provided which stops the head drum and disengages the pinch roller after 2 1/2 minutes in still. This permits rapid drum-up to full picture while protecting the tape and vital components.

**Real-Time Electronic Tape Counter.** The electronic tape counter has an easy-to-read fluorescent display that shows elapsed time up to 59 minutes, 59 seconds, facilitating indexing. It



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operates at search speeds, even while winding through blank tape.

**FM-FM Dubbing System, Color-Dub.** All three models incorporate a true FM-FM dubbing system. In FM-FM dubbing, the signals are transferred in the form of FM signals without modulation and demodulation; this greatly reduces the degradation of picture quality. For situations where FM-FM dubbing is not suitable, a "Color-Dub" switch is provided. When this feature is activated, some of the color processing circuitry is bypassed, resulting in cleaner tape-to-tape transfer.

**Capstan Servo with External Sync and SC.** All three models have inputs for external sync and subcarrier (SC) signals. This permits connection to a wide variety of time base correctors, including the direct color type.

**SMPTE Address Channel.** A "third" audio or "address" channel is provided for recording SMPTE time code. Inputs and outputs (outputs only on the CP-5550U) are used for connection to time code generators and readers. When using time code, appropriate editing controllers can offer frame accurate editing, as well as provide random access to any tape location. Since the code is permanently recorded on the tape, tapes can be logged and edit lists prepared, making it easy to later access specific frames. A front panel LED illuminates when a time code signal is present on the address track.

**Balanced Line Audio.** Because of their high resistance to hum and interference, balance audio lines are used on most professional audio gear. For line and monitor inputs and outputs, JVC's Tapehandlers use balanced audio lines with XLR connectors.

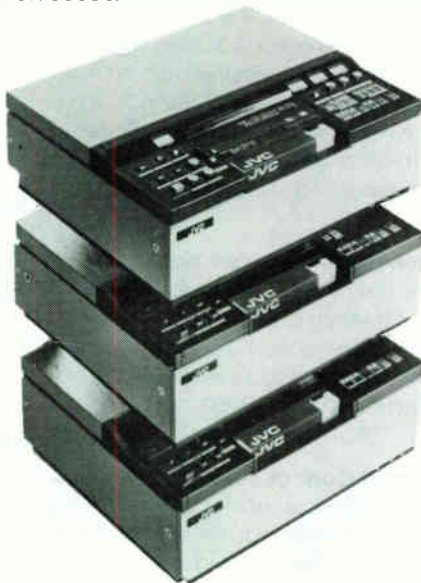
**Vertical Interval Head Switching.** The head switching line, sometimes visible in the picture area, has been moved out of the picture area completely.

**Full Metering.** For demanding professionals, a video level meter

(CR-8250U, CR-6650U) and adjustments are provided to allow the video recording level to be optimized. A tracking meter is provided on all models for precise playback adjustment. Independent audio level meters (CR-8250U, CR-6650U) are provided for channels 1 & 2. The audio recording levels can be adjusted according to the meters, or automatically using the audio limiter. The limiter can be switched out on either or both audio channels as needs require. An external hour meter is also provided on all three models.

**Skeletal Construction for Ease of Maintenance.** To make the Tapehandlers easier to service and maintain, the top and bottom, front, rear, and side panels can be detached independently, giving easy access to all circuit boards. For easy maintenance, the circuit boards use plug-in connectors.

**Optional RF Modulator (CR-6650U, CP-5550U).** For connection to standard television receivers, these models have provisions for a plug-in RF modulator. The optional KR-234 (channels 3-4) and KR-256 (channels 5-6) plug into a side compartment on the CP-5550U and CR-6650U.



CR-8250U  
CR-6650U  
CP-5550U

## 3/4" RECORDERS/PLAYERS

### SPECIFICATIONS (CR-8250U)

#### GENERAL

**Power Requirement:**

120VAC  $\pm$  50/60Hz, 140W

**Dimensions:**

22<sup>1/4</sup>" (W) x 8<sup>3/4</sup>" (H) x 18<sup>9/16</sup>" (D)  
(56.4 x 22.1 x 47.1cm)

**Weight:**

67.3 lbs. (30.6kg)

**Operating Temperature:**

5°C to 40°C (40°F to 104°F)

**Operating Position:**

Horizontal Only

**Tape Speed:**

9.53 cm/sec.

**Recording Time:**

Max. 60 min. with JVC KCA-60

**Fast Forward/Rewind Time:**

Within 4 min. 30 sec. for 60 min. tape

**Wow & Flutter:**

Less than 0.15% RMS

#### VIDEO

**Recording System:**

Rotary two-head, helical scanning

**Video Signal System:**

NTSC-type color, 525 lines

**Input Line/TV:**

0.5—2.0V p-p, 75 ohms

FM Dubbing: 0.5V p-p, 75 ohms

**Output Line/TV:**

1.0V p-p, 75 ohms

FM Dubbing: 0.5V p-p, 75 ohms

**Signal-To-Noise Ratio:**

More than 46dB (color)

More than 49dB (B/W)

(Rohde & Schwarz noise meter)

**Horizontal Resolution:**

Monochrome 340 lines, Color 260 lines

**Sync Input:**

0.5 to 4.0V p-p, 75 ohms

**Time Code:**

Input: -10dBs, more than 10K ohms

Output: 2.2V p-p, low impedance

**Input Select:**

TV/LINE/FM DUB

#### AUDIO

**Input Line:**

-20/0dBs, 10K ohms, balanced

Mic.: -70dBm, 600 ohms, unbalanced

TV: -20dBs, high impedance, unbal.

**Output Line:**

-20/0dBm, 600 ohms load, low

impedance, balanced

Monitor: 0dBm, 600 ohms load, low

impedance, balanced

TV: 0dBs, 1K ohm, unbalanced

**Signal-To-Noise Ratio:**

More than 48dB

(at 3% distortion level)

**Frequency Response:**

50 to 15,000Hz



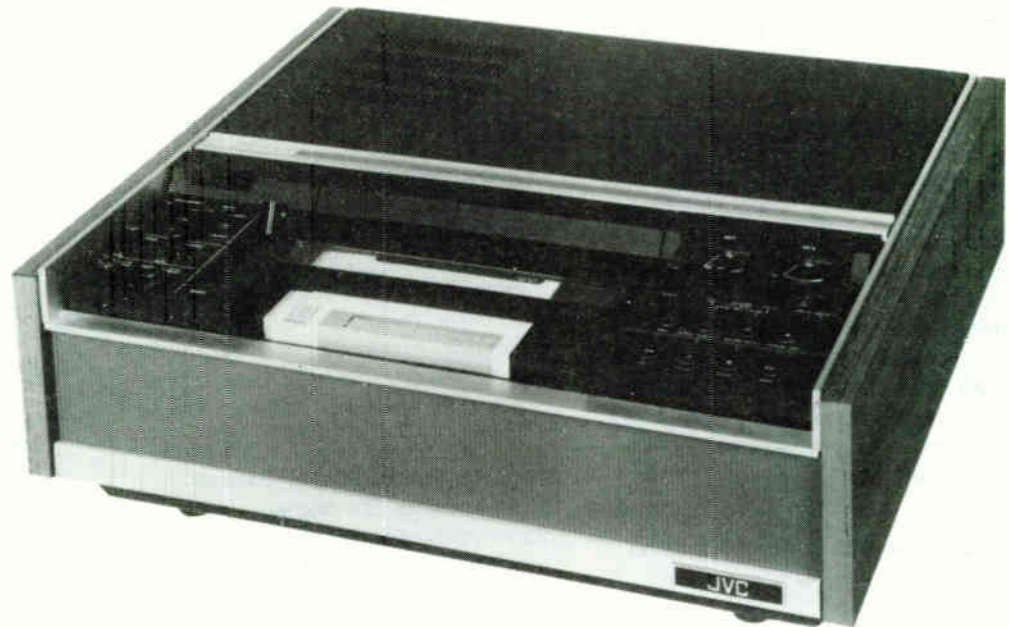
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## 3/4" RECORDER/PLAYER

### FEATURES

- Remote Control Option
- Timer Start Capability
- Dubbing Switch
- Audio Level Control w/Limiter
- Two Audio Channels
- Auto Replay Feature
- Solenoid Operation
- Still Frame
- Optional RF Converter



CR-6060U

### CR-6060U 3/4" RECORDER/PLAYER

The CR-6060U proven 3/4" U-Format performer.

The CR-6060U is a basic 3/4" recorder/player offering excellent economy, simplicity, and reliability.

**Sharp, Clear Pictures.** Highly stable, sharp images and well defined colors are provided by the AGC and double function Automatic Color Control circuits.

**Dubbing Facility (CR-6060U).** A feature normally found on more expensive 3/4" VCRs, the CR-6060U provides a dubbing switch which allows some of the color processing circuitry to be bypassed, thus improving the quality of machine-to-machine transfers.

**Still Frame Playback.** During playback, you can stop the action to analyze individual pictures. The CR-6060U is equipped with this capability.

**Timer Start Capability.** By plugging the deck into an external timer (not

included), unattended recording can take place. In the timer start mode, the machine automatically enters the record mode (CR-6060U) when the AC power is supplied.

**Audio.** Dual audio channels are provided. On the CR-6060U, recording levels can be adjusted using the meters, or automatically with the built-in limiter circuit. In addition, the CR-6060U is equipped with an audio-dub feature which allows the audio on channel-1 to be re-recorded, if desired.

**Auto-Repeat.** Tape playback can be repeated from beginning to end as many times as desired using the auto-repeat feature. An auto-search feature also lets you fast forward or rewind to counter "0000."

**Solenoid-Control.** Solenoid operation not only provides easier operation, but enables an optional remote control to be used. The RM-60U provides remote control of most tape transport functions and has tally indication.

**Optional RF Converter.** The CR-6060U can be connected to an ordinary TV receiver through the use of an optional RF converter, KR-234 (Ch 3-4) or KR-256 (Ch 5-6).

#### ACCESSORIES

RM-60U	Remote Control for CR-6060U
KR-234U	RF Converter (Ch 3-4)
KR-256U	RF Converter (Ch 5-6)

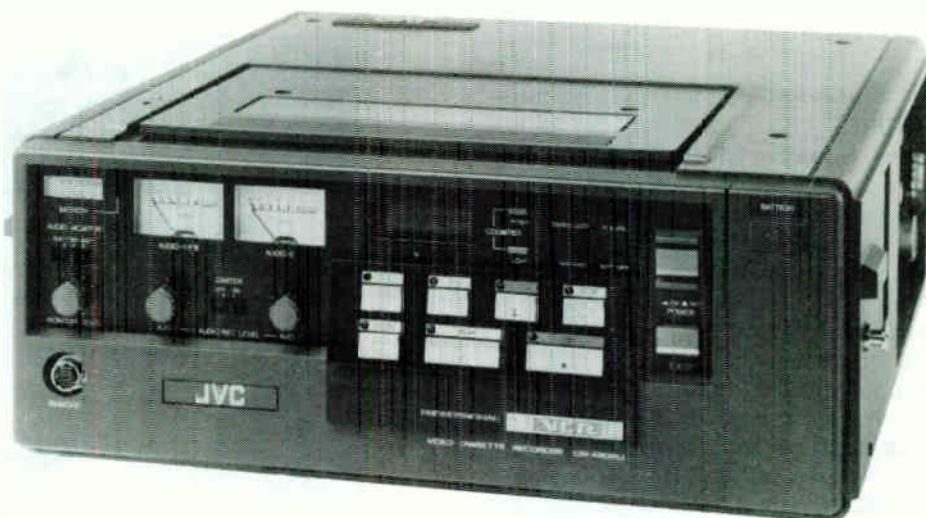
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## 3/4" PORTABLE RECORDER/PLAYER

### FEATURES

- **Video Confidence Heads**
- **SMPTE Time Code Capability** makes Possible Edits with Single-Frame Accuracy
- **Automatic Backspace Editing** for Assemble Edits in the Field
- **Real-Time Tape Counter**; for Convenience, Shows Tape Running Time in Minutes and Seconds
- **Microprocessor-Based Logic Controls** All Tape Operations for Precise Control
- **Full-Function Remote Control** (optional); Useful when the Recorder is Operated by the Cameraperson
- **Shuttle Search** at about 10 Times Normal Speed in either Direction



CR-4900U

### CR-4900U VIDEOCASSETTE RECORDER

**Lightweight.** Complete with its rechargeable NB-P2U battery pack and KCS-20 videocassette, the CR-4900U weighs only 19.6 lbs. (8.9kg). This is less than similar machines; lighter weight makes it more portable so that it can be used on more demanding assignments.

**Low Power Consumption.** The CR-4900U has a low power consumption, only 12 watts, an important advantage when it is used on location. The optional multi-charger/AC adaptor can charge the NB-P2U battery pack; four battery packs can be connected to this multi-charger and charged either in sequence (taking 90 minutes per battery pack) or simultaneously in a total of 10 hours.

**Video Confidence Heads.** The CR-4900U is the first 3.4" U-format recorder to be equipped for real-time monitoring of the signal immediately after it has been recorded while recording is taking place. This allows instantaneous detection of unsatisfactory sections so that they can be rerecorded immediately. This gives the CR-4900U an impressive advantage over competing machines.

**Recording Current Adjustment.** While recording is taking place, the level of the video signal recorded on the tape is measured; this is displayed so that the

video recording current can be optimized. By turning a control on the bottom, the recording current can be adjusted. When the meter makes its biggest deflection, the recording current is optimum.

**Microprocessor-Controlled.** All tape operations are controlled by a microprocessor. This makes it possible to use feather-touch operation buttons; when these buttons are touched lightly, they generate electrical signals which are fed into the microprocessor, which analyzes the feasibility of mode changes and the necessity of entering other modes during the changeover process before issuing the appropriate signals.

**Remote Control.** Microprocessor control also facilitates remote control using the optional remote control unit. All functions of the recorder can be controlled using this except audio dubbing and videocassette eject; this flexible remote control is particularly useful when the CR-4900U is operated by the cameraperson.

**SMPTE Time Code Capability.** With the optional TG-P47U Time Code Generator connected, the SMPTE time code—an eight-digit address—can be recorded on the tape so that the exact frame can be accessed for precise editing.

**Frame Servo Mechanism.** The frame servo mechanism allows accurate frame-to-frame editing.

**Automatic Editing.** Whenever the recorder enters the pause mode by use of the front panel pause button, the remote control unit's pause control or the camera's start switch, the tape is backspaced. Then, when recording starts again, the control track previously recorded on the tape is read so that the subsequent recording is correctly synchronized.

**Real-Time Tape Counter.** The 4-digit LCD tape counter shows the amount of tape that has run in minutes and seconds. This is a convenient way to indicate the amount of tape that has run and allows the required section of the tape to be accessed with a fair degree of precision. An identical 4-digit LCD tape counter is provided on the optional remote control.

**Shuttle Search.** In playback, the picture can be seen on the screen with the tape running in either direction at about 10 times normal speed. This is convenient when you want to locate any section of the program quickly.

#### ACCESSORIES

AA-P47U	AC Adaptor/Charger
TG-P47U	Time Code Generator
CB-P47U	Custom Shoulder Case
RM-P47U	Remote Control
BA-P47U	Battery Case for CR-4900U

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## FEATURES

- Insert, Assemble Edit Capability
- Independent Dial Search Controls
- Preview/Perform/Review Functions
- Automatic Back-Timed Edits
- Frame by Frame Edit Trim Feature
- Auto Tag (to last Edit-Out Point)
- Lap Time Function
- LED Indicators
- Record Monitor Control (REC-EE)
- Monitor Audio Volume Controls
- VCR Interface Cables Provided
- Can be used with JVC 3/4" V format or VHS VCR's

## EDITING CONTROL UNIT



RM-86U

### RM-86U VIDEO EDITING CONTROLLER

With the introduction of JVC's BR-8600U VHS editing recorder, JVC engineers saw fit to design an economical editing controller—one that would offer the convenience and ease of operation necessary for a VHS system, yet one that would also provide a degree of sophistication applicable to JVC's 3/4" TapeHandler Series. The RM-86U, a highly sophisticated micro-processor based automatic editing controller, offers features previously not found on units in its price range.

**Dial Search Controls.** Two Dial Search knobs provide tape shuttle control (visible picture search) for each VCR. Defent positions give indication as to machine speed, depending upon which VCR is being used. Tape search speeds are variable, forward & reverse.

**Independent LED Indicators.** Two large, easy to read LED displays show the tape location in Hours, Minutes, Seconds, and Frames for both recorder and player. In addition, these indicators provide, "lap time" indication, edit in point locations, edit out point locations, and computed edit duration.

**Preview/Perform/Review Buttons.** Edits may be rehearsed (previewed) prior to actually erasing any tape. This "preview" function allows the operator to make any corrections or adjustments to the edit points prior to doing the edit. The Perform button actually initiates the editing process which continues until the edit is completed, or until the Edit Stop button is pressed. The Edit Stop button can be used to manually end the edit, or to abort an unwanted edit in progress. The Review button replays the just completed edit.

**Automatic Edit Computation.** When any three edit points are entered, the fourth point is automatically computed. This controller allows you to enter two out-points and one in-point. The controller will compute the other in-point. This is a very important feature because it permits automatic back timed edits.

A back timed edit is one in which two events must end simultaneously at the edit out-point. Other edit controllers in this class don't have this feature.

**Frame By Frame Trim Feature.** Edit in and out-points can be trimmed one frame at a time by holding down "shift + " or "shift -" and touching In or Out once for each frame to be trimmed. (A computer edit point cannot be trimmed.)

**"Go To" Button.** With edit points set, pressing "Go To" and In or Out will command the respective VCR search to that edit point and stand-by. This is convenient when the operator wants to make corrections without using the trim feature.

**Edit Lap Time Indication.** When an edit point is entered, the lap timer is reset to zero, automatically. This timer indication can be viewed by pressing the Lap button next to the digital readout. The purpose of the lap timer is to allow the operator to use the tape counter with a zero reference during each edit, without disturbing the normal counter reading, which is used as a program timer and for locating segments on the tape.

**Record Monitor Control (REC-EE).** This alternating pushbutton switches the recorder's video and audio circuits to the player's signals. This permits an editing set-up using only one monitor.



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## EDITING CONTROL UNIT

### FEATURES

- Controls 2 Source Decks
- RS-422 Serial Control
- LED Indicators
- Lap Time Function
- Automatic Back-Timed Edits
- Monitor Audio Volume Controls
- Audible Alarm Warning
- Dial Search with Jog Mode
- Automatic Edit Control
- Switchable Total Time/Lap Time Counter
- "Go To" Edit-Point Location
- Preview Perform/Review Functions
- Auto-Tag Operation
- Frame-by-Frame Correction
- For use only with the CRU-850



RM-G850U

### RM-G850U AUTOMATIC EDIT CONTROLLER

The RM-G850U controller uses a built-in microprocessor to automatically produce edits from any three In/Out points entered—especially convenient for fixed-length and back-timed edits. Smooth editing accuracy is provided by twin Search dials for the master and slave recorders, jog capability and frame-by-frame edit correction.

#### "Conversational" Operation.

Self-illuminating control buttons light in proper sequence to guide operators naturally through editing procedures.

**Audible Warning.** An electronic alarm confirms activation of key functions including tape-transport, Preview, Perform, Review, etc. The alarm will also sound to indicate tape-transport abnormalities.

**Dial Search with Jog Mode.** Twin dials control recorder and player search at several different speeds between  $\frac{1}{30}$  and 15 times normal playback. The jog mode, which can be entered directly from any other, provides the fine adjustment for exact edit-point location.

**Automatic Edit Control.** This system allows entry of edit points in the still mode or on the fly (while the tape is running),

and will automatically determine the fourth point in a set of edit locations.

**Switchable Total Time/Lap Time Counter.** Independent counter displays are provided for the player and the recorder. Memorized edit points or the duration of an edit can be displayed in hours, minutes, seconds and frames. Elapsed time indication is also available.

**"GOTO" Edit-Point Location.** Edit points can be called up directly from the player or recorder for on-screen checks.

**Preview and Review.** Programmed edits can be previewed (rehearsed) without actual recording, and then reviewed after completion at the push of a button.

**Auto-Tag Convenience.** After completion of an edit, the recorder returns to the edit-out point and enters the Still mode. Pressing the Perform or Preview button automatically makes it the starting point for the next edit.

**Frame-by-Frame Correction.** Correction of edit locations to single-frame accuracy is provided using the Shift button.

**Variable Pre-Roll Time.** 3, 5, 7, 10 or 15 seconds.

#### 9-Pin Remote Control Terminal (RS-422)

**Audio Monitor Level Adjustment.** Permits audio level reduction in high-speed search modes.

#### 25-Frame and 30-Frame Compatibility

### SPECIFICATIONS

#### Power Source:

120VAC, 50/60Hz

#### Dimensions:

16 $\frac{15}{16}$ " (W) x 4 $\frac{11}{16}$ " (H) x 12 $\frac{11}{16}$ " (D)  
(430 x 118 x 322mm)

#### Weight:

Approx. 13.7 lbs. (6.2kg)

#### VCR CONTROLS

##### Control Buttons:

Play, REC (recorder side only), FF, REW, Stop, Pause/Still, Search/Jog, Eject

##### Dial Search:

0,  $\frac{1}{30}$ ,  $\frac{1}{5}$ , 1, 2, 5, 10 and 15 times normal speed in both directions

##### Edit Modes:

Assemble and Insert

##### Edit-Point Memory:

Edit-in and edit-out points held in memory

##### Edit-Point Shift:

Frame-by-frame shift in both directions

#### COUNTER/DISPLAY

##### Time Counter:

Up to 9 hours, 59 minutes, 59 seconds, 29 frames

##### Display:

Total time/elapsed time and edit-in/edit-out points

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## FEATURES

- Individual Control of VTR Transports
- SMPTE/EBU Time Code Readers (Optional)
- A/B Roll and Sync Roll Modes
- Insert and Assembly Editing Modes
- Split Video and Audio Edits
- Video Monitor Display Output
- Animation Editing
- One Button Extend Edit
- Auto/Manual Take Control for GPI Trigger
- Multi-Event Memory Storage
- On-The-Fly, Still Frame or Numeric Entry Mark with Trim Capability
- Printer Output (RS-232C)
- System Diagnostics
- Advanced Microcomputer Technology



<b>ABNER-R</b>	A/B Roll Edit Controller (Rack Style)
<b>ABNER-RC</b>	A/B Roll Edit Controller (Rack, w/TCR)
<b>ABNER-T</b>	A/B Roll Edit Controller (Tabletop)
<b>ABNER-TC</b>	A/B Roll Edit Controller (Table, w/TCR)

## ABNER BY PALTEX A/B ROLL EDITOR

The ABNER by PALTEX is a low cost A/B roll microprocessor based video editing system using either SMPTE/EBU Time Code or Control Track and is available in a 19" rack/desk mount or slim line tabletop configuration.

Ease of operation has been the main goal of ABNER's design and with individual rotary controls and transport functions for each of the 3 VTR's, anyone that has operated a two machine controller can operate the ABNER without experiencing the complexity of time-sharing machines with one joystick.

To perform an A/B roll edit, all you need to do is park the 'A' and 'B' decks at the visual frame that you want the dissolve or wipe to occur, park the 'R' deck at the visual frame that you want the new material and press either 'Preview' or 'Edit', at this point the ABNER takes control.

It will automatically load the 'In' times, roll the VTR's, trigger the switcher at the transition point and after the 'Out' has been depressed, compute the duration of the event and enter it into memory.

That's A/B roll editing made simple, the ABNER way. Remember, ABNER like all other A/B roll systems does require the 'A' and 'B' VTRs to have a time base corrector on their output and a video

switcher to allow wipes and dissolves.

The system includes a video display output that can be connected to any monochrome or green/orange phosphored monitor and provides four screen pages of information. These display all the relevant editing data, user adjustable parameters, edit, memory list and diagnostics menu.

ABNER interfaces to most modern low cost VTRs including 1/2" VHS and BETA, 3/4" U-matic and 1/2" Broadcast Component Formats.

Our special interface software allows any type of machine to be used with the system by simply connecting its relevant remote cable, this allows any mix of VTR to be used i.e. different formats from different manufacturers can be inter-mixed. The system only requires the addition of an inexpensive cable when you change or add VTR's, no costly interfaces with ABNER.

By selecting the user adjustable Executive Menu, various alternate methods of editing become available, including, Animation both from camera and VTR, 'Off-line' Edit Decision List compiling with Reel Number changes, Wipe/Dissolve codes, Duration, etc.

ABNER's edit event memory can be transferred to a printer, PALTEX floppy disk drive or paper tape in either PALTEX or other formats.

## SPECIFICATIONS (ABNER)

### Edit Modes:

Insert and Assemble; Split Video and Audio Edits; Manual and Auto Animation; A/B Roll; Sync Roll

### Search Modes:

Fast Forward; Forward Play; Forward Variable Speed; Still Frame; Stop; Reverse Variable Speed; Rewind; Cruise; Go to Any Programmed Point

### Event Set Up:

On-The-Fly Marking; Park and Perform; Park and Enter; Numerical Entry; Trim Frame by Frame or a Programmed Value; Auto Tag, Auto Next; Extended Edit; Recall any Edit in Memory

### Edit List:

PALTEX or 340; Edit Decision List Format; Printer Output (RS-232C)

### Operating Configurations:

JVC-8200, 8250, 6400, 8600, 8800, 850, 900; PAN-8500, 9600, 9240, AU-700; SONY-5 Series, BVU, SLO-383, BVW-10/40

### Electrical

#### Power:

115/220VAC  $\pm$  10%, 50/60Hz

#### Power Consumption:

30W

#### Television Standard:

NTSC, PAL, SECAM

#### Time Code:

SMPTE/EBU or Control Track Pulse Count

#### Edit Accuracy:

$\pm$  1 Frame, VTR Dependent

Mechanical	Rack Mount	Tabletop
Length:	12.25"	15.80"
Height:	5.00"	3.60"
Width:	19.00"	18.00"
Weight:	13.50 lbs.	13.50 lbs.

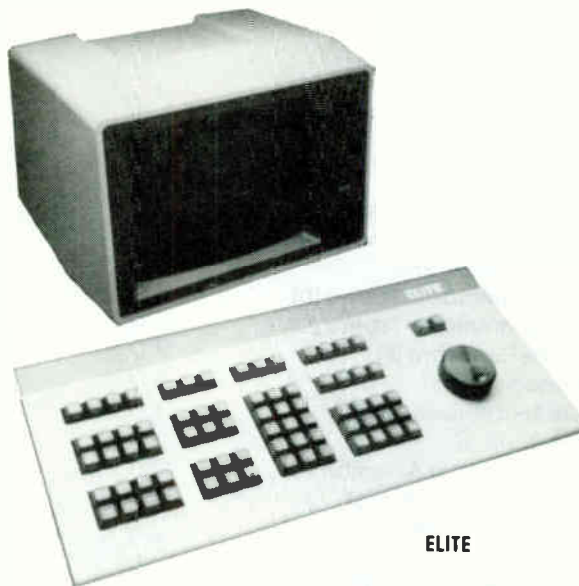
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## FEATURES

- 3 Machine Capable, any mix 1", 3/4", 1/2"
- 3 SFC's per Event in EDL
- 3 User Definable Keys
- 250 Event Non-Volatile EDL Memory
- Assignable Record/Play Capability
- Switcher Register Recall
- Delayed Effects with A1/A2 Splits
- EDL Clean Up and Text Edit Routine
- Time Code Phase Auto Adjust
- Sequential Auto Assemble
- Event Match of EDL
- A/V Sync Frame Bump
- Effects Rehearse Facility
- Scratch Pad Memory
- Help and Switcher Set-Up Help
- Optional Comments Keyboard
- Vertical Interval Time Code (VITC) Option

## MULTISOURCE EDIT CONTROLLERS



ELITE

### ELITE, EXCEL AND EDITSTAR BY PALTEX

The following describes many aspects of the PALTEX style of Editing. Each model has its own level of sophistication.

The PALTEX concept allows you to expand and enhance the System as your needs grow, from the ELITE to the EXCEL to the EDITSTAR while maintaining system compatibility.

**Keyboard** Each system has all major Key Groups in the same position using the same terminology, the number of keys depend upon the number of VTR's interfaced, the level of List Management, etc. All frequently used functions fall easily to hand with the minimum amount of movement and key strokes. Where complex or repetitive tasks are encountered the User Definable Facility allows the operator to simply set-up a chosen routine and access this each time by depressing one key. The Rotary VaraScan™ Control provides variable Manual Speed Control from High Speed Shuttle to Freeze Frame in both directions with Frame Jog Capability (VTR dependent).

**Display** Again, system familiarity is maintained by uniformity of the CRT display, variations being the number of VTR's interfaced, Facilities within the Scratch Pad area and the number of SFC's.

A full page of the Edit Decision List (EDL) can be displayed, allowing a review of the list in either direction. A Split EDL feature enables the operator to reference the List while keeping current event data available, the number of Split Events displayed being System dependent.

**User Keys** The Keyboard includes conveniently grouped User Definable Keys which allow the operator to program key sequences of up to 20 Keystrokes into each User Key. After a User Key is programmed, pressing that key automatically executes the entire sequence. Pauses can be placed in the User Key to allow the operator to enter time code values or other manually required data during User Key execution.

User Keys can include other User Keys allowing chained command strings. As an added convenience, User Key sequences may be saved to disk for future use. A User Key abort function allows the system to terminate a sequence at the end of the current function.

**Special Function Cells** SFC's allow control of external devices by triggering Relay Contacts/TTL Logic Levels or by serially communicating with Switcher Register's, Switcher Memory's, Audio Consoles, etc. A number of SFC's may be

tied to any event, each having a device type, trigger code and trigger time. All pertinent SFC data is automatically stored with the relevant event in the EDL and moves with it during List Management changes. SFC's are used for controlling Digital Effects, Character Generators, Computer Graphics and any other device whose operation must be controlled on a specific time code and frame basis.

SFC's can be enabled through the Effects Rehearse function, whereby trigger data is available for previewing Switcher Set-Ups etc. without the need to roll VTR's. SFC data occurs automatically during normal Preview and Edit. After the event is completed and stored in the EDL the SFC Registers are re-set ready for the next application.

**Auto C/F Adjust** The operator has various methods available for maintaining the correct 4 or 8 field (PAL) relationship when marking Edit 'In' Points. These can be manually trimmed, allowing correction in either the Record or Play Marks or by using 'Auto C/F' the system will adjust all selected 'In' Points to the nearest correct position on an Edit by Edit basis with a single Key Stroke or automatically when an Edit/Preview is performed.



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## FEATURES

- 4 Machine Capable, any mix 1", 3/4", 1/2"
- 5 SFC's per Event in EDL
- 3 User Definable Keys
- 500 Event Non-Volatile EDL Memory (D)
- 998 Event Non-Volatile EDL Memory (P)
- *\* Includes EXCEL Features, Plus:*
- SpeedScan, Programmable Speed (D)
- FreezeScan, Programmable Freeze (D)
- Backtrac 'Off-Line' Software (P)
- EDL Sort List Management
- Programmable Split Screen Display
- EDL Block Move Routine
- Continuous Sync Roll Auto Assembly (D)
- All Extra Sources in EDL with Recall
- EDL-DOS PC Listing Software
- Optional Comments Keyboard
- Vertical Interval Time Code (VITC) Option

# MULTISOURCE EDIT CONTROLLERS



EDITSTAR

## ELITE, EXCEL AND EDITSTAR BY PALTEX (cont'd)

When the system is controlling a serial switcher, a specific 'switcher type' Help Menu indicates the additional secondary functions, Register Recall for example, available with that particular type of switcher and how it can be accessed by the system.

**Switcher Control** The system controls an RS-422 interfaced switcher (Parallel optional) and provides selection of Play VTR's, two External Feeds and Video Black.

The operator can reassign any source to any Crosspoint of a serial switcher through the crosspoint reassignment routine.

Cut, Wipe, Wipe Code, Dissolve, Effect Duration, Key and Delayed Effect and Standard Facilities and Switchers with built-in Memory Registers can be accessed with SFC Codes.

Effect Rehearse allows any Switcher or SFC Effect to be previewed without having to roll the source materials.

The ESPRIT PLUS provides Switcher Memory Data Storage together with the EDL, allowing various operational choices: Auto Store—creates a file tied to each Event that contains Switcher Data. Manual Store—prompts operator to create a file. M/E Map—allows stored registers to be redefined between M/E Banks.

**Learn-Mode Motion Control** The ES/D and ESPRIT PLUS can perform many enhanced Speed Control Functions on up to 2 VTRs simultaneously. The Exclusive SmartScan™ Calibration Mode compares actual VTR variable play speeds both forward and reverse to a precise internal clock, allowing the system to develop the speed calibration look-up tables required to allow the various SmartScan functions to be totally repeatable and interchangeable between different systems and different VTRs including older style 1" machines.

**FreezeScan:** Will freeze the VTRs at any designated frame during Previews and Edits.

**SpeedScan:** Allows the operator complete freedom to select a constant forward or reverse speed from 1/100 to 10 times normal play speed (VTR dependent) using either the VaraScan Control or by entering the desired speed from the keyboard as a percentage of normal play.

In addition, the ESPRIT PLUS includes: SmartScan FIT™ (Expansion/Compression) which automatically computes the Play VTR speeds needed to Fit, Squeeze or Stretch, a marked Play VTR segment into a marked Record VTR time.

**Total Learn-Mode:** Allows the system to memorize complete variable motion sequences in real time without any System limitation as to the speed range. The operator has total flexibility to move

the VTR Forward, Reverse, Freeze, etc., with the System learning to the frame each change.

During any event that a Play VTR has had a variable speed function, the system will compute a 'Real' Out-Time allowing Match Frame 'pick-ups' from Non-Real Time sequences.

All SmartScan Data is automatically tied to the appropriate event in the EDL and stored for future use.

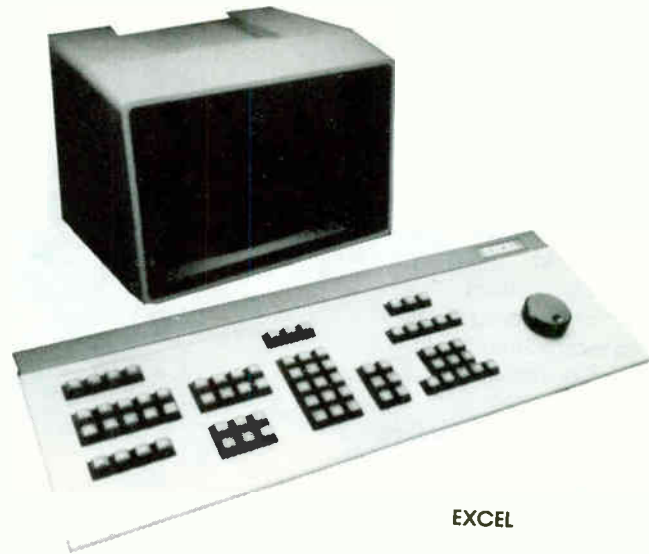
# JVC PROFESSIONAL PRODUCTS COMPANY

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## FEATURES

- 3 Machine Capable, any mix 1", 3/4", 1/2"
- 3 SFC's per Event in EDL
- 3 User Definable Keys
- 326 Event Non-Volatile EDL Memory
- *Includes Elite Features Plus:*
- Switcher Crosspoint Reassignment
- Animation Assembly
- Active List Trac of EDL
- Auto List Match of EDL
- Sync Roll Effects Listed in EDL
- Disk Store of User Key Data
- 3 Line Split Screen Display
- Print CRT Display
- Recall of Sync Roll Effects From EDL
- Comments Only Event Search
- Optional Comments Keyboard
- Vertical Interval Time Code (VITC) Option

# MULTISOURCE EDIT CONTROLLERS



EXCEL

## ELITE, EXCEL AND EDITSTAR BY PALTEX (cont'd)

**Time Code** A Longitudinal Time Code Reader is included with each VTR Interface in the System and optional Vertical Interval Readers (VITC) can be added at any time.

Intermixing source tapes with 'Drop Frame' and 'Non-Drop Frame' SMPTE Code will not effect Editing accuracy, all systems are 8 field PAL EBU code compatible.

Non-Time Coded Tapes or those with defective code can still be edited, as the system allows the operator to individually select Time Code or Control Track operation at any time on a per VTR basis. Code breaks are no longer a problem, as that VTR can be 'toggled' into Control Track during the Pre-Roll Synchronization period and 'toggled' back to Time Code once Lock has been achieved.

To assist the operator in identifying the Clocking System in use, a continuous indication is provided in the display for each VTR of LTC, VTC (when fitted) or CTR.

### Time Code Phase Adjustment

Synchronization failures caused by Time Code Phase errors commonly found with cassette format VTR's are now eliminated by activating the Auto Phase Compensation System that is part of the Standard Software. This automatically monitors Off-Tape Phase relative to

System Reference Black and continuously compensates for Off-Tape errors, thereby allowing all 'foreign' material to successfully synchronize and be edited frame accurately, without the need for additional external units.

**EDL Storage** The EDL is stored in Non-Volatile Memory, allowing all EDL data to be 'held' overnight or protected in case of 'power hits' etc. The system, when equipped with a suitable disk drive, can accept Edit Lists from 3 1/2", 5 1/4" or 8" floppy disks in either PALTEX High Speed Binary Format or the 'interchange' RT11 ASCII Format. The EDL can be transferred to disk using either the PALTEX EDL-DOS Software on a PC or an RT11 8" drive. Edit Lists can be saved to disk or printer as a complete List or as a block of Events. Systems rolling more than three VTR's in one edit will automatically enter data from the additional sources—Reel No's, 'In' Time etc. into the EDL Comment Area. When an Event is recalled with this data, the Event can be restored to the Active Display with a single key stroke.

**BACKTRAC™** The PALTEX 'Backtrac' Facility included in the ES/P version allows total freedom in 'Off-Line' Editing, you can now create Multi-Generation Edit Lists and Backtrac through the information to find the original material. An Edit Master can be used as Source Material in

subsequent program changes thereby saving the need to reassemble another 'Workprint.' The Backtrac function is extremely powerful in that it can find the common thread through up to 13 generations of Edit Lists and produce a final back-tracked Edit List for Auto-Assembly.

**List Management** Text Edit: Allows insertion, deletion and modification of Events in the Edit Decision List (EDL) with the capability of Rippling the Effects of the changes through subsequent Events.

Clean Up: Trims portions of Events which are listed in the EDL, but which have been modified or eliminated later by the operator, for example 'over records.'

EDL Sort: Analyzes the EDL and Sorts by Record 'In' Time to produce an EDL of sequential continuity.

Block Move: Allows Blocks of Events to be moved to any location within the EDL with or without Ripple, thereby allowing complete sequences of action to be repositioned for better artistic effect.

**Help** The unique PALTEX 'Help' Facility is included in each system, this provides immediate access to Menu's that summarize the Functions of the majority of Keys on the Keyboard. The Help command displays on the CRT a list of facilities that the key in question can accomplish, along with the Key

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## FEATURES

- Professional-Quality Editing Functions
- Flying Erase Heads
- Preroll Function for Automatic Editing
- Direct-Drive Transport
- Variable-Speed Dial Search
- Video Processing Circuit
- Two-Channel Audio
- Dolby® B Noise Reduction
- Improved Color Dubbing Quality
- Three Video Inputs Selectable
- External Sync Capability
- Total Front Operation
- Electronic Tape Counter/Lap Timer
- Tape End Warning
- External Hour Meter
- Automatic Rewind
- Electronic Tape Tension Control
- 45-Pin Connector for Edit Controller



BR-8600U

## BR-8600U VIDEOCASSETTE EDITING RECORDER

Engineered for professionals, a full-function VHS editor with the features, styling, and feel of advanced  $\frac{3}{4}$ " systems.

The VHS format, now the most popular videocassette format in the world, has grown immensely popular within the professional video community. As the originator of the VHS format, JVC is totally committed to its success and has responded to the demand for a full function editing recorder.

The BR-8600U is a VHS editor based on JVC's advanced heavy-duty technology. It incorporates 6 video heads. One pair is used for standard 2-hour recording and playback. Another pair is for still and search functions. And two rotary erase heads provide perfect insert edit capability. System configurations are flexible: a choice of professional VHS and  $\frac{3}{4}$ " recorders and players are available as a playback source. For a complete automatic editing system, a choice of editing controllers is also available.

### Professional-Quality Editing Functions.

The BR-8600U has a pair of rotary erase heads and a blanking switcher which make possible assemble and insert

editing with virtually no distortion at the edit points. Edit flagging is minimized by use of a framing servo and extremely stable horizontal phase lock.

### Preroll Function for Automatic Editing.

An independent Preroll button is provided on the control panel to automatically backspace the tape by about 3 seconds of program time. When no edit controller is being used, reasonably accurate editing can be accomplished with two BR-8600U's utilizing the Preroll buttons on the recorder and source. After locating the edit-in points using the convenient dial search controls, the machines are each prerolled. When Edit Start buttons are pressed simultaneously, the edit takes place at the predetermined edit points.

### Heavy-Duty Mechanism with

**Direct-Drive Motors.** The head drum is directly driven by a servo-controlled brushless DC motor, while the capstan and reels are also directly driven by independent DC motors. This assures highly stable pictures as well as greatly improved reliability. To add further to reliability and durability, the mechanism is supported by an aluminum die-cast chassis.

### Variable-Speed Dial Search. A

convenient, easy-to-operate control dial is provided for fast and accurate location of edit points. Turning this rotary dial varies the tape speed from still to 10 times normal, in both forward and reverse directions. The sensitivity of the control is dependent on the selected speed, so that fast, positive control of the tape is always maintained.

**Video Processing Circuit.** VHS picture quality is improved due to a video signal processing circuit. The BR-8600U conforms to the standard VHS format and a single cassette (T-120) provides 2 hours of quality recording and playback.

### Video Recording Adjustment—Video Level/Tracking Meter.

Normally the Automatic Gain Control (AGC) circuit optimizes the video recording current depending on the input video signal. For demanding professionals, however, this circuit can be defeated and the video level can be manually adjusted referring to the video level meter. During playback, the meter functions as a tracking meter and helps in precise playback adjustment together with an independent tracking control.



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## Two-Channel Audio for Stereo

**Recording and Playback.** Independent audio level meters are provided for channels 1 and 2. The audio levels of the two channels can therefore be separately adjusted. Independent audio limiters are provided and can be switched in and out as needs require.

## Dolby® B Noise Reduction

**Incorporated.** To further improve sound quality by reducing tape hiss. Dolby B noise reduction circuitry is incorporated in the audio recording and playback circuits.

**Improved Color Dubbing Quality.** The playback video signal is normally subjected to compensation so that the picture quality on the monitor is improved. However, non-compensated color signals are more suitable for dubbing and result in higher-quality color copies. In order to make this kind of signal available at the Video Out terminals, the BR-8600U is equipped with a switch labeled Color Process. When the BR-8600U is used in a copying system, set this switch to Off; the resulting tape will have a significantly improved color quality.

**Three Video Inputs Selectable.** Three video inputs (Line-1, Line-2, 8-Pin TV) are provided and the input select switch on the front panel makes it possible to incorporate signals from a tape, a camera or a TV monitor onto an edited tape by simply operating the switch.

## Field-Still and Slow-Motion Playback.

The BR-8600U has two pairs of video heads: one pair for recording and normal-speed playback, the other pair (extra video heads) for still and slow-motion playback. This is in keeping with JVC policy; recording of the highest possible quality is assured and stable pictures can be obtained even in still and slow-motion modes. Ease of locating edit points is considerably enhanced.

**External Sync Capability.** The BR-8600U is equipped with all terminals and connectors required by video professionals for editing; the Sync In connector enables external

synchronization so that the BR-8600U can easily be incorporated in an existing video system. By use of the Sync In connector, a time base corrector (TBC) can also be connected.

**Total Front Operation.** As well as the front cassette loading system, all switches and controls are accessible from the front. Conforming to the 19" rackmount standard, the BR-8600U presents no problem at all when it is to be installed in your existing production house.

**Electronic Tape Counter/Lap Timer with Fluorescent Display.** A 4-digit counter provides a convenient means of addressing tape segments. The display doubles as a 5-digit lap timer showing tape running time in hours, minutes and seconds. The fluorescent display used assures easy readability.

**Tape End Warning.** About 5 minutes before the end of the tape, the electronic tape counter starts flashing, indicating that the tape is coming to an end.

**Shuttle Search at About 10 Times Normal Speed.** Run the tape at about 10 times normal speed either forward or in reverse while watching the speeded-up picture. You can scan through a whole 2-hour program in about 12 minutes.

**Automatic Search and Repeat.** In conjunction with the tape counter, the automatic search mode enables any section of the program to be located automatically. In the automatic repeat mode, the entire tape is automatically played back any number of times.

\*Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

## ACCESSORIES

<b>VEP-1</b>	Edit System (BP-5300U, RM-86U, BR-8600U)
<b>VEP-2</b>	Edit System (BR-6400U, RM-86U, BR-8600U)
<b>VEP-3</b>	Edit System (BR-8600U, RM-86U, BR-8600U)
<b>VEP-4</b>	Edit System (BR-6200U, RM-G68J, BR-8600U)
<b>VEP-5</b>	Edit System (BR-7700U, RM-86U, BR-8600U)

# VHS EDITING RECORDER

## SPECIFICATIONS

### GENERAL

**Format:** VHS 1/2" (12.7mm) NTSC standard

**Power Requirement:** 120VAC, 50/60Hz

**Power Consumption:**

80W (with Automatic Editing Control Unit, 12VDC, 550mA) 68W

**Dimensions:**

17<sup>11</sup>/<sub>32</sub>" (W) x 6<sup>5</sup>/<sub>16</sub>" (H) x 17<sup>21</sup>/<sub>32</sub>" (D)  
(44.0 x 16.0 x 44.8cm)

**Weight:** 41.0 lbs. (18.5kg)

**Recording & Playback Time:**

Max. 120 min. with JVC T-120

**Fast Forward/Rewind Time:**

Less than 5 min. for 120 min. tape

**Wow and Flutter:** Less than 0.25% rms

**Search Speed:**

Shuttle FWD/REV ± 10X

Variable 0— ± 5X, ± 10X

### VIDEO

**Signal-to-Noise Ratio:**

45dB (Rhode and Schwarz noise meter)

**Horizontal Resolution:**

Monochrome: 300 lines, Color: 240 lines

**Sync Input:**

4+0/-3V p-p, 75 ohms, unbalanced

**Input Select:** TV/LINE 1/LINE 2

**Sync Select:** INT/EXT

### AUDIO

**Input:**

Line: 6/-20dBs (selectable), 10K ohms, unbalanced (CH-1/CH-2)

Mic: -70 to -60dBm, 600 ohms, unbalanced

TV: -20dBs, 10K ohms, unbalanced

**Output:**

Line: -60dBs, low impedance, unbalanced

Monitor: 0dBs, low impedance, unbalanced (CH-1/MIX/CH-2)

Headphone: High/Med./Low, 8 to 300 ohms, unbalanced

TV: 0dBs, low impedance, unbalanced

**Signal-to-Noise Ratio:**

48dB (NR on), 44dB (NR off) (at 3% distortion level)

**Frequency Response:** 20 to 12,000Hz

**Input Select:** TV/Line

**Monitor Output Select:** CH-1/MIX/CH-2

### CONNECTORS

**Video:**

Line Input/Output: BNC type connectors

Sync Input: BNC-type connector

TV Input/Output EIAJ 8-pin TV connector

**Audio:**

Line Input/Output: RCA-type pin jacks

MIC: 6mm jacks

Monitor Out: RCA-type pin jack

Headphone: 6mm jack

**Remote Control:** 45-pin connector

**AC IN:** 3-lead AC connector

**Accessories:**

Power cord, monitor cable, dust cover

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## FEATURES

- Direct-Drive Motors
- Rugged Die-Cast Aluminum Chassis
- Motorized Front Cassette Loading
- 4-Head System
- Microprocessor Full-Logic Control
- Shuttle Search at up to 10 Times Normal Speed in either Direction
- Playback at any Speed from Still to 5 Times Normal Speed in either Direction
- Capstan Servo and External Sync Capability
- Two-Channel Audio
- Remote Control and Random Access Options
- Electronic Tape Counter/Lap Timer with Fluorescent Display
- Audio Level Control with Meters
- Two-Channel Selectable Audio Dubbing (BR-6400U only)
- Editing Control Interfacing
- Easy Serviceability

# VHS RECORDER/PLAYER



BR-6400U



BP-5300U

## BR-6400U VIDEOCASSETTE RECORDER BP-5300U VIDEOCASSETTE PLAYER

These machines embody the latest and best of JVC's VHS technology. They are designed to offer every possible user-oriented convenience. The BR-6400U and BP-5300U can be used as source decks with JVC's VHS and 3/4" editing systems.

**Direct-Drive Motors.** The motor used to drive the head drum is a direct-drive, servo-controlled, brushless DC motor, while the capstan and reels have independent direct-drive DC motors. This system keeps jitter down to an absolute minimum, assuring stable pictures and more reliable operation.

**Rugged Die-Cast Aluminum Chassis.** Robust and durable, the die-cast aluminum chassis gives the firm support that the mechanism requires for years of trouble-free operation in a demanding professional environment.

**Motorized Front Cassette Loading.** Simply insert the edge of the videocassette into the front panel slot

and the loading motor moves the cassette gently so that it is positioned for correct operation. With all controls on the front panel, this loading mechanism allows the machine to be mounted in a stacked configuration to save space.

**4-Head System.** Both these machines have two pairs of video heads; one pair for recording (BR-6400U only) and normal speed playback, the other pair for search and variable-speed playback. This is in keeping with JVC policy; as well as assuring that recording is of the highest possible quality, this system gives stable pictures in any playback mode.

**Microprocessor Full-Logic Control.** Feather-light touch operation and highly reliable tape transport control are made possible by advanced full-logic electronics.

**Shuttle Search at up to 10 Times Normal Speed in Either Direction.** No more guesswork in locating the particular section you want to view; you can scan through a whole 2-hour program in about 12 minutes. Run the tape at about 10 times normal speed either forward or in reverse while watching the

speeded-up picture on the screen. This takes you to the scene you want quickly and accurately.

**Playback at any Speed from Still to 5 Times Normal Speed in either Direction.** When controlled from either of the optional remote control units, the playback speed can be varied continuously from still to 5 times normal in both forward and reverse directions. This is a great help in editing; you can accurately and quickly locate any required frame. It also allows more detailed analysis of action.

**Capstan Servo and External Sync Capability.** Because of its capstan servo mechanism and the fact that it can accept external sync signals to which playback is synchronized, these machines can easily be incorporated in an existing video system.

**Two-Channel Audio.** Two audio channels make the system more versatile and increase the range of applications. Either of the two channels can be played independently; stereo playback is also possible.

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**Remote Control and Random Access Options.** A choice of cable and infrared full-function remote control units using microprocessors are optionally available; choose the one which meets your needs best. As well as giving control over tape operations, they also control high-speed picture search and variable-speed playback. An optional random access unit equipped with a digital fluorescent display allows you to input any tape address for quick retrieval of any scene.

**Electronic Tape Counter/Lap Timer with Fluorescent Display.** 4-digit tape counter provides a convenient means of addressing tape segments. The display doubles as a 5-digit lap timer showing tape running time in hours, minutes and seconds.

**Audio Level Control with Meters (BR-6400U only).** To prevent over-level recordings, an audio limiter circuit is provided in each of the audio channels. These limiter circuits can be switched on and off. In either condition, manual level control referring to the meters is possible.

**Two-Channel Selectable Audio Dubbing (BR-6400U only).** For greater flexibility and better control over sound, either of the two audio channels can be selected for dubbing.

**Editing Control Interfacing.** For more elaborate editing, direct interfacing with JVC's Automatic Editing Control Units is possible, enabling  $\frac{1}{2}$ " to  $\frac{3}{4}$ " or  $\frac{3}{4}$ " to  $\frac{1}{2}$ " edits to be made quickly and accurately.

**Easy Serviceability.** Main circuit boards can be checked conveniently by connecting an extension board. This makes a major contribution to dependable operation throughout the unit's long service-life.

## ACCESSORIES

- RM-P53U** Wired Remote Control for BR-6400U/BP-5300U  
**RM-P54U** Wireless Remote Control for BR-6400U/BP-5300U  
**RM-P500U** Random Access Control for BR-6400U/BP-5300U

# VHS RECORDER/PLAYER

## SPECIFICATIONS

### GENERAL

#### Format:

VHS  $\frac{1}{2}$ " (12.7mm) NTSC standard

#### Power Requirement:

120VAC, 50/60Hz

#### Power Consumption:

73W (with remote control, 12VDC, max. 0.55A) 53W (in the record mode)

#### Dimensions:

17 $\frac{1}{32}$ "(W) x 6 $\frac{15}{32}$ "(H) x 17 $\frac{21}{32}$ "(D)  
(44.0 x 16.4 x 44.8cm)

#### Weight:

37.8 lbs. (17.2kg)

#### Operating Temperature:

5°C to 40°C (41°F to 104°F)

#### Tape Speed:

33.35mm/sec. (1.31 ips)

#### Fast Forward/Rewind Time:

Less than 4 min. for 120 min. tape

### VIDEO

#### Recording System: (BR-6400U only)

Rotary two-head, helical scanning system

Luminance: FM recording

Color Signal: Phase shift, converted subcarrier direct recording

#### Video Signal System:

NTSC-type color signal (EIA standard)

#### Input Line/TV:

0.5 to 2.0V p-p, 75 ohms, unbalanced

#### Output Line/TV:

1.0V p-p, 75 ohms, unbalanced

#### Signal-to-Noise Ratio:

45dB (Rohde & Schwarz noise meter)

#### Horizontal Resolution:

Monochrome: more than 280 lines

Color: more than 230 lines

#### Sync Input:

1 to 4V p-p, 75 ohms, unbalanced

#### Sync Select:

Int/Ext

### AUDIO

#### Input Line: (BR-6400U only)

-6/-20dBs (selectable), 10K ohms

unbalanced (CH-1/CH-2)

Mic: -70 to -60dBm, 600 ohms,

unbalanced

#### Output Line:

-6dBs, low impedance, unbalanced

Monitor: 0dBs, low impedance,

unbalanced (CH-1/CH-2/Mix)

TV: 0dBs, low impedance, unbalanced

#### Signal-to-Noise Ratio:

48dB (NR-on), 45dB (NR-off) (at 3%

distortion level)

#### Frequency Response:

20 to 12,000Hz



BR-6400TR

### Multi-Standard VHS Recorder

#### BR-6400TR Videocassette Recorder

Features and specifications similar to BR-6400U; Records PAL, SECAM signals;

Playback in PAL, SECAM and NTSC 4.43 formats; Power requirement: 100/120/220/240 VAC 50/60Hz



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## FEATURES

- Quality Hi-Fi Sound
- Direct-Drive Motors Plus Heavy-Duty Chassis
- Professional Hi-Fi Dubbing System
- Oversize Cassette Mounting Guide
- Big, One-Glance Audio/Video Level Meters
- Manual/Auto Video Recording Level
- Accidental Erasure Override
- High Quality Sound in Normal Audio Mode
- Two Audio Inputs for Recording Flexibility
- Easy Frontal Access to Essential Test Points
- Front Panel Hour Meter
- Easy Tape Path Maintenance
- Serial Parallel Remote Control Flexibility

# HI-FI VHS DUPLICATOR



BR-7000UR

## BR-7000UR HI-FI VHS DUPLICATOR

JVC, the originator of the world's most popular video format—VHS, has designed and built a VHS Hi-Fi recorder specifically for tape duplication. The BR-7000UR was conceived with the anticipation of a large consumer demand for pre-recorded VHS Hi-Fi tapes during the next few years. And it was conceived with the idea that people duplicating the video cassettes would be expecting the very highest quality video and audio reproduction from a machine designed for such a purpose.

### Why A Video Recorder Just For Duplicators?

JVC engineers visited a number of major duplication facilities throughout the world, and it became apparent that the needs of duplicators were unlike those of any other user of video tape products. There was the temptation to design an "all purpose" recorder/player that would incorporate some of the features the duplicators needed—and many features that were not needed. But there were already such machines on the market, and that's not what the duplicators were asking for. Instead, JVC engineers took the ideas and suggestions of the engineers and

technicians specializing in duplication, and came up with a VCR that was designed Inside and Out especially for them. Complete with punch-outs on the rear panel for user modifications, and front panel test points, the BR-7000UR was designed for one application: continuous duty tape duplication in the VHS Hi-Fi format at the Standard Play tape speed.

**Durability.** The BR-7000UR is based on the most advanced electronic tape transport system available today. The transport, mounted on a solid die-cast aluminum chassis, has been designed to give continuous, trouble-free use for years. Servo-controlled direct-drive motors not only ensure greater viewing stability, but they are also more reliable.

**Ease Of Maintenance.** Despite its low maintenance design, JVC engineers wanted a recorder that technicians could keep in peak operating condition with utmost ease. It is for this reason that several innovations were incorporated: Front panel test points. Provided are the following: Ground; Drum Pulse; Video RF (FM Carrier); Hi-Fi Audio RF (FM Carrier); Normal Audio RF-Out

Plug-in circuit board construction. Most circuit boards are designed for quick replacement and can be swung out or unplugged. In addition, a replaceable fuse is located on the rear panel.

Front panel hour meter and serial number. Most people wouldn't want these items on the front of the machine, but the BR-7000UR wasn't designed for most people. Duplication houses want the ability to quickly identify a machine and its operating hours. The plug-in hour meter indicates up to 5000 hours of head drum operation, and can be reset by simply un-plugging and turning around. Window for tape path cleaning. On the top cover of this front load machine is a trap door. Inside, there is access to the head drum and tape path components.

**Duplicator-Friendly Operation.** The following features were asked for by the professional duplication houses:

1. Wide opening for accepting the cassette with a guide for easy loading and unloading of the cassette.
2. At-a-glance large recording indicator (possibly the largest LED recording indicator in the industry.)

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3. Recording capability of a cassette with the safety-tab off. (Bulk duplication tape is shipped and recorded with the safety tab already broken off. This eliminates the need for the duplicator to remove the tab.) The BR-7000UR goes one step further: A front panel LED tells the duplicator whether the tab is in the cassette or not.

4. Large video/tracking and audio meters.

5. A cover for operational buttons is provided which prevents accidental misoperation. Since all transport functions are normally remote controlled, there is no need for the person loading and unloading tapes to have access to these controls.

6. Video AGC on/off switch. Provided as a convenience, the video recording level can be adjusted manually or automatically, using the AGC. The BR-7000UR is equipped with a video level meter.

**Outstanding Performance.** The performance of the BR-7000UR is second to none. With no compromise either electronically or mechanically, JVC engineers built the very best VHS machine possible.

Improved video processing circuitry including: A pulse response improvement circuit; Signal-to-noise improvement circuit; Improved filter response; Improved head resonance characteristics.

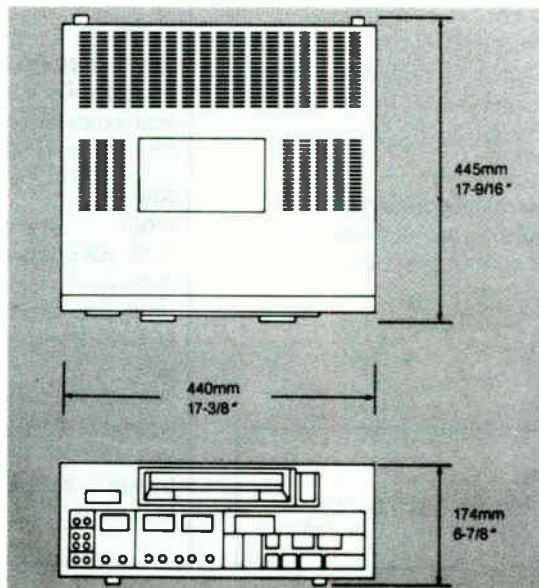
Dolby B noise reduction circuits on the normal audio channels.

Utilization of the "VHS Hi-Fi" audio format, incorporating two rotary audio heads. Audio dynamic range is more than 85dB with a frequency response of 20 to 20,000Hz.

**Serial Or Parallel Control System.** Thanks to the BR-7000UR's built-in serial coding system, you can create a whole professional system carrying out hi-fi dubbing operations with matchless efficiency. Dubbing operations are further simplified by the BR-7000UR's remote control capability, covering Record, Play, FF, REW, Stop, Pause, Rec. Pause, Eject, plus Hi-Fi Record on/off functions. Simply interconnect any number of BR-7000UR units using an RCA pin cable. Each unit is supplied with a cover over the control buttons and switches on the front panel, which prevents the BR-7000UR from operating accidentally when under serial coded remote control.

For installation into duplication facilities using parallel control, the BR-7000UR is equipped with a 34-pin connector, which gives access to most machine functions.

**DIMENSIONS**



# HI-FI VHS DUPLICATOR

## SPECIFICATIONS

### GENERAL

**Format:**

VHS 1/2" NTSC Standard

**Power Requirement:**

120VAC, 50/60Hz

**Power Consumption:**

55W (Max. 67W with remote control unit, 12VDC, 550mA)

**Dimensions:**

17<sup>3</sup>/<sub>8</sub>" (W) x 6<sup>7</sup>/<sub>8</sub>" (H) x 17<sup>9</sup>/<sub>16</sub>" (D)  
 (440 x 174 x 445mm)

**Weight:**

39 lbs. (17.5kg)

**Operating Temperature:**

5°C to 40°C

**Tape Speed:**

33.35mm/sec.

**Recording Time:**

Max. 120 min. with T-120 cassette

**FF/REW Time:**

Less than 4.0 min. for T-120 cassette

### VIDEO

**Video Signal System:**

NTSC color and EIA monochrome signals, 525 lines

**Input:**

0.5 to 2.0V p-p, 75 ohms, unbalanced

**Output:**

1.0V p-p, 75 ohms, unbalanced

**Signal-to-Noise Ratio:**

45dB (Rohde and Schwarz)

**Horizontal Resolution:**

240 lines (Color); 300 lines (BW)

### AUDIO

**Input:**

-6dBs, 10K ohms, unbalanced

**Output:**

-6dBs, into 1K ohm, unbalanced (Normal, Hi-Fi)

**Frequency Response:**

20Hz to 12kHz (Normal)

20Hz to 20kHz (Hi-Fi)

**Dynamic Range:**

85dB (Hi-Fi)

**Signal-to-Noise Ratio:**

48dB (NR-on), 44dB (NR-off)

(Normal) at 3% distortion

**Wow and Flutter:**

Less than 0.005% WRMS (Hi-Fi)

Less than 0.25% WRMS (Normal)

### CONNECTORS

**Video Input/Output:**

BNC-type

**Audio Input:**

RCA (Normal, Hi-Fi)

**Audio Output:**

RCA (Normal, Hi-Fi)

**Remote Control:**

34-pin connector

**AC IN:**

3-wired AC connector

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## FEATURES

- Professional Video Quality plus Hi-Fi Audio-Front Loading
- 2-Channel Dolby B Noise Reduction
- Direct Drive Motors
- 2 Hour Recorder/Player
- Variable-speed dial search, 10X
- Video recording level adjustment—video level/tracking meter
- R/L channel Hi-Fi/normal audio level meters
- External sync capability
- Repeat playback
- Timer recording with external timer
- Audio dubbing facility
- Test points on rear panel
- Vertical-interval switching
- Audio limiter search
- Video AGC ON/OFF Switch
- Frame Servo ON/OFF Switch



BR-7700U

## BR-7700U HI-FI STEREO VIDEOCASSETTE RECORDER/PLAYER

Yet another demonstration of JVC's commitment to the VHS system, the BR-7700U is a full-function VHS recorder built to professional standards with the added advantage that it can be used as a Hi-Fi feeder in VHS editing systems. It incorporates a variety of functions including a blanking switcher which minimizes distortion of the video and audio signals at the edit points. Edit flagging is minimized by the framing servo circuit. Therefore, the BR-7700U makes it possible to expect the quality required by video professionals.

**2-channel normal audio with Dolby B Noise Reduction.** So that the BR-7700U can be used in a wider range of applications, it is equipped with two-channel Dolby B noise reduction circuitry.

**Variable-speed dial search.** An easy-to-operate rotary control dial is provided for fast and accurate location of editing points. Speed can be varied from still to 10 times normal in both forward and reverse.

**Vertical-Interval Switching.** Featuring AEF (Automatic Editing Function), smooth,

seamless edits can be performed. Channel switching is done in the vertical blanking without noise interfering with picture quality.

**Video level/tracking meter.** Usage of this meter doubles as a tracking meter during playback and a video level meter during recording. It is possible to optimize tracking for best video signal when the BR-7700U is used as a source deck and the level of video signal when used for recording.

**45-pin remote control connector.** To give greater flexibility in editing, our RM-86U can be connected. When used as a feeder it can be remote controlled for fast accurate location of edit points.

**7-pin remote control connector.** The RM-P53U Remote control unit can be connected for control over basic functions.

## ACCESSORIES

RM-P53U Wired remote control  
RM-86U Video Editing Controller

# HI-FI VHS RECORDER/PLAYER

## SPECIFICATIONS

### GENERAL

**Power Requirement:**

120VAC, 50/60Hz

**Power Consumption:**

68W (Max. 80W with the Remote Control Unit, 12VDC, 550mA)

**Dimensions:**

17<sup>1</sup>/<sub>4</sub>" (W) x 6<sup>1</sup>/<sub>2</sub>" (H) x 17" (D)  
(44.0 x 17.4 x 44.5cm)

**Weight:**

41 lbs. (18.5kg)

**Tape Speed:**

33.35mm/sec

### VIDEO

**Signal-to-Noise Ratio:**

45dB (Rohde & Schwarz noise meter)

**Horizontal Resolution:**

Monochrome 300 lines, Color 240 lines

### AUDIO

**Input:**

-6dB, 10K ohms, unbalanced

**Output:**

Line: -6dBs into 1K ohms, unbalanced

Monitor: 0dBs, low impedance (Normal, Hi-Fi)

**Signal-to-Noise Ratio**

Normal: 50dB (NR-on), 42dB (NR-off)

Hi-Fi: 72dB

**Dynamic Range**

Hi-Fi: 90dB



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## FEATURES

- **HQ (High Quality) Circuits**
- **Luminance Signal Comb Filter**
- **111-Channel cable-compatible tuner with 10-key direct-access channel selection**
- **14-Day/4-event programmable timer**
- **Full-function infrared remote control**
- **One-button instant recording**
- **Auto rewind at the end of a tape**
- **Backspace editing for smooth assembled recordings**
- **Counter search**
- **Channel store/skip function**
- **Automatic Pause/Still mode release (after 5 minutes)**
- **BNC Video Input/Output Connectors for professional video equipment**
- **8-pin input/output connector for recording/playback through a TV monitor, without an antenna**
- **4 Head system**
- **Automated Play Functions—Ease of operation**



BR-3100U

## BR-3100U VHS VIDEOCASSETTE RECORDER/PLAYER

The smartest buy in any class, office, or institutional system. Designed to handle a wide range of applications, the BR-3100U is a flexible video system built for reliable, trouble-free operation, and is so easy to use. Features like HQ, (High Quality) circuits, a Luminance Signal Comb Filter, and more, make it a first-class performer that is cost-efficient too. With Extended Play, up to 8 hours of recording can be programmed on a single cassette. That's three times the normal amount.

**HQ Delivers More Information to the Screen.** With a 20" higher white clip level and a Detail Enhancer, images are reproduced with improved sharpness.

**Luminance Signal Comb Filter.** The BR-3100U employs a delay line comb filter in the luminance signal path to completely isolate the chrominance signal. This makes the bandwidth of the signal wider and reduces color crosstalk resulting with 10% more information.

**Recording Options.** The Input selector allows for switching between Line, Tuner and TV for selectable recording of broadcast or audio/video.

### Automated Play Functions

Easy operation is a definite plus for a VCR in any classroom, particularly with children who are likely to be having their very first hands-on encounter with a video recorder. With the BR-3100U, you need only insert a cassette to turn the power on, engage the proper video mode and speed (EP, LP or SP) and enter PLAY (if the safety tab of the cassette is off) automatically.

Inserting the cassette does it all. Also, ejection is possible even when the power is off. What's more, the BR-3100U has a MEMORY PLAY function that lets you return to any important point on the tape and start playback automatically, wherever the counter zero position is indicated, or from the beginning. An indispensable convenience when teaching, lecturing or giving a smooth presentation with video.

## SPECIFICATIONS

### Format:

VHS NTSC standard

### Recording System:

Rotary, slant azimuth two-head helical scan system with two pairs of video heads, one pair exclusively for the SP mode and one pair for the EP mode

### Tape Width:

1/2 inch (12.65mm)

### Tape Speed

SP: 33.35 mm/s (1<sup>5</sup>/<sub>16</sub> ips)

EP: 11.12 mm/s (7<sup>1</sup>/<sub>8</sub> ips)

### RF Output Signal:

Channel 3 or 4

### VIDEO

#### Signal-to-Noise Ratio:

45dB (Rohde & Schwarz noise meter)

#### Horizontal Resolution:

240 lines

### AUDIO

#### Signal-to-Noise Ratio:

More than 40dB

#### Frequency Range:

70Hz to 10,000Hz

#### Dimensions:

17<sup>3</sup>/<sub>16</sub>" (W) x 3<sup>3</sup>/<sub>4</sub>" (H) x 13<sup>7</sup>/<sub>16</sub>" (D) (435 x 95 x 341mm)

#### Weight:

15.6 lbs. (7.0kg)

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## PORTABLE VHS RECORDER/PLAYER



BR-6200U

### FEATURES

- Two-Channel Audio Track
- BNC Video Connectors
- Shuttle Search
- Full-Function Wireless Remote Control
- Automatic Backspace Editing
- Extended-Time Recording Capability

### BR-6200U PORTABLE VHS RECORDER

In sales, education, medicine and all types of business communication, the 1/2" VHS video format has earned extensive acceptance for its cost-effective, high-impact communications capability. JVC's portable BR-6200U possesses the technological features and the rugged, reliable construction to provide years of trouble-free service in the widest variety of professional and institutional applications.

**Easy Connection to Professional Equipment.** Professional-type BNC video input and output jacks are provided on the BR-6200U for direct connection to other professional video gear.

**Power Economy.** The low power-consuming design of the BR-6200U is enhanced by a unique REC LOCK power economy switch. This feature allows the operator to shut down power for indefinite periods and return to the record mode, with smooth edits.

**Full-Logic Operation.** Microprocessor control over all functions allows direct changeover between modes and feather-touch pushbutton operation.

**Two-Channel Audio Track and Dolby Noise Reduction.** This two-channel system enhances production flexibility, allowing the recording of "voice-over" narration, bilingual sound-tracks or full stereo sound. Dubbing can be performed independently

onto the left channel only, or simultaneously onto both.

**Extended-Time Recording and Playback.** In addition to normal-speed operation (two hours of recording or playback with a T-120 cassette), the BR-6200U functions in an extended play mode to give you extra recording time in those situations where your supply of tape is limited but the subject matter is not.

**Advanced Editing Functions.** During recording, backspace editing prerolls the tape between takes so that the end of the previous segment is neatly synchronized to the beginning of the next one, thereby eliminating distortion at the edit points in assembled recordings. The BR-6200U's improved editing capabilities permit program segments from different video and audio sources to be edited into a previously recorded tape with minimum distortion at the start and end of the new material.

**Shuttle Search.** This JVC-developed high-speed visual scanning system lets you view the tape at 7 or 21 times normal speed (depending on the playback mode) in either direction, for quick easy access to any desired portion of a video program.

**Flexible Power Supply System.** Rechargeable NiCad battery packs (NB-P1) are the basic power source for the BR-6200U; their compact yet high-capacity design makes it easy to carry extras for on-location applications. Power can also

be supplied from regular household AC outlets or a car battery, via appropriate adaptors.

#### Also Included:

Built-in RF converter for connection to the antenna terminal of any TV receiver; LCD (Liquid Crystal Display) 4-digit tape counter with memory function; LED tape running, insert editing and audio dubbing indicators; Battery depletion and moisture condensation warning indicators; Automatic quick review function

### ACCESSORIES

- |                |  |
|----------------|--|
| <b>AA-P26U</b> | AC adaptor/battery charger for the BR-6200U. This unit can be used to charge the NB-P1 NiCad battery pack, used in the BR-6200U, HR-2200U and TM-22U |
| <b>AC-P2U</b>  | AC adaptor for BR-6200U. Slides into battery compartment. For playback only  |
| <b>CB-P62U</b> | Soft carrying case for BR-6200U while operating  |
| <b>NB-P1U</b>  | Rechargeable NiCad battery pack for BR-6200U   |
| <b>TU-26U</b>  | Tuner/Timer for BR-6200U, 105 channel capability, 14 day/8 event programmable  |

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# PORTABLE VHS RECORDER/PLAYER

## FEATURES

- Extremely Compact
- Four Video Heads
- Operates from Three Power Sources
- Wired Remote Control
- Shuttle Search
- Memory Counter
- Counter Panel
- Simplified Insert Editing Function
- Direct Video Connection



BR-1600U

## BR-1600U PORTABLE VHS RECORDER

### Four Heads For A Crisp, Sharp Picture.

Pictures are crisp and sharp at any speed because the JVC BR-1600U uses one pair of heads exclusively for the Standard Play mode, and another for the Extended Play mode. A choice of two tape speeds also means economy: use the tape-saving EP mode to file away less important documents and visual presentations, while saving the high-resolution SP mode for documents and presentations of top importance.

**It's Portable, Lightweight So It Can Be Used Almost Anywhere.** Whenever sales and deals are made, indoors or out, the BR-1600U is extremely compact (8<sup>1</sup>/<sub>16</sub>" x 3<sup>3</sup>/<sub>16</sub>" x 8<sup>7</sup>/<sub>8</sub>") and weighs only 5.3 lbs. Its remarkable small size and weight give it flexibility to be used almost anywhere. For full versatility, it connects to most video cameras without an adaptor.

### Operable On Three Power Sources.

Enhancing the mobility of the BR-1600U is its ability to operate on any of three power sources.

Outdoors, it can receive its power from an optional battery pack. Indoors, it operates from standard household AC through an optional AC pack. And in and around the car, it taps into the car's 12VDC power supply by means of an optional car battery adaptor. So wherever you go, just select the most accessible power source.

**Clean Scene Changes.** All recordings you make on the BR-1600U are clean and free of annoying "streaking." The backspace editing function assures clean transitions from scene to scene. The automatic recording lock provides an uninterrupted transition between two recording sessions even if the power has been turned off after the first.

**Easy Operation.** Using the BR-1600U is very simple. A memory counter lets you quickly review a specific segment of the tape. The counter panel serves as a tape counter and also as a dew indicator and a battery condition indicator. There's a built-in jack that accepts an optional earphone so you can monitor the audio on playback. Playback speed automatically matches the speed at which a tape was recorded, either SP or EP.

## ACCESSORIES

- AC-P3U** AC Adaptor for BR-1600U/TM-P3U/GX-S700U
- AP-P3U** Car Battery Cord for BR-1600U/GX-S700U
- BB-P3U** Battery Charger for NB-P3U/NB-P4U
- NB-P3U** Battery Pack for BR-1600U, GX-S700 (.7AH)
- NB-P4U** Battery Pack for BR-1600U, GX-S700U (1.2AH)
- CB-P10U** System Carrying Case for BR-1600U

## SPECIFICATIONS

### Format:

VHS Standard

### Recording System:

Rotary, slant azimuth two-head helical scan system with two pairs of video heads, one pair exclusively for the SP mode and one pair for the EP mode.

### Video Signal System:

NTSC-type color signal

### Tape Width:

1/2" (12.65mm)

### Tape Speed:

SP: 33.35mm/s (1<sup>5</sup>/<sub>16</sub> ips)

EP: 11.12mm/s (7<sup>1</sup>/<sub>16</sub> ips)

### Maximum Recording Time:

SP: 160 min. w/JVC T-160 videocassette

EP: 480 min. w/JVC T-160 videocassette

### VHF Output Signal:

Channel 3 or 4 (switchable; preset to channel 3 when shipped) 75 ohms, unbalanced

### Power Consumption:

8W (18W with camera)

### Power Requirement:

12VDC

### Camera Connector Output:

12VDC, 10W maximum

### Dimensions:

8<sup>1</sup>/<sub>16</sub>" (W) x 3<sup>3</sup>/<sub>16</sub>" (H) x 8<sup>7</sup>/<sub>8</sub>" (D)  
 (204 x 80 x 225mm)

### Weight:

5.3 lbs. (2.4kg)

### Provided Accessories:

Remote control unit; Remote control adaptor; Shoulder strap; Matching transformer (300-75 ohm); Battery for remote control unit; Dubbing connector; Connector cover; Dummy battery

Specifications shown are for SP mode unless otherwise specified.



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## FEATURES

- 4-head, 8-hour recording/playback
- HQ circuitry
- Remote control line
- 8-pin TV connector
- Microphone mixing facility
- Full-repeat and counter-repeat playback
- 14-day, 4-program timer, with interlocked rear panel AC outlet
- 111-channel frequency synthesizer tuner
- Function lock switch
- Auto power-on
- Auto-play system
- Auto-release mechanism
- Auto-wind
- Automatic backspace
- Instant recording
- Shuttle search
- 3-pin AC power supply and outlet sockets



BR-3500U

## BR-3500U

### Videocassette Recorder

#### 4-Head, 8-Hour Recording/Playback.

With independent pairs of heads for the SP and EP modes, the BR-3500U has a total of four heads; this head system, plus a comb filter for greater accuracy in the separation of the luminance signal.

**HQ Circuitry.** JVC's HQ circuitry means higher quality pictures in both modes without sacrificing compatibility with other VHS recorders. This important feature means superior performance with any tape.

**Remote Control Unit.** The remote control provided with the BR-3500U can be used for power switching, its keypad can be used for direct channel selection, and it controls all tape operations.

**Microphone Mixing Facility.** With a microphone connector and level control, it lets you add your own commentary to any video presentation. In playback, you can switch between or mix sound recorded on the tape and sound from the mike; in recording, you can record the line input sound, the microphone sound or a mixture of the two so that, when the tape is played back, it has your customized sound track. By connecting an earphone, the mixed audio can be monitored while it is being recorded.

#### Full-Repeat and Counter-Repeat

**Playback.** For demonstration tapes and educational programs, the BR-3500U has added flexibility when it comes to which segments of the tape can be repeated. As well as repeat playback of the whole tape, it allows continuous, automatic loop viewing of any program segment from the start to the point where the counter was reset to zero or from this point to the end of tape.

#### 14-Day, 4-Program timer, with Interlocked Rear-Panel AC Outlet.

**111-Channel Frequency Synthesizer Tuner.** The BR-3500U can tune to all broadcast channels and, in addition, its frequency synthesizer tuner can receive all unscrambled CATV channels.

## SPECIFICATIONS

**Format:** VHS NTSC standard  
**Video Signal System:** NTSC-type color signal

**Tape Width:** 1/2" (12.65mm)

**Antenna:** 75 ohms, unbalanced

**Channel Coverage (VHF):** Channel 2—13

(UHF): Channel 14—83

(Cable): 29 channels

**RF Output Signal:** Channel 3 or 4

**Power Consumption:** 28W

**Power Requirement:** 120VAC, 60Hz

**AC Outlet:** 300W max. (switched)

### VIDEO

**Input:** 0.5 to 2.0V p-p, 75 ohms, unbalanced

**Output:** 1.0V p-p, 75 ohms, unbalanced

**Signal-to-Noise Ratio:** 45dB (Rohde & Schwarz noise meter)

**Horizontal Resolution:** 240 lines

### AUDIO

**Input:** MIC: -67dBs, high impedance

Line: -8dBs, 50K ohms, unbalanced

TV: -20dBs, high impedance

**Output Level:** Line: -6dBs, high impedance load

TV: 0dBs, 5K ohms

Earphone: -26dBs, (8-ohm load)

**Signal-to-Noise Ratio:** >40dB

**Frequency Range:** 70Hz to 10,000Hz

**Timer:** 14-day/4-event timer

**Dimensions:** 17<sup>3</sup>/<sub>16</sub>" (W) x 3<sup>3</sup>/<sub>4</sub>" (H) x 13<sup>7</sup>/<sub>16</sub>" (D)

(435 x 95 x 341 mm)

**Weight:** 15.6 lbs. (7.0kg)

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# VHS PRESENTATION SYSTEM

## FEATURES

- Custom Attache Case  
Housing—18<sup>1</sup>/<sub>4</sub>" H x 14" W x 6<sup>1</sup>/<sub>2</sub>" D
- Built-In Compartment for Literature, Notes, Pens, etc.
- BR-1600U VHS Videocassette Recorder
- TM-63U 5" Color Monitor
- Self-Contained Battery Power only on TBR-160U

TBR-160U



## TBR-160U VHS PRESENTATION SYSTEM

A complete VHS video system in a briefcase, the TBR-160U is ideal for sales presentations, training programs—any one-on-one video application. The TBR-160U consists of a super-small VHS recorder (BR-1600U) and a 5" color monitor (TM-63U), battery system and accessories—all wired and ready to go in an attractive briefcase.

**Compact 2-6 Hour VHS Recorder/Player.** The BR-1600U is the smallest and lightest 2-6 hour videocassette recorder JVC has ever offered. It uses standard VHS cassettes (available everywhere) and can playback tapes recorded in the 2, 4, or 6 hour modes. Its 4 video heads assure top picture quality. Connections are provided for not only the system's 5" monitor, but also for an ordinary TV receiver. A plug-in remote control is also included.

**5" Color Monitor.** As a complement to the compact video deck, JVC engineers developed a companion monitor that is not only compact in size, but has excellent picture quality. The TM-63U monitor contains a flat-surface 5" (diagonal) in-line picture tube for high resolution and vivid, true-to-life colors. Audio signals are reproduced clearly through a built-in 3<sup>1</sup>/<sub>8</sub>" speaker.

**Exclusive Power System.** One key to the convenience of JVC's briefcase system is the exclusive power pack which supplies power to both the VCR and to the monitor. Termed the BBTR-160U, this 2 ampere hour NiCad pack is designed to power both units for about 1 hour continuously, before recharging. A micro charger is supplied with the system. In addition, an optional AC adaptor (AA-P1663U) is also available.

**Attractive Briefcase.** All components are housed in an attractive briefcase. Also there's a compartment provided which is designed for papers, literature, etc. All necessary cables are provided, and the system is fully wired and ready to go.

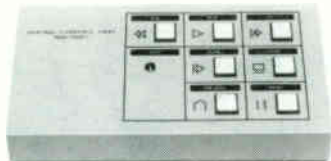
### Provided Accessories

BR-1600U Portable VHS recorder/player;  
TM-63U 5" Color Monitor; BBTR-160U  
Power system including: BB-16 NiCad  
battery, CB-16 Battery charger, SSB-16  
Shoe Cable Adaptor, CN-100U Cable  
Assembly (RCA-RCA); ATTAC-10 Briefcase

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## VCR ACCESSORIES



### RM-G68J EDITING CONTROL UNIT

- The RM-G68J is designed to form an electronic editing system with the BR-6200U portable VHS recorder as a source player and the BR-8600U VHS editing recorder as a recording deck
- BR-8600U of this system includes an electronic editing mechanism, making it possible to do insert or assemble editing
- By using the memory function of the BR-8600U, it is possible to specify both edit-in and edit-out points while insert editing



### RM-G80U REMOTE CONTROL

- Remote control unit for VCRs with 45-pin remote control connector
- Dial search for locating required edit points using speeds from still to the maximum speed available with each VCR
- Jog function for quick location of required scene
- CTL-signal-based counter displays hours, minutes, seconds and frames
- Preroll function for source feeding. (The preroll period depends on the setting of the VCR with which it is used)
- Applicable models KR-Z800U, CR-8500U/CR-600U, BR-8600U/BR-7700U



### RM-70U REMOTE CONTROL

- Full Remote Control of most Tape Operations
- Variable-Speed Tape Shuffling
- Pre-Roll Editing Possible (when combined with the CR-8250U)
- Dimensions: 5<sup>3</sup>/<sub>4</sub>" (W) x 2<sup>1</sup>/<sub>16</sub>" (H) x 9<sup>3</sup>/<sub>8</sub>" (D)
- Weight: 4 lbs. (1.8kg)
- Applicable models CP-5550U, CR-6650U, CR-8250U, BR-6400U, BP-5300U



### RM-P500U RANDOM ACCESS CONTROL

- Information Recorded on the Tape Into Up to 64 Segments As Required
- Applicable Models BR-6400U, BP-5300U.



### RM-P53U WIRED REMOTE CONTROL

- Dial Search Knob Varies Tape Speed to 10X Forward and Reverse
- All Tape Functions Provided
- 16' Cable Provided
- Applicable Models BR-6400U, BP-5300U



### RM-P54U WIRELESS REMOTE CONTROL

- Infrared Transmitter and Receiver
- All Tape Functions Provided
- Operating Distance Up to 22'
- Requires Four "AA" Batteries
- Applicable Models BR-6400U, BP-5300U



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## FEATURES

- Compact size
- Ideal for product presentations, etc.
- 5" in-line CRT (flat-surface)
- Controls concealed under flipdown front panel
- 3<sup>1</sup>/<sub>8</sub>" built-in speaker
- Built-in molded handle for portability
- Tilt-stand for easier viewing
- AC adaptor AA-63B, optional
- Auto battery adaptor AP-23, optional
- Twin-lead audio/video connection cable CN-63, optional

## TM-63U 5" PORTABLE COLOR VIDEO MONITOR

The TM-63U from JVC is a highly versatile portable color monitor designed to provide excellent picture quality. Its rugged construction and carry-about compact size make it perfect for product presentations, demonstrations, promotions and other commercial purposes.



TM-63U  
AA-63 B AC Adaptor

## SPECIFICATIONS

### Power Requirements:

12VDC

### Power Consumption:

16.5W (max.)

### Screen Size:

4<sup>1</sup>/<sub>8</sub>" (W) x 3<sup>1</sup>/<sub>8</sub>" (H), 5" Diagonal (12.7cm)  
(10.4 x 7.9cm)

### Semiconductors Used:

IC's (integrated circuits) x 5, Transistors x 18

### Audio Output:

0.5W

### Speaker:

3<sup>1</sup>/<sub>8</sub>" (8cm) round x 1

### External Input Terminals:

Bridge connection with 75-ohm switch:  
Video 1V p-p, 75 ohms; Audio -6dBs  
(390mVRMS), high impedance

### Connectors:

Video/RCA pin jack x 2, Audio/RCA pin  
jack x 2

### Dimensions:

6<sup>5</sup>/<sub>16</sub>" (W) x 4<sup>7</sup>/<sub>8</sub>" (H) x 10<sup>13</sup>/<sub>16</sub>" (D) (16.0 x  
12.4 x 27.5cm)

### Weight:

6.2 lbs. (2.8kg)

## FEATURES

- 5" in-line black stripe picture tube
- 12VAC/DC power supply or optional rechargeable NB-P1 battery pack
- 3" built-in speaker
- Two video and two audio inputs
- Front panel switching
- Power/Battery warning indicator
- Earphone jack
- Line input select switch
- VTR input select switch
- Tint, Color, Contrast and Brightness controls on front panel
- Power on-off/volume control
- Includes Hood, Power Cord, Earphone

## TM-22U 5" PORTABLE COLOR VIDEO MONITOR

The TM-22U is a portable monitor with a lot going for it. Its 5-inch in-line black stripe picture tube gives sharp images with accurate color reproduction. It can be used with power supplied from an AC wall outlet, an external 12VDC power supply or the optional rechargeable NB-P1 battery pack. For improved



flexibility, the battery pack can be recharged without removing it from the monitor.

A built-in speaker lets you monitor sound together with the picture. Two video and two audio inputs are provided with front panel switching; these signals can be terminated or fed to other equipment.

TM-22U  
NB-P1U NiCad Battery

## SPECIFICATIONS

### Picture Tube:

5" measured diagonally (12.85 sq. in.)

### Power Requirement:

120VAC, 60Hz 12VDC (exclusive battery pack NB-P1)

### Power Consumption:

27W (AC)

### Video Input:

1V p-p (2 circuits) Input  
impedance—Open/75 ohms selectable

### Video Output:

1V p-p, 75 ohms

### Audio Input:

-6dBs (more than 50K ohms)

### Audio Output:

-6dBs

### Built-In Speaker:

3 in. (77mm) dia. (16 ohms)

### Speaker Output:

500mW

### Dimensions:

8<sup>1</sup>/<sub>16</sub>" (W) x 5<sup>9</sup>/<sub>16</sub>" (H) x 13<sup>5</sup>/<sub>16</sub>" (D) (22.0 x  
14.0 x 34.5cm)

### Weight:

9.0 lbs. (4.1kg)

# JVC PROFESSIONAL PRODUCTS COMPANY

41 Slater Dr.  
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## FEATURES

- 9" medium-high resolution CRT reproduces a remarkably high-quality picture
- A set of audio (RCA) and video (BNC) terminals make bridge connections possible
- A round speaker is provided
- Sleek, space-saving design with scaled-down dimensions unique to color monitors of this caliber
- Two TM-9U units can be mounted in the optional EIA-standard double-unit rack (RK-9U). It can also mount one TM-9U unit together with a WFM using the optional rack adaptor (ADP-9U)
- Metal cabinet minimizes interference



TM-9U

range of applications in the industrial, commercial and communication fields. Including that of an editing monitor when used in combination with a second TM-9U unit—both of which can be mounted on the optional EIA-standard rack for added convenience.

## TM-9U 9" Color Video Monitor

The TM-9U is a wonderfully portable, space-saving color video monitor with a 9", medium-high resolution CRT that delivers the best picture reproduction in its class. It's designed to handle a whole

# COLOR MONITORS

## SPECIFICATIONS

**Type:** Color video monitor  
**Color System:** NTSC system  
**CRT:** 9" (diagonally measured) medium-high resolution CRT  
**Power Requirement:** 120VAC, 60Hz  
**Power Consumption:** Avg. 36W, Max. 47W  
**Audio Output:** 1W  
**Speaker:** 3 1/8" (8cm) round x 1  
**External Input Terminal: Video (BNC):** 1.0V p-p, 75 ohms  
**Audio (RCA):** 390mVRMS (-6dBs), high impedance  
**Bridge Output Terminal: Video (BNC):** 1.0V p-p, 75 ohm  
**Audio (RCA):** 390mVRMS (-6dBs), high impedance (Termination switch is provided)  
**Exterior Dimensions:** 8 4/5" (W) x 8 15/16" (H) x 13 1/2" (D) (22.7 x 22.3 x 34.3cm)  
**Weight:** 17.6 lbs. (8.0kg)

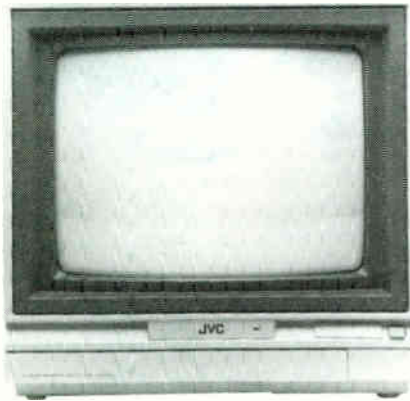
## TM-13U 13" Color Video Monitor

### FEATURES

- 13" diagonal screen
- 270 lines resolution
- 90° deflection angle
- Audio input
- Ideal for video networking and internal communications systems
- Attractive tan metal housing
- Concealed front panel controls—pushbutton on/off switch
- Rackmountable

## TM-13U Color Video Monitor

**The Color Video Monitor That Means Business.** The TM-13U color video monitor can give you a very dazzling high-resolution 13" display of all your video materials. It is especially designed for professional applications in institutional and commercial fields for communication, education, training, demonstrations, presentations, sales



TM-13U

promotion and the like. The 13" color screen makes it ideal for getting concepts across to a whole roomful of people. The TM-13U is tailored to fit every kind of job, as well as being convenient to use—whatever the application.

## SPECIFICATIONS

**Type:** Color video monitor  
**Color System:** NTSC system  
**Power Input:** 120VAC, 60Hz  
**Input Current:** 0.9A  
**CRT Size:** 13" diagonally measured  
**Audio Output:** 1.2W  
**Speaker:** External Input Terminal: Video terminal (BNC-type) Signal level/1.0V p-p 75 ohms  
Audio terminal (RCA-type) Signal level/390mVRMS (-6dBs), high impedance  
**Exterior Dimensions:** 14 3/4" (W) x 14 3/8" (H) x 16 1/8" (D) (37.3 x 36.3 x 40.9cm)  
Height including legs  
**Weight:** 24.7 lbs. (11.2kg)

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## COLOR MONITOR



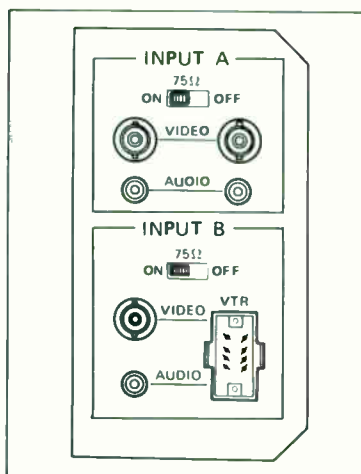
TM-2084UM

### FEATURES

- 350 Lines Resolution
- Comb Filter
- Two Video Inputs (loop through)
- 8-Pin EIAJ & BNC Connectors
- 4" Round Speaker (1 channel)

### TM-2084UM 19" COLOR VIDEO MONITOR

People are increasingly using 1/2" videocassette recorders for applications in which only a few years ago they would have used 3/4" U-format equipment; this is because of the ease of use of 1/2" recorders and the wide range of applications that they are suitable for, achieved with lower running cost and no loss in signal quality. However, the high-quality multi-function 1/2" equipment uses connectors with a different standard; this is why JVC has developed the TM-2084UM, a high-performance 19" video monitor with BNC as well as 8-pin EIAJ input terminals.



**A special comb filter.** Provided in the TM-2084UM to separate the chrominance and luminance components more fully for greater detail and better color than a conventional monitor.

**Two pairs of bridge-connected video input terminals.** One pair with BNC terminals and one pair consisting of a BNC terminal for output and an 8-pin EIAJ exclusively for input. Selection between the sources is done using front-panel pushbuttons with LED indicators showing which input is being used.

**Bridge-connection of video component.** Using both pairs of terminals is possible, with switchable 75 ohm terminal resistors built into the TM-2084UM; this is convenient, making it possible to connect to a multi-monitor system.

**Controls are provided.** For adjustment of picture sharpness, color density and tint as well as brightness, contrast and V-hold.

### SPECIFICATIONS

**Type:**  
Color Video Monitor

**Color System:**  
NTSC System

**Power Input:**  
120VAC, 60Hz

**Power Consumption:**  
Max. 108W; Avg. 82W

**CRT Dimensions:**  
19" diagonally measured

**Audio Output:**  
3W

**Speaker:**  
4" (10cm) round type x1

**Input A Terminal:**  
Video terminal (BNC-type) x2  
Signal level/1.0V p-p, 75 ohms  
Audio Terminal (RCA-type) x2  
Signal level/390mV rms (-6dBs), high impedance

**Input B Terminal:**  
VTR terminal (EIAJ 8-pin) x1  
Video signal level/1.0V p-p, 75 ohms  
Audio signal level/775mV rms (0dBs), high impedance

**Exterior Dimensions:**  
20<sup>5/8</sup>" (W) x 19<sup>1/8</sup>" (H) x 19<sup>1/4</sup>" (D)  
(52.2 x 48.3 x 48.8cm)  
Height including legs

**Weight:**  
53.1 lbs. (24.1kg)



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## COLOR MONITOR

### FEATURES

- Two Selectable Video Inputs
- 310 Lines Resolution
- Internal/External Sync, Comb Filter
- Underscan, Pulse Cross
- Blue Check Switch
- Tally Lamp
- Remote Control of Front Panel Switches
- AC or 12/24VDC Power Supply
- .47mm Dot Pitch In-Line Picture Tube
- Carrying Handle
- Double Rackmount Option



TM-R9U

### TM-R9U 9" COLOR MONITOR

The TM-R9U is a multi-purpose monitor designed for a wide variety of applications and suitable for use in even the most demanding broadcast environments. Whether in a rackmount studio installation, or in a portable configuration, the TM-R9U offers the features that professionals demand in a high-performance, modestly priced monitor.

**Excellent Picture Quality.** A color demodulator and comb filter provide accurate color reproduction along with excellent definition. The TM-R9U boasts a high resolution of more than 310 lines. Variations in black level are suppressed by a pedestal clamp system.

**Dual Video Inputs, Sync Input.** Separate loop through video inputs/outputs are provided for two separate video sources. These may be switched either from the front panel, or from an external remote control switch (customer provided) connected to the remote terminal on the rear panel.

A loop through input is also provided for Ext. Sync. Termination (75 ohm) are provided for all loop through inputs.

### Pulse Cross, Under Scan, Blue Check.

The pulse cross switch shifts sync phase so that the blanking portions of the video signal (horizontal and vertical) can be viewed on the screen.

For more accurate monitoring, the scan size can be switched to the underscan mode—either from the front panel, or by remote control. In addition, a blue check circuit facilitates adjustment with a color bar signal.

**Metal Cabinet, Compact Size, Rackmount.** The TM-R9U is the most compact 9" studio-type monitor offered to date. It is housed in a rugged, metal cabinet which can be mounted in a standard 19" rack, using the optional RK9U rackmount kit. With this kit, two TM-R9Us can be mounted side by side, or one TM-R9U can be mounted next to a waveform monitor (by adding the ADP9U adaptor).

### SPECIFICATIONS

#### Input Signal:

Video x2: VS 1.0V p-p or V 0.7V p-p (positive). Audio x2: S 1-4V p-p or VS 1.0V p-p

#### Input Impedance:

Video signal: 75 ohm or high impedance (switchable)  
External sync: 75 ohm or high impedance (switchable)

#### CRT:

9" stripe flat-face sharp-corner medium-high resolution tube

#### Active Screen Size:

Horizontal 6<sup>13</sup>/<sub>16</sub>" (173)  
Vertical 5<sup>3</sup>/<sub>8</sub>" (136)

#### Power Supply:

120VAC, 60Hz; 33W (typical) 12VDC/24V; 26W (typical)

#### Dimensions:

8<sup>13</sup>/<sub>16</sub>" (W) x 8<sup>3</sup>/<sub>4</sub>" (H) x 13<sup>5</sup>/<sub>16</sub>" (D)  
(223 x 222 x 348mm) (except rubber stand, connectors and power plug)

#### Weight:

23.8 lbs. (10.8kg)

#### Resolution:

More than 310 lines at center

#### Frequency Response:

Up to 5MHz more than -3dB with 100kHz as reference (including aperture correction)

#### Signal-to-Noise Ratio:

Better than 50dB (except sync noise)

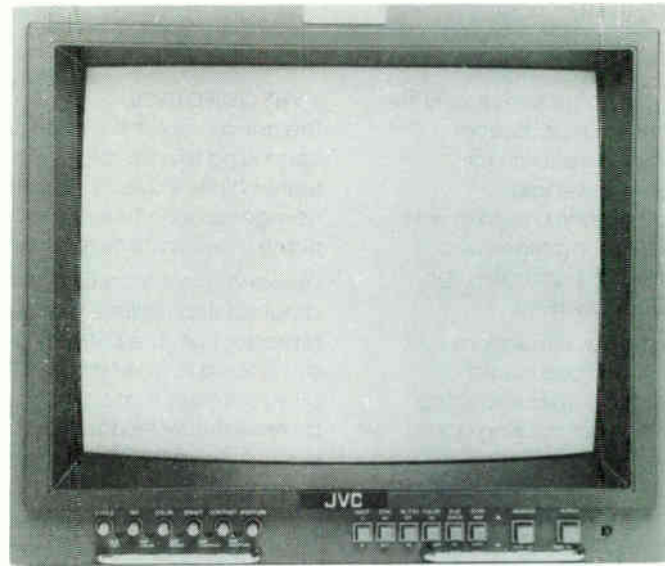
# JVC PROFESSIONAL PRODUCTS COMPANY

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## COLOR MONITOR

### FEATURES

- 14" Flat Face, In-Line Sharp Corner Picture Tube
- 2 Composite Video Inputs (BNC Loop Through)
- Separate RGB Analog Inputs (BNC Loop Through)
- Under Scan
- Notch Filter with On/Off Switch
- Internal/External Sync
- Color/B & W Switch
- 400 Line Horizontal Resolution
- Remote Control Function
- Tally Light on Front Panel
- Degaussing Switch on Front Panel
- Comb Filter
- Metal Cabinet (Rackmount Option)



TM-R14U

### TM-R14U 14" COLOR VIDEO MONITOR

The TM-R14U is a compact, high quality multi-function color video monitor designed for a wide variety of broadcast and professional applications. Its two composite video inputs and RGB analog inputs allow it to be connected to almost any video installation.

**Excellent Picture Quality.** The TM-R14U utilizes a flat face, in-line sharp corner CRT with a dot pitch of 0.43mm for exceptional resolution. Picture sharpness is further assured through the use of a high quality comb filter which separates luminance and chrominance components. A notch filter (switchable) effectively eliminates chrominance interference, thus further improving picture quality. Horizontal resolution is greater than 400 TV lines.

**RGB And Composite Video Inputs.** Two pairs of loop through composite video inputs are provided, each with 75 ohm termination switches. In addition, non-composite analog inputs are provided for the individual red, green, and blue channels using BNC connectors. Signals from many graphics units and three-tube color cameras may be connected to the RGB inputs. When viewing composite video signals, the color circuits can be de-selected with the Color/B & W switch.

**Internal/External Sync.** A BNC connector is provided for an external sync signal. (External sync must be used in the RGB mode.) Switching between internal and external sync can be done either from the front panel, or remote control (not included).

**Underscan, Blue Check.** For more accurate monitoring, the scan size can be switched to the underscan mode—either from the front panel, or by remote control. (Remote control not included.) In addition, a blue check circuit allows viewing of only the blue portion of the composite signal. This is useful when adjusting the monitor with a color bar signal.

**Remote Control Function.** A multi-pin (XLR-type) connector is provided on rear panel for connecting an external remote control unit. Many front panel switches (input select, int/ext sync, notch, color on/off, blue check, scan size) can be remotely controlled by contact closures through this connector. (Remote control unit is not included.)

**Metal Cabinet, Rackmount Option.** The TM-R14U is housed in a very compact, rugged, metal cabinet which can be mounted in a standard 19" rack, using an optional rack mount kit. AC power connections are made using a detachable grounded power cord.

### SPECIFICATIONS

**Type:**

Color video monitor

**Color System:**

NTSC system

**Power Requirement:**

120VAC, 60Hz

**Power Consumption:**

60W

**Horizontal Resolution:**

More than 400 lines

**Video Input Terminal:**

2 inputs (BNC type) VS 1V p-p, 75 ohms negative sync or V 0.7V p-p, 75 ohms positive. Bridged connection possible. Termination switch provided.

**External Sync Signal Input Terminal:**

1 input (BNC type) S1-4V p-p, 75 ohms negative or VS 1V p-p, 75 ohms negative sync. Bridged connection possible. Termination switch provided.

**RGB Input Terminal:**

1 input each (BNC type) analog, V0.7V p-p, 75 ohms positive. Bridged connection possible. Termination switch provided.

**Remote/Tally Terminal:**

7-pin cannon connector

**External Dimensions:**

14<sup>3</sup>/<sub>16</sub>" (W) x 12<sup>3</sup>/<sub>4</sub>" (H) x 16<sup>1</sup>/<sub>8</sub>" (D)  
(36.0 x 32.4 x 41.0cm)

**Weight:**

40.5 lbs. (18.4kg)

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In terms of sound and picture quality, the initial series of VHS videocassette recorders was fully adequate for general-purpose household entertainment. However, a market was also recognized among those who owned or planned to purchase high quality stereo audio systems.

The VHS Hi-Fi system was therefore developed for enhanced audio performance along with outstanding picture quality. Special rotating audio heads increase the relative tape to head speed to 5.8 meters per second, thereby providing true high fidelity frequency response in the audio range of from 20Hz to 20,000Hz, as well as dynamic range exceeding 90dB.

The audio signal is frequency modulated at 1.3MHz for the left channel and 1.7MHz for the right channel. Maximum deviation is + 150kHz.

Recording is performed by a "depth multiplex" (D-MPX) system, whereby both sound and picture are recorded on the same portion of the tape. The audio signal is recorded at a deeper level than the video, while the azimuth angles of the audio and video heads differ sufficiently to prevent cross-interference.

## HQ (HIGH QUALITY)

Advances in circuit technology and television receivers provided impetus to further improve the picture quality of VHS equipment. This led to the HQ series, which incorporates the following technical features.

- Increased white clip level
- Detail enhancer
- Luminance noise reduction (YNR)
- Chrominance noise reduction (CNR)

Increasing the white clip level improves the picture edge sharpness. The detail enhancer functions by increasing the level of the high-frequency-low-amplitude component of the signal, which is often lost during the recording/playback process. More detailed pictures are then obtained during playback.

YNR reduces noise at the picture edges and flat portions, while CNR contributes to reducing color smear.

HQ technology offers overall picture improvement and increases the recording and playback qualities of home video recorders.

V-662

## S-VHS OBJECTIVES

The trend in color television receivers is continuing toward larger screens and higher picture quality. Nearly all of the new-generation TV sets are connected to home videocassette recorders.

Demand is thus increasing for ever more detailed and realistic video reproduction. The S-VHS system was developed to meet this goal and provide picture quality that approaches a 1-inch professional video tape recorder at a cost accessible to the consumer.

## S-VHS FEATURES

- Horizontal resolution exceeds 400 lines. This is fully adequate to accommodate presently broadcast programs (about 330 lines) without degradation in picture quality.
- Vivid realistic reproduction gives video program artists more freedom for expression and promotes higher quality software.
- Color video cameras and VideoMovie systems compatible with S-VHS are becoming available. Self-made video programs will be able to rival broadcast television quality.
- The high picture quality and economical cost of S-VHS enable a broad range of commercial uses, such as video publishing, travel guides, sales manuals, etc.

S-VHS cassettes can be used in the SP and EP modes in the same manner as normal VHS cassettes.

### SP mode

#### Tape speed

3.3 cm/second

#### Recording time

360 minutes

(T-120 or equivalent tape)

### EP mode

#### Tape speed

1.1 cm/second

#### Recording time

360 minutes

(T-120 or equivalent tape)

## 5. VIDEO SIGNAL RECORDING

Video inputs and outputs: NTSC or separate Y and C signals based on the NTSC system

In addition to conventional NTSC signal video inputs and outputs, the provision for separated luminance (Y) and chrominance (C) signals eliminates cross-interference and improves overall picture quality.

# S-VHS FORMAT

Luminance signal recording frequency modulation recording.

## FM carrier frequencies

**100% White:** 7.0MHz

**Sync tip:** 5.4MHz

**Frequency deviation:** 1.6MHz

## Clip levels

**White clip:** 210%

**Dark clip:** 70%

## Emphasis

Main emphasis

Sub-emphasis

VHS emphasis

Non-linear emphasis

## Frequency allocation

a. S-VHS recording signals at video heads

b. VHS recording signals at video heads

**Color Carrier:** Down-converted direct recording

FM recording is used for the S-VHS luminance signal, as in the normal VHS format. However, the frequency band has been shifted from 3.3 to 4.4MHz for the normal VHS format to 5.4 to 7.0MHz in the case of S-VHS. This provides 1.6MHz deviation (compared to 1.0MHz for normal VHS) and allows increased horizontal resolution, which exceeds 400 lines.

## 6. AUDIO SIGNAL RECORDING

Linear track recording: Based on the VHS format

FM recording system: Based on the VHS format

Sound is recorded on the linear track by using the AC bias system employed with normal VHS. The Hi-Fi audio is also recorded by the FM deep layer system used by VHS Hi-Fi models.



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# PRICE LIST

MODEL	DESCRIPTION	SUGGESTED PRICE	MODEL	DESCRIPTION	SUGGESTED PRICE
A10X10BMD-D9	10:1 TELECONFERENCING LENS FOR KY SERIES . . . . .	\$1,715.00	CP-5550U	3/4" VIDEO CASSETTE PLAYER . . . . .	\$3,360.00
AA-63B	AC ADAPTOR FOR TM63U MONITOR . . . . .	62.00	C-P5U	VHS-C CASSETTE ADAPTOR . . . . .	55.00
AA-C11U	AC ADAPTOR/CHARGER FOR BY-110U . . . . .	310.00	CR-4900U	3/4" PORTABLE RECORDER . . . . .	4,100.00
AA-C50U	AC ADAPTOR/CHARGER FOR KY CAMERAS . . . . .	399.00	CR-600U	3/4" VIDEOCASSETTE RECORDER/PLAYER . . . . .	6,910.00
AA-P26U	AC ADAPTOR/CHARGER FOR BR-6200U . . . . .	245.00	CR-6060U	3/4" VIDEOCASSETTE RECORDER/PLAYER . . . . .	1,915.00
AA-P47U	AC ADAPTOR/CHARGER FOR CR4700U, CR4900U . . . . .	485.00	CR-6650U	3/4" VIDEOCASSETTE RECORDER/PLAYER . . . . .	4,135.00
ABNER-R	A/B ROLL EDIT CONTROLLER (RACK STYLE) . . . . .	5,400.00	CR-8250U	3/4" EDITING VIDEOCASSETTE RECORDER . . . . .	6,140.00
ABNER-RC	A/B ROLL EDIT CONTROLLER (RACK, w/TCR) . . . . .	6,600.00	CR-850U	3/4" EDITING VIDEOCASSETTE RECORDER . . . . .	9,940.00
ABNER-T	A/B ROLL EDIT CONTROLLER (TABLE TOP) . . . . .	5,400.00	DC-C11U	2.2 AH BATTERY PACK FOR BY-110U . . . . .	155.00
ABNER-TC	A/B ROLL EDIT CONTROLLER (TABLE, w/TCR) . . . . .	6,600.00	DC-C50U	3.5AH NICAD BATTERY FOR KY CAMERAS . . . . .	340.00
AC-C412P	AC ADAPTOR FOR GXN8PCU, TK870U . . . . .	95.00	ECL-8077	CLOSE-UP LENS ATTACHMENT . . . . .	175.00
AC-P2U	PLAYBACK AC ADAPTOR FOR BR-6200U . . . . .	110.00	ECM-025F	25' LENS CABLE (TELECONFERENCING LENSES) . . . . .	330.00
AC-P3U	AC ADAPTOR FOR BR1600U/TMP3U/GXS700U . . . . .	50.00	ECM-050F	50' LENS CABLE (TELECONFERENCING LENSES) . . . . .	385.00
AP-P3U	CAR BATTERY CORD FOR BR1600U/GXS700U . . . . .	18.00	ECM-100F	100' LENS CABLE (TELECONFERENCING LENS) . . . . .	645.00
AR-2000	AUTO-RAMP GENERATOR FOR KM-2000U SEG . . . . .	1,200.00	ESP-1	EDIT SYSTEM (CR-850U, RM-86U, CR-850U) . . . . .	19,300.00
AX-70BK	DYNAMIC SUPER-A INTEGRATED AMPLIFIER . . . . .	350.00	ESP-2	EDIT SYSTEM (CR-600U, RM-86U, CR-850U) . . . . .	16,550.00
AX-70SET	INTEGRATED AMPLIFIER WITH RACKMOUNT KIT . . . . .	460.00	GX-5700U	1-TUBE COLOR CAMERA WITH 10:1 SERVO ZOOM . . . . .	1,995.00
BA-P47U	BATTERY CASE FOR CR-4900U . . . . .	225.00	HZ-110MDP	MOTORIZED FOCUS/ZOOM LENS FOR BY110U . . . . .	1,600.00
BB-P2U	BATTERY CHARGER FOR NBP5U/NBP6U/NBP7U . . . . .	110.00	HZ-110U	10:1 SERVO ZOOM LENS FOR BY-110U . . . . .	765.00
BB-P3U	BATTERY CHARGER FOR NBP3U/NBP4U . . . . .	115.00	HZ-116U	16:1 SERVO ZOOM LENS FOR BY-110U . . . . .	1,715.00
BBR-6211X10B	VHS/3-TUBE CAMERA PACKAGE . . . . .	6,100.00	HZ-516U	16:1 SERVO ZOOM LENS FOR KY CAMERAS . . . . .	1,715.00
BBR-6211X16B	VHS/3-TUBE CAMERA PACKAGE . . . . .	6,800.00	HZ-CA11U	C-MOUNT ADAPTOR FOR BY-110UP CAMERA . . . . .	830.00
BH-AX70	RACKMOUNT KIT FOR AX-70BK . . . . .	115.00	HZ-CA12U	C-MOUNT ADAPTOR FOR BY-110U/KY-M280U . . . . .	575.00
BH-TDV66	RACKMOUNT KIT FOR TD-V66JBK . . . . .	115.00	HZ-CA23U	C-MOUNT LENS ADAPTOR FOR KY SERIES . . . . .	830.00
BH-XLV550	RACKMOUNT KIT FOR XL-V550BK . . . . .	115.00	HZ-E512U	12:1 SERVO ZOOM LENS w/EXTENDER, 9-108mm . . . . .	2,550.00
BP-5100U	2 1/4 HOUR VHS PLAYER . . . . .	600.00	HZ-FM11U	MANUAL FOCUS CONTROL FOR BY110UP/HZ110U . . . . .	325.00
BR-1600U	2-6 HR PORTABLE VHS RECORDER . . . . .	885.00	HZ-FM12U	MANUAL FOCUS CONTROL FOR 12X/16X LENSES . . . . .	450.00
BR-3100U	2-6 HOUR HQ VHS RECORDER/PLAYER W/TUNER . . . . .	675.00	HZ-M110U	MICROSCOPE ATTACHMENT FOR BY110U/KYM280U . . . . .	1,850.00
BR-3500U	2/6 HOUR HQ VHS RECORDER/PLAYER W/TUNER . . . . .	710.00	HZ-M310U	SURGICAL MICROSCOPE ADAPTOR FOR KY-M280U . . . . .	3,360.00
BR-6200U	2/6 HOUR PORTABLE VHS RECORDER/PLAYER . . . . .	1,245.00	HZ-NK11U	NIKON LENS ADAPTOR FOR BY-110U, KY-M280U . . . . .	615.00
BR-6400TR	MULTI-STANDARD VHS RECORDER/PLAYER . . . . .	2,450.00	HZ-NK23U	NIKON LENS ADAPTOR FOR KY SERIES CAMERAS . . . . .	615.00
BR-6400U	2 HOUR VHS RECORDER/PLAYER . . . . .	1,985.00	HZ-TCL11U	1.5X TELECONVERSION LENS FOR BY110U . . . . .	405.00
BR-7000UR	VHS HI-FI DUPLICATING RECORDER . . . . .	1,760.00	HZ-WCL11U	WIDE ANGLE CONVERSION LENS FOR BY110U . . . . .	405.00
BR-7700U	2 HOUR VHS HI-VI RECORDER/PLAYER . . . . .	2,560.00	HZ-X350U	LENS MOUNT ADAPTOR (BY-LENS TO KY-MOUNT) . . . . .	130.00
BR-8600U	VHS EDITING RECORDER . . . . .	3,440.00	HZ-ZS11U	SERVO ZOOM CONTROL FOR BY110UP/HZ110U . . . . .	345.00
BY-110UL10B	3-TUBE COLOR CAMERA WITH 10:1 SERVO LENS . . . . .	4,280.00	HZ-ZS12U	SERVO ZOOM CONTROL FOR 12X/16X LENSES . . . . .	500.00
CB-P10U	SYSTEM CARRYING CASE FOR BR-1600U . . . . .	126.00	KA-110U	QUICK RELEASE TRIPOD BASE FOR BY110U . . . . .	115.00
CB-P11U	SOFT CARRYING CASE FOR BR-1600U . . . . .	55.00	KA-111U	ADJUSTABLE CHEST REST FOR BY110U . . . . .	75.00
CB-P47U	FITTED SOFT CARRYING CASE FOR CR-4900U . . . . .	170.00	KA-130U	CAMCORDER ADAPTOR--BR1600U TO BY110U . . . . .	155.00
CB-P62U	SOFT FITTED CARRYING CASE FOR BR-6200U . . . . .	110.00	KA-500U	TRIPOD MOUNTING PLATE FOR KY CAMERAS . . . . .	110.00
CP-5200U	3/4" VIDEO CASSETTE PLAYER . . . . .	1,395.00	KA-D50U	BATTERY ADAPTOR (DC-C50U TO BY-110U) . . . . .	150.00

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# PRICE LIST

MODEL	DESCRIPTION	SUGGESTED PRICE	MODEL	DESCRIPTION	SUGGESTED PRICE
KBR-6221B	CAMERA-RECORDER PACKAGE (KY210BU/BR6200)	\$8,610.00	P7022	75' SERIAL INTERFACE CABLES (X3)	\$ 600.00
KCA-30K	3/4" VIDEOCASSETTE TAPE (30 MINUTE)	24.00	P7023	100' SERIAL INTERFACE CABLES (X3)	900.00
KCA-60K	3/4" VIDEOCASSETTE TAPE (60 MINUTE)	34.00	P7030	35' PALTEX KEYBOARD CABLE	40.00
KCR-4911X10B	3/4" VCR/3-TUBE CAMERA PACKAGE	9,125.00	P7034	50' PALTEX KEYBOARD CABLE	100.00
KCR-4911X16B	3/4" VCR/3-TUBE CAMERA PACKAGE	9,820.00	P7032	75' PALTEX KEYBOARD CABLE	200.00
KCR-4921B	3/4" VCR, KY-210BU CAMERA/VTR PACKAGE	11,670.00	P7033	100' PALTEX KEYBOARD CABLE	300.00
KCS-20K	3/4" VIDEOCASSETTE TAPE (20 MINUTE)	21.00	P7040	25' SWITCHER CABLE	40.00
KM-1200U	PORTABLE SPECIAL EFFECTS GENERATOR	2,150.00	P7041	35' SWITCHER CABLE	80.00
KM-2000U	SPECIAL EFFECTS GENERATOR	5,230.00	P7042	50' SWITCHER CABLE	140.00
KR-234U	CH 3/4 RF CONVERTER (3/4 DECKS)	125.00	P7043	75' SWITCHER CABLE	240.00
KR-256U	CH 5/6 RF CONVERTER (3/4 DECKS)	125.00	P7044	100' SWITCHER CABLE	340.00
KY-210BUPL	3-TUBE COLOR CAMERA LESS LENS	6,695.00	P8001S	SERIAL SWITCHER INTERFACE (GVG100)	1,700.00
KY-M280U	MULTI PUPOSE 3 TUBE COLOR CAMERA	9,200.00	P8002S	SERIAL SWITCHER INTERFACE (GVG1680/1600)	1,700.00
M-510XL	ELECTRET CONDENSER MICROPHONE	230.00	P8003S	SERIAL SWITCHER INTERFACE (GVG300)	1,700.00
MI-1200U	RACKMOUNT AUDIO MIXER	480.00	P8004S	SERIAL SWITCHER INTERFACE (ROSS 210)	1,700.00
MI-2000U	RACKMOUNT AUDIO MIXER	1,260.00	P8005S	SERIAL SWITCHER INTERFACE (ROSS 500)	1,700.00
MI-P2E	DC-DC CONVERTER FOR MI-2000U MIXER	340.00	P8006S	SERIAL SWITCHER INTERFACE (CROSSP 6119)	1,700.00
M-K50U	"HOT-SHOE" MICROPHONE FOR BY/KY CAMERAS	299.00	P8007S	SERIAL SWITCHER INTERFACE (OTHER CROSSP)	1,700.00
NB-P1U	NICAD BATTERY FOR BR6200U,HR2200U,TM22U	95.00	P8008S	SERIAL SWITCHER INTERFACE (ABEKAS COX)	1,700.00
NB-P2U	NICAD BATTERY FOR CR4900U/CR4700U	130.00	P8009S	SERIAL SWITCHER INTERFACE (AMPEX)	1,700.00
NB-P3U	BATTERY PACK FOR BR1600U,GXS700U (.7 AH)	50.00	P8010S	SERIAL SWITCHER INTERFACE (BOSCH BTS)	1,700.00
NB-P4U	BATTERY PACK FOR BR1600U,GXS700U (1.2 AH)	70.00	P8011S	SERIAL SWITCHER INTERFACE (CDL 480)	1,700.00
P5002	CABLE ASSEMBLY (ABNER/SONY TYPE V)	600.00	P8013S	SERIAL SWITCHER INTERFACE (ECHO LAB SE3)	1,700.00
P5004	ABNER CABLE ASSEMBLY (PANASONIC AU300)	300.00	P8014S	SERIAL SWITCHER INTERFACE (ECHO LAB SE6)	1,700.00
P5007	ABNER CABLE ASSEMBLY (CR-850U, CR-600U)	300.00	P8015S	SERIAL SWITCHER INTERFACE (INTERGRP 983)	1,700.00
P5008	ABNER CABLE ASSEMBLY (PANASONIC NV8500)	300.00	P8016S	SERIAL SWITCHER INTERFACE (INTERGRP 904)	1,700.00
P5009	ABNER CABLE ASSEMBLY (PANA AU700,NV9000)	300.00	P8017S	SERIAL SWITCHER INTERFACE-INTERGRP 9240	1,700.00
P5010	ABNER CABLE ASSEMBLY (BR6400U,BP5300U)	300.00	P8018S	SERIAL SWITCHER INTERFACE (SHINTRON)	1,700.00
P5011	ABNER CABLE ASSEMBLY (CR-8200U series)	300.00	P9001	PALTEX PARALLEL INTERFACE (SONY BVH1100)	800.00
P5012	ABNER CABLE ASSEMBLY (SONY BVU/BVE/BVW)	300.00	P9001S	PALTEX PARALLEL INTERFACE (SONY BVH1100)	2,700.00
P5019	ABNER CABLE ASSEMBLY (PANASONIC 6500)	300.00	P9002S	PALTEX INTERFACE FOR SONY BVH2000	1,700.00
P5020	ABNER CABLE ASSEMBLY (CR-8250/6650/5550)	300.00	P9003	PALTEX PARALLEL INTERFACE-AMPEX VPR2/2B	800.00
P5021	ABNER CABLE ASSEMBLY (BR-8600/BR-7700)	300.00	P9003S	PALTEX PARALLEL INTERFACE-AMPEX VPR2/2B	2,700.00
P5022	ABNER CABLE ASSEMBLY (SONY BVW SERIES)	300.00	P9004S	PALTEX INTERFACE FOR AMPEX VPR3	1,700.00
P5680	PALTEX ELITE EDITING CONTROLLER	13,600.00	P9005S	PALTEX INTERFACE FOR AMPEX VPR6	1,700.00
P7002	EDL-DOS DISK & CABLE-PALTEX CONTROLLERS	495.00	P9006S	PALTEX INTERFACE FOR AMPEX VPR80	1,700.00
P7003	VTC READER (FOR ONE VTR)	780.00	P9008S	PALTEX INTERFACE FOR HR230	1,700.00
P7004	ASCII COMMENTS KEYBOARD	1,200.00	P9009	PARALLEL INTERFACE (BOSCH BCN50/51)	800.00
P7005	STATUS MONITOR	400.00	P9009S	PALTEX INTERFACE FOR BOSCH BCN50/51	2,700.00
P7020	35' SERIAL INTERFACE CABLES (X3)	120.00	P9010S	PALTEX INTERFACE FOR BOSCH BCN52	1,700.00
P7021	50' SERIAL INTERFACE CABLES (X3)	300.00	P9011S	PALTEX INTERFACE FOR CR-850U	1,700.00

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# PRICE LIST

MODEL	DESCRIPTION	SUGGESTED PRICE	MODEL	DESCRIPTION	SUGGESTED PRICE
P9012	PARALLEL INTERFACE (JVC CR-8250U) . . . . .	\$ 800.00	TD-V66SET	3-HEAD AUDIO CASSETTE DECK W/RACKMOUNT . . . . .	\$ 710.00
P9012S	PALTEX PARALLEL INTERFACE FOR CR-8250U . . . . .	2,700.00	TE-1000U	TELECINE ATTACHMENT FOR 3-TUBE CAMERAS . . . . .	585.00
P9013	PARALLEL INTERFACE (SONY VO-5850) . . . . .	800.00	TE-3000U	MULTIPLEX TELECINE ADAPTOR FOR BY110U . . . . .	2,310.00
P9013S	PALTEX PARALLEL INTERFACE (SONY VO5850) . . . . .	2,700.00	TG-P49U	TIME CODE GENERATOR FOR CR4900 . . . . .	1,995.00
P9014S	PALTEX INTERFACE FOR SONY BVU800/820 . . . . .	1,700.00	TM-13U	13" COLOR MONITOR . . . . .	360.00
P9015S	PALTEX INTERFACE FOR SONY BVU850/870 . . . . .	1,700.00	TM-2084U	19" COLOR MONITOR . . . . .	680.00
P9016S	PALTEX INTERFACE FOR PANASONIC AU650 . . . . .	1,700.00	TM-22U	5" PORTABLE COLOR MONITOR . . . . .	510.00
P9017S	PALTEX INTERFACE FOR SONY BVW10/20 . . . . .	1,700.00	TM-63U	5" PORTABLE COLOR MONITOR . . . . .	465.00
P9018S	PALTEX INTERFACE FOR SONY BVW15/40 . . . . .	1,700.00	TM-9U	9" COLOR VIDEO MONITOR . . . . .	470.00
P9019	PARALLEL INTERFACE (JVC BR-8600U) . . . . .	800.00	TM-R14U	14" COLOR STUDIO MONITOR . . . . .	995.00
P9019S	PALTEX PARALLEL INTERFACE FOR BR-8600U . . . . .	2,700.00	TM-R9U	9" PROFESSIONAL COLOR MONITOR . . . . .	695.00
P9020S	PALTEX SERIAL INTERVACE FOR JVC M-II . . . . .	1,700.00	UC-1003U	RACKMOUNT ADAPTOR FOR TWO RS-500U'S . . . . .	145.00
P9021	PARALLEL INTERFACE (JVC M-II) . . . . .	800.00	UC-P1004U	RACKMOUNT ADAPTOR FOR RS-L501U . . . . .	140.00
P9021S	PALTEX PARALLEL INTERFACE FOR JVC M-II . . . . .	2,700.00	VC-202U	8 PIN TO 8 PIN MONITOR CABLE . . . . .	65.00
P9022	PARALLEL INTERFACE (AMPEX VPR80) . . . . .	800.00	VC-235-10U	33' CAMERA EXTENSION CABLE (10P-10P) . . . . .	45.00
P9022S	PALTEX PARALLEL INTERFACE (AMPEX VPR80) . . . . .	2,700.00	VC-426-3SY	10-PIN TO 14-PIN ADAPTOR . . . . .	180.00
RM-51U	18' REMOTE CONTROL (CP5000, CP5200) . . . . .	130.00	VC-511CU-2	2M VCR CABLE (14p-10p) for BY-110U . . . . .	130.00
RM-60U	REMOTE CONTROL (CR6060U) . . . . .	200.00	VC-512BU	4M VCR CABLE (14p-14p) for KY/BY CAMERAS . . . . .	160.00
RM-70U	REMOTE CONTROL (CP5550, CR6650, CR8250) . . . . .	440.00	VC-515U	BY110U TO RS110U CABLE--65 FEET . . . . .	375.00
RM-86U	VIDEO EDITING CONTROLLER . . . . .	1,620.00	VC-516U	EXTENSION CABLE FOR VC515--65 FEET . . . . .	440.00
RM-D2	REMOTE CONTROL UNIT FOR TELECONF. LENSES . . . . .	675.00	VC-544U	65' CAMERA CABLE (CAMERA TO RS-500U) . . . . .	530.00
RM-G68J	EDITING CONTROLLER FOR BR-6200U/BR-8600U . . . . .	350.00	VC-545U	EXTENSION CABLE FOR VC-544U--160 FEET . . . . .	1,050.00
RM-G850U	VIDEO EDITING CONTROLLER . . . . .	3,320.00	VC-582BU	33' CAMERA EXTENSION CABLE (10P TO 10P) . . . . .	235.00
RM-P280U	LENS CONTROL UNIT FOR KY-M280U . . . . .	100.00	VC-584U	10-PIN VCR CABLE (KY-2000U/KY-2700U) . . . . .	210.00
RM-P47U	REMOTE CONTROL FOR CR4900U . . . . .	299.00	VC-586U	16' EXTENSION CABLE FOR AAC49U, AAC50U . . . . .	160.00
RM-P500U	RANDOM ACCESS CONTROL FOR BR6400/BP5300 . . . . .	230.00	VC-588U	14-PIN VCR CABLE (KY2000U/KY2700U) . . . . .	210.00
RM-P53U	WIRED REMOTE CONTROL FOR BR6400/BP5300 . . . . .	115.00	VC-589BU	33' EXTENSION VCR CABLE (14p-14p) . . . . .	260.00
RM-P54U	WIRELESS REMOTE CONTROL (BR6400/BP5300) . . . . .	130.00	VC-P3011U	CAMERA/CCU CABLE FOR KY-M280U (65 FEET) . . . . .	445.00
RS-110U	CAMERA REMOTE CONTROL UNIT FOR BY-110U . . . . .	780.00	VC-P3012U	CAMERA/CCU CABLE FOR KY-M280U (130 FEET) . . . . .	730.00
RS-500U	REMOTE CONTROL UNIT--KY210/320/900/950U . . . . .	2,260.00	VC-P3013U	CAMERA/CCU CABLE FOR KY-M280U (203 FEET) . . . . .	1,000.00
RS-L501	REMOTE OPERATION PANEL FOR RS-500U . . . . .	840.00	VC-P454U	CABLE FOR KA-3U AND RECAM . . . . .	240.00
S16X7CMD-D9	16:1 TELECONFERENCING LENS FOR BY-110U . . . . .	2,010.00	VEP-1	EDIT SYSTEM (BP-5300U, RM-86U, BR-8600U) . . . . .	5,995.00
SA-F900U	SERIAL/PARALLEL INTERFACE UNIT . . . . .	1,345.00	VEP-2	EDIT SYSTEM (BR-6400U, RM-86U, BR-8600U) . . . . .	6,530.00
SA-W700U	AUDIO/VIDEO ROUTING SWITCHER FOR RMG850U . . . . .	1,830.00	VEP-3	EDIT SYSTEM (BR-8600U, RM-86U, BR-8600U) . . . . .	7,740.00
SS-M208U	PROFESSIONAL PORTABLE AUDIO MIXER . . . . .	860.00	VEP-4	EDIT SYSTEM (BR-6200U, RM-G68J, BR-8600U) . . . . .	4,700.00
T-120EM	EDITING MASTER VHS TAPE--120 MINUTES . . . . .	13.00	VEP-5	EDIT SYSTEM (BR7700U, BR8600U, RM86U) . . . . .	7,010.00
T-30EM	EDITING MASTER VHS TAPE--30 MINUTES . . . . .	10.00	VF-400U	4" STUDIO VIEWFINDER FOR BY110U . . . . .	555.00
T-60EM	EDITING MASTER VHS TAPE--60 MINUTES . . . . .	11.00	VF-515BU	1.5" VIEWFINDER FOR KY-210BU . . . . .	645.00
TBR-160U	5" PORTABLE BRIEFCASE SYSTEM . . . . .	1,620.00	VF-550U	5.5" VIEWFINDER FOR KY CAMERAS . . . . .	740.00
TBR-160AC	5" PORTABLE BRIEFCASE SYSTEM--AC POWERED . . . . .	1,425.00	XL-V550BK	COMPACT DISC PLAYER . . . . .	615.00
TCR-U	TIME CODE READER FOR ABNER CONTROLLERS . . . . .	1,400.00	XL-V550SET	COMPACT DISC PLAYER W/RACKMOUNT KIT . . . . .	710.00
TD-V66JBK	DISCRETE 3-HEAD AUDIO CASSETTE DECK . . . . .	595.00			



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# ACCESSORY REFERENCE GUIDE

<b>A10X108MD-D9</b> 10:1 TELECONFERENCING LENS FOR KY SERIES KY2108U, KY3208U, KY9508U This is a 10-100mm lens designed for remote operation with the RMD-2 control unit. Control is provided for focus, zoom, & iris.	\$1,715.00	<b>AC-P2U</b> PLAYBACK AC ADAPTOR FOR BR-6200U BR6200U This AC adaptor slides INTO the battery compartment of the BR6200. Because of its size it cannot be used in the record mode.	110.00	<b>BH-XLV550</b> RACK MOUNT KIT FOR XL-V550BK XLV550BK (By ordering the XL-V550SET this kit is included with the disc player.)	115.00
<b>AA-63B</b> AC ADAPTOR FOR TM63U MONITOR TM63U This is an AC adaptor (not battery charger) that attaches to the back of the monitor. The monitor will not work on 120V without it.	62.00	<b>AC-P3U</b> AC ADAPTOR FOR BR1600U/TMP3U/GXS700U HRC3U, TMP3U, GXS700U, BR1600U AC adaptor snaps onto either unit. Requires 120V AC 50/60hz	50.00	<b>BP-5100U</b> 2 1/4 HOUR VHS PLAYER 4 Motors, 4 video heads, 7X (21X EP) tape search fwd/rev, remote control, auto repeat/rewind, timer start, BNC/B-pin, frame adv	600.00
<b>AA-C11U</b> AC ADAPTOR/CHARGER FOR BY-110U BY-110U, DC-C11U Charges the DC-C11U battery in 90 minutes. Also provides AC power AND genlock video audio/VCR start connections for camera	310.00	<b>AP-P3U</b> CAR BATTERY CORD FOR BR1600U/GXS700U HRC3U, TMP3U, GXS700U, BR1600U Has cigarette lighter plug on one end and special snap-on frame on other end which attaches to the piece of equipment	18.00	<b>BR-1600U</b> 2-6 HR PORTABLE VHS RECORDER Very small, lightweight (5.3 lbs), 1 ch audio shuffle search, reverse play, still wired remote control, snap-on power system, 4 heads	885.00
<b>AA-C50U</b> AC ADAPTOR/CHARGER FOR KY CAMERAS KY2108U, KY320U, KY900U, KY950U Provides power to the camera from 120V or 240V source. Will quick charge the DCC50U battery. NOT FOR USE WITH THE B-20 BATTERY!	399.00	<b>AR-2000</b> AUTO-RAMP GENERATOR FOR KM-2000U SEG KM2000U This enables the KM-2000U to be triggered by an external GPI signal. Allows the SEG to be used with the ABNER A/B controller.	1,200.00	<b>BR-3100U</b> 2-6 HOUR HQ VHS RECORDER/PLAYER W/TUNER HQ system, 4 heads, 2-6 hr rec, 2-4-6 hr play BNC/B-pin, memory play, 111 ch tuner, 14 day 4 event timer, backspace edit, front loading	675.00
<b>AA-P26U</b> AC ADAPTOR/CHARGER FOR BR-6200U BR-6200U, NBP1, TM-22U Plugs directly into the BR6200 and charges its battery, as well as one in the AAP26. Powers the BR6200 & works from 120-240V.	245.00	<b>AX-70BK</b> DYNAMIC SUPER-A INTEGRATED AMPLIFIER 70W per ch, Gm selector, Gm driver, 7-band equalizer, LCD display spectrum analyzer, MM/MC phono, .007% THD, 20Hz-20kHz	350.00	<b>BR-3500U</b> 2 1/6 HOUR HQ VHS RECORDER/PLAYER W/TUNER 8-PIN/BNC, AUTO REPEAT, SWITCHED AC OUTLET, MIC INPUT, HQ SYSTEM, MODE LOCK, 3 WIRE AC, WIRED/WIRELESS REMOTE, 14/4 TUNER-TIMER	\$ 710.00
<b>AA-P47U</b> AC ADAPTOR/CHARGER FOR CR4700U, CR4900U CR-4900U, CR-4700U, NBP2U Besides providing power to the CR-4900U, this unit will charge up to 4 NBP2 batteries. It will also charge the CR4900s internal battery	485.00	<b>AX-70SET</b> INTEGRATED AMPLIFIER WITH RACKMOUNT KIT 70W per ch, Gm selector, Gm driver, 7-band equalizer, LCD display spectrum analyzer, MM/MC phono, .007% THD, 20Hz-20kHz	460.00	<b>BR-6200U</b> 2 1/6 HOUR PORTABLE VHS RECORDER/PLAYER BBR-6211 REC/CAM PACKAGE 2-6 HR RECORD, 2-4-6 HR PLAYBACK, 2 CH AUDIO 10X SEARCH; INSERT EDIT; BNC/RCA CONNECTORS RECORD LOCK; WIRELESS REMOTE INCLUDED	1,245.00
<b>ABNER-R</b> A/B ROLL EDIT CONTROLLER (RACK STYLE) P5002, P5003, P5007, P5010, P5011, P5012 A/B roll & sync roll mode, split edits, GPI trigger, Paltex format FDL output, CRT status 20-event mem, diagnostics, without VTR cables	5,400.00	<b>BA-P47U</b> BATTERY CASE FOR CR-4900U CR4700U, CR4900U Snaps onto bottom of the VCR and allows one extra battery to be used (total of 2). Uses NBP2 battery.	225.00	<b>BR-6400TR</b> MULTI-STANDARD VHS RECORDER/PLAYER Records PAL/SECAM. Plays PAL/SECAM/NTSC MOD. Same basic features of BR-6400U. When used with TM-14PSN, it will play standard NTSC	2,450.00
<b>ABNER-RC</b> A/B ROLL EDIT CONTROLLER (RACK, w/TCR) P5002, P5003, P5007, P5010, P5011, P5012 3 machine time code reader, split-edits, GPI trigger, Paltex format EDL output, CRT status 20 event mem, diagnostics, without VTR cables	6,600.00	<b>BB-P2U</b> BATTERY CHARGER FOR NBP5U/NBP6U/NBP7U GRC7U, GRC9U, NBP5U, NBP6U, NBP7U, NBP8U Battery charger for camcorder batteries. For AC adaptor/charger, use AA-V2U (consumer)	\$ 110.00	<b>BR-6400U</b> 2 HOUR VHS RECORDER/PLAYER RMP500U, RMP53U, RMP54U EXTERNAL SYNC, 2 CHANNEL DOLBY AUDIO, FULL 6 MOTOR DIRECT DRIVE, TRACKING METER, 10X SEARCH, FRONT LOAD, EDIT FEEDER, AUTO REPEAT	1,985.00
<b>ABNER-T</b> A/B ROLL EDIT CONTROLLER (TABLE TOP) P5002, P5003, P5007, P5010, P5011, P5012 A/B roll & sync roll mode, split edits, GPI trigger, Paltex format EDL output, CRT status 20 event mem, diagnostics, without VTR cables	5,400.00	<b>BB-P3U</b> BATTERY CHARGER FOR NBP3U/NBP4U GXS700U, TMP3U, HRC3U, BR1600U Charges the battery for the BR1600U GXS700U. Works on multiple voltages (120-240) 50/60hz	115.00	<b>BR-7000UR</b> VHS HI-FI DUPLICATING RECORDER Specifically for duplication, front load, full direct drive, rotary (FM) audio, Dolby, 34p parallel or serial control, hour meter, etc	1,760.00
<b>ABNER-TC</b> A/B ROLL EDIT CONTROLLER (TABLE, w/TCR) P5002, P5003, P5007, P5010, P5011, P5012 3 machine time code reader, split-edits, GPI trigger, Paltex format EDL output, CRT status 20 event mem, diagnostics, without VTR cables	\$6,600.00	<b>BBR-6211X108</b> VHS/3-TUBE CAMERA PACKAGE PACKAGE CONSISTS OF: BY110UL108 ( ), AAC11U ( ), VC511CU2 ( ), DCC11U ( ), BR6200U ( ), AND AAP26U ( )	6,100.00	<b>BR-7700U</b> 2 HOUR VHS HI-VI RECORDER/PLAYER RM86U, RMP500U, RMP53U, RMP54U Heavy duty, edit feeder w/45 pin connector, dial search fwd/rev, full DD motors, separate hi-fi inputs/outputs. Full metering	2,560.00
<b>AC-C412P</b> AC ADAPTOR FOR GXN8PCU, TK870U GXN8PCU, TK870U, GXS700U, GZ55U, GZ53U This accessory allows the camera to be used with non-portable VCR's and with monitors. It provides video/audio and remote outputs.	95.00	<b>BBR-6211X168</b> VHS/3-TUBE CAMERA PACKAGE PACKAGE CONSISTS OF: BY110UL168 ( ), AAC11U ( ), VC511CU2 ( ), DCC11U ( ), BR6200U ( ), AAP26U ( )	6,800.00	<b>BR-8600U</b> VHS EDITING RECORDER Front load, dial search (-10X), flying erase, preroll/auto cut-out functions, dub switch, DD motors, diecast, ext. sync, video meter	3,440.00
		<b>8H-AX70</b> RACK MOUNT KIT FOR AX-70BK AX70BK (By ordering the AX-70SET this kit is included with the amplifier.)	115.00	<b>BY-110UL108</b> 3-TUBE COLOR CAMERA WITH 10:1 SERVO LENS 600 lines, 54dB, 1/2" Sats (H9382), 65lux @ f/1.4 prism, 1H, auto-shift, auto wh/blk., 1.4.8 error hot-shoe everything, with 10.1 lens, 1" VF.	4,280.00
		<b>8H-TDV66</b> RACK MOUNT KIT FOR TD-V66JBK TDV66JBK (By ordering the TD-V66SET, this kit is included with the cassette deck.)	115.00	<b>CB-P10U</b> SYSTEM CARRYING CASE FOR BR-1600U BR1600U, GZ55U This attractive carrying case holds the BR-1600U and a small camera like the GZ-55U, and accessories.	126.00

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<b>CB-P11U</b> SOFT CARRYING CASE FOR BR-1600U BR-1600U This soft case is designed to carry the BR-1600U alone. Don't confuse with the CB-P10U designed for BR-1600U system & acc	\$ 55.00	<b>DC-C50U</b> 3.5AH NICAD BATTERY FOR KY CAMERAS KY210BU, KY320U, KY900U, KY950U 3.5 AMPERE HOUR BATTERY FOR KY310, KY900, KY950 REQUIRES AAC50U CHARGER. MAY ALSO BE USED WITH THE BY110 (KA-D50U ADAPTOR).	340.00	<b>HZ-CA12U</b> C-MOUNT ADAPTOR FOR BY-110U/KY-M280U BY-110U, KY-M280U C-mount adaptor with less optics than HZ-CA11U. However, does not invert image, so picture will be upside down.	575.00
<b>CB-P47U</b> FITTED SOFT CARRYING CASE FOR CR-4900U CR4700U, CR4900U THIS IS AN ATTRACTIVE FITTED CASE FOR CR4900. IT HAS A POUCH FOR THE TGP-47 AND FOR THE BA-P47.	170.00	<b>ECL-8077</b> CLOSE-UP LENS ATTACHMENT S16X7 CMDD9, A16X9, 58MDD9 For use with teleconferencing lenses. Allows focusing from 1.4' to infinity. Recommended for copy stand applications.	175.00	<b>HZ-CA23U</b> C-MOUNT LENS ADAPTOR FOR KY SERIES KY210BU, KY320U, KY900U, KY950U This adaptor mounts on the camera's bayonet mount, and permits use of standard C-Mount lenses.	830.00
<b>CB-P62U</b> SOFT FITTED CARRYING CASE FOR BR-6200U BR6200U ATTRACTIVE CASE FOR USING THE BR6200U WHILE PORTABLE. HAS COMPARTMENT FOR EXTRA BATTERY. USES THE RECORDER'S OWN SHOULDER STRAP.	110.00	<b>ECM-025F</b> 25' LENS CABLE (TELECONFERENCING LENSES) RMD2, BY110U, KY210U, KY210B, KYM280U 12 conductor shielded cable provides lens control functions & power to the RMD-2. User may chain ECM cables up to 500 feet.	330.00	<b>HZ-E512U</b> 12:1 SERVO ZOOM LENS w/EXTENDER, 9-108mm KY210BU, KY320U, KY900U, KY950U FUJINON LENS. MOTORIZED ZOOM AND IRIS. BAYONET MOUNT (B TYPE). WITH 2X EXTENDER BUILT-IN.	2,550.00
<b>CP-5200U</b> 3/4" VIDEO CASSETTE PLAYER Still Frame, Auto Repeat, solenoid controls	1,395.00	<b>ECM-050F</b> 50' LENS CABLE (TELECONFERENCING LENSES) BY110U, KY210U, KY210BU, KYM280U 12 conductor shielded cable provides lens control functions & power to the RMD-2. User may chain ECM cables up to 500 feet.	385.00	<b>HZ-FM11U</b> MANUAL FOCUS CONTROL FOR BY110UP/HZ110U BY110U, HZ110U Attaches to the standard lens (HZ-110U) and tripod for studio use.	\$ 325.00
<b>CP-5550U</b> 3/4" VIDEO CASSETTE PLAYER Edit feeder, SMPTE track, ext. sync, XLR balanced audio, VI head sw, 7 motor DD, 15X search, tracking meter, FM dub & color dub	3,360.00	<b>ECM-100F</b> 100' LENS CABLE (TELECONFERENCING LENS) BY110U, KY210U, KY210BU, KYM280U 12 conductor shielded cable provides lens control functions & power to the RMD-2. User may chain ECM cables up to 500 feet.	645.00	<b>HZ-FM12U</b> MANUAL FOCUS CONTROL FOR 12X/16X LENSES BY110U, KY210U, KY320U, KY900U, KY950U ALLOWS OPERATOR TO FOCUS THE CAMERA FROM THE REAR OF THE CAMERA. USE WITH MANUAL OR SERVO ZOOM CONTROL, AND STUDIO VIEWFINDER.	450.00
<b>C-P5U</b> VHS-C CASSETTE ADAPTOR GRC7U, GRC9U, HRC3U, BRC100U, VHS Motorized adapter which allows VHS-C cassettes to be recorded and played on standard VHS machines.	55.00	<b>ESP-1</b> EDIT SYSTEM (CR-850U, RM-86U, CR-850U) CONSISTS OF 2 CR-850'S AND RM-86U	19,300.00	<b>HZ-M110U</b> MICROSCOPE ATTACHMENT FOR BY110U/KYM280U BY110U, KYM280U This attachment replaces the lens on the BY camera. It connects to a Nikon or Olympus microscope, etc. Has auto/manual ND wheel.	1,850.00
<b>CR-4900U</b> 3/4" PORTABLE RECORDER Videoconference heads, XLR/BNC connectors, SMPTE track (TGP-47 opt), Vertical Interval head switch, 10X search, full remote option	4,100.00	<b>ESP-2</b> EDIT SYSTEM (CR-600U, RM-86U, CR-850U) CONSISTS OF CR-600U, RM-86U, CR-850U	16,550.00	<b>HZ-M310U</b> SURGICAL MICROSCOPE ADAPTOR FOR KY-M280U KYM280U Enables the KY-M280U to be used in operating room environments with surgical microscopes.	3,360.00
<b>CR-600U</b> 3/4" VIDEOCASSETTE RECORDER/PLAYER Features similar to CR-850 except no insert edit, line input switcher. Has assemble edit Y-688 dub, RS-422, front load, etc.	6,910.00	<b>GX-S700U</b> 1-TUBE COLOR CAMERA WITH 10:1 SERVO ZOOM 360 lines/48dB, bars, genlock, auto fade, 2H enh, char. gen., computerized warning sm, 30 lux at +12dB, mic incl, 2/3" Saticon	\$1,995.00	<b>HZ-NK11U</b> NIKON LENS ADAPTOR FOR BY-110U, KY-M280U BY110U, KYM280U This adaptor replaces the lens on the BY110UP and enables mounting a variety of 35mm camera lenses which incorporate the Nikon mount.	615.00
<b>CR-6060U</b> 3/4" VIDEOCASSETTE RECORDER/PLAYER Basic no-fills recorder. Still frame, auto repeat, 2 ch audio w/audio dub, simple operation. A workhorse.	1,915.00	<b>HZ-110MDP</b> MOTORIZED FOCUS/ZOOM LENS FOR BY110U BY110U, KYM280U This is a 40:1 motorized lens for the BY110U. The focus, zoom, and iris may be controlled from up to 1000 ft with the control provided.	1,600.00	<b>HZ-NK23U</b> NIKON LENS ADAPTOR FOR KY SERIES CAMERAS KY210U, KY320U, KY900U, KY950U, KY310U This adaptor mounts on the camera's bayonet mount, and permits use of Nikon type 35mm camera lenses.	615.00
<b>CR-6650U</b> 3/4" VIDEOCASSETTE RECORDER/PLAYER NEW PRICING JULY 85 SMPTE head, VI head switching, XLR balanced audio, 15X search, assemble edit, edit feeder video level/tracking meter, 260 line/46dB s/n	4,135.00	<b>HZ-110U</b> 10:1 SERVO ZOOM LENS FOR BY-110U BY110U This lens comes standard with the BY110UL 10A. It has aperture of f/1.4, with a zoom ratio of 7-70mm. Macro function included.	765.00	<b>HZ-TCL11U</b> 1.5X TELECONVERSION LENS FOR BY110U BY110U, HZ110U This adaptor attaches directly to the front of the BY110U lens and increases the focal length by one and one-half times.	405.00
<b>CR-8250U</b> 3/4" EDITING VIDEOCASSETTE RECORDER NEW PRICE JULY 85 SMPTE time code track, vertical interval head switching, balanced XLR audio, video level/tracking meters, minisec counter, 15X search	\$ 6,140.00	<b>HZ-116U</b> 16:1 SERVO ZOOM LENS FOR BY-110U BY110U, KYM280U This f/1.4 Fujinon lens has a focal length of 7-112mm. Macro function included. (Uses HZ-FM12U and HZ-ZS12U cable drives)	1,715.00	<b>HZ-WCL11U</b> WIDE ANGLE CONVERSION LENS FOR BY110U BY110U, HZ110U This adaptor attaches directly to the front of the BY110U lens and decreases the focal length by 0.7 times, making it wider angle.	405.00
<b>CR-850U</b> 3/4" EDITING VIDEOCASSETTE RECORDER Front load, SMPTE TC, DD reel servos, diagnostic warning, 47dB s/n, 15X search built-in editing, frame counter, RS-422	9,940.00	<b>HZ-516U</b> 16:1 SERVO ZOOM LENS FOR KY CAMERAS KY210BU, KY320U, KY900U, KY950U This Fujinon f/1.8 lens has a zoom focal range of 9.5 to 152mm. A macro function is included.	1,715.00	<b>HZ-X350U</b> LENS MOUNT ADAPTOR (BY-LENS TO KY-MOUNT) BY110U, KY210U, TE3000U This adaptor enables the TE-3000U and other BY lens accessories to be used with the KY bayonet mount cameras.	\$ 130.00
<b>DC-C11U</b> 2.2 AH BATTERY PACK FOR BY-110U BY-110U, AA-C11U Exclusive hot-shoe battery for BY-110U camera powers camera for 60 minutes, and recharges in 90 minutes. (NiCad).	155.00	<b>HZ-CA11U</b> C-MOUNT ADAPTOR FOR BY-110UP CAMERA KYM280U, BY110U Mounts onto front of BY110U after removing lens. Provides optical correction and mount for standard C-mount lens.	830.00		

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<b>HZ-ZS11U</b> SERVO ZOOM CONTROL FOR BY110UP/HZ110U BY110U, HZ110U Attaches to the standard lens (HZ-110U) and tripod for studio use. Provides smooth electronic control of zoom.	345.00	<b>KCS-20K</b> 3/4" VIDEOCASSETTE TAPE (20 MINUTE) Recommended for ENG, editing, multi-purpose use.	21.00	<b>NB-P2U</b> NICAD BATTERY FOR CR4900U/CR4700U  CR4700U, CR4900U USES THE AAP47U CHARGER.	130.00
<b>HZ-ZS12U</b> SERVO ZOOM CONTROL FOR 12X/16X LENSES KY210U, KY310U, KY320U, KY900U, KY950U SMOOTH ELECTRONIC ZOOM FROM REAR OF THE CAMERA. USE WITH MANUAL OR SERVO FOCUS AND STUDIO VIEWFINDER FOR STUDIO OPERATION.	500.00	<b>KM-1200U</b> PORTABLE SPECIAL EFFECTS GENERATOR AC/DC, RACK MOUNT, 4 video inputs, RGB chroma keyer, 8GND color gen., DSK input, SSG, outtake, 6 wipe patterns.	2,150.00	<b>NB-P3U</b> BATTERY PACK FOR BR1600U, GXS700U (.7 AH) HRC3U, TMP3U, BR1600U, GXS700U USES THE BBP3U CHARGER.	50.00
<b>KA-110U</b> QUICK RELEASE TRIPOD BASE FOR BY110U BY110U This two-piece unit mounts to the camera and to the tripod & provides better stability on the tripod, as well as quick-release function	115.00	<b>KM-2000U</b> SPECIAL EFFECTS GENERATOR 8 inputs, 3 bus, 2 faders, downstream keyer RGB chroma keyer, 13 wipe patterns, b/w super two color generators, pattern modulator, SSG	5,230.00	<b>NB-P4U</b> BATTERY PACK FOR BR1600U, GXS700U (1.2 AH) GXS700U, HRC3U, TMP3U, BR1600U INCREASED CAPACITY BATTERY PACK. ATTACHES TO THE GX-S700U CAMERA AND POWERS THE CAMERA SEPARATELY FROM THE RECORDER.	\$ 70.00
<b>KA-111U</b> ADJUSTABLE CHEST REST FOR BY110U BY110U Flip-out type chest brace for BY110U camera which provides comfort and support.	75.00	<b>KR-234U</b> CH 3/4 RF CONVERTER (3/4 DECKS) CR6600U, CP5200U, CR6650U, CP5550U CONVERTS VIDEO OUTPUT TO A SIGNAL WHICH CAN BE RECEIVED ON AN ORDINARY TV SET ON CHANNELS 3 OR 4.	125.00	<b>P5002</b> CABLE ASSEMBLY (ABNER/SONY TYPE V) ABNER, SONY Interface cable to connect the ABNER editing controller to Sony Type V series. Use one cable for each VCR to be used.	600.00
<b>KA-130U</b> CAMCORDER ADAPTOR—BR1600U TO BY110U BR1600U, BY110U This bracket allows the BR-1600U VHS recorder to be attached to a BY-110U 3-tube camera, making a 1-piece unit. Uses DC-C11U battery.	155.00	<b>KR-256U</b> CH 5/6 RF CONVERTER (3/4 DECKS) CR6650U, CP5550U, CR6060U, CP5200U CONVERTS VIDEO OUTPUT TO A SIGNAL WHICH CAN BE RECEIVED ON AN ORDINARY TV SET ON CHANNELS 5 OR 6.	125.00	<b>P5004</b> ABNER CABLE ASSEMBLY (PANASONIC AU300) ABNER, PANASONIC AU300 Interface cable to connect the ABNER editing controller to PANASONIC AU-300. Use one cable assembly for each VCR.	300.00
<b>KA-500U</b> TRIPOD MOUNTING PLATE FOR KY CAMERAS KY210U, KY310U, KY320U, KY900U, KY950U This unit, supplied with the camera, mounts to the tripod enabling quick release of camera. For use as replacement or spare.	110.00	<b>KY-210BUPL</b> 3-TUBE COLOR CAMERA LESS LENS KCR-4921 REC/CAM PACKAGE 750lines, 58dB, 2/3" HR Saticon, auto shift, 2Hcot hot-shoe V/mic, matrix mask, RS170A Cf, split bars, test out, 32lux @f/4, prism, 1, 2, 4%	\$ 6,695.00	<b>P5007</b> ABNER CABLE ASSEMBLY (CR-850U, CR-600U) ABNER, CR850U, CR600U Interface cable to connect the ABNER editing controller to JVC CR-850U or CR-600U. Use one cable assembly for each VCR.	300.00
<b>KA-D50U</b> BATTERY ADAPTOR (DC-C50U TO BY-110U) BY110U, DCC50U This bracket mounts to the BY110U "hot shoe" and permits connection of the DCC50U. It also has 4pin XLR connection for battery belts, etc	150.00	<b>KY-M280U</b> MULTI PURPOSE 3 TUBE COLOR CAMERA Very compact, light weight head(2.9lbs)w/ccu 650lines, 55dB, RGB out, 2H, C-Matrix, Mega sw Medical UL, max 200ft from ccu to head	9,200.00	<b>P5008</b> ABNER CABLE ASSEMBLY (PANASONIC NV8500) ABNER, PANASONIC NV8500 Interface cable to connect the ABNER editing controller to Panasonic NV-8500 VHS editor. Use one assembly for each VCR.	300.00
<b>KBR-6221B</b> CAMERA-RECORDER PACKAGE (KY210BU/BR6200) Package consists of: KY210BUPL (4675) BR6200U (772), AAP26U (145), AAC50U (260), DCC50U (173), VC514UC2 (0)	8,610.00	<b>M-510XL</b> ELECTRET CONDENSER MICROPHONE ANY KY-SERIES CAMERAS UNI-DIRECTIONAL (PICKS UP FROM THE FRONT ONLY). HAS SHORT CABLE WHICH PLUGS INTO CAMERA, AND LONGER ONE TO PLUG INTO DECK.	230.00	<b>P5009</b> ABNER CABLE ASSEMBLY (PANA AU700, NV9000) ABNER, PANASONIC AU700, NV9000, NV9600 Interface cable to connect the ABNER editing controller to Panasonic AU700 or NV9000 series. Use one cable for each VCR.	300.00
<b>KCA-30K</b> 3/4" VIDEOCASSETTE TAPE (30 MINUTE) Recommended for ENG, editing, multi-purpose use.	\$ 24.00	<b>MI-1200U</b> RACK MOUNT AUDIO MIXER AC/DC operation, 10 inputs (4 bal mic, 1 tape 1 phono, 4 unbal aux), 2 mono out (bal/unbal) 5-LED meter, slide pots, ideal with KM-1200U	480.00	<b>P5010</b> ABNER CABLE ASSEMBLY (BR6400U, BP5300U) ABNER, BR6400U, BP5300U Interface cable to connect the ABNER editing controller to JVC BR-6400U or BP-5300U. Use one cable assembly for each VCR.	300.00
<b>KCA-60K</b> 3/4" VIDEOCASSETTE TAPE (60 MINUTE) Recommended for ENG, editing, multi-purpose use.	34.00	<b>MI-2000U</b> RACK MOUNT AUDIO MIXER Slide level controls (8) inputs, RIAA, tone oscillator, pan-pots, individual input equalization, PFL (Pre Fade Listening), Talk-back	1,260.00	<b>P5011</b> ABNER CABLE ASSEMBLY (CR-8200U series) ABNER, CR8200, CR6600, CP5500 Interface cable to connect the ABNER editing controller to JVC CR-8200U, CR-6600U, CP-5500U model VCR. Use one P5011 for each VCR.	300.00
<b>KCR-4911X10B</b> 3/4" VCR/3-TUBE CAMERA PACKAGE PACKAGE CONSISTS OF: BY-110U10B ( ) CR4900U ( ), VC512BU ( ), AAP47U ( ), AAC11U ( ), DCC11U ( )	9,125.00	<b>MI-P2E</b> DC-DC CONVERTER FOR MI-2000U MIXER MI2000U This accessory must be used in order to power the MI-2000U from 12VDC. It attaches to the side of the mixer & converts 12VDC to 16VDC	340.00	<b>P5012</b> ABNER CABLE ASSEMBLY (SONY BVU/BVE/BVW) ABNER, SONY BVU/BVE/BVW Interface cable to connect the ABNER editing controller to Sony BVU/BVE/BVW series. Use one cable assembly for each VCR.	300.00
<b>KCR-4911X16B</b> 3/4" VCR/3-TUBE CAMERA PACKAGE PACKAGE CONSISTS OF: BY-110U10A ( ) CR4900U ( ), VC512BU ( ) AAP47U ( ), AAC11U ( ), DCC11U ( )	9,820.00	<b>M-K50U</b> "HOT-SHOE" MICROPHONE FOR BY/KY CAMERAS BY110U, KY210U, KY320U, KY900U, KY950U MOUNTS TO SIDE OF CAMERA WITHOUT CABLE. POWER IS PROVIDED BY THE CAMERA. UNI-DIRECTIONAL. WINDSCREEN. FOR HAND HELD USE. USE KA-M50.	299.00	<b>P5019</b> ABNER CABLE ASSEMBLY (PANASONIC 6500) ABNER, PANASONIC 6500 Interface cable to connect the ABNER editing controller to Panasonic 6500. Use one cable assembly for each VCR.	\$ 300.00
<b>KCR-4921B</b> 3/4" VCR, KY-210BU CAMERA/VTR PACKAGE PACKAGE CONSISTS OF: KY-210BUPL (4675) CR4900U (2795), VC512BU (105) AAP47U (290), AAC50U (260), DCC50U (45)	11,670.00	<b>NB-P1U</b> NICAD BATTERY FOR BR6200U, HR2200U, TM22U BR6200, TM22, HR2200 SNAP IN BATTERY CAN BE CHARGED WITH AAP26U, AAP22U IN ABOUT 90 MINUTES.	95.00		



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<b>P5020</b> <b>ABNER CABLE ASSEMBLY (CR-8250/6650/5550)</b> 300.00 <b>ABNER,CR8250U,CR6650U,CP5550</b> Interface cable to connect the ABNER editing controller to CR-8250U,CP-5550U,CR-6650U. Replaces P5003. Use one assembly for each VCR.	<b>P7030</b> <b>35' PALTEX KEYBOARD CABLE</b> 40.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> This is a 9-pin (male-female) cable used to connect the editing keyboard with the main control unit.	<b>P8004S</b> <b>SERIAL SWITCHER INTERFACE (ROSS 210)</b> \$1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX,ROSS</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P5021</b> <b>ABNER CABLE ASSEMBLY (BR-8600/BR-7700)</b> 300.00 <b>ABNER,BR8600U,BR7700U</b> Interface cable to connect the ABNER editing controller to BR-8600U, BR-7700U. Replaces P5003. Use one assembly for each VCR.	<b>P7031</b> <b>50' PALTEX KEYBOARD CABLE</b> 100.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> This is a 9-pin (male-female) cable used to connect the editing keyboard with the main control unit.	<b>P8005S</b> <b>SERIAL SWITCHER INTERFACE (ROSS 500)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX,ROSS</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P5022</b> <b>ABNER CABLE ASSEMBLY (SONY BVW SERIES)</b> 300.00 <b>ABNER,SONY BVW,BETACAM</b> Interface cable to connect the ABNER editing controller to Sony BVW series. Use one cable assembly for each VCR.	<b>P7032</b> <b>75' PALTEX KEYBOARD CABLE</b> 200.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> This is a 9-pin (male-female) cable used to connect the editing keyboard with the main control unit.	<b>P8006S</b> <b>SERIAL SWITCHER INTERFACE (CROSSP 6119)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P5680</b> <b>PALTEX ELITE EDITING CONTROLLER</b> 13,600.00 Paltext computer video editing controller. Includes 3 VTR serial & 1 serial switcher interface & 3 TCRs. (Specify make/model VTRs)	<b>P7033</b> <b>100' PALTEX KEYBOARD CABLE</b> 300.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> This is a 9-pin (male-female) cable used to connect the editing keyboard with the main control unit.	<b>P8007S</b> <b>SERIAL SWITCHER INTERFACE (OTHER CROSSP)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P7002</b> <b>EDL-DOS DISK &amp; CABLE-PALTEX CONTROLLERS</b> 495.00 <b>ABNER,ELITE,EXCEL,EDIT STAR,PALTEX</b> This provides a convenient way of storing the EDL, produced by Paltext controllers in MS-DOS. Allows PC to be used instead of disk drive.	<b>P7040</b> <b>25' SWITCHER CABLE</b> \$ 40.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> RS-422 cable to connect serial switcher (specify model) to Paltext serial editing controllers.	<b>P8008S</b> <b>SERIAL SWITCHER INTERFACE (ABEKAS COX)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P7003</b> <b>VITC READER (FOR ONE VTR)</b> 780.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> Vertical Interval Timecode Reader board which plugs into the SMPTE reader in Paltext, ELITE EXCEL & EDIT-STAR. Use one for each VTR	<b>P7041</b> <b>35' SWITCHER CABLE</b> 80.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> RS-422 cable to connect serial switcher (specify model) to Paltext serial editing controllers.	<b>P8009S</b> <b>SERIAL SWITCHER INTERFACE (AMPEX)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX,AMPEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P7004</b> <b>ASCII COMMENTS KEYBOARD</b> 1,200.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> Keyboard which plugs into EDIT-STAR, EXCEL, & ELITE Paltext controllers. Allows you to type comments in the edit decision list.	<b>P7042</b> <b>50' SWITCHER CABLE</b> 140.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> RS-422 cable to connect serial switcher (specify model) to Paltext serial editing controllers.	<b>P8010S</b> <b>SERIAL SWITCHER INTERFACE (BOSCH BTS)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX,BOSCH</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P7005</b> <b>STATUS MONITOR</b> 400.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX,ABNER</b> This is a 12" monochrome (specify amber or green) monitor used for displaying status of any Paltext controller. Uses composite signal.	<b>P7043</b> <b>75' SWITCHER CABLE</b> 240.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> RS-422 cable to connect serial switcher (specify model) to Paltext serial editing controllers.	<b>P8011S</b> <b>SERIAL SWITCHER INTERFACE (CDL 480)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P7020</b> <b>35' SERIAL INTERFACE CABLES (X3)</b> \$120.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> Package of 3 serial interface cables. 9-pin D-type connector on both ends. Use when connecting VTR/switcher to Paltext controllers	<b>P7044</b> <b>100' SWITCHER CABLE</b> 340.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> RS-422 cable to connect serial switcher (specify model) to Paltext serial editing controllers.	<b>P8013S</b> <b>SERIAL SWITCHER INTERFACE (ECHO LAB SE3)</b> \$1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P7021</b> <b>50' SERIAL INTERFACE CABLES (X3)</b> 300.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> Package of 3 serial interface cables. 9-pin D-type connector on both ends. Use when connecting VTR/switcher to Paltext controllers	<b>P8001S</b> <b>SERIAL SWITCHER INTERFACE (GVG100)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.	<b>P8014S</b> <b>SERIAL SWITCHER INTERFACE (ECHO LAB SE6)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P7022</b> <b>75' SERIAL INTERFACE CABLES (X3)</b> 600.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> Package of 3 serial interface cables. 9-pin D-type connector on both ends. Use when connecting VTR/switcher to Paltext controllers	<b>P8002S</b> <b>SERIAL SWITCHER INTERFACE (GVG1680/1600)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.	<b>P8015S</b> <b>SERIAL SWITCHER INTERFACE (INTERGRP 9B3)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.
<b>P7023</b> <b>100' SERIAL INTERFACE CABLES (X3)</b> 900.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> Package of 3 serial interface cables. 9-pin D-type connector on both ends. Use when connecting VTR/switcher to Paltext controllers	<b>P8003S</b> <b>SERIAL SWITCHER INTERFACE (GVG300)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.	<b>P8016S</b> <b>SERIAL SWITCHER INTERFACE (INTERGRP 904)</b> 1,700.00 <b>EDIT-STAR,EXCEL,ELITE,PALTEX</b> PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.

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<p><b>P8017S</b> SERIAL SWITCHER INTERFACE--INTERGRP 9240 EDIT-STAR, EXCEL, ELITE, PALTEX PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.</p>	1,700.00	<p><b>P9009</b> PARALLEL INTERFACE (BOSCH BCN50/51) EDIT-STAR, EXCEL, ELITE, PALTEX, BOSCH Interface for Paltext serial controllers to parallel VTR. THIS PRICE APPLIES ONLY WHEN ORDERING CONTROLLER. Use one for each VTR.</p>	800.00	<p><b>P9018S</b> PALTEX INTERFACE FOR SONY BVW15/40 EDITSTAR, EXCEL, ELITE, PALTEX, SONY Interface for Paltext serial controllers to SONY BVW15/40. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	\$1,700.00
<p><b>P8018S</b> SERIAL SWITCHER INTERFACE (SHINTRON) EDIT-STAR, EXCEL, ELITE, PALTEX PC board which plugs into Paltext serial controllers. Comes with 15' cable to switcher.</p>	1,700.00	<p><b>P9009S</b> PALTEX INTERFACE FOR BOSCH BCN50/51 EDIT-STAR, EXCEL, ELITE, PALTEX, BOSCH Interface for Paltext serial controllers to parallel VTR. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	2,700.00	<p><b>P9019</b> PARALLEL INTERFACE (JVC BR-8600U) EDITSTAR, EXCEL, ELITE, PALTEX, BR8600U Interface for Paltext serial controllers to parallel VTR. THIS PRICE APPLIES ONLY WHEN ORDERING CONTROLLER. Use one for each VTR.</p>	800.00
<p><b>P9001</b> PALTEX PARALLEL INTERFACE (SONY BVH1100) EDIT-STAR, EXCEL, ELITE, PALTEX Interface for Paltext serial controllers to parallel VTR. THIS PRICE APPLIES ONLY WHEN ORDERING CONTROLLER. Use one for each VTR.</p>	800.00	<p><b>P9010S</b> PALTEX INTERFACE FOR BOSCH BCN52 EDIT-STAR, EXCEL, ELITE, PALTEX, BOSCH Interface for Paltext serial controllers to Bosch BCN52. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>P9019S</b> PALTEX PARALLEL INTERFACE FOR BR-8600U EDITSTAR, EXCEL, ELITE, PALTEX, BR8600U Interface for Paltext serial controllers to JVC BR-8600U. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	2,700.00
<p><b>P9001S</b> PALTEX PARALLEL INTERFACE (SONY BVH1100) EDIT-STAR, EXCEL, ELITE, PALTEX, SONY Interface for Paltext serial controllers to parallel VTR. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	2,700.00	<p><b>P9011S</b> PALTEX INTERFACE FOR CR-850U EDITSTAR, EXCEL, ELITE, PALTEX, CR850U Interface for Paltext serial controllers to JVC CR-850U. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	\$1,700.00	<p><b>P9020S</b> PALTEX SERIAL INTERVACE FOR JVC M-II EDITSTAR, EXCEL, ELITE, PALTEX, M-II Interface for Paltext serial controllers to JVC M-II(serial) THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00
<p><b>P9002S</b> PALTEX INTERFACE FOR SONY BVH2000 EDIT-STAR, EXCEL, ELITE, PALTEX, SONY Interface for Paltext serial controllers to Sony VTR. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>P9012</b> PARALLEL INTERFACE (JVC CR-8250U) EDITSTAR, EXCEL, ELITE, PALTEX, CR8250U Interface for Paltext serial controllers to parallel VTR. THIS PRICE APPLIES ONLY WHEN ORDERING CONTROLLER. Use one for each VTR.</p>	800.00	<p><b>P9021</b> PARALLEL INTERFACE (JVC M-II) EDIT-STAR, EXCEL, ELITE, PALTEX, M-II Interface for Paltext serial controllers to parallel VTR. THIS PRICE APPLIES ONLY WHEN ORDERING CONTROLLER. Use one for each VTR.</p>	800.00
<p><b>P9003</b> PALTEX PARALLEL INTERFACE--AMPEX VPR2/2B EDIT-STAR, EXCEL, ELITE, PALTEX, AMPEX Interface for Paltext serial controllers to parallel VTR. THIS PRICE APPLIES ONLY WHEN ORDERING CONTROLLER. Use one for each VTR.</p>	\$ 800.00	<p><b>P9012S</b> PALTEX PARALLEL INTERFACE FOR CR-8250U EDITSTAR, EXCEL, ELITE, PALTEX, CR8250U Interface for Paltext serial controllers to JVC CR-8250U. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	2,700.00	<p><b>P9021S</b> PALTEX PARALLEL INTERFACE FOR JVC M-II EDITSTAR, EXCEL, ELITE, PALTEX, M-II Interface for Paltext serial controllers to JVC M-II VTRs. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	2,700.00
<p><b>P9003S</b> PALTEX PARALLEL INTERFACE--AMPEX VPR2/2B EDIT-STAR, EXCEL, ELITE, PALTEX, AMPEX Interface for Paltext serial controllers to parallel VTR. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	2,700.00	<p><b>P9013</b> PARALLEL INTERFACE (SONY VO-5850) EDIT-STAR, EXCEL, ELITE, PALTEX, SONY Interface for Paltext serial controllers to parallel VTR. THIS PRICE APPLIES ONLY WHEN ORDERING CONTROLLER. Use one for each VTR.</p>	800.00	<p><b>P9022</b> PARALLEL INTERFACE (AMPEX VPR80) EDIT-STAR, EXCEL, ELITE, PALTEX, AMPEX Interface for Paltext serial controllers to parallel VTR. THIS PRICE APPLIES ONLY WHEN ORDERING CONTROLLER. Use one for each VTR.</p>	800.00
<p><b>P9004S</b> PALTEX INTERFACE FOR AMPEX VPR3 EDIT-STAR, EXCEL, ELITE, PALTEX, AMPEX Interface for Paltext serial controllers to AMPEX VTR. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>P9013S</b> PALTEX PARALLEL INTERFACE (SONY VO5850) EDITSTAR, EXCEL, ELITE, PALTEX, SONY Interface for Paltext serial controllers to SONY VO-5850. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	2,700.00	<p><b>P9022S</b> PALTEX PARALLEL INTERFACE (AMPEX VPR80) EDITSTAR, EXCEL, ELITE, PALTEX, VPR80 Interface for Paltext serial controllers to AMPEX VPR80. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	2,700.00
<p><b>P9005S</b> PALTEX INTERFACE FOR AMPEX VPR6 EDIT-STAR, EXCEL, ELITE, PALTEX, AMPEX Interface for Paltext serial controllers to AMPEX VPR6. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>P9014S</b> PALTEX INTERFACE FOR SONY BVU800/820 EDITSTAR, EXCEL, ELITE, PALTEX, SONY Interface for Paltext serial controllers to SONY BVU800/820. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>RM-51U</b> 18' REMOTE CONTROL (CP5000, CP5200) CP5000, CP5200 CONTROLS PLAY, STOP, REWIND, AND FAST FORWARD FROM A DISTANCE OF 18 FEET.</p>	130.00
<p><b>P9006S</b> PALTEX INTERFACE FOR AMPEX VPR80 EDIT-STAR, EXCEL, ELITE, PALTEX, AMPEX Interface for Paltext serial controllers to AMPEX VPR80. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>P9015S</b> PALTEX INTERFACE FOR SONY BVU850/870 EDITSTAR, EXCEL, ELITE, PALTEX, SONY Interface for Paltext serial controllers to SONY BVU850/870. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>RM-60U</b> REMOTE CONTROL (CR6060U) CR6060U PROVIDES CONTROL OF PLAY, STOP, REW, FF, REC, AUDIO DUB, PAUSE/STILL, &amp; FRAME ADV AT A DISTANCE OF 16 FEET.</p>	\$ 200.00
<p><b>P9008S</b> PALTEX INTERFACE FOR HR230 EDIT-STAR, EXCEL, ELITE, PALTEX, HR230 Interface for Paltext serial controllers to HR230. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>P9016S</b> PALTEX INTERFACE FOR PANASONIC AU650 EDITSTAR, EXCEL, ELITE, PALTEX, PANA Interface for Paltext serial controllers to PANASONIC AU650. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>RM-70U</b> REMOTE CONTROL (CP5550, CR6650, CR8250) CR8250, CR6650, CP5550 PROVIDES FULL REMOTE CONTROL, PLUS VARIABLE SPEED SEARCH (0-15X) TO THE DECKS. ALSO HAS A "PREROLL" BUTTON FOR SIMPLE EDITING W/8250.</p>	440.00
<p><b>P9017S</b> PALTEX INTERFACE FOR SONY BVW10/20 EDITSTAR, EXCEL, ELITE, PALTEX, SONY Interface for Paltext serial controllers to SONY BVW10/20. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>P9017S</b> PALTEX INTERFACE FOR SONY BVW10/20 EDITSTAR, EXCEL, ELITE, PALTEX, SONY Interface for Paltext serial controllers to SONY BVW10/20. THIS PRICE IS FOR ADDING TO EXISTING CONTROLLER. Use one for each VTR.</p>	1,700.00	<p><b>RM-86U</b> VIDEO EDITING CONTROLLER Microprocessor control; Preview/Perfrm/review; LED indication of tape/lap time, volume contrl auto log, duration computation, cables incl.</p>	1,620.00

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<b>RM-D2</b> REMOTE CONTROL UNIT FOR TELECONF. LENSES BY110U, KY210U, KY210BU, KYM280U Controls focus/zoom/iris functions up to 500' from camera head. Has rocker arm for zoom and knob for servo focus. Use ECM-xxx cables.	675.00	<b>SA-F900U</b> SERIAL/PARALLEL INTERFACE UNIT RMGB50U, BR8600U This unit adapts serial controllers (like the RM-G850U) to accept JVC 45-pin parallel VCRs such as the BR-8600U, & 3/4" TapeHandlers	1,345.00	<b>TG-P49U</b> TIME CODE GENERATOR FOR CR4900 CR4700U, CR4900U EQUIPPED WITH SPECIAL PLUG FOR CR4900. GEN- ERATES A TIME CODE, WHICH IS RECORDED ON THE TAPE. REPLACEMENT FOR TG-P47U	1,995.00
<b>RM-G6BJ</b> EDITING CONTROLLER FOR BR-6200U/BR-8600U BR-6200U, BR-8600U A simple but effective way of starting a VHS editing system. Uses the BR-6200U portable as a source with the BR-8600U.	350.00	<b>SA-W700U</b> AUDIO/VIDEO ROUTING SWITCHER FOR RMG850U RMG850U This switcher connects to the RM-G850 and sends the audio/video/dub signals from either of 2 source VCRs to the record VCR.	1,830.00	<b>TM-13U</b> 13" COLOR MONITOR Built-in audio circuitry w/speaker Loop-thru BNC video input (1) Excellent Picture Quality. Basic monitor.	360.00
<b>RM-G850U</b> VIDEO EDITING CONTROLLER Serial (RS-422) interface. Works w/CR-850U & 8VU-800. Two source decks, external trigger, dial search w/jog, machine status.	3,320.00	<b>SS-M208U</b> PROFESSIONAL PORTABLE AUDIO MIXER Portable AC powered mixer with slide level controls, fluor. meters, 8 inputs, 2 grp outs pan pots, XLR mic, 1 echo input	860.00	<b>TM-2084U</b> 19" COLOR MONITOR 350 LINE RESOLUTION, COMB FILTER. SAME CHASSIS AS C-2082UM BUT W/O TUNER. ONE AUDIO CHANNEL. BNC & 8-PIN INPUTS.	680.00
<b>RM-P280U</b> LENS CONTROL UNIT FOR KY-M280U HZM110U, HZM310U, HZ110MDPU, KYM280U This is a control sub-panel for KYM280U's CCU which permits remote focus and zoom of HZ-M110U, HZ-M310U, HZ-110MDPU.	100.00	<b>T-120EM</b> EDITING MASTER VHS TAPE--120 MINUTES This tape is extremely high quality, designed for editing. Much better than standard and HG/SHG. Comes in a shielded Magne Proof case.	\$ 13.00	<b>TM-22U</b> 5" PORTABLE COLOR MONITOR AC/BAT POWER, built-in charger, 2 video loop- thru inputs/outputs, 8-pin jack, audio amp, handle, front panel controls	510.00
<b>RM-P47U</b> REMOTE CONTROL FOR CR4900U CR4700U, CR4900U FULL MICROPROCESSOR CONTROL OF ALL TAPE FUNCTIONS. EQUIPPED WITH LCD DIGITAL TAPE COUNTER SHOWING MINUTES AND SECONDS.	299.00	<b>T-30EM</b> EDITING MASTER VHS TAPE--30 MINUTES This tape is extremely high quality, designed for editing. Much better than standard and HG/SHG. Comes in a shielded Magne Proof case.	40.00	<b>TM-63U</b> 5" PORTABLE COLOR MONITOR one set loop thru video & audio inputs (RCA) super compact 5" ideal for sales presentation AC adaptor optional. Charger optional.	465.00
<b>RM-P500U</b> RANDOM ACCESS CONTROL FOR BR6400/BP5300 BR6400U, BP5300U ACTUALLY A SMALL COMPUTER. STORES TAPE LOCA- TIONS IN MEMORY THEN TELLS THE DECKS TO GO FIND THEM (UP TO 16 SEGMENTS).	230.00	<b>T-60EM</b> EDITING MASTER VHS TAPE--60 MINUTES This tape is extremely high quality, designed for editing. Much better than standard and HG/SHG. Comes in a shielded Magne Proof case.	11.00	<b>TM-9U</b> 9" COLOR VIDEO MONITOR Metal cabinet, flat face sharp corner tube, Audio w/speaker, front panel controls, BNC loop-thru, 3 prong AC cord	470.00
<b>RM-P53U</b> WIRED REMOTE CONTROL FOR BR6400/BP5300 BR6400U, BP5300U PLUGS INTO FRONT PANEL OF DECKS. HAS A DIAL WHICH PROVIDES VARIABLE SPEED SEARCH IN ADDI- TION TO FULL REMOTE CONTROL CAPABILITY.	\$ 115.00	<b>TBR-160U</b> 5" PORTABLE BRIEFCASE SYSTEM Briefcase system includes: BR-1600U VHS port. TM-63U color 5" Monitor, 2.0 Ah battery and charger, connecting cables, and briefcase.	1,620.00	<b>TM-R14U</b> 14" COLOR STUDIO MONITOR Composite/RGB (analog), underscan, notch fltr in/exit sync, remote control function, tally, comb filter, metal cabinet, rack mount option	995.00
<b>RM-P54U</b> WIRELESS REMOTE CONTROL (BR6400/BP5300) BR6400U, BP5300U INFRA-RED RECEIVER PLUGS INTO FRONT PANEL OF DECK. PROVIDES REMOTE CONTROL OF ALL FUNCTIONS INCLUDING SEARCH.	130.00	<b>TBR-160AC</b> 5" PORTABLE BRIEFCASE SYSTEM--AC POWERED Briefcase system includes: BR-1600U VHS port. TM-63U color 5" Monitor, AC power pack, connecting cables, and briefcase	1,425.00	<b>TM-R9U</b> 9" PROFESSIONAL COLOR MONITOR Comb Filter, underscan, pulse cross, blue chk in/exit sync, remote option, tally lamp, dual rackmount option, AC/DC power supply	695.00
<b>RS-110U</b> CAMERA REMOTE CONTROL UNIT FOR BY-110U BY110U This 19" rack mountable unit provides power to the camera and enables many remote control functions, as well as providing RGB outputs.	780.00	<b>TCR-U</b> TIME CODE READER FOR ABNER CONTROLLERS ABNER CONTROLLERS Time code reader board for ABNER A/B editing controllers. Reads time code from three VCRs simultaneously. Requires the ABNER controller	1,400.00	<b>UC-1003U</b> RACK MOUNT ADAPTOR FOR TWO RS-500U'S KY-310U, KY-900U, KY-950U, RS-500U USE THIS ADAPTOR FOR MOUNTING ONE OR TWO RS-500U'S IN A STANDARD 19" EIA RACK. BLANK PANEL IS PROVIDED.	\$ 145.00
<b>RS-500U</b> REMOTE CONTROL UNIT--KY210/320/900/950U KY210U, KY310U, KY900U, KY950U, KY320U PROVIDES POWER AND COMPLETE REMOTE CONTROL OF CAMERA FUNCTIONS UP TO 1,050 FEET AWAY. FOR STUDIO OR REMOTE VAN. REQUIRES VC-544 CABLE.	2,260.00	<b>TD-V66JBK</b> DISCRETE 3-HEAD AUDIO CASSETTE DECK SA head, two motor, Dolby B/C, index scan 3-head design for off-tape monitoring, digital peak displays.	595.00	<b>UC-P1004U</b> RACK MOUNT ADAPTOR FOR RS-L501U RSL501U Permits mounting of up to four RS-L501U local remote control units in a standard EIA rack. Uses 4 rack spaces.	140.00
<b>RS-L501</b> REMOTE OPERATION PANEL FOR RS-500U RS500U, KY210, KY320, KY900, KY950 This panel permits easy operation when the RS500 is centralized in rack installation. Use one RSL501 for each RS500U.	840.00	<b>TD-V66SET</b> 3-HEAD AUDIO CASSETTE DECK W/RACKMOUNT SA head, two motor, Dolby B/C, index scan 3-head design for off-tape monitoring, digital peak displays.	710.00	<b>VC-202U</b> 8 PIN TO 8 PIN MONITOR CABLE CRB50U, CR8250U, CR6060U, BR8600U 9.75 FEET LONG. PROVIDES AUDIO AND VIDEO CONNECTIONS BETWEEN VCR AND MONITOR/RECEIVER.	65.00
<b>S16X7CMD-D9</b> 16:1 TELECONFERENCING LENS FOR BY-110U BY110U This is a 16:1 Fujinon lens designed for remote operation with the RMD-2 control unit. Control is provided for focus, zoom, & iris.	2,010.00	<b>TE-1000U</b> TELECINE ATTACHMENT FOR 3-TUBE CAMERAS BY110U, KY210U Attaches to existing camera lens and enables use of 8mm, 16mm, & 35mm projectors. Light level is controlled by the lens iris.	585.00	<b>VC-235-10U</b> 33" CAMERA EXTENSION CABLE (10P-10P) GXS700U, GZS5U This cable attaches to the existing 10p VCR cable to lengthen the distance from the camera to the recorder.	45.00
		<b>TE-3000U</b> MULTIPIXEL TELECINE ADAPTOR FOR BY110U BY110U Attaches to camera in place of lens. Accepts 3 projectors (8mm, 16mm, 35mm) simultaneously. Auto/manual iris control provided.	\$ 2,310.00	<b>VC-426-35Y</b> 10-PIN TO 14-PIN ADAPTOR GXS700U, CR4900U This adaptor is used to convert a 10-pin camera cable (GX-S700U) to a 14-pin VCR like the CR-4900U or VO-4800 (Sony).	180.00



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<p><b>VC-511CU-2</b> 2M VCR CABLE (14p-10p) for BY-110U BY-110U, BR-6200U, BR1600U, AAC11U This cable is required when using the BY-110U with AA-C11U AC adaptor. It also is for use with 10p VCR like most VHS portables.</p>	130.00	<p><b>VC-586U</b> 16' EXTENSION CABLE FOR AAC19U, AAC50U KY210B, KY320U, KY900U, KY950U THIS IS AN EXTENSION POWER CABLE (12 VOLTS) WHICH GOES BETWEEN THE CAMERA AND AC ADAPTOR. NO MORE THAN ONE OF THESE SHOULD BE USED.</p>	160.00	<p><b>VEP-2 EDIT SYSTEM (BR-6400U, RM-86U, BR-8600U)</b> CONSISTS OF: BR8600U, RM86U, BR6400U</p>	6,530.00
<p><b>VC-512BU</b> 4M VCR CABLE (14p-14p) for KY/BY CAMERAS KY210, KY310, KY900, KY950, BY110, RS110 4 METER CABLE WITH BALANCED AUDIO FOR 14 PIN VCR'S. Also can be used to connect RS-110U (as a substitute for VC-515U) for RGB</p>	160.00	<p><b>VC-588U</b> 14-PIN VCR CABLE (KY2000U/KY2700U) KY2000U, KY2700U This cable attaches to the VTR connector on the KY-2000U or KY-2700U and connects to a 14-pin VCR.</p>	210.00	<p><b>VEP-3 EDIT SYSTEM (BR-8600U, RM-86U, BR-8600U)</b> CONSISTS OF TWO BR-8600U'S &amp; RM-86U</p>	7,740.00
<p><b>VC-515U</b> BY110U TO RS110U CABLE--65 FEET BY110U, RS110U USE THIS CABLE BETWEEN CAMERA AND REMOTE CONTROL UNIT (RS110U). ONE OF THESE AND UP TO TWO EXTENSIONS (VC516) TOTALING 195' IS OK</p>	375.00	<p><b>VC-589BU</b> 33' EXTENSION VCR CABLE (14p-14p) ALL 3-TUBE CAMERAS EXTENSION CABLE FOR VC-512B-2U AND VC-512BU.</p>	260.00	<p><b>VEP-4</b> EDIT SYSTEM (BR-6200U, RM-G68J, BR-8600U) PACKAGE CONSISTS OF: BR-6200U Portable ( ) RM-G68J controller ( ), BR8600U ( ) AA-P26U AC adaptor ( ).</p>	4,700.00
<p><b>VC-516U</b> EXTENSION CABLE FOR VC515--65 FEET BY110U, RS110U, VC516U EXTENSION FOR VC515. UP TO TWO OF THESE MAY BE USED WITH VC515 FOR A COMBINED LENGTH OF UP TO 195 FEET.</p>	440.00	<p><b>VC-P3011U</b> CAMERA/CCU CABLE FOR KY-M280U (65 FEET) KYM280U 20M cable supplies power and vital electronic connections to the camera head from the CCU. (CCU comes with the camera)</p>	445.00	<p><b>VEP-5</b> EDIT SYSTEM (BR7700U, BR8600U, RM86U) CONSISTS OF BR7700U, BR8600U, RM86U</p>	7,010.00
<p><b>VC-544U</b> 65' CAMERA CABLE (CAMERA TO RS-500U) KY210U, KY320U, KY900U, KY950U, KY310U USE THIS CABLE BETWEEN CAMERA AND REMOTE CONTROL UNIT (RS-500U). FOR LONGER LENGTHS, ADD VC-545 EXTENSION CABLES (UP TO 1050 FEET)</p>	\$ 530.00	<p><b>VC-P3012U</b> CAMERA/CCU CABLE FOR KY-M280U (130 FEET) KYM280U 40M cable providing power and electronic connections to camera head from CCU (CCU is provided with camera head)</p>	730.00	<p><b>VF-400U</b> 4" STUDIO VIEWFINDER FOR BY110U BY110U This 4" (diag.) black and white viewfinder attaches to the BY-110U and provides clear, 500 line picture. Tally lamp included.</p>	\$555.00
<p><b>VC-545U</b> EXTENSION CABLE FOR VC-544U--160 FEET KY-310U, KY-900U, KY-950U, RS-500U EXTENSION FOR VC-544U. THESE ARE ADDED IN LENGTHS OF 160' UP TO A TOTAL DISTANCE OF 1050 FEET.</p>	1,050.00	<p><b>VC-P3013U</b> CAMERA/CCU CABLE FOR KY-M280U (203 FEET) KYM280U 60M cable supplies power and vital electronic to the camera head from the CCU. (CCU is provided with the camera head)</p>	\$1,000.00	<p><b>VF-515BU</b> 1.5" VIEWFINDER FOR KY-210BU KY-210BU only Very rugged viewfinder for left/right eye use (slide mechanism). Flip up type w/diopter and hot-shoe connection. 400 line resolution</p>	645.00
<p><b>VC-582BU</b> 33' CAMERA EXTENSION CABLE (10P TO 10P) KY1900, KY310, KY900, KY950 EXTENSION CABLE FOR VC-511U AND VC-511-2U</p>	235.00	<p><b>VC-P454U</b> CABLE FOR KA-3U AND RECAM KY210U, KY320U, KY900U, KY950U This cable is used to connect the KA-3U (adaptor for component output from KY series) to a RECAM vtr.</p>	240.00	<p><b>VF-550U</b> 5.5" STUDIO VIEWFINDER FOR KY CAMERAS KY210U, KY310U, KY320U, KY900U, KY950U HIGH RESOLUTION STUDIO VIEWFINDER (8 &amp; W) PROVIDES A FULL SCAN IMAGE WITH NORMAL SCAN INDICATION ON SCREEN. HAS PAN &amp; TILT.</p>	740.00
<p><b>VC-584U</b> 10-PIN VCR CABLE (KY-2000U/KY-2700U) KY2000U, KY2700U This cable attaches to the VTR connector on the KY-2000U or KY-2700U and connects to a 10-pin VCR.</p>	210.00	<p><b>VEP-1 EDIT SYSTEM (BP-5300U, RM-86U, BR-8600U)</b> CONSISTS OF BP-5300U, RM-86U, &amp; BR-8600U</p>	5,995.00	<p><b>XL-V550BK</b> COMPACT DISC PLAYER 3-beam laser, separate analog/digital chassis Y Servo, remote control, 15 track random access, repeat, fluor. display, 100dB s/n</p>	615.00
				<p><b>XL-V550SET</b> COMPACT DISC PLAYER W/RACKMOUNT KIT 3-beam laser, separate analog/digital chassis Y Servo, remote control, 15 track random access, repeat, fluor. display, 100dB s/n</p>	710.00

# FEC/FISCHER ELECTRONACCS CO.

DIVISION OF DOUG FISCHER INC.

P.O. Box A

New Hyde Park, NY 11040

(516) 352-4776

# JVC ACCESSORIES

## Battery/Battery Belt Accessories for

### KY/BY Series Camera and VCRs

<b>B20</b>	Anton-Bauer 12V, premium grade NiCad 4AH battery. Universal snap-on design . . . . .	<b>\$485.00</b>
<b>B95</b>	Anton-Bauer 14V. Premium grade NiCad 4AH for battery for ProCam/KY series cameras. Universal snap-on design . . . . .	<b>500.00</b>
<b>CA-30 Cable</b>	Fast charge cable connects 30/13 or power strap to FC20 charger . . . . .	<b>56.00</b>
<b>CC-88 Cable</b>	4-pin XLR female video cable . . . . .	<b>80.00</b>
<b>DBH Holder</b>	Dual battery holder-allows use of 2 B95 or any 13.2 or 14.4V battery and provides 8AH of power. When the first battery is depleted, the second battery is automatically switched on. Meanwhile, the first B95 may be replaced for interrupted power. CC-88 or comparable cable is required . . . . .	<b>\$265.00</b>
<b>Power Strap</b>	12V, 4AH mounts onto CR4900U shoulder strap. Complete with microcharger. Can be fast charged with CA-30 cable and FC20 charger. CC-88 cable or comparable is required . . . . .	<b>\$495.00</b>
<b>PPSA-D Belt</b>	Perpetual power belt-allows use of 2 B95 or any two 13.2 or 14.4V snap-on batteries. When the first battery is depleted, the belt automatically draws from the second. Meanwhile, the first B95 may be replaced for uninterrupted power. CC-88 cable or comparable is required . . . . .	<b>\$335.00</b>
<b>30/13 Battery Belt</b>	30V, 4AH or 13.2V 8AH. Built-in microcharger. May be fast charged with CA-30 cable and FC20 charger. Must use CC-88 cable for KY cameras and CR-4900 Decks . . . . .	<b>\$895.00</b>

## Chargers for Battery and Battery Belt

<b>C20</b>	Microcharger for B20 battery. Trickle charges B20 in 14-16 hours. Good for travel. FC20 is recommended as primary charger . . . . .	<b>\$ 85.00</b>
<b>C95</b>	Microcharger for B95 battery. Trickle charges in 14-16 hours. Good for travel. FC20 is recommended as primary charger . . . . .	<b>.85.00</b>
<b>FC20 (LSFC)</b>	Anton-Bauer fast charger for B20/B95 or any Anton-Bauer 4AH snap on battery. Charges in one hour . . . . .	<b>565.00</b>
<b>LSQC</b>	8 hour single position 4AH quick charger . . . . .	<b>365.00</b>
<b>LSQ4</b>	8 hour 4 position 4AH battery quick charger . . . . .	<b>995.00</b>
<b>MFC</b>	Mobile fast charger-1hr. fast charger. Operates from most vehicles with or without engine running. Accepts all universal snap-on NiCad batteries . . . . .	<b>\$565.00</b>
<b>WRMC</b>	World-Wide 16 hr. microcharger can be plugged into any power source worldwide . . . . .	<b>\$265.00</b>

## Misc. Accessories for KY/BY Series Cameras

<b>ADM</b>	Coupled with Data-Tap, provides a diagnostic system that automatically discharges 12-14V NiCad batteries, while providing an accurate calibration of AH capacity . . . . .	<b>\$295.00</b>
<b>DATA-TAP</b>	Accurately measures and displays NiCad battery remaining run-time. Calibrates battery capacity while on camera or, if used with ADM, can test for shorted or low capacity cells . . . . .	<b>\$345.00</b>
<b>Q11</b>	B20 battery bracket for BY-110UP (K-AD 50U must be used) . . . . .	<b>45.00</b>

## Misc. Accessories for KY/BY Series Cameras (cont'd)

<b>Q19</b>	B95/B20 battery bracket for KY-1900 . . . . .	<b>\$75.00</b>
<b>Q21</b>	B95/B20 battery bracket for KY-210. . . . .	<b>75.00</b>
<b>Q27</b>	B20 battery bracket for KY-2000/KY-2700 . . . . .	<b>.90.00</b>

## RGB Adaptors for JVC Cameras

<b>BY-RGB</b>	RGB adaptor for BY-110U camera includes AC adaptor. RS100U no longer required . . . . .	<b>\$400.00</b>
<b>KY-RGB</b>	Snap-on unit for RGB from KY-210B/KY-320B/KY-950B Series cameras without requiring the RS-500U CCU. Not for use with the KY-20U . . . . .	<b>870.00</b>

## ENG Lighting System and Accessories for KY-Series/BY-Series Cameras

<b>ULS</b>	Anton-Bauer portable light system which can be used in fill, spot or flood light situations. Powered by B20/B95 battery . . . . .	<b>\$ 195.00</b>
<b>BRSHOE</b>	Bracket for mounting KYUL-1 and ULD onto KY/BY cameras . . . . .	<b>45.00</b>
<b>ULDC</b>	Dichroic filter converts bulbs to match 6000°K (daylight) . . . . .	<b>98.00</b>
<b>ULHM</b>	Head module for quick changes and storage of bulbs . . . . .	<b>75.00</b>
<b>ULPA</b>	Power adaptor allowing B20/B95 battery to power KYUL-1 or ULD and camera together . . . . .	<b>130.00</b>
<b>ULWA</b>	Wide angle adaptor to convert spot and medium flood bulbs into full flood patterns . . . . .	<b>65.00</b>
<b>ULD</b>	Ultra light dual-portable light system includes 2 BAB 25W flood bulbs. Dual base with two head modules, two switches and single power input . . . . .	<b>350.00</b>
<b>ULTRA KIT</b>	Complete 12V lighting kit includes 12V U12VCO 4AH NiCad battery and power cable. Microcharger 12V BAB 25W flood bulb. Custom shipping case . . . . .	<b>single 595.00</b> <b>dual 750.00</b>

## Serial Remote Controls for BR7000UR

<b>SRC-100</b>	Serial remote control for up to 100 BR-7000URs.-2 outputs (50/output). Controls eject, stop, play, rec start, rec pause, rewind, FF, Hi-Fi on/off . . . . .	<b>\$895.00</b>
<b>SRC-400</b>	Serial remote control for up to 400 BR-7000URs.-8 outputs (50/output). Controls eject, stop, play, rec start, rec pause, rewind, FF, Hi-Fi on/off . . . . .	<b>\$1250.00</b>

## Accessory for BR-6200U Portable VHS VCR

<b>CAR6200U</b>	Card cord for BR-6200U . . . . .	<b>\$45.00</b>
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## Angenieux Lens and Accessories for PROCAM/KY-210U/KY-20U Cameras

<b>14 x 9 Ang</b>	Broadcast quality 14X lens with 2X extender, focal length 9-126mm. Aperture f/1.6 . . . . .	<b>\$5670.00</b>
<b>Studio Ang</b>	Rear controls for studio application-servo zoom, manual focus . . . . .	<b>1215.00</b>
<b>Retro Ang</b>	.8X retro zoom for wider angle (63°) closer focusing distance (0.50M-18.5") without aperture reduction . . . . .	<b>2135.00</b>
<b>Tele Ang</b>	1.66X tele attachment for longer focal length and no aperture loss with 2X extender on. F30-420mm f/3.2-f/4 . . . . .	<b>2135.00</b>

# FEC/FISCHER ELECTRONACCS CO.

DIVISION OF DOUG FISCHER INC.

P.O. Box A  
New Hyde Park, NY 11040  
(516) 352-4776

# JVC ACCESSORIES

## Schneider Lens and Accessories for PROCAM/KY-210U/KY-20U

### Cameras

- TV-44, 16** Broadcast quality 14X lens with 2X extender focal length 9-126mm. Aperture f/1.7 . . . . . \$4990.00
- Pistol Sch** Servo zoom pistol grip . . . . . 785.00
- Studio Sch-E** Rear controls for studio application. Servo zoom, manual focus. Includes pistol grip. . . . . 1600.00
- Studio Sch-G** Rear controls for studio application. Servo zoom and positional servo focus. Includes pistol grip. . . . . 2825.00
- Super Wide Lens** 52°-70° horizontal angle of view . . . . . 595.00

## Duplication Remotes for BR-3500U/BR-3100U/BR-6400U/ BR-7700U/CR-600U/CR-850/Tape Handlers

- DubMaster** Full function remote control of master playback deck and as many VCRs as desired. (With optional rack boxes and control cable). . . . . \$1195.00
- RB-6 P** Allows Dubmaster control of 6 BR-6400U or BR-7700U or CR-6650U or CR-8250U or CR-600U. Control cables are required for each VCR, including the source deck. . . . . 395.00
- RB-12 P** Allows Dubmaster control of 12 BR-6400U or BR-7700U or CR-6650U or CR-850U or CR-600U. Control cables are required for each VCR, including the source deck. . . . . 495.00
- P Control Cable** 12' cable connecting RB-6/RB-12 to BR-6400U or BR-7700U or CR-6650U or CR-850U or CR-600U. Specify model. . . . . 75.00
- RB-121R** Allows Dubmaster control of 12 BR-3100U or BR-3500U. Only 1 RB-121R is required per installation. Additional VCRs may be added with the SB-121R. IR control cables are required for each VCR, including the source deck . . . . . \$315.00
- SB-121R** Sub-Box takes signal from RB-121R and controls up to 12 additional BR-3100U or BR-3500U . . . . . 200.00
- IR Control Cable** Connects the BR-3100U or BR-3500U to the RB-121R/SB-121R. Specify model . . . . . 12.00

## Rack Kits for VCRs and Monitors

- WF1730** Waveform adaptor for Tektronix 1730 Series and similar product. . . . . \$100.00
- BP9U(A)** Custom blank panel for RK9U(A). . . . . 25.00
- ADP9U** Waveform adaptor for Earlier Tektronix 528 Waveform, Vectorscope and similar products . . . . . 95.00
- RK9U(A)** Rack kit for up to two TM-R9U 9" color monitors. (6 rack spaces) . . . . . 120.00
- RK9UM9** Rack kit for up to two TM-9U 9" color monitors (6 rack spaces). . . . . 120.00

## Rack Kits for VCRs and Monitors (cont'd)

- RK13U** Rack kit for TM-13U color monitor (9 rack spaces) . \$ 70.00
- RK14U** Rack kit for TM-R14U 14" color monitor (7 rack spaces). . . . . 85.00
- RK850U** Rack slide kit for CR-850U/CR-600U . . . . . 200.00
- RK3500U** Rack kit and cover plate for BR-3500U/BR-3100U (3 rack spaces) . . . . . 65.00
- RK6400U(A)** Rack kit for BR-6400U/BP-5300U VCRs (5 rack spaces) . . . . . 95.00
- RK8600U(A)** Rack kit for BR-8600U/BR-7000UR/BR-9000U/BR-7700U (5 rack spaces) . . . . . 95.00
- RKSL64** Sliding rack shelf for BR-6400U/BP-5300U (6 rack spaces) . . . . . 120.00
- RKSL86** Sliding rack shelf for BR-8600U/BR-7000UR/BR-7700U (6 rack spaces) . . . . . 120.00

## Accessories for TBR-160U and THR-63U Presentation Kits

- AAP1663U** AC adaptor for TBR-160U/THR-63U. Powers TM-63U with BR-1600U or HR-C3U . . . . . \$125.00
- ATTAC-10** Brief case for TBR-160U . . . . . 130.00
- BB16** Battery for TBR-160U (2AH). Powers for approximately 1 hr . . . . . 210.00
- BBTR160U** 2AH battery kit for TBR-160U consists of BB16, CB16, SBB16. Approx. 1 hr. playback capability . . . . . 310.00
- BBTR200U** Super 4AH battery kit for TBR-160U. Allows playback of approx. 2 hrs. Includes battery, charger, and shoe adaptor. . . . . 380.00
- CAR1663U** Car battery cord for TBR-160U/THR-63U . . . . . 65.00
- CB16** Charger for BB16. Fully charges battery in 14-16 hrs. . . . . 70.00
- DC12** Charger for SD12R. Fully charges battery in 14-16 hrs. . . . . 85.00
- SBB16** Shoe cable adaptor for TBR-160U system. . . . . 50.00

## Edit Controller and Accessories

- BL-90** Fade-to-Black module for VE-90/VE-93/ECS-90 series . . . . . \$ 925.00
- CCA-5** Interface between VE-90/VE-93/ECS-90 Series and Type V VTRs . . . . . 750.00
- CCA-8250** Interface between VE-90/VE-93/ECS-90 Series and JVC VTRs . . . . . 750.00
- CI90** Character inserter for displaying time code for VE93 . . . . . 1340.00
- TCR-85(A)** Time code reader kit for CR850U. Includes RF shield . . . . . 1590.00
- VE93** Joystick control. Key pad entry. Auto edit-in/ edit-out, time code capability, with BL-90 installed. . . . . 6900.00



# KANGAROO VIDEO PRODUCTS, INC.

10845 Wheatlands Ave., Ste. C.  
Santee, CA 92071-2856  
(619) 562-9696

# CARRYING CASES



KVP-25

## Kangaroo Video Pack™ Recorder Packs

The Kangaroo Video Pack provides efficient organization and convenient access for all the gear you need to carry. Designed by a news photographer to meet the rugged demands of ENG field use, the original Kangaroo Video Pack was the first recorder bag to provide straps and pockets to hold tapes, batteries, cables, microphones—everything you need to get the job done. Even white-balancing is easy with built-in white balance panels.

Compact enough for one-man operation, versatile enough for two-man crews, with the Kangaroo Video Pack you can pick up and go, knowing that you have everything you need for a simple interview or an all-day SWAT operation.

## Recorder Packs

All packs come complete with pockets, hand and standard shoulder strap.)

<b>KVP-1A</b>	Sony BVV-1, Thompson VR-611, Bosch BCB-1, Ampex CVR-1 (with VA-1 or Ikegami VBA-1A adaptor) . . . . .	<b>\$220.00</b>
<b>KVP-1B</b>	Sony BVV-1, Thompson VR-611, Bosch BCB-1, Ampex CVR-1 (with VA-1V adaptor) . . . . .	<b>220.00</b>
<b>KVP-20</b>	Sony BVW-20, Thompson VT-625, Bosch BCB-20, Ampex CVR-20 . . . . .	<b>189.00</b>
<b>KVP-21</b>	Bosch BCN-21 . . . . .	<b>210.00</b>
<b>KVP-25</b>	Sony BVW-25, BVW-21, Thompson VT-626, VT-624, Bosch BCB-25, BCB-21, Ampex CVR-25, CVR-21 . . . . .	<b>220.00</b>
<b>KVP-50</b>	Sony BVU-50 . . . . .	<b>210.00</b>
<b>KVP-100</b>	Sony BVU-100, VO-3800, blue only . . . . .	<b>210.00</b>
<b>KVP-110</b>	Sony BVU-110 . . . . .	<b>210.00</b>
<b>KVP-150</b>	Sony BVU-150 . . . . .	<b>220.00</b>
<b>KVP-220</b>	Panasonic AU-220 . . . . .	<b>210.00</b>
<b>KVP-2000</b>	Sony Digital . . . . .	<b>120.00</b>
<b>KVP-4400</b>	JVC CR-4400U, Panasonic NV-9400, Hitachi SV-340, blue only . . . . .	<b>210.00</b>
<b>KVP-4400LU</b>	JVC CR-4400LU, RCA HE-1020, Ampex VPR-4400, blue only . . . . .	<b>210.00</b>
<b>KVP-4700</b>	JVC CR-4700U, PR-4800U, CR-4900U, Panasonic NV-9450 . . . . .	<b>169.00</b>
<b>KVP-4800</b>	Sony VO-4800 . . . . .	<b>162.00</b>
<b>KVP-5000</b>	Panasonic NV-8420 . . . . .	<b>120.00</b>
<b>KVP-6200</b>	JVC BR-6200 . . . . .	<b>140.00</b>
<b>KVP-6400</b>	Panasonic AG-6400 . . . . .	<b>140.00</b>
<b>KVP-6800</b>	Sony VO-6800 . . . . .	<b>179.00</b>



Semi-Tough

## Kangaroo Semi-Tough™ Camera Cases

The original side-loading camera case, the Kangaroo Semi-Tough is ideal for airline travel, or those limited space situations where having your camera with you is a must. The Semi-Tough has a rigid frame of tough aircraft aluminum completely surrounding the camera, while a convenient detachable pocket holds batteries, tapes, and cables. The Semi-Tough comes complete with hand strap and heavy-duty padded shoulder strap for over-the-shoulder carrying.

<b>KCC-SEMTGH</b>	Ikegami HL-79A, HL-79D, HL-79E, ITC-730A, Sony BVP-250, BVP-300, BVP-330, DXC-M3A, Thompson 501, 601, 701, Hitachi FP-10, FP-21, FP-22, SK-81, SK-91 . . . . .	<b>\$265.00</b>
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Super Tough

## Kangaroo Super-Tough™ Camcorder Cases

The Kangaroo Super-Tough meets a variety of carrying needs for users of the following camcorder combinations: Sony BVP-3, BVP-30, BVW-3, BVW-30 and the BVW-3 and BVW-30 with DC-100 battery.

This smart-looking, top-loading case has a triple-hemmed, U-shaped aluminum frame to maximize equipment protection while dense Evazote foam helps insulate the camera's most sensitive components from the bumps of daily use. Inner pockets on both sides hold extra batteries, tapes, headset and tripod plate. A three-way zipper system makes top-loading easy and ideal for access from the back of car or remote van.

<b>KCC-STGH3</b>	Sony BVP-3 or BVP-30 . . . . .	<b>\$280.00</b>
<b>KCC-STGHB3</b>	Sony BVW-3 or BVW-30 . . . . .	<b>280.00</b>
<b>KCC-STGHLTD</b>	Sony BVW-3 or BVW-30 with DC-100 battery . . . . .	<b>280.00</b>
<b>KCC-SUPTGH</b>	Custom designed to fit any camera height, length, width . . . . .	<b>280.00</b>

# KANGAROO VIDEO PRODUCTS, INC.

10845 Wheatlands Ave., Ste. C.  
Santee, CA 92071-2856  
(619) 562-9696

# CARRYING CASES

Raincover



## Kangaroo Raincover

The Kangaroo Raincover means technically designed protection for expensive portable television cameras and camcorder combinations which are sensitive to virtually any environmental hazard. Rain, sleet, snow, wind and dust are sealed out while the user has freedom of access to all equipment controls.

Also available is a special design to block RF interference in congested urban areas or near radar and transmitter sites.

KRC-B1	Sony BVW-1 Betacam . . . . .	\$124.00
KRC-B105	Sony BVW-105 . . . . .	124.00
KRC-B3	Sony BVW-3, BVW-30 Betacam . . . . .	124.00
KRC-B3BVF	Sony BVW-30 with BVF-50 viewfinder . . . . .	159.00
KRC-M2	Sony DXC-M2 . . . . .	114.00
KRC-M3	Sony DXC-M3 . . . . .	114.00
KRC-M3A	Sony DXC-M3A . . . . .	114.00
KRC-3	Sony BVP-3, BVP-30 . . . . .	114.00
KRC-3BVF	Sony BVP-3 with BVF-50 viewfinder . . . . .	149.00
KRC-5	Sony BVP-5 . . . . .	114.00
KRC-300	Sony BVP-250, BVP-300, BVP-330 . . . . .	114.00
KRC-3000	Sony DXC-3000 . . . . .	114.00
KRC-730	Ikegami ITC-730A, ITC-730AP . . . . .	114.00
KRC-79D	Ikegami HL-79A, HL-79D . . . . .	114.00
KRC-79E	Ikegami HL-79E . . . . .	114.00
KRC-83	Ikegami HL-83 . . . . .	114.00
KRC-95	Ikegami HL-95 . . . . .	114.00
KRC-B95	Ikegami HL-95 with Beta recorder . . . . .	124.00
KRC-HK357	Ikegami 357 . . . . .	195.00
KRC-320	JVC KY-210, KY-320, KY-950 . . . . .	114.00
KRC-CCD	RCA CCD . . . . .	114.00
KRC-A1	Sharp A1 . . . . .	114.00
KRC-Z31	Hitachi Z31 . . . . .	114.00

## Kangaroo Gripper™ Strap



Gripper Strap

The Kangaroo Gripper Strap is a heavy-duty shoulder strap that won't slide off nylon parkas, ski jackets, or other slippery material. Padded with our durable Eva-zote closed-cell foam, the Gripper Strap's three-way action gives you important shock-absorbing capability to carry even the heaviest equipment more safely and comfortably than ordinary shoulder straps.

The Gripper Strap comes with two sliders for easy attachment and adjustable length. It's available in brown, blue, green, rust and gray. It fits all Kangaroo Video Products carrying cases, and many other bags and cases.

KAC-Gripper . . . . . \$30.00



Nagra Pack

## Kangaroo Nagra Pack

The Kangaroo Nagra Pack, designed for Nagra recorders with 5" or 7" tops, provides the same basic convenience and protection that has gone into all of our video packs. The Nagra Pack has detachable pockets to hold tapes, batteries, wireless microphone and cables, while the front pocket holds four 7-inch tapes or eight 5-inch tapes. A convenient back flap provides quick access to batteries, while the clear rain flap allows use of controls while still providing protection from inclement weather. There's even a front sleeve to hold a clipboard.

The Kangaroo Nagra Pack gives Nagra users the secure, lightweight convenience needed for field recording.

### Audio Packs

KAP-Nagra	Nagra IV-S (Time Code), IV-SJ, 4.2, E . . .	\$225.00
KAP-SQN3	SNQ3 . . . . .	41.00
KAP-SQN4	SNQ4 . . . . .	54.00
KAP-FP31	Shure FP-31 . . . . .	35.00
KAP-FP32	Shure FP-32 . . . . .	39.00
KAP-TCD5	Sony TCD5M . . . . .	89.00
KAP-160	Audio Developments 160 . . . . .	41.00
KAP-FT3	FilmTech 3 . . . . .	41.00
KAP-FT4	FilmTech 4 . . . . .	54.00



Emikote Products

## Emikote™ Products

Emikote Products—an advanced line of products and custom design services for the protection of sensitive electronic equipment and recording media from the effects of electro-magnetic radiation.

Designs to cover cameras, recorders and camcorders are now available from Kangaroo as well as custom product design services.

Kangaroo's Emikote material shields out the electro-magnetic interference commonly found at or near transmitter sites, radar installations, congested urban areas and military bases.

KEP-CC	Emikote Camera Cover (specify camera) . . .	\$750.00
KEP-RC	Emikote Recorder Cover accommodates most broadcast and industrial portable recorders (specify recorder) . . . . .	650.00

# HARMAN KARDON, INC.

240 Crossways Park West  
Woodbury, NJ 11797  
(516) 496-3400

# VIDEO/DATA PROJECTOR

## VPM500 Video Projection Monitor

- Continuously adjustable f/1.0 glass/acrylic hybrid lenses
- 7" diagonal high light output projection tubes
- All picture alignment controls on 1 swing-out PC board
- Rigid "bulkhead" for stable tube and lens alignment
- Infrared wireless remote control
- 10W/channel audio amplifier
- Control panel for operation without remote commander
- Inputs: 2-Video; 1-RGB
- Audio line out
- External speaker terminals
- High performance video circuitry with comb filter
- High efficiency switching power supply (only draws 100W)

The VPM500 has three heavy-duty picture tubes capable of generating tremendous amounts of light output, while maintaining an operating temperature low enough for long term reliability. Our commercial grade tubes each measure 7" diagonally (about 70 square inches of total phosphor area). Our closest competitor's tubes measure only 2.5" diagonally (a total of 9 square inches of phosphor, approximately 1/8<sup>th</sup> as large as ours). Because these competitive tubes are so much smaller, they operate at dangerously high temperatures, which can lead to premature tube burnout and very costly repairs.

The heavy-duty red, green and blue picture tubes and state-of-the-art video circuitry deliver accurate color registration across the spectrum. Even "noisy" reds and difficult yellows are clear, bright and true-to-life. The VPM500 employs a four-stage quality glass/acrylic hybrid lens assembly. With two stages for magnification (screen size) and two stages for focus (one for center sharpness and one just for the edges and corners).

The precision optical system has four elements, three of which are continuously adjustable. This optical system allows accurate focusing, both in the center and at the edges and corners, at any screen distance from 5' to 24'. You get a sharper, brighter picture at any screen size, without expensive add-on lens kits.

To further ensure high resolution and precise color registration in actual use, the VPM500 lens system has improved temperature stability. Through the use of glass and acrylic lens elements, each having equal and opposite temperature coefficients, the VPM500 stays in focus hour after hour.

The VPM500 produces a clear, sharp picture all the way out to the extreme edges, with a screen size that can be varied continuously from 4' to a phenomenal 20' diagonally. It can also be changed from a flat to a curved (parabolic) screen configuration at the flick of a switch.

The VPM500 changes quickly and easily from a floor-mount to a ceiling-mount configuration.

The VPM500 has two video inputs and an RGB input (with selectable sync). It is capable of handling all of your video sources, including most personal computers, for larger-than-life graphics and games. There's a built-in stereo amplifier and speakers. For even more flexibility, audio outputs (variable from the remote control) are also provided for connection to your high fidelity audio system.

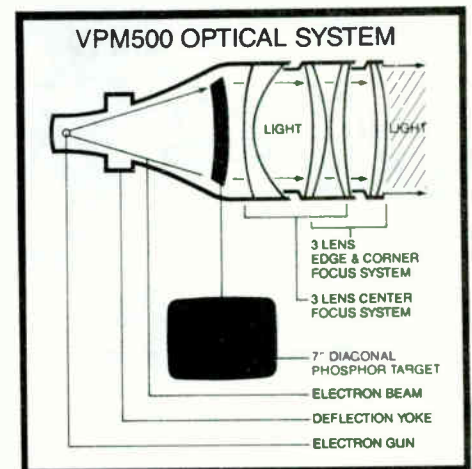
The VPM500 is supplied with a 31-function remote control which handles all of its operations. Input selection, volume up/down, color, tint, contrast, brightness, detail, convergence, even a built-in stereo synthesizer are all available at the touch of a button.



VPM500



Remote Control



VPM500 Optical System

## Specifications

**Video Section**  
Input Sensitivity/  
Impedance:  
RGB Input:

Video A, B: 1.0V p-p/75 ohms  
RGB: 0.7V p-p/75 ohms  
Sync: 0.3V p-p/75 ohms; 5.0V/150 ohms (TTL)

**Video Bandwidth:**  
RGB:  
Light Output:

Video A, B: 4.0MHz  
6.5MHz  
300 lumens

**Audio Section**  
Audio Input

**Sensitivity:**  
**Power Output:**  
**Loudspeakers**  
(internal):

0.5VRMS  
10W/Channel into 4 ohms stereo  
6.0cm x 16.0cm (2)

**General**  
**Picture Size**  
**Range:**  
**Picture size/**  
**lens-to-screen**  
**distance:**  
**Dimensions:**  
**Weight:**

4'-20' diagonal, continuous  
Picture diagonal x 1.2  
10<sup>5</sup>/<sub>8</sub>" H x 26" W x 27<sup>5</sup>/<sub>8</sub>" D  
80 lbs.

VPM500 ..... \$4,059.80



# K & H PRODUCTS, LTD.

P.O. Box 246  
 N. Bennington, VT 05257  
 (802) 442-8171  
 FAX: (802) 442-9118 TWX: 510-600-5222

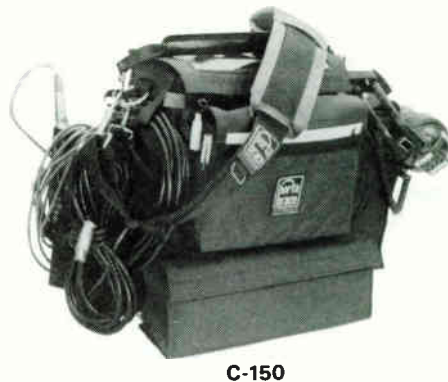
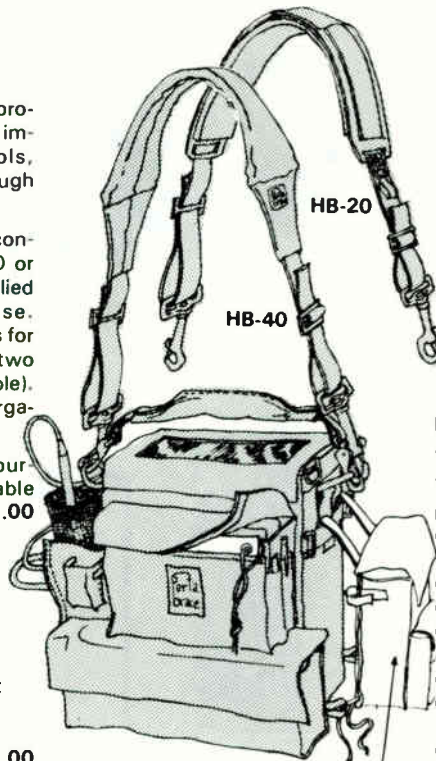
# VIDEO CASES

## Porta-Brace Video Recorder Cases

Designed to provide custom-fitted protection in the field while allowing immediate access to controls, connections, and batteries through weather-protected openings.

Your choice of our heavy-duty contoured suede leather strap HB-40 or 2" webbed strap HB-20 is supplied with purchase of recorder case. Comes with sewn-on front pockets for cassettes, batteries, mikes, etc., two white balance cards (one removable). "Piggin Strings"™ available for organizing cables.

Time code, wireless, and all-purpose accessory pouches available from . . . . . \$16.00



C-150

**IMPORTANT: Please designate HB-20 or HB-40 when ordering.**

Your choice of heavy-duty shoulder strap, the HB-20 or HB-40 included with purchase of recorder case.



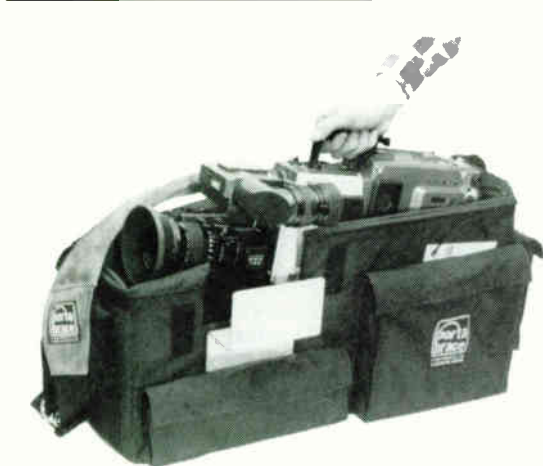
VB-10 Video Belt

VB-10 Video Belt . . . . . \$15.00  
 (When ordered separately) . . . . . 18.00

Model	Recorder Carried	List
C-50	Sony BVU-50 . . . . .	\$177.00
C-110	Sony BVU-110 . . . . .	177.00
C-150	Sony BVU-150 . . . . .	177.00
C-6800	Sony VO-6800 . . . . .	177.00
C-BVW-25	Sony BVW-25/BVW-21 Player/Thomson VT-626 . . . . .	177.00
C-6400	Panasonic AG-6400 . . . . .	165.00
C-4900	JVC CR-4900U, CR-4700, PR-4800E, Panasonic NV-9450 . . . . .	177.00
C-6200	JVC BR-6200U . . . . .	177.00

Other and newer models available

CA-L Accessory Pouch



## Porta-Brace Quick-Draw Camera Cases

Top-loading, quick-draw cases allow you to have the camera ready to use, with battery attached, in an instant.

Heavy-duty shoulder strap included

Model	Camera Carried	List
CC-31-P	Hitachi Z31/FP-15 . . . . .	\$285.00
CC-79-P	Ikegami HL-79 . . . . .	285.00
CC-BETA-P	Sony-BETACAM BVW-3/BVW-3A/BVW-30 Camera/Recorder . . . . .	285.00
CC-BETA-P	Ikegami HL-95/BVV-1 . . . . .	285.00
CC-320-P	JVC KY-310UP/320/900/950 . . . . .	285.00
CC-AI-P	Sharp XC-AI/BI . . . . .	285.00

Other and newer models available



PC-3, 12<sup>3</sup>/<sub>4</sub>" H x 8<sup>3</sup>/<sub>4</sub>" W x 27<sup>1</sup>/<sub>2</sub>" L Inside



PC-1, 9" W x 16" L x 16" H Inside



PC-2, 12<sup>3</sup>/<sub>4</sub>" H x 8<sup>3</sup>/<sub>4</sub>" W x 21<sup>1</sup>/<sub>2</sub>" L Inside



PC-101  
 9" H x 8" W x 13" L Inside



PC-202  
 11<sup>1</sup>/<sub>2</sub>" H x 6<sup>1</sup>/<sub>2</sub>" W x 11<sup>1</sup>/<sub>2</sub>" L

## Porta-Brace Production Cases

Large Capacity Organizer Cases  
 Heavy-Duty Shoulder Strap Included

PC-1	One divider, five outside pockets, two mesh pockets . . . . .	\$273.00
PC-2	Two dividers, five outside pockets, six see-through mesh pockets . . . . .	298.00
PC-3	Seven outside pockets, three dividers, two extra end handles (for two-person carry), nine see-through mesh pockets . . . . .	325.00

Medium Capacity Organizer Cases  
 Heavy-Duty Shoulder Strap Included

PC-101	Audio case, one divider, one clip-on pouch, four see-through mesh pockets, three outside pockets . . . . .	\$174.00
PC-202	Lights and tapes case, one divider, one clip-on pouch, one see-through mesh pocket, five outside pockets . . . . .	167.00

# K & H PRODUCTS, LTD.

P.O. Box 246  
 N. Bennington, VT 05257  
 (802) 442-8171  
 FAX: (802) 442-9118 TWX: 510-600-5222

## Porta-Brace Shoulder Cases



Full-time, padded protection for BETACAM in the BVP or BVW configuration, also Ikegami HL-95 Stand-alone or with BVV-1 Recorder.

Battery & Wireless Pouches available from . \$32.00

Model	Description of Camera Carried	List
SC-BVW-105	Sony CCD Betacam BVW-105	\$284.00
SC-95/BVV-1	Ikegami HL-95/BVV-1A	284.00
SC-95/AU-400	Ikegami HL-95/Panasonic AU-400	284.00
SC-SP3A/AU-400	NEC SP3A/Panasonic AU-400	284.00
SC-SP3A/BVV-1	NEC SP3A/Sony BVV-1A	284.00
SC-BVW-3	Sony BVW3	284.00
SV-BVW-3A/30	Sony BVW3A/BVW30	284.00
HB-20 BETA	Heavy-Duty Shoulder Strap use Sony strap hardware	35.00

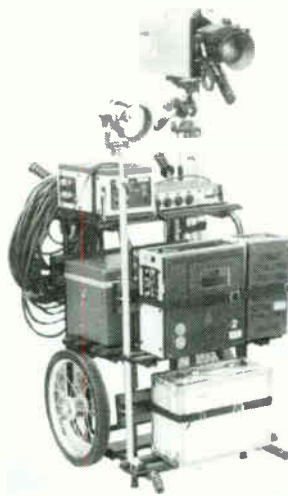
Other and newer models available

## TRIPOD MUMMY CASE



► A new sort of case for professional tripods with fluid heads from Porta-Brace®. A soft, lightweight, thickly padded Cordura® Case that is waterproof and durable. There are pockets for many accessories; handles, tripod platforms, fish poles and mics. Also will carry a lighting kit with light stands. Comes with maple wooden handle and shoulder strap.

..... from \$226



## Porta-Brace "Grip" Heavy-Duty Carts

Versatile, heavy-duty carts for studio or field use. Optional light stands, tripod quivers, and carry-all cases available ..... \$575.00-\$598.00

## Porta-Brace Rain Covers



Help protect against dust as well as moisture damage ..... \$122.00  
 Easy access to all controls

These waterproof covers are not loose-fitting, all purpose jackets; they are tailored to fit individual 3-tube camera models, with access openings positioned for each model's adjustments and connections. So even in the worst rainstorm, you can use your camera with ease and security.

### RAIN COVERS

for all popular 3-tube cameras. Specify camera model number.  
 RC—(No. your camera\_\_\_\_\_)

## VIDEO CARTS/CASES

### Porta-Brace Monitor Cases



Protection and glare reduction guard with adjustable pedestal, also easy access to battery, switches, controls and cable connections.

*Lightweight Field Monitors (stays in protective case)*

MO-8020	Sony PVM-8020/BVM-80218" Monitor	\$115.00
MO-CT500	Panasonic CT-500 5" Monitor	115.00
MO-22U	JVC TM22U/44U/41U	115.00
MO-5863	Leader LVM-5863A Wave Form/Monitor	115.00

### Porta-Brace Monitor/Player



*Large Portable Monitors (remove from case to use)*

MO-AG500	Panasonic AG-500 19" Monitor/Player	.....
MO-R9U	JVC TM-R9U	\$115.00
MO-130	Panasonic CT-130 13" Monitor	135.00

*Heavy-duty shoulder strap included, firm grip hardwood handle, great lightweight transport case.*

### Porta-Brace Production Pack



Basic Pack includes waist belt w/quick-release buckle and two multi-pocketed, general-purpose pouches, other specialized pouches can be added. (Designed for BETA CAM users and others.)

BP-2 ..... \$94.00



**KINOTONE**  
 DIV. OF ARRIFLEX  
 P.O. Box 508  
 Paterson, NJ 07544  
 (201) 279-9700

# 16mm PROJECTOR

## FP-18 TV PROJECTOR

For use in TV, film to tape transfers, and special studio systems.

- Rack Mounting with adjustable Pedestal, 24V Control System, Control Panel, built-on Proximity Sensor (Auto Stop)
- Film Run Mechanism Forward/Reverse
- Crown Groove Intermittent 5 Blade Shutter
- Picture Dowser/Change Over, Still/Step Frame
- Curved Gate
- SMPTE Specs for Jump and Weave
- 5000 foot Film Capability, Remote Control for all Functions
- 24 Frames per second
- Audio: Pre-amplifier/Line Amplifier Module built-in with +8dBm Output Level into 600 ohm Load B + Power Supply
- Light Source: Halogen Light Source, 2 Lamp Turret System with Automated Change 250W, 24V
- Drive Motor: 110-250V, 60Hz Synchronous
- Reel Drives: Friction Drive, 5000' capacity
- Optical Playback: Sound Drum Damping Assembly, Sound Drum Accelerator, Solar Cell, Exciter Lamp, Exciter Lamp Power Supply

### Precision Projection

The projector's extremely high picture stability, less than .19% jump and weave, is achieved by the unique Philips grooved disk mechanism, curved gate, and ceramic film edge guides. The intermittent mechanism was developed especially for 16mm film systems using a 12 tooth sprocket for film control and protection. This combined with the rotating 5 blade disk shaped shutter, dual halogen lamp with automatic lamp change, provides a highly efficient projection system compatible with 25 or 30 frame TV systems.

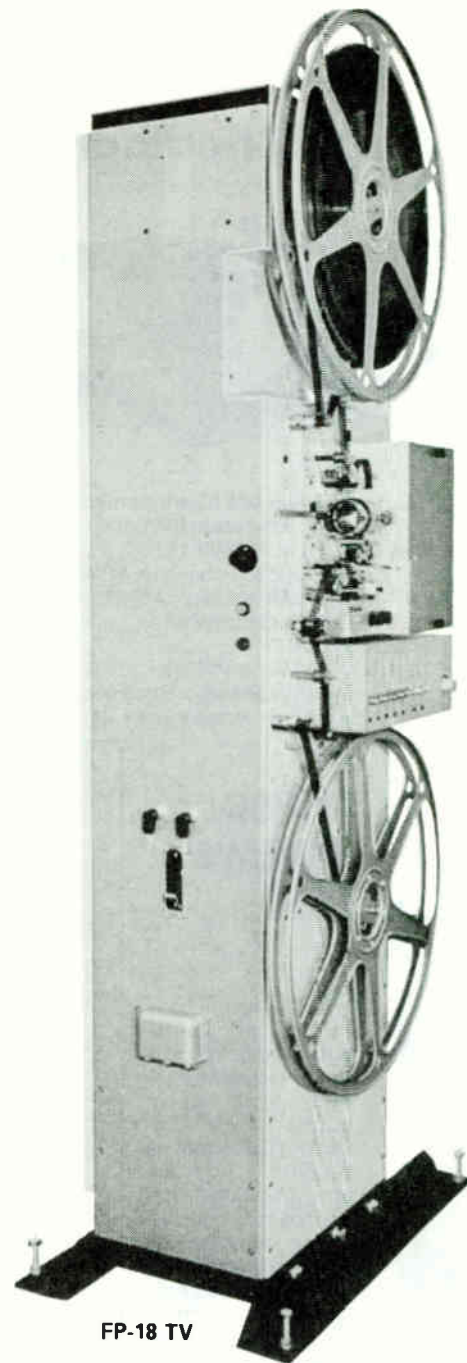
### Optimal Sound Quality

The sound reproducing system follows the pattern of professional standards used in 35 or 70mm reproducers. A rotating sound drum machined to high standards, fitted with a split damping drum and flywheel accelerator provides for a fast stabilization time and provides for less than .2% wow and flutter. The scanning optics can be adjusted (by lever) to compensate for standard or non-standard recordings. A manual switch will shift the system from optical to magnetic if so equipped.

### Audio

The pre-amplifier module is located within the cabinet. It provides for pre-amplification of selected signals with plug-in equalization boards for optical or magnetic signals. The output provides for a +8dBm signal into a 600 ohm load. Each input is individually controlled for balance, with an overall master and a bass/treble boost circuit.

FP-18 .....\$24,937.50



FP-18 TV

### Accessories

Lensholder (Anamorphic) .....	\$ 425.00
Aperture Air Valve .....	400.00
Remote Focus .....	718.75
Remote Focus/Remote Frame .....	1,718.75
Torque Motor Film Reel Drive, Upper and Lower .....	3,937.50
Torque Motor Film Reel Drive, Upper Only .....	2,106.25
Remote Control Panel .....	562.50
Cable per ft. for above .....	4.70

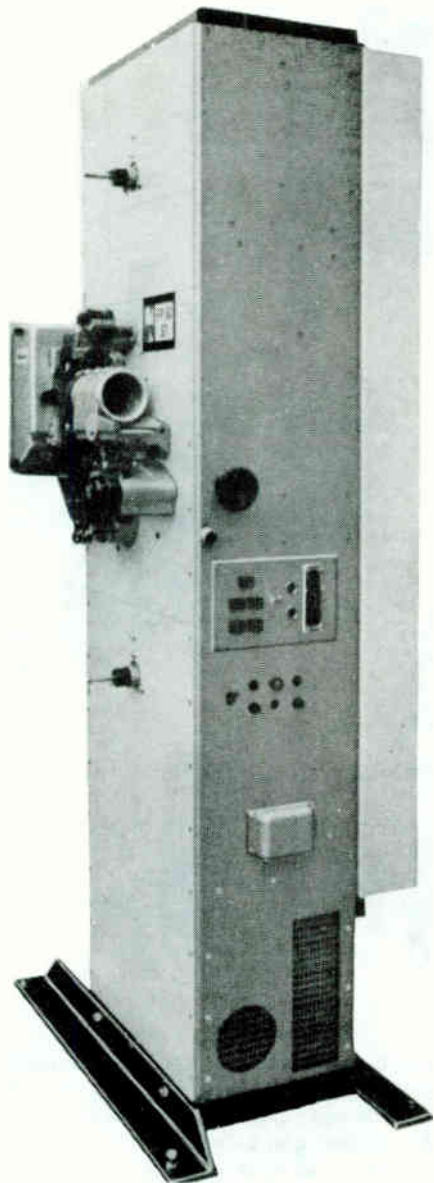
### Lens-Schneider (with Iris)

CPR-75 4.5 .....	\$312.50
CPN-80 4.0 .....	393.75
CPN-100 5.6 .....	531.25
CPR-105 4.5 .....	375.00

### Lens-Isc0 (without Iris)

50mm f/1.9 .....	\$312.50
65mm f/1.6 .....	312.50
75mm f/1.7 .....	331.25





FP-30 TV

**FP-30 TV PROJECTOR**

The FP-30 TV Projector utilizes the basic film transport and system as found in the professional 35mm systems widely used for exhibition, and studio applications. The high speed intermittent movement with 5 blade shutter renders the system compatible with 25 or 30 Frame operation. The system meets all SMPTE specifications.

- Equipped with Column and adjustable Pedestal
- 35mm Film Transport
- Fast Pull Down Intermittent 5 Blade Shutter
- Step Frame
- Proximity Sensor (Auto Stop)
- Sound Reproducer, Optical with Solar Cell Pick-up and Exciter Lamp
- DC Exciter Lamp Power Supply
- Sound Drum Accelerator
- Picture Change-Over Relay, Dowser Control
- Electrical Control System 24V DC
- SMPTE Spec on Jump and Weave
- Spool Shafts and Frictions: 6000' capacity
- Drive Motor: Synchronous 115V, 60Hz, 24 p/s
- Lens Support: Vernier Focus, Lensholder, Set of Aperture Plates
- Light Source: Halogen Lamphouse 250W, 36V, 2 Lamp System, Automatic Lamp Change

**Precision Projection**

The FP-30 TV Projector utilizes a single piece, curved gate of self-lubricating delrin material. The gate, with delrin runner strips and ceramic guides, provides a film path exactly controlled with minimal pressure, providing high picture stability with minimal stress on the film.

**Optimal Sound Quality**

The optical reproducer follows all of the state-of-the-art designs, resulting in low wow and flutter. The rotating sound drum and the flywheel accelerator provides fast sound stabilization. The high quality slit lens and scanning system provides for high quality sound reproduction.

**Audio**

The FP-30 TV System is normally provided without Pre Amplification. The solar cell output being easily coupled to Station audio systems. Where a 0 level signal is required, an audio system can be provided as an accessory.

FP-30 .....\$24,281.25

**Accessories**

Magnetic Reproducer, 4 Track .....	\$4,906.25
Aperture Air Valve .....	431.25
Remote Focus .....	1,125.00
Remote Focus/Frame .....	2,143.75
Reverse Run .....	3,375.00
Torque Motor Drive, Upper and Lower Reel .....	3,937.50
Torque Motor Drive, Upper Reel only .....	2,106.25
Remote Control Panel .....	525.00
Cable per ft. for above .....	4.70
Lens Requirements .....	Special Quote

# KLIEGL BROTHERS LIGHTING, INC.

5 Aerial Way  
 Syosset, NY 11791  
 (516) 937-3900 Telex: 96-0158  
 FAX: (516) 937-6042

# LIGHTING INSTRUMENTS

## 500W Minuette Fresnel Spotlight

- 4 1/2" diameter
- Finned aluminum extrusions and sheet steel construction
- Lightweight
- Compact

The Minuette Fresnel Spotlight provides a variable soft-edged beam and the rotatable 4-leaf barn door provides additional beam shaping.

This theatrical luminaire is highly versatile whether it's used in large theaters, schools or to illuminate displays. The finned aluminum extrusions provide maximum heat dissipation and the matte black epoxy coating is highly resistant to knocks and abrasions. The beam spread can be controlled over a 6.5° to 43° range. The barn door restricts halation as well as being used to shape the beam.

All fixtures include C-clamp, safety cable, color frame and connector.



Minuette Fresnel

## 500W Minuette Profile Spotlight

- Finned aluminum extrusions
- Formed aluminum and sheet steel
- Two independently moveable 3 1/2" and 4" diameter plano convex lenses
- Shutters are removeable
- Gate is for drop-in iris or pattern holder
- Thermally insulated rear handle
- Lenses are independently adjustable for zoom control
- Lightweight
- Compact

The Profile Spotlight optical system can be adjusted to give precise beam shaping by built-in thermally insulated stainless steel shutters or a drop-in iris, the gate for which can be used for patterns. The zoom lens system, with both lenses individually adjustable—gives hard or soft edges over a 9° to 15° range (field angle 19° to 37°). The Minuette Profile is also available in a wide angle unit and a narrow angle unit. The luminaire is compact and sturdy using lightweight finned aluminum construction.

All fixtures include C-clamp, safety cable, color frame and connector.

### Recommended Lamps: (Minuette Fresnel and Profile Spotlight)

	Watts	Life/Hrs.	Color Temp.	Lumens	Socket
EHC/EHB	500	200	3200K	13,000	Med. Pin
EHD	500	2000	3000K	10,000	Med. Pin
EHT	250	2000	2900K	4,850	Minican
EVR	500	2000	2900K	10,450	Minican

## Silhouette Zoom Profile Spotlights

The range of Profiles is a system of interchangeable zoom lens fronts for high efficiency beam shaping. The lamp is mounted axially with a unique moving reflector which quickly gives a wide range of field adjustment. The lamphouses are primarily constructed of extruded aluminum for high strength and good thermal qualities. Lens tube design has been considerably improved. The front plate supporting the color frame and lens guard grooves can be field adjusted for top or side entry and the lens knobs can be set by the user for bottom or top operation. Tubes offer a wide range of beam angles from 9° to 47°.



Minuette Profile



Silhouette Zoom

As standard and built-in, are four tempered stainless steel framing shutters and slot for drop-in iris or pattern holder. All fixtures include C-clamp, safety cable, color frame, and connector. The yoke support can be attached to either the lamp-house or lens tube to achieve desired balance. The large diameter heat resisting knob and clamping disc ensure rigid locking without movement. Yoke may be set for hanging or for stand mounting. All Silhouette Profiles are completely compatible with existing Silhouette lenses and accessories.

- Silhouette 1994 Zoom Profile, 40° axial
- Silhouette 1993 Zoom Profile, 30° axial
- Silhouette 1992 Zoom Profile, 25° axial
- Silhouette 1991 Zoom Profile, 15° axial
- Silhouette 1990 Zoom Profile, 10° axial

### Recommended Lamps:

	Watts	Life/Hrs.	Color Temp.	Lumens	Socket
EHC/EHB	500-120V	200	3200°K	13,000	Med. Pin
EHD	500-120V	2000	3000°K	10,000	Med. Pin
EHF	150-120V	300	3200°L	20,000	Med. Pin
EHG	750-120V	2000	3000°K	15,000	Med. Pin
FEL	1000-220V	300	3200°K	27,500	Med. Pin
FEP	1000-220V	150	3200°K	25,000	Med. Pin

# KLIEGL BROTHERS LIGHTING, INC.

5 Aerial Way  
 Syosset, NY 11791  
 (516) 937-3900 Telex: 96-0158  
 FAX: (516) 937-6042

## HMI FRESNELS

### Kliegsun 575 HMI Fresnel and Ballast System

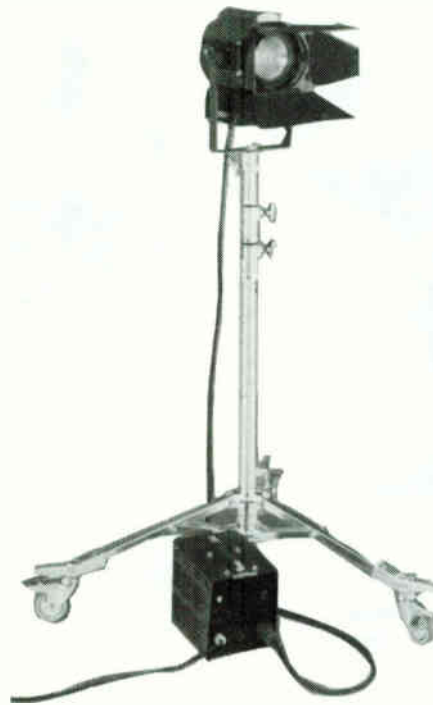
Lightest weight system available in its class—57 lbs. The .040" reinforced aluminum housing has the strength needed for rugged location use. System may be started from either lamp head or ballast. Accidental ignition cannot happen if door is open. The fresnel lens is 5" (150mm) diameter and the reflector is 5" (150mm) diameter aluminum-spherical optics. The compact ballast operates on 115VAC nominally. Unique Varitap circuitry will accept inputs of  $\pm 20\%$  from this level.

<b>950500</b> 575W Unit Complete	<b>950560</b> Half Single Scrim
<b>950505</b> Head Only	<b>950570</b> Full Double Scrim
<b>950510</b> Ballast	<b>950580</b> Half Double Scrim
<b>950520</b> Filter Frame	<b>950590</b> Stand
<b>950530</b> Barn Door	<b>950593</b> Shipping Case Ballast
<b>950540</b> Lamp 575W HMI	<b>950595</b> Shipping Case Head
<b>950550</b> Full Single Scrim	

### Kliegsun 1200 HMI Fresnel and Ballast System

High strength double-wall .040" aluminum housing for location handling and efficient heat transfer. System may be started from lamp head or ballast; accidental start with door open is prevented by safety interlock. The fresnel lens is 10" (250mm) diameter and the reflector is 7<sup>3/4</sup>" (197mm) diameter aluminum-spherical optics. The compact ballast is rated at 20A (max) at 115VAC. Unique Varitap circuit can be set to accept any inputs  $\pm 20\%$  of 115VAC. System weighs 95 lbs.

<b>950100</b> 1200W Unit Complete	<b>950160</b> Half Single Scrim
<b>950105</b> Head Only	<b>950170</b> Full Double Scrim
<b>950110</b> Ballast	<b>950180</b> Half Double Scrim
<b>950120</b> Filter Frame	<b>950190</b> Stand
<b>950130</b> Barn Door	<b>950193</b> Shipping Case Ballast
<b>950140</b> Lamp 1200W HMI	<b>950195</b> Shipping Case Head
<b>950150</b> Full Single Scrim	



575



12000

### Kliegsun 6000 HMI Fresnel and Ballast System

System employs the same proven construction materials and design features as in other Kliegsuns, with added convenience. The 20" (500mm) fresnel lens and the 12<sup>1/2</sup>" silicate beaded finish spherical aluminum reflector are the industry's most advanced optical system, giving high light output with flatness of field. The housing is of .063" high strength, reinforced aluminum, sturdy enough for the most demanding use. The unique Varitap circuitry may be accessed through a door. The input voltage is nominally 208/240 or 277VAC. The ballast will operate on any input between 200VAC and 290VAC. An auxiliary 120V/10A outlet is readily available for power lifter hookup. Pneumatic tires (8" diameter) permit easy moveability on location.

<b>950600</b> 6000W Unit Complete	<b>950660</b> Half Single Scrim
<b>950605</b> Head Only	<b>950670</b> Full Double Scrim
<b>950610</b> Ballast	<b>950680</b> Half Double Scrim
<b>950620</b> Filter Frame	<b>950690</b> Stand
<b>950630</b> Barn Door	<b>950693</b> Shipping Case Ballast
<b>950640</b> Lamp 6000W HMI	<b>950695</b> Shipping Case Head
<b>950650</b> Full Single Scrim	

### Kliegsun 12000 HMI Fresnel and Ballast System

Also features the 20" (500mm) fresnel lens and 12<sup>1/2</sup>" silicate beaded finish spherical aluminum reflector giving high light output with flatness of field. The housing is of .063" high strength, reinforced aluminum, sturdy enough for the most demanding use. The unique Varitap circuitry may be accessed through a door. The input voltage is nominally 208/240 or 277VAC. The ballast will operate on any input between 200VAC and 290VAC. An auxiliary 120V/10A outlet is readily available for power lifter hookup. Pneumatic tires (8" diameter) permit easy moveability on location.

<b>951200</b> 12000W Unit Complete	<b>951260</b> Half Single Scrim
<b>951205</b> Head Only	<b>951270</b> Full Double Scrim
<b>951210</b> Ballast	<b>951280</b> Half Double Scrim
<b>951220</b> Filter Frame	<b>951290</b> Stand
<b>951230</b> Barn Door	<b>951293</b> Shipping Case Ballast
<b>951240</b> Lamp 12000W HMI	<b>951295</b> Shipping Case Head
<b>951250</b> Full Single Scrim	

Prices and Specifications Subject to Change Without Notice.



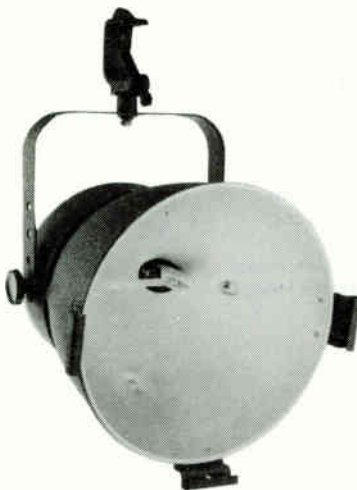
# KLIEGL BROTHERS LIGHTING, INC.

5 Aerial Way  
 Syosset, NY 11791  
 (516) 937-3900 Telex: 96-0158  
 FAX: (516) 937-6042

# STUDIO LIGHTING



1000SE



3451



3606

### All Units Provided with 39" Leads, C-Clamp, Safety Cable and Connector

Catalog Number	Description	Price
3451	16" 1000W Quartz Scoop . . . . .	\$260.00
3452	16" 1000W Focusing Quartz Scoop. . . . .	280.00
13451	Color/Diffuser Frame . . . . .	.40.00
13452	Color/Diffuser Frame . . . . .	.40.00
<b>Quartz Lamps for 3451/3452:</b>		
	FDN 500W 3200°K 400 hrs. frosted . . . . .	.34.00
	EMD 750W 3200°K 400 hrs. frosted . . . . .	.46.00
	FHM 1000W 3200°K 300 hrs. frosted. . . . .	.39.00
	FWM 650W 3200°K 400 hrs. WattMiser. . . . .	.43.00
1000SE	1000W Quartz Set Light . . . . .	200.00
<b>Quartz Lamps for 1000SE:</b>		
	FDN 500W 3200°K 400 hrs. frosted . . . . .	.34.00
	EMD 750W 3200°K 400 hrs. frosted . . . . .	.46.00
	FHM 1000W 3200°K 300 hrs. frosted. . . . .	.39.00
	FWM 650W 3200°K 400 hrs. WattMiser. . . . .	.43.00

### Diffusion Materials

TSP-2	Tough Spun. Replaces spun glass. Roll 2' x 50' . . . . .	\$130.00
TRF-2	Tough Frost Diffusion Roll 2' x 50'. . . . .	130.00
TSK-2	Tough Silk. Same diffusion qualities as real silk. Roll 2' x 50' . . . . .	130.00
835	Spun glass. Roll 3' x 12'. . . . .	30.00

Note: Softlights require 2 lamps each.

Add Suffix to Catalog Number to Specify Proper Connector

- UG Parallel blade U-ground, U.L. listed
- 955G 3 pole pin connector, U.L. listed
- TLG 3 pole twistlock, U.L. listed

### All Units Provided with 39" Leads, C-Clamp, Safety Cable and Connector

Catalog Number	Description	Price
3606	6 <sup>3</sup> / <sub>8</sub> " 750W Quartz Fresnel. . . . .	\$260.00
23606	4-way Barndoor . . . . .	75.00
13606	Color/Diffuser Frame . . . . .	13.00
<b>Quartz Lamps for 3606:</b>		
	EHC 500W 3200°K 500 hrs. . . . .	.57.00
	EHF 750W 3200°K 300 hrs. . . . .	.63.00
3608	8" 1000W Quartz Fresnel. . . . .	370.00
23608	4-way Barndoor . . . . .	100.00
13608	Color/Diffuser Frame . . . . .	13.00
<b>Quartz Lamps for 3608:</b>		
	CYV 1000W 3200°K 200 hrs. . . . .	.97.00
	CXZ 1500W 3200°K 325 hrs. . . . .	133.00
3609	8" 1000W Quartz Fresnel. . . . .	370.00
23609	4-way Barndoor . . . . .	100.00
13609	Color/Diffuser Frame . . . . .	13.00
<b>Quartz Lamp for 3609:</b>		
	FER 1000W 3200°K 500 hrs. . . . .	.69.00

Notes: Oval Beam 8" Fresnels available on Special Order  
 Pole-operated Fresnels available on Special Order

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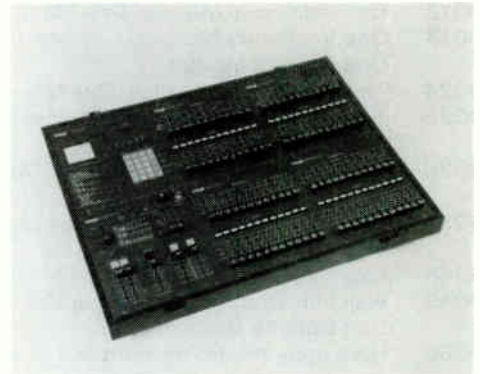
# STUDIO LIGHTING



Lighting Fixtures



Distribution Equipment



Lighting Control System

## Six Studio Lighting Packages

These packages have been designed and engineered to cover a broad spectrum of studio lighting applications as they apply to most commercial, educational, and industrial users. Each package has been carefully laid out to ensure that the complement of lighting fixtures, distribution equipment and the lighting control system will prove adequate in the area for which it is designed.

**Lighting Fixtures**—A varying complement of Key, Back, Base, Fill and Set lights, including their accessories, are provided in every package. Pattern Projectors and special Cyc lighting instruments are included in certain packages. All fixtures are provided with 39" leads, C-clamp, safety cable and pin connector.

**Distribution Equipment**—Wireway connector strips and wall outlet boxes are provided in various quantities for each package in order to ensure proper power distribution throughout the specified studio. Cyc drop boxes are also used in the three larger packages for powering the cyc lighting units.

**Lighting Control System**—An SCR multiplexed digital dimming system utilizing the "dimmer-per-circuit" concept has been designed for each of the studio packages. Each system consists of an SCR digital dimmer rack (or pack) and an ENTERTAINER portable, microprocessor-based control console. The digital dimming system uses bi-directional, multiplexed data streams between the console and the dimmer rack. A single 4 conductor, shielded cable replaces the large multi-conductor control cables required in older systems. The accuracy of the system is unaffected by electrical noise, temperature or aging of the components.

In addition to the above, each of the studio packages contains a studio layout and a system riser (flow) diagram. The packages are listed as follows:

Catalog Number	Package Description	Price
851520	15' x 20' (300 sq. ft.) . . . . .	\$ 26,200.00
851825	18' x 25' (450 sq. ft.) . . . . .	37,100.00
852030	20' x 30' (600 sq. ft.) . . . . .	51,000.00
853040	30' x 40' (1200 sq. ft.) . . . . .	84,000.00
853650	36' x 50' (1800 sq. ft.) . . . . .	122,200.00
854060	40' x 60' (2400 sq. ft.) . . . . .	163,400.00

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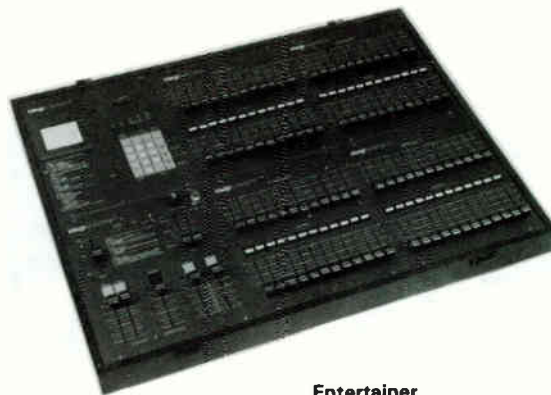
## LIGHTING CONTROL CONSOLES

### Entertainer™ Portable Digital Dimming Control Console

- Use up to 48 memories or a sophisticated two-scene preset
- Proportionally patch up to 1,000 dimmers to 12, 24, 36, or 48 control channels
- Assign channels to any or all group masters at separate levels
- Flash buttons and latch and chase functions with level controls
- Split dipless crossfader with adjustable fade rate

- 9012** One Ind/Group Module, One Master Control Module  
**9013** One Ind/Group Module, One Master Control Module, One Options Module  
**9024** Two Ind/Group Modules, One Master Control Module  
**9025** Two Ind/Group Modules, One Master Control Module, One Options Module  
**9036** Three Ind/Group Modules, One Master Control Module  
**9037** Three Ind/Group Modules, One Master Control Module, One Options Module  
**9048** Four Ind/Group Modules, One Master Control Module  
**9049** Four Ind/Group Modules, One Master Control Module, One Options Module  
**9050** Hard copy printer for print-out of patch assignments and cues, complete with power cord and control cable  
**9051** Carton blank computer paper, one part, 9 1/2" x 11", 3500 sheets

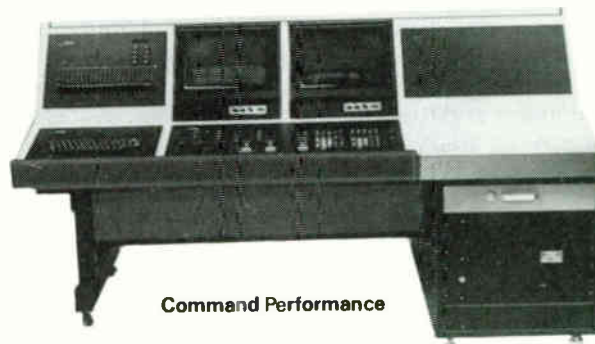
All consoles are furnished with 32' (10M) control cable, power cord with power supply, and gooseneck console light



Entertainer

### Command Performance Memory Lighting Control System

- 20 Submasters with flash buttons
- Back-up system
- VDU channel display
- VDU patch display
- ASCII keyboard
- Grand Master
- A-B split fader
- X-Y time faders
- Display keyboard
- Auxiliary control panel
- Library storage
- Cue keypad
- Channel/Dimmer keypad
- Portable remote
- 32-288 channels to control up to 3000 dimmers
- Storage capacity of 600 average sized cues
- Does not require any peripheral devices to function
- Read-only Memory
- Electronic patch
- Two-color graphic monitors
- Designed for theatrical use and television studios

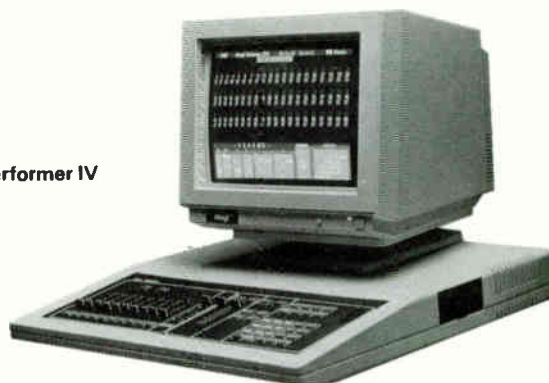


Command Performance

### Performer IV® Computerized Lighting Control Console

- A separate 13", high resolution, color monitor with direct-etched anti-glare screen, on a tilt/swivel base
- A 3 1/2" micro floppy disk drive for library storage
- LAN (local area network) capability allows multiple units to be connected in either a master/slave configuration or a 100% redundant back-up configuration
- Designed for theatre, television and film
- 72 hour memory retention without the use of batteries or extra power supplies
- "PERFORM" commands allow multiple part cues and the flexible control of cue sequencing
- A real time clock/calendar on screen
- High speed CPU
- System can control up to 350 channels and 960 blocks of cue storage

Performer IV





# KLIEGL BROTHERS LIGHTING, INC.

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 Syosset, NY 11791  
 (516) 937-3900 Telex: 96-0158  
 FAX: (516) 937-6042

## DIMMER CONTROLS/ LIGHTING KITS

### Dimmer Controls

#### Standard Systems (Include Dimmer Bank, Control Console and Control Cable)

System #	Description	Dimmer Bank #	Control Console #	Price
9001/TLG	12— 2.4KW Dimmers, Twistlock Receptacles	9130/TLG	7812	\$5860.00
9001/9556	12— 2.4KW Dimmers, Pin Connector Receptacles	9120	7812	5160.00
9001/S	12— 2.4KW Dimmers, Terminal Strip Output	9100	7812	5160.00
8001/9556	6— 6.0KW Dimmers, Pin Connector Receptacles	9150	7812	5860.00
8001/S	6— 6.0KW Dimmers, Terminal Strip Output	9140	7812	5860.00

Note: #7892/32 Control Cable is furnished with each system.



**Control Cables**  
 Catalog #7892  
 Console to Dimmer Bank  
 Control Cable  
 32' (10M) long with AMP connectors

Catalog #7893/3  
 Console to Console  
 Master/Slave Cable  
 3' (1M) long with AMP connectors

Catalog #7895  
 Cable to Cable Coupler  
 1' (.3M) long with AMP connectors

### KLIEGLKIT 4Q-TV/5Q-TV LIGHTING KITS

The KLIEGLKIT 4Q-TV and 5Q-TV provide the ideal solution to the lighting requirements encountered in the remote TV and film location applications of today. In addition to portability, these kits contain the types of lighting fixtures the lighting professional needs in equipping an O.B. van for Electronic News Gathering.

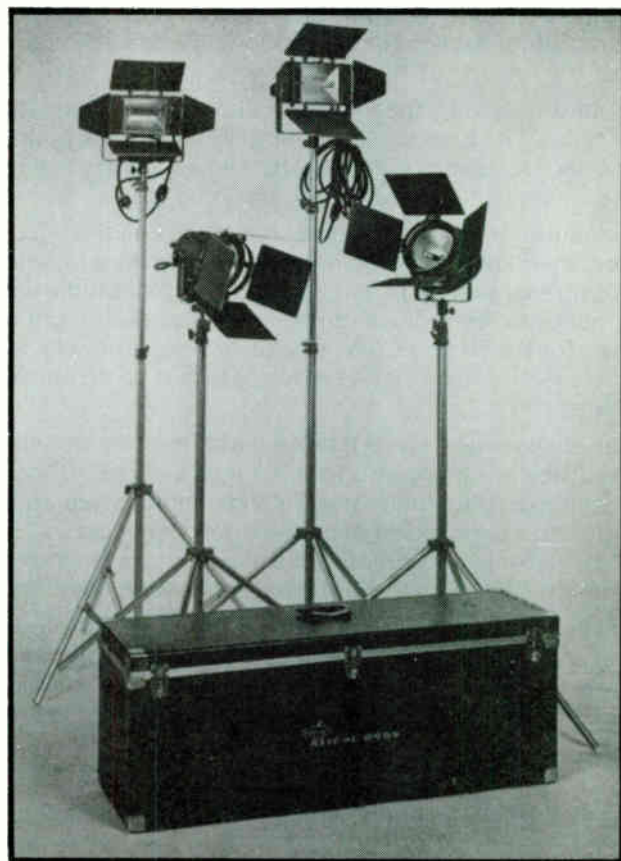
The two kits are identical except for the inclusion of an additional SPOT head, with accessories, in the 5Q-TV kit. The carrying cases for either kit are the same. This allows one to start with a 4Q-TV kit and later add an additional SPOT or FLOOD head, with accessories, as required.

#### Contents of 4Q-TV

- 2 — #1720-UG 1000W Focusing SPOTS with Switch 10' Cord
  - 2 — #11720 Diffuser Frames
  - 2 — #21720 4-Way Barn Doors
  - 2 — FBY 1000W Quartz Lamps
  - 2 — #1750-UG 1000W FLOODS with Switch, 20' Cord & Integral 4-Way Barn Doors
  - 2 — #11752 Diffuser Frames
  - 2 — FHM 1000W Quartz Lamps
  - 4 — #14360 Folding Stands
  - 2 — #25E16/3UG Extension Cables, 25'
  - 1 — #1700 Carrying Case
- PRICE ..... \$1550.00

#### Contents of 5Q-TV

- 3 — #1720-UG 1000W Focusing SPOTS with Switch, 10' Cord
  - 3 — #11720 Diffuser Frames
  - 3 — #21720 4-Way Barn Doors
  - 3 — FBY 1000W Quartz Lamps
  - 2 — #1750-UG 1000W FLOODS with Switch, 20' Cord & Integral 4-Way Barn Doors
  - 2 — #11752 Diffuser Frames
  - 2 — FHM 1000W Quartz Lamps
  - 5 — #14360 Folding Stands
  - 3 — 25E16/3UG Extension Cables, 25'
  - 1 — #1700 Carrying Case
- PRICE ..... \$1960.00



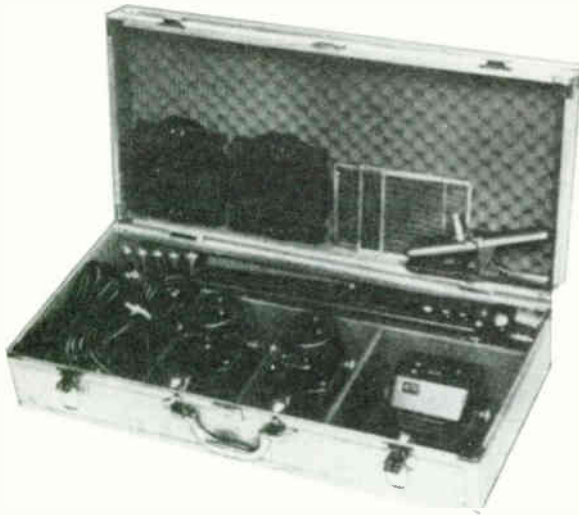
4Q-TV Power Requirements: 120V AC/DC at 33.3 Amps. Weight: 64 lbs. 5Q-TV Power Requirements: 120V AC/DC at 41.66 Amps. Weight: 75 lbs.

Prices and Specifications Subject to Change Without Notice.

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Syosset, NY 11791  
(516) 937-3900 Telex: 96-0158  
FAX: (516) 937-6042

# PORTABLE LIGHTING KIT



## Mini Kit

### Portable Lighting Kit for 100 Sq. Ft. Area

The Mini Kit is a portable lighting kit that contains everything the lighting professional needs for a television broadcast. It can be used for color or black and white, film or TV and will handle an area up to 100 sq. ft.

The Mini Kit has three 600W focusing lights. Two are focusing spot lights for key and back lighting. Both these fixtures have spot-to-flood settings of over 5 to 1 providing smooth, even light in all positions. Each weighs only  $\frac{3}{4}$  lb.

The third fixture in the kit is a focusing flood light, the only type of its kind for fill lighting. This unit has built-in barndoors for sharp light cutoff. The fill light uses the same lamps and power cable as the key lights.

Besides the three fixtures, the kit includes all the accessories a working professional will need to do a location shooting assignment or a news event. Not for studio use. The accessories include three specially made lighting stands for the fixtures. The stands have extendable, adjustable legs, allowing the stands to be set up on uneven surfaces.

Other accessories are rotatable barndoors for the spot lights (they are integral on the fill light); three 10' cord and switch assemblies; three 15' extension cables, three scrims and a large gaffer grip. The total power load is 15A and the fixtures and accessories may be plugged into an ordinary wall socket without danger of circuit overload.

The fixtures and accessories are packaged into an aluminum carrying case which, filled with all the equipment, weighs less than 30 lbs. It is compact enough to slide under an airplane seat or fit easily in the trunk of a small car.

Note: Kit includes a 600W lamp for each fixture. Power load: 15A. Total weight, including case: 29 lbs.

Mini Kit . . . . .POR



1. 600W focusing spot light
2. 600W focusing flood light
3. 4-way barndoors
4. 10' cord-and-switch assemblies and 15' extension cables
5. Gaffer grip
6. Set of 3 scrims
7. Aluminum carrying case
8. Folding stands, 8' extension

# KLOSS VIDEO CORPORATION

42 4th Ave.  
Waltham, MA 02514  
(617) 890-1245  
(800) 556-7733

# VIDEO/DATA PROJECTION SYSTEMS

## VideoBeam® VB3000 Color Projection Data Monitor

- Uses 3 Novatron II® projection tubes
- Has up to 4 inputs that may be switch-selected
- Each input module has height and width adjustments
- Horizontal retrace time is less than 5µs
- Designed for 120V 50/60Hz operation
- Power consumption is 140W
- Weighs 70 lbs. (31.8kg)
- RGB resolution is over 1000 lines
- Data resolution is 3300 characters; 132 columns x 25 rows
- Aluminum carrying case with metal handles
- Optional accessories available

The VB3000 is engineered for group viewing of large screen, ultra-high resolution computer generated displays. It offers automatically varied horizontal and vertical scan frequencies, allowing it to be used with such video controller boards as the IBM Enhanced Graphic Adaptor and Professional Graphics Controller, the AT&T 6300 monochrome and color controllers, the Apple Macintosh, Macintosh XL, and various other boards running at scan frequencies well in excess of "standard" video rates. Unlike other professional projectors, the VB3000 supports popular graphic work stations as well.

The VB3000 is available in 3 versions: 6 1/2' diagonal image for use with the high-gain curved screen, 7' diagonal for use with a flat screen, and a 10' diagonal version for use with a flat screen. Each can be floor or ceiling mounted, and rear projection is available with minor adjustments.

The VideoBeam VB3000 senses the scan frequency of incoming signals, locks automatically to those frequencies, and displays a rock stable image; no other adjustments are needed. It is not necessary to preset frequencies in advance nor are accessory "black boxes" needed. Lock-up is automatic and occurs virtually instantaneously. With a high frequency capability of 34kHz, there is more than adequate latitude for 60Hz, noninterlaced signals for medium resolution computer images.

The VB3000 has up to 4 inputs that may be switch-selected either on the projector itself or on the optional remote control. Each input module has height and width adjustments which the user presets once. Horizontal retrace time is less than 5µs, further guaranteeing compatibility with higher scan rate systems.

Optional accessories include a ceiling mount kit and a projection cart. The cart raises the VB3000 to the correct position for use of the 6 1/2' high gain curved screen on the extended height legs, recommended when large groups are to view the display, or to tabletop height for projection on a flat screen.

## VideoBeam VB4000 Rear Screen Projection System

The VB4000 incorporates the design and the features of the VB3000 benefiting from ongoing research of high resolution display technologies. The 60" screen is optimized for superior horizontal and vertical viewing angles. The use of Fresnel field lens allows maximum resolution.



<b>69-6600</b>	VB3000 Projection Monitor for 6.5' Curved Screen (Automatic multiscan) . . . . .	<b>\$ 8,600.00</b>
<b>69-6650</b>	VB3000 Projection Monitor for 7' Flat Screen (Automatic multiscan) . . . . .	<b>.8,600.00</b>
<b>69-6700</b>	VB3000 Projection Monitor for 10' Flat Screen (Automatic multiscan) . . . . .	<b>.8,600.00</b>
<b>VB4000</b>	60" Rear Projection System . . . . .	<b>11,500.00</b>

### Accessories

<b>69-0601</b>	6 1/2' High Gain Curved Screen (Includes standard height legs and wall brackets) . . . . .	<b>\$395.00</b>
<b>69-0610</b>	6 1/2' High Gain Curved Screen (only) . . . . .	<b>.339.00</b>
<b>69-8410</b>	Screen Legs, Standard Height (with levelers) . . . . .	<b>.56.00</b>
<b>69-8602</b>	Screen Legs, Extended Height (incl. 24° stand) . . . . .	<b>100.00</b>
<b>69-8401</b>	Screen Wall Mount Kit, Standard Height . . . . .	<b>.28.00</b>
<b>69-8610</b>	Screen Wall Mount Kit, Ext. Height (incl. 24° stand) . . . . .	<b>.56.00</b>
<b>69-8402</b>	Screen Wall Mount Kit (use with 6 1/2' CM proj.) . . . . .	<b>.60.00</b>
<b>69-8606</b>	VideoBeam Ceiling Mount Kit . . . . .	<b>.240.00</b>
<b>69-8601</b>	VideoBeam Video Control Center with 30' cable . . . . .	<b>.240.00</b>
<b>69-8601-50</b>	VideoBeam Video Control Center with 50' cable . . . . .	<b>.300.00</b>
<b>69-8601-70</b>	VideoBeam Video Control Center with 70' cable . . . . .	<b>.340.00</b>
<b>69-8601-100</b>	VideoBeam Video Control Center with 100' cable . . . . .	<b>.420.00</b>
<b>69-8614</b>	VideoBeam Projector Cart . . . . .	<b>.360.00</b>
<b>69-9020</b>	T-2 Video Broadcast Tuner (with infrared remote control, 140 channels) . . . . .	<b>.250.00</b>



# KNOX VIDEO PRODUCTS

B547 Grovemont Circle  
Gaithersburg, MD 20877  
(301) 840-5805

# CHARACTER GENERATOR/ TITLING UNITS

## K20 Titler

- Self-contained single 58-key keyboard unit • 16-page internal memory, expandable to 64 pages • One complete upper and lower case font—Helvetica • Second upper case font—Eurobold • NTSC or PAL operation (specify) • Internal sync generator • Separate preview output with cursor • 8-color palette • Title and 4-speed roll modes • Computer interface • Non-volatile memory

**K20** ..... \$1395.00  
**K12** Monochrome version of K20 ..... 1095.00



K20

## K50/K60 Titling Units

- Self-contained requiring only AC power and sync pulse train • Used as a video source or downstream keyer-inserter • Allows entry of information at any location or page • Independent program/preview channels • 4 full pages of memory • Display format: 64 characters—26 upper case, 10 numerals, 27 typewriter symbols, 1 space • Character resolution: 7 x 9 dot matrix • Input: full interlace composite video-sync per EIA RS-170, RS-330, EIAJ, or similar standards • Nominal character height: K50—36 scan lines, K60—18 scan lines • Page format: K50—16 characters/line, 8 lines/page K60—32 characters/line, 16 lines/page

The K50 and K60 are keyboard entry devices used for generating white alphanumeric information in video form.

The K50 provides the larger type size of the two machines. A single page consists of eight lines of 16 characters each. For this reason, the K50 is the likely choice for silent paging systems, posting schedules and other public displays that call for legibility at a distance.

The K60, with its format of 32 characters in each line of a 16-line page, affords the user a greater density of information. This has been found most useful in some medical applications and other systems that employ extensive titling over video pictures.

**K50** Character Generator with 4 pages of memory, independent edit channel, flash. 16 Characters by 8 lines per page ..... \$1295.00

**KS50** All features in K50 plus crystal controlled internal sync. . 1550.00

**KX50** All features in KS50 plus title window, crawl and automatically timed page sequencer ..... 1775.00

**Upgrade Kit** to convert K50 or K60 to KX50 or KX60 ..... 710.00

Math, Greek and Foreign  
Language Symbols Included



K60

K50

**K60** Character Generator with all K50 features but increases line length to 32 characters and number of lines to 16. .... \$1525.00

**KS60** All features in K60 plus crystal controlled internal sync. . 1700.00

**KX60** All features in KS60 plus title window, crawl and automatically timed pages sequencer ..... 2085.00

**Colorizer** adds genlocking color foreground/background generator to KS50, KX50, KS60 or KX60 ..... 350.00

**Upgrade** from K50 to K60 to KS50 or KS60. .... 255.00

## K40 Microfont™ Character Generator

- Self-contained single 58-key keyboard unit with small external power unit • 16-page internal memory, expandable to 64 pages • 2 complete upper and lower case fonts: 20 and 32-line Helvetica • Complete foreign language set in large size • Double size font expander key • NTSC or PAL operation (specify) • Internal sync generator • Separate black and white preview output with status line • 32-color palette • Roll, crawl and title modes • Italics by line • Computer interface • Non-volatile memory

The K40 Microfont offers an array of features in a low cost color character generator: finely resolved fonts, wide choice of colors, broad capture genlocking and mixing, full range rolls and crawls, and automated display sequences.

Easy to use, the K40 is ready to title from the moment you turn it on. Its entire instruction set is printed on the keyboard.

Each line may be individually colored in background and striping, and character colors may be completely intermixed on every line.

The Microfont is housed in a single 58-key unit complete with an internal sync generator. A standard NTSC video input is also provided for synchronizing the K40 to an external video source. An internal mixer



K40

adds the K40's output to the incoming video signal, a separate preview output carries the character generator output together with an additional line of characters showing the current system status.

**K40** ..... \$2395.00

64-page memory upgrade ..... 275.00

Optional four-font upgrade ..... 275.00

# KNOX VIDEO PRODUCTS

8547 Grovemont Circle  
Gaithersburg, MD 20877  
(301) 840-5805

# CHARACTER GENERATORS

## K200 Chromafont II™

### Color Character Generator

- Eight included fonts, each in two sizes
- 128 color groups organized into eight palettes
- 512 color selection
- 10-speed roll and crawl modes
- Underlining and pinstriping
- Italics, superscript, and subscript
- 8000 character memory

The Chromafont II offers the small studio another step forward in quality production capability. Fully resolved, proportionally spaced fonts and rich variation in color and style of display make this character generator a standout in its price range.

Combining very low power digital technology with pipeline architecture, the Chromafont II puts a fine finish on your productions without the usual price-to-performance tradeoff. It genlocks to almost any signal, keys automatically, and can fade to title, fade to picture, and fade to black.

Incredibly easy to use for a machine with such a variety of fonts, colors, and positioning abilities, the Chromafont II has all the important operational essentials printed on the cover of its keyboard. A complete technical manual is included for those wishing to explore the finer points of display making.

The Chromafont II is equally at home as a stand alone unit, downstream in a simple editing suite, or upstream through a sophisticated production switcher. A unique execute mode allows a long sequence of display operations to be programmed ahead of time and then executed hands-off after a single keystroke.

**K200** ..... \$4450.00  
**K200EX** 500 page extended disk drive ..... \$5990.00



K200



K100 Option C

## K 100 Chromafont Option B

### Color Character Generator

- Four fonts: two upper and lower case, two upper case only — all in two sizes (eight 32-character font blocks)
- Full range color control (512 color palette) of background and character, organized as 16 selectable combinations. Color palette includes transparency
- Second 512 color palette for fade/cut/dissolve effects
- Character-by-character color control
- Individual character background color control
- Character-by-character underlining and pinstriping
- Horizontally and vertically adjustable shadow edging
- Flexible non-volatile 8000-character memory. Can be organized as up to 256 lines or up to 64 pages
- Multi-speed roll and crawl
- Fade Control: allows fade to and from black, dissolves from color to color
- Italics: two forward and two backward slants
- Variable line height
- Superscript and subscript
- Serial interface for computer control or extra keyboards
- NTSC or PAL-B compatibility
- Portable, detachable keyboard

The full color character generator of choice when the budget is limited, the K 100 Chromafont represents a unique approach to character generator design.

Advanced high speed pipeline architecture puts sophisticated display capability in your hands at minimal expense.

Compact and versatile, the K 100 is equally at home in the EJ van or in the studio. Its superior display adds elegance to routine titling such as schedule changes or weather alerts.

The K 100 also offers the small studio or production house a true alternative to costly and inconvenient outside titling services.

**K 100** ..... \$3890.00



Screen Display Composed on a Chromafont Option B, Including One Extra Font

### Chromafont Option C Upgrade

Option C adds to the capabilities of the K 100 Chromafont:

- Four new type fonts: one upper and lower case and numerals, two upper case and numerals, one upper case only — all in two sizes
- Unlimited floppy disk storage: frees K 100 internal memory space
- Automated timed display sequences
- Pre-cued displays with built-in pauses

**Option C Upgrade** ..... \$5780.00  
**Upgrade Only** ..... \$1890.00



# EASTMAN KODAK COMPANY

343 State St.  
Rochester, NY 14650  
(800) 242-2424  
(716) 724-4000



## Kodak Video Cassettes 1/2" VHS/Beta

Kodak Video Cassettes are for use with 1/2" VHS and Beta format video recorders, and for the new generation of 8mm video systems.

Each Kodak Video Cassette is designed and manufactured to meet exceptionally high standards of quality, performance, reliability, and consistency.

- For beautifully accurate images
- Excellent picture sharpness, color brilliance sound clarity
- Quality that lasts even after repeated use

## Kodak Video Cassettes (High Grade)

For use with 1/2" VHS and Beta format video recorders. Designed for excellent picture sharpness, color brilliance, sound clarity, and reliability.

## Kodak Video Cassettes, XHG (Extra High Grade—Broadcast Quality)

Extra High Grade video cassettes in both VHS and Beta recorder formats. For use at extended playing speeds and for repeated recording and playback. High-density particle packing has excellent capability for re-recording, erasure, and signal stability.

## 1/2" Kodak Video Cassettes

<b>High Grade</b>	
<b>VHS</b>	
T-120-HG .....	\$8.99
<b>Extra-High Grade—Broadcast</b>	
<b>VHS</b>	
T-30 .....	\$ 9.49
T-60 .....	9.99
T-120 XHG .....	10.99
<b>High Grade</b>	
<b>Beta</b>	
L-750 .....	\$8.99
<b>Extra High Grade—Broadcast</b>	
<b>Beta</b>	
L-750 XHG .....	\$10.99

# PROFESSIONAL VIDEO TAPE

## 8mm Kodak Video Cassettes

8mm Kodak Video Cassettes for use with the Kodavision Series 2000 Video System and other 8mm systems. MP video tape offers an advanced metal-particle coating for excellent density and sensitivity.

173-3427	MP6-30 .....	\$12.99
100-9455	MP6-60 .....	13.99
101-2301	MP6-90 .....	14.99
109-1214	MP6-120 .....	16.00
800-5902	HC-2 8mm Head Cleaner Cassette .....	16.99



## 3/4" U-Matic Eastman Professional Video Cassette

	(Professional)		(Broadcast Quality)	
3/4"	EP-930		EB-930	
Standard	KCA-10	\$21.18	KCA-10	\$24.36
	KCA-20	24.00	KCA-20	27.60
	KCA-30	24.70	KCA-30	28.42
	KCA-60	35.30	KCA-50	34.80
Mini	KCS-20	22.56	KCS-10	24.88
			KCS-20	25.94

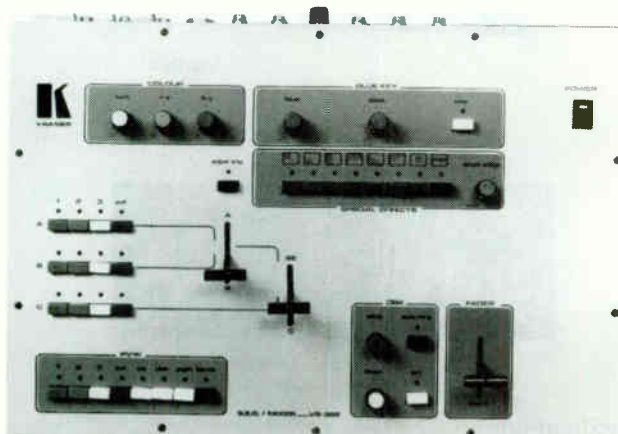
## 1" Eastman Professional Video Tape

One-inch Eastman professional video tape affords the optimum reproduction capability your important programs demand generation after generation.

## Eastman Professional Video Tape EVT-2000

	C-Format		8-Format	
1"	VT-34	\$ 91.32	VT-34	\$ 91.32
In	VT-48	99.62	VT-48	99.62
Flame	VT-64	138.36	VT-64	138.36
Retardant	VT-96	208.90	VT-96	208.90
Shipper	VT-105	219.98	VT-105	219.98
	<b>C-Format</b>		<b>8-Format</b>	
1"	VT-34	\$ 88.07	VT-64	\$135.11
In	VT-64	135.11	VT-96	205.65
Corrugated	VT-96	205.65	VT-126	278.08
Unit Box	VT-105	216.73		
	VT-126	278.08		
	VT-157	338.96		
	VT-188	437.18		





VS-38E



VS-38E Back Panel

**VS-38E  
 Production Switcher/SEG**

A professional production switcher and special effects generator designed for small studio use. The VS-38E is a vertical interval color SEG providing features usually found on expensive "broadcast" switchers. Three composite inputs on three buses allow the operator the unique ability to mix a third input into a selected special effect. The inclusion of an RGB camera input for superimposing one picture into another via a Blue Key Effect, a Downstream Keying input for a character generator or genlockable camera, a Key input for use with a Black and White camera, a separate control for fade-to-black and dual 110V and 12VDC operation, rounds out this superb SEG.

- An (A-B)/C video bus structure
- Eight wipe patterns with soft and hard control
- Chroma keying effect with separate blue shade control
- A colorizer for adding color to either the light or dark areas of the picture during use of downstream keying input or as a source in combination with any of the mix, wipe, or blue key effects. A luminance control is included for adjusting color brightness

- A downstream keyer for keying in either a character generator or a DSK camera. The downstream keyer includes a brightness level, pos/neg and a slice control for adjusting the luminance contour
- Separate preview bus able to display inputs, color generator, downstream keyer, black output of black and white camera, special effects and program out
- A separate 10-pin camera socket tied to input one, for supplying power to a camera and genlocking other inputs to that camera through the two black burst outputs. An audio breakout is included for the on-camera microphone audio
- Looping inputs with Hi-Z/terminate switches allowing inclusion of other video processing devices in system
- A built-in black burst sync generator

**Specifications**

**Signal-to-Noise Ratio:** > 60dB  
**Crosstalk:** > 56dB at 3.58MHz  
**Frequency Response:** > 10MHz  
**Dimensions:** 19.2" x 10.5" x 4.8"  
 Rackmountable on 19"

VS-38E .....\$2395.00

# KRAMER ELECTRONICS, LTD.

DISTRIBUTED EXCLUSIVELY BY KRATEK CORP.

P.O. Box 382  
Westbury, NY 11590  
(718) 363-1430

# VIDEO ENHANCER/ COLOR ENCODER

## VS-2EII Active Video Enhancer/Splitter

The VS-2EII integrates a high quality video gain circuit and an audio mixer. This unit includes video enhancer with a video gain control with fade to black and 10dB boost, high resolution video enhancer with definition control, color improvement circuit with control for color saturation. It features "Automatic Noise Limiter" to reduce video noise, and incorporates three independently amplified and isolated video outputs along with a two-input/three-output audio mixer, allowing conversion of stereo videotapes for monophonic recording with proper channel balances.

### Specifications

<b>Video Input:</b>	1 input, 75 ohms, 1V
<b>Audio Input:</b>	2 stereo inputs, 10K ohms, 1V
<b>Video Outputs:</b>	3 processed outputs, 75 ohms, 1V, 1 bypass loophrough output, 75 ohms, 1V
<b>Audio Outputs:</b>	3 stereo parallel outputs, 100 ohms, 1V
<b>Video Gain/Fade Control:</b>	+ 10dB to full fade of composite video
<b>Audio Mix:</b>	+ 3dB to 0dB on two inputs
<b>Video Bandwidth:</b>	8MHz
<b>Video Non-Linearity:</b>	> 5%
<b>Video Bandwidth:</b>	20-20,000Hz
<b>Connectors:</b>	Video: BNC Audio: RCA
<b>Power Source:</b>	120VAC/60Hz
<b>Dimensions:</b>	2 1/4" H x 7 5/8" W x 6 5/8" D
<b>VS-2EII</b>	..... \$299.00



VS-2EII



VM-11E

## VM-11E Video Screen Splitter

This unit allows to display vertically, a part of two videos on a single video monitor if both video signals are running on the same sync. A practical application will be to show parts of a signal, one with corrections and the other without, both on the same picture screen. The VM-11E is also very useful with genlocked video cameras and can be used in studio or security applications.

### Specifications

<b>Video Inputs:</b>	2 video synchronized, 75 ohms Hi-Z with termination switch, 1V p-p
<b>Video Outputs:</b>	1 video, 75 ohms, 1V p-p
<b>Controls:</b>	Screen splitter, vertical line (A-B)
<b>Video Non-Linearity:</b>	< 3%
<b>Video Bandwidth:</b>	6MHz (± 3dB)
<b>Dimensions:</b>	6" x 2 1/10" x 5 1/10"
<b>VM-11E</b>	..... \$199.00



KCP-180

## KCP-180 RGB-NTSC Color Encoder

• Accepts TTL computer or analog RGB inputs and converts these standard NTSC/RS-170A composite video output for recording on VCR mixing or display on standard video monitor • Controls for: Color phasing, chrominance level, luminance contrast, reference set-up • BNC inputs for RGB, sync, and sync on green • 9-pin connector for TTL (RGB) input with H and V sync • TTL nine loophrough connector • Color bar generator for reference signal • Signal-to-noise ratio: 58dB • 110VAC fused power supply with off/on switch

Allows you to use your computer or RGB signals in a standard video system. Accepts both TTL and analog video inputs and converts these to standard NTSC, RS-170A composite video. The encoder strips non-standard sync and replaces it with clean RS-170A sync. Interlaced input will create an interlaced output; non-interlaced input will create a non-interlaced output. It will even encode RGB video without subcarrier reference by internally generating the proper SC-H phased subcarrier. Works with any standard color graphics adaptor. (EX.: IBM PC, XT, Zenith XT, etc.) Accepts either positive or negative sync.

**KCP-180** ..... \$1995.00

# KRAMER ELECTRONICS, LTD.

DISTRIBUTED EXCLUSIVELY BY KRATEK CORP.

P.O. Box 382  
Westbury, NY 11590  
(718) 363-1430

# SWITCHER/VIDEO PROCESSOR



VS-15EII

## VS-15EII Vertical Interval 12 x 2 Matrix Switcher

The VS-15EII was designed for professional use, providing in a single compact unit a high quality video/audio stereo distribution amplifier and an advanced video/audio stereo switching center. Digital video input control, state-of-the-art design utilizing the latest IC technology and compact size make the VS-15EII ideal for high quality video/audio stereo switching and distribution. All inputs and outputs are fully buffered and isolated eliminating crosstalk between channels, making the VS-15EII the superior switching system. In addition, the VS-15EII utilizes vertical internal electronics for glitch free switching.

### Specifications

**Video Inputs:** 12 video, 75 ohms, 1V  
**Audio Inputs:** 12 audio-stereo 47K ohms, 1V  
**Video Outputs:** 2 x 2 video, 75 ohms, 1V

**Audio Outputs:** 2 x 2 audio-stereo, 100 ohms, 1V  
**Connectors:** Video: BNC  
Audio: RCA  
**Video Non-Linearity:** < 1%  
**Video Bandwidth:** 10MHz  $\pm$  3dB extended to  $\pm$  15MHz  
**Audio Bandwidth:** 20-20,000Hz  $\pm$  1dB  
**Video/Audio Gain Errors:**  $\pm$  1dB  
**Dimensions:** 17" x 7" x 2"  
**Power Consumption:** 6W maximum, 110V  
**Vertical Interval Switching:** May be looped from a 12 x 4 to a 12 x 12 configuration

Also available in 12 x 4, 12 x 6, 12 x 8, 12 x 10 and 12 x 12 formats.  
VS-15EII . . . . . \$1395.00



VS-11EII

## VS-11EII Active Composite Video Processor

The VS-11EII incorporates a full-function screen splitter allowing to compare all the corrections made on the video picture and displayed on the same picture tube. The vertical splitter line can be moved into any part of the picture allowing to compare sensitive areas of the video information. A video camera can be directly hooked up on the rear side of the VS-11EII, feeding 12V directly to the camera. The video and audio signals obtained can further be routed to "break out" or to be connected to input "C" of the input switcher. A color "Phase" control allows to shift the chroma balance to red or blue allowing to cope with improper colors. A 3-way video/stereo audio distributor is also incorporated in this unit. 19" rackmounting is made possible by means of adaptors delivered with this machine.

### Specifications

**Video Input:** 3 inputs, 75 ohms, 1V  
**Audio Input:** 3 stereo inputs, 40K ohms, 1V  
**Video Outputs:** 3 outputs, 75 ohms, 1V  
**Audio Outputs:** 3 stereo outputs, 1K ohm, 1V  
**Definition Control:**  $\pm$  10dB above 2MHz with automatic noise gate  
 $\pm$  10dB at subcarrier frequency  
**Color Saturation Control:** 0-350° burst phase rotation  
**Phase Control:** + 3dB to full fade (95% black)  
**Video Gain Control:** 8MHz  $\pm$  3dB  
**Video Bandwidth:** 20kHz  
**Audio Bandwidth:** 3%  
**Video Non-Linearity:** 3%  
**Dimensions:** 17" x 7" x 2"

VS-11EII . . . . . \$789.00

Prices and Specifications Subject to Change Without Notice.

V-695



# KRAMER ELECTRONICS, LTD.

DISTRIBUTED EXCLUSIVELY BY KRATEK CORP.

P.O. Box 382

Westbury, NY 11590

(718) 363-1430

# DISTRIBUTION AMPLIFIERS/ SWITCHER

## VM-6A Video/Audio Distribution Amplifier with Five Outputs

A broadcast quality distribution amplifier providing up to five amplified and isolated video and audio outputs feeding from one video and audio source. State-of-the-art design and compact size, it is excellent for multi-tape copying. The VM-6A is compatible with all the existing TV and video standards (VHS, Beta, PAL, SECAM, and NTSC).

### Specifications

Video Input:	1 input, 75 ohms, 1V, BNC female connector
Audio Input:	1 input, 25K ohms, 1V, RCA female connector
Video Outputs:	5 outputs, 75 ohms, 1V, BNC female connectors
Audio Outputs:	5 outputs, 100 ohms, 1V, RCA female connectors
Video/Audio Non-Linearity:	> 1%
Gain Error (Video and Audio):	< 1dB
Maximum Video Input:	2V p-p into 75 ohms
Signal-To-Noise Ratio (Video):	> 55dB
Power Source:	115VAC, 5W nominal
Dimensions:	2 1/4" H x 6 1/8" W x 4 1/8" D

VM-6A .....\$229.00

## VM-10A Video/Audio Distribution Amplifier with Ten Outputs

A wide-band professional video and audio (stereo) one-to-ten distribution amplifier. A bandwidth of 10MHz allows any professional user an outstanding "workhorse" for any distribution problem. This unit can be cascaded by means of its "loop" outputs allowing it to be used in large distribution configurations. Usable in PAL, SECAM, or NTSC.

### Specifications

Video Input:	Switchable 75 ohms/Hi-Z, 1, 5V maximum, 1 BNC female connector
Audio Inputs:	25K ohms, 1V, 2 RCA female connectors
Video Outputs:	75 ohms, 1V, 10 BNC female connectors
Audio Outputs:	100 ohms, 1V, RCA female connectors
Video/Audio Non-Linearity:	> 1%
Gain Error (Video and Audio):	< 1dB
Maximum Video Input:	2V p-p into 75 ohms
Video Bandwidth:	10MHz $\pm$ 3dB. Internally adjustable to 15MHz
Audio Bandwidth:	20KHz
Signal-To-Noise Ratio (Video):	> 60dB
Signal-To-Noise Ratio (Audio):	> 70dB
Dimensions:	6" x 2" x 10"

VM-10A .....\$449.00



VM-6A



VM-10A



VS-6EII

## VS-6EII Video/Stereo Audio 4x4 Matrix Switcher

The VS-6EII is a broadcast quality high tech switcher which does all of its switching on microchips. This unit is an advanced video and stereo audio switcher and distribution amplifier in a single compact unit. Parallel switching of four video and stereo audio inputs to four video and stereo audio outputs in any matrix combination to serve as an efficient video/audio control center for routing, monitoring, and splitting signals. All inputs and outputs are isolated and buffered, eliminating channel crosstalk and interference.

### Specifications

Video Input:	4 inputs, 75 ohms, 1V
Audio Input:	4 stereo inputs, 1V, 47K ohms
Video Output:	4 outputs, 75 ohms, 1V
Audio Output:	4 stereo outputs, 100 ohms, 1V
Video Non-Linearity:	< 1%
Video Bandwidth:	8MHz $\pm$ 3dB
Audio Bandwidth:	20-20,000Hz $\pm$ 1dB
Video/Audio Gain Error:	1dB
Connectors:	Video: BNC Audio: RCA
Power:	120VAC, 60Hz

VS-6EII .....\$469.00

# LAIRD TELEMEDIA, INC.

2424 S. 2570 W.  
Salt Lake City, UT 84119  
(801) 972-5900

## 1500 Character Generator

### SYSTEM FEATURES:

#### Resident Memory

- Internal text memory and font memory are size interactive • Variable page length

#### Fonts

- 35ns resolution • Multiple resident font capability • 96 characters per font • Multifont library (70 fonts included) • Proportional spacing • Character cell adjustment • 12-56 scan-line character sizes

#### Display Editor

- Instant italics (forward or backward with choice of multiple angles)
- Auto centering (line and page) • Underline • Insert and delete character • Insert and delete row • Seven edge modes: no edge, outline, full border, and 4 quadrants of drop shadow • 8 edge intensity levels

#### Color

- 65,536 colors resident • RGB encoder required for color

#### Dual 3 1/2 Disk Memory

- Loadable operating system software • System initialization user defined by auto-sequence • Page, font, and auto-sequence loadable from disk

The 1500 is a high quality television broadcast character generator system with some graphics capability. It is capable of displaying multiple font styles and sizes in a single message. Custom logos and symbols can be included in the font styles. Each character style and size is created from an entirely different high-resolution font file. None of the fonts is stretched, squashed, or otherwise distorted to achieve multiple effects, which assures consistent quality and legibility in each display.

The 1500 is essentially a two channel system. One channel is the Preview/Status Channel and the other is the Program Channel. All message information is entered into the Preview/Status Channel and then transferred to the Program Channel, allowing editing while on-air.

The 3 1/2" dual disk drive system and the logic system are both in one chassis. The single chassis unit can be used as rackmount or an attractive desktop unit.

<b>1500</b>	Character generator—includes 1500 chassis with two 3 1/2" disk drives, keyboard and 70 standard fonts. Requires color encoder. . . . .	<b>\$ 7,695.00</b>
<b>1500-PROM</b>	Character generator—includes 1500 and 6 standard fonts. 1530 option required for camera entry and font compose options. Requires color encoder. . . . .	<b>4,500.00</b>
<b>1500-EX</b>	Character generator—includes 1500 chassis, 1511 expanded keyboard and 70 standard fonts. Requires color encoder . . . . .	<b>8,495.00</b>
<b>1500-TURBO</b>	Character generator—includes 1500 chassis with 3 1/2" disk drive, 1511 expanded keyboard, 1534 hard disk and 70 standard fonts. Requires color encoder . . . . .	<b>9,695.00</b>
<b>1500-LX</b>	Character generator—includes main chassis with 3 1/2" disk drive, 1511 keyboard, 1524 data tablet, 1526 camera entry, 1528 font compose, 1534 hard disk, 1540 paint system and 70 standard fonts. Requires color encoder . . . . .	<b>18,595.00</b>
<b>Options</b>		
<b>1401</b>	Optional font set for 1500-PROM. . . . .	<b>\$395.00</b>
<b>1402</b>	Optional international font set for 1500-PROM. . . . .	<b>395.00</b>
<b>1403</b>	6 font set, custom, select any 6 from library for 1500-PROM . . . . .	<b>650.00</b>
<b>1422</b>	Computer interface kit for 1450 and 1500 series . . . . .	<b>200.00</b>
<b>1505</b>	Memory upgrade, expand from 262 to 512K for older 1500 CGs . . . . .	<b>160.00</b>
<b>1510</b>	Keyboard for second location. For remote use—requires 1516 power supply. . . . .	<b>349.00</b>

# CHARACTER GENERATOR



<b>1511</b>	Direct access keyboard—an expanded keyboard making the most of the commonly used menus, functions, and the entire character set, directly accessible with a single keystroke. Increases user operating speed. For remote use—requires 1516 power supply . . . . .	<b>\$ 995.00</b>
<b>1516</b>	Power supply required for a remote/second keyboard or a 1524 Data Tablet, rackmountable, with 15' cable . . . . .	<b>695.00</b>
	Longer cable for 1516—add per foot . . . . .	<b>1.00</b>
<b>CABLE</b>	Extra length for interface cable—add per foot . . . . .	<b>1.00</b>
<b>1520</b>	Rackmount kit—includes front panel and slide rails for 1500 and 1500-EX . . . . .	<b>112.00</b>
<b>1520-PROM</b>	Rackmount with slide for 1500-PROM . . . . .	<b>112.00</b>
<b>1524</b>	Data tablet with 1516 option for 1500 and 1500-EX . . . . .	<b>1,495.00</b>
<b>1525</b>	Data tablet—logos, drawings and fonts can be traced into the 1500 with an electronic stylus. Speeds the editing process when used in conjunction with font compose. Requires 1528 font compose for operation for 1500 and 1500-EX . . . . .	<b>995.00</b>
<b>1526</b>	Camera entry—digitizes art work and graphics instantaneously for editing and coloring. Requires separate B & W video camera, copy stand and 1528 font compose for operation . . . . .	<b>1,995.00</b>
<b>1528</b>	Font compose—creates new fonts by resizing and editing any existing fonts for 1500 and 1500-EX . . . . .	<b>495.00</b>
<b>1530</b>	1500-PROM character generator upgrade. Two 3 1/2" disk drives, 70 disk loadable fonts. Required for camera entry and font compose options . . . . .	<b>3,695.00</b>
<b>1534</b>	Hard disk memory-20M byte . . . . .	<b>1,495.00</b>
<b>1550</b>	Font base, development aid for 1528 font developer, specify type style. . . . .	<b>70.00</b>
<b>1032</b>	Laird color encoder (rackmount). Modulates on R-Y and B-Y axes. Includes blackburst and adjustable phasing . . . . .	<b>1,325.00</b>
<b>BC-200</b>	Tripp Lite uninterruptible power supply, 200W for 1450 and 1500-PROM . . . . .	<b>400.00</b>
<b>BC-325</b>	Tripp Lite uninterruptible power supply, 325W for 1500 and 1500-EX . . . . .	<b>500.00</b>
	Additional fonts for 1450 and 1500-PROM, choose six only, requires factory installation, six additional fonts are maximum. . . . .	<b>675.00</b>

# LAIRD TELEMEDIA, INC.

2424 S. 2570 W.  
Salt Lake City, UT 84119  
(801) 972-5900

# CHARACTER GENERATORS

## 1450 Color Character Generator

- 35ns resolution • Capable of producing 65,000 different colors • Six resident fonts • 100 pages of memory and a keyboard • Built-in color encoder • Features enhancements such as italics, edging, outline, four quadrants of drop shadow, and eight intensity levels • Vertical and horizontal flip • Inverted video • Flash and underline • Capable of roll up or down at any of nine speeds • Crawl left or right at any of six speeds • Can be used either downstream or as a stand-alone system • Encoder modulates RGB signals into composite NTSC • Encoder also allows signal to be phased or timed, vertically or horizontally

The 1450 character generator stores in a compact case and can be used in a desktop configuration or as a rackmount unit. The 1450 has 35ns resolution and can produce over 65,000 different colors.

The standard configuration of the 1450 includes six resident fonts, 100 pages of memory, and a keyboard. Built-in is a color encoder with the same high quality and specifications as the popular 1032 Color Encoder.

The 1450 features: Italics (at one of seven angles from 12° to 56°), Edging (with full edge, Outline, four quadrants of Drop Shadow, and eight intensity levels), vertical and horizontal flip, inverted video, flash and underline. The 1450 also has the ability to roll up or down at any of nine speeds and crawl left or right at any of six speeds.

The 1450 can be used "upstream", "downstream", or as a "stand-alone" system. The video signal can be "phased" or timed, both vertically or horizontally, with the primary video source.

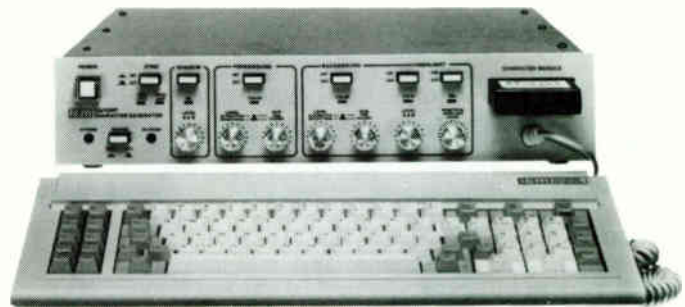


- |               |  |                  |
|---------------|--|------------------|
| <b>1450</b>   | Includes six fonts and encoder, should have optional BC-200 Power Supply . . . . . | <b>\$3995.00</b> |
| <b>BC-200</b> | Tripp Lite uninterruptable power supply, 200W . . . . .                            | <b>.400.00</b>   |
| <b>1401</b>   | Optional font set. . . . .   | <b>.395.00</b>   |
| <b>1402</b>   | Optional international font set . . . . .  | <b>.395.00</b>   |
| <b>1403</b>   | 6 font set, custom, select any 6 from library . . . . .                            | <b>.650.00</b>   |
| <b>1420</b>   | Rackmount, with slide . . . . .  | <b>.112.00</b>   |

## CG-7000 Color Character Generator

- Vertical scroll in four speeds • Full editing capability • Simplified line and page centering • Optional remote control gives random access to first 15 pages or manual sequencing through all pages • Flashing effect available on any character, word, line or page • Drop shadow, lower right, with 0—100 IRE level control shadow • Characters can be filled in or colorized by any external video signal. Allows multicolored or special texturing effects • Key output permits interface to any SEG • Text will only appear within SMPTE safe title area • Special highlight window can surround any line; can be colorized • Manual unit will auto start and run without keyboard. Permits text to be programmed in advance and run later at trade shows, meetings, point-of-purchase displays, etc. • Internal battery protects memory up to three years • Automatic bypass of video during power loss • Will automatically switch to internal sync if genlock source is lost • Crystal controlled sync generator • 80 pages or 12,160 characters of memory space • Proportional spacing • Character special effects • Optional rackmount with slide for main unit • Optional fonts • Auto page sequence in four speeds • Auto sequence of all lines on all pages at any screen position in four speeds, replaces horizontal crawl • 33ns or 42° subcarrier

The CG-7000 is simple and user-friendly. Unlike most other models, the CG-7000 was made for video people, not computer operators. Many complex operations have been made easy by removing them from the keyboard, and are performed with simple, ordinary controls and switches on the front panel of the main unit.



- |                   |   |                  |
|-------------------|---|------------------|
| <b>CG-7000</b>    | Character Generator, high resolution, color . . . . . | <b>\$2195.00</b> |
| <b>CG-7000/ES</b> | CG-7000, with enhanced software installed . . . . .   | <b>.2395.00</b>  |

## CG-7000/ES Color Character Generator with ES-200 Enhanced Software

Same basic features as the CG-7000. With the ES-200 included the software will provide:

- Automatic line centering • Insert and delete a line • Automatic page centering • Copy a line • Copy a page • Move a page • Program pages to display in any desired order prior to scrolling, auto paging or auto lining • Pause or freeze text in place when scrolling, auto paging or auto lining • Go to page number command. The standard equipment software has a simple, manual line centering capability, and a limited manual page centering capability. The standard equipment software will provide scroll, auto page, and auto line, but not in a random sequence, as the ES-200 does.

- |                     |  |                 |
|---------------------|--|-----------------|
| <b>Accessories</b>  |  |                 |
| <b>RM-5</b>         | Rackmount for CG-7000 . . . . .                          | <b>\$ 80.00</b> |
| <b>RC-30</b>        | Remote Control, for CG-7000. . . . .                     | <b>.120.00</b>  |
| <b>FM-15—Series</b> | Font Module, additional font styles for CG-7000. . . . . | <b>.100.00</b>  |
| <b>FM-16—Series</b> | Font Module, deluxe font styles for CG-7000 . . . . .    | <b>.150.00</b>  |
| <b>ES-200</b>       | Optional Enhanced Software, for CG-700 . . . . .         | <b>.250.00</b>  |
| <b>MM-1400</b>      | Memory Module, for CG-7000 . . . . .                     | <b>.120.00</b>  |



# LAIRD TELEMEDIA, INC.

2424 S. 2570 W.  
Salt Lake City, UT 84119  
(801) 972-5900

# MULTIPLEXERS/ UNIPLEXERS

## 5300 Optical Multiplexer

The 5300 Optical Multiplexer provides as many as three separate film images projected for televising by a single camera. First-surface mirrors and precision optics ensure excellent results in color TV applications. An integral field lens provides an intermediate image plane upon which both camera and projector lenses are focused. The field lens mounting is designed to permit insertion of a special screen for alignment purposes. The mirrors are shifted by individual electric gear motors through a unique torsion-bar/pitman coupling and produce an "instant" vertical wipe image transfer. The optical transfer assembly is supported for a 48" optical center by a bench pedestal.

\* **5300** For three input sources (small image). Includes optical transfer assembly with field lens and cover, bench pedestal and local control . . . . . \$2095.00

\* **5330** For three input sources (large image). Includes optical transfer assembly and cover, bench pedestal and local control . . . \$3680.00

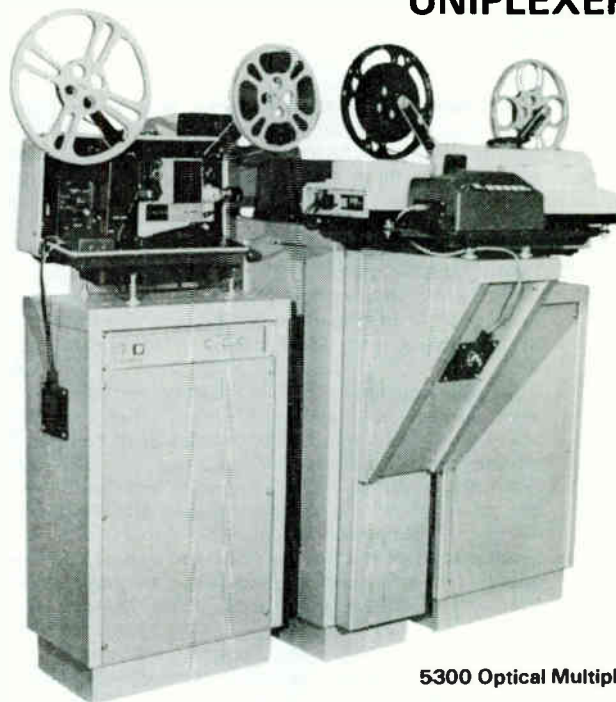
**5040** Large image field lens and mounting assembly for 5330 Multiplexer. (Required for camera without integral field lens.) . . \$1105.00

## Shelves and Stands

(For 5300, 5330 Multiplexers)

**5104** Stand for cameras or projectors with optical center height between 8 1/4" and 12 1/4". Includes mounting adaptor. (Specify camera or projector model when ordering) . . . . . \$425.00

**5107** Shelf for small camera or projector. Includes mounting adaptor. (Specify camera or projector model when ordering) . . . . . \$310.00



5300 Optical Multiplexer

**510B** Stand for camera or projector with height of less than 8 1/4" from mounting base to center of optics. Includes mounting adaptor. (Specify camera or projector model when ordering) . . . . . \$425.00

\* Does not include camera or projector mounting shelves or stands.

## 5100 Series Optical Diplexer/Uniplexer

The 5100 provides two separate film images that may be selectively projected for televising by a single camera. The 2-input projector complement may include either 16mm or Super 8 motion picture film in combination with 35mm 2" x 2" slides.

**5116** Assembly with first surface mirror and field lens. Includes shelves and adaptors for camera and 16mm film projector. (Specify camera and projector when ordering). Requires 50mm camera lens with 3/8" extender and 3" projection lens. (Lenses not included) . . . . . \$1200.00

**5116 + 35** Diplexer Assembly—for two input sources. Includes first surface mirror, field lens, bench assembly and shelves (desktop mount) for 35mm slide projector and 16mm film projector. (Specify camera or projector, dedicated or dolly-up) . . . . . \$1790.00

**5135** Uniplexer Assembly same as above for one 35mm slide projector. (Less mirror) . . . . . \$1075.00

## Lens Accessories

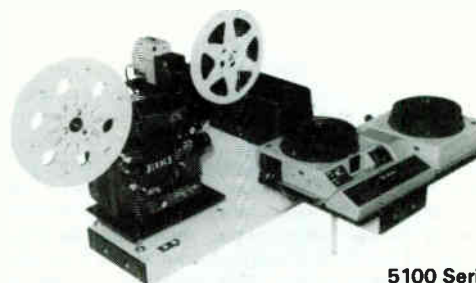
**5015** Lens Extender—for "C" mount lens: 3/16" for 2/3" format camera. 3/8" for 1" format camera . . . . . \$ 21.00

**5017** 50mm f/1.4 Lens—for "C" mount camera, includes lens extender: 3/16" for 2/3" format camera. 3/8" for 1" format camera. . . . . 240.00

**5019** 55mm lens with Bayonet mount for prism optic 2/3" tube cameras . . . . . 1515.00

**5023** Variable Focusing Kit—for use on 4320 projectors, with 7" lens, when full projected slide image is preferred, from all slide formats. (Normal projected image is overscanned to SMPTE standards) . . . . . 395.00

**5035** 35mm Lens with Bayonet mount for WV-555 1/2" tube camera . . . . . 890.00



5100 Series Optical Diplexer/Uniplexer

## Multiplexer Accessories

**5021** Test Slide/Loop Kit—includes Resolution, Registration, and Flesh Tone slides and Resolution 16mm film loop . . . . . \$ 225.00

**5021A** Test Film, 6' loop, Resolution 16mm film . . . . . 42.00

**5021B** Test Slides, includes Resolution, Registration and Flesh Tone slides . . . . . 200.00

**5036** Neutral Density Filter Kit—assortment of 6 filters, 2 pieces of glass and mounting hardware supplied. (For small image. One kit for each projector recommended) . . . . . 110.00

**5037** Neutral Density Filter Kit—assortment of 6 filters, 2 pieces of glass and mounting hardware supplied. (For large image. One kit for each projector recommended) . . . . . 235.00

**5050** Neutral Density Light Wheel & Automatic Light Control—maintains output from camera at 1V composite video. (Uses 2550 Remote Control) . . . . . 2150.00

# LAIRD TELEMEDIA, INC.

2424 S. 2570 W.  
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# FILM PROJECTORS/ REMOTE CONTROLS

## Film Projectors

- ST-180(R)** ELMO Regular 8mm 15fps Projector. Includes 25-50mm zoom lens, silent only. (Requires 5107 shelf, uses 2551 remote control and 3510 remote adaptor.) . . . \$ **800.00**
- ST-180(S)** ELMO Super 8mm 20fps Film Projector. Includes 25-50mm zoom lens, silent only. (Requires 5107 shelf, uses 2551 remote control and 3510 adaptor.) . . . . . **800.00**
- HD-1500** Pitch Controller (Super 8 sound) . . . . . **625.00**
- GS1200TC** ELMO Super 8 24fps TV Film Projector. Includes 25-50mm zoom lens, optical and magnetic playback, and magnetic record. (Requires 5108 stand, uses 2553 remote control and 3522 adaptor for remote control.) . . . . . **1875.00**
- 16-CLLTI** ELMO Slotload 16mm TV Film Projector. Includes 75mm lens, optical and magnetic playback. (Requires 5108 stand, uses 2551 remote control and 3518 adaptor for remote control.) . . . . . **2640.00**
- ENT-OTLTI** Eiki Autoload 16mm TV Film Projector. Includes 3" lens, optical playback and remote adaptor. (Requires 5108 stand, uses 2554 remote control.) . . . . . **2373.00**
- ENT-2LTI** Eiki Autoload 16mm TV Film Projector. Includes 3" lens, optical and magnetic playback, and remote adaptor. (Requires 5108 stand, uses 2554 remote control.) . . . . . **2924.00**
- ENT-3LTI** Eiki Autoload 16mm TV Film Projector. Includes 3" lens, optical and magnetic playback, magnetic record and remote adaptor. (Requires 5108 stand, uses 2554 remote control.) . . . . . **3475.00**

**Note:** It is recommended that one neutral density filter kit, 5036 or 5037, be ordered for each projector in the system.

## Slide Projectors

- 4300** Eastman Single Drum Slide Projector. With Kodak III E Projector, holds 80 35mm slides. Includes modified 7" lens and adjustable mount. (Requires 5107 shelf or 5108 stand, uses 2543 remote control and 3504 adaptor for remote control.) . . . . . \$ **590.00**
- 4320** Dual Drum Dissolve Slide Projector, with Kodak III E Projectors, holds 160 35mm slides. Provides a large capacity projector with a time controlled dissolve transition. The dissolve time and the dwell time can be programmed to run automatically. The 4320 dual offers the alternate sequencing of up to 160 glass, metal, plastic, or paper-mounted 2" x 2" slides. Image transfer between successive slides is accomplished by a means of a stationary optical beam splitter, thus slides selected from either of the two storage drums share a single, high-quality projection lens. This, together with the use of a quartz halogen light source, makes the projector ideal for color television applications. The single-chip, programmable microcomputer based electronics allow for user computer interface, an unlimited number of remote inputs, and a real time sequencer. Includes modified lens and adjustable mounting hardware. (Requires 5107 shelf or 5108 stand, uses 2545 remote control and 2546 tone generator/decoder.)  
With 7" lens for small image system . . . . . **4200.00**  
With 7 1/2" or 9" lens for large image system . . . **4700.00**

## Remote Controls

- (All modules use 1/3 remote control frame width unless otherwise specified.)
- 2540** Remote Control Frame. Accepts up to three remote control modules. Blank filler panels provided, if necessary. Frame: 1 3/4" H x 19" W x 1 1/4" D . . . . . \$ **60.00**
  - 2541** Remote Control for 5300 or 5330 Multiplexer. Controls input sources 1, 2 and 3. (Not required when LTI projector remote controls are furnished.) . . . . . **120.00**
  - RC50-2541** 50' cable . . . . . **46.00**
  - RC100-2541** 100' cable . . . . . **75.00**



- 2543** Remote Control for 4300 Single Drum Slide Projector. Controls "Off," "Ready," "Forward," and "Reverse" slide change . . . . . \$ **150.00**
- RC50-2543** 50' cable . . . . . **62.00**
- RC100-2543** 100' cable . . . . . **105.00**
- 2545** Remote Control for 4320 Dual Drum Dissolve Slide Projector. Includes all local control functions. Full width remote frame furnished . . . . . **515.00**
- RC50-2545** 50' cable . . . . . **80.00**
- RC100-2545** 100' cable . . . . . **125.00**
- 2546** Tone Generator/Decoder for 4320/2545 Dissolve Projector System . . . . . **350.00**
- 2549** 24V Power Supply for Uniplexer Remote Control. (Required only on uniplexer with stationary mirror.) . . **190.00**
- Remote Control for 5050 ND Light Wheel. . . . . **80.00**
- RC50-2550** 50' cable . . . . . **47.00**
- RC100-2550** 100' cable . . . . . **75.00**
- 2551** Remote Control for film projectors. Controls "Off," "Ready," and "Show" modes. . . . . **120.00**
- RC50-2551** 50' cable . . . . . **49.00**
- RC100-2551** 100' cable . . . . . **80.00**
- 2553** Remote Control for ELMO GS1200TC Projector. Controls "Off," "Ready," "Show," "Forward," and "Reverse." . . . . . **150.00**
- RC50-2553** 50' cable . . . . . **73.00**
- RC100-2553** 100' cable . . . . . **115.00**
- 2554** Remote Control for Eiki ENT-2LTI and ENT-3LTI Projectors with LTI modification. Controls "Off," "Ready," "Show," "Forward," and "Reverse." . . . . . **150.00**
- RC50-2554** 50' cable . . . . . **73.00**
- RC100-2554** 100' cable . . . . . **115.00**

## Adaptors for Remote Control

- 3504** Remote Adaptor for 4300 Slide Projector . . . . \$ **115.00**
- 3510** Universal Remote Adaptor with AC power cord for all projectors without remote provisions. Includes local controls, "Off," and "Ready." (Used with 2551 Remote Control.) . . . . . **155.00**
- 3518** Remote Adaptor for 16-CLLTI ELMO Projector . . . **155.00**
- 3522** Remote Adaptor for GS1200 TC ELMO Projector. . **150.00**

**Note:** One Instruction/Service Manual supplied with each Multiplexer and both Dual Drum Slide Projectors.  
Extra Manual . . . . . \$ **25.00**  
Service Manual for Eiki and ELMO Projectors . . . . . **45.00**

# LAIRD TELEMEDIA, INC.

2424 S. 2570 W.  
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# DISTRIBUTION AMPLIFIERS

## DA-5030 and DA-5040

### Audio and Video Distribution Amplifiers

- Each DA has 6 outputs • Broadcast quality video specs • VHS and Beta Hi-Fi quality audio specs • DA-5030 will distribute SMPTE time codes • DA-5040 also functions as video equalizing amp • External power supply • Rackmountable, 4 per space • Front panel level and compensation controls • Front panel test points • Signal-to-noise ratio: DA-5030: 90dB, 0dBm in/out, 600 ohm load; DA-5040: 75dB peak video to RMS noise, weighted • Connectors used: DA-5030: RCA; DA-5040: BNC

#### DA-5030 Audio DA

This product is equally useful for distributing audio signals for SMPTE time codes. The DA-5030 has one looping audio input and six outputs. This DA is mono only, but its input can be looped to additional DA inputs to increase the total number of outputs. The compensation adjustment can be used to offset the poor frequency response of 1/2" and 3/4" VCR audio tracks.

Accessories included: Service info, power loop cable  
Options: PS-20 power supply, RM-4 rackmount

#### DA-5040 Video DA

This product is equally useful as either a distribution amplifier or a video equalizing amplifier. The DA-5040 has one looping input and six outputs. The input can be looped to additional DA inputs to increase the total number of outputs. The compensation adjustment can be used to equalize or compensate for high frequency loss on long cable runs. Up to 1500 feet of RG-59/U can be compensated.

Accessories Included: Service info, power loop cable  
Options: PS-20 power supply, RM-4 rackmount

#### DA-5030/5040 Power Supply

Both DAs are powered from an external power supply. Power can come from the optional PS-20 Power Supply which furnishes 18VDC, 9W. As an alternate, any regulated 12VDC power supply can be used. (Any hum or noise present on a 12VDC power supply may not be fully filtered by the DA. Therefore, use special care in selecting a 12VDC supply.) The DAs have looping DC power connectors which allow multiple DAs to be powered from a single power supply. Each PS-20 Power Supply will operate two DA-5040 or four DA-5030.

DA-5030 .....	\$220.00
DA-5040 .....	220.00
RM-4 Rackmount adaptor .....	25.00
PS-20 Power supply, AC adaptor .....	24.00

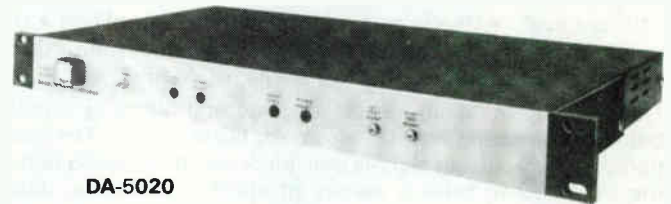
### DA-5020 Video and Audio Distribution Amplifier

- Video and stereo audio DA combined into one unit • Broadcast quality video specs • VHS and Beta Hi-Fi quality audio specs • Rackmountable • More outputs per rack space — 12 video, 12 audio • Front panel level and frequency compensation controls • Front panel test points • NTSC and PAL operation • Signal-to-noise ratio: Video: 75dB peak video to RMS noise, weighted; Audio: 90dB, (0dBm in/out, 600 ohm load)

The DA-5020 is a versatile distribution amplifier that combines video and stereo audio into one cabinet. Twelve matched, isolated video outputs are provided from a single video input. Twelve stereo audio outputs are provided from each of the two audio inputs. The inputs are looping or bridging so that additional DAs can be stacked to provide more outputs, such as 24, 36, 48, etc. The compensation control on the audio DA is designed to help offset the loss of frequency response encountered on 1/2" and 3/4" VCR audio tracks. The video compensation control will compensate for the loss of high frequencies on long cable runs. Up to 1500 feet of RG-59/U can be compensated.

Accessories Included: Rackmount hardware, service info  
Options: 230VAC version, specify DA-5020-PAL

DA-5020 .....	\$590.00
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DA-5020



1032

### 1032 NTSC Color Encoder

- High quality, low cost R-Y, B-Y axis encoding • Ideal for non-broadcast, industrial applications • Allows the RGB source to have H and V phase matching • Contains a complete, RS-170A genlocking sync generator • Internal sync generator has stand-alone crystal mode • Operates in both upstream and downstream configurations • RGB source must be able to genlock to NTSC sources

The 1032 changes RGB video, the 3-wire output of many character generators, cameras, etc., into composite NTSC video. The 1032 also allows the RGB signal to be "phased" or timed both vertically and horizontally with primary video. The 1032 encoder is an ideal mate to the 1500 character generator, and can also be used equally well with many other television products and systems.

The 1032 incorporates a high performance, single chip encoder which modulates on the R-Y and B-Y axis. Because the 1032 encodes in this manner, it cannot be used for broadcast television applications. It is, however, ideal for virtually any non-broadcast application.

The 1032 contains a complete genlocking, RS-170A sync generator that will readily lock to stable or unstable sources. It further has the ability to automatically switch over to a temperature-stabilized, internal, crystal-controlled sync generator in the event the program material is lost. Internal jumpers can be programmed to allow the unit to operate in various modes including upstream, such as an input to a switcher, or downstream, such as utilizing the 1500 character generator built-in keyer.

The capability of the 1032 can be further enhanced by the addition of the optional 1034 keyer/fader module. This adds the ability to fade and dissolve keyed RGB video to and from the program material.

The 1032 will not allow encoding of non-standard, non-NTSC, or computer-generated signals. The RGB source must be 525 line, 60 field, analog, and capable of genlocking.

1032 .....	\$1325.00
1034 Keyer/Fader .....	600.00



# LAIRD TELEMEDIA, INC.

2424 S. 2570 W.  
Salt Lake City, UT 84119  
(801) 972-5900

## VIDEO PROCESSORS/ ROUTING SWITCHERS

### VC-2000 Professional Video Enhancer/Processor

- Ideally suited to 1/2" and 3/4" videotape correction
- Copy-guard stabilizer
- Fade to black control
- Four audio and video outputs
- Rackmountable
- Automatic regeneration of all sync signals
- Image enhancement and noise reduction
- Signal-to-noise improvement-luminance: Up to 6dB with "Noise Level"
- Useful as a remote camera control unit
- Optional plug-in RF modulator
- Signal-to-noise ratio: 60dB
- Connectors used: Video: BNC; Audio: RCA, RF-F

The unit automatically generates sync and blanking signals, both horizontal and vertical, plus color burst signals. The insertion of synchronizing signals plus back porch clamping permit the VC-2000 to solve a variety of stability problems. Jitter, flicker, bending, and rolling are automatically corrected in most cases.



VC-2000

Accessories included: Rackmount hardware

VC-2000 ..... \$860.00  
VC-2000/PAL PAL version, 230VAC ..... 860.00

### VC-2500 Automatic Video Processor

- Automatically maintains correct video levels
- Automatically maintains stable, regenerated sync
- Ideal for driving RF modulators
- Ideal for video tape duplicating
- Clamp circuit removes hum and flicker
- Four video and audio outputs
- Available in NTSC or PAL models

The VC-2500 is ideal for applications where it is necessary or desirable to provide technically correct levels and stable video at all times, automatically and unattended. The VC-2500 is a video processor and as such it completely regenerates all horizontal and vertical sync and blanking signals. The sync regeneration along with an active back porch clamp circuit will



VC-2500

correct most of the stability problems encountered with video. Problems such as jitter, satellite receiver flicker, bending and rolling are corrected automatically in most cases.

VC-2500 ..... \$560.00  
VC-2500/PAL PAL version, 230VAC ..... 560.00

### RS-400, RS-410, and RS-420 Passive Routing Switchers

#### RS-400 Passive Routing Switcher

- 12 video inputs, 1 output, 12 stereo audio inputs with output for each channel
- Unbalanced
- Audio follows with video or switches
- Pushbuttons have self-indicator feature
- Suitable for desktop mounting
- Rackmount hardware

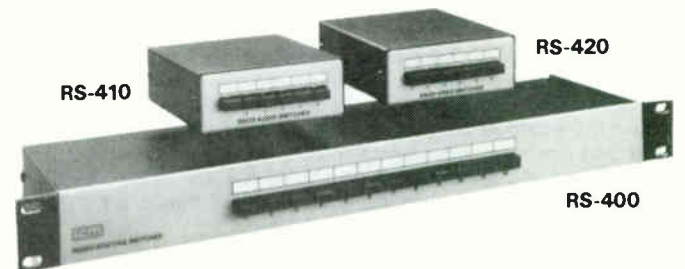
#### RS-410 Passive Routing Switcher

- Six stereo audio inputs with output for each channel
- Unbalanced
- Suitable for desktop mounting
- Four switchers can be rackmounted in optional RM-6 rackmount
- Pushbuttons are non-indicating

#### RS-420 Passive Routing Switcher

- Six video inputs, one video output
- Pushbuttons are non-indicating
- Suitable for desktop mounting
- Four RS-410/RS-420 switchers can be rackmounted in optional RM-6 rackmount

These three switchers can be used in general purpose audio or video routing applications where selection from multiple sources is required. They should not normally be used when the switching must occur "on line" or during a program in process, because they could introduce a glitch at the switching point.



RS-410

RS-420

RS-400

The switchers contain no active electronics and consume no power. High quality switches with gold contacts are used for high reliability operation. Gold plating is also used on all the audio input and output connectors to improve reliability. All unselected inputs are internally terminated to help minimize crosstalk. All pushbuttons are interlocking.

RS-400 12x1 video/stereo audio ..... \$300.00  
RS-410 6x1 stereo audio ..... 100.00  
RS-420 6x1 video ..... 100.00  
RM-6 Rackmount for RS-410/420 ..... 60.00

# LEADER INSTRUMENTS CORP.

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FAX: (516) 231-5295

# OSCILLOSCOPES

## LBO-5825 Digital Storage Oscilloscope

The LBO-5825 is a versatile 35MHz, 2-channel digital storage oscilloscope. Packed with features that are not normally found on DSOs of its class, it has a true 5MHz digital sampling rate, allowing detailed observation of relatively short transients. Also, individual A/D converters for each channel ensure that a point-by-point comparison of channels may be made. The 1K word by 2-channel memory allows over 1000 points per channel to be stored. The Memory Protect features allows storage of reference waveforms. For example, the upper and lower limits of an amplitude adjustment may be stored in memory. Also, a battery back-up of the memory is provided, so the scope may be transported while retaining the content of the memory for up to two weeks. X-Y recorder outputs are provided for hard copy of waveforms. Up to 9 div. of pre-trigger view allows observation of critical pretrigger events that often gives clues in determining the causes of transients. The Storage mode is used so that the screen may be automatically updated, and the Roll mode provides the 5825 with a chart-recorder capability.

In addition, the LBO-5825 is a 2-channel, 35MHz Real Time Oscilloscope. With many of the features of Leader analog oscilloscopes, its 500µV sensitivity, coupled with channel 1 output and complete triggering facilities allows this scope to be used in a number of conventional applications. Backed by Leader's outstanding reputation, the LBO-5825 is the perfect scope for research and development, service, and production environments.

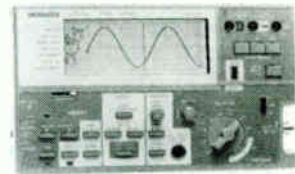
**LBO-5825** ..... \$2850.00



**LBO-5825**



**LBO-325**



**LCD-100**

## LCD-100 Digital Multimeter Storage Oscilloscope

The LCD-100 is a compact, lightweight battery-powered combination digital multimeter and storage oscilloscope ideally suited for field service applications. Weighing just over 2 lbs., and small in size, it easily fits into a tool kit or briefcase.

The DMM section measurement functions include AC/DC voltage, AC/DC current and resistance. The auto-ranging mode automatically selects the range with the greatest accuracy and resolution. Function readout, visible from any angle, is enhanced by its large, 3200-count, 3½ digit display and high contrast LCD.

The LCD-100 offers a 200kHz bandwidth which allows monitoring and evaluation of slow voltage changes and transients. The pre-trigger view, which allows observation of pre-trigger events, is extremely helpful in troubleshooting the causes of transients. Also the roll mode allows it to display slowly occurring transients. For optional display of waveforms, the time base can be automatically set by the auto-range function. And, up to three waveforms, including setting conditions, can be stored in memory. There's also battery back-up of the memory, and a low-power alert.

**LCD-100** ..... \$850.00

## LBO-518 100MHz, 4-Channel, Dual Time Base

The LBO-518 is a versatile 100MHz quad channel alternate time base oscilloscope. It features front panel 4-channel operation, individual or simultaneous display of main and delayed time bases and alternate channel triggering for simultaneous viewing of asynchronous signals. Separate, independent comprehensive triggering facilities for both main and delayed time bases include HF reject, LF reject, video sync separator, alternate channel triggering and trigger level control with preset. Also included are variable trigger hold-off, line triggering and auto, normal and single sweep modes.

A dome mesh PDA CRT with 20kV accelerating potential allows critical observation of fast rise time signals at low repetition rates, events which are often difficult to observe due to limited trace intensity.

The vertical input section features 0.5mV sensitivity, a 20MHz bandwidth limiter, beam finder and add/subtract modes. Even with all these capabilities, the LBO-518 is still small enough to stow under your airline seat.

**LBO-518** ..... \$1995.00

## LBO-516 100MHz, Dual Time Base

The Dual Time Base Oscilloscope LBO-516 features full 3-channel capability, alternate triggering for simultaneous display of two asynchronous signals, alternate time base and eight trace capability. Excellent triggering sensitivity, along with HF reject, video sync separators, alternate channel triggering and trigger slope and level controls with preset make obtaining a jitter-free display a simple task. The LBO-516 also features variable trigger holdoff, line triggering for observation of line related signal components and auto, normal and single sweep modes. The vertical input section of this scope offers 500µV sensitivity, and add, subtract and X-Y modes. The dome mesh PDA CRT with 20kV/2kV accelerating potential provides a bright, crisp trace, even at high sweep rates. And, a CH-1 output is provided on the front panel so that an additional instrument, such as a frequency counter, may be easily connected.

**LBO-516** ..... \$1495.00

## LBO-325 60MHz/LBO-323 20MHz

### Attache Case Oscilloscopes

The LBO-325 and LBO-323 are ultra compact portable oscilloscopes with big scope features and performance. Perfect for field service engineers and technicians, the Attache Case Oscilloscopes are small and light enough to be taken on every service call, every time, saving time-wasting, repeat visits and trips to the shop. Weighing only 9 lbs., each is compact enough to fit inside a 3" attache case with plenty of room for a multimeter, manuals and tools.

The LBO-325 is a 60MHz, 2-channel, dual time base oscilloscope. Its 3½", 12kV PDA CRT with illuminated graticule makes critical waveforms easy to see. A calibrated delayed time base with alternate sweep mode permits viewing the main signal and magnified details at the same time.

For less demanding applications, the LBO-323 offers 20MHz, 2-channel operation. And both scopes can display two asynchronous signals stably at the same time because of the alternate triggering mode and the complete triggering facilities found on all Leader scopes.

The Attache Case Oscilloscopes are rugged enough to go anywhere, anytime—bringing full featured scope quality into the field. (Attache case is not included).

**LBO-323** ..... \$1200.00

**LBO-325** ..... \$1500.00

**LBO-315 60MHz, 2 channel, battery-powered** ..... \$1850.00

**LBO-313 20MHz, 2 channel, battery-powered** ..... \$1550.00

# LEADER INSTRUMENTS CORP.

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# OSCILLOSCOPES

## LBO-526 60MHz 2-Channel Dual Time Base

The LBO-526 is a simple-to-operate 60MHz 2-channel oscilloscope that still offers all of the flexibility and advanced features required for critical applications.

The LBO-526 has a true calibrated delayed time base with both run after A and trigger after A modes for jitter-free operation. 500 $\mu$ V maximum sensitivity and 20ns maximum sweep speed allow analysis of low level and high frequency signals, while still offering a maximum input rating of 600VDC (plus AC peak).

The LBO-526 has an illuminated internal graticule for precise measurements and photography and 12kV CRT accelerating potential for maximum trace intensity even when observing transients at high sweep speeds.

**LBO-526** ..... \$1195.00

## LBO-524/524L 40MHz, Dual Trace, Dual Time Base

The LBO-524 is designed to meet a broad range of applications in design, testing and servicing of both analog and digital circuits and equipment. Its large 8 x 10cm PDA CRT provides sharp bright displays even at highest sweep rates. Comprehensive triggering controls including holdoff, alternate triggering and delayed sweep triggered functions permit stable displays for even the most complex signals. With 0.5mV sensitivity, extremely low level signals can easily be observed. A channel 1 output is available on the rear panel to drive other less sensitive instruments such as a frequency counter with an input level as low as 500 $\mu$ V. The dual time base permits accurate observation and time internal measurements of complex waveforms. The LBO-524L is also equipped with signal delay lines to allow observation of pretrigger information.

**LBO-524** ..... \$ 995.00  
**LBO-524L** Same as 524 Plus Signal Delay ..... 1050.00

## LBO-523 40MHz, Dual Trace, 0.5mV Sensitivity

The LBO-523 is a 40MHz oscilloscope economically designed for applications requiring medium bandwidth and extensive triggering facilities where costly features such as delayed sweep and signal delay lines are impractical. Trigger controls include variable hold-off, alternate channel triggering, HF reject, vertical and horizontal TV coupling and line source triggering. The vertical input sensitivity of 0.5mV, add and subtract modes and a CH-1 output connector add to the unit's total capability. Complex waveforms can be viewed easily even at highest sweep rates without readjusting the front panel controls due to its bright PDA CRT with 7kV accelerating potential and an autofocus feature. The LBO-523 is well suited for many design, production, repair and educational test requirements.

**LBO-523** ..... \$895.00

## LBO-522 20MHz, Dual Trace, 0.5mV Sensitivity

The LBO-522 is an economical 20MHz oscilloscope versatile enough for almost any lab or field work within its frequency range. The input sensitivity of 0.5mV allows observation of extremely low level signals easily on its 8 x 10cm rectangular CRT equipped with an internal graticule. Alternate triggering provides a stable display of two waveforms, unrelated in frequency, simultaneously. The unit features a full range of triggering controls including HF reject to filter unwanted noise from the display and line triggering for the observation of line frequency related signal components. A CH-1 rear panel output is standard which permits using the LBO-522 as a sensitive, accurate preamplifier to drive other less sensitive instruments. The units "human engineered" front panel ensures easy, error-free operation.

**LBO-522** ..... \$695.00



LBO-524/524L



LBO-522

## LBO-513A 15MHz, Single Trace, 1mV Sensitivity

## LBO-514A 15MHz, Dual Trace, 1mV Sensitivity

The single trace LBO-513A and the dual trace LBO-514A are compact 5" oscilloscopes that offer maximum performance at low cost. Equipped with both vertical and horizontal magnifiers, they have 1mV sensitivity with X5 magnification and a maximum sweep speed of 0.1 $\mu$ s/cm (0.2 $\mu$ s/cm to 0.5 $\mu$ sec in 18 calibrated steps plus X5 magnification). Rise time of both oscilloscopes is 23ns with normal and automatic, + or - triggering. The LBO-514 provides both chop and alternate dual trace displays.

The LBO-514AP is available with a higher intensity CRT and internal graticule.

**LBO-513A** ..... \$495.00  
**LBO-514A** ..... 595.00

## LBO-310A 4MHz Recurrent Sweep

The LBO-310A is a compact, general purpose instrument designed to provide long, reliable service in production test, repair, and educational applications. Its simple front panel with a minimum of controls makes it ideal for use by production personnel, students, and non-technical operators. Its low cost opens up many applications where waveform monitoring might otherwise be economically prohibitive. Sensitivity is 20mV/division. Sweep frequencies range from 10Hz to 100kHz.

**LBO-310A** ..... \$325.00

## LOC-7005 Oscilloscope Calibrator

The LOC-7005 is an oscilloscope calibrator which combines the functions most needed to test, repair, and calibrate oscilloscopes into one compact instrument. The LOC-7005 provides three outputs:

An amplitude output to calibrate the vertical axis, a time marker output to calibrate the time base (sweep speed), and a fast rise time square wave to check the pulse response and rise time

The LOC-7005's small size and versatility make it the ideal instrument for service and calibration facilities which must maintain their own field service and general purpose oscilloscopes.

**LOC-7005** ..... \$1395.00



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# OSCILLOSCOPE GLOSSARY SELECTION CHART

## OSCILLOSCOPE GLOSSARY

**Accelerating Potential**—The potential applied to the CRT to accelerate the electrons emitted from the cathode. As a general rule, the higher the accelerating potential, the brighter the display. This is especially important at fast horizontal sweep speeds and multiple traces or to observe rapid transients.

**Add/Subtract**—These modes allow the displaying of the algebraic sum or difference of two signals. The subtract mode is especially useful in measuring signals not referenced to ground and eliminating unwanted signals common to both inputs such as hum.

**Alternate Channel**—A function that allows more than one channel to be displayed by alternately switching the vertical input to the CRT between two (or more) input channels at the end of each sweep. Used at sweep speeds of 0.2mS/div or faster, this mode will result in a flickering display at slower sweep speeds. In this case, the Chop function should be used.

**Alternate Time Base**—A feature that allows the main and delayed time base to be displayed simultaneously.

**Alternate Trigger**—A function that allows the sweep to be triggered alternately by two different triggers, which, in conjunction with an alternate channel function, allows the display of two signals asynchronous.

**Auto Triggering**—A feature that allows the sweep circuit to free run and display a base line in the absence of an input signal. Automatically switches to triggered sweep mode when a signal is applied.

**Bandwidth**—The frequency range of signals that an oscilloscope will display with less than a 3dB rolloff in amplitude.

**Chop**—The Chop function switches the vertical channel input to the CRT, usually at a rate of approximately 250kHz, to simultaneously display more than one channel. Used for sweep speeds of 0.5mS/div or slower, the alternate channel function should be used at faster sweep speeds.

**Common Mode Rejection**—The attenuation of a common signal (in dB) that appears between the signal high input and ground and the low input and ground.

**Coupling**—The manner in which a signal or trigger is connected to the oscilloscope's internal circuitry. DC coupling allows all components of the signal to pass; AC coupling blocks any DC component. HF reject and LF reject insert high or low frequency rejection filters in the input circuitry.

**Deflection Coefficients (Sensitivity)**—The signal amplitude required for a vertical deflection of 1 division; adjusted by the vertical volts/division control. Sensitivity is the smallest amplitude signal that yields one major division of deflection.

**Delay, Signal**—The amount of time (usually nanoseconds) between the beginning of the horizontal sweep and the vertical input signal; allows viewing of pre-trigger phenomena. This is accomplished by inserting a delay line in the signal channel.

**Delayed Sweep**—A second time base (sweep) that can be started after a variable delay from the start of the main (undelayed) time base. This allows any selected portion of the main time base signal to be expanded and displayed over the entire CRT.

**Dual Time Base**—A feature that allows the sweep speeds of the two calibrated time bases to be set independently.

**Graticule**—A grid or scale either etched or overlaid on the CRT face for making amplitude and frequency measurements. An internal, illuminated graticule is parallax-free and required for precise measurements. It is also ideal for photography.

**Hold-Off**—Allows the operator to choose, by altering the dead time between the end of one horizontal sweep and the start of the next, on which trigger to synchronize in a complex trigger signal.

**Jitter, Delay Time**—The term used for describing the horizontal instability of a waveform displayed in the delayed sweep mode.

**Lisajous Pattern**—This pattern results when using external horizontal and vertical input signals in the X-Y mode. When the X and Y input controls are properly adjusted, the size and shape of the pattern allows phase shift to be measured.

**Rise Time**—The time it takes for an oscilloscope display to rise from 10% to 90% of the amplitude of an applied step voltage.

**Trigger**—The signal that starts the horizontal sweep. The trigger can be either derived from the vertical input signal or from a variety of external sources, either directly or harmonically related to the vertical input signal frequency.

**Trigger View**—A function that displays the signal being used for triggering the sweep.

**TV-H, TV-V Triggering**—Coupling modes that insert sync separators in the trigger circuitry to allow triggering at the vertical or horizontal sync rates of a composite video signal.

**X-Y Mode**—Instead of using the oscilloscope's internal circuitry to generate the horizontal sweep signal, an external signal is applied. This allows phase and swept frequency response measurements to be made.

**Z-Axis Modulation**—Also known as intensity modulation, an externally applied signal is used to blank or intensify the trace. Typically used in video applications, in the X-Y mode, for time or frequency marking.

## OSCILLOSCOPE SELECTION CHART

### Oscilloscopes

MODEL	BANDWIDTH	CHANNELS	TRACES	DISPLAY SIZE	MAX SWEEP SPEED	MAX SENSITIVITY	ACCELERATING POTENTIAL	ADD SUB.	SIGNAL DELAY	TRIGGER VIEW	ALY. TRIGGER	DELAYED TIME BASE	ALTERNATE TIME BASE	BATTERY POWERED	CH-1 OUTPUT	VARIABLE HOLD OFF
LBO-518	100MHz	4	8	8cm x 10cm	2ns/div	0.5mV/div	20kV	●	20ns	●	●	●	●		●	●
LBO-516	100MHz	3	8	8cm x 10cm	2ns/div	0.5mV/div	20kV	●	20ns	●	●	●	●		●	●
LBO-525L	50MHz	2	2	8cm x 10cm	20ns/div	0.5mV/div	12kV	●	20ns	●	●				●	●
LBO-524	40MHz	2	2	8cm x 10cm	20ns/div	0.5mV/div	7kV	●		●	●				●	●
LBO-524L	40MHz	2	2	8cm x 10cm	20ns/div	0.5mV/div	7kV	●	140ns	●	●				●	●
LBO-523	35MHz	2	2	8cm x 10cm	20ns/div	0.5mV/div	7kV	●		●					●	●
LBO-522	20MHz	2	2	8cm x 10cm	40ns/div	0.5mV/div	2kV	●		●					●	●
LBO-513A	15MHz	1	1	8cm x 10cm	100ns/div	1mV/div	1.8kV									
LBO-514A	15MHz	2	2	8cm x 10cm	100µs/div	1mV/div	1.8kV									
LBO-310A	4MHz	1	1	4.8 cm x 6.0 cm	1µs/div	20mV/div	1.2kV									

### Digital Storage Oscilloscope

MODEL	ANALOG BANDWIDTH	CHANNELS	DIGITAL SAMPLING RATE	VERTICAL WORD SIZE	MEMORY	PRE-TRIGGER VIEW	MAX. DIGITAL SWEEP SPEED	MAX. ANALOG SWEEP SPEED	MAX. SENSITIVITY	ACCELERATING POTENTIAL	ROLL MODE	MIN. ROLL MODE SWEEP SPEED	X-Y OUTPUT	REAL & STORAGE PAGE
LBO-5825	35MHz	2	5MHz	8 bit	2 x 1k	9 div.	20µs/div.	20ns/div.	0.5mV/div.	7kV	●	50ns/div.	●	●

Prices and Specifications Subject to Change Without Notice.

V-705

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# TEST EQUIPMENT

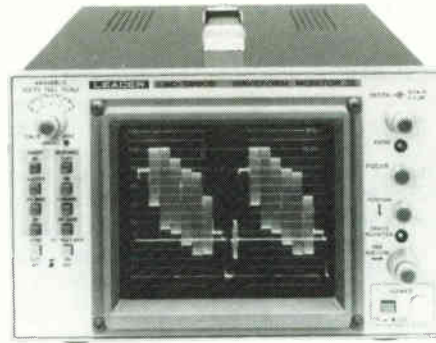
## LBO-5860B/H Waveform Monitor

The LBO-5860B is an economical half-rack Waveform Monitor. The unit has an internal graticule and a 7kV (16kV "H" model) accelerating potential for bright, easy-to-read displays. Total RGB and YRGB (optional) capability is available and horizontal sweep speeds of 2H (2 lines), 1 $\mu$ s/div (expanded 2 lines), 2V (2 fields) and 2V Mag (expanded 2 fields) are standard.

The LBO-5860H Waveform Monitor offers all these features in addition to allowing the Vertical Internal Test and Reference signals to be displayed by a front panel line selector. Lines 7 through 21 can be selected from field one or two without interference from the active portion of the video signal. The instrument also has a blanking output to blank the companion Vectorscope during the active portion of the video signal allowing differential gain and phase measurements to be accomplished easily.

The LBO-5860B/H are half-rack mountable and can be mounted side by side with the LVS-5850B Vectorscope. The LBO-5860H is also available in a PAL/SECAM version as the LBO-5861A.

LBO-5860B NTSC . . . . . \$1740.00  
LBO-5860H NTSC (lines 7-21 line select) . . . . . 1995.00  
LBO-5865 NTSC (full line select). . . . . 2200.00



LBO-5860B

## LVS-5850B Vectorscope

The LVS-5850B Vectorscope provides a convenient method for observing and measuring the relative phase and amplitude of chrominance signal components. It utilizes a unique technique which electronically displays the "inner boxes" which represent error limits of  $\pm 2.5^\circ$  and  $\pm 2.5$  IRE units. This improves the accuracy of phase and amplitude adjustments by eliminating errors due to CRT non-linearities. The LVS-5850B includes three loop-through inputs including a dedicated external subcarrier reference input which is front panel selectable. Either of the two composite video loop-through inputs can also be selected as the reference signal and all three inputs can be displayed individually.

The unit is also equipped with a Z-axis blanking input to provide blanking during the active portion of the video signal and unblanking during the VITS signal for a stable, jitter-free display. A test circle pattern is also selectable for a quick calibration check of the instrument. Another front panel pushbutton provides for either 100% or 75% amplitude levels. A gain control, with a detented calibrated position, provides for continuous amplitude adjustment. A phase control permits rotating the display through 360°. The LVS-5850B is supplied in a protective carrying case or in a 1/2" rack width configuration.

LVS-5850B . . . . . \$1995.00  
LVS-5851A PAL Vectorscope . . . . . 2420.00

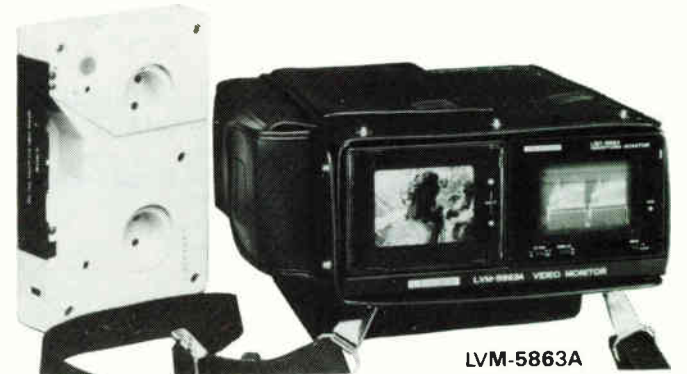


LVS-5850B

## LVM-5863A EFP Monitor

The LVM-5863A Monitor has full monitoring capabilities for video cameras, VCRs and audio recorders. Its 2H/2V waveform monitor provides the most useful displays an operator can have. A switchable IRE filter facilitates lens-opening checks. And the 1V/0.25V selector acts as a 4X magnifier to simplify setup level and black-balance checks. Yet, the LVM-5863A is easy to use since controls are kept to a minimum. And, it makes field productions as technically and artistically correct as they can be.

LVM-5863A . . . . . \$1990.00  
LBO-5864 EFP Waveform Monitor . . . . . 1300.00



LVM-5863A

## LFC-945 CATV Level Meter

The LFC-945 CATV Level Meter is a rugged, accurate instrument for measuring signal levels in CATV and MATV Systems. It covers the two frequency ranges 40 to 300MHz and 470 to 890MHz with accuracies of  $\pm 1.5$ dB and  $\pm 2$ dB respectively. Tuning of individual channels is facilitated by large dials marked with both frequency and channel, an electronic fine tuning control and a built-in sound amplifier and a loud-speaker which enables separate field strength measurements of the audio and video signals.

Three 20dB switchable attenuators and a 25dB meter scale provide an input signal range of -35 to +60dBm (0dBm = 1mV).

The LFC-945 will also measure AC voltages on the cable system from 0 to 50VAC with an accuracy of  $\pm 5\%$  fs.

Power is supplied by rechargeable NiCad cells and the power switch is automatically set to off when the protective cover is closed.

The LFC-945 weighs just 8.8 lbs. and is supplied with a battery charger, rechargeable batteries, 300:75 ohm balun and nylon web carrying/operation strap.

LFC-945 . . . . . \$875.00

## LFC-944B VHF/UHF Field Strength Meter

The LFC-944B is a portable battery operated field strength meter designed for testing and measuring the performance of CATV and MATV systems. It provides for measuring levels of -40 to +60dBmV on VHF channels and -30 to +40dBmV on UHF channels. The meter scale is also calibrated to make measurements in microvolts. An accurate attenuator provides up to 70dB attenuation in 10dB steps. Accurate detent tuning is provided for VHF channels and UHF tuning for channels 14 to 83 is with a continuous control. The LFC-944B is supplied with a sturdy carrying case.

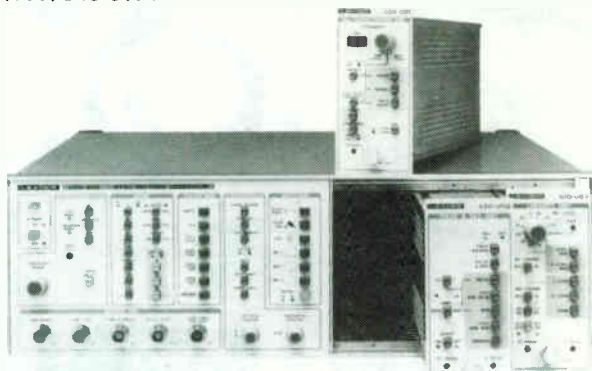
LFC-944B . . . . . \$595.00



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# TEST EQUIPMENT



LCG-420

## LCG-420 NTSC Sync/Test Signal Generator

The LCG-420 main frame features a precision sync generator, color bar generator, convergence generator and routing switcher. Up to three modules can be accommodated; a multiburst/video-sweep unit, linearity generator and a pulse-bar unit.

The sync generator features full RS-170A compliance using the internal reference. The sync generator will lock to externally-supplied sync/subcarrier, or will genlock to composite video or blackburst.

The color bar generator provides full field, EIA or SMPTE bars as well as split-field color bars with Y reference, solid red or reversed color bars in the lower half. Full raster displays of primary and complementary colors at 75% amplitude are also available.

The convergence section of the main frame provides a combined dot crosshatch pattern set up for use with the Ball chart. The convergence pattern is also available with larger squares (fewer intersections) superimposed over the window and as a border on the color bar pattern.

The multiburst/sweep module offers standard multiburst signals with the frequency of the last burst variable. A three digit readout shows the last burst frequency, as well as the frequency of a variable drop-out marker in the sweep mode, and the frequency of the CW video signal in the manual mode. The sweep signal repeats at the field rate and reaches 10MHz.

LCG-420	.....	\$5495.00
420-U01 Plug-in multiburst/sweep module	.....	1695.00
420-U02 Pulse and bar plug-in module	.....	1335.00
420-U03 Linearity plug-in module	.....	1195.00

## LCG-400 NTSC Video Sync/Test Generators

The LCG-400 provides both genlock and internal synchronization with the full range of video signals needed for testing and adjusting monitors, cameras, VCRs and overall performances of color and B & W TV systems. It is available with either multiburst (LCG-400M) or sweep-marker (LCG-400S) generators. The LCG-400 will sync with all standard composite video and blackburst signals including those from quad head and helical scan VTRs. Patterns include EIA and full field color bars, 5-step modulated staircase, 8 color rasters, crosshatch and dot convergence, circle and corner marker with on/off control of chroma and luminance. Both interlace and progressive scanning are provided. Outputs include composite video, subcarrier, blackburst, selectable vertical or horizontal drive, and CH 3/4 RF. Units are supplied for either bench-top or rackmounting (rails included).

LCG-400M	.....	\$2195.00
LCG-400S	.....	2195.00

## LCG-396 NTSC Color Bar Pattern Generator

The LCG-396 is a versatile NTSC video generator suitable for testing, servicing and evaluating a broad range of video systems including video tape recorders, CATV and MATV systems, video monitors and television receivers. It provides 11 test patterns including the standard NTSC color bars for measuring and adjusting color purity, white balance, luminance, chrominance, and convergence. Outputs include compos-

ite video, H or V scope trigger, subcarrier and RF (CH3 or 4). Other features include variable chroma, luminance and set-up levels, and selectable interlaced or progressive scanning. Also available as an option are RGB outputs on the rear panel for testing color computer display systems and video game color circuitry. The LCG-396 is supplied with a comprehensive user's manual including detailed VTR, TV and monitor application data.

LCG-396	.....	\$ 995.00
LCG-396 PAL M PAL M version of LCG-396	.....	1150.00
LCG-398B SECAM III color bar generator	.....	1665.00
LCG-399A PAL B color bar generator	.....	1855.00
LCG-402 PAL N color bar generator	.....	1395.00

## LCG-409 Battery Powered NTSC Pattern Generator

A fully portable, battery-operated NTSC pattern generator, the LCG-409 provides video test patterns specified in the service literature for consumer and industrial VCRs, VTRs, video monitors, TV receivers, projection models, and other video components and systems. Patterns available into a 750 ohm video load are crosshatch, dots, full-field NTSC color bars, full raster signals of white (100%), yellow, cyan, green, magenta, red, blue and black (set-up). Chroma may be switched off at the front panel for a luminance gray scale. An RF modulator covering all U.S. broadcast VHF and UHF channels facilitates receiver checks. In addition, an internal 1kHz audio tone frequency modulates a 4.5MHz sound carrier to provide sound and tuning checks of receivers and tuners. A front-panel switch permits the sound carrier to be switched off. The unit is powered by four "C" cells for complete portability, as well as isolation from the power line.

LCG-409	.....	\$499.00
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## LSW-333

### All-Channel Sweep/Marker Generator

The LSW-333 is a complete test and alignment instrument for the RF and IF tuned circuits of VHF and UHF television receivers and FM radios. It is used in production testing and aligning, and in servicing. Front-panel displays of ideal IF and chroma response curves with marker positions permit fast and precise alignment in accordance with manufacturers' recommendations. The LSW-333 has three bias supplies, selectable marker tilt (vertical or horizontal), and vertical and horizontal polarity reversal.

LSW-333	.....	\$925.00
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## LBO-51MA Display Monitor

For special low-cost applications — The LBO-51MA is driven by R-Y and B-Y video signals, from a precision chroma decoder or a Tektronix 650 HR series picture monitor equipped with R-Y and B-Y outputs. The LBO-51MA has the added capability of displaying individual VITS and VIRS lines\* when used with LBO-5860 waveform monitor.

The unit's CRT display area is 8 x 10cm. Combines 3MHz bandwidth on X and Y axes, with 4MHz on Z axis. Phase shift between X and Y axes is less than 3° at 1MHz (R-Y and B-Y signals are approximately 600kHz).

The absolute accuracy of the LBO-51MA display is dependent upon the accuracy of the precision chroma decoder being used to drive it.

\*VITS and VIRS lines may be observed only when the signal delay inherent to the chroma decoder being used is not excessive (10 to 15 μs).

LBO-51MA	.....	\$1125.00
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## LMS-238 TV Stereo Generator

The LMS-238 is a TV stereo generator designed to test and align MTS stereo decoders. Test signals are provided for both stereo and SAP operation. Outputs at CH-3/CH-4, VIF, SIF and composite, facilitate rapid troubleshooting to the area of circuit malfunction.

On-screen character displays (L+R, L, R, L-R) indicate the selected mode of generator operation. The four selectable, internal modulation frequencies (300Hz, 1kHz, 3kHz, 8kHz) at 14.1% modulation (-17dB) are supplied. The unit features low distortion, excellent stereo separation and frequency stability.

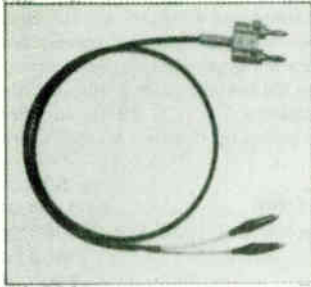
LSM-238	.....	\$600.00
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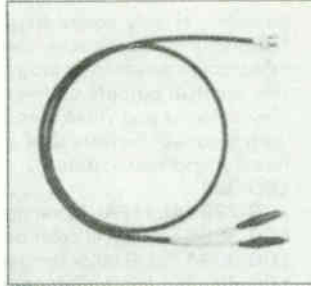
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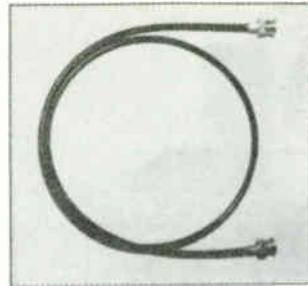
# GENERAL PURPOSE ACCESSORIES



**LC-2021**  
Double banana to miniature alligator clips; 1m cable.



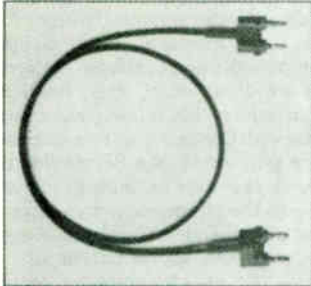
**LC-2026**  
BNC to miniature alligator clips; 1m 75 ohm cable.



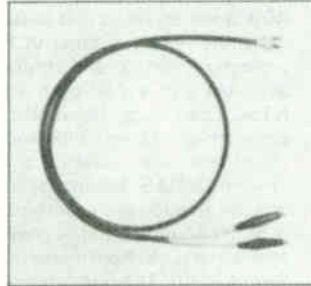
**LC-2027**  
BNC to BNC; 1m 75 ohm cable.



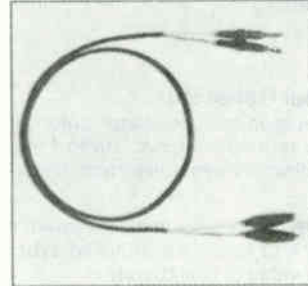
**LC-2043**  
Double banana to BNC; 1m cable.



**LC-2022**  
Double banana to double banana; 1m cable.



**LC-2048**  
BNC to miniature alligator clips; 1m 50 ohm cable.



**LC-2028**  
Two single banana plugs to miniature alligator clips; 1m cable.



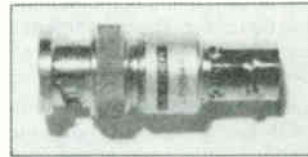
**BNC-BP**  
BNC to single binding post adaptor.



**LP-6 DC High Voltage Probe**  
For LDM-853A.  
Input Resistance: 1000M ohms  $\pm$  10%.  
Attenuation: X1000  $\pm$  10%.  
Maximum Input: 30kVDC.

## Accessories

Model No.	Price
LP-100X	100MHz, X10 Oscilloscope Probe . . . . . \$ 76.00
LP-060X	60MHz Direct/X10 Oscilloscope Probe . . . . . 60.00
LP-168X	40MHz Direct/Low Cap Oscilloscope Probe . . . . . 42.00
LP-17AX	40MHz, X10/X100 Oscilloscope Probe . . . . . 65.00
LP-17AX	(6 ea.) (6 Pack). . . . . 390.00
LP-7X	Demodulator/Low Cap Oscilloscope Probe . . . . . 21.00
LP-11Y	In Circuit Probe for LTC-906, 906A . . . . . 22.00
LP-6	HV Probe for LDM-853A. . . . . 52.00
LC-19	AC Current Clamp Adaptor for LDM-853A . . . . . 58.00
LP-2017	Probe Pouch for LBO-518, 516, 5825 . . . . . 35.00
LP-2013	Probe Pouch for LBO-522, 523, 524, 524L, 525L, 526. . . . . 33.00
LP-2004A	Probe Pouch for LBO-513A, 514A . . . . . 33.00
LC-2016	Front Cover for LBO-518, 516, 5825 . . . . . 50.00
LC-2014	Front Cover for LBO-513A, 514A, 522, 523, 524, 524L, 526. . . . . 40.00
LC-2131	Front Cover for LBO 313, 315, 323, 325. . . . . 16.00
LR-2402	Rackmount for LBO-518, 516, 5825 . . . . . 175.00
LRA-508	Rackmount for LBO-513A, 514A, 522, 523, 524, 524L, 526. . . . . 92.00
LR-2400A1	Rackmount for LVS-5850B, 5851A, LBO-5860A/B/H, LBO-51MA, 5865 . . . . . 180.00
LR-2405	Rackmount Adaptor for LSG-202 . . . . . 54.00
LH-2015	Viewing Hood for LBO-518, 516, 522, 523, 524, 524L, 526, 5860A/B/H, 5865, LVS-5850B . . . . . 10.00
LH-2007	Viewing Hood for LBO-513A, 514A . . . . . 10.00
LH-2008	Viewing Hood for LBO 313, 315, 323, 325 . . . . . 10.00
CC-851	Carrying Case for LDM-853A, LDC-831 . . . . . 10.00
LC-2220	Case for BP-90 Battery . . . . . 12.00
LC-2221	Carrying Case for LBO 323, 325 . . . . . 44.00
LPS-1908U	AC Adaptor for LDM-853A (5VDC) . . . . . 10.00
LPS-169A	AC Adaptor for LTC-906A, LCR-740 (9VDC) . . . . . 10.00
LC-2021	Double Banana to Miniature Alligator Clips; 1m Cable . . . . . 13.00
LC-2022	Double Banana to Double Banana; 1m Cable . . . . . 13.00
LC-2026	BNC to Miniature Alligator Clips; 1m 75 ohm Cable . . . . . 21.00
LC-2048	BNC to Miniature Alligator Clips; 1m 50 ohm Cable . . . . . 21.00
LC-2027	BNC to BNC; 1m 75 ohm Cable . . . . . 29.00
LC-2028	Two Single Banana Plugs to Miniature Alligator Clips; 1m Cable . . . . . 13.00
LC-2043	Double Banana to BNC; 1m Cable . . . . . 19.00
LC-2067	GPIB Cable, 1m Length . . . . . 126.00
LC-2068	GPIB Cable, 2m Length . . . . . 143.00
BNC-BP	BNC to Single Binding Post Adaptor . . . . . 7.00
LT-1551	BNC 75 ohm In-Line Terminator . . . . . 37.00
LT-2049	BNC 50 ohm In-Line Terminator . . . . . 40.00
215-U01	Plug-In ROM Unit with Type 2716 ROM for LSG-215A, 216 . . . . . 80.00



**LT-2049**  
BNC 50 ohm in-line terminator.



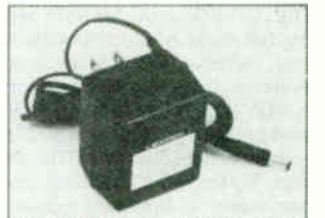
**CC-851 Carrying Case**  
For LDM-853A, LDC-831.



**LC-19 AC Current Clamp Adaptor**  
For LDM-853A.  
Measurement Range: 0.1-200A AC, 50-60Hz.  
Accuracy:  $\pm$  3%.



**LP-11Y Three Point Probe**  
For LTC-906, LTC-906A.



**LPS-1908U AC Adaptor**  
For LDM-853A, LDC831



**LPS-169A AC Adaptor**  
For LTC-906, LTC-906A, LCR-740.

# LEE COLORTRAN, INC.

1015 Chestnut St.  
Burbank, CA 91506-9983  
(818) 843-1200 FAX: (818) 954-8520

# LIGHTING KITS

## Reporterlight Kits—HMI Portable/Location Lighting

### 270W Reporterlight Kit I

#### Kit includes:

- 310-002 Lamphead, manually operated focusing
- 118-101 4-Leaf Barndoor
- 171-052 Electronic ballast to operate on mains, including mains cord
- 130-102 Diffusion filter in pouch
- 130-202 Conversion filter in pouch
- 148-202 Kit I Carry Case
- 476-655 HMI lamp 270W, single ended socket

320-002 .....\$4700.00

### 270W Reporterlight Kit III A

Same as Kit I with the following exceptions:

- 310-003 Lamphead with motor-driven focusing (for remote control – alternative to 310-002)

320-004/A .....\$5015.00

### 270W Reporterlight Kit III B

Same as Kit II with the following exceptions:

- 310-003 Lamphead with motor-driven focusing (for remote control – alternative to 310-002)

320-004/B .....\$5265.00



Reporterlight

## Production Kit—Film/ENG Lighting

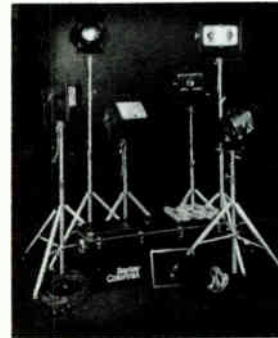
Designed to illuminate a 10'H x 15'W x 10'D area.

Applications include news, sports, weather, commercials, instruction, etc. Total connected load 45.8A at 120V.

#### Kit includes:

- (3) 100-515 1000W Fresnel
- (3) 118-013 8 Leaf Barndoor
- (3) 142-101 25' Extension Cable
- (3) 152-053 Compact Stand w/Casters
- (1) 142-215 Outlet Box w/2 Outlets 25' Cable
- (3) 176-097 1000W Lamp
- (2) 104-031 Broad
- (2) 152-053 Compact Stand w/Casters
- (2) 176-022 1000W Lamp
- (1) 104-041 Multi-Broad
- (2) 120-007 Diffusion Frame
- (1) 142-101 25' Extension Cable
- (1) 152-053 Compact Stand w/Casters
- (1) 176-024 500W Lamp
- (2) 148-001 Case

150-062 .....\$4500.00



Production Kit

## Location Lighting Kit—Complex Lighting Set-Ups

One case carries all equipment. Channel leg stands for reliable support. Draws 41.6A at 120V and 14.5A at 220V.

#### Kit includes:

- (2) 100-301 Multi-10
- (2) 118-013 8-Leaf Barndoor
- (1) 122-147 Scrim Set—Single Half Single
- (2) 176-012 1000W, 120V Lamp (150-056 Kit)
- (2) 176-015 800W, 220V Lamp (150-057 Kit)
- (2) 104-051 Mini-King
- (2) 118-003 4-Leaf Barndoor
- (1) 148-001 Case
- (2) 152-051 Mini-Stand with 5/8" Stud
- (2) 152-052 Compact Stand
- (2) 176-022 1000W, 120V Lamp (150-056 Kit)
- (2) 176-027 800W, 220V Lamp (150-057 Kit)

150-056 (120V) .....\$1900.00

150-057 (220V) .....1900.00



Location Lighting Kit

## Flight Kit Fast, Simple Set-Up

Accessory holders on Multi-6 for simple set-up.

Draws 27.5A at 120V and 15A at 220V.

#### Kit includes:

- (2) 100-151 Multi-6
- (2) 118-013 8-Leaf Barndoor
- (1) 122-147 Scrim Set—Single, Half Single
- (2) 176-002 650W, 120V Lamp (150-058 Kit)
- (2) 176-007 800W, 220V Lamp (150-059 Kit)
- (2) 104-051 Mini-King
- (2) 118-003 4-Leaf Barndoor
- (1) 148-007 Case
- (3) 152-051 Mini-Stand with 5/8" Stud
- (1) 156-001 Gaffer Grip
- (2) 176-022 1000W, 120V Lamp (150-058 Kit)
- (2) 176-027 800W, 220V Lamp (150-059 Kit)

150-058 (120V) .....\$1800.00

150-059 (220V) .....1800.00



Flight Kit

# LEE COLORTRAN, INC.

1015 Chestnut St.  
Burbank, CA 91506-9983  
(818) 843-1200 FAX: (818) 954-8520

# LIGHTING KITS

## Color Beam 800—Fast Set-Up

Uses three cool touch Color Beam 800 units. Total connected load 16.3A at 120V and 11A at 220V.

- Kit includes:**
- (3) 400-201 Color Beam 800 • (1) 122-147 Scrim Set—Single, Half Single • (1) 148-007 Case • (3) 152-051 Mini-Stand with 5/8" Stud
  - (3) 118-013 8-Leaf Barndoor • (3) 126-027 Accessory Holder • (3) 176-002 650W, 120V Lamp (150-060 Kit) • (3) 176-007 800W, 220V Lamp (150-061 Kit)
- 150-060 (120V) .....\$1540.00  
150-061 (220V) .....1540.00



Color Beam 800

## Pro-Kit IV—Foreign Location Work

Designed for use with 120V or 240V lamps for foreign location work. Draws: 20A at 120V and 11A at 220V.

- Kit includes:**
- (2) 100-091 Mini-Pro • (2) 104-341 Mini-Broad • (3) 118-016 4-Leaf Barndoor • (1) 142-011 25' Extension Cable • (1) 148-030 Metal Case • (3) 152-050 Mini-Stand with 1/2" Stud • (1) 156-012 Gaffer Grip • (2) 176-002 650W, 120V Lamp (150-052 Kit) • (2) 176-092 600W, 120V Lamp (150-052 Kit) • (2) 176-007 800W, 220V Lamp (150-053 Kit) • (2) 176-094 650W, 220V Lamp (150-053 Kit)
- 150-052 (120V) with metal case .....\$1280.00  
150-053 (220V) with metal case .....1280.00

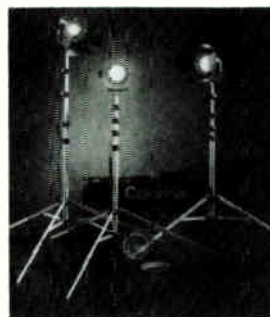


Pro-Kit IV

## Mini-Pro Kit

Designed for use with 30V battery power, 120V, or 220V. Draws 15A at 120V and 8A at 220V.

- Kit includes:**
- (3) 100-091 Mini-Pro • (2) 118-016 4-Leaf Barndoor • (1) 122-137 Scrim Set—Single, Half Single • (1) 142-011 25' Extension Cable • (1) 148-030 Metal Case • (3) 152-050 Mini-Stand with 1/2" Stud • (3) 176-092 600W, 120V Lamp (150-050 Kit) • (3) 176-094 650W, 220V Lamp (150-051 Kit)
- 150-050 (120V) with metal case. ....\$1100.00  
150-051 (220V) with metal case .....1100.00

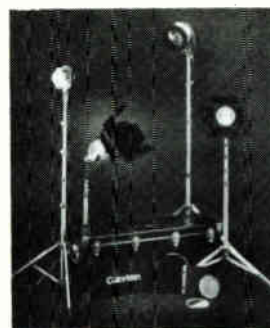


Mini-Pro Kit

## Cameraman's Lighting Kit

All equipment fits in one case. High output lighting equipment for optimum production lighting. Draws 27A at 120V and 14.5A at 220V.

- Kit includes:**
- (2) 400-201 Color Beam 800 • (2) 126-027 Accessory Holder • (2) 118-013 8-Leaf Barndoor • (1) 104-341 Mini-Broad • (2) 118-016 4-Leaf Barndoor • (1) 122-137 Scrim Set—Single, Half Single • (1) 148-007 Case • (2) 152-050 Mini-Stand with 1/2" Stud • (2) 152-051 Mini-Stand with 5/8" Stud • (4) 176-002 650W, 120V Lamp (150-054 Kit) • (4) 176-007 800W, 220V Lamp (150-055 Kit)
- 150-054 (120V) .....\$1595.00  
150-055 (220V) .....1595.00



Cameraman's Lighting Kit

## Battery Belt Kit

Batteries are rechargeable NiCad Cells. Belt comes complete with 14-hour overnight charger and an integrated cable. Charger designed for 120 and 240V input power.

- 150-063. ....\$1500.00

- Kit includes:**
- (1) 100-091 Mini-Pro • (1) 140-003 30VDC Cord • (1) 140-021 Battery Belt w/Charger unit (120/240V) • (1) 148-030 Carry Case (Metal) • (1) 156-005 Mini-Pro Handle • (1) 176-090 250W, 3400°K, 30V Lamp, 25 hours

- 150-063. ....\$1550.00



Battery Belt Kit



Mini-Pro With Handle

## Optional

- 140-022 Battery Belt with fast charge capability in place of 140-021 .....Add \$100.00

- 140-023 For High Speed Charger .....Add 820.00



# LEE COLORTRAN, INC.

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(818) 843-1200 FAX: (818) 954-8520

# FRESNELS/ELLIPSOIDS

## 6" and 8" Theater Fresnel

- 1000W lamp (6") 2000W lamp (8") • Beam candlepower: Spot-175,000 Flood-11,200 (6") Spot-358,000 Flood-37,500 (8") • Lamp sockets U.L. recognized, medium pefocus (6") mogul pefocus (8") • Easy handling lightweight aluminum • Combination of diecast and extruded aluminum promotes heat exchange and rapid dissipation • Improved rack and pinion design with Torlin® insulators for smooth focusing • Lens door is diecast with removable gel clips and a spring loaded safety clip for rugged trouping requirements • All operating controls are thermally insulated for cool handling • High intensity spot • C clamp included with all hanging models

213-515* 6" .....	\$205.00
213-525* 8" .....	365.00

## 1kW, 2kW, and 5kW Pole Op Fresnels

- Rugged sheet metal construction with diecast reinforced accessory clips built to withstand trouping and rough handling • Optical system designed for maximum photometric output • Double wall construction for optimum cooling • U.L. recognized floating diamond four point contact mogul bipost socket (patented) • All operator controls are thermally insulated • Rapid turn, rack and pinion focus mechanism for manual and pole operated versions for international applications • Applications: key lighting • C clamp included with all hanging models

<b>1000W</b>	
100-201 Stand Model 6" Lens .....	\$418.00
100-205* Hanging Model 6" Lens .....	400.00
100-215* Pole Op 6" Lens .....	580.00
<b>2000W</b>	
100-221 Stand Model 8" Lens .....	\$671.00
100-225* Hanging Model 8" Lens .....	645.00
100-235* Pole Op 8" Lens .....	840.00
<b>5000W</b>	
100-241 Stand Model 10" Lens .....	\$1000.00
100-245* Hanging Model 10" Lens .....	995.00
100-255* Pole Op 10" Lens .....	1200.00



Theater Fresnel

Mini-Pro

## Mini-Pro®

- Utility yoke contains finger operated on/off switch • Recessed power receptacle permits use of detachable 120 or 30V power cord • Completely portable. Designed for stand mounting or handheld operation • Operates at 30V, 120V, or 240V AC/DC • Safety lock prevents accidental loss of accessories from mounting clips • Smooth field. No hot spots • Variable focus produces 3:1 range • Dichroic Filter available for daylight shooting • "Quartz" Lamps for high efficiency • Applications: key, back, kicker, side lighting • Maximum wattage: 650W

100-091 .....	\$140.00
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## Ellipsoids

- Designed to frame areas, project patterns and create special effects • For throws of 14' to 140' • Rugged diecast housing assembly • High performance optical train with plano-convex lenses permits greater light transmission, fewer aberrations, improved field control and higher efficiency • Lenses are fabricated of low expansion borosilicate glass • Easily field modified to create 40°, 30°, or 20° field angle in one unit • Lenses are shock mounted • Joy stick design assures fast, precise filament alignment without tools • Lens barrel design permits you to easily focus to a hard or soft field edge • Framing shutter concept enables you to create nearly any three or four sided shape • Solves keystone problem • Each shutter travels in its own plane eliminating interference problems • Equipped with a built-in pattern slot • Available with an optional iris without the loss of other beam shaping capabilities

### 40° and 30° Ellipsoid

- Incorporates a single 4.5" and 6" diameter plano-convex lens • Outperforms 750W and 1kW 6" x 9" and 6" x 12" existing spotlights • Designed for throws from 14' to 55'

213-055* 40° .....	\$340.00
213-065* 30° .....	340.00

### 20° Ellipsoid

- Single 6" x 9" plano-convex lens • Outperforms 750W and 1kW 6" x 16" existing spotlights • Designed for throws from 30' to 67'

213-075* .....	\$340.00
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### 12° Ellipsoid

- Single 6" x 12" plano-convex lens • Equivalent in performance to higher priced generic 8" spotlights • Designed for throws from 45' to 80'

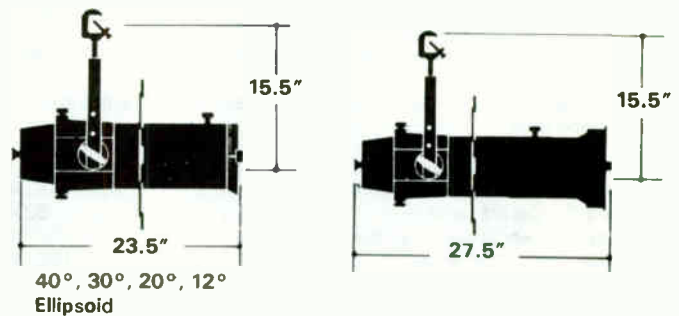
213-095* .....	\$340.00
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### 10° Ellipsoid

- Incorporates a single 8" diameter plano-convex lens • 8" unit is equivalent in performance to existing 10" and 12" spotlights • Designed for throws from 55' to 108'

213-105* .....	\$540.00
----------------	----------

\*Hanging fixtures are listed without terminations but priced with connectors. When ordering, please specify termination required. If you are ordering fixtures with bare wire leads, please deduct \$8.00 from price.



### 5° Ellipsoid

- High transmission from 10" diameter plano-convex lens • With its reflector design, single lens optical system and with optional iris assembly it actually outperforms many followspots • Suited to long-throw applications and is effective from 110' to 140'

213-115 .....	\$700.00
---------------	----------

### Mini-Ellipse

- Designed for throws from 6' to 40' • Accepts a range of high output Tungsten-Halogen Lamps from 250W to 500W at 120V and 500W at 240V.

213-155* 30°, 40°, 50° .....	\$215.00
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### Zoom Mini 40/65, 25/50, 15/30

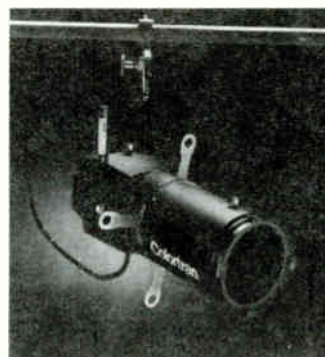
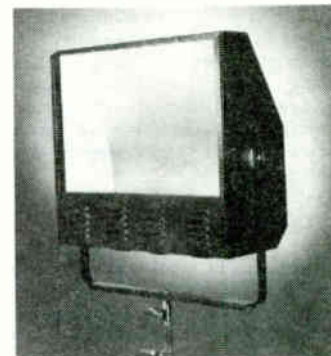
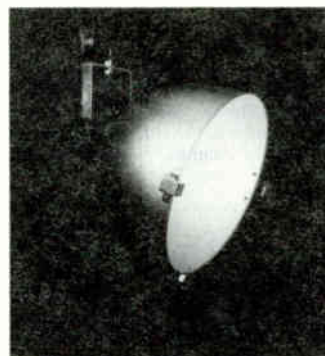
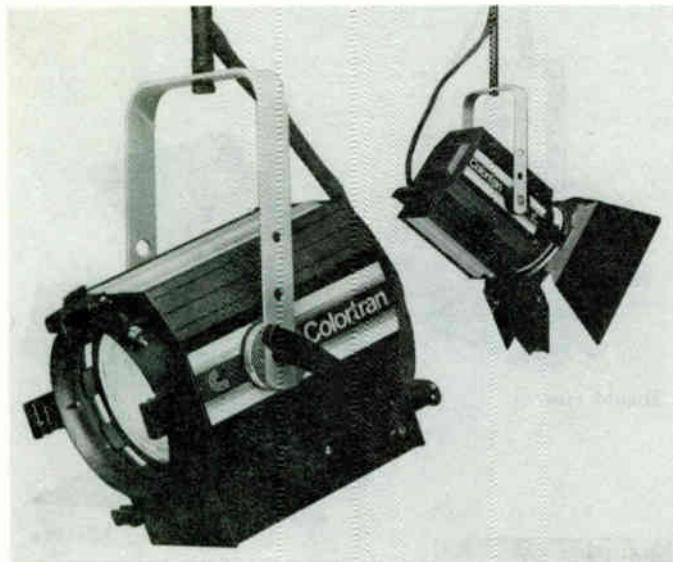
- For any application from a 9' circle at a 7' throw to a 9' circle at a 35' throw • A 600W lamp increases light output by nearly 50% over conventional 500W screw-based systems • Lamp house design allows constant orientation of the filament support bridge for a more compact light source

213-305* 40/65 .....	\$235.00
213-315* 25/50 .....	235.00
213-325* 15/30 .....	235.00

# LEE COLORTRAN, INC.

1015 Chestnut St.  
 Burbank, CA 91506-9983  
 (818) 843-1200 FAX: (818) 954-8520

# TV LIGHTING



## 6" and 8" Fresnels

- Lamp sockets are U.L. recognized, medium bipost 6" units, and mogul bipost 8" unit
- Easy handling, lightweight aluminum construction
- The combination of diecast and extruded aluminum promotes heat exchange and rapid dissipation. Combine this with flow through ventilation and you have a cooler operating unit with longer lamp and gel life
- An improved rack and pinion design with Torlon® insulators for a smooth focusing action
- Lens door is diecast with removable beefed-up gel clips and a spring loaded safety clip for rugged trouping requirements
- All operating controls are thermally insulated for cool handling operations
- The ultimate fresnel performance...high intensity spot with a smooth even flood field

100-516	1kW 6" Television Fresnel	\$230.00
118-013	Eight Leaf Barndoor	66.00
120-005	Color Frame	5.00
122-147	Set, Single, Half Single Scrim	32.50
130-003	Dichroic Filter	195.00
138-045	Combo Stud with Flat Yoke	17.00
138-049	6" High Hat	18.00
138-059	Safety Cable	9.00

<b>Lamps</b>		
176-102	500W, 3200°K, 100 hour	\$62.00
176-147	750W, 3200°K, 200 hour	90.50
176-097	1000W, 3200°K, 250 hour	99.00
476-049	650W, 3200°K, 200 hour	P.O.A.
476-061	1000W, 3200°K, 200 hour	P.O.A.

100-526	2kW 8" Television Fresnel	\$345.00
118-032	Eight Leaf Barndoor	105.00
120-015	Color Frame	6.50
122-148	Set, Single, Half Single Scrim	35.00
138-045	Combo Stud with Flat Yoke	17.00
138-051	8" High Hat	25.00
138-059	Safety Cable	9.00

<b>Lamps</b>		
176-161	1000W, 3200°K, 250 hour	\$113.00
176-157	1500W, 3200°K, 300 hour	145.00
176-075	2000W, 3200°K, 400 hour	157.00

## Studio Lighting

A complete line of "Made in America" production equipment, for your television studio requirements. Ellipsoidal effects projectors with field angles from 5° to 40° for throws up to 100'. Lightweight and efficient, Focusing Scoops, Soft Lights, Cyc Strips for fill and cyclorama lighting requirements. Plus variable load suspension units and distribution equipment custom built to your needs.

## TV Studio Packages

Description	120V	220-240V	List
	Cat. No.	Cat. No.	
15 x 20 Standard Studio Package	181-001	181-011	P.O.A.
15 x 20 Expanded Studio Package	181-002	181-012	P.O.A.
20 x 30 Standard Studio Package	181-003	181-013	P.O.A.
20 x 30 Expanded Studio Package	181-004	181-014	P.O.A.
30 x 40 Standard Studio Package	181-005	181-015	P.O.A.
30 x 40 Expanded Studio Package	181-006	181-016	P.O.A.
40 x 60 Standard Studio Package	181-007	181-017	P.O.A.
40 x 60 Expanded Studio Package	181-008	181-018	P.O.A.
60 x 80 Standard Studio Package	181-009	181-019	P.O.A.
60 x 80 Expanded Studio Package	181-010	181-020	P.O.A.



# LEE COLORTRAN, INC.

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(818) 843-1200 FAX: (818) 954-8520

# FILL/FLOOD TONING LIGHTS

## Fill/Flood Toning Lights

### Mini Soft-Lite and 1K/4kW Soft-Lite

• Ultra lightweight • High light output with soft shadows • Combo stud fits 5/8" studs or 1 1/8" females • Ventilation system increases lamp life • Ideal for location interiors for soft-fill lighting • All aluminum construction

#### 104-171 Mini Soft-Lite

• Shares all the standard features listed above plus • 2 switches for intensity control • 14 lbs. . . . . \$435.00

120-021 Diffusion frame . . . . . 35.00

138-059 Safety cable . . . . . 9.00

152-053 Compact stand castered . . . . . 145.00

#### 104-181 1k/4kW Soft-Lite

• Shares all the standard features plus • 4 individually switched lamps for intensity control • With single, pin plugs • 25 lbs. . . . . \$875.00

120-022 Diffusion frame . . . . . 64.00

138-059 Safety cable . . . . . 9.00

142-102 Extension cable #14/3 25' 20A female T.L. NEMA L5-20P male U-Ground (2 required) . . . . . 60.00

142-400 Cable, 25' #8/3 with female single pole pin plugs and 100A stage plug . . . . . 295.00

152-054 Super stand with adaptor . . . . . 300.00

158-003 C-clamp assembly to modify for pipe mounting . . . . . 18.00

#### Lamps, ANSI-Code for Mini and 1K/4kW Soft-Lites

176-019 500W, 120V, 2900°K, 10,000 hour, EJD . . . . . \$45.00

176-021 1000W, 120V, 3200°K, 500 hour, FCM . . . . . 41.50

176-027 800W, 220V, 3200°K, 150 hour, EME . . . . . 41.50

#### Broad

• Designed for wide field, medium throw applications • "Quartz" lamps provide long life and constant light output • Designed for continuous duty applications • Wide variety of lamps • All accessories secured with safety clip • Heavy-duty sockets provide improved cooling and lamp life

104-031 Stand Model . . . . . \$275.00

104-032 Hanging Model . . . . . 275.00

#### Multi-Broad

• Focus for beam control • Designed for medium to wide field applications • Uses tungsten halogen lamps for high efficiency • All accessories secured with safety clip • Heavy-duty sockets provide improved cooling and lamp life



Mini Soft-Lite

104-041 Stand Model . . . . . \$330.00

104-042 Hanging Model . . . . . 330.00

#### Accessories for Broad and Multi-Broad

118-010 Four Leaf Barndoor . . . . . \$113.00

120-007 Diffusion Frame . . . . . 29.00

138-059 Safety Cable . . . . . 9.00

152-053 Compact Stand Castered . . . . . 145.00

#### Set-Light

• For uniform lighting of large surfaces • Barndoors provide sharp cut-off • Heavy-duty sockets provide improved cooling • Wide range of "Quartz" lamps • One piece reflector for increased output • Compact size for tight mounting positions

108-002 Hanging Model . . . . . \$216.00

138-059 Safety Cable . . . . . 9.00

#### Lamps, ANSI-Code for Broad, Multi-Broad, and Set Light

176-019 500W, 120V, 2900°K, 10,000 hour, EJD . . . . . \$45.00

176-022 1000W, 120V, 3200°K, 400 hour, frosted, FHM . . . . . 46.00

176-024 500W, 120V, 3200°K, 400 hour, frosted, FDN . . . . . 39.50

176-026 750W, 120V, 3200°K, 400 hour, frosted, EMD . . . . . 49.50

176-027 800W, 220V, 3200°K, 150 hour, EME . . . . . 41.50

## Cyc Strip

• One piece reflector for high output • Wide range of tungsten halogen lamps • Heavy-duty sockets for improved cooling and lamp life • One light through three light models equipped with male connectors one end and female connectors other end for convenient feed-through and curve lighting problems • Four light through nine light equipment with center feed male connectors for easy installation

108-472 1 Light, 1 Circuit, M. and FM. 20A. 3P. Pin . . . . . \$ 295.00

108-492 2 Light, 2 Circuit, M. and FM. 20A. 3P. Pin . . . . . 400.00

108-502 3 Light, 3 Circuit, M. and FM. 20A. 3P. Pin . . . . . 525.00

108-592 4 Light, 4 Circuit, M. 20A. 3P. Pin . . . . . 625.00

108-532 6 Light, 3 Circuit, M. 20A. 3P. Pin . . . . . 800.00

108-562 9 Light, 3 Circuit, M. 30A. 3P. Pin . . . . . 1150.00

120-020 Diffusion Frame . . . . . 21.00

126-014 Safety Frame . . . . . 33.00

138-059 Safety Cable . . . . . 9.00

158-009 Pipe and Floor Mounting Assembly . . . . . 64.00

158-014 Yoke and C-Clamp Mounting Assembly for 1 Light Cyc Unit. . . . . 70.00

158-016 Yoke and C-Clamp Mounting Assembly for 2 Light Cyc Units . . . . . 73.00

158-017 Yoke and C-Clamp Mounting Assembly for 3 Light Cyc Units . . . . . 76.00

#### Lamps, ANSI-Code

176-019 500W, 120V, 2900°K, 10,000 hour, EJD . . . . . \$45.00

176-022 1000W, 120V, 3200°K, 500 hour, frosted, FHM . . . . . 46.00

176-024 500W, 120V, 3200°K, 400 hour, frosted, FDN . . . . . 39.50

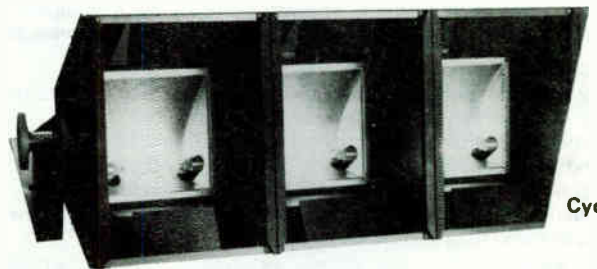
176-026 750W, 120V, 3200°K, 400 hour, frosted, EMD . . . . . 49.00

176-027 800W, 220V, 3200°K, 150 hour, EME . . . . . 41.50

NOTE: Mounting assembly not included with Cyc Strip.

## Far Cyc

• Will uniformly illuminate 40 vertical feet of cyc on 12' centers 10' from cyc  
Designed to operate on 20A circuits • Reduces power consumption by as much



Cyc Strip

as 50% • Light output is flat from top to bottom • Gelatran frame design permits uniform radiation over color media • Uneven fading is eliminated • Gelatran life increased by as much as 50% • 1kW lamps available

108-362 1 Light, M. 20A. 3P. Pin, 17 lbs. . . . . \$290.00

108-382 2 Light Horizontal, 2 Circuit, M. 20A. 3P. Pin, 26 lbs. . . . . 555.00

108-412 3 Light Horizontal, 3 Circuit, M. 20A. 3P. Pin, 37 lbs. . . . . 775.00

108-392 4 Light, 4 Circuit, M. 20A. 3P. Pin, 43 lbs. . . . . 985.00

120-058 Color Frame (one per lamp) . . . . . 29.00

138-059 Safety Cable . . . . . 9.00

138-064 Safety Frame (one per lamp). . . . . 55.00

#### Lamps, ANSI-Code

176-142 1500W, 120V, 3200°K, 400 hour, frosted, FGT. . . . . \$69.50

176-182 1000W, 120V, 3200°K, 500 hour, FFT . . . . . 71.50

Far Cycs furnished with mounting assembly, spill masks, and grounding connectors.



# LEE COLORTRAN, INC.

1015 Chestnut St.  
Burbank, CA 91506-9983  
(818) 843-1200 FAX: (818) 954-8520

# DIMMING

## DIMENSION 192-000 SERIES

### Dimmer Module

- The Dimension 192 dimmer module represents an elegant design
- Using conservatively-rated, fully proven components, we have packaged 2—2400W dimmers into minimum space. This is partly achieved by the rack bus design, and partly by the unique control and power connector systems
- Each dimmer is independently cooled with adjacent dimmers being separated by a cooling air flow of 400 ft./min. of ambient air
- State-of-the-art solid-state relays and chokes are used to achieve broadcast-quality filtration

### Rack

- 192—1.2 or 2.4kW dimmers per rack. The most in the least amount of space
- Each dimmer is independently cooled with ambient air from the front of the rack. This accounts for a lack of temperature gradient in the rack
- Top and bottom access panels for line and load runs
- Plug-in dimmer and control modules make the Dimension 192 fully serviceable
- The Dimension 192 contains auxiliary functions as a standard and built-in feature. The need for an "aux cabinet" is eliminated in most systems
- Dimmers of different ratings (1.2, 2.4, 6.0, and 12.0kW) may be located anywhere in the rack
- Three identical control modules display system status with LEDs
- Plug-in electronic system controls up to 192 dimmers. Each module controls up to 64 dimmers
- Spare module provided per system for emergency backup
- Maintenance—fully front accessible, no side or back access required

166-300	Dual 1.2kW Dimmer Module, 120VAC	Price on Application
166-302	Dual 2.4kW Dimmer Module, 120VAC	Price on Application
166-304	6.0kW Dimmer Module, 120VAC	Price on Application
166-306	12.0kW Dimmer Module, 120VAC	Price on Application
166-307	Dual 2.4kW Non-Dim Module, 120VAC	Price on Application
166-308	6.0kW Non-Dim Module, 120VAC	Price on Application
166-309	Dual 2.0kW Dimmer Module, 240VAC	Price on Application
166-310	5.0kW Dimmer Module, 240VAC	Price on Application
166-311	10.0kW Dimmer Module, 240VAC	Price on Application
166-312	Dual 2.0kW Non-Dim Module, 240VAC	Price on Application
166-313	5.0kW Non-Dim Module, 240VAC	Price on Application
166-314	12.0kW Non-Dim Module, 120VAC	Price on Application
166-315	10.0kW Non-Dim Module, 240VAC	Price on Application

### Control Module

- Fully plug-in, the module controls all 64 dimmer locations in a vertical column. There are three control modules per rack
- The module controls all functions of dimmer access, timing, and ramping as well as deciding which channels are digital, which are analog, which channels are on panic and does it all with reliability
- Front panel indicators show status of feeder bus bars and power supply, signal status, and rack overtemp

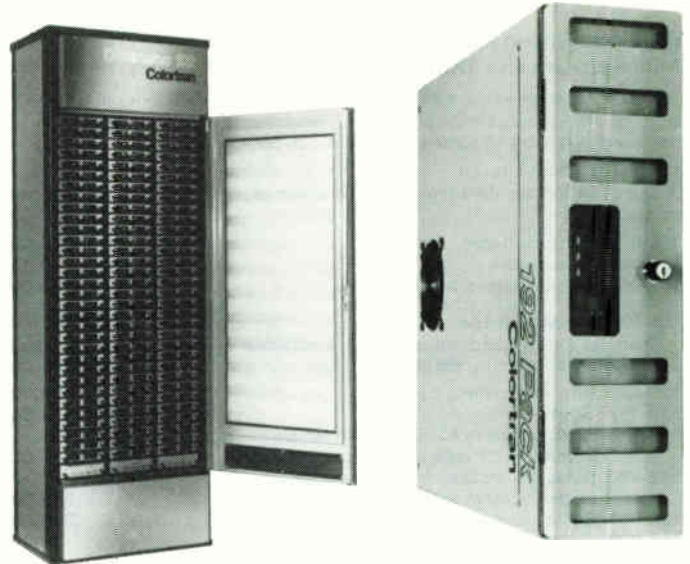
166-341	Analog	\$750.00
166-342	Multiplex	900.00

### Wall Pack

- Plug-in Dimmer Modules
- Plug-in Electronic Control Modules
- Single or three phase power
- Ambient cooling with front-to-rear air flow
- All electrical connections, both incoming and outgoing power and control, are made to factory labeled terminal strips
- Multiple packs may be installed in various configurations, each requiring minimum wall space
- The Pack has a lockable door, together with an electrostatic filter system
- Instant change from analog to digital control signal (RS422)
- Lightweight—easy to mount—only 65 lbs.

200-715	12-2.4kW Dimmers with Terminal Connection	Price on Application
200-725	6-6.0kW Dimmers with Terminal Connection	Price on Application

Both Terminal versions include door.



Rack

Wall Rack

### 192 Pack

- Plug-in Dimmer Modules
- Plug-in Control Module
- Completely front access
- Half the size of other products
- High reliability—proven with thousands of dimmer modules already in use
- Instant change from analog to digital control signal (RS422)
- Lightweight—only 57 lbs.
- Single or three phase power
- Ambient cooling with front-to-rear air flow

200-712	12-2.4kW Dimmers with 24-20A, 3-wire, Pin Connectors	\$3355.00
200-714	12-2.4kW Dimmers with 12-20A, Duplex Receptacles	3355.00
200-716	12-2.4kW Dimmers with 12-20A, Twistlock Receptacles	3355.00
200-717	12-2.4kW Dimmers with 24-20A, 3-wire, Pin Connectors and special 5 Pole, 100A, Union Inlet Receptacle	3655.00
200-722	6-6.0kW Dimmers with 6-60A, 3-wire, Pin Connectors	3685.00
200-726	6-6.0kW Dimmers with 6-50A, Twistlock Receptacles	3685.00

### 192 Pack Master

- Reliable
- Compact
- Blackout switch
- Super lightweight
- Dimmer Overheat Indicator
- Exclusive Independent Scene
- Bump switches with level control
- 2 scene operation, 12 or 24 channel
- Scene, independent and Grand Masters
- High resolution LED fade progress bar graph

200-171	Pack Master 12 Channel	\$1195.00
200-172	Pack Master 24 Channel	1595.00
200-173	Pack Master 36 Channel	1995.00
157-144	Plastic Cover for Pack Master 12	83.00
157-146	Plastic Cover for Pack Master 24	105.00
157-148	Trouping Case for Pack Master 12	345.00
157-150	Trouping Case for Pack Master 24	470.00

# LEE COLORTRAN, INC.

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# LIGHTING CONTROL

## Scene Master™ 60 Lighting Control System

- Clarity of operation
- 60 manual controllers are available for setting scenes and recording rapidly up to 60 pile on overlapping submasters
- Console stores up to 120 cues which can be recorded from manual or memory
- In standard format the Scene Master will handle up to 120 dimmers and has options to control up to 512 dimmers
- Optional disk drive
- Printer and handheld remote
- High resolution CRT with clearly defined information areas
- Extensive built-in effects program
- Bump keys and more

The Scene Master 60 represents an ideal marriage of manual and memory systems.

The Control Console is a microprocessor based lighting control system, specifically designed and constructed for the control of theatrical and television dimming systems.

The Control Console does not require the use of any peripheral device such as disk drive or cassette to function. The system operating program is stored in a programmable read-only memory.

The Control Console consists of a portable console, approximately 37" long and 14" deep and one detached 12" amber CRT with integral tilt and swivel bases. Color monitor is optional.

The CRT is a graphics quality amber monitor with a minimum of 1000 dots per line horizontal resolution and 360 lines vertical resolution.

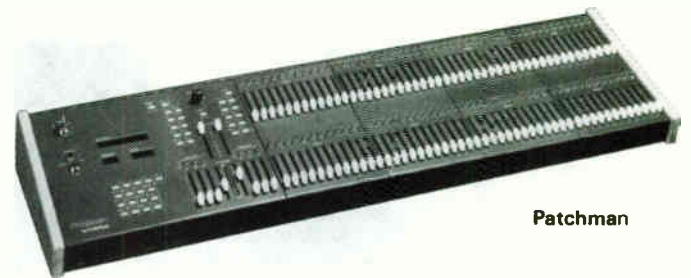
The Console is equipped with non-volatile memory for cue storage with optional 3 1/2", industry standard disk drive used for library storage utilizing environmentally protected, high reliability diskettes with hard plastic cases.

- 168-760 Scene Master 60, 120V, digital output.  
Amber monitor, controls 200 dimmers with 60 manual channels . . . . . \$5775.00
- 168-764 Scene Master 60XL, 120V, digital output.  
Amber monitor, controls 500 dimmers with 60 manual channels . . . . . 6775.00
- 168-768 Scene Master 60XLC, 120V, digital output.  
Color monitor, controls 500 dimmers with 60 manual channels . . . . . POR
- 28426 Scene Master 60 operating manual . . . . . 20.00

Options available: 240V, analog output

## Patchman™ Portable Lighting Control System

- 10 scenes preset — 2 live plus 8 in memory
- Hardwood end caps
- System on/off keyswitch
- Patch control keyswitch
- LED over temp indicator
- LED display; dimmer, channel, intensity
- Memory select switches (Scene X)
- Chase on/off switch
- Chase rate controller
- Memory select switches (Scene Y)
- Channel controllers; Manual section, 2 rows of 12 each — expandable to 96
- Scene Y submasters
- Fade rate controllers
- Crossfader with LED bargraph progress meters
- Scene X submasters
- Softpatch keypad; 0-9, clear, and, thru, channel, dimmer and store to patch up to 512 dimmers



Patchman



Scene Master 60

Patchman offers ten scenes, each with its own submastering assignments. Patch at levels, so every channel can be a groupmaster. There's a split dipless crossfader for timed or manual control variable rate chase, memory back-up and a host of other control functions.

- 168-700 Patchman, 12-channel . . . . . \$3985.00
- 168-701 Patchman, 24-channel . . . . . 4675.00
- 168-702 Patchman, 36-channel . . . . . 5375.00
- 168-703 Patchman, 48-channel . . . . . 6050.00

### Accessories

- 157-142 24-channel plastic cover . . . . . \$ 95.00
- 157-143 48-channel plastic cover . . . . . 139.00
- 168-660 6' cable . . . . . 79.00
- 168-661 25' cable . . . . . 110.00
- 168-666 100' cable . . . . . 170.00
- 168-667 50' cable . . . . . 140.00
- 168-668 150' cable . . . . . 240.00
- 168-669 200' cable . . . . . 290.00
- 168-670 Flush control connection wall plate — Fits standard single gang box . . . . . 69.00
- 168-680 Blank wall plate — cover unused gangs in surface back box . . . . . 17.50
- 168-681 Six-gang surface back box . . . . . 240.00
- 168-698 3' slave cable — connects between dimmer packs . . 58.00

## Control Junction Box and Wall Plate

### Control Junction Box

- Permits plug-in control connection of up to 30 dimmers and 6 non-dims
- Three 6-channel control packs and one 12-channel master/control pack may be plugged into the master junction box via prewired control cables
- Junction box is prewired for contractor's field connections

Control Junction Box . . . . . POR

### Wall Plate

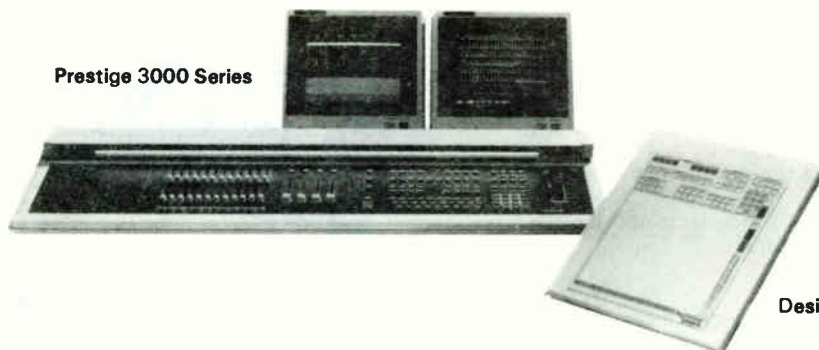
- Designed to fit standard single gang switchbox
- Permits connection of 6 control channels
- Wires color coded for contractor identification
- Brushed stainless steel cover plate

Wall Plate . . . . . POR

# LEE COLORTRAN, INC.

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 Telex: 82-5328 CLATN UF

# LIGHTING CONTROL



Prestige 3000 Series

Designer's Remote Magic Sheet

## PRESTIGE SERIES LIGHTING CONTROL SYSTEMS

### Prestige 1000 and 2000 Features:

- 24 pile-on submasters provide for annual control of complete "stage looks." 12 bump buttons allow instantaneous activation of associated submasters. Submasters 1-12 may be selected as inhibitive faders
- Four timed faders provide for timed or manual execution of cues or cue parts
- Playback controls allow an operator to start an entire cue including cue parts and follow-on cues with a single button. Running cues may be stopped, reversed, speeded up, slowed down, or taken over manually
- Record/Cue functions and "soft" screen keys allow simple, straightforward recording and editing of cues, groups, submasters, effects, patch, and setup with a minimum of console "clutter." The screen keys focus the user's attention on commands which are useful in a particular display and allow for easy software upgrades to the console. Numeric keypad allows rapid construction of unlimited combinations of channels, groups, cues, submasters, and effects for digital level setting or adjustment on the wheel
- Position keys allow the user to move up, down, left, or right in various displays
- Wheel provides a continuous rotation device for setting and adjusting levels
- Power keyswitch and overtemperature indicator
- High resolution color CRT provides the following user selectable displays: Stage, Cue, Group, Submaster, Effect, Cue sheet, Track Sheet, Playback, Patch, and Setup
- 3.5" disk drive provides library storage for shows.

The Prestige 1000 controls up to 200 dimmers, on up to 100 channels, and up to 200 cues and groups may be recorded.

- 168-340 Prestige 1000 Series, 120V, Digital Output . . . . .P.O.A.
- 168-341 Prestige 1000 Series, 240V, Digital Output . . . . .P.O.A.
- 168-342 Prestige 1000 Series, 120V, Analog Output . . . . .P.O.A.
- 168-343 Prestige 1000 Series, 240V, Analog Output . . . . .P.O.A.

NOTE: All Prestige 1000 Series consoles come with amber monitor only 168-329 (120V) or 168-330 (240V).

Prestige Series 2000 controls up to 400 dimmers on up to 200 channels, and records up to 300 cues or groups. The operating program is stored in programmable read-only memory. In case of power failure, random access memory shall be retained by an automatic battery backup power supply.

The Prestige 2000 console has all the user functions listed in the Prestige 1000 text with exceptions. A color monitor is standard and the following peripheral options are available: Designer Remote, Handheld Remote, and a hard copy Printer.

- 168-344 Prestige 2000 Series, 120V, Digital Output . . . . .P.O.A.
- 168-345 Prestige 2000 Series, 240V, Digital Output . . . . .P.O.A.
- 168-346 Prestige 2000 Series, 120V, Analog Output . . . . .P.O.A.
- 168-347 Prestige 2000 Series, 240V, Analog Output . . . . .P.O.A.

NOTE: All Prestige 2000 Series consoles come with amber monitor 168-329 (120V) or 168-330 (240V).

- 168-348 Prestige 2000C Series, 120V, Digital Output . . . . .P.O.A.
  - 168-349 Prestige 2000C Series, 240V, Digital Output . . . . .P.O.A.
  - 168-350 Prestige 2000C Series, 120V, Analog Output . . . . .P.O.A.
  - 168-351 Prestige 2000C Series, 240V, Analog Output . . . . .P.O.A.
- NOTE: All Prestige 2000C Series consoles come with color monitor 168-331 (120V) or 168-332 (240V)

### Prestige 3000 Features:

- Key Switch—powers up the system and activates the backup
- Dual Display Screens—provide a choice of ten different displays containing precise information for specific tasks (i.e. Set up, Stage, Playback, Preview, Patch)
- Screen, Record and Cue Keypads with 8 Soft Keys—store cue groups and submasters into the Prestige 3000's electronic memory
- Control Keypad—allows the user to write out and enter commands for the Prestige 3000, revise a channel or dimmer list, and create subsets of channel groups or existing cues
- Position Keypad—makes it effortless to move up, down, right, and left through the system's displays
- Level Wheel—adjusts channel levels or fade rates
- Alphabetic Keyboard—allows the user to label designs and write notes or names onto submasters and groups
- Submaster and Bump Buttons—permit manual adjustment of submaster fades
- Playback Controls—permit the manual altering of the light system to fit the show in progress

The Prestige Series of control consoles, the 1000, 2000, and 3000 are as practical as they are powerful. No matter which you choose, from the remarkable Prestige 1000 all the way up to the feature packed Prestige 3000, you get a microprocessor based lighting control system that gives you speed and flexibility.

The Prestige 1000 is our state-of-the-art base model, the 2000 adds a package of advanced features, and our top of the line 3000 unit, takes you to the farthest advance of technology.

- 168-360 Prestige 3000 Series, 120V, Digital Output (2) Color Monitor 168-331 (120V) . . . . .P.O.A.
- 168-361 Prestige 3000C Series, 240V, Digital Output (2) Color Monitors 168-332 (240V) . . . . .P.O.A.
- 168-362 Prestige 3000C, 120V, Analog Output (2) Color Monitors 168-331 (120V) . . . . .P.O.A.
- 168-363 Prestige 3000C, 240V, Analog Output (2) Color Monitors 168-332 (240V). . . . .P.O.A.
- 168-370 Designer's Remote Magic Sheet (120V) Magic Sheet, Video Receiver and Color Monitor . . . . .P.O.A.
- 168-371 Designer's Remote Magic Sheet (240V) Magic Sheet, Video Receiver and Color Monitor . . . . .P.O.A.
- 168-750 Magic Disk Writer . . . . . \$6000.00

### Accessories for Prestige 2000 and 3000

- 168-324 Printer . . . . .P.O.A.
- 168-368 Magic Sheet/Designer's Remote\* . . . . . \$5100.00
- 168-327 Handheld Remote . . . . .P.O.A.
- 168-750 Magic Disk Writer (Amber CRT Only). . . . . \$6100.00
- 28213 Prestige 1000/2000 Operating Manual . . . . . \$26.00
- 28214 Prestige 3000 Operating Manual . . . . . \$26.00



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# LIGHTING CONTROL

## Magic Disk Writer™

The Magic Disk Writer is a self-contained unit which allows an operator, lighting designer, or student to use the Magicsheet option independently of the Prestige lighting console. The Magic Disk Writer may be used to cue a show from scratch or to modify cues in an existing show in a remote location such as a hotel room or drama lab. The unit will also fully simulate playback of a show, except that it will not actually drive dimmers. The capability of driving a printer is also provided.

The system has a standard IBM keyboard port and will fully support all standard IBM PC software provided it is supplied on 3.5" disks. This system serves as a low cost teaching device for lighting design as well as a standard IBM PC. Lighting programs written on the Magic Disk Writer may be transferred via a disk to any Prestige system for operation, for example, by the designer after entering his own pick up notes to the show, or by the student to display and critique his homework in the theater.

The Magic Disk Writer consists of a Summagraphics MM1201 digitizer tablet overlay and stylus, a Taxan KX12 monochrome CRT, and a processor unit. The processor unit contains a Faraday 6413/256 computer card, a Teac FD35B disk drive, and a Power General 3050-1 power supply. All major components are identical to those used in the Prestige 1000 except for the addition of memory to the processor card. A power switch is located on the front of the unit, the disk drive and IBM keyboard connector are located on the right side, and the Magicsheet, printer and AC connectors are located on the rear. During normal operation, the CRT is placed on top of the processor unit and the Magicsheet is placed in front. The Magicsheet software is loaded automatically on powerup from disk. An optional IBM keyboard may be placed to the side of the Magicsheet for operation of standard software.

The Magic Disk Writer operates identically to a Magicsheet on a Prestige 2000 or 3000 console. A special set-up option is provided to allow the operator to select whether show disks are created with Prestige 2000 or 3000 format. A special write protected disk is provided with the system which contains both MSDOS and the Magicsheet operating program. The Magicsheet program is automatically loaded and started when AC power is applied to the system. If the IBM keyboard option is installed, the operator may interrupt the Magicsheet program and load other IBM compatible software by inserting the appropriate 3.5" disk. Since the system is not used in live performance situations, no battery backup is provided.

**168-750 Magic Disk Writer (Amber CRT Only)**  
.....**\$6100.00**



## Magicsheet

The Magicsheet is the lighting designer's easel. With its stylus and your lighting plot attached to the "smart" pad you can enter your plan directly into the Prestige system. Then with the touch of your stylus you'll be able to access a variety of the extensive features of the control board, from the level wheel, to playback, to cueing. Once entered, touching your symbols with the pen can call up cues and fades, trigger effects, and run through lighting sequence as quickly as you can brush the symbols. Linking up the Magicsheet/Designer's Remote with the main console gives you the ultimate features of the Prestige system from a variety of vantage points. You can review your designs as fast as you create them from the perspective of actor or audience. With the monitor attached to the Magicsheet you can call up the same displays you would in the booth.

- 168-331 Magicsheet/Designer's Remote \***  
.....**\$5100.00**
- 168-370 Designer's Remote Magicsheet (120V)**  
Magicsheet, Video Receiver and Color  
Monitor .....**P.O.A.**
- 168-371 Designer's Remote Magicsheet (240V)**  
Magicsheet, Video Receiver and Color  
Monitor .....**P.O.A.**

\*Color CRT Monitor available at an additional cost.

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# STUDIO LIGHTING PACKAGE

## 20' x 30' Studio (6.1m x 9.1m) Standard Television Package

Designed to meet the requirements for television production lighting, each package presents fixtures, power distribution, dimming and control on the basis of one circuit for approximately every 15 square feet of studio area and one dimmer for every circuit.

The 20' x 30' (6.1m x 9.1m) Studio Package consists of the following major components:

### Lighting Fixture Package

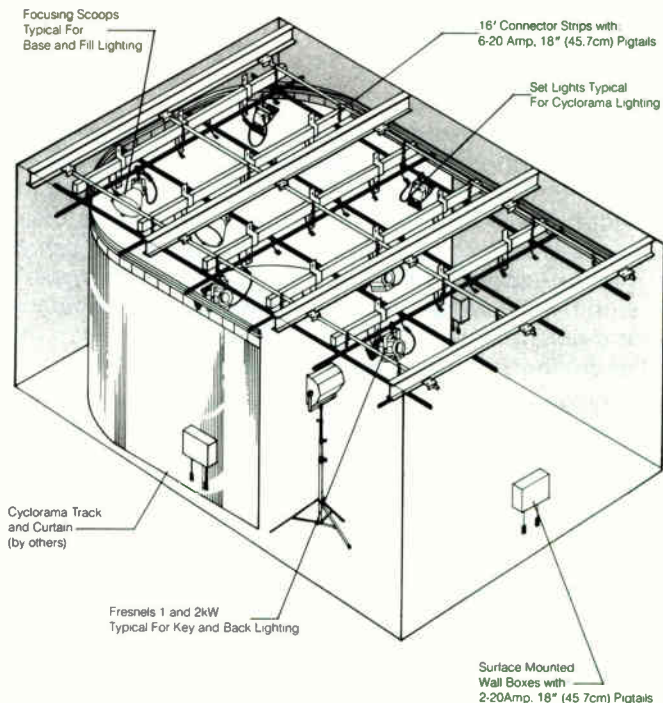
• **Fixtures**—Fresnels for key and back lighting. Focusing Scoops for base and fill, and set lights for cyclorama lighting are all part of the basic package and are supplied with all required accessories • **Accessories** • Barndoors • Color frames • Safety cables • C-clamps, and lamps are supplied by Colortran as required by the bill of materials

### Dimming and Control System

• Wall mounted dimmer packs with plug-in power modules and plug-in analog control modules • Memory Control Console—24 channels with 2 active scenes plus 8 record scenes, 25' control cable, wall plate and receptacle

### Distribution System

• Connector strips are completely prewired at the factory with terminal access by an easily removable cover. Finished matte black enamel with 3" white graphics on front and back for circuit identification • All connector strips are supplied with 18" pigtail receptacles in standard NEMA twistlock termination 20, and 50A capacities. Alternates are available if specified, such as flush mounted receptacles and termination variations (pin connector or U-ground types) • Plugging boxes are available in three basic configurations: surface, recessed, or pipe mounted. Unless otherwise specified boxes are supplied in a surface mounted style with required pigtails



	Qty.	Model No.	Description
<b>Fixture Package</b>			
<b>Key and Back Lighting</b>	10	100-516	6" Fresnel
	10	118-013	8 Leaf Barndoor
	10	120-005	Color Frame
	10	138-059	Safety Cable
	10	EAR	750W, 200 Hr., 3200°K
<b>Base and Fill Lighting</b>	6	104-236	1kW Focusing Scoop
	6	120-010	Color Frame
	6	138-059	Safety Cable
	6	176-176	EGJ Lamp, 1000W, 400 Hr., 3200°K
	2	104-171	Mini-Softlite
	2	120-021	Diffusion Frame
<b>Cyc Lighting</b>	2	152-053	Compact Stand, castered, 52" - 154"
	4	176-021	FCM Lamp, 1000W, 500 Hr., 3200°K
	6	108-006	Set Light
	6	120-000	Color Frame
	6	138-059	Safety Cable
	6	176-026	EMD Lamp, 750W, 500 Hr., 3200°K
<b>Effects Lighting</b>	1	213-316	25/50 Zoom Mini Ellipse Pattern Projector
	1	120-012	Color Frame
	1	138-006	Accessory Holder
	1	138-010	Pattern Holder
	1	238-000	Set of 6 Patterns
	1	138-059	Safety Cable
<b>Support Equipment</b>	2	530-000	3'-11" Monopole
	2	142-738	15' 12/3 SO Cable with male and female NEMA L5-20 Connectors

Qty.	Model No.	Description
<b>Dimming and Control System</b>		
3	200-715	192 Pack, wall mounted, each with: 12 2.4kW plug-in SSR dimmers, complete with primary circuit breakers and toroidal chokes
2	166-342	Digital Control Modules for 192 Pack
1	166-343	Expansion Control Module for 192 Pack
1	168-701	24 Channel Patchman Control Console with: 2 scenes of 24 potentiometers each with A-B-C submaster selector switches 8 recorded scenes Split dipless crossfader for timed or manual operation A-B-C submasters Softpatch at levels for 24 channels and up to 512 dimmers 4 channel chase
1	168-661	25' Control Cable
1	168-660	6' Slave Cable
1	200-620	6' Control Cable
1	168-670	Control connection wall plate with: Receptacle for control cable (requires 1 gang back box, not supplied)
<b>Distribution System</b>		
5	172-556	16' Connector Strip, 3" x 4" section wireway, with: 6-20A NEMA L5-20R pigtails, complete with terminal compartment and necessary mounting hardware
3	174-883	Surface mounted wall box, size 4" x 8" x 12" with: 2 20A NEMA L5-20R pigtails, complete with terminal sets

# LEE FILTERS

A DIVISION OF LEE COLORTRAN, INC.

1015 Chestnut St.

Burbank, CA 91506-9983

(818) 843-1200 FAX:(818) 954-8520

# COLOR MEDIA

## The Lee Rainbow

A spectrum larger and brighter than ever, with brilliantly pure colors on an almost totally transparent "Melinex" base. Filters that are so optically clear they allow you to combine colors as never before to create a nearly infinite array of colors while still retaining their high quality of transmittance...a quality standard beyond that of any other filter.

Here is a rainbow that is as tough as it is pretty...with colors that cut down on fading, won't crack, peel or tear. Colors that will remain the same from job to job and year to year...always. The flame resistant filters are always a consistent .003 gauge and will stand up to the toughest and hottest lights.

Product	Effect Colors	
101	Yellow	Sunlight and window effect—pleasant in acting areas
102	Light Amber	Lamp light effects—dawn sun effects—pleasant in acting areas
103	Straw	Pale sunlight through window effect—warm winter effect
104	Deep Amber	Mood effect on backings. Backlighting of floor and color effect
105	Orange	Mainly light entertainment functions. Fire effect if used with 106, 166, 104
106	Primary Red	Strong red effect
107	Light Rose	As for 104
109	Light Salmon	Interesting back lighting
110	Middle Rose	Good for cycloramas
111	Dark Pink	Good for cycloramas
113	Magenta	Very strong—used carefully for small areas on set
115	Peacock Blue	Pleasing effect on sets, cyclorama cloths backlighting (Ice rinks, galas, etc.)
116	Medium Blue Green	Pleasing effect on sets, cyclorama cloths backlighting (Ice rinks, galas, etc.)
117	Steel Blue	Night effects on sets—cycloramas
118	Light Blue	Strong night effect
119	Dark Blue	Mood effects, jazz clubs, etc. Back projection. Traveling matte blue
120	Deep Blue	Mood effects. Back projection. Traveling matte blue
121	Lee Green	Cycloramas
122	Fern Green	Cycloramas—good for mood effect
124	Dark Green	Cycloramas—good for backlighting
126	Mauve	Cycloramas—good for backlighting
127	Smoky Pink	Cycloramas—set lighting, discos
128	Bright Pink	Cycloramas—good for backlighting—strong effect
130	Clear	Used in animation and projection work
132	Medium Blue	Set Lighting—Traveling matte blue
134	Golden Amber	Set Lighting
135	Deep Golden Amber	Theater, TV, Film effect lighting
136	Pale Lavender	Set Lighting
137	Special Lavender	Set Lighting
138	Pale Green	Set Lighting
139	Primary Green	Set Lighting
141	Bright Blue	Set Lighting
142	Pale Violet	Set Lighting
143	Pale Navy Blue	Set Lighting
144	No Color Blue	Set Lighting
147	Apricot	Set Lighting
148	Bright Rose	Set Lighting

Product	Effect Colors	
151	Gold Tint	Set Lighting
152	Pale Gold	Set Lighting
153	Pale Salmon	Set Lighting
154	Pale Rose	Set Lighting
156	Chocolate	Cyclorama cloths—3/4 Back for dark skin tones
157	Pink	Dance sequences. (Useful for softening white costumes without affecting skin tones)
158	Deep Orange	Fire effect
159	No Color Straw	Warm effect
161	Slate Blue	Set Lighting
162	Bastard Amber	Set Lighting
164	Flame Red	Disco effect
165	Daylight Blue	Set Lighting—Keylight for Moonlight effect
166	Pale Red	Good for light entertainment
170	Deep Lavender	Set Lighting—Discos and theatres
174	Dark Steel Blue	Set Lighting—Creates good Moonlight shadows
176	Loving Amber	Set Lighting
179	Chrome Orange	Combination of 1/2 CTO and double strength 104
180	Dark Lavender	Set Lighting—Discos and theatres
181	Congo Blue	As for 120
182	Light Red	Theatre and TV Effect Lighting
183	Moonlight Blue	Theatre and TV Effect Lighting
184	Cosmetic Peach	Pale tints complementary to Key lighting
185	Cosmetic Burgundy	Pale tints complementary to Key lighting
186	Cosmetic Silver Rose	Pale tints complementary to Key lighting
187	Cosmetic Rouge	Pale tints complementary to Key lighting
188	Cosmetic Highlight	Pale tints complementary to Key lighting
189	Cosmetic Silver Moss	Pale tints complementary to Key lighting
190	Cosmetic Emerald	Pale tints complementary to Key lighting
191	Cosmetic Aqua Blue	Pale tints complementary to Key lighting
192	Flesh Pink	Theater, TV, Film effect lighting
193	Rosy Amber	Theater, TV, Film effect lighting
194	Sunrise Pink	Theater, TV, Film effect lighting
195	Zenith Blue	Theater, TV, Film effect lighting
196	True Blue	Theater, TV, Film effect lighting
197	Alice Blue	Theater, TV, Film effect lighting
230	Light Yellow	Converts yellow carbon arc (of low color temperature) to tungsten

Rolls (25' x 48") . . . . . \$ 110.00  
 Sheets (24" x 21") . . . . . .4.35

Prices and Specifications Subject to Change Without Notice.

V-719



# LEE FILTERS

A DIVISION OF LEE COLORTRAN, INC.

1015 Chestnut St.  
Burbank, CA 91506-9983  
(818) 843-1200 FAX:(818) 954-8520

# LIGHT CONTROL/RESIN PHOTOGRAPHIC FILTERS

## LIGHT CONTROL FILTERS

Product	Rolls	Roll Size	Sheets 24" x 21"
<b>Tungsten to Daylight Conversion</b>			
201 CTB	\$112.00	25' x 4'	\$4.35
202 1/2 CTB	112.00	25' x 4'	4.35
203 1/4 CTB	112.00	25' x 4'	4.35
218 1/8 CTB	112.00	25' x 4'	4.35
<b>Daylight to Tungsten Conversion</b>			
204 CTO	\$110.00	25' x 4'	\$4.35
205 1/2 CTO	110.00	25' x 4'	4.35
206 1/4 CTO	110.00	25' x 4'	4.35
223 1/8 CTO	110.00	25' x 4'	4.35
<b>Daylight Conversion with Neutral Density</b>			
207 CTO/.3ND	\$112.00	25' x 4'	\$4.35
208 CTO/.6ND	112.00	25' x 4'	4.35
<b>Neutral Density</b>			
209 .3ND	\$112.00	25' x 4'	\$4.35
210 .6ND	112.00	25' x 4'	4.35
211 .9ND	112.00	25' x 4'	4.35
<b>ARC Correction (Carbon-Regular)</b>			
212 LCT YLW	\$110.00	25' x 4'	\$4.35
213 W.F. GRN	110.00	25' x 4'	4.35
<b>ARC Correction (Carbon-Color Balanced)</b>			
230 LCT YLW	\$119.00	25' x 4'	\$4.35
232 W.F. GRN	119.00	25' x 4'	4.35
<b>ARC Correction (Compact Source)</b>			
236 HMI	\$119.00	25' x 4'	\$4.35
237 CID	119.00	25' x 4'	4.35
238 CSI	119.00	25' x 4'	4.35
<b>Fluorescent Correction</b>			
241 5700°	\$110.00	25' x 4'	\$4.35
242 4300°	110.00	25' x 4'	4.35
243 3600°	110.00	25' x 4'	4.35
219 FL GRN	110.00	25' x 4'	4.35

## RESIN PHOTOGRAPHIC FILTERS

Filter Size	Filter Type			
	Graduated Blender and Stripe Filters		Standard Filters And Nets	
	Mounted	Unmounted	Mounted	Unmounted
<b>Square or Rectangular</b>				
2" x 2" (50x50mm)	\$ 29.75	\$ 25.50	\$ 21.25	\$ 17.00
3" x 3" (75x75mm)	61.50	57.25	42.50	38.25
3" x 4" (75x75mm)	95.75	89.00	66.00	59.25
4" x 4" (100x100mm)	111.25	104.75	76.25	70.00
4" x 5.65" (Panavision)	154.75	148.00	105.50	98.75
4" x 6" (100x150mm)	164.00	157.25	111.75	105.00
5" x 5" (125x125mm)	162.25	155.50	110.50	103.75
6" x 6" (150x150mm)	226.50	215.75	152.50	144.00
6.6" x 6.6"	237.00	228.50	161.00	152.50

Product	Rolls	Roll Size	Sheets 24" x 21"
<b>Ultra Violet Absorption</b>			
226 LEE UV	\$110.00	25' x 4'	\$4.35
<b>Diffusion Media — Non-Flame Retardant</b>			
214 Tough Spun	\$ 56.00	25' x 3'	Rolls Only
215 1/2 Tough Spun	56.00	25' x 3'	Rolls Only
229 1/4 Spun	56.00	25' x 3'	Rolls Only
216W White Diff.	115.00	25' x 5'	\$4.35
216 White Diff.	90.00	25' x 4'	4.35
250 1/2 WH Diff.	90.00	25' x 4'	4.35
251 1/4 WH. Diff.	90.00	25' x 4'	4.35
217 Blue Diff.	90.00	25' x 4'	4.35
228 BR. Silk	110.00	25' x 4'	4.35
224 CTB Frost	110.00	25' x 4'	4.35
225 N.D. Frost	110.00	25' x 4'	4.35
253 Hamp. Frost	110.00	25' x 4'	4.35
<b>Diffusion Media — Flame Retardant</b>			
129 HVY. Frost	\$110.00	25' x 4'	\$4.35
220 WH. Frost	110.00	25' x 4'	4.35
221 BL. Frost	110.00	25' x 4'	4.35
261 Tough Spun	65.00	25' x 4'	Rolls Only
262 3/4 Spun	65.00	25' x 4'	Rolls Only
263 1/2 Spun	65.00	25' x 4'	Rolls Only
264 3/8 Spun	65.00	25' x 4'	Rolls Only
265 1/4 Spun	65.00	25' x 4'	Rolls Only
<b>Reflection Media</b>			
270 Scrim	\$112.00	22'3" x 54"	Rolls Only
271 Mirror	112.00	22'3" x 54"	Rolls Only
272 Gold	112.00	22'3" x 54"	Rolls Only
273 Silver	112.00	22'3" x 54"	Rolls Only

# LEITCH VIDEO OF AMERICA, INC.

825K Greenbrier Circle  
Chesapeake, VA 23320  
(804) 424-7920 FAX: (804) 424-0639

# SYNC GENERATORS



SPG-102N

## SPG-102N NTSC Master Sync Generator

Top-of-the-line RS-170A Master Generator. Includes automatic digital genlock, 100SD color black output module and 100LD Pulse Shaper. Many options to match virtually any pulse system concept. High stability master color standard, frequency converter and resolver for external reference, remote control, color bars, grating/dot signals, and much more.

<b>SPG-102N</b> .....		<b>\$3995.00</b>
<b>100CS</b>	Master color standard .....	<b>720.00</b>
<b>100FC</b>	Freq. converter and resolver (5MHz) .....	<b>610.00</b>
<b>100LD</b>	Pulse shaper and line driver .....	<b>280.00</b>
<b>100ME</b>	Module extender .....	<b>65.00</b>
<b>102PM</b>	Pulse monitor .....	<b>210.00</b>
<b>102RP</b>	Remote control panel .....	<b>1200.00</b>
<b>102RC</b>	Resolver control for use with 100FC .....	<b>570.00</b>
<b>200BD</b>	Bar and dot generator .....	<b>260.00</b>
<b>200CB</b>	Color bar generator (2 modules) .....	<b>775.00</b>
<b>200CB-1</b>	Color bar timer (reverse color bars upgrade, Rev. D) .....	<b>275.00</b>
	Extra instruction manual .....	<b>55.00</b>

## SPG-120N NTSC Sync Generator

Popular, low cost, no options RS-170A Generator for fixed or mobile installations. Includes automatic digital genlock and color black output.

<b>SPG-120N</b> .....	<b>\$2500.00</b>
Extra instruction manual .....	<b>55.00</b>

## SPG-130N NTSC Sync Generator

Full-featured RS-170A Generator. Compact, modular design with automatic digital genlock and 130BO color black output module. Programmable timing assignment option for up to 8 sources. Remote control and source ident also available.

<b>SPG-130N</b> .....		<b>\$2995.00</b>
<b>130TA</b>	Timing assignment .....	<b>425.00</b>
<b>130BO</b>	Color black output .....	<b>300.00</b>
<b>130SI</b>	Source ident .....	<b>390.00</b>
<b>130FI</b>	Frame indent .....	<b>350.00</b>
<b>100ME</b>	Module extender .....	<b>65.00</b>
	Extra instruction manual .....	<b>55.00</b>



ACO-131

## ACO-131 NTSC/PAL Auto Change-Over

Maintain pulse system security with two sync generators and this high quality, automatic switching device. Monitors color black and/or pulses/subcarrier. Activates switch-over on 3dB drop of any signal.

<b>ACO-131</b> .....	<b>\$2485.00</b>	
<b>131PM</b>	Pulse monitor (2 modules) .....	<b>460.00</b>
<b>131RP</b>	Remote control panel .....	<b>485.00</b>
<b>100ME</b>	Module extender .....	<b>65.00</b>
	Extra instruction manual .....	<b>35.00</b>

## SPG-1300N NTSC Sync Pulse Generator

- Low cost, modular 1RU design
- Adjustable blanking widths and bright burst flag position
- NTSC digital genlock
- RS-170A zero SCH sync/subcarrier, black and test signal outputs
- Independent timing for pulses, black and test signals
- No warm-up, high stability TCXO

The SPG-1300N is an advanced, modular design for master or slave operation. The basic generator has two plug-in modules (genlock, power supply) which are housed in a 1RU mounting frame. Three module options can be included to suit specific requirements. Slots are normalized for the Pulse Generator, Black and Tone and Test Signal modules. However, each slot can accept any option and provide the primary outputs.

The high-stability, no warm-up TCXO has a horizontal phasing range of more than 12µs advance and 4µs delay. Three phasing controls allow fine, medium and coarse adjustments.

The optional 1300PG Pulse Generator module has two outputs of sub-carrier and one output each of sync, blanking, H drive, V drive, burst flag and color frame ident. Level controls for subcarrier and pulse outputs are provided. Vertical can be advanced 1 line. H blanking start and finish, as well as burst flag position are adjustable in 16 steps of 70ns. V blanking can be set to 18, 19, 20, or 21 lines. A switch allows color frame ident to start coincident with the vertical block or line 10/field 1.

The optional 1300BT Black and Tone module has two 75 ohm outputs of RS170A zero SCH color black. Fine, medium and coarse phasing of the outputs is independent of Genlock phasing.

The low impedance, balanced stereo tone output can be switch selected as color frame-locked 400Hz or 1kHz. Level is adjustable from 0 to +8dBu. In addition, a left channel ident tone can be selected.

The optional 2600TG Test Signal Generator modules represent the latest technology in 12-bit (4096 steps) digital test signal generator on a single card.

The dual BNC outputs can be level adjusted and conform to RS-170A zero SCH at all times.

In addition, the 2600TG modules are available in various 525-line standards, such as NTSC, RGB, YIQ, B-MAC, M2 etc., so this means two formats can be mixed within the same mounting frame. Custom test signals can optionally be requested and are subject to a one-time programming charge.

<b>SPG-1300N</b>	With 1300PG pulse generator and 1300BT black and tone boards .....	<b>\$2495.00</b>
<b>2600TG</b>	Test Generator Module .....	<b>895.00</b>
<b>100ME</b>	Module extender .....	<b>65.00</b>
	Extra instruction manual .....	<b>55.00</b>

## SPG-110P PAL Master Sync Generator

Extremely stable, broadcast quality source of all pulses, subcarrier and a variety of video test signals for PAL systems B, G, H and I. Automatic or manual genlock modes include crash and slow lock. Modular design with several options permits customized configurations.

<b>SPG-110P</b>	(Includes 110LD Line Driver, 110SB-3 Color Black Output, 250GD Grating and Dot and 250CB Color Bar Generator .....	<b>\$4995.00</b>
<b>110CS</b>	Color standard .....	<b>735.00</b>
<b>110SI</b>	Subcarrier input .....	<b>90.00</b>
<b>110LD</b>	Line driver .....	<b>250.00</b>
<b>110RP</b>	Remote control panel .....	<b>1050.00</b>
<b>100ME</b>	Module extender .....	<b>65.00</b>
	Extra instruction manual .....	<b>65.00</b>
<b>SPG-180M</b>	PAL sync generator for system M (Brazil) Includes 180SB sync and burst module .....	<b>3295.00</b>
<b>Options</b>		
<b>100ME</b>	Module extender .....	<b>65.00</b>
	Extra instruction manual .....	<b>55.00</b>

# LEITCH VIDEO OF AMERICA, INC.

825K Greenbrier Circle  
Chesapeake, VA 23320  
(804) 424-7920 FAX: (804) 424-0639

# SYNC/TEST GENERATORS



SPG-141P

## SPG-141P PAL Sync Generator

For PAL systems B, G, H and I. Standard features of this compact, very stable generator include automatic crash and slow lock, black burst output and SC/H corrector module. Frame is wired for optional color bar signals.

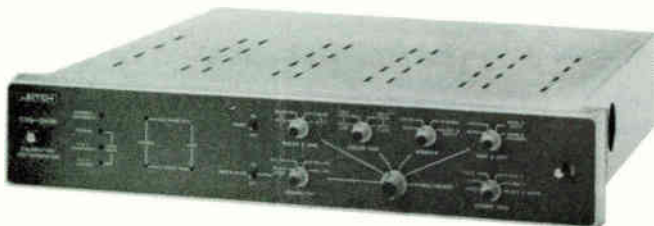
SPG-141P	.....	\$3,295.00
250CB	PAL color bar generator (2 modules)	620.00
100ME	Module extender	65.00
	Extra instruction manual	55.00
SPG-1510P	PAL sync generator for systems B, G, H and I	3,295.00
<b>Options</b>		
1510CB	PAL color bar generator	\$595.00
100ME	Module extender	65.00
1101ME	Module extender	150.00
	Extra instruction manual	55.00

## CBG-230N NTSC Encoded Color Bar Generator

• Low power consumption • Low heat dissipation • Requires only one unit of rack space

The CBG-230N NTSC Encoded Color Bar Generator is a completely new design, featuring the SMPTE ECR-1 alignment color bar test signal. It is specifically intended for dedicated use in the alignment of control room, studio and VTR picture monitors.

CBG-230N	.....	\$2,395.00
230GD	Grating and dot generator	300.00
100ME	Module extender	65.00
	Extra instruction manual	50.00



CTG-240N

## CTG-240N NTSC Calibration Test Generator

Stand-alone, RS-170A source of most commonly used video test signals, NTSC system pulses, subcarrier and trigger signals. Unit features separate test signal outputs and one switched output.

CTG-240N	.....	\$7,550.00
100ME	Module extender	65.00
	Extra instruction manual	55.00

## DTG-1110N NTSC Digital Test Generator

Single rack unit, one generator version of the DTG-1010N. Ideal for small fixed or mobile installations. Includes outputs of sync blanker, and subcarrier.

DTG-1110N	.....	\$5,995.00
1010RP	Remote control panel	740.00
1000ME	Module extender	225.00
	Extra instruction manual	65.00

## DTG-1010N NTSC Digital Test Generator

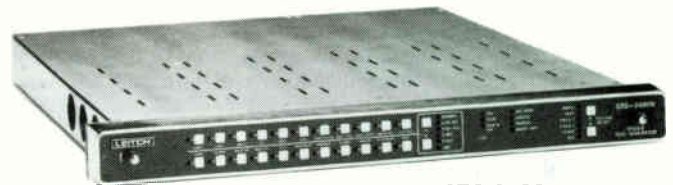
Guaranteed accuracy and stability. Unit contains RS-170A genlock SPG and 5 digital test generators with 40 test signals each. Independent remote control for each generator allows simultaneous test procedures. Includes CCIR 473-3 VITS and outputs of sync, blanking, subcarrier and trigger signals.

DTG-1010N	With 5 data store modules	\$11,500.00
DTG-1010N-1	With 1 data store module	7,195.00
1000DS	Data store module	1,450.00
1010RP	Remote control panel	740.00
1000ME	Module extender	225.00
	Extra instruction manual	65.00

## ITG-3400N NTSC Insertion Test Generator

The ITG-3400N allows simple and reliable insertion of eight standard, internal vertical interval test signals into program video. These digitally generated, 12-bit precision waveforms conform to CCIR (NTC-7) and FCC specifications. One external, user-supplied signal source can also be selected.

The application of microprocessor control and digital technology in general, together with the latest analog circuit components, results in a unit with previously unavailable features and high quality video specifications.		
ITG-3400N	.....	\$5,895.00
1101ME	Module extender	150.00
100ME	Module extender	65.00
	Extra instruction manual	65.00



STG-2500N

## STG-2500N NTSC Studio Test Generator

The STG-2500N provides 22 computer-generated video test signal types specifically designed for baseband video studio equipment and general in-plant applications. Where applicable, the signals are also available at low APL, high APL and luminance only for a total of 56 different test signals. Additional signals include three VITS packages (FCC, CCIR (NTC-7), CCIR with VIRS) and a full range of trigger signals. Test signals are stored in EPROMs and may be adapted to changing industry standards. Conversion to analog form occurs with 10-bit precision. Test signals are directly selectable with front panel push buttons.

STG-2500N	.....	\$5,995.00
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## TTG-2500N NTSC Transmission Test Generator

The compact TTG-2500N NTSC Transmission Test Generator provides 22 computer-generated video test signal types specifically designed for FM transmission link measurements. Where applicable, the signals are also available at 10%, 50% and 90% APL for a total of 60 different test signals. Additional signals include three VITS packages (FCC, CCIR (NTC-7), CCIR with VIRS) and a full range of trigger signals. Test signals are stored in EPROMs and may be adapted to changing industry standards. Conversion to analog form occurs with 10-bit precision. Test signals are directly selectable with front panel push buttons.

TTG-2500N	NTSC Transmission Test Generator (FM)	\$5,995.00
XTG-2500N	NTSC Transmitter Test Generator (AM)	5,995.00
2500RP	Remote control panel	870.00
1000ME	Module extender	225.00
	Extra instruction manual	65.00



# LEITCH VIDEO OF AMERICA, INC.

825K Greenbrier Circle  
Chesapeake, VA 23320  
(804) 424-7920 FAX: (804) 424-0639

# SWITCHERS/ DISTRIBUTION AMPLIFIERS VIDEO PROCESSING



AVS-481

## AVS-481 Audio/Video Switcher

Wideband, low crosstalk switcher for critical applications. Frame accepts one 8 x 1 video and one or two 8 x 1 audio matrices. Accurate delay matching, married or separate switching.

AVS-481 (Includes 481VS) . . . . . \$895.00

<b>AVS-481-1</b>	Audio/video switcher mounting frame without front panel control. Requires the 481RP remote control panel . . . . .	<b>.695.00</b>
<b>481A8</b>	8 x 1 audio switching matrix . . . . .	<b>.150.00</b>
<b>481RP</b>	Remote control panel . . . . .	<b>.365.00</b>
<b>481ME</b>	Module extender for 481VS . . . . .	<b>.145.00</b>
<b>100ME</b>	Module extender for 481AB . . . . .	<b>.65.00</b>
	Extra instruction manual . . . . .	<b>.45.00</b>

## 680 Series Video Distribution Amplifiers

Comprehensive range of DAs for signal distribution and processing, such as equalization, clamping and delay. Universal mounting frames accept any type of amplifier in any slot.

<b>FR-681</b>	Video DA mounting frame 1 RU, flat front panel. Accepts any mix of up to four 680 series modules. Includes one 664PS . . . . .	<b>.495.00</b>
<b>FR-681-C</b>	Video DA mounting frame Same as FR-681 but with fold-down, casting front panel in place of flat front panel . . . . .	<b>.545.00</b>
<b>FR-682</b>	Video DA mounting frame 2 RU, flat front panel. Accepts any mix of up to ten 680 series modules. Includes one 664PS . . . . .	<b>.745.00</b>
<b>FR-682-C</b>	Video DA mounting frame Same as FR-682 but with fold-down, casting front panel in place of flat front panel . . . . .	<b>.795.00</b>
<b>VDA-680</b>	Video distribution amplifier . . . . .	<b>.175.00</b>
<b>VEA-680</b>	Video equalizing amplifier without sub-module . . . . .	<b>.250.00</b>
<b>VEA-681</b>	Video equalizing amplifier with clamping . . . . .	<b>.270.00</b>
<b>VEA-682</b>	Video equalizing amplifier with sub-module . . . . .	<b>.300.00</b>
<b>PDA-660</b>	Pulse distribution amplifier . . . . .	<b>.230.00</b>
<b>VCA-660</b>	Video clamping amplifier . . . . .	<b>.275.00</b>
<b>SVD-680</b>	Switchable video delay amplifier . . . . .	<b>.475.00</b>
<b>SVD-600/160</b>	160ns passive video delay . . . . .	<b>.240.00</b>
<b>SVD-600/320</b>	320ns passive video delay . . . . .	<b>.410.00</b>
<b>SVD-600/640</b>	640ns passive video delay . . . . .	<b>.650.00</b>
<b>664PS</b>	Power supply . . . . .	<b>.395.00</b>
<b>100ME</b>	Module extender . . . . .	<b>.65.00</b>
	680 Series instruction manual . . . . .	<b>.40.00</b>

## 880 Series Audio Distribution Amplifier

Very low noise (100dB S/N), virtually transparent, DA. Input over-voltage protection. Two mounting frame sizes available.

<b>FR-881</b>	Audio DA mounting frame 1 RU, flat front panel, screw terminal back. Accepts any mix of up to four 880 Series modules. Includes one 860PS . . . . .	<b>.520.00</b>
<b>FR-881-C</b>	Audio DA mounting frame Same as FR-881 but with fold-down, casting front panel in place of flat front panel . . . . .	<b>.545.00</b>
<b>FR-882</b>	Audio DA mounting frame 2 RU, flat front panel, screw terminal back. Accepts any mix of up to twelve 880 Series modules. Includes one 860PS . . . . .	<b>.695.00</b>

<b>FR-882-C</b>	Audio DA Mounting frame Same as FR-882 but with fold-down, casting front panel in place of flat front panel . . . . .	<b>.750.00</b>
<b>ADA-881</b>	Audio Distribution Amplifier Eight low impedance outputs. Very low noise (100dB S/N), +30dBu maximum output level, gain range -6 to +33dB, input over-voltage protected and excellent output isolation . . . . .	<b>.230.00</b>
<b>ATG-880</b>	Audio Tone Generator Switch selectable 400 and 1000Hz audio tones. Available on four dual outputs at levels of +8, +4, 0 and -10dBm.  The ATG-880 is particularly suited for stereo installations as it provides four sets of stereo outputs, each at a different level. A feature of the tone generator in this application is the Ident switch which causes one of the output channels in each set to pulse off and on . . . . .	<b>.225.00</b>
<b>860PS</b>	Power supply . . . . .	<b>.420.00</b>
<b>100ME</b>	Module extender . . . . .	<b>.65.00</b>
	880 Series instruction manual . . . . .	<b>.30.00</b>



VPA-310P

## VPA-310P PAL Video Processing Amplifier

• Automatic lock mode • Constant sync and burst output • Programmable VITS retention • For systems B, G, H and I

This VPA version, with its high stability SPG, satisfies the most critical user requirements. Pulse outputs and remote control are optional.

<b>VPA-310P</b>	Remote control panel . . . . .	<b>.675.00</b>
<b>310RP</b>	Line driver . . . . .	<b>.250.00</b>
<b>110LD</b>	Module extender . . . . .	<b>.65.00</b>
<b>100ME</b>	Extra instruction manual . . . . .	<b>.65.00</b>



VPA-330N

## VPA-330N NTSC Video Processing Amplifier

• RS-170A front panel SC/H indication • H and V blanking width adjustable • Selectable VIT retention • Video gain control • Fade to black • Soft white clip • Hard white clip • Soft black clip • Hard or soft clamping • Input video lock • External reference lock • Video and/or chroma AGC • Total bypass • Differential input (optional) • Equalizing (optional) • Cue dot (optional)

<b>VPA-330N</b>		<b>.4850.00</b>
<b>VPA-331N</b>	NTSC video processing amplifier Same as 330N except has chroma gain control and auxiliary video input . . . . .	<b>.4995.00</b>

<b>Options (for VPA-330N and VPA-331N)</b>		
<b>330CD</b>	Cue dot generator . . . . .	<b>.265.00</b>
<b>330PE</b>	Processor equalizer (factory installed) . . . . .	<b>.335.00</b>
<b>330RP-1</b>	Main remote control panel . . . . .	<b>.725.00</b>
<b>330RP-2</b>	Aux. remote control panel . . . . .	<b>.700.00</b>
<b>330RP-3</b>	Cue dot control panel . . . . .	<b>.550.00</b>
<b>100ME</b>	Module extender . . . . .	<b>.65.00</b>
	Extra instruction manual . . . . .	<b>.65.00</b>

# LEITCH VIDEO OF AMERICA, INC.

825K Greenbrier Circle  
Chesapeake, VA 23320  
(804) 424-7920 FAX: (804) 424-0639

# VIDEO PROCESSING EQUIPMENT

## IAD-750N Vertical Interval Adder/Deleter

• Inserts one VI source • Controls lines 16 through 19 • Automatic video continuity • Failure bypass • The IAD-750N will accept up to two of the 660 Series Distribution Amplifiers

IAD-750N	.....	\$1,820.00
100ME	Module extender	.....65.00
	Extra instruction manual	.....30.00

## DFS-3000N NTSC Digital Frame Synchronizer

Sophisticated digital circuitry and engineering advancements have produced a frame synchronizer that eliminates "frame grabbing" or picture "freezing" due to noisy video signals. Available in both two-field and four-field versions. With the four-field version the DFS-3000N is able to deal with the four color fields of the NTSC system and eliminate the horizontal shift of the picture that is associated with two-field operation.

The compact frame synchronizer's output is RS-170A zero SC/H at all times. The unit has RS-232C ports for remote control operation and interface with audio delay synchronizers. The remote control panel has the same functions as the front panel of the DFS-3000N. Other features include field or frame freeze, three modes of trouble-free hot switching, VIR corrector, auxiliary video input and four programmable output system phase presets. The programmable presets and the field or frame freeze functions can be activated through the remote control RS-232C port.

The DFS-3000N NTSC Digital Frame Synchronizer is available in an 8-bit or 9-bit version, (2-field memory), complete with detachable 3-pin power cord and instruction manual.

		B-Bit System 256 levels	9-Bit System 512 levels
DFS-3000N	NTSC Digital frame synchronizer with one 3000FM (two-field version)	\$10,995.00	\$12,500.00
3000CF	Comb filter	1,665.00	1,995.00
3000FM	Frame memory	1,665.00	1,995.00
3000RP	Remote control panel	1,195.00	1,195.00
3000RA	Remote control assignment	1,195.00	1,195.00
3000ME	Module extender	225.00	225.00
1000ME	Module extender	225.00	225.00
	Extra instruction manual	65.00	65.00

## DSF-3100N NTSC Digital Still File System

• Capacity of 650 fields/325 frames (upgradable to 10,000) • Single or dual channel (configurable for preview/on air or A/B operation) • High quality video specifications • Compact control panel with back-lit 20 x 1 LCD display and tally LEDs • Uses standard personal computer with SCSI Interface • Integrated library database

DSF-3100N .....\$29,900.00

### Includes the following items:

• 3100CU Control unit (accepts optional second disk drive) • 3101DD Second disk drive (1200 fields storage) • 3100FB Frame buffer • 3100RP Remote control panel • 3100KB Keyboard • 3100ZX System software • 3101ZX Configuration and diagnostics software • 3100MAN Technical manual • 3101MAN Operations manual • 3100SD Status display (monochrome)

Options		
3100FB	Second channel (with input)	.....\$15,000.00
3100FB-1	Second channel (output only)	.....10,000.00
3100SD	Status display (color)	.....895.00
3100RP	Extra remote control panel	.....2,495.00
3000RA	Remote control assignment	.....1,195.00
3000ME	Module extender	.....195.00
1000ME	Module extender	.....195.00
3100MAN	Extra technical manual	.....75.00
3101MAN	Extra operations manual	.....75.00

### Optional Extra Storage

3101DD	Additional 1200 fields	.....\$5,000.00
3100EX	Expansion frame (Includes one 3101DD. Accepts up to two 3101DD)	.....8,000.00

### Optional Backup/Archiving

3100TD	Streamer tape drive and one tape	.....\$3,000.00
3100TA	DC-600A tape cassette (for 3100TD)	.....65.00

## VIP-1101N NTSC Vertical Interval Processor

• Digitally generated sync, burst and black • RS-170A SC/H always maintained • RS-170A or narrow H blanking selectable • Microprocessor control • Comprehensive self-diagnostics, including setup and timing modes • Digital front panel status display • Automatic failure bypass • Transient-free switching • RS-232C remote control interface • Digital power-down memory • Digitally temperature compensated, high stability crystal oscillator • Programmable signal loss handling • Differential video inputs • High efficiency switching power supply

VIP-1101N	NTSC Vertical Interval Processor (2 VI source inputs standard) Complete with detachable power cord and instruction manual	.....\$4,295.00
1101IP	Input preselect (module)	.....555.00
1101ME	Module extender	.....150.00
100ME	Module extender	.....65.00
	Extra instruction manual	.....60.00



VIP-1101N

## SCH-710P/SCH-711P

### PAL Sync/Subcarrier Phase Monitor

PAL version is calibrated to show preferred SCH phase according to EBU Technical Statement D23-1984.

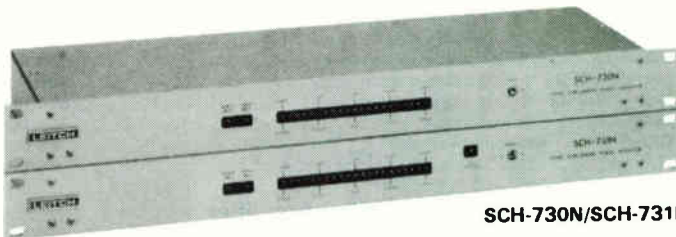
SCH-710P	.....\$1,295.00
710UM	H Timing indication upgrade kit .....585.00
SCH-711P	with H timing indication .....1,495.00

## SCH-730N/SCH-731N

### NTSC Sync/Subcarrier Phase Monitor

This stand-alone instrument performs a direct, accurate measurement of the sync/subcarrier phase relationship (SCH per RS-170A) in a composite video signal. SCH-731N includes H timing comparator to show color framing between two signals.

SCH-730N	.....\$1,300.00
730UM	H Timing indication upgrade kit .....300.00
SCH-731N	.....1,600.00



SCH-730N/SCH-731N

## VSI-605 PAL/NTSC Video Source Identification

Mounting frame accepts up to eight 130SI Source Ident modules. Each module can be programmed for up to eight alphanumeric characters. Character height is 9 or 18 lines. Variable positioning. Additive mix to video. Remote enable/disable.

VSI-505	.....\$1,095.00
130SI	Source ident .....390.00
100ME	Module extender .....65.00
	Extra instruction manual .....30.00



# LEITCH VIDEO OF AMERICA, INC.

825K Greenbrier Circle  
Chesapeake, VA 23320  
(804) 424-7920 FAX: (804) 424-0639

# CLOCK SYSTEMS



CSD-5300N

## CSD-5300N Master Clock System Driver

State-of-the-art Master Clock Driver. Serves as master, submaster or slave. Telephone interface for automatic time checks. RS-232 interface for remote programming and computer reference. Outputs include SMPTE time code, impulse, parallel BCD and more.

<b>CSD-5300N</b>	.....	<b>\$3950.00</b>
<b>5300CD</b>	Impulse driver .....	<b>.210.00</b>
<b>5300MB</b>	Modem board .....	<b>.475.00</b>
<b>5300RI</b>	Reference interface .....	<b>.465.00</b>
<b>5300ME</b>	Module extender .....	<b>.145.00</b>
<b>100ME</b>	Module extender .....	<b>.65.00</b>
	Extra instruction manual .....	<b>.60.00</b>



CDA-5500

## CDA-5500 Clock Driver Autochange

• Autochange for two CSD-5300 Master Clock System Drivers • Compatible with CSD-510 Master Clock System Drivers • Switches impulse drive, time code, RS-232 and telephone line • Accepts external 24VDC stand-by power

<b>CDA-5500</b>	(Includes 5500CS cable set) .....	<b>\$1995.00</b>
<b>5500CS</b>	Cable set .....	<b>.510.00</b>
<b>5500TS</b>	Telephone switch .....	<b>.280.00</b>
<b>1101ME</b>	Module extender .....	<b>.150.00</b>
<b>100ME</b>	Module extender .....	<b>.65.00</b>
	Extra instruction manual .....	<b>.40.00</b>



CDD-5400

## CDD-5400 Clock Distribution Driver with One 5400ID Impulse Driver Board

The CDD-5400 not only increases the impulse clock load capacity of your Master Clock System Driver, it also provides load isolation and overload protection. The compact, 1RU mounting frame comes with a plug-in power supply and will accept one or two distribution driver modules, depending on your expansion or distribution requirements. LED status indicators and fault alarms keep you informed. Also features power back-up and rear panel connections.

<b>CCD-5400</b>	(Includes one 5400ID impulse driver) .....	<b>\$1495.00</b>
<b>5400ID</b>	Impulse driver .....	<b>.790.00</b>
<b>1101ME</b>	Module extender .....	<b>.150.00</b>
<b>100ME</b>	Module extender .....	<b>.65.00</b>
	Extra instruction manual .....	<b>.40.00</b>

## VCD-5600 Video Character Display

• Keys SMPTE/EBU time code (HH:MM:SS) into program video • Simultaneous display of time and text • Three character sizes • RS-232/422 input • Time window can contain EEPROM-stored source ident

The VCD-5600 is a 1RU, stand-alone device, designed to key SMPTE/EBU time code derived real time (HH:MM:SS) into program video. No input selection or switching is needed for either type of code. Time can be displayed in 12-hour format with AM/PM indication, or in 24-hour format. Local time-offset can be added in 30 minute increments. The unit is also compatible with a user-defined auxiliary offset when it is driven from the CSD-5300 Clock System Driver. A second line under the time numerals can be used for source identification. The characters appear white on program background or on a black matte. The time/ident window can be positioned anywhere in the picture area.

<b>VCD-5600N</b>	.....	<b>\$1895.00</b>
<b>5600CD</b>	2nd Character Display Input for the VCD-5600N .....	<b>.895.00</b>
<b>1101ME</b>	Module extender .....	<b>.150.00</b>
	Extra instruction manual .....	<b>.35.00</b>

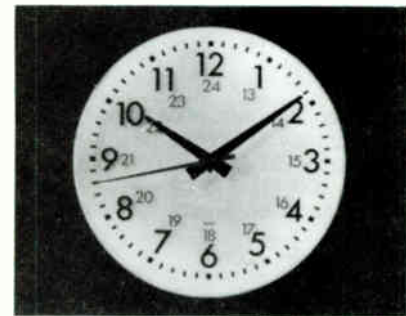
## DTD-5200 Series Digital Time Displays

The DTD-5200 Series are microprocessor controlled devices and accept standard serial time code in SMPTE or EBU format. No input selection or switching is needed for either type of code. The decoded signal drives a 6-digit, 7-segment real time (time of day) display in hours, minutes and seconds (HH:MM:SS). Either the 24-hour format or the 12-hour format with AM/PM indication can be selected.

The time displays are available in rackmount, console mount or desktop versions. Readout digits are 0.8" H. The brightness of the readout can be set to one of four levels with a rear panel DIP switch.

The time display units are compatible with a user-defined time offset when driven from the CSD-5300N Clock System Driver.

<b>DTD-5200</b>	Digital time display .....	<b>\$ 875.00</b>
<b>DTD-5201</b>	Digital time display with BCD output .....	<b>.950.00</b>
<b>DTD-5202</b>	Digital time display with DQC output .....	<b>1250.00</b>
<b>DTD-5203</b>	Digital time display with ESE output .....	<b>1750.00</b>
<b>DTD-5210</b>	Desktop version of the DTD-5200 .....	<b>875.00</b>
<b>DTD-5220</b>	2.25" LED read out display .....	<b>1250.00</b>
	Extra instruction manual for the 5200 Series .....	<b>.35.00</b>



5012

## DAC-5000 Series

### Self-setting Analog Clocks

The DAC-5000 Series clocks are designed to combine the advantages of large, easily understood analog time displays and the self-setting capability of digital SMPTE/EBU serial time code readers. This advanced automation is made possible by a unique, digitally controlled drive mechanism. A microprocessor is used to decode the digital time code information and precisely position each hand via three independent motors.

<b>DAC-5005</b>	Digital analog clock 5" desktop .....	<b>\$695.00</b>
<b>DAC-5006</b>	Digital analog clock 5" rackmount .....	<b>.655.00</b>
<b>DAC-5008</b>	Digital analog clock 8" wall mount .....	<b>.695.00</b>
<b>DAC-5012</b>	Digital analog clock 12" wall mount .....	<b>.695.00</b>
<b>DAC-5016</b>	Digital analog clock 16" wall mount .....	<b>.795.00</b>
<b>RM-5008</b>	Rackmount kit for the DAC-5008 .....	<b>.60.00</b>
<b>RM-5012</b>	Rackmount kit for the DAC-5012 .....	<b>.60.00</b>
<b>RM-5016</b>	Rackmount kit for the DAC-5016 .....	<b>.60.00</b>
<b>WM-5012</b>	Dual wall and ceiling mount kit for two DAC 5012's .....	<b>100.00</b>
	Extra instruction manual .....	<b>.30.00</b>
<b>AIC-5108</b>	12VDC analog impulse clock 8" wall mount .....	<b>.450.00</b>



# LEMO USA, INC.

P.O. Box 11488  
 Santa Rosa, CA 95406-0626  
 (707) 578-8811 Telex: 34-0933  
 FAX: (707) 578-0869

# CABLE CONNECTORS

## FA STRAIGHT PLUG NON-LATCHING

### Dimensions

Size	A		B		e	E		L		M		S <sub>1</sub>		S <sub>2</sub>	
	In.	MM.	In.	MM.	MM.	In.	MM.	In.	MM.	In.	MM.	In.	MM.	In.	MM.
0	.394	10	.492	12.5	M9×0.6	.079	2.0	.787	20.0	.441	11.2	.323	8.2	.433	11
1	.551	14	.630	16.0	M12×1	.098	2.5	.953	24.2	.492	12.5	.413	10.5	.551	14
2	.709	18	.787	20.0	M15×1	.138	3.5	1.091	27.7	.543	13.8	.531	13.5	.669	17
3	.866	22	.984	25.0	M18×1	.177	4.5	1.339	34.0	.669	17.0	.650	16.5	.866	22

Will mate with RA, RASC, RC



TRIAx VIDEO CONNECTORS

WITH PROTECTIVE SHEATHS

## VIDEO TRIAX

LEMO's Video Triax Connectors are built to meet the rigorous demands of the television industry. The close tolerances and superior craftsmanship assure consistent, reliable transmissions.

### Technical Characteristics:

- Nominal impedance: 75 ohms
- Operating frequency: 2.5 GHz
- VSWR: 1.01 + 0.076f (GHz)
- Insertion loss: < 0.4 dB
- Contact resistance:
  - center contacts ≤ 3m ohms
  - internal ground ≤ 1m ohms
- Breakdown voltage:
  - center contact/internal ground: 4kVrms
  - internal/external ground: 9.5kVrms
- Operating temperatures: -50°C + 260°C (-58°F + 500°F)
- Connector retention force, engaged: min. 28N
- Cable retention force: min. 500N
- Recommended cables:
  - Triax Felten & Guillaume Part No. 127657 and 127664
  - Triax BIW Part No. 10069-C-G20 and 10070-C-G14
  - Triax Belden types 9232, 8233, 9267 and 8232 (accepts size 9.2 thru 13.2mm)

## TELEMANIPULATOR-ROBOTIC CONNECTORS

### FEATURES

- Hermaphroditic insulators
- Multi-range contacts
- Higher pin density model with keyed polarization

## PLUGS—TRIAxIAL

### F STRAIGHT PLUG WITH CABLE COLLET

#### Dimensions

Size	A		C(max.)		L(approx.)		M(approx.)		S <sub>2</sub>	
	In.	MM.	In.	MM.	In.	MM.	In.	MM.	In.	MM.
0	.354	9.0	.165	4.2	1.36	34.5	.965	24.5	.256	6.5
1	.472	12.0	.244	6.2	1.67	42.5	1.24	31.5	.335	8.5
2	.583	14.8	.323	8.2	2.05	52.0	1.57	40.0	.433	11.0
3	.701	17.8	.402	10.2	2.40	61.0	1.81	46.0	.551	14.0
4	.976	24.8	.520	13.2	3.03	77.0	2.32	59.0	.748	19.0

Will mate with RA, RASC, RC

### Dimensions of Panel Cut-Out

Size	For Standard Mounting			
	X		Y	
	In.	MM.	In.	MM.
0	.358	9.1	.327	8.3
1	.475	12.1	.417	10.6
2	.594	15.1	.535	13.6
3	.717	18.2	.657	16.7

### Dimensions of Panel Cut-Out

Size	For Mounting with Insulating Washer			
	X		Y	
	In.	MM.	In.	MM.
0	.429	10.9	.394	10.0
1	.547	13.9	.484	12.3
2	.705	17.9	.642	16.3
3	.866	22.0	.803	20.4

## RECEPTACLES—TRIAxIAL

### RA STRAIGHT RECEPTACLE

#### Dimensions

Size	A		B		e	E		L		M		S <sub>1</sub>		S <sub>2</sub>	
	In.	MM.	In.	MM.	MM.	In.	MM.	In.	MM.	In.	MM.	In.	MM.	In.	MM.
0	.394	10	.492	12.5	M9×0.6	.275	7.0	.740	18.8	.047	1.2	.323	8.2	.433	11
1	.551	14	.630	16.0	M12×1	.295	7.5	.913	23.2	.059	1.5	.413	10.5	.551	14
2	.709	18	.787	20.0	M15×1	.335	8.5	1.024	26.0	.071	1.8	.531	13.5	.669	17
3	.866	22	.984	25.0	M18×1	.453	11.5	1.252	31.8	.079	2.0	.650	16.5	.866	22
4	1.102	28	1.260	32.0	M25×1	.472	12.0	1.516	38.5	.098	2.5	.925	23.5	1.181	30

Will mate with F, FA

### RASC STRAIGHT RECEPTACLE WITH CABLE COLLET

#### Dimensions

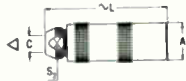
Size	A		B		C		e	E		L		M		S <sub>1</sub>		S <sub>2</sub>		S <sub>3</sub>	
	In.	MM.	In.	MM.	In.	MM.	MM.	In.	MM.	In.	MM.	In.	MM.	In.	MM.	In.	MM.	In.	MM.
0	.394	10	.492	12.5	.165	4.2	M9×0.6	.275	7.0	1.319	33.5	.047	1.2	.323	8.2	.256	6.5	.433	11
1	.551	14	.623	16.0	.244	6.2	M12×1	.295	7.5	1.594	40.5	.059	1.5	.413	10.5	.335	8.5	.551	14
2	.709	18	.787	20.0	.323	8.2	M15×1	.335	8.5	1.968	50.0	.071	1.8	.531	13.5	.433	11.0	.669	17
3	.866	22	.984	25.0	.402	10.2	M18×1	.453	11.5	2.323	59.0	.079	2.0	.650	16.5	.551	14.0	.866	22
4	1.102	28	1.260	32.0	.520	13.2	M25×1	.472	12.0	2.953	75.0	.098	2.5	.925	23.5	.748	19.0	1.181	30

Will mate with F, FA

### RC STRAIGHT RECEPTACLE WITH CABLE COLLET

#### Dimensions

Size	A		C		L		S <sub>2</sub>	
	In.	MM.	In.	MM.	In.	MM.	In.	MM.
0	.350	8.9	.165	4.2	1.319	33.5	.256	6.5
1	.469	11.9	.244	6.2	1.594	40.5	.335	8.5
2	.583	14.8	.323	8.2	1.968	50.0	.433	11.0
3	.701	17.8	.401	10.2	2.323	59.0	.551	14.0
4	.976	24.8	.520	13.2	2.953	75.0	.748	19.0



Will mate with F, FA

## INSERTS—TRIAxIAL

### INSERTS FOR STANDARD SERIES TRIAXIAL UNITS

(550 and 575 for cables without shield)

(650 and 675 for cables with shield)

Size	Insert Part Number	Imped Ohms	Contact Dia.		Wire Size Maximum		Working Voltage		Test Voltage		Cur. Amps	Shell Configurations Available
			In.	MM.	AWG	MM.	AC	DC	AC	DC		
0	550	50	.036	0.9	24	0.8	100	150	300	500	4	F, FA, RA, RASC, RC
	650	50	.036	0.9	24	0.8	300	500	1100	1800	4	F, FA, RA, RASC, RC
1	550	50	.036	0.9	24	0.8	300	400	800	1200	4	F, FA, RA, RASC, RC
	650	50	.036	0.9	24	0.8	300	400	800	1200	4	F, FA, RA, RASC, RC
2	550	50	.063	1.6	18	1.4	400	600	1200	1800	12	F, RA, RASC, RC
	650	50	.063	1.6	18	1.4	500	700	1500	2200	12	F, FA, RA, RASC, RC
	575	75	.036	0.9	24	0.8	500	700	1500	2200	4	F, RA, RASC, RC
	675	75	.036	0.9	24	0.8	600	800	1700	2400	4	F, RA, RASC, RC
3	550	50	.078	2.0	14	1.8	500	700	1500	2200	20	F, RA, RASC, RC
	650	50	.078	2.0	14	1.8	200	300	700	1100	20	F, FA, RA, RASC, RC
	575	75										F, RA, RASC, RC
4	550	50	.118	3.0	12	2.7					50	F, RA, RASC, RC
	650	50	.118	3.0	12	2.7	500	700	1500	2200	50	F, RA, RASC, RC
	575	75										F, RA, RASC, RC
4	675	75										F, RA, RASC, RC
	675	75										F, RA, RASC, RC

In some applications the female contact is required in the plug. Add "X" to shell configuration (ex. FX) and consult Lemo before specifying this feature.

# LENCO, INC.

300 N. Maryland St.  
 Jackson, MO 63755  
 (314) 243-3147 (800) 325-8494

# TERMINAL EQUIPMENT

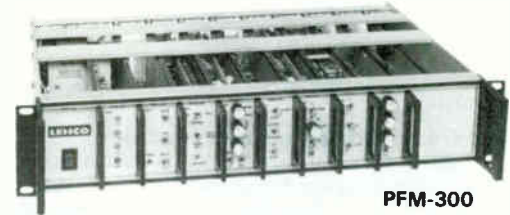
## 300 SERIES TERMINAL EQUIPMENT

### PFM-300 Mainframe and Power Supply

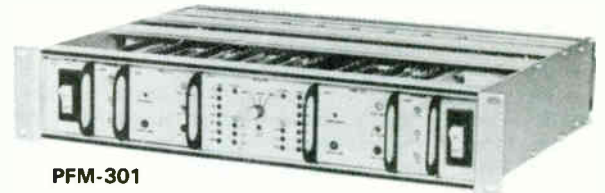
The PFM-300 Mainframe is the heart of the 300 System. It consists of a power transformer, the PPS-302 Power Supply, and nine cells with connectors mounted on a "mother board". The PPS-302 supplies the power buses in the frame with  $\pm 15\text{VDC}$  and  $+8\text{VDC}$ .

PFM-300 Mainframe and power supply . . . . . \$ 875.00

PFM-300-1 300 System Mainframe  
 with dual power supplies . . . . . 1095.00



PFM-300



PFM-301

### PFM-301 Mainframe and Power Supply

Unlike the PFM-300, the PFM-301 is a system frame with a dual power transformer and power supply. It is designed to house two PMG-312 Master Sync Generators and one PCO-318 Changeover unit only.

PFM-301 Mainframe and power supply . . . . . \$ 1595.00



PSG-310

### Accessories

PPS-302 Spare power supply for PFM-300 frame . . . . . \$ 145.00

PBL-305 300 Series blank panel—single width . . . . . 15.00

PBL-306 300 Series blank panel—double width . . . . . 16.00

PEX-308 300 Series extender board . . . . . 71.00

PEX-309 300 Series extender for double width units . . . . . 128.00



PSG-311

### PSG-310 Digital Color Sync Generator W/RS-170 Genlock

The PSG-310 Digital Color Sync Generator exemplifies the latest in design techniques of digital engineering. The unique circuit allows us to offer an ultra-stable and trouble-free generator, with exclusive features not normally found in broadcast quality equipment.

PSG-310 Digital color sync generator . . . . . \$ 1238.00

Option 1 Variable blanking width assembly . . . . . 170.00



PMG-312

### PSG-311 Digital Color Sync Generator

The PSG-311 Digital Color Sync Generator incorporates the same unique design techniques that are found in the PSG-310 Sync Generator. The only exception is in the genlock circuitry. The PSG-311 was engineered to operate with helical VTR's or other equipment that supplies unstable time base signals.

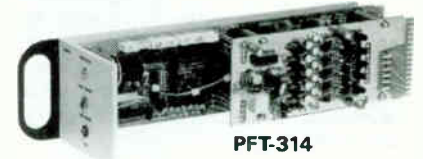
PSG-311 Digital color sync generator . . . . . \$ 1238.00

Option 1 Variable blanking width assembly . . . . . 170.00

### PMG-312 Master Sync Generator

The PMG-312 is a professional Master Color Sync Generator designed to meet the most demanding specifications for performance and stability. The design criterion was to provide a high quality master color sync generator that includes all the features desired by the discerning engineer. Utilization of the latest state-of-the-art techniques are incorporated in the PMG-312.

PMG-312 . . . . . \$ 2575.00



PFT-314

### PSG-313A Frame Resident, Genlocking, RS170A Digital Sync Generator

Developed to meet the advanced technology demands of the Broadcast, Industrial and Computer Graphics video markets.

**Features:** RS170A specification, Digital Design, Multifunction genlock with exclusive PC lock, Panel status lights, Full 360° Sch phasing, Full  $\pm 5\mu\text{s}$  H phasing, Fail safe mode for loss of burst, Broadcast spec. TCVCXO (Temperature Controlled, Voltage Controlled, Crystal Oscillator).

PSG-313A . . . . . \$ 1535.00

### PFT-314 Frame Timing Module

The PFT-314 basically has the same system responsibility as its sister unit, the PGS-315 Generator Substitute unit. That is, its primary function is to receive an external signal and supply the PFM-300 frame mother board with all the six drive signals. The PFT-314 has major differences: The input signal is a Composite Reference Signal (CRS) instead of individual drive signals; provides a complete set of output signals for use external to the frame; has advanced timing capabilities instead of just delay, and subcarrier is phase locked to H Sync.

PFT-314 . . . . . \$ 1095.00



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# TERMINAL EQUIPMENT

## 300 SERIES (cont'd)

### PGS-315 Sync Generator Substitute Module

The PGS-315 Sync Generator Substitute module is a valuable member of the overall 300 System concept. It has the primary function of replacing the PSG-310 or PSG-311 Sync Generators when external drive sources are available to the PFM-300 Frame. The PGS-315 accepts Sync, Blanking, H-Drive, V-Drive and Subcarrier from an external source, processes these signals and distributes them to the proper buses in the frame. The identical digital delay circuits, as described in the PSD-340 System Delay Module, are also in the PGS-315 Module, providing the system timing capabilities for the frame. Because the PGS-315 is not a generator, although in this application it is performing the same function, the pulses supplied to the frame are absolutely jitter free and can be perfectly timed.

**PGS-315** ..... \$663.00

### PFI-316 Frame Interface Module

The PFI-316 Frame Interface Module is a unique and inexpensive way of allowing an external generator to supply signals to the PFM-300 Frame. It has the primary function of replacing the PSG-310 or PSG-311 when external drive pulses are available to the PFM-300 Frame. The PFI-316 accepts Sync, Blanking, H-Drive, V-Drive, Subcarrier, and Burst Flag from an external source for proper distribution to the mother board buses in the frame. There are no delay circuits in the PFI-316. Its function is simply to apply the proper level and impedance of each signal to the frame.

**PFI-316** ..... \$413.00

### PCO-317 Automatic Sync Changeover Switch

The PCO-317 Automatic Sync Changeover Switch is a remarkable state-of-the-art device designed to instantly recognize the failure of any synchronizing signals and immediately switch to an alternate source. Signal sensing circuits monitor each input for the level and timing of the Sync, Blanking, Horizontal Drive, Vertical Drive, Burst Flag, and Subcarrier signals. Upon loss of the primary generator, the PCO-317 will supply the frame buses with the alternate source only if their signals are acceptable to the changeover module's parameters. It will not switch to a faulty generator.

**PCO-317** ..... \$655.00

**PCO-318 Automatic Sync Generator Changeover with Black Burst (for PFM-301 frame only)** ..... \$922.00  
**Option 1 Black Burst Generator, (for PCO-318 only)** ..... \$275.00  
**Option 2 Remote Control for PCO-318** ..... \$220.00

### PCB-320 Encoded Color Bar Generator

The PCB-320 Encoded Color Bar Generator is a precision test signal generator engineered to conform to the EIA RS-189-A and NTSC specifications. Reflecting the progressive concept of the 300 System, the PCB-320 includes the new SMPTE Alignment Color Bar Test Signal with chroma and black set signals. The encoder is a true NTSC standard as evidenced by the precise filtering of the I and Q channels shown by the waveform.

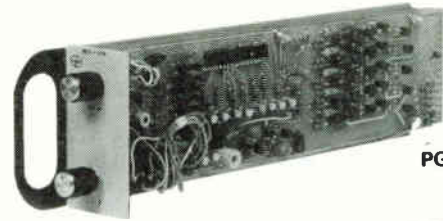
One of the exclusive features of the PCB-320 is the single control composite video delay circuit which, for the first time, allows system timing of test signals.

**PCB-320** ..... \$1082.00

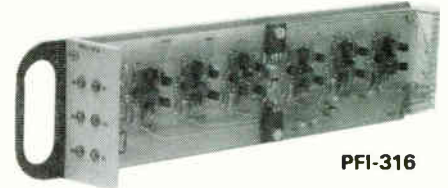
### PBB-321 Black Burst Generator

The PBB-321 Black Burst Generator is a precision professional broadcast quality Black Burst Generator that provides a "Color Black" video signal composed of composite sync, set-up and color burst. This signal is used as the black reference input to switching systems, cameras or may be used as a signal source to genlock remote sync generators to "House" sync.

**PBB-321** ..... \$655.00



PGS-315



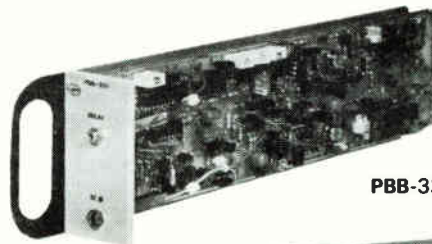
PFI-316



PCO-317



PCB-320



PBB-321



PBD-322

### PBD-322 Bar Dot/Visual Reference Generator

The PBD-322 Bar Dot/Visual Reference Generator is one of the 300 System's most technically advanced signal generators. It is two separate and independent generators providing the standard dot grading signals, and a new linearity test signal, including a "Safe Title" signal.

The Bar Dot Generator digitally produces EIA standard horizontal and vertical bars, cross hatch, and dot signals used in the testing for convergence of color monitors and camera sweep circuits. Horizontal and vertical position controls, plus pattern selection, are located on the front panel.

**PBD-322** ..... \$922.00



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# TERMINAL EQUIPMENT

## 300 SERIES (cont'd)

### PMB-323 Multiburst/Sweep Generator

The PMB-323 Multiburst and Sweep Generator is a combination of two precision test signal generators which are required for overall system frequency response measurements. A front panel switch provides for selection of either the Multiburst signal, the Sweep signal, or both (on alternate lines). Other switches allow for the selection of full or reduced amplitude and burst on-off. The multiburst frequencies are preset to EIA standards but burst frequencies can be adjusted to 10MHz if required. Stability of both amplitude and frequency is assured by a precision function generator operating within a feedback loop. The burst levels are fixed and cannot change as are the sync and setup levels. The Sweep Generator provides a linear sweep at a horizontal rate from 0.5MHz to approximately 12MHz with overall flatness of 0.2dB. Fixed markers are provided at 2.0MHz intervals.

PMB-323 ..... \$1025.00

### PSS-324 Stairstep/Ramp Generator

The PSS-324 Stairstep/Ramp Generator provides a precision test signal for measuring differential phase and gain, luminance linearity, and burst phase error of a video system. An exclusive feature of the generator is a negative signal for all combinations of test signals. This is a very important function for the testing of differential phase and gain in the burst region. Strict conformity to the standards of IEEE 206 is adhered to, as well as a true video bounce test that conforms to standard APL definitions.

PSS-324 ..... \$1133.00

### PPB-325 SIN<sup>2</sup> Pulse Window Generator

The PPB-325 Sin<sup>2</sup> Pulse Window Generator is another in the series of fine, precision, state-of-the-art signal generators. Unique engineering and packaging techniques have provided the following nine precision test signals in a one module width plug-in unit: Modulated 12.5T and 20T, T, 2T, or T/2 pulses, window or bar signals and the exclusive "pluge" pulse. The PPB-325, with a combination of front panel switches and internal strapping options, can provide almost any combination of the nine signals. This feature was designed to allow the user to determine the proper test signals which are best suited for his particular system application.

PPB-325 ..... \$1334.00

### PFF-329 Black Burst/Background Generator

The Black Burst section of the PFF-329 provides a "Color Black" video signal composed of composite sync, setup, and color burst. This signal is used as the black input to switching systems, or may be used as a signal source to genlock remote sync generators to "House" sync.

The Color Background section produces a solid field of color and, when connected to the input of a special effects generator or video insert keyer, provides color backgrounds for titles and other inserts. A standard feature of all 300 System Generators is a composite delay which provides for delaying the output signal up to 1.5µs to assist in system timing.

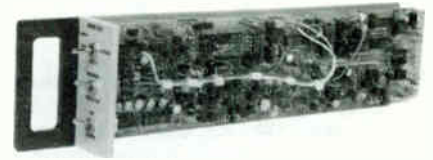
PFF-329 ..... \$700.00

### PSD-340 System Delay Module

The PSD-340 System Delay Module has completely changed the traditional system timing techniques as they are now used. This unique system concept obsoletes the use of pulse and subcarrier distribution amplifiers, as well as excessive cable or other external delay devices used in system timing. The PSD-340 will supply all drive signals to any video source, including subcarrier, with the unique capability of timing these signals to your system requirements. This jitter-free device can be compared with having an individual genlock sync generator driving each camera, switcher, VTR, etc.

PSD-340 ..... \$605.00

PMB-323



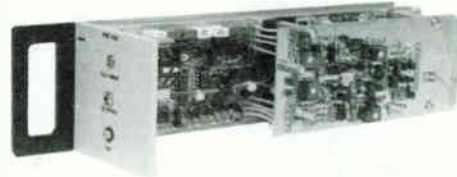
PSS-324



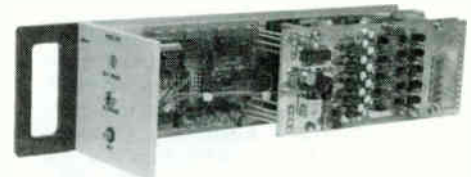
PPB-325



PST-341



PBT-342



### PST-341 System Timing Module with Optional Black Burst Output

The PST-341 System Timing Module is a new generation of system timing equipment added to the "300 System". It not only has delay, but advance as well. The PST-341 requires the Composite Reference Signal (CRS), from the PMG-312 Master Sync Generator via the PFM-300 Frame mother board. This Composite Reference Signal supplies Master Sync Generator timing information to the PST-341 for the purpose of system distribution and timing.

PST-341 ..... \$1095.00

### PBT-342 Black Burst Timing Module

The PBT-342 Blackburst Timing Module not only has delay, but advance as well. The PBT-342 requires the Composite Reference Signal (CRS) from the PMG-312 Master Sync Generator via the PFM-300 Frame mother board. This Composite Reference Signal supplies Master Sync Generator timing information to the PBT-342 for the purpose of system distribution and timing of blackburst required devices.

PBT-342 ..... \$1095.00

### PPA-343 Pulse Distribution Amplifier

The PPA-343 Pulse Distribution Amplifier is an important module in the overall concept of the 300 System. Although the PSD-340 System Delay Module is the modern method of pulse distribution and system timing, there are still many applications where the standard methods of individual pulse distribution are required.

PPA-343 ..... \$314.00

Option 1 Pulse Delay Assembly for PPA-343 ..... 214.00

Prices and Specifications Subject to Change Without Notice.

V-729

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# TERMINAL EQUIPMENT

## 300 SERIES (cont'd)

### PFO-344 Fan-Out Pulse Distribution Amplifier

The PFO-344 is a universal fan-out amplifier consisting of six separate and independent DA cells. Each cell has one input and one output with unity gain. Each cell can be programmed by changing connector positions to select any combination of drive pulses. The pulses are made available on the frame mother board by any of the 300 Series sync generators or an interface module.

**PFO-344** .....\$413.00

### PSA-346 Subcarrier Distribution Amplifier

The PSA-346 Subcarrier Distribution Amplifier was designed to supplement the versatile 300 System's unique concept and incorporates the same state-of-the-art design techniques found in all of the 300 System modules. The PSA-346 is a precision, ultra-stable, regenerative subcarrier amplifier whose advanced circuitry provides a pure, distortion-free 3.58MHz sine wave.

**PSA-346** .....\$435.00

### PVA-350 Video Distribution Amplifier

The PVA-350 Video Distribution Amplifier reflects a new concept in engineering techniques, bringing to the 300 System a versatile state-of-the-art video amplifier with outstanding performance characteristics. The PVA-350 is flat to 15MHz, has a unique automatic DC offset control, and offers low noise, excellent stability, and virtually no distortion. A differential amplifier on the input is standard in the PVA-350, and provides 70dB of common mode rejection.

**PVA-350** .....\$319.00

**Option 1 Feedback Clamp Assembly** .....121.00

**Option 2 Cable Equalizer Assembly** .....99.00

**Option 3 Sync Adding Assembly** .....66.00

### PVA-351 White Clip Video Amplifier

The PVA-351 Video White Clip Distribution Amplifier has a differential high impedance looping input that is standard and provides more than 60dB of common mode rejection for reduced ground loop hum pickup. Gain is front panel adjustable over a  $\pm 6$ dB range. Frequency response is flat to 10MHz. The PVA-351 offers low noise and excellent stability with virtually no signal degradation. Four 75 ohms source terminated DC coupled outputs are provided with excellent low frequency transient response and 40dB of isolation.

**PVA-351** .....\$424.00

### PVA-352 Utility Video Distribution Amplifier

The PVA-352 provides the quality-conscious as well as cost-conscious user the features and performance expected by broadcasters and video production houses.

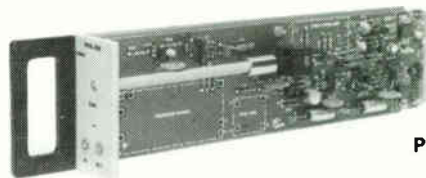
Dependable video distribution within a television facility is critical. The front mounted power status LED remains lighted when the PVA-352 is correctly powered. A front mount gain control provides precise adjustments of each distribution amplifier for a variety of applications. The front mounted video test points allow critical system analysis without removing the module from the frame.

**PVA-352** .....\$197.00

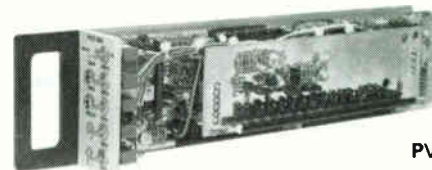
### PVD-354 Variable Delay Video Amplifier

The PVD-354 Variable Delay Amplifier is a precision device that has widespread system applications when quality and accuracy of video timing is desired. Most passive video display devices have a very sharp frequency roll-off above 5MHz and show an insertion loss of about 6dB. This requires the use of a video distribution amplifier with enough gain to bring the signal up to normal. The PVD-354, however, is a wideband device that has no insertion loss, and will provide up to 1,051 $\mu$ s of equalized video delay, with infinite resolution of delay setting.

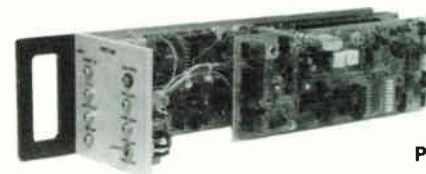
**PVD-354** .....\$1095.00



PVA-350



PVD-354



PRC-365



PSW-367

### PRC-365 Processing Amplifier with Sync Generator

The PRC-365 is a high performance video processing device. It is designed for use in studios, master control facilities or transmitter locations. It features standard or helical lock, differential video input, luminance only black clip, a soft white clip, internal digital sync generator, vertical interval line select, front panel controlled pedestal, genlock capability and a front panel LED that indicates the presence or absence of video. The PRC-365 requires only the PFM-300 Frame and Power Supply for operation.

**PRC-365** .....\$2079.00

### PSW-367 6x1 Vertical Interval Switcher

The PSW-367 6x1 Test Switcher was designed to provide a unique and economical method of selecting the various output signals from the test signal generators that may be installed in the PFM-300 Frame. In addition to the six test module signals, provisions have been included to allow the PSW-367 to switch to either the "Genlock Video" or one other external video source. The PSW-367 will switch during the vertical interval and the LED display will constantly monitor the switch status.

**PSW-367** .....\$605.00



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# TERMINAL EQUIPMENT

PSG-412



T8C-450



PVS-430



PCD-473



## THE 400 SYSTEM

### PSG-412 Master Sync Generator with Genlock, RS170A\*

The PSG-412 is a Master Sync Generator with genlock. This unit meets the proposed RS-170A specifications. It maintains an accurate SC/H phase condition. There are 2 outputs of each drive pulse plus blackburst, video, CRS, burst flag and color field identification. CFI is programmed for field 1 line 10. An ovenized crystal is used to maintain an accurate internal timebase. All pulse widths are adjustable except VD and field ID. Vertical blanking is selectable between line 17 through 21. Also converts the genlock video to RS-170A by inserting a regenerated blackburst signal.

PSG-412 ..... \$3502.00  
PBL-400 1<sup>3</sup>/<sub>4</sub>" x 19" Blank Panel\* ..... 43.00

### PCO-418

#### Automatic Sync Pulse Changeover for PSG-12\*

The PCO-418 Automatic Changeover Switch instantly recognizes the failure of any of nine pulses and immediately switches to an alternate generator. There are nine LEDs metering each generator. A nine position DIP switch allows the lock-out of any of the nine generator pulses. A front panel switch selects GEN-1 or GEN-2 or Auto. The unit switches on failure of HD, VD, SY, SC, BL, CRS, BF, BB and CFI.

PCO-418 ..... \$1995.00

### VNM-428 Video Noise Meter\*

The VNM-428 is a Video Noise Meter that offers the in-service capability of making accurate real time signal-to-noise measurements. It has a built-in calibrator that insures an accuracy of 1% through its range of 28.5dB to 76dB. The signal-to-noise ratio is shown directly on a large LED display. The VNM-428 can be calibrated to read directly in either the EIA or PAL-M system standards.

VNM-428 ..... \$2145.00

### PVS-430 Videoscope

The PVS-430 provides a true method for certifying the correct SC/H phase relationship. The PVS-430 will measure very accurately the SC/H phase relationship and compare the video input of a switcher or mixer for precise and accurate system timing. In an editing system, the Videoscope provides a useful method of determining off-tape SC/H phase.

PVS-430 ..... \$3245.00  
PVS-435\* Videoscope with video display and LED readout ..... 4153.00

### TBC-450 Digital Time Base Corrector

The TBC-450 high performance unit is sophisticated in its techniques yet its simplistic design allows unparalleled performance in a wide range of professional broadcast applications.

At less than 15 lbs. and only 1 rack unit tall, this digital device with its remarkably low power consumption requires no external cooling. The TBC-450 is engineered to be ultra reliable to keep downtime to a minimum, yet its totally digital design allows for quick and easy servicing. An essential part of any professional editing system, this compact unit has been constructed to be rugged enough to withstand the toughest applications.

With its state-of-the-art components, the TBC-450 is the answer to today's requirements for space-saving design, superior quality and unbeatable economy for the professional video user.

TBC-450 ..... \$5995.00

\*Indicates availability for PAL System also

### PRC-465 Processing Amplifier

The PRC-465 is a self-contained stand alone processing amplifier. The unit features chroma processing, a 10MHz luminance band pass, luminance only black clip, white clip, and a line by line VIT-VIR pass or delete selector. The unit has its own built-in sync generator, but may be set up to run off of an external video reference source such as blackburst. An internal switch allows the unit a greater lock range and enables the device to process the output of a helical scan VTR. Front panel controls provide adjustment of Burst Phase, Horizontal Phase, White Clip, Set Up, Video Gain, Chroma Gain, and Proc On/Off switch.

PRC-465 ..... \$2525.00

### PCE-466 Color Encoder\*

The PCE-466 Encoder produces an NTSC/EIA color signal from either a three or four channel video source. The fourth, or luminance channel, is optional. The encoder requires red, green, blue, sync, SC and blanking input. Split field color bars meeting RS-189A are standard. Full field or split bars are selectable internally. Front panel switches allow the selection of operate, color bars, black burst or mono. All inputs are 75 ohm loopthrough. Two video outputs.

PCE-466 ..... \$3450.00  
PCE-4661\* Plug-in luminance channel ..... 795.00  
PCE-4662 Plug-in genlock option ..... 747.00

### PSW-467 Vertical Interval Bridging Switcher\*

The PSW-467 is a 12 x 1 vertical interval bridging switcher. It is designed to efficiently and economically route or delegate video signals.

PSW-467 ..... \$1150.00

### PAF-467 Audio Follow Bridging Switcher\*

The PAF-467 is a 12 x 1 Audio Follow Video Switcher designed as a companion to the PSW-467 Video Switcher.

PAF-467 ..... \$940.00

### PSR-467 Remote Control\*

The PSR-467 Remote Control is a self-contained rackmounted unit that can be located up to 1000' from the switcher location. It requires no external power source because it receives its power from the PSW-467 or PSW-468 Video Switcher.

PSR-467 ..... \$604.00  
PSR-4673\* Remote control P.C. board assembly ..... 289.00

### PSW-468 Remote Vertical Interval Video Switcher\*

The PSW-468 is a 12 x 1 remotely controlled, vertical interval video switcher. This switcher has no push buttons. All input switching is controlled by the companion PSR-467 remote control unit or PSW-467 vertical interval switcher.

PSW-468 ..... \$985.00

### PCD-473 NTSC Component Decoder

The PCD-473 is a self-contained chroma demodulator. The unit provides outputs of red, green, and blue signals or Y, R-Y, B-Y, signals, or I, Y, Q signals. Selection of outputs is internal to the unit through a jumper system. The unit features a comb filter which is switchable in and out of service through a lighted front panel switch. The front panel controls provide adjustment of Hue, Saturation, and Video level. A regenerated composite sync output is standard on the PCD-473.

PCD-473 ..... \$3190.00





**CSL-710**



**CCE-850**

**700 SERIES EQUIPMENT**

**CSL-710 Digital Color Sync Generator**

The CSL-710 Digital Color Sync Generator is a professional broadcast piece of equipment that meets several applications. The generator has a complete complement of NTSC pulses meeting EIA RS-170 specifications.

Two genlock modes of operation are provided by the CSL-710. The Standard genlock mode for RS-170, and Helical genlock mode for unstable time base signals. The genlock circuit has a unique noise immunity circuit which makes the generator highly insensitive to noise or extreme changes in input levels. The incoming video is sensed by an extremely fast video presence detector, processed and locks the generator automatically to the 50% point of the sync pulse. The Helical genlock mode will lock to most helical scan video tape recorders. It will lock to the unstable time base signal and ignore the fact that information is missing during the head drop out period of the VTR. In the Helical mode, it does not require a coherent burst input to achieve lock. Input level for genlock is automatically compensated to maintain genlock on various input signal levels.

A temperature compensated crystal oscillator operating at 14.318180 MHz provides the stable master frequency source from which all pulses and subcarrier are derived. All pulse widths and levels are fixed per EIA standards.

Two sets of output are provided on the rear panel including Horizontal Drive, Vertical Drive, Blanking, Sync, Subcarrier and Burst Flag. The modern design front panel provides test points for pulse measurements. Adjustments for Horizontal Frequency, Horizontal and Vertical Phase and Subcarrier Phase as well as the selection of Standard or Helical genlock is located on the front panel. The unit is self contained, operating on 100 to 130 VAC and drawing only 24 watts.

<b>CSL-710</b>	Digital Color Sync Generator w/Genlock, RS170.....	<b>\$1678.00</b>
<b>MOD-1</b>	Special Scan Rates 655/48.....	<b>.385.00</b>

**800 SERIES EQUIPMENT**

**CCE-850 Color Encoder**

The CCE-850 is a complete NTSC compatible color encoder with a built-in color reference bar signal. The system is a self contained unit measuring only 1-3/4 inches high and 17 inches wide. It can be used as a table top unit or mounted in a standard 19" equipment rack.

It is a wide band high resolution encoder primarily for the use with RGB color graphic generated information from a computer processor unit. The unit will encode most of the scan and resolution rasters presently offered by computer terminals. The output of the CCE-850 can be fed to any standard NTSC color monitor or video tape recorder.

The required signal input is RGB with or without the presence of sync. An external sync input is available if the computer RGB signal is non-composite (without sync.). The unit does not require an external GEN locking sync generator to interface with the RGB graphics computer. An automatic sync input detector selects between video sync or external sync to generate blanking and burst. A video gating circuit automatically matches black levels and inserts new blanking. Blanking regeneration automatically adjusts to line lengths and field lengths to closely simulate NTSC specification.

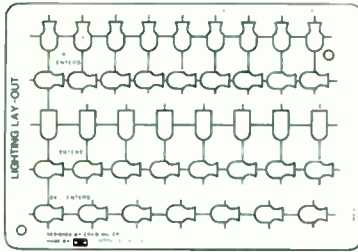
In addition to the two composite NTSC type outputs, in order to reduce system timing problems, the CCE-850 features a very short signal delay (250ns).

An image detail control on the front panel allows the operator to continuously compensate for high frequency losses in the system. A color reference pattern is switch selectable to aid in the adjustment of the NTSC color monitor.

Front panel controls are AC On/Off, Brightness, Color, Contrast, Detail, and Color Reference. Rear panel connections are high impedance looping RGB and sync input, two NTSC type composite video outputs source terminated 75 ohms.

The unit operates on 115/230 volts AC, 50/60 Hz. Power approximately 10 watts.

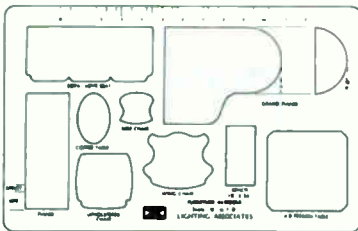
<b>CCE-850</b>	RGB to Composite Video Encoder .....	<b>\$2095.00</b>
<b>CCE-8501</b>	Adapts to 10µs Sync Pulse .....	<b>.209.00</b>



### The Lighting Lay-Out Template

The Lighting Lay-Out Template is intended as a time-saving device for lighting designers who draw light plots frequently. Its primary goal is to free designers from the tedium of constantly re-measuring the spacing between lamps. Instructions included for use on towers, booms and perspectives. Half-inch scale.

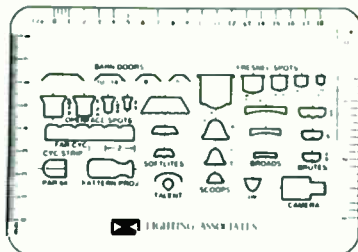
**Broadway Lighting Layout Template, \$5.50 each**



### Furniture Templates

The first furniture template scaled  $1/2" = 1'0"$  is now available for theatrical and interior designers as well as architects. Four pianos (including the 9'0" concert grand), three major chairs, bench, sofa, love seat and two tables are all included on a single template.

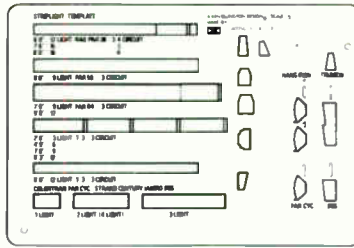
**Half-inch Furniture Templates, \$3.50 each**



### Television Lighting Templates

A specialized template created for advanced film and television production includes symbols for instruments not used in the theater. These templates service the need for a uniform set of symbols to be used for television lighting. Available in  $1/8"$  and  $1/4"$  scales.

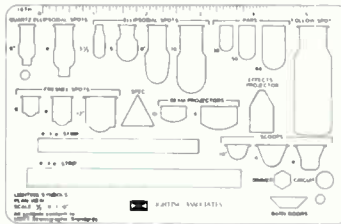
**Television Lighting Templates, \$4.50 each**



### The Striplight Template

The template includes all of the Quartz and standard incandescent striplights currently in use on Broadway, in television and in large spectacle touring productions. Half-inch scale.

**Professional Striplight Template, \$5.50 each**

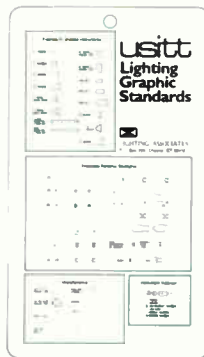


### Theatrical Lighting Templates - Plan View

All symbols conform to USITT Scenographic Standards.

Our revised, twenty-five symbol template is available in  $1/2"$ ,  $1/4"$ , and  $1/8"$  scale. Included are six Ellipsoidal Spots, three PAR's, Fresnels, Striplights, three Beam Projectors, Scoops, Effects Projector and more.

**All Plan View Templates, \$4.75 each**



### USITT Lighting Graphics Chart

This handy laminated reference chart features all of the approved USITT Lighting Graphic Standards. Designed to hang near your drafting table, it is a perfect complement to the graphic standard templates.

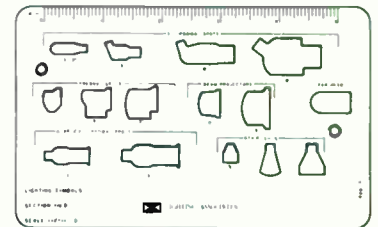
**Net proceeds contributed to USITT Lighting Graphics Chart, \$2.00 each**



### USITT Approved Scenic Graphic Template

All of the symbols for scenery construction plus useful scales for measure and angle are included on the scene design template, featuring keystones, corner blocks, hinges, lash cleats and more. Complete instructions included.

**Scenic Graphic Template \$5.50 each**



### Theatrical Lighting Templates - Section View

Lighting symbols in the Section View template include the usual symbols plus all the Quartz Units. These templates are also available in  $1/2"$ ,  $1/4"$  and  $1/8"$  scale.

**All Section View Templates, \$4.50 each**

Lighting Associates templates are used by a majority of the Broadway designers, including the Tony Award Designers, and have been adopted as a standard by both equipment manufacturers and the educational theater.

# LIGHTING METHODS, INC.

1099 Jay St.  
 Rochester, NY 14611  
 (716) 328-1020  
 TWX: 510-600-7503 FAX: (716) 328-6397

# DIMMER PACKS/RACKS

## SD-Individual Dimmer

- Range of sizes 10A, 20A, 50A, 100A
- Fully magnetic circuit breaker
- Lightweight portability
- Remote or local control
- Toroidal RFI filter
- Choice of outputs
- Integral carry handle

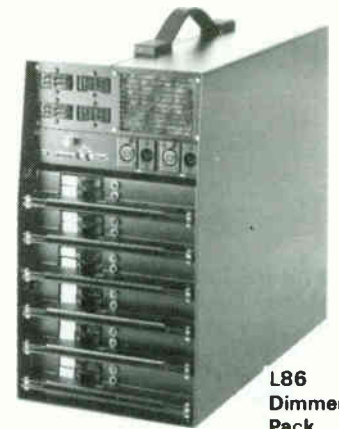
<b>SD-2400AA</b>	Single 20A (2400W) dimmer, 20A duplex U ground . . . . .	\$500.00
<b>SD-2400B</b>	Single 20A (2400W) dimmer, 20A pin connector . . . . .	500.00
<b>SD-6000B</b>	Single 50A (6000W) dimmer, 60A pin connector . . . . .	600.00
<b>SD-12000B</b>	Single 100A (12000W) dimmer, 100A pin connector . . . . .	700.00
<b>CH1-6XLR</b>	6 channel console with master and individual connection . . . . .	350.00



## L86 Dimmer Pack

- Plug-in dimmer modules
- Full RFI filtering
- 1 or 3 phase operation
- Fully magnetic circuit breakers

<b>L86/2410A</b>	24-10A dimmers with U ground outputs . . . . .	\$5,100.00
<b>L86/2410B</b>	24-10A dimmers with pin connector outputs . . . . .	5,100.00
<b>L86/2410X</b>	24-10A dimmers no outputs . . . . .	4,800.00
<b>L86/1220A</b>	12-20A dimmers with U ground outputs . . . . .	3,800.00
<b>L86/1220B</b>	12-20A dimmers with pin connector outputs . . . . .	3,800.00
<b>L86/1220C</b>	12-20A dimmers with twistlock outputs . . . . .	4,200.00
<b>L86/1220X</b>	12-20A dimmers no outputs . . . . .	3,500.00
<b>L86/630B</b>	6-50A dimmers with pin connector outputs . . . . .	3,625.00
<b>L86/630X</b>	6-50A dimmers no outputs . . . . .	3,200.00
<b>L86/3100B</b>	3-100A dimmers with pin connector outputs . . . . .	3,500.00
<b>L86/3100X</b>	3-100A dimmers no outputs . . . . .	3,200.00



## L86-Portable Dimmer Racks

- Full range of dimmer sizes—1.2, 2.4, 6 and 12kw
- Compatible with LMI Digital Protocol, 0-10 Analog and USITT Digital and Multiplexed Analog Protocols
- Welded structural aluminum frame
- Custom output panels
- Varnished birch ply cladding

<b>L86</b>	1.2kw portable dimmer rack, 96 x 1.2 . . . . .	\$25,000.00
<b>L86</b>	2.4kw portable dimmer rack, 48 x 2.4 . . . . .	21,500.00
<b>L86</b>	6kw portable dimmer rack . . . . .	POR
<b>L86</b>	12kw portable dimmer rack . . . . .	POR





# LIGHTING METHODS, INC.

1099 Jay St.  
Rochester, NY 14611  
(716) 328-1020 TWX: 510-600-7503  
FAX: (716) 328-6397

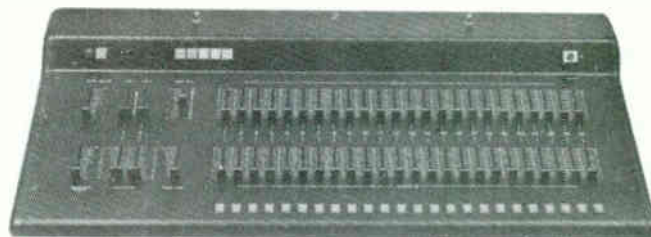
# LIGHTING CONTROL CONSOLES

## CH-200 Control Console

- 18, 24, 36, or 48 control channels
- Two scene or memory master operation
- Manual or timed cross fades
- Bump buttons with solo
- User programmable chase
- DMX-512 digital or analog control signal
- Worklights with dimmers

The CH-200 is the ideal control console for smaller systems in both permanent and portable applications. It combines features from two scene preset, memory and effects controllers for either two scene or overlapping memory master operation.

CH-200-18	18 channel, two scene . . . . .	\$3000.00
CH-200-24	24 channel, two scene . . . . .	3200.00
CH-200-36	36 channel, two scene . . . . .	3600.00
CH-200-48	48 channel, two scene . . . . .	4100.00



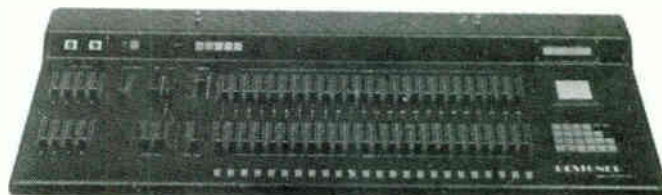
CH-200

## Designer® Control Console

- Proportional dimmer to channel patch
- 512 dimmer capacity
- 24, 36 or 48 control channels
- Two scene or memory master operation
- Key pad data entry
- Manual or timed fades
- Eight group masters
- Dimmer level and assignment display
- Bump buttons with solo
- User programmable chase
- DMX-512 control signal

The Designer combines the simplicity and reliability of a two scene preset, the electronic sophistication of a memory system and the capabilities of an effects controller to provide flexible, economical and creative lighting control.

EC-24	24 channel Designer . . . . .	\$4900.00
EC-24A	24 channel Designer with 48 analog outputs . . . . .	POR
EC-36	36 channel Designer . . . . .	5350.00
EC-36A	36 channel Designer with 72 analog outputs . . . . .	POR
EC-24M	24 channel Designer master console . . . . .	4900.00
EC-24S	24 channel Designer slave console . . . . .	1500.00



Designer

# LINDBURG ENTERPRISES, INC.

9707 Candida St.  
San Diego, CA 92126  
(619) 566-5656 (800) 854-1999

# TIMERS

## CHRONTRON TIMERS

### Wall Mount Timers

- Ideal for commercial buildings, parking lots, schools, churches, restaurants, industry and agriculture
- Energy management: load allocation, scheduling and duty cycle
- Inside/outside lighting control
- Traffic lights and school crossings
- Security system timing
- Illuminated sign or display controls
- Irrigation systems
- Industrial Process Control
- HVAC, air handling system control
- Laboratory equipment control
- 10 (optionally 40) programs
- 2 or 4 independent SPDT outputs
- Settable and accurate to the second
- Cycle times from 2 seconds to 192 hours
- Separate On and Off time settings and cycle times on each program
- Directly replaces multiple mechanical timers
- Tamper-resistant locking keyboard
- Weekly cycle with day omission
- Microprocessor controlled
- Completely field programmable
- Battery backup keeps time even during power outages
- Continuous digital time of day display
- Field-proven dependability
- Easy to set and operate

### Wall Mount Models

#### Standard Equipment:

- 10 programs
- Lead acid battery backup with built-in recharger
- Crystal time-base backup system
- Independent 20A dry contact SPDT relay with each circuit

#### Non-Expandable Models

CD-W2	2 Circuit	\$369.00
CD-W4	4 Circuit	419.00

#### Expandable Models

Expandable models include 40 programs and mechanical key locking as standard equipment.

CD-W8	8 Circuit (includes 2 Expander Modules)	\$ 919.00
CD-W12	12 Circuit (includes 3 Expander Modules)	1119.00
CD-W16	16 Circuit (includes 4 Expander Modules)	1319.00
EX4	Circuit Expander Module	200.00

### Rackmount Timers

- Ideal for broadcast stations, theaters, music systems, studios, communications systems, instrumentation systems
- Video recorder control for satellite program delay
- Sampling control of air and other fluids
- Lighting control
- Security system timing
- Chart recorder sequencing
- Remote data collection/transmission control
- Laboratory equipment control
- 10 (optionally 40) programs
- 2, 4, 8, 12 or 16 independent SPDT outputs
- Settable and accurate to the second
- Cycle times from 2 seconds to 192 hours
- Separate On and Off time settings and cycle times on each program
- Directly replaces multiple mechanical timers
- Tamper-resistant locking keyboard
- Weekly cycle with day omission
- Microprocessor controlled
- Completely field programmable
- Battery backup keeps time even during power outages
- Continuous digital time of day display
- Field-proven dependability
- Easy to set and operate

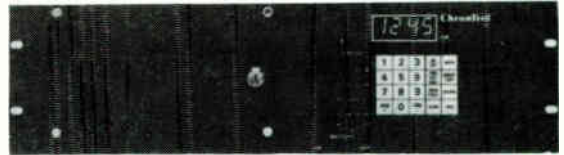
### Rackmount Models

#### Standard Equipment:

- 10 programs (40 programs with 8, 12, or 16 circuit models)
- Lead acid battery backup with built-in recharger
- Crystal time-base backup system
- Independent 20A dry contact SPDT relay with each circuit



Tabletop



Rackmount

CD-R2	2 Circuit	\$ 359.00
CD-R4	4 Circuit	409.00
CD-R8F	8 Circuit (includes 40 programs)	869.00
CD-R12F	12 Circuit (includes 40 programs)	1069.00
CD-R16F	16 Circuit (includes 40 programs)	1269.00

### Tabletop Timers

- Ideal for laboratories, businesses, hospitals, universities and homes
- Laboratory experiment cycling
- Sampling control of air and other fields
- General lighting control/Photoperiodic simulation
- Display or illuminated sign control
- Furnace cycling
- Animal feeding and stimulus
- Security system timing
- Chart recorder drive control
- Tape control
- HPLC
- 10 (optionally 40) programs
- 2 or 4 independent circuits, AC receptacles or dry contacts
- Settable and accurate to the second
- Cycle times from 2 seconds to 192 hours
- Separate On and Off time settings and cycle times on each program
- Directly replaces multiple mechanical timers
- Tamper-resistant locking keyboard
- Weekly cycle with day omission
- Microprocessor controlled
- Completely field programmable
- Battery backup keeps time even during power outages
- Continuous digital time of day display
- Field-proven dependability
- Easy to set and operate during power outages

### Tabletop Models

#### Standard Equipment

- 10 programs
- Crystal time-base backup system
- 9V alkaline battery backup system
- Independent 15A SPST relay with each circuit

CD-2	2 Outlet	\$239.00
CD-4	4 Outlet	269.00
CD-2S	2 Circuit Dry Contact	249.00
CD-4S	4 Circuit Dry Contact	279.00

#### Optional Equipment

F	40 Programs (Standard on Expandable Models)	\$150.00
B	Interval Button	40.00
N	Interval Input	40.00
K	Mechanical Key Locking (Standard on Expandable Models)	10.00
R	Raintight Enclosure (Not available on Expandable Models)	40.00
240V	240VAC Power Source	10.00
50Hz	50Hz Time Base	10.00

# PETER LISAND MACHINE CORP.

352 River Road  
Edgewater, NJ 07020  
(201) 943-5600

# TRIPOD SYSTEMS/ DOLLIES

## Ultra I

Consists of: Ultra I Fluid Head and Claw Ball Assembly, JRA-83M Tripod with Spider Assembly, MQR-84S Quick Release with 2" adjustment and safety lock, Dual Handles

### Specifications

**Load:** Up to 30 lbs.  
**Weight:** Head and tripod—17½ lbs.  
**Size:** 7" H x 7½" W  
**Height:** Head and tripod—closed 45" / extended 59" / at rest 40½"  
**Pan:** 360°  
**Tilt:** 90°  
**Base:** Ball or flat  
**Finish:** Black vinyl  
**Accessories:** Reversible feet, strap, Sta-Sets, case

Ultra I . . . . . \$2137.31

## Ultra II

Consists of: Ultra II Fluid Head and Claw Ball Assembly, JRA-74 Tripod with Spider Assembly, LQR-84S Quick Release with 2½" adjustment and safety lock, Dual Handles

### Specifications

**Load:** Up to 50 lbs.  
**Weight:** Head and tripod—22 lbs.  
**Size:** 8" H x 8" W  
**Height:** Head and tripod—closed 45½" / extended 59" / at rest 42"  
**Pan:** 360°  
**Tilt:** 90°  
**Base:** Ball or flat  
**Finish:** Black vinyl  
**Accessories:** Reversible feet, strap, Sta-Sets, case

Ultra II . . . . . \$2463.43

## Ultra 250

Consists of: Ultra 250 Fluid Head and Integral Aluminum Tripod with Handle

### Specifications

**Load:** Up to 18 lbs.  
**Weight:** Head and tripod—11 lbs.  
**Size:** 5" H x 5¼" W  
**Height:** Head and tripod—closed 42" / extended 59" / at rest 45"  
**Pan:** 360°  
**Tilt:** 90°  
**Base:** Flat  
**Finish:** Black vinyl  
**Thread Size:** ¼"-20" or ⅜"  
**Accessories:** Quick release, strap

Ultra 250 . . . . . \$1538.05

## Ultra 500

Consists of: Ultra 500 Fluid Head and Claw Ball Assembly, JRA-83M Tripod with Spider Assembly.

### Specifications

**Load:** Up to 25 lbs.  
**Weight:** Head and tripod—15 lbs.  
**Size:** 7½" H x 5" W  
**Height:** Head and tripod—closed 44½" / extended 60" / at rest 42"  
**Pan:** 360°  
**Tilt:** 90°  
**Base:** Ball or flat  
**Finish:** Black vinyl  
**Accessories:** Reversible feet, strap, quick release

Ultra 500 . . . . . \$1650.00

## Ultra Classic

Consists of: Ultra Classic Fluid Head and Claw Ball Assembly, JRA-74 Tripod with Spider Assembly

### Specifications

**Load:** Up to 50 lbs.  
**Weight:** 28 lbs.  
**Size:** 14" H x 11¼" W  
**Height:** Head and tripod—closed 51" / open 64"  
**Camera Platform Dimensions:** 5½" W x 6" L  
**Elevation:** Approximately 2"  
**Pan:** 360°  
**Base:** Ball or flat  
**Finish:** Black vinyl  
**Tilt:** 90° depending on camera position and platform elevation. Five pre-set drag adjustments  
**Accessories:** Extra handle (attaches to camera base), Sta-Sets, case

Ultra Classic . . . . . \$3560.45

## Heavy-Duty Tripod Dolly

- 5" deluxe rubber tired swivel wheels
- Individual wheel locks
- 46" spread
- 10" in depth, folded
- Available in screwdown and springlock systems

Heavy-Duty Dolly . . . . \$508.00—\$566.00

## Video Tripod Dolly

- Smooth, silent
- Heavy, ⅛" wall aluminum tubing
- 4" diameter swivel wheels
- Folds up
- 10" in depth, folded
- 46" spread
- Locking configuration optional

Video Dolly . . . . . \$459.00-\$541.00



Ultra II



Ultra 250



Ultra Classic



Heavy-Duty Tripod Dolly



# PETER LISAND MACHINE CORP.

352 River Road  
Edgewater, NJ 07020  
(201) 943-5600

# TRIPODS/ACCESSORIES

## JRA-83M Tripod System

- True fluid action maintains a smooth regulated motion by a sensitive system without brake shoes, bands, or other mechanical parts to interfere with its operation. Separate positive locks and drag are featured on the pan and tilt. Tilt achieves a full 90° vertical position
- Sealed leak-proof chamber
- Adjustable quick release will counterbalance camera and lens requirements (optional)
- Spider assemblies available
- Versatile control—use right, left or dual handles
- Reversible foot, rubber-tipped for interiors and standard metal points for outside use, can be ordered with either of the JRA tripods (optional)
- Tripods come with various top castings to accommodate existing systems
- Tripod weighs 7 lbs., 16 lbs. with head

JRA-83M ..... \$517.16—\$558.21



JRA-83M Tripod and Fluid Head

## JRA-74 Junior Motion Picture Tripod

- Finely machined tubular aluminum legs and stainless steel parts and nylon bushings. Rustproof and noiseless
- Regular, intermediate and baby versions
- Adjustable from 39" closed to 60" open. Flexible leg adjustment
- Adjustable spider assembly
- Weight: 9 1/2 lbs.

JRA-74 ..... \$550.00—\$599.25

## LST-80 Heavy-Duty Tripod

- Built for cinema and video weighing
- Only 22 lbs. complete with built-in spider assembly
- Aluminum legs and stainless steel parts and nylon
- Will support 200 lbs.
- For studio and location use
- Available in standard, regular, intermediate and baby versions

LST-80 ..... \$1017.91—\$1050.75



LST-80

## LQR-84S Quick Release System

- Safety lock feature
- Two parts to the system
- Lower section mounts to tripod with 1/4" or 3/8" threaded thumbscrew
- Upper section mounts to camera tripod socket
- For most movie, television press and view cameras
- All aluminum except latch

LQR-84S ..... \$229.00

## MQR-84S Medium Duty Quick Release System

- Rapid mounting
- Lightweight, only 9 oz.
- Quick release plate
- Durable and accurate
- Stands up to all conditions

MQR-84S ..... \$221.00



LQR-84S

## The Re-Inforcer Tripod Adaptor

The Re-Inforcer is a unique accessory for the Sony tripod adaptor which is supplied with the Sony line of industrial CCD color cameras such as the DXC-3000 and the Sony line of broadcast portable cameras and camcorders.

The Re-Inforcer is an aluminum plate which attaches to the two sliding devices on the bottom of the tripod adaptor and is then screwed into any head. The unit will allow the user to move the tripod adaptor forward and backward in order to obtain the best center of gravity for proper balance, but when tightened down, gives a very rigid base. The adaptor, as it is originally supplied, is not as rigid as when the Re-Inforcer is attached.

Re-Inforcer ..... \$40.00



The Re-Inforcer

# LISTEC VIDEO CORP.

30 Oser Ave.  
Hauppauge, NY 11788  
(516) 273-3020 FAX: (516) 435-4544

# TELEPROMPTER

## A-5000T Prompter Display Device (PDD)

- Infinite speed resolution
- Multiple character sizes
- Proportional spacing
- Printer output
- Optional international characters
- Time remaining display
- Holds up to 9600 lines of text
- Stores up to 255 stories
- Optional color backgrounds
- Intelligent control box separate with speed control
- Driven from any computer with word processing
- Rackmountable or desktop unit
- 3 1/2" H, 16" D
- Video output 1V p-p compatible with standard B/W NTSC color monitors

The PDD is a stand-alone display device providing formatted prompting text from standard text created on a host computer or a newsroom computer system. Connection from the host computer to the PDD can be direct for local situations or by means of a telephone modem for remote operation. Display of prompting text may be controlled by either the host computer or the optional remote control box. Control functions available include speed, reordering of run-down and other functions.

Word integrity i.e. wrapping, is maintained automatically. Commands may be embedded in the text to enable the display of Underline and Flash. These functions are on a per word basis.

Four fonts are provided with proportional widths so that each line can hold a different amount of characters, depending on the particular letters used. From four to six lines of text will be visible on the screen at a time, depending on font selection.

Color option allows the selection of color background for each story. There are eight possible background colors: black, blue, red, magenta, green, cyan, yellow and white. For all selected background colors except white, the monochrome video output always presents white characters on a black background except for cueing instructions which appear in inverse.

All parameters, color, font, and forced uppercase are normally given default values on power up. The host computer can assign new default values to any parameter per story.

The PDD may be connected to any host computer which has the capability to edit plain text files, send ASCII text files to a serial port at a data speed up to 9600 baud and for optimum integrity support the Xmodem protocol. This feature allows the host computer to request prompter display to return catalog of stories in memory.



A-5000T

<b>A-5000T</b>	Stand alone prompting device, providing formatted text from host computer running standard word processing. Accepts commands and returns information from host or standard terminal . . . . .	<b>\$4995.00</b>
<b>A-5000V</b>	As above but with video board for status display using standard video monitors . . . . .	<b>5375.00</b>
<b>A-5001</b>	Optional simple control box, provides Start, Pause, Next, previous story commands, complete with variable speed control knob . . . . .	<b>250.00</b>
<b>A-5002</b>	Optional ergonomically designed speed control with Pause button in casing for comfort . . . . .	<b>225.00</b>
<b>A-5003</b>	Color option, provides 7 (seven) additional background colors . . . . .	<b>400.00</b>
<b>A-5004</b>	Optional international character set . . . . .	<b>300.00</b>
<b>A-5005</b>	Transit case, for A-5000 and accessories . . . . .	<b>525.00</b>
<b>A-3175AM</b>	12" status display monitor with amber phosphor, in 19" rackmount for use with A-5000 . . . . .	<b>475.00</b>
<b>A-3180AM</b>	As above but in stand alone desktop case . . . . .	<b>475.00</b>
<b>A-3220BW</b>	9" B&W preview monitor . . . . .	<b>395.00</b>
<b>A-3220AM</b>	9" Amber edit monitor . . . . .	<b>395.00</b>
<b>A-3220GN</b>	9" Green edit monitor . . . . .	<b>395.00</b>

# LISTEC VIDEO CORP.

30 Oser Ave.  
Hauppauge, NY 11788  
(516) 273-3020 FAX: (516) 435-4544

# PORTABLE & STUDIO TELEPROMPTERS

## ON-CAMERA DISPLAYS

### Common features for A-2015W/2019W/2015EFP:

- Data monitor with high resolution • Trapezoidal hood with tally light
- 70/30 mirror • All necessary quick release hardware for all types of pan and tilt heads. Specify type of camera and pan head

### A-4075 9" Enhanced Display

- 110VAC or 12VDC battery input • ENG/EFP use
- |        |                                       |             |
|--------|---------------------------------------|-------------|
| A-4075 | .....                                 | \$2675.00   |
| A-2271 | Transit case                          | .....725.00 |
| A-1002 | 4AH, 12VDC NiCad battery with charger | .....335.00 |

### A-2015W/2019W Monitor Prompters

- Wide angle hood and mirror assembly • Separate linear power supply • Mounting hardware for all cameras

- |         |   |             |
|---------|---|-------------|
| A-2015W | 15" .....                                 | \$1995.00   |
| A-2019W | 19" .....                                 | 2375.00     |
| A-2266  | Transit case for A-2015W display          | .....700.00 |
| A-2267  | Transit case for A-2019W                  | .....775.00 |
| B-2001  | Wide angle mirror for A-2015W and A-2019W | .....275.00 |

### A-2015EFP Standard Monitor Prompter with 15" CRT

EFP above lens configuration includes:

- Standard hood and mirror assembly • Separate linear power supply
- Mounting hardware for all cameras • 15" on-camera monitor display with standard hood assembly for above or below lens mounting

- |           |                    |             |
|-----------|--------------------|-------------|
| A-2015EFP | .....              | \$1995.00   |
| A-2265    | Transit case       | .....650.00 |
| B-2000    | Trapezoidal mirror | .....225.00 |

## STAND-ALONE DISPLAY

### A-2015SA

#### Standard Monitor Prompter with Roll-Around Dolly

Recommended for use with:

- Lightweight ENG cameras • Small pan and tilt heads • 15" stand-alone monitor with standard hood assembly mounted on roll-around dolly with self-adjusting height

- |          |                    |             |
|----------|--------------------|-------------|
| A-2015SA | .....              | \$2150.00   |
| B-2000   | Trapezoidal mirror | .....225.00 |

## CONFERENCE PROMPTING

### A-2015CS 15" Floor Mounted Prompter

Conference prompter complete with floor mounted monitor, separate clip mounted mirror and microphone type stand

- |          |              |             |
|----------|--------------|-------------|
| A-2015CS | .....        | \$1000.00   |
| A-2268   | Transit case | .....595.00 |

## MANUAL SCRIPT TABLES

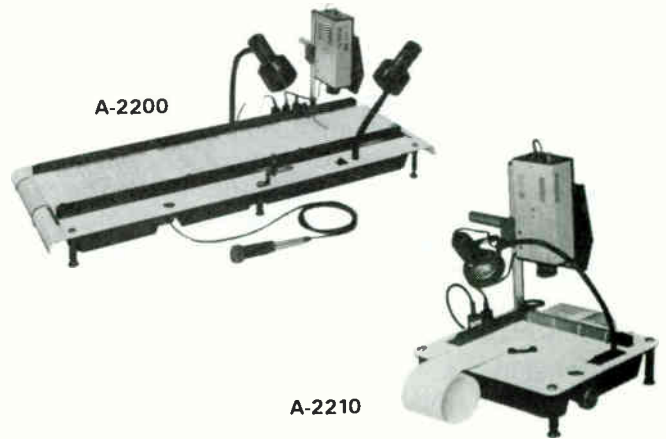
### A-2200 Long Script Table

- 16mm f/1.6 variable iris lens • 2/3" Vidicon camera • Dual adjustable lighting • Conveyor belt drive for end to end placement of hard copy 8 1/2" x 11" sheets • Variable speed, forward and reverse with plug-in control

- |        |              |             |
|--------|--------------|-------------|
| A-2200 | .....        | \$2700.00   |
| A-2280 | Transit case | .....825.00 |



A2015W/A2019W



A-2200

A-2210

### A-2210 Short Script Table

Short drive table for continuous roll scripts. Otherwise, same as A-2200

- |        |   |              |
|--------|---|--------------|
| A-2210 | .....   | \$2475.00    |
| A-2215 | Short drive table with AC/DC input. Packaged for remote use. Otherwise same as A-2210 | .....2775.00 |

## Accessories

- |        |   |              |
|--------|---|--------------|
| A-2211 | 4" wide ruled paper roll for A-2210 script table              | .....\$ 7.50 |
| A-2260 | 25' extension cable for variable speed control                | .....85.00   |
| A-2261 | 6' extension cable for variable speed control                 | .....65.00   |
| A-2281 | Transit case for A-2210 short script table                    | .....450.00  |
| A-2290 | 7AH, 12VDC NiCad battery with charger for A-2215 script table | .....595.00  |

### A-9600 Prompter Image Enhancer

Rackmountable/stand-alone unit includes:

- Two video inputs • Four outputs • Reverse video • Separate bypass control • Separate controls to optimize white level, sharpness and background

- |        |  |             |
|--------|--|-------------|
| A-9600 | .....  | \$825.00    |
| A-9650 | Video polarity changer with built-in VDA (1 in 4 out) and video presence indicator | .....550.00 |



# LOWE ALPINE SYSTEMS

P.O. Box 1449  
 Broomfield, CO 80020  
 (303) 465-3706 TWX: 910-940-2515  
 FAX: (303) 465-3301

# VIDEO CAMERA CASES

## Low Pro Video Bags and Packs

- **Fabrics:** 11 oz. 1000 denier nylon Cordura® or Endura™ rugged and abrasion resistant with a 1 1/2 oz. urethane coating.
- **Foams:** Ethylene-vinyl acetate or a cross linked polyethylene. Closed-cell foams are used for their shock absorption and thermal properties.
- **Hardware:** ITW Nexus (Fastex) Ladderbloc buckles and side release buckles for fail-safe, quick service. Welded D-rings are nickel-plated steel.
- **Webbing:** 100% nylon web will not rot or stiffen with age.
- **Thread:** All seams are stitched twice with rot-resistant #69 bonded nylon thread and then bound with nylon tape to protect the fabric edged from raveling. Stress points are sewn a total of nine times.

## Vidcam

Designed for carrying and protecting the camcorder-type video systems (camera with a built-in recorder). The large interior has removable dividers that may be arranged to form compartments separating extra batteries and cassettes from the camcorder. The dividers may be set up for left or right hand storage of the camcorder.

**Size:** 9" H x 8" W x 17" L

**Colors:** navy or gray

**Vidcam (Kodavision)** .....\$ 99.00

## Vidcam II

This large bag keeps its shape when it is wide open with an aluminum stiffener into the top edge of the Vidcam II to keep the bag open for quick access to your camera. Designed to carry the VHS and Beta camcorders, the Vidcam II comfortable carries the load on a curved and padded shoulder strap with a Duragrip™ fabric cover. The outside features a zippered side pocket for storage of extra tapes and batteries, and a front zippered pocket to keep a notebook handy.

**Size:** 9 1/2" H x 7" W x 15" L

**Colors:** navy or gray

**Vidcam II** .....\$ 108.00

## Trimtech Vidcam

Video bag for half-inch VHS and Beta camcorders features the new pull-over lid design that seals against the weather yet still allows quick access to equipment. Carried on a curved padded shoulder strap with a Duragrip™ fabric cover, the TrimTech will not slip off your shoulder.

Backpack style shoulder straps and waistbelt pull out from a zippered back pocket. Additional storage capacity for tapes and batteries is in the front pocket, and side web loops provide for tie-ons. An aluminum stiffener in the top edge keeps the bag open for easy access to your camera.

**Size:** 9 1/2" H x 7" W x 15" L

**Colors:** navy or gray

**TrimTech Vidcam** .....\$ 120.00

## Silhouette Maxi Vidcam Camera Bag

The rigid bottom made from a hard stress resistant polypropylene protects gear from bumps and knocks. Bellow front pocket is the perfect place for accessories and extras. There is a zippered panel on the back for instructions and papers. The panel is made from waterproof nylon packcloth for protection. A mesh pocket in the lid stores up to four tapes.

**Size:** 9 3/4" H x 5" W x 13" L

**Maxi Vidcam** .....\$ 90.00

Maxi Vidcam



Mini Vidcam



Vidcam



Trimtech Vidcam



Vidcam II

## Silhouette Mini Vidcam Camera Bag

The fashionable slimline design of this case protects your equipment with a padded, sculptured lid and allows easy access to the contents. It has a polypropylene stiffened bottom and adjustable shelf. The hidden compartment is ideal for extra batteries and adaptors. The stiffener protects and helps the Mini Vidcam keep its shape. The comfortable padded shoulder strap is covered with Dura-grip so it won't slip off. There is a padded carrying handle on top of the case. A large divided mesh pocket in the lid will carry up to four tapes. It is perfect for most VHS Compact and 8mm Camcorders.

**Size:** 9" H x 5" W x 16" L

**Mini Vidcam** .....\$ 70.00

# LOWEL-LIGHT MFG., INC.

475 Tenth Ave.  
 New York, NY 10018-1197  
 (212) 947-0950 Telex: 66-6597  
 FAX: (212) 629-0773

# LIGHTING

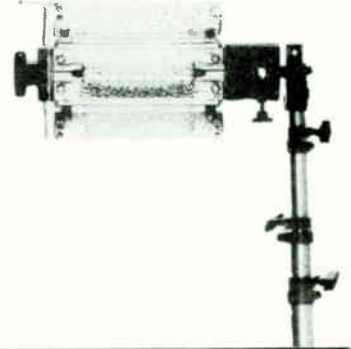
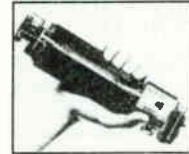
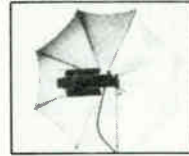
Lowel systems and kits have been in use since 1959 for video, film and still photography. They are a successful combination of innovative design, high strength materials, and careful workmanship. As a result, the lights and accessories are extremely efficient, lightweight and

durable. Their versatility is unequalled. We have received eight United States patents, an Academy Award Certificate and International acclaim.

## Tota-Light

- Interchangeable 1000, 750 and 500 watt tungsten halogen lamps—120 volts • 800 watt lamp—220/240 volts • Patented gull-wing reflector produces remarkably efficient output • Exceptionally wide, smooth beam angle. One unit can provide even illumination of four walls from the corner of a room • Basically non-focusing, however, reflecting doors offer some intensity and spread control • Light control system: umbrella, gel frame, gels, small flags, and others • Mounting system: stand, wall/door mount, clamps • Weighs only 2 1/4 lbs. (1.02 kg). Closes up compactly for storage/travel • Patent #3,852,582

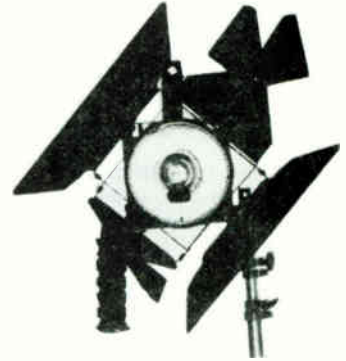
**T1-10 Head** ..... \$112.00



## Omni-Light

- Interchangeable 650, 600 and 420 watt tungsten halogen lamps—120 volts • 650 watt lamp—220 and 240 volts • 250 watt lamp—30 volts (battery operation) • 100 watt lamp—12 volts (automobile and battery operation) • Unprecedented spot/flood focusing range • Interchangeable, special purpose reflectors • Uses many Tota-light accessories • Light control system: four way expandable barndoors, high intensity and other reflectors, umbrella, gel frame, gels, snoot, scrims, dichroic filter, cookaloris and others • Mounting system: stand, clamps, wall/door mount • Weighs only 2-5/8 lbs. (1.19kg) • Patent #4,187,531

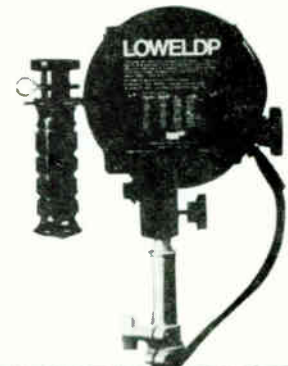
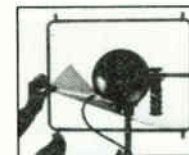
**O1-10 Head** ..... \$135.00



## DP Light

- Interchangeable 1000, 750 and 500 watt tungsten halogen lamps—120 volts • 1000 and 650 watt lamps at 220 and 240 volts • Wide smooth beam pattern with continuous focusing to intense spot • Quick change, special purpose reflectors • Convenient, fast, one-hand tilt control • Light control system: four way expandable barndoors, high intensity and other reflectors, large umbrella, gel frame, gels, scrims, dichroic filter, snoot, cookaloris and others • Mounting system: famous KS stand, clamps, wall mount, and others • Weighs only 3-7/8 lbs. (1.76kg) • US Patent #D210927

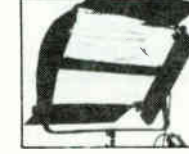
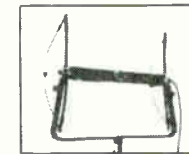
**D2-10 Head** ..... \$150.00



## Softlight 2

- 2000 watt maximum capacity. Uses two 1000, 750 or 500 watt lamps at 120 volts or two 800 watt lamps at 220/240 volts • Unit folds in half, nearly flat, for storage/travel • Large, soft-shadow source utilizes aluminized Nomex reflecting surface which will not scorch or discolor • Light control system: adjustable and fixed barndoors for flare control, subject shading and gel mounting; gels • Mounting system: stand, clamps • Weighs only 8 lbs. (3.63kg) • Both lamps can be switched on and off individually • US Patent #3,712,978

**S2-10 Head** ..... \$285.00



# LOWEL-LIGHT MFG., INC.

475 Tenth Ave.  
New York, NY 10018-1197  
(212) 947-0950 Telex: 66-6597  
FAX: (212) 629-0773

# LIGHTING SYSTEMS AND KITS

## TOTA/OMNI SYSTEMS

Tota-Light, Omni Light and Reflectors			
T1-10	tota-light	2 1/4 lbs.	1.02kg \$112.00
01-10	omni-light	2 5/8 lbs.	1.19kg 135.00
01-13	omni-light 30V	2 1/4 lbs.	1.02kg 145.00
01-15	#1 reflector	2 oz.	57g 13.00
01-16	#2 reflector	2 oz.	57g 13.00
01-17	#3 reflector	2 oz.	57g 13.00
01-18	#4 reflector	2 oz.	57g 13.00

Tota/Omni Light Controls			
T1-20	tota-frame	6 oz.	17kg \$24.50
GELS: PACKAGE OF 5, 10" x 12" (25x30cm)			
T1-69	blue frost gels	2 oz.	57g 10.50
T1-70	day blue gels	2 oz.	57g 10.50
T1-71	n.d. 3 gels	2 oz.	57g 10.50
T1-72	frost gels	2 oz.	57g 10.50
T1-78	assorted gels	2 oz.	57g 10.50
T1-25	tota-brella	8 oz.	.23kg 30.00
T1-34	tota-tatch	2 oz.	57g 11.50
T1-50	flexishaft 16" (2)	4 oz.	.11kg 17.50
T1-52	tota-flag	4 oz.	.11kg 15.00
T1-54	tota-flector	6 oz.	.17kg 19.50
LFT	lightflector/titer	1 3/4 lbs.	.79kg 75.00

Omni Light Controls			
01-20	complete barndoor	8 oz.	.23kg \$52.50
01-21	barndoor frame	2 oz.	57g 25.00
01-22	rectangular leaf	2 oz.	57g 10.00
01-23	triangular leaf	1 oz.	28g 10.00
01-50	diffused glass	3 oz.	85g 30.00
01-51	dichroic filter	3 oz.	85g 77.50
01-52	clear glass	3 oz.	85g 26.50
01-53	snoot	4 oz.	.11kg 28.50
01-54	full scrim	2 oz.	57g 12.50
01-55	half scrim	2 oz.	57g 12.50
01-56	graduated scrim	2 oz.	57g 15.50
01-57	cooaloris	2 oz.	57g 13.50

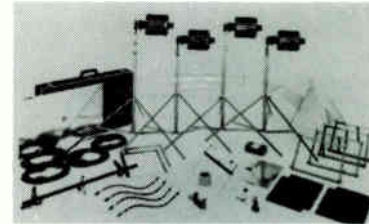
Tota/Omni Supports and Mounts			
01-33	omni-stand	27 1/8 lbs.	1.30kg \$87.00
KPH	half pole	1 lb.	.45kg 41.00
SC-10	large space clamp	1 1/2 lbs.	.68kg 48.50
SC-20	small space clamp	1 1/4 lbs.	.57kg 42.50
T1-30	tota-clamp	4 oz.	.11kg 18.50
T1-32	tota-mount	10 oz.	.28kg 25.00
GT-12	gaffer-tape 12 yards	8 oz.	.23kg 9.00
GT-30	gaffer-tape 30 yards	1 1/4 lbs.	.57kg 17.50
LSS	screw-in stud (2)	3 oz.	85g 10.50
T1-35	tota-daptor	4 oz.	.11kg 15.00
T1-36	tota-titler	4 oz.	.11kg 21.00

Tota/Omni Cables			
T1-80	16' tota/omni cable	13 oz.	.37kg \$22.50
01-81	5' omni 30V cable	7 oz.	.20kg 35.00
01-82	omni 12V car adaptor	1 oz.	28g 5.00
LOE25	25' extension cable	23 1/8 lbs.	1.08kg 25.00
KCC	cable clips (40)	4 oz.	.11kg 9.00
K4CC	cable clips (10)	1 oz.	28g 4.50

Tota/Omni Storage			
T1-61	tota-lampak	2 oz.	57g \$ 14.50
01-61	omni-lampak	2 oz.	57g 14.50
TO-61	tota/omni lampak	2 oz.	57g 14.50
01-65	tota-packet	2 oz.	57g 11.50
T1-85	tota-case	5 lbs.	2.27kg 95.00
TO-87	molded tota/omni case 87	10 lbs.	4.54kg 130.00
TO-84M	molded tota/omni case 84M	12 1/2 lbs.	5.67kg 180.00
01-86M	molded omni case 86M	14 1/2 lbs.	6.58kg 215.00
TO-89	heavy-duty case	28 lbs.	12.70kg 425.00
T1-82	tota tube case	2 3/8 lbs.	1.08kg 78.00

Lamps for Tota-Light tota lampak available—stores 5 lamps					
EHA	120V	300W	2000 hr.	frost	2900°K \$50.00
FDN	120V	500W	400 hr.	frost	3200°K 31.00
FCZ	120V	500W	2600 hr.	frost	3000°K 35.00
EMD	120V	750W	400 hr.	frost	3200°K 40.00
FHM	120V	1000W	300 hr.	frost	3200°K 35.00
EMF	240V	800W	250 hr.	frost	3200°K 37.00

Lamps for Omni Light omni lampak available—stores 6 lamps					
EYL	12V	100W	50 hr.	clear	3200°K \$16.00
DYG	30V	250W	15 hr.	clear	3400°K 23.00
EKB	120V	420W	75 hr.	clear	3200°K 30.00
DYS/DYV	120V	600W	75 hr.	clear	3200°K 23.00
EKD	120V	650W	25 hr.	clear	3400°K 30.50
DYR/220	220V	650W	50 hr.	clear	3200°K 35.50
DYR/240	240V	650W	50 hr.	clear	3200°K 35.50



T1-94M

## TOTA/OMNI KITS

T1-93M	Carry-on Kit	19 lbs.	8.62kg	\$675.00
3 tota-lights, 16' cables (less lamps); 3 tota-frames; assorted gels; 3 tota-flags; 1 tota-flector; 4 flexishafts; 1 tota-mount; 1 tota-clamp; 1 small space-clamp; 1 12 yard gaffer-tape; 1 tota-lampak; 1 tota-case. (T1-85)				
T1-90	Tube Kit	14 lbs.	6.35kg	\$510.00
2 tota-lights, 16' cables (less lamps); 1 tota-brella; 1 tota-frame; 1 assorted gels; 2 omni-stands; 1 tota-lampak; 1 tube case. (T1-82)				
T1-92M	Trans-Kit	29 lbs.	13.15kg	\$770.00
3 tota-lights, 16' cables (less lamps); 3 tota-brellas; 3 omni-stands; 1 tota-lampak; 1 tota/omni molded case. (TO-87)				
T1-94M	T4 Kit	42 lbs.	19.05kg	\$1335.00
4 tota-lights, 16' cables (less lamps); 1 tota-brella; 4 tota-frames; 2 assorted gels; 1 lightflector/titler; 4 tota-flags; 1 tota-flector; 4 flexishafts; 1 tota-tatch; 4 omni-stands; 1 tota-mount; 1 tota-clamp; 1 large space-clamp; 1 12 yard gaffer-tape; 1 tota-lampak; 1 molded tota/omni case. (TO-84M)				
01-92	Action Kit	30 lbs.	13.61kg	\$950.00
3 omni-lights, 16' cables, #1 reflectors (less lamps); 3 omni-barndoors; 3 omni-stands; 1 omni-lampak; 1 molded tota/omni case (TO-84M)				
01-93	Omni 3 Kit	34 lbs.	15.42kg	\$1150.00
3 omni-lights, 16' cables, #1 reflectors (less lamps); 3 omni-barndoors; 2 full scrims; 1 half scrim; 1 tota-brella; 3 tota-frames; 2 assorted gels; 3 omni-stands; 1 tota-mount; 1 tota-clamp; 1 12 yard gaffer-tape; 1 omni-lampak; 1 molded tota/omni case. (TO-84M)				
01-94M	Spatial Kit	44 lbs.	19.96kg	\$1495.00
4 omni-lights, 16' cables, #1 reflectors, (less lamps); 4 omni-barndoors; 1 #3 superspot reflector; 1 diffused glass; 2 full scrims; 1 half scrim; 1 graduated scrim; 4 tota-frames; 2 assorted gels; 4 omni-stands; 1 large space-clamp; 1 tota-clamp; 1 omni-lampak; 1 molded omni case. (01-86M)				
TO-97	Basically 3 Kit	28 lbs.	12.70kg	\$825.00
2 tota-lights, 16' cables (less lamps); 1 omni-light, 16' cable, #1 reflector (less lamp); 1 omni-barndoor; 1 full scrim; 1 tota-brella; 1 tota-frame; 1 assorted gels; 3 omni-stands; 1 tota/omni lampak; 1 tota/omni molded case. (TO-87)				
TO-95	Ambi Kit	41 lbs.	18.60kg	\$1445.00
2 tota-lights, 16' cables (less lamps); 2 omni-lights, 16' cables, #1 reflectors (less lamps); 2 omni-barndoors; 2 full scrims; 1 half scrim; 2 tota-brellas; 4 tota-frames; 2 assorted gels; 2 tota-flags; 1 tota-flector; 4 flexi-shafts; 1 tota-tatch; 4 omni-stands; 1 tota-mount; 2 tota-clamps; 1 12 yard gaffer-tape; 2 tota/omni lampaks; 1 molded tota/omni case. (TO-84M)				
TO-98	Elemental Kit	31 lbs.	14.06kg	\$925.00
1 tota-light, 16' cable (less lamp); 2 omni-lights, 16' cables, #1 reflectors (less lamps); 2 omni-barndoors; 1 full scrim; 1 tota-brella; 2 tota-frames; 1 assorted gels; 3 omni-stands; 1 tota/omni lampak; 1 tota/omni molded case. (TO-87)				
TO-96	Solo Kit	60 lbs.	27.22kg	\$2250.00
2 tota-lights, 16' cables (less lamps); 4 omni-lights, 16' cables, #1 reflectors (less lamps); 2 #3 superspot reflectors; 4 omni-barndoors; 2 diffused glass; 2 full scrims; 2 half scrims; 1 graduated scrim; 1 cooaloris; 3 tota-brellas; 6 tota-frames; 3 assorted gels; 1 lightflector/titler; 4 tota-flags; 1 tota-flector; 4 flexi-shafts; 5 omni-stands; 1 tota-mount; 2 tota-clamps; 1 large space clamp; 2 tota-tatches; 1 12 yard gaffer-tape; 2 screw-in studs; 2 tota/omni lampaks; 1 molded omni case. (01-86M)				
To order above kits with heavy-duty case (TO-89)				
Substituted for standard kit case, see below;				
T1-93MHD	Carry-on/heavy-duty case	42 lbs.	10.05kg	\$1005.00
T1-90HD	Tube Kit/heavy-duty case	40 lbs.	18.14kg	857.00
T1-92MHD	Trans/heavy-duty case	47 lbs.	21.31kg	1065.00
T1-94MHD	T4/heavy-duty case	58 lbs.	26.30kg	1580.00
01-92HD	Action/heavy-duty case	45 lbs.	20.41kg	1195.00
01-93HD	Omni 3/heavy-duty case	49 lbs.	22.22kg	1395.00
01-94MHD	Spatial/heavy-duty case	57 lbs.	25.85kg	1705.00
TO-97HD	Basically 3/heavy-duty case	46 lbs.	20.86kg	1120.00
TO-95HD	Ambi/heavy-duty case	56 lbs.	25.40kg	1690.00
TO-98HD	Elemental/heavy-duty case	49 lbs.	22.22kg	1220.00
TO-96HD	Solo Kit/heavy-duty	73 lbs.	33.11kg	2460.00

Prices and Specifications Subject to Change Without Notice.

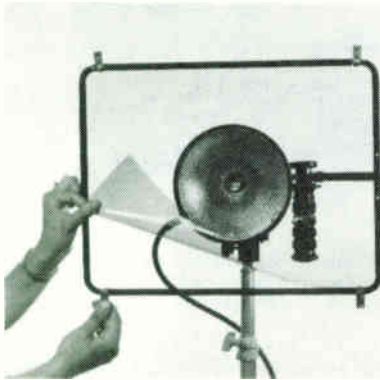
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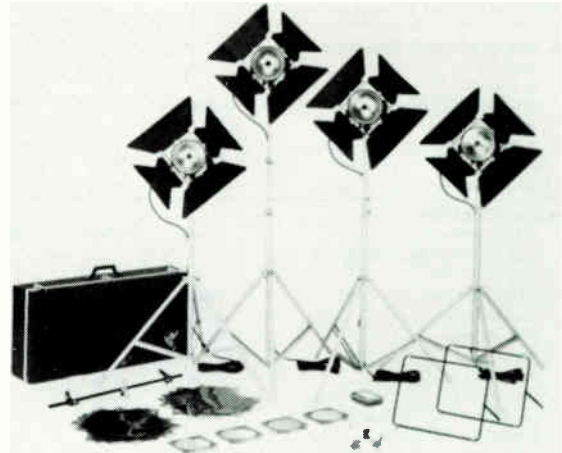
# LOWEL-LIGHT MFG., INC.

475 Tenth Ave.  
New York, NY 10018-1197  
(212) 947-0950 Telex: 66-6597  
FAX: (212) 629-0773

# LIGHTING SYSTEMS AND KITS



DP with Gel Frame



D2-97

## DP SYSTEM

DP Light and Reflectors				
D2-10	dp light	37 <sup>7</sup> / <sub>8</sub> lbs.	1.76kg	\$ 150.00
D2-15	#1 reflector	2 oz.	57g	13.50
D2-17	#3 reflector	2 oz.	57g	13.50
D2-18	#4 reflector	2 oz.	57g	13.50

DP Light Controls				
D2-20	complete barndoor	1 lb.	.45kg	\$ 62.50
D2-21	barndoor frame	4 oz.	.11kg	25.00
D2-22	rectangular leaf	4 oz.	.11kg	13.50
D2-23	triangular leaf	2 oz.	57g	13.50
D2-50	diffused glass	4 oz.	.11kg	34.00
D2-51	dichroic filter	4 oz.	.11kg	107.50
D2-52	clear glass	4 oz.	.11kg	30.00
D2-53	snoot	6 oz.	.17kg	38.50
D2-54	full scrim	3 oz.	85g	14.50
D2-55	half scrim	3 oz.	85g	14.50
D2-56	graduated scrim	3 oz.	85g	17.50
D2-57	cookaloris	3 oz.	85g	14.50
D2-24	dp frame	8 oz.	.23kg	40.00

GELS: Package of 4, 12" x 16" (30 x 41cm)				
D2-69	blue frost gels	2 oz.	57g	\$ 13.50
D2-70	day blue gels	2 oz.	57g	13.50
D2-71	n.d. 3 gels	2 oz.	57g	13.50
D2-72	frost gels	2 oz.	57g	13.50
D2-78	mixed gels	2 oz.	57g	13.50
D2-25	dp brella	21 oz.	.40kg	48.50
T1-50	flexi-shaft 16" (2)	4 oz.	.11kg	17.50
T1-52	tota-flag	4 oz.	.11kg	15.00
T1-54	tota-flector	6 oz.	.17kg	19.50
LFT	lightflector/tilter	13 <sup>3</sup> / <sub>4</sub> lbs.	.79kg	75.00

DP Supports and Mounts				
KS	ks stand	45 <sup>5</sup> / <sub>8</sub> lbs.	2.10kg	\$ 108.00
KP	full pole	13 <sup>3</sup> / <sub>8</sub> lbs.	.62kg	48.50
KPH	half pole	1 lb.	.45kg	41.00
LC	lowel casters (3)	23 <sup>3</sup> / <sub>8</sub> lbs.	1.08kg	48.50
LA	lowel anchors (4)	12 oz.	.34kg	9.50
LW	lowel weight	41 <sup>1</sup> / <sub>4</sub> lbs.	1.93kg	23.50
SC-10	large space-clamp	11 <sup>1</sup> / <sub>2</sub> lbs.	.68kg	48.50
SC-20	small space-clamp	11 <sup>1</sup> / <sub>4</sub> lbs.	.57kg	42.50
D2-32	tape-up bracket	8 oz.	.23kg	27.50
GT-12	gaffer-tape 12 yards	8 oz.	.23kg	9.00
GT-30	gaffer-tape 30 yards	11 <sup>1</sup> / <sub>4</sub> lbs.	.57kg	17.50
T1-30	tota-clamp	4 oz.	.11kg	18.50
KI-10	interlink	12 oz.	.34kg	21.50
KG	grip	13 <sup>3</sup> / <sub>4</sub> lbs.	.79kg	27.50
LSS	screw-in stud (2)	4 oz.	.11kg	10.50

DP Cables and Storage				
LQE25	25' extension cable	23 <sup>3</sup> / <sub>8</sub> lbs.	1.08kg	\$ 25.00
KCC	cable clips (40)	4 oz.	.11kg	9.00
K4CC	cable clips (10)	1 oz.	28g	4.50
D2-61	dp lampak	2 oz.	57g	14.50
MCSEM	molded multi case	16 <sup>1</sup> / <sub>2</sub> lbs.	7.49kg	215.00
D2-89	heavy-duty case	37 lbs.	17kg	450.00

DP Retrofit				
D2-05	quartz d retrofit	8 oz.	.23kg	\$ 15.00

## DP KITS

D2-95	dp brella kit	48 lbs.	21.78kg	\$ 1085.00
3 dp lights, #1 reflector (less lamps); 3 dp brellas;				
3 ks stands; 1 dp lampak; 1 molded multi case				
D2-93	dp 3 kit	45 lbs.	20.41kg	1125.00
3 dp lights, #1 reflectors (less lamps); 3 dp barndoors;				
3 ks stands; 1 dp lampak; 1 molded multi case				
D2-94	dp 4 kit	55 lbs.	24.95kg	1425.00
4 dp lights, #1 reflectors (less lamps); 4 dp barndoors;				
4 ks stands; 1 dp lampak; 1 molded multi case				
D2-96	dp remote kit	52 lbs.	23.58kg	1535.00
3 dp lights, #1 reflectors (less lamps); 3 dp barndoors;				
1 #3 superspot reflector; 1 diffused glass; 1 full scrim;				
1 graduated scrim; 1 dp brella; 3 dp frames; 1 mixed				
gels; 1 pack day blue gels; 1 lightflector/tilter; 2 tota-				
flags; 2 flexi-shafts; 3 ks stands; 1 large space-clamp;				
1 dp lampak; 1 molded multi case				
D2-97	close quarters kit	58 lbs.	26.31kg	1635.00
4 dp lights, #1 reflectors (less lamps);				
1 #3 superspot reflector; 4 dp barndoors; 2 full				
scrim; 1 half scrim; 1 graduated scrim; 2 dp				
frames; 1 mixed gels; 1 pack day blue gels;				
4 ks stands; 1 large space-clamp; 1 dp lampak;				
1 molded multi case				

To Order Above Kits With Heavy-Duty Case (D2-89)  
Substituted For Standard Kit Case. See Below:

D2-95HD	dp brella/hd case	68 <sup>1</sup> / <sub>2</sub> lbs.	31.06kg	\$ 1320.00
D2-93HD	dp 3/hd case	65 <sup>1</sup> / <sub>2</sub> lbs.	29.70kg	1360.00
D2-94HD	dp 4/hd case	75 <sup>1</sup> / <sub>2</sub> lbs.	34.24kg	1660.00
D2-96HD	dp remote/hd case	72 <sup>1</sup> / <sub>2</sub> lbs.	32.88kg	1770.00
D2-97HD	close quarters/hd case	78 <sup>1</sup> / <sub>2</sub> lbs.	35.60kg	1870.00

## LAMPS FOR DP LIGHT

dp lampak available—stores 4 lamps

EHC	120V	500W	300 hr.	clear	3200°K	\$ 52.00
EHD	120V	500W	2000 hr.	clear	3000°K	52.00
EHF	120V	750W	300 hr.	clear	3200°K	58.00
EHG	120V	750W	2000 hr.	clear	3000°K	58.00
FEL	120V	1000W	300 hr.	clear	3200°K	52.00
FKR/220	220V	650W	300 hr.	clear	3100°K	65.00
FEP/220	220V	1000W	150 hr.	clear	3200°K	60.00
FKR/240	240V	650W	300 hr.	clear	3100°K	65.00
FEP/240	240V	1000W	150 hr.	clear	3200°K	60.00

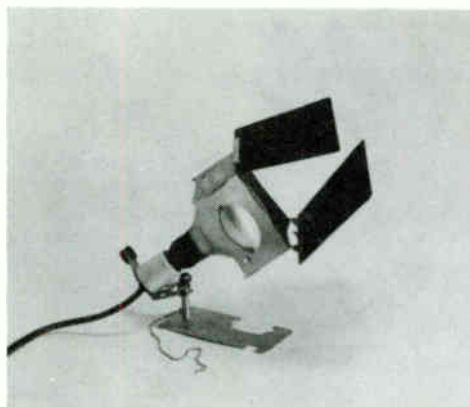
# LOWEL-LIGHT MFG., INC.

475 Tenth Ave.  
New York, NY 10018-1197  
(212) 947-0950 Telex: 66-6597  
FAX: (212) 629-0773

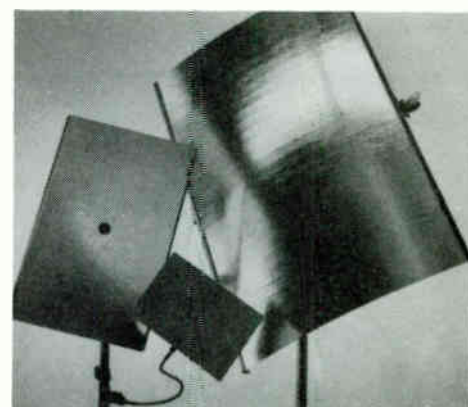
# LIGHTING SYSTEMS/ KITS AND REFLECTORS



Softlight 2



Lowel-Light



Reflectors

## SOFTLIGHT SYSTEM

### Softlight 2 Gels

<b>S2-10</b>	softlight 2	8 lbs.	3.63kg	<b>\$285.00</b>
<b>S2-20</b>	complete barndoor	2 lbs.	.91kg	<b>75.00</b>
<b>S2-21</b>	top or bottom door	10 oz.	.28kg	<b>30.00</b>
<b>S2-22</b>	side barndoor	5 oz.	.14kg	<b>15.00</b>
<b>S2-30</b>	reflector shell	6 oz.	.17kg	<b>70.00</b>

### Gels: Package of 3, 24" x 34" (61 x 86cm)

<b>S2-69</b>	blue frost gels	7 oz.	.20kg	<b>29.50</b>
<b>S2-70</b>	day blue gels	7 oz.	.20kg	<b>29.50</b>
<b>S2-71</b>	n.d. 3 gels	7 oz.	.20kg	<b>29.50</b>
<b>S2-72</b>	frost gels	7 oz.	.20kg	<b>29.50</b>

### Softlight 2 Supports and Mounts

<b>KS</b>	ks stand	4 <sup>5</sup> / <sub>8</sub> lbs.	2.10kg	<b>\$ 108.00</b>
<b>KP</b>	full pole	1 <sup>3</sup> / <sub>8</sub> lbs.	.62kg	<b>48.50</b>
<b>KPH</b>	half pole	1 lb.	.45kg	<b>41.00</b>
<b>SC-10</b>	large space-clamp	1 <sup>1</sup> / <sub>2</sub> lbs.	.68kg	<b>48.50</b>
<b>SC-20</b>	small space-clamp	1 <sup>1</sup> / <sub>4</sub> lbs.	.57kg	<b>42.50</b>
<b>KG</b>	grip	1 <sup>3</sup> / <sub>4</sub> lbs.	.79kg	<b>27.50</b>
<b>KI-10</b>	interlink	12 oz.	.34kg	<b>21.50</b>
<b>T1-30</b>	tota-clamp	4 oz.	.11kg	<b>18.50</b>
<b>KWW</b>	water weight	8 oz.	.23kg	<b>16.50</b>
<b>LW</b>	lowel weight	4 <sup>1</sup> / <sub>4</sub> lbs.	1.93kg	<b>23.50</b>
<b>LC</b>	lowel casters (3)	2 <sup>3</sup> / <sub>8</sub> lbs.	1.08kg	<b>48.50</b>

### Storage

<b>KCC</b>	cable clips (40)	4 oz.	.11kg	<b>\$ 9.00</b>
<b>K4CC</b>	cable clips (10)	1 oz.	.28g	<b>4.50</b>
<b>T1-61</b>	tota-lampak	2 oz.	.57g	<b>14.50</b>
<b>S2-51M</b>	molded softlight case	13 lbs.	5.90kg	<b>190.00</b>
<b>S2-53M</b>	molded softlight case	13 lbs.	5.90kg	<b>175.00</b>
<b>RU</b>	roll-up carrier	3 <sup>1</sup> / <sub>4</sub> lbs.	1.47kg	<b>98.50</b>

### Softlight Retrofit

<b>S2-06</b>	softlight retrofit	17 <sup>1</sup> / <sub>8</sub> lbs.	.85kg	<b>\$42.50</b>
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## SOFTLIGHT KITS

<b>S2-92</b>	standard soft kit	29 lbs.	13.15kg	<b>\$ 625.00</b>
1 softlight 2 (less lamps); 1 ks stand; 1 complete set barndoors; 1 tota-lampak; 1 molded softlight case (S2-51M)				
<b>S2-91</b>	light soft kit	24 lbs.	10.89kg	<b>535.00</b>
1 softlight 2 (less lamps); 1 complete set barndoors; 1 tota-lampak; 1 molded softlight case (S2-51M)				
<b>S2-93</b>	triple soft kit	43 lbs.	19.50kg	<b>1165.00</b>
3 softlight 2 (less lamps); 3 complete set barndoors; 1 tota-lampak; 1 molded softlight 3 case (S2-53M)				

## LAMPS FOR SOFTLIGHT 2

tota-lampak available — stores 5 lamps

<b>FD</b>	120V	500W	400hr.	clear	3200°K	<b>\$32.00</b>
<b>FCL</b>	120V	500W	2600hr.	clear	3000°K	<b>26.00</b>
<b>EJG</b>	120V	750W	400hr.	clear	3200°K	<b>40.00</b>
<b>EME/EJB</b>	240V	800W	250hr.	clear	3200°K	<b>37.00</b>
<b>FCM</b>	120V	1000W	300hr.	clear	3200°K	<b>32.00</b>

## LOWEL-LIGHT SYSTEM

### Lowel-Light and Accessories

<b>LL1</b>	lowel-light	10 oz.	.28kg	<b>\$33.50</b>
<b>BR40</b>	barndoor	4 oz.	.11kg	<b>33.50</b>
<b>BR-1</b>	replacement flap	1 oz.	.28g	<b>8.50</b>
<b>BR-2</b>	complete bulbmount only	3 oz.	.86g	<b>20.00</b>
<b>GT-12</b>	gaffer-tape 12 yards	8 oz.	.23kg	<b>9.00</b>
<b>GT-30</b>	gaffer-tape 30 yards	1 <sup>1</sup> / <sub>4</sub> lbs.	.57kg	<b>17.50</b>
<b>K5C</b>	lowel-light case	2 <sup>1</sup> / <sub>8</sub> lbs.	.96kg	<b>72.50</b>

### Lowel-Light Kit

<b>K5BR</b>	lowel-light K5BR kit	8 <sup>1</sup> / <sub>4</sub> lbs.	3.74kg	<b>\$375.00</b>
5 lowel-lights (less lamps); One 12 yard gaffer-tape; 5 barndoors; 1 lowel-light case				

## REFLECTORS

### Reflectors

<b>LFT</b>	lightflector/tilter	1 <sup>3</sup> / <sub>4</sub> lbs.	.79kg	<b>\$ 75.00</b>
<b>LF</b>	lightflector	1 <sup>5</sup> / <sub>8</sub> lbs.	.74kg	<b>57.00</b>
<b>T1-54</b>	tota-flector	6 oz.	.17kg	<b>19.50</b>
<b>V44A</b>	variflector II	14 lbs.	6.35kg	<b>275.00</b>
<b>V44RS</b>	replacement panel	7 <sup>1</sup> / <sub>4</sub> lbs.	3.29kg	<b>110.00</b>
<b>V44CK</b>	side channels (2)	3 <sup>1</sup> / <sub>2</sub> lbs.	1.59kg	<b>120.00</b>

### Supports and Mounts

<b>GS</b>	grand stand	6 lbs.	2.72kg	<b>\$175.00</b>
<b>KS</b>	ks stand	4 <sup>5</sup> / <sub>8</sub> lbs.	2.10kg	<b>108.00</b>
<b>O1-33</b>	omni-stand	27 <sup>1</sup> / <sub>8</sub> lbs.	1.30kg	<b>87.00</b>
<b>LA</b>	lowel anchors (4)	12 oz.	.34kg	<b>9.50</b>
<b>LW</b>	lowel weight	4 <sup>1</sup> / <sub>4</sub> lbs.	1.93kg	<b>23.50</b>
<b>T1-36</b>	tota-tilter	4 oz.	.11kg	<b>21.00</b>
<b>T1-50</b>	flexi-shaft 16" (2)	4 oz.	.11kg	<b>17.50</b>
<b>T1-30</b>	tota-clamp	4 oz.	.11kg	<b>18.50</b>
<b>T1-34</b>	tota-tatch	2 oz.	.57g	<b>11.50</b>
<b>LC</b>	lowel casters (3)	2 <sup>3</sup> / <sub>8</sub> lbs.	1.08kg	<b>48.50</b>

### Storage

<b>V44CC</b>	variflector case	4 <sup>1</sup> / <sub>4</sub> lbs.	1.93kg	<b>\$95.00</b>
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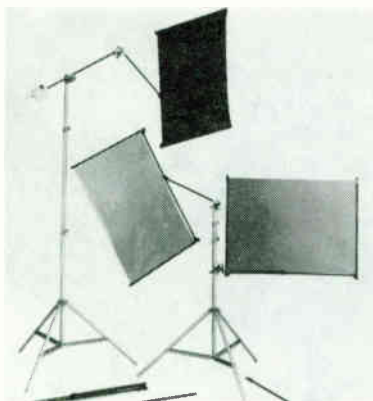
### Kit

<b>V44SC</b>	variflector II kit	25 lbs.	11.34kg	<b>\$525.00</b>
1 variflector II; 1 grand stand; 4 lowel anchors; 1 variflector case				

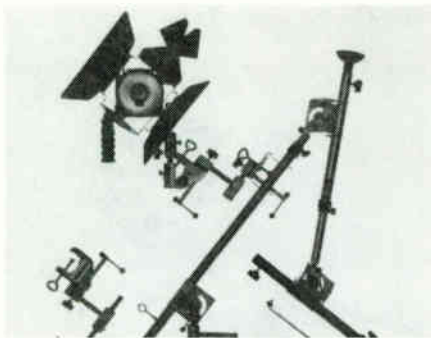
# LOWEL-LIGHT MFG., INC.

475 Tenth Ave.  
New York, NY 10018-1197  
(212) 947-0950 Telex: 66-6597  
FAX: (212) 629-0773

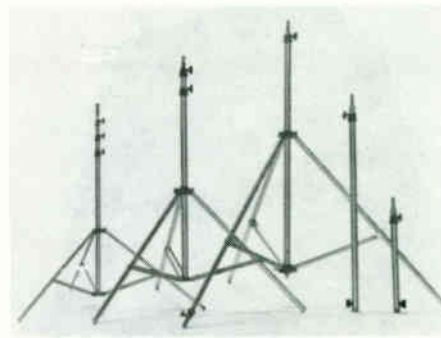
# LIGHTING SUPPORT SYSTEMS AND ACCESSORIES



FRAME-UP LOBO & LOBO ARM



CLAMPS AND MOUNTS



STANDS, POLES, BOOMS, RIGS

## CLAMPS & MOUNTS

Clamps			
SC-10	large space-clamp	1 1/2 lbs.	.68kg \$48.50
SC-20	small space-clamp	1 1/4 lbs.	.57g 42.50
SC-15	large bar	8 oz.	.23kg 22.50
SC-25	small bar	4 oz.	.11kg 16.00
SC-35	clamping arm (1)	6 oz.	.17kg 10.50
SC-30	stud bracket	4 oz.	.11kg 12.00
T1-30	tota-clamp	4 oz.	.11kg 18.50
KG	grip	1 3/4 lbs.	.79kg 27.50
KI-10	interlink	12 oz.	.34kg 21.50
KI-11	double male stud	4 oz.	.11kg 7.00

Mounts			
T1-32	tota-mount	10 oz.	.28kg \$25.00
D2-32	tape-up bracket	8 oz.	.23kg 27.50
GT-12	gaffer-tape 12 yards	8 oz.	.23kg 9.00
GT-30	gaffer-tape 30 yards	1 1/4 lbs.	.57kg 17.50
LSS	screw-in stud (2)	4 oz.	.11kg 10.50
T1-35	tota-daptor	4 oz.	.11kg 15.00
T1-36	tota-tilter	4 oz.	.11kg 21.00
F1-30	lowel lobo	10 oz.	.28kg 18.50
F1-40	lobo arm	3 oz.	.85g 14.50

## STANDS, POLES, BOOMS, RIGS

Stands and Poles			
GS	grand stand	6 lbs.	2.72kg \$175.00
KS	ks stand	4 5/8 lbs.	2.10kg 108.00
O1-33	omni-stand	27/8 lbs.	1.30kg 87.00
KP	full pole	1 3/8 lbs.	.62kg 48.50
KPH	half pole	1 lb.	.45kg 41.00

Accessories			
LC	lowel casters (3)	2 3/8 lbs.	1.08kg \$48.50
LA	lowel anchors (4)	12 oz.	.34kg 9.50
LW	lowel weight	4 1/4 lbs.	1.93kg 23.50
KWW	water weight	8 oz.	.23kg 16.50
KCL	ceiling link	10 oz.	.28kg 18.50
T1-30	tota-clamp	4 oz.	.11kg 18.50
KG	grip	1 3/4 lbs.	.79kg 27.50
KI-10	interlink	12 oz.	.34kg 21.50
KI-11	double male stud	4 oz.	.11kg 7.00

Storage			
MCSEM	molded multi case	16 1/2 lbs.	7.49kg \$215.00
V44CC	variflector case	4 1/4 lbs.	1.93kg 95.00
T1-82	tube case	2 3/8 lbs.	1.08kg 78.00
RU	roll-up carrier	3 1/4 lbs.	1.47kg 98.50

Booms and Rigs			
SP-90	big boom	20 1/2 lbs.	9.30kg \$325.00
	1 grand stand; 1 grip; 1 full pole; 2 lowel weights; 1 set lowel casters (3); 1 package cable clips (10)		
SP-91	basic boom	19 lbs.	8.62kg 265.00
	1 ks stand; 1 grip; 1 full pole; 2 lowel weights; 1 set lowel casters(3); 1 package cable clips (10)		
SP-92	hi-lo-elbow	7 lbs.	3.17kg 165.00
	1 ks stand; 1 grip; 1 half pole		
SP-93	background support	13 1/2 lbs.	6.12kg 335.00
	2 ks stands; 2 interlinks; 2 full poles		

## FLAGS, GELS, UMBRELLAS

Flags, Frames, Umbrellas, Mats, Gels			
F1-15	standard frame-up	14 oz.	.40kg \$ 60.00
F1-20	large frame-up	1 lb.	.45kg 65.00
D2-24	dp frame	8 oz.	.23kg 40.00
T1-20	tota-frame	6 oz.	.17kg 24.50
T1-52	tota-flag	4 oz.	.11kg 15.00
81-25	big brella	3 1/2 lbs.	1.59kg 160.00
D2-25	dp brella	21 oz.	6.6kg 48.50
T1-25	tota-brella	8 oz.	.23kg 30.00

MATS FOR STANDARD FRAME-UP: 20x24" (50x60cm)			
F1-42	black mat	3 oz.	.85g \$17.50
F1-43	translucent mat	3 oz.	.85g 15.00
MATS FOR LARGE FRAME-UP: 24x34" (61x86cm)			
F1-52	black mat	4 oz.	.11kg \$25.00
F1-53	translucent mat	4 oz.	.11kg 22.50

STANDARD FRAME-UP GELS: PACKAGE OF 3, 20x24" (50x60cm)			
F1-70	day blue gel	4 oz.	.11kg \$17.50
F1-71	n.d. 3 gel	4 oz.	.11kg 17.50
F1-72	frost gel	4 oz.	.11kg 17.50

LARGE FRAME-UP & SOFTLIGHT 2 GELS: PACKAGE OF 3, 24x34" (61x86cm)			
S2-69	blue frost gels	7 oz.	.20kg \$29.50
S2-70	day blue gels	7 oz.	.20kg 29.50
S2-71	n.d. 3 gels	7 oz.	.20kg 29.50
S2-72	frost gels	7 oz.	.20kg 29.50
S2-79	special colors	7 oz.	.20kg 29.50

DP GELS: PACKAGE OF 4, 12x16" (30x41cm)			
D2-69	blue frost gels	2 oz.	.57g \$13.50
D2-70	day blue gels	2 oz.	.57g 13.50
D2-71	n.d. 3 gels	2 oz.	.57g 13.50
D2-72	frost gels	2 oz.	.57g 13.50
D2-78	mixed gels	2 oz.	.57g 13.50

TOTAL/OMNI GELS: PACKAGE OF 5, 10x12" (25x30cm)			
T1-69	blue frost gels	2 oz.	.57g \$10.50
T1-70	day blue gels	2 oz.	.57g 10.50
T1-71	n.d. 3 gels	2 oz.	.57g 10.50
T1-72	frost gels	2 oz.	.57g 10.50
T1-78	assorted gels	2 oz.	.57g 10.50

Mounting Devices			
F1-30	lowel lobo	10 oz.	.28kg \$ 18.50
F1-40	lobo arm	3 oz.	.85g 14.50
GS	grand stand	6 lbs.	2.27kg 175.00
KS	ks stand	4 5/8 lbs.	2.10kg 108.00
O1-33	omni-stand	27/8 lbs.	1.30kg 87.00
T1-50	flexi-shaft (2)	4 oz.	.11kg 17.50
T1-30	tota-clamp	4 oz.	.11kg 18.50
T1-34	tota-tatch	2 oz.	.57g 11.50
T1-35	tota-daptor	4 oz.	.11kg 15.00
KG	grip	1 3/4 lbs.	.79kg 27.50
KI-10	interlink	12 oz.	.34kg 21.50
SC-10	large space-clamp	1 1/2 lbs.	.68kg 48.50
SC-20	small space-clamp	1 1/4 lbs.	.57kg 42.50
LW	lowel weight	4 1/4 lbs.	1.93kg 23.50
RU	roll-up carrier	3 1/4 lbs.	1.47kg 98.50

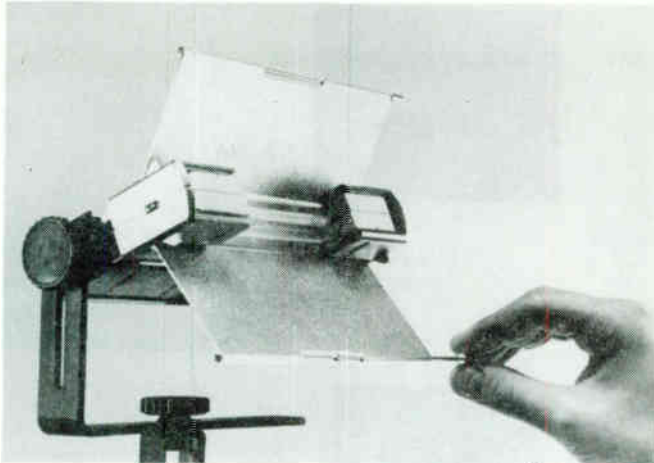
Frame-Up Sets			
F1-90	standard frame-up set	3 1/2 lbs.	1.6kg \$170.00
	2 standard frame-ups, 3 lobos; 1 lobo arm		
F1-95	large frame-up set	4 lbs.	1.80kg 180.00
	2 large frame-ups; 3 lobos; 1 lobo arm		



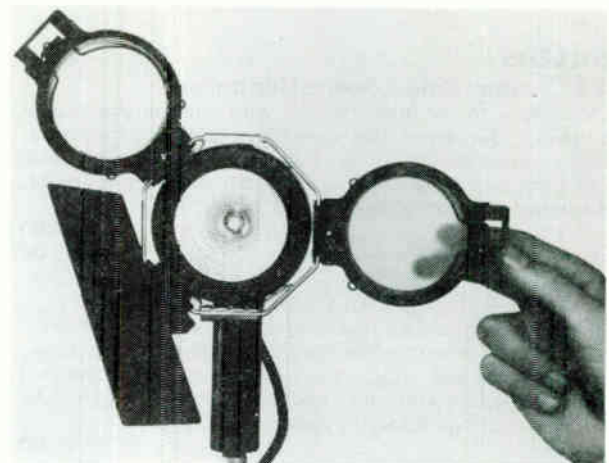
# LOWEL-LIGHT MANUFACTURING, INC.

475 10<sup>th</sup> Ave.  
 New York, NY 10018-1197  
 (212) 947-0957 Telex: 66-6597  
 FAX: (212) 629-0773

# LIGHTING



V-light (ViP System)



i-light (ViP System)

## ViP System

The ViP System is both a practical and sophisticated system designed to take advantage of fast films, lenses and video cameras. ViP consists of three very small, highly compatible, professional lights. The ViP System also includes a wide range of unique light control and mounting components, most of which can be used interchangeably among the three fixtures. Many Tota-light and other Lowel accessories (already in the field) can also be used with the three ViP lights.

A distinguished collection of ViP and other existing Lowel accessories position all three lights on stands, on cameras, on walls, on doors, on sets, in hand, in seconds. This unprecedented component integration provides maximum versatility and economy.

### V-light

The V-light is a broad, efficient 500W halogen source with a protective glass shield. It is bright enough to light a small room, small enough to fit in a large pocket.

V1-10 V-light .....\$95.00

### i-light

The tiny, focusing i-light uses an inexpensive 12V, 100V or 55W halogen lamp. Whether handheld or camera mounted it can provide that essential fill light, eye-light, highlight, and contrast control, without overwhelming the available, natural light.

i-110 i-light .....\$110.00

### Pro-light

The focusing Pro-light uses various voltage lamps: 250W, 120V; 200W, 30V, 100W, 12V. It has interchangeable special purpose reflectors, unique barndoors, five swing-away accessories, plus a gel frame and brella. All of these components are shared with the i-light.

ViP Kits

P1-10 Pro-light .....\$105.00

### ViP Kits

All ViP kits are unusually compact and ideal for many video, film and still photography assignments ranging from basic to sophisticated, from soft to dramatic, from studio to remote locations.

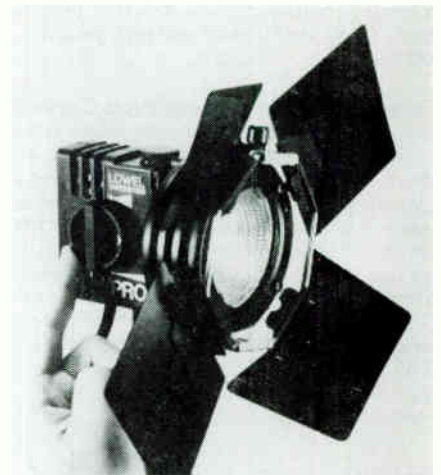
ViP Kits .....POR

### Light-Array

The Light-Array uses six standard 4' fluorescent tubes. It travels in one portable case with its own boom, ballast, barndoors and stand. It is ideal for shoots where existing fluorescent illumination is photographically unacceptable without some fill or side modeling light. The tubes for the Array can usually be borrowed at the supermarket, office, school or showroom location to assure perfect color balance with the prevailing fluorescents.

This 8 sq. foot, cool, lightweight, super-soft location or studio source can be rotated horizontally, vertically or diagonally, even boomed over the subject. The Array is available with a 120V, efficient electronic ballast, which also serves to counterbalance its boom.

Light-Array .....POR



Pro-light (ViP System)



Light-Array shown with Full Array Kit

Prices and Specifications Subject to Change Without Notice.

# LSS LABORATORIES

P.O. Box 866  
 Wallingford, CT 06492  
 (203) 284-0664

# LIGHTING CONTROLLERS DIMMERS/CABLES

## CONTROLLERS

### CS-60A 6 Channel Single Scene Controller

Features linear long-throw 90mm faders with channel and master "bump buttons." Sequencer has speed and audio level controls, forward/reverse chase switch, 3 chase patterns, and audio level indicator. Each channel has sequence on/off switch. Designed for clubs, bands, and portable DJ light shows.

**CS-60A** ..... \$415.00  
**C-60** Same as CS-60A less sequencer. .... 215.00



CS-60A

### FC-1 6 Channel 4 Scene Foot Operated Controller

Features include two sequencers, black-out and timed fade-out switch. All channels for each scene are pre-set and activated by momentary footswitches. Scenes and effects can be combined and controlled manually or automatically with audio level control. Designed for clubs or bands for operation "on stage" by performers.

**FC-1** ..... \$545.00

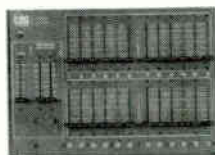


FC-1

### C-1200 12 Channel 2 Scene Controller

Features include linear long-throw 90mm faders with channel and X and Y "bump buttons." Split X and Y crossfade allows for pile-on capability. Designed for clubs and rock groups.

**C-1200** ..... \$525.00

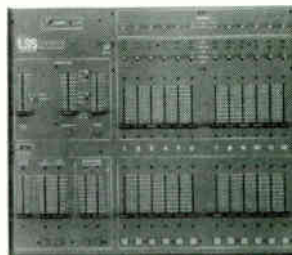


C-1200

### CS Series 2 Scene Professional Consoles

Available in 12, 18 and 24 channels. Features linear long-throw 90mm faders with "bump buttons" for each channel and major level controls. Includes grand master, independent master and scene master, black-out and split dipless X and Y crossfade. Each channel has master, independent on and off select switch with status LED indicator. Sequencer section includes speed, intensity and audio level controls, with sequencer on-off select switch with status LED indicator for each channel. All consoles are equipped with adjustable output voltage trims (0-2 and 5-20VDC) and gooseneck mount for work light. Designed for professional use in small theaters, studios, clubs and touring groups.

**CS-1200** 12 channels ..... \$ 975.00  
**CS-1800** 18 channels ..... 1225.00  
**CS-2400** 24 channels ..... 1495.00



CS-1200

## DIMMERS

### M-3000 3 Channel 1000W Per Channel Dimmer

• U-ground/duplex output • Compact design with hanging bracket for tree mounting • Heavy duty filtering • Adjustable input control voltage • Male/female control connectors for "daisy-chaining"  
 Power requirement: 120VAC at 20A, wall outlet. Designed as a starter pak for small groups or "paired" for multiple use in larger systems.

**M-3000** ..... \$325.00



M-3000

### LC-4A 6 Channel 1200W Per Channel Dimmer

• U-ground/duplex output • 19" rackmount design • Heavy duty filtering • Magnetic circuit breakers for channel protection • Adjustable input control voltage • Male/female control connectors for "daisy chaining" paks.

Power requirement: 2 120VAC at 20A wall outlets. Designed for small theaters, studios, clubs and touring groups.

**LC-4A** ..... \$895.00

**LC-4AX** Features U-ground/duplex output with 120/240VAC or 12/208VAC at 30A/terminal strip input. Same specs as LC-4A ..... 849.00

**LC-48X** Features (6) stage pin outputs with 120/240VAC or 120/208VAC at 30 amps/terminal strip input. Same specs as LC-4A ..... 995.00



LC-4A

### MX-2400 6 Channel 2400W Per Channel Dimmer

• 19" rackmount design • Heavy duty toroidal filtering • Professional-grade magnetic circuit breakers • Adjustable control voltage • Male/female control connectors • Over voltage protection • Full-on "push to test" buttons • Exclusive fan and convection cooling



MX-2400/UG

Power requirement: 120/240VAC or 120/208VAC at 60 amps/terminal strip input. Designed for theaters, clubs and touring companies.

**MX-2400/UG** U-ground, 12 outputs ..... \$1275.00  
**MX-2400/SP** Stage pin, 6 outputs ..... 1375.00  
**MX-2400/TL** Twist lock, 6 outputs ..... 1425.00

## CABLES

100' control cable ..... \$90.00  
 50' control cable ..... 60.00  
 25' control cable ..... 40.00  
 6' control cable ..... 30.00  
 CCYC Y cord/2 controllers ..... 50.00  
 Gooseneck light 12" ..... 40.00

# LTM CORP. OF AMERICA

1160 N. Las Palmas Ave.  
Hollywood, CA 90038  
(213) 460-6166 FAX: (213) 460-6175

# QUARTZ LIGHTING

## Pepper Series — Miniature Quartz Lighting

- Compact, lightweight design facilitates location lighting
- Sturdy, cast-aluminum construction
- Full range of accessories, designed for fast and easy attachment and adjustments
- Unique miniature lighting system

The Pepper Series is the first set of quartz lights designed for use with today's advanced electronics and faster film emulsions. Low Light Level Photography means smaller lighting units. It still takes the same number of brush strokes to "paint" a masterpiece, but with Peppers, Cinematographers and Lighting Directors can use smaller brushes.

The Pepper line consists of four focusing fresnel units, one open face and one soft light. Together they make a complete package for all types of photographic lighting situations.

The Pepper 100, Pepper 200, Pepper 420 and Pepper 650 are all fresnel focusing luminaires designed to be used as key lights, back lights, eye lights, kickers and for effects. The Pepper Flood is a small, durable focusing quartz open faced light designed to provide an extremely clean, smooth field in all positions from flood to spot with maximum lighting efficiency. The Soft Pepper is a small, compact soft light designed for use as a fill light or as a shadowless key light. Small enough to be easily mounted on Motion Picture or Television cameras.

<b>Pepper 100 (1<sup>5</sup>/<sub>16</sub>" Fresnel) 100/200W</b>	
Head . . . . .	\$160.00
2 Leaf Barndoors . . . . .	29.50
4 Leaf Barndoors . . . . .	39.00
Scrim (3") Full or Half (Single, Double or Double/Double) . . . . .	8.30
Hinged Gel Frame . . . . .	18.20
Fiber Gel Holder . . . . .	1.90
Fiber Gel Holder with Filter Pak . . . . .	4.40
Snoot (4/1) Apertures 1 <sup>3</sup> / <sub>4</sub> ", 1 <sup>3</sup> / <sub>8</sub> ", 1", 5/8" . . . . .	62.50

<b>Pepper 200 (3<sup>1</sup>/<sub>8</sub>" Fresnel) 200W</b>	
Head . . . . .	\$192.00
4 Leaf Barndoors . . . . .	53.00
Scrim (4 <sup>3</sup> / <sub>16</sub> " ) Full or Half (Single, Double or Double/Double) . . . . .	8.30
Hinged Gel Frame . . . . .	21.50
Fiber Gel Holder . . . . .	2.50
Fiber Gel Holder with Filter Pak . . . . .	6.00
Snoot (5/1) Apertures 2 <sup>1</sup> / <sub>2</sub> ", 2 <sup>3</sup> / <sub>16</sub> ", 1 <sup>3</sup> / <sub>4</sub> ", 1 <sup>3</sup> / <sub>8</sub> ", 1 <sup>5</sup> / <sub>16</sub> " . . . . .	69.50

<b>Pepper 420 (3<sup>1</sup>/<sub>8</sub>" Fresnel) 420W</b>	
Head . . . . .	\$217.00
4 Leaf Barndoors . . . . .	53.00
Scrim (4 <sup>3</sup> / <sub>16</sub> " ) Full or Half (Single, Double or Double/Double) . . . . .	8.30
Hinged Gel Frame . . . . .	21.50
Fiber Gel Holder . . . . .	2.50
Fiber Gel Holder with Filter Pak . . . . .	6.00
Snoot (5/1) Apertures 2 <sup>1</sup> / <sub>2</sub> ", 2 <sup>3</sup> / <sub>16</sub> ", 1 <sup>3</sup> / <sub>4</sub> ", 1 <sup>3</sup> / <sub>8</sub> ", 1 <sup>5</sup> / <sub>16</sub> " . . . . .	69.50
Handgrip . . . . .	16.50
Battery Belt with Cable . . . . .	POR
Pepperoptics (Fiber optic Lighting System) . . . . .	POR



<b>Pepper 650 (4<sup>3</sup>/<sub>8</sub>" Fresnel) 650W</b>	
Head . . . . .	\$288.00
4 Leaf Barndoors . . . . .	57.00
Scrim (5" ) Full or Half (Single, Double or Double/Double) . . . . .	8.30
Hinged Gel Frame . . . . .	26.50
Fiber Gel Holder . . . . .	3.20
Fiber Gel Holder with Filter Pak . . . . .	7.45
Snoot (5/1) Apertures 2 <sup>1</sup> / <sub>2</sub> ", 2 <sup>3</sup> / <sub>16</sub> ", 1 <sup>3</sup> / <sub>4</sub> ", 1 <sup>3</sup> / <sub>8</sub> ", 1 <sup>5</sup> / <sub>16</sub> " . . . . .	88.50

<b>Pepper Flood 650W</b>	
Head . . . . .	\$242.00
4 Leaf Barndoors . . . . .	70.00
Dichroic Filter . . . . .	132.00
Handgrip . . . . .	35.00
Battery Belt with Cable . . . . .	POR

<b>Soft Pepper 400W</b>	
Head . . . . .	\$240.00
Egg Crate . . . . .	82.50
Diffusion Frame . . . . .	13.50

<b>Universal Pepper Accessories</b>	
Light Pepper Stake (stand) . . . . .	\$ 60.00
Medium Pepper Stake (stand) . . . . .	75.00
3" Baby Plate . . . . .	25.00
Drop Ceiling Butterfly Clamp . . . . .	14.20
Suction Cup Mount . . . . .	59.50
3" C-Clamp with 5/8" Pin . . . . .	29.00
6" C-Clamp with two 5/8" Pins . . . . .	39.60
Pepper Pot Dimmer . . . . .	194.00
Gaffer Grip with 5/8" Pin . . . . .	27.00
Pepperella . . . . .	53.60
Pepperella Adaptor . . . . .	29.00
Net Set (complete with Flexarm, Net Holder, Net and Silk) . . . . .	113.00
Flag (for Net Set) . . . . .	22.00

<b>Cases</b>	
Custom Case Blue . . . . .	\$332.00
Custom Case Red . . . . .	346.50
Custom Case Green . . . . .	352.00
Custom Case Cyan . . . . .	381.00
Tube Stake . . . . .	116.00
Full Spectrum . . . . .	450.00

## Pepper Pak's — Complete Light Kits

Light Blue Pepper Pak . . . . .	\$1135.00
Blue Pepper Pak . . . . .	1454.00
Light Blue Green 3000 Pepper Pak . . . . .	1344.00
Blue Green Pepper Pak . . . . .	1604.00

Cyan Pepper Pak . . . . .	\$1710.00
Light Green Pepper Pak . . . . .	1432.00
Green Pepper Pak . . . . .	1797.00
Light Red Pepper Pak . . . . .	1620.00
Full Spectrum Pak . . . . .	3000.00



# LTM CORP. OF AMERICA

1160 N. Las Palmas Ave.  
Hollywood, CA 90038  
(213) 460-6166 FAX: (213) 460-6175

# HMI LIGHTING

## HMI LIGHTING SERIES

### 200W HMI Lights

#### Luxarc 200 (4" Fresnel)

- Compact fresnel daylight source
- 2A or 120V power consumption
- Great for interior daylight motion picture filming and video production
- Highest efficiency output (equivalent to a 2K open face)
- Portable AC HMI light
- Great for closeups and where space is limited
- Can be used with inverters for car shots
- Dimensions: Head — 7" W  
Yoke — 8" W  
Length — 10<sup>1</sup>/<sub>2</sub>"  
Height — 12"

- Complete with head, ballast, 15' mains cable, 4-leaf barndoor and gel frame

**Luxarc 200** ..... \$2,583.00

#### Ambiarc 200 (5" Clear Lens)

- Open face focusable fixture with parabolic reflector
- Ideal for direct or indirect lighting
- Low cost daylight source for limited space
- 2A power consumption at 120V
- Dimensions: Head — 7" W  
Yoke — 8" W  
Length — 10<sup>1</sup>/<sub>2</sub>"  
Height — 12"

- Complete with head, ballast, 15' mains cable, 4-leaf barndoor and gel frame

**Ambiarc 200** ..... \$2,400.00

### 575W HMI Lights

#### Luxarc 575 Mark III (7" Fresnel)

- Compact and lightweight, excellent for interior daylight source
- With inverter, it also can be used for car shots without external power
- Focusing ratio gives versatility for motion picture filming, video production and news application
- 6A power consumption at 120V
- Small yoke fits baby stands, also mounts from scissor mounts
- Dimensions: Head: 7<sup>1</sup>/<sub>2</sub>" W  
Yoke: 10<sup>3</sup>/<sub>4</sub>" W  
Length: 14<sup>1</sup>/<sub>8</sub>"  
Height: 14<sup>1</sup>/<sub>2</sub>"

- Complete with head, ballast, 15' mains cable, head to ballast cable 33', 4-leaf barndoor and gel frame

**Luxarc 575 Mark III** ..... \$3,457.00

#### Cinepar 575 (4 Lens Rings)

- Compact, smallest HMI using 575W HMI sealed in a PAR 46 reflector
- 8<sup>1</sup>/<sub>2</sub> lbs. and features 360° rotatable housing
- 6A power consumption at 120V
- Excellent for interior/exterior applications: concerts, parades, sports, filming and TV remotes
- Produces narrow and very narrow spot, wide or medium flood
- Dimensions: Head: 8<sup>1</sup>/<sub>2</sub>" W  
Yoke: 9<sup>1</sup>/<sub>8</sub>" W  
Length: 14<sup>1</sup>/<sub>2</sub>"  
Height: 13<sup>1</sup>/<sub>2</sub>"

- Complete with head (4 lens rings), ballast, 15' cable with U ground Hubbell, head to ballast cable 33'

**Cinepar 575** ..... \$2,962.00

### 1200W HMI Lights

#### Luxarc 1200 Mark III (10" Fresnel)

- Compact and lightweight
- Excellent interior daylight source
- Suited for locations where space is limited
- Versatile for motion picture location filming and video productions



Luxarc 200

Luxarc 575 Mark III



Cinepar 575 w/Ballast



Luxarc 1200W Mark III

- 12.5A power consumption at 120V
- Dimensions: Head — 13" W  
Yoke — 14<sup>1</sup>/<sub>2</sub>" W  
Length — 17<sup>5</sup>/<sub>8</sub>"  
Height — 16<sup>1</sup>/<sub>8</sub>" W

- Complete with head, ballast, 15' mains cable, head to ballast cable 33', 4-leaf barndoor and gel frame

**Luxarc 1200 Mark III** ..... \$4,812.00

#### Cinepar 1200 (4 Lens Rings)

- 360° rotatable housing
- Versatile for all lighting applications
- PAR 64 reflector
- Long range lighting for day and night exteriors
- Lens changes produce narrow and very narrow spot, medium, wide, or super wide flood
- 12.5A power consumption at 120V
- Dimensions: Head — 11" W  
Yoke — 11<sup>3</sup>/<sub>8</sub>" W  
Length — 18<sup>3</sup>/<sub>4</sub>"  
Height — 15"

- Complete with head, (4 lens rings), ballast, 15' mains cable, head to ballast cable 33'

**Cinepar 1200** ..... \$3,900.00

# LTM CORP. OF AMERICA

1160 N. Las Palmas Ave.  
Hollywood, CA 90038  
(213) 460-6166 FAX: (213)460-6175

# LIGHTING KITS

## LIGHTWEIGHT LIGHTING

### Minette/12V Camera Light

- 3" long, 3 1/4" diameter
- 10 oz.
- Simple: non-focusable
- Adjusted in medium spot position in a high performance reflector
- 12V FCR/100W—24V FDV/150W bulbs
- 2-pin

**Minette** .....\$ 144.90

### Accessories

Barndoor and filter ring .....\$ 53.00  
Dichroic filter. ....116.00

### Varilux 2000

- Light, compact and focusable fixture with high intensity
- Ideal for news applications and use in confined areas
- Precise and smooth focusing
- Very wide spread
- Perfect ventilation
- Fast cooling-down of fixture
- FEX, P2-27, 230V, 2000W
- FEY 115V, 2000W
- Stamped aluminum
- 20A toggle switch
- Dural yoke, will fit any standard diameter 16mm stand or hanger spud

**Varilux 2000** .....\$637.00

### Accessories

Rotating 4-leaf barndoor .....\$ 96.00  
Daylight conversion filter .....348.00  
Ventilated filterholder .....117.00  
Simple diffuser, stainless steel .....30.00  
Double diffuser, stainless steel .....30.00

### Kit 504 M/12

- Miniature unit including 4 small "Minette" lights mounted on gator grip
- Very small, compact and light
- For use in motor vehicles
- Easily dissimulated
- Very high light output
- Direct connection to car battery 12V
- 4 rotating barndoors (4-leaf) with incorporated filterholder device
- 12V, 50W and 100W, approx. 50 hrs. available
- Stamped aluminum
- Supplied with cable, switch and Cannon connector
- Spider box

**Kit 504 M/12** .....\$ 1207.00

### Accessories

Daylight conversion filter .....\$ 116.00  
Rotating 4-leaf barndoor with filter holder .....53.00



Minette



Kit 504 M/12



Varilux 2000

### Kit 503 M

- Small, lightweight unit
- Includes 30V battery with incorporated charger as well as handheld minilight
- Fixture is focusable
- Stamped aluminum
- Light switch as well as focusing are actuated singlehanded
- Excellent light output, thus ideal for news applications
- FBV 30V/250W, 30V/150W, 30V/350W—3400°K average life: approx. 6 hrs.
- Edison-Minican socket
- NiCad battery, 50 minutes operating time; 14 hrs. to recharge; Cannon or Amphenol connectors
- Charger features 120-220V, circuit breaker for excessive overcharging, tension indicator light, main fuse, spare fuse

**Kit 503 M** .....\$ 1848.00

### Accessories

Rotating 4-leaf barndoor with incorporated filter holder device .....\$ 53.00  
Daylight conversion filter .....115.00

# LUCASEY MFG. CORP.

2744 E. 11th St.  
 P.O. Box 7255  
 Oakland, CA 94601  
 (415) 534-1435  
 FAX: (415) 534-6828

# TV/MONITOR MOUNTS



ACM-2030

The Lucasey concept features a common projection and tilt arrangement that lets you interchange locking and nonlocking units with the option of sizing to fit your set—exactly. Ideal for service or viewing requirement interchange. No need to reattach the set once it becomes part of the Lucasey system.

- **Complete Flexibility** is assured with Lucasey Monitor Mounts. By engineering a systems approach to bracket requirements, Lucasey fulfills all of your equipment needs—locking and nonlocking standard and heavy-duty plates for every ceiling and wall application. Each mount is furnished in 16 gauge steel with high tech, wrinkle black baked epoxy finish and pin tumbler security on locking units.
- **Double Stud Dependability.** Built to accept the largest monitor, non-locking wall brackets offer sliding plates to secure at exactly the width desired.
- **Heavy-Duty Versatility.** Lucasey ceiling unit—available in two basic sizes—allows vertical and horizontal expansion. Ceiling flange accepts various pipe lengths.



SSWP 6500

## TV Furniture Mounts

### F5500 and F6100 Series

Locking—360° Swivel (Inquire for Adhesive Mount Prices and Availability)

F5500	0°	100	19" x 12"	\$35.40
F5501	0°	100	15" x 12"	35.40
F5502	0°	100	23" x 11"	35.40
F5503	0°	125	22" x 14"	35.40
F5504	0°	125	25" x 14"	41.45
F5505	0°	125	18" x 18 1/2"	38.80

### Locking—Flat Bottom (No Swivel)

F6100	0°	150	19" x 12"	\$35.40
F6101	0°	150	15" x 12"	35.40
F6102	0°	150	23" x 11"	35.40
F6103	0°	150	22" x 14"	35.40
F6104	0°	150	25" x 14"	41.45
F6105	0°	150	18" x 18 1/2"	38.80



F5500 & F6100 Series



# LUCASEY MFG. CORP.

2744 E. 11<sup>th</sup> St.  
 P.O. Box 7255  
 Oakland, CA 94601  
 (415) 534-1435  
 FAX: (415) 534-6828

## TV WALL MOUNTS

### TV Wall Mounts

Model	Tilt	Wt. Ld. Lbs.	Platform Width x Depth	List
<b>Locking—Double Stud Installation</b>				
DS3503	0°	120	22" x 14"	\$129.00
DS3504	0°	120	25" x 14"	135.30
DS3505	0°	120	18" x 18 <sup>1</sup> / <sub>2</sub> "	132.50
DSWP6103	7°	120	22" x 14"	132.19
DSWP6104	7°	120	25" x 14"	138.47
DSWP6105	7°	120	18" x 18 <sup>1</sup> / <sub>2</sub> "	135.68
<b>Locking—Single Stud Installation</b>				
SS3500	0°	75	19" x 12"	\$46.40
SS3501	0°	75	15" x 12"	46.40
SS3502	0°	75	23" x 11"	46.40
SS3503	0°	75	22" x 14"	46.40
SSWP6100	12 <sup>1</sup> / <sub>2</sub> °	85	19" x 12"	80.47
SSWP6101	12 <sup>1</sup> / <sub>2</sub> °	85	15" x 12"	75.50
SSWP6102	12 <sup>1</sup> / <sub>2</sub> °	85	23" x 11"	80.15
SSWP6103	12 <sup>1</sup> / <sub>2</sub> °	85	22" x 14"	85.69
1700SLWM	15°	85	21 <sup>1</sup> / <sub>2</sub> " x 10 <sup>1</sup> / <sub>2</sub> "	48.23

Semi-locking.



DSWP Series



SS Series



SSWP Series

### TV Wall Mounts



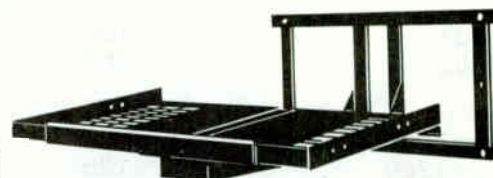
DSCM2030  
 Double-Stud  
 Heavy-Duty  
 Wall Mount  
 Adjustable



SSWP Series  
 Adjustable Plate



1700NLWM  
 1700SLWM



DSWP Series  
 Adjustable Plate

Model	Tilt	Wt. Ld. Lbs.	Platform Width x Depth	List
<b>Adjustable Non-Locking Platforms</b>				
DSWP2030	7°	120	20-30" x 14"	\$134.54
SSWP2030	12 <sup>1</sup> / <sub>2</sub> °	75	*20-26" x 14"	84.44
SSWP1420	12 <sup>1</sup> / <sub>2</sub> °	85	14-20" x 11"	79.79
SSWP1014	12 <sup>1</sup> / <sub>2</sub> °	75	10-14" x 11"	79.79
DSCM2030**	0-25°	120	20-30" x 14"	177.60
SSCM1420**	0-25°	75	14-20" x 11"	133.78

\*Swivel becomes limited by depth of TV.

\*\*Yoke type mounts

### Non-Locking

1700NLWM	15°	75	21 <sup>1</sup> / <sub>2</sub> " x 10 <sup>1</sup> / <sub>2</sub> "	\$42.69
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SSCM1420  
 Single-Stud  
 Wall Mount  
 Adjustable

Prices and Specifications Subject to Change Without Notice.

# LUCASEY MFG. CORP.

2744 E. 11<sup>th</sup> St.  
P.O. Box 7255  
Oakland, CA 94601  
(415) 534-1435  
FAX: (415) 534-6828

# TV CEILING/PEDESTAL MOUNTS

## TV Ceiling Mounts

Model	Tilt	Wt. Ld. Lbs.	Platform Width x Depth	List
<b>Adjustable Non-Locking Platforms</b>				
ACM2030	0-25°	120	20-30" x 14"	\$134.54
ACM1420	0-25°	120	14-20" x 11"	126.03
CTL2030	12 1/2°	100	20-30" x 14"	90.92
CTL1420	12 1/2°	100	14-20" x 11"	85.95
CTN1014	12 1/2°	100	10-14" x 11"	85.95
<b>Locking</b>				
CTL6100	12 1/2°	100	19" x 12"	\$85.12
CTL6101	12 1/2°	100	15" x 12"	82.19
CTL6102	12 1/2°	100	23" x 11"	86.89
CTL6103	12 1/2°	100	22" x 14"	93.37



CTL Series  
Locking  
Plate Shown

## TV Pedestal Mounts (24" High with 360° Swivels)

Model	Tilt	Wt. Ld. Lbs.	Platform Width x Depth	List
<b>Locking—2" Tubing with "Star" Base</b>				
P4500	0°	100	19" x 12"	\$63.40
P4501	0°	100	15" x 12"	63.40
P4502	0°	100	23" x 11"	63.40
<b>Locking—4" Tubing with 12" x 12" Bolt-Down Base</b>				
<b>Brass Finish Columns</b>				
PBC41200	0°	125	19" x 12"	\$102.50
PBC41201	0°	125	15" x 12"	102.50
PBC41202	0°	125	23" x 11"	102.50
PBC41203	0°	125	22" x 14"	102.50
PBC41204	0°	150	25" x 14"	109.25
PBC41205	0°	150	18" x 18 1/2"	106.15
<b>Chrome Finish Columns</b>				
PCC41200	0°	125	19" x 12"	\$ 95.70
PCC41201	0°	125	15" x 12"	95.70
PCC41202	0°	125	23" x 11"	95.70
PCC41203	0°	125	22" x 14"	95.70
PCC41204	0°	150	25" x 14"	102.37
PCC41205	0°	150	18" x 18 1/2"	99.37
<b>Vinyl Wrapped Columns—Simulated Walnut</b>				
PVW41200	0°	125	19" x 12"	\$78.39
PVW41201	0°	125	15" x 12"	78.39
PVW41202	0°	125	23" x 11"	78.39
PVW41203	0°	125	22" x 14"	78.39
PVW41204	0°	150	25" x 14"	83.55
PVW41205	0°	150	18" x 18 1/2"	81.05



P4500  
Series



PBC4, PCC4 and PVW4  
Pedestal Series

# LUCASEY MFG. CORP.

2744 E. 11<sup>th</sup> St.  
 P.O. Box 7255  
 Oakland, CA 94601  
 (415) 534-1435  
 FAX: (415) 534-6828

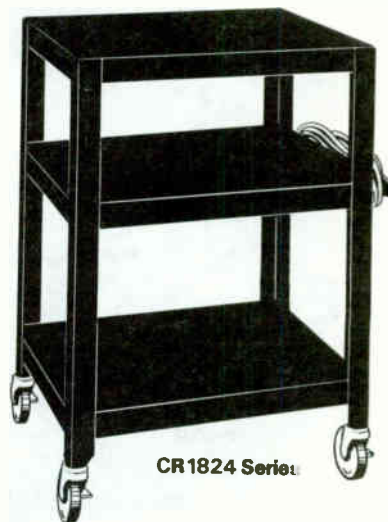
# MOBILE TABLES/VCR MOUNTS



CR24.5 Series

All Steel  
 Construction  
 Prices Include  
 4 4" Diameter  
 Locking Wheels

24" Wide x 18" Deep  
 See Chart Below For Height



CR1824 Series

Model	Description	Hgt.	List
CR1824	Std. Cart	34 <sup>1</sup> / <sub>2</sub> "	\$145.15
CR1824C	With *Cord	34 <sup>1</sup> / <sub>2</sub> "	182.98
CR1824E	Enclosure	34 <sup>1</sup> / <sub>2</sub> "	216.48
CR1824CE	*Cord/Encl.	34 <sup>1</sup> / <sub>2</sub> "	253.14
CR24.5	Std. Cart	24 <sup>1</sup> / <sub>2</sub> "	86.30
CR24.5C	With *Cord	24 <sup>1</sup> / <sub>2</sub> "	119.50
CR24.5E	Enclosure	24 <sup>1</sup> / <sub>2</sub> "	155.88
CR24.5CE	*Cord/Encl.	24 <sup>1</sup> / <sub>2</sub> "	186.07

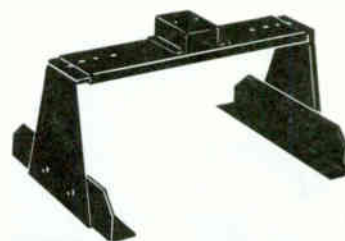
\* 15' cord. 15A (grounded,) twin outlet, U.L. and CSA approved.

## VCR Mounts

Adjustable Non-Locking "Hang-A-Long" Style  
 For Combo TV/VCR Mounts

Model	Tilt	Wt. Ld. Lbs.	Widths	List
AVCR1420	0°	DNA	14-20"	\$*37.83
AVCR914	0°	DNA	9-14"	*37.83

\*Prices are for the AVCR mounts only. Wall and ceiling television mounts extra.



AVCR Adjustable VCR Mts  
 use with CTL, SSWP and 1700s

## VCR and VP (Player) Mounts

Locking—VCR/VP mounts  
 Furniture and wall mounts available.

State manufacturer's name and the model number when making inquiries.

VP Series  
 Wall Mounts



VP Series  
 Furniture Mounts



# LUXOR CORP.

P.O. Box 830  
Waukegan, IL 60079-0830  
(312) 244-1800 (800) 323-4656

# MOBILE VIDEO TABLES

## Endura® 32" W x 24" D Models

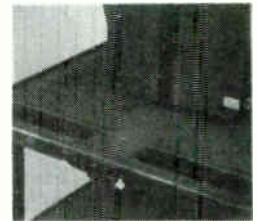
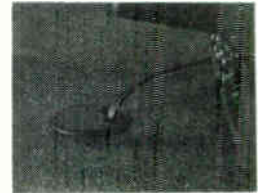


An integral handle, designed for pushing (never pulling) the table, offers the best stability when moving. A built-in 20' long 3-wire, electric cord (U.L. and C.S.A. listed). The Cable-Track™ cord management system keeps cords tucked neatly out of the way for maximum safety when being moved. Equipment safety belt included with all video tables.

Greater safety is provided with the Cable-Track cord management system.



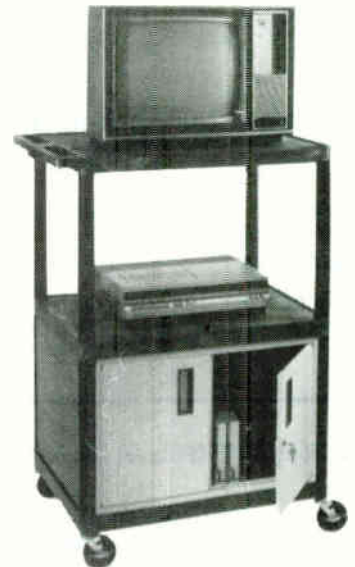
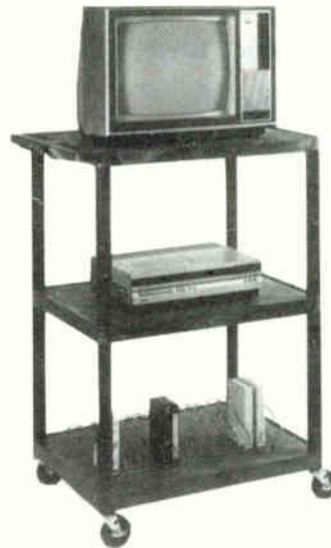
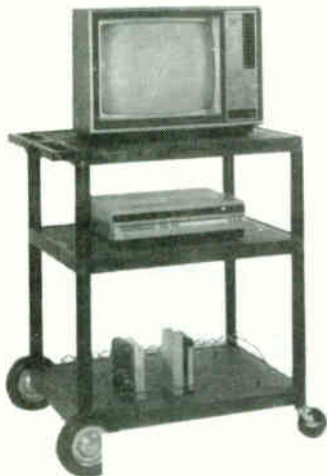
Integral safety push handle



Built-in 20' power assembly is U.L. and C.S.A. listed. Safety belt is included on all Video Tables.

Safety belts are not included with Video Consoles but are recommended if equipment is to be on top shelf – order separately.

#LS8 ..... \$18.00



40" High Endura Open-Shelf Video Table 40"H x 32"W x 24"D. Shelf clearances are 11 1/2"H x 28 1/8"W x 18"H. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Equipment safety belt included.

LE-40 ..... \$198.00  
LEB-40 with 8" big wheels on one end ..... \$228.00

40" High Endura Video Table With Cabinet\* 40"H x 32"W x 24"D. Locking cabinet with door clearance of 15 3/4"H x 26 1/2"W. Shelf clearance is 11 1/2"H x 28 1/8"W. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Equipment safety belt included.

LE-40-C ..... \$318.00  
LEB-40-C with 8" big wheels on one end ..... \$348.00

48" High Endura Open-Shelf Video Table 48"H x 32"W x 24"D. Shelf clearances are 19 1/2"H x 28 1/8"W x 18"H. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Equipment safety belt included.

LE-48 ..... \$203.00  
LEB-48 with 8" big wheels on one end ..... \$233.00

48" High Endura Video Table With Cabinet\* 48"H x 32"W x 24"D. Locking cabinet with door clearance of 15 3/4"H x 26 1/2"W. Shelf clearance is 19 1/2"H x 28 1/8"W. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Equipment safety belt included.

LE-48-C ..... \$323.00  
LEB-48-C with 8" big wheels on one end ..... \$353.00

\* Patents pending on cabinet and cord management system.

Prices and Specifications Subject to Change Without Notice.

# LUXOR CORP.

P.O. Box 830  
Waukegan, IL 60079-0830  
(312) 244-1800 (800) 323-4656

# MOBILE VIDEO CONSOLES

## Endura® Video Consoles



**27" High Endura Open-Shelf Video Table** 27"H x 32"W x 24"D. Shelf clearance is 18"H x 28 1/8"W. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track™ cord management system. Equipment safety belt included.

LE-27 .....\$165.00  
LEB-27 with 8" big wheels on one end .....195.00



**27" High Endura Video Table With Cabinet\*** 27"H x 32"W x 24"D. Locking cabinet with door clearance of 15 3/4"H x 26 1/2"W. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Equipment safety belt included.

LE-27-C .....\$285.00  
LEB-27-C with 8" big wheels on one end .....315.00



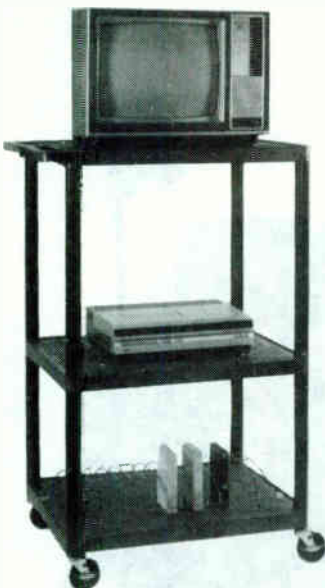
**59" High Endura Video Console\*** 59 1/2"H x 32"W x 24"D. Locking cabinet with shelf clearances of 26 1/2"W x 23 3/4"H, 7 1/2"H and 16 1/2"H. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Safety belt accessory recommended for equipment on top—order separately.

LEF-56-C .....\$550.00



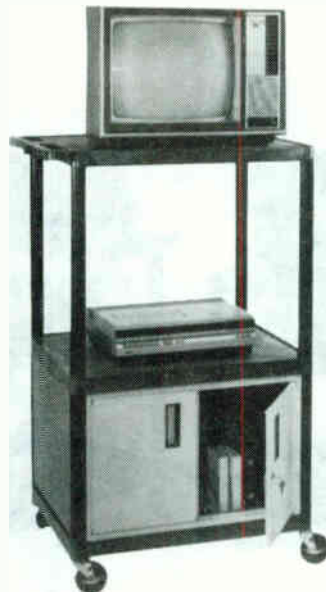
**44" High Endura Video Console\*** 44 1/2"H x 32"W x 24"D. Locking cabinet with shelf clearances of 26 1/2"W x 23 1/4"H and 10"H. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Safety belt accessory recommended for equipment on top—order separately.

LEF-40-C .....\$380.00



**54" High Endura Open-Shelf Video Table** 54"H x 32"W x 24"D. Shelf clearances are 28 1/8"W x 25 1/2"H and 18"H. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Equipment safety belt included.

LE-54 .....\$209.00  
LEB-54 with 8" big wheels on one end .....239.00



**54" High Endura Video Table With Cabinet\*** 54"H x 32"W x 24"D. Locking cabinet with door clearance of 15 3/4"H x 26 1/2"W. Shelf clearance is 25 1/2"H x 28 1/8"W. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Equipment safety belt included.

LE-54-C .....\$329.00  
LEB-54-C with 8" big wheels on one end .....359.00



**42" High Endura Video Console\*** 42"H x 24"W x 18"D. Locking cabinet with shelf clearances of 19 1/4"W x 10 1/4"H, 10"H and 10"H. Shelves can be adjusted to height clearances of 13 1/4"H, 8 3/4"H and 8 1/4"H or removed entirely. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Safety belt accessory recommended for equipment on top—order separately.

LEF-42-C .....\$292.00



**34" High Endura Video Console\*** 34"H x 24"W x 18"D. Locking cabinet with shelf clearances of 11 1/4"H x 19 1/4"W and 10 1/4"H. Middle shelf may be removed entirely. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Safety belt accessory recommended for equipment on top—order separately.

LEF-34-C .....\$242.00

**Multi-Height Endura Open-Shelf Video Table Assemble to 54", 48", 40" or 27" height.** Save extra parts for resizing later. 32"W x 24"D. 4" anti-shimmy casters, two with brakes. Built-in 20' 3-wire power cord assembly with Cable-Track cord management system. Equipment safety belt included.

LEL-OUO .....\$219.00

**Optional Safety Accessory Luxor Safety Strap** is recommended for equipment placed on top of any Endura Video Console.

LSS .....\$8.00

\*Patents pending on cabinet and cord management system.

Prices and Specifications Subject to Change Without Notice.

V-757



# LUXOR CORP.

P.O. Box 830  
Waukegan, IL 60079-0830  
(312) 244-1800 (800) 323-4656

## TV Tables

## MOBILE VIDEO TABLES



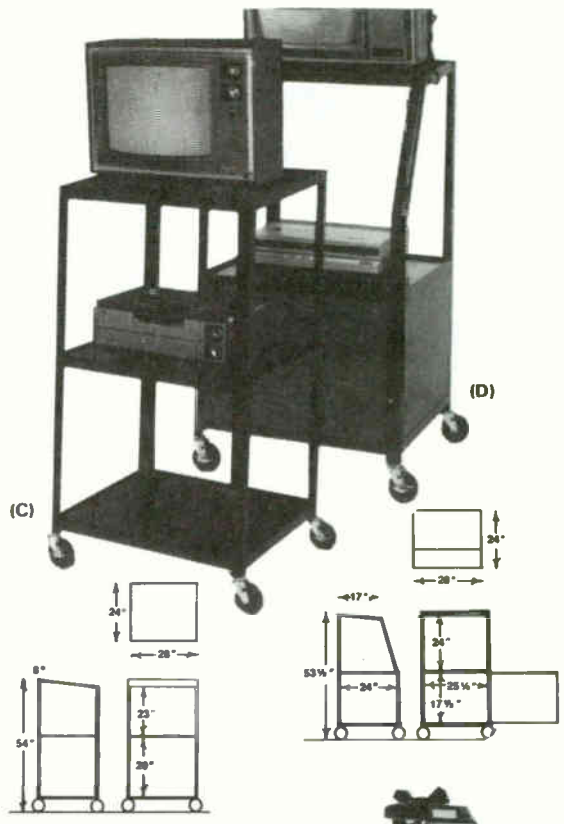
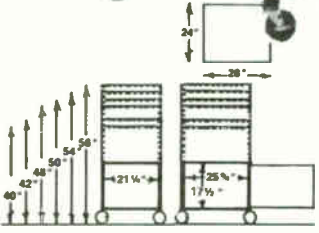
All models include U.L. and C.S.A. listed 3-outlet 20' power cord.

(A) ATV-56—Adjustable Height TV Table. Adjusts to six heights of 56", 54", 50", 48", 42", and 40". Weight 65 lbs.  
ATV-56 ..... \$204.00

(B) ATV-56C—Adjustable Height TV Table With Locking Cabinet. Door has walnut woodgrain doors with black side and back panels. Adjustable to heights of 56", 54", 50", 48", 42", and 40". Weight 84 lbs.  
ATV-56C ..... \$324.00

(C) TVR-54—Fixed Height TV Table. Top shelf tilted forward eight degrees to reduce glare. Weight: 68 lbs.  
TVR-54 ..... \$208.00

(D) TVR-54C—Fixed Height TV Table With Locking Cabinet. Top shelf tilted forward eight degrees to reduce glare. Walnut woodgrain doors with black side and back panels. Weight 75 lbs.  
TVR-54C ..... \$324.00



## Endura® Video Production Centers



**Endura Video Production Centers 24" W x 18" D.** Features air-loaded Mono Pod LMP-74 camera mount with spring-loaded pan head. Integral push handle. Model available with locking steel cabinet for valuable equipment. 4" heavy-duty casters, 2 with brakes. Shown with 8" wheels on one end for easier mobility over carpet and rough floors. Built-in 20' 3-wire power cord. U.L. and C.S.A. listed. Cable-Track™ cord management system keeps cords tucked neatly out of the way for safety when being moved.

VPC-37B with cabinet and 8" big wheels on one end (37" H) ..... \$380.00  
VP-34B without cabinet and 8" big wheels on one end (34" H) ..... \$290.00

**Endura Big-Deck Video Production Centers 40" H x 32" W x 24" D.** Features air-loaded Mono Pod LMP-74 camera mount with spring-loaded pan head. Top is a ready stage for close-ups. Integral push handle. Model available with locking steel cabinet for valuable equipment. 4" heavy-duty casters, 2 with brakes. Shown with 8" wheels on one end for easier mobility over carpet and rough floors. Built-in 20' 3-wire power cord. U.L. and C.S.A. listed. Cable-Track cord management system keeps cords tucked neatly out of the way for safety when being moved.

VPC-40B with cabinet and 8" big wheels on one end ..... \$520.00  
VP-40B without cabinet and 8" big wheels on one end ..... \$390.00

**Endura Platform Video Production Centers 42" H x 32" W x 24" D.** Features air-loaded Mono Pod LMP-74 camera mount with spring-loaded pan head. Monitor platform 15 3/4" x 24". Integral push handle. Model available with locking steel cabinet for valuable equipment. 4" heavy-duty casters, 2 with brakes. Shown with 8" wheels on one end for easier mobility over carpet and rough floors. Built-in 20' 3-wire power cord. U.L. and C.S.A. listed. Cable-Track cord management system keeps cords tucked neatly out of the way for safety when being moved.

VPC-42B with cabinet and 8" big wheels on one end ..... \$510.00  
VP-42B without cabinet and 8" big wheels on one end ..... \$380.00

Prices and Specifications Subject to Change Without Notice.



# LUXOR CORP.

P.O. Box 830  
Waukegan, IL 60079-0830  
(312) 244-1800 (800) 323-4656

# MOBILE VIDEO CONSOLES

Strength and durability of these one-piece welded consoles are unmatched. All models ship fully assembled. Locking wood doors provide security for valuable video equipment and tapes. Compartments are louvered for ventilation. Designed for most 19" monitors and 1/2" or 3/4" recorders. Heavy-duty 4" casters, two with brakes provide high mobility. Wire pass through channels between all shelves.

## PS-762 70" CONSOLE

PS-762 70" Video Console Our best seller. Locking rear door for easy access to input/output jacks and power cords. 169 lbs.

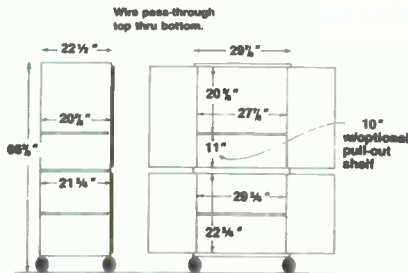
PS-762 .....\$914.00

**Pull-Out Shelf Option (as shown)** This shelf reduces recorder compartment height to 10". 15 lbs.

PSS .....\$61.50

**Accessory Push/Pull Handle**

SSH .....\$41.50



## Prestige Series Video Consoles

Preferred by most Industrial, Library, Educational, Medical and Office Buyers.



## PS-500 56" CONSOLES

PS-500 Series Video Consoles Compact, economical cabinets that accept the new mid-size TV monitors and up to three video recorders. Certain Sony TV monitors can be accommodated with PS-500-S.

PS-500 Video Console with a fixed monitor shelf, a roll-out shelf and a fixed bottom shelf.

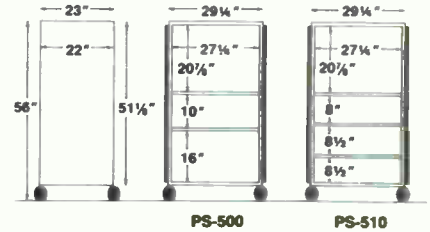
PS-500 .....\$708.00

PS-510 Video Console with a fixed monitor shelf, a roll-out shelf and two fixed lower shelves.

PS-510 .....\$736.00

PS-500-S Video Console with a fixed monitor shelf 26 1/2" clearance height, a rollout shelf with 8" clearance and a fixed shelf with 16" clearance.

PS-500-S .....\$708.00



## Studio Series



80" Video Editing Center Secures your 25" receiver and up to four recorders. Shelves glide out for easy access. 77" H x 34" W x 22" D. Compartments are 31 7/8" W x 25" D. Receiver shelf 21 3/4" H. Top compartment base shelf is 9 5/8" H. Includes 2 power cords. Locking doors. Shipped in 2 sections.

SS-780, with two 15" H shelves in

bottom compartment, 340 lbs.

.....\$1108.00

SS-800, with three 9 5/8" H shelves in bottom compartment, 350 lbs.

.....\$1270.00

**SS Series Accessories**

SST Walnut Laminate Top...\$54.75

SSH Push/Pull Handles.....\$41.50



40" 3-Shelf Video Editing Center Designed to accommodate as many as three 1/2" or 3/4" video recorders. Shelves glide out for easy access. Cabinet is 40" H x 34" W x 26" D. Compartments are 31 7/8" W x 25" D with 9 5/8" between shelves. Includes a 3-outlet, 3-wire 15' power cord. Locking doors. 175 lbs.

SS-403 .....\$736.00

40" Video Center Accommodates most 25" receivers. Bottom shelf holds 1/2" or 3/4" video recorders and glides out for easy access. Cabinet is 40" H x 34" W x 26" D. Compartments are 31 7/8" W x 25" D with 9 5/8" between bottom and middle shelf and 21 3/4" between middle shelf and top. Includes a 3-outlet, 3-wire 15' power cord. Locking doors. 164 lbs.

SS-402 .....\$602.00

## Executive



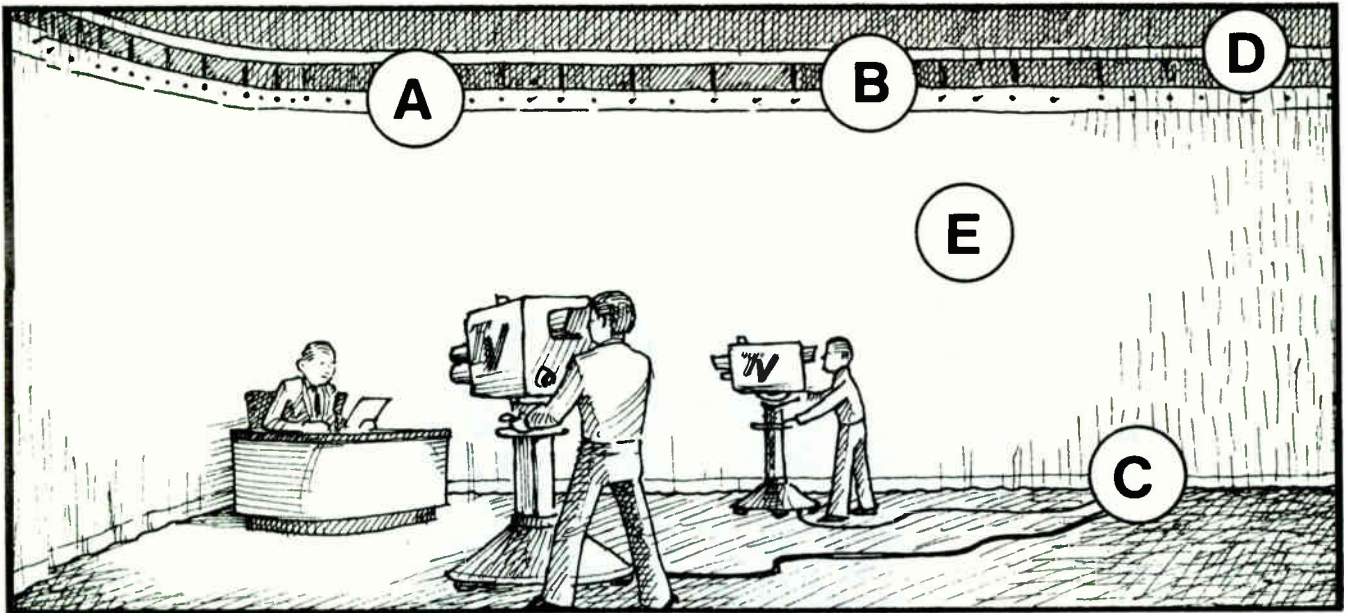
45" Wood Door Console Provides security with locking doors and mobility. Designed for applications where high mobility is not required. 50" H x 29 3/4" W x 21 1/4" D. Monitor compartment is 22" H x 27 1/8" W x 20" D. Recorder compartment is 9 7/8" H x 27 1/8" W x 20" D with roll-out shelf. Storage compartment is 9" H x 27 1/8" W x 20" D. 4" ball bearing casters, two with brakes. Includes U.L. listed 15' power cord. 142 lbs. Assembly required.

ES-45W .....\$541.00

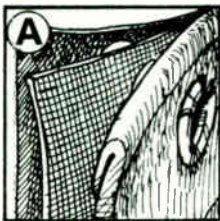
ES-45WC, with 2" chrome ball casters .....\$541.00

Prices and Specifications Subject to Change Without Notice.

V-759



# STUDIO BACKDROP CURTAINS



## STUDIO STRENGTH TOP HEMS

These are not the usual burlap or jute one-layer top hems, but a **TRIPLE-LAYER** combination of 18-oz. vinyl coated nylon (permanently flame resistant), **AND** vinyl-impregnated 10-oz. heavy buckram, **AND** the curtain material. Three layers lock-stitched together with nylon thread into a heavy-duty **STUDIO STRENGTH** heading that will withstand years of pulling and tugging without having grommets tear out. Looking for trouble-free service? This is it.

## YOUR CHOICE: PLEATS OR FLAT. EASY CHANGEOVER.

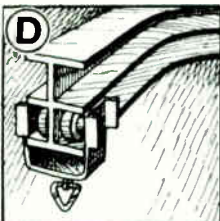
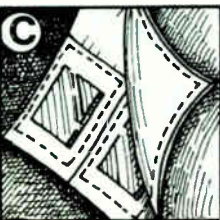
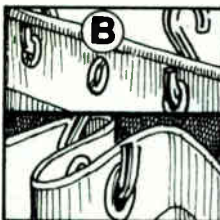
Sometimes you want a flat curtain without pleats, other times you need part of it with nice round pleats. LuXout's unique grommet arrangement allows the curtain to be flat, no pleats; **OR** with 6" pleats every 12"; **OR** with 6" pleats every 6". Round pleats are formed, when and where desired, by S-hooks and grommets, and are easily removed. (A lacing flap can be sewed into each curtain end to allow tensioning of flat curtains, if desired.)

## RUST-FREE BOTTOM HEMS — NO CHAINS

Tired of seeing studio curtains with rust and corrosion at the bottom hem, caused by the chain most others use for weighting? Never with LuXout: we use lead weights in individual pockets, which fold neatly, take up less room, never rust, never corrode, never fall out. Looking for trouble-free service with attractive appearance? This is it.

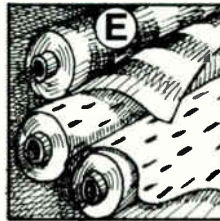
## TRACKS FOR MOVABLE CURTAINS

Anodized extruded aluminum I-beam tracks can be suspended from the ceiling or the wall, and curved to shape by the installer on site. Noiseless ball-bearing carriers and all necessary accessories are supplied with each track. Our tracks fit all grommet-type curtains; any curtain works on our tracks.



## ONE YEAR FULL WARRANTY

LuXout makes the following warranty to consumers of its studio curtains: We will repair or replace without charge any item which displays defective materials or workmanship within one year of the date of purchase; provided a written claim is made within the warranty period addressed to: LuXout Products Division, P.O. Box 1118, Richmond, VA 23208. If you require assistance in making a claim you should contact: Warranty Manager, (804) 644-2355. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



## MATERIALS

Your studio curtains can be made of any material you specify, but the most usual materials are:

**Velour:** 100% cotton, 20-oz., 25-oz. or 16-oz. weights in a variety of colors: blues, black, reds, greens, beiges—ask for a complete color sample booklet.

**Commando:** 100% cotton, lighter weight and less expensive than velour. Black, chroma key blue, grey, beige. Opaque.

**PE100:** 100% polyester. chroma key blue, eggshell, white, day gray, black.

**Scrim:** 100% cotton, seamless up to 36' high. Either Sharktooth in white, light blue or black, or Leno (filled) in white or black.

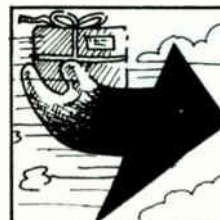
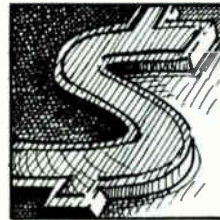
**Skydrop Muslin:** 100% cotton in skydrop blue, 110" wide, horizontal or vertical seaming.

*(All cotton materials are treated to be flame resistant.)*

**Colordrop:** rayon/acetate with opaque vinyl back, flame-resistant, opaque, in a wide range of inexpensive colors.

## PRICING

Because each curtain is custom made for you, there is no standard price list. All prices are quoted per job by our office, within minutes of your request. Our prices include all delivery charges.



## DELIVERY

You tell us when you need your curtains; we'll tell you at once if we can do it. We stock many standard materials, and are quite accustomed to emergency requirements. No curtain is too big or too small for our workroom.

# LUXOUT®

A DIVISION OF PLASTIC PRODUCTS, INC.  
P.O. BOX 1118 • RICHMOND, VA 23208  
(804) 644-2355

Specifications subject to change without notice. LuXout is a Registered Trademark.



# LYCIAN STAGE LIGHTING

Kings Highway/P.O. Box D  
 Sugar Loaf, NY 10981  
 (914) 469-2285

# FOLLOW SPOTS

## 1206 Midget— 1000W Quartz Follow Spot

- Ultimate quartz follow spot • Up to 30% brighter than its nearest competitor
  - The smallest, lightest, quietest, electrically dimmable unit available • 3200°K FEL 1000W, quartz (300 hr.) lamp • 120' throw • Projects from the smallest pin spot to the largest full stage flood • Spread lens system • Automatic, internal 5-frame self-cancelling color boom • Nichrome steel iris, douser and shutters
- 1206 .....\$1235.80



1206

## 1209 Midget — H.P.

- High performance metal halide version of 1206 • More than 3 1/2 times as bright as the standard Midget • Long-life (750 hr.), 5600°K 575W metal halide lamp • 150' throw • Created specifically for those on a strict budget who must have maximum output • Highest ratio of light output for dollar input • Spread lens system • Automatic internal 5-frame self-cancelling color boom • Nichrome steel iris, douser and shutters • Telescoping, 3 legged fold-up base with locking casters
- 1209 .....\$3116.00



1266

## 1266 SuperArc-400 Standard Throw

- World accepted standard for on-stage, close range, high intensity follow spotting • Appropriate for touring musical groups and theater • Smokeless, carbonless and quiet, utilizing the HTI-400/24 metal halide lamp • 250 hours average at 5600°K • Consistent color rendition • 50% brighter than all previously manufactured compact follow spots • One handle zoom spot size control automatically increases brightness with decreasing spot size • Exclusive externally operable continuously variable, peak/flat field adjustment • Automatic internal 7-frame self-cancelling color boom • Nichrome steel iris, douser and shutters • Elapsed time meter • Recommended throw 15-150' • Improved version of the 1262A
- 1266 .....\$4531.50



1275

## 1267 SuperArc-400 Long Throw

- The successor to the carbon arc Front Light • Increasingly found on original Broadway productions and their touring subsidiaries • Utilizing the HTI-400/24 metal halide lamp for consistent color rendition • Same features and controls as 1266 • Automatic internal 7-frame self cancelling color boom • Nichrome steel iris, douser and shutters • Elapsed time meter • Recommended throw 100-450' • Improved version of the 1264-A
- 1267 .....\$5126.50

## 1275 SuperStar-1.2

- Extra heavy-duty high intensity follow spotlight for large theaters and arenas utilizing the 1200-HB metal halide lamp for long life (750 hours) • Consistent daylight color temperature (5600°K) • Superb color rendition • Continuously variable focal length lens optical system • Nichrome steel iris, douser, shutters, and template slot • Six frame color boom • Folding three-legged base with locking casters and leveling jacks • Balanced for perfect weight distribution at any operating angle • Unit features adjustable brakes for pan and tilt • Easily carried by two persons • Draws only 15A at 120VAC • Equally at home in a theatrical projection booth or over an arena floor • Recommended throw: 100-450'
- 1275 .....\$6500.00



# LYON LAMB VIDEO ANIMATION SYSTEMS, INC.

4531 Empire Ave.  
Burbank, CA 91505  
(818) 843-4831

# HIGH RESOLUTION CONVERTER

## HRC High Resolution Converter

- Conversion from 1280 x 1024, 60Hz, non interlaced (RS-343) to standard NTSC (RS-170A) video
- High-quality image conversion
- Selectable form factor to conform to NTSC aspect ratio
- Internal sync generator with genlock and NTSC encoder
- Composite NTSC video and component RGB (low resolution) outputs
- Simple RGB connection to computer graphics source
- Self-contained rack-mountable package
- Compatible with Lyon Lamb video animation controllers

The HRC converts up to 1280 x 1024 60Hz non-interlace RGB video to NTSC video or low resolution 525-line RGB with no loss of graphic information. For the first time, users of high resolution display devices will be able to directly record or display their images in a standard video format. Rather than throwing away line and pixel information or simply providing a low resolution window, the HRC performs complex compression operations on the full 1280 x 1024 image. A high quality NTSC output is achieved in a typical conversion time of  $1/10^{\text{th}}$  of a second. The HRC can interface to a range of high resolution formats including 1280 x 1024, 1024 x 1024 and 1024 x 768. As inputs, the device accepts RGB with H drive and V drive, RGB and Composite Sync or RGB with Sync on Green. Additional features include: Operator selection of picture aspect ratio, either square or 4:3, full remote control with a standard RS-232 interface allowing for direct use with all Lyon Lamb animation controllers, selectable outputs of composite video or low resolution RGB (RS-170A).

### High Resolution Inputs

Red, Green and Blue Video: 1V p-p, 75 ohms  $\pm$  volt maximum DC component; Sync Source: VD/HD composite sync or sync-on-green; Vertical Drive/Horizontal Drive, or Composite Sync: 2V p-p nominal, 75 ohms  $\pm$  2V maximum DC component

### Other Inputs

Genlock Sync Reference: Either 1V p-p RS-170A video or 4V p-p composite sync 75 ohms; Subcarrier Reference Input: 1-4V p-p, 75 ohms; Time Delay from Reference Sync to Output Sync:  $\pm 8\mu\text{s}$  in 70ns steps; Start Conversion Signal: TTL level, 75 ohms termination

### RS-232/422 Serial Remote Control Interface

9600 Baud

### Output

NTSC/RS-170A Composite Video: 2 outputs, 1V p-p into 75 ohms; Red, Green and Blue: 2 outputs, 1V p-p into 75 ohms; Composite sync on all three outputs

Note: NTSC and RGB outputs are not available simultaneously

### Output Frequency Response

$\pm 3\text{dB}$  0-5.0MHz  
-46dB at 7.1MHz

### S/N Ratio

46dB

### NTSC Output Resolution

H x V: 754 x 448 or 754 x 512, selectable

### Pulse Outputs

Composite Sync, Composite Blanking: 4V p-p into 75 ohms. Nominally 500ns advanced of composite output. Synchronous with RGB outputs.

### Subcarrier Output

Continuous subcarrier in phase with burst in composite output. 2V p-p into 75 ohms.

### Input Subcarrier Phase Adjustment

Approximate  $\pm 180^{\circ}$  switched adjustment.  $\pm 100^{\circ}$  continuous adjustment.



HRC

### Output Subcarrier to Sync Phase Adjustment (SCH)

Approximate  $\pm 180^{\circ}$  switched adjustment.  $\pm 100^{\circ}$  continuous adjustment.

### Conversion Time

0.1 sec, nominal. Still frame to be converted must be present for entire conversion time.

### Dimensions

7"H x 19"W x 18.1"D

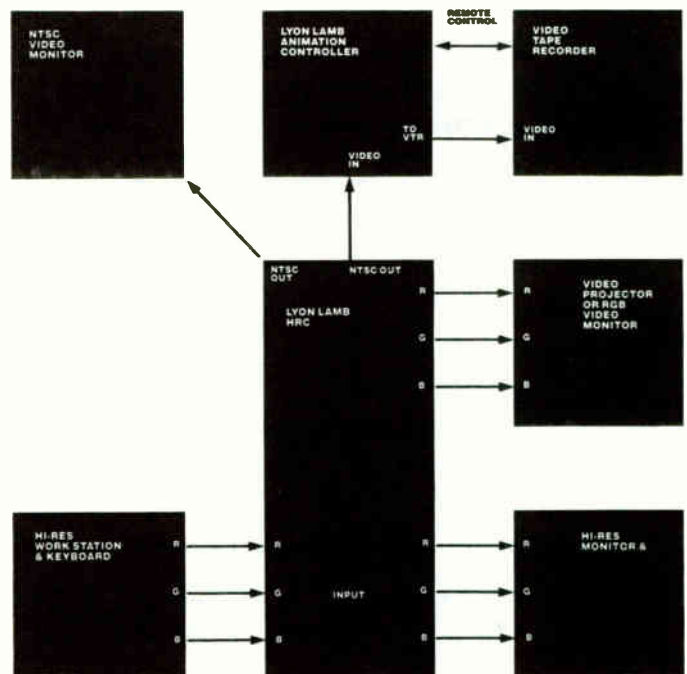
### Weight

35.2 lbs.

### HRC Workstation Interfaces Currently Available For:

Tektronix 4115, 4120 Series; Hewlett Packard 320 SRX; Silicon Graphics; Apollo DN580, DN590; Calcomp Vistagraphic 4500; Ramtek 4225, 4229; Imagraph AGC 1024 Series; Sun Microsystems 3100 Series; Megatek; Calma; Chromatics; Custom interfaces available.

HRC ..... \$21,950.00



# LYON LAMB VIDEO ANIMATION SYSTEMS, INC.

4531 Empire Ave.  
Surbank, CA 91505  
(818) 843-4831

## VAS-DELTA Animation Controller

- Auto pre-black of videotape • Exclusive vertical interval frame code • Two-machine control • Auto frame or field search • Selectable scene playback from scene file memory • Frame grab output to frame store or still store devices with selectable advance • Simultaneous display of frame code or SMPTE time code • Updating data display • RS-232 at 9600 baud for remote control • Expanded time lapse speeds • Multiple frame recordings in Delta Step mode • User selectable title matte

The VAS-DELTA is an animation controller specifically designed to interface with the Sony BVH-2500 Delta Time 1" VTR. The intelligent features of the VAS-DELTA and the instantaneous single-frame recording capabilities of the BVH-2500 provide a means to create highly complex animation sequences easily, quickly, and efficiently.

A unique feature of the VAS-DELTA is the frame-by-frame playback control of a Source VTR, either a BVH-2500, BVH-2000 or BVU-820. In addition to remotely controlling all Delta functions of the BVH-2500, users can program recording, editing, and frame grabbing in sequential, cycle, or skip (non-sequential) modes at 24 or 30 frames, or 60 fields per second. The VAS-DELTA generates and reads user-selectable individual scene and frame numbers that are displayable along with pre-recorded SMPTE time code.

Computer graphics systems interface directly to the VAS-DELTA via an RS-232 port. The functional controls emulate all tape movement functions of the BVH-2500 for full remote control of both the record VTR and the source VTR.

The combination of the VAS-DELTA and BVH-2500 provides access to 108,000 still frames for direct display or user selectable output of any non-sequential group of frames to external still store devices. Operators can input frame numbers or SMPTE time code data to the memory in any order for recall of single frames.

VAS-DELTA . . . . . \$12,500.00

## MINIVAS Animation Controller

- RS-232 interface at 9600 baud • Works with all VTRs from same package • Programmable for 1 or more frames per recording • Frame grabbing with programmable offsets • Frame grab trigger programmable from 0 to 9 fields in advance of frame to be grabbed • Auto or preselectable time-outs • Programmable in either vertical interval frame code or SMPTE time code • Accurate search to any frame using VIFC or SMPTE time code • Programmable playback of recorded segments for easy review • Status information available through RS-232 with handshaking • Remote VTR controls including Jog and Shuttle

The MINIVAS is an animation controller specifically designed to perform precise single frame recording and frame grabbing (capture) from PC based computer graphic systems to standard videotape recorders. Operations are performed over an RS-232 interface allowing for automated animation recording, grabbing, searching, and all VTR control functions. Field accuracy is achieved by the use of Lyon Lamb's proprietary vertical interface frame code. Additionally SMPTE time code is used interchangeably with VIFC for VTRs that have time code output available. An LED readout on the front panel displays frame code or SMPTE time code for positioning and location confirmation.

# ANIMATION CONTROLLERS



VAS-DELTA

The MINIVAS interfaces automatically to a wide range of VTR formats, from industrial 3/4" U-matic to broadcast Betacam® and 1" Type C machines. All VTR interfaces reside in MINIVAS software so that the user may select or change VTRs at any time. Playback functions are performed directly from the computer keyboard and include operation of VTR controls with Jog and Shuttle, Search to a Frame, and Playback Frames.

MINIVAS . . . . . \$4,980.00

## VAS IIIB Video Pencil Test System

- Switchable recording speeds of 24 or 30 frames-per-second • Selectable frames per recording • Frame counter monitor display • Playback in forward and reverse • Four slow motion speeds • Freeze frame • Single-field advance • Automatic search in forward and reverse • 5:1 zoom lens

The VAS IIIB is a versatile, offline VHS videocassette animation system designed for precise frame-by-frame recording. The system, comprised of a specially modified VTR, high resolution camera with zoom lens, and monitor with high speed horizontal AFC circuits, satisfies the requirements of immediate testing of animation, special effects, stop-motion, time lapse, pixilation, and the shooting of storyboards.

Utilizing concepts first introduced in 1977 by the Academy Award-winning Lyon Lamb, the VAS IIIB incorporates additional features and microprocessor control for extremely accurate and efficient operation. A video-generated frame counter is recorded and displayed on the monitor for accurate frame count.

VAS IIIB Black and White System . . . . . \$5,995.00  
 VAS IIIB Color System . . . . . 7,850.00  
 Audio Option . . . . . 450.00





# LYON LAMB VIDEO ANIMATION SYSTEMS, INC.

4531 Empire Ave.  
Burbank, CA 91505  
(818) 843-4831

# ENCODER/SYNC GENERATOR

## ENC-VI Encoder/Sync Generator

- Video outputs:
  - RS-170A composite video
  - R-Y, B-Y, Y + sync component video
  - Optional PAL composite video
- Internal sync generator with standard outputs:
  - Composite sync
  - Blanking
  - Burst flag
  - Subcarrier
  - Horizontal drive
  - Vertical drive
- Internal color bar and black burst generator
- Separate sync input accepts either composite sync, composite video or sync on green (of RGB)
- Separate subcarrier input with 360° phase adjustment for matched color framing with other video sources
- Accepts RGB with setup, or if needed, adds setup to video output
- Selectable loopthrough outputs or 75 ohm termination
- Horizontal phase adjustment

The ENC-VI is an advanced design full NTSC bandwidth encoder/sync generator for computer graphics to video applications. Outputs include both RS-170A composite and R-Y, B-Y, Y + sync component video. The internal sync generator allows for genlock of RGB devices or the ENC-VI operates as a slave to incoming sync from the RGB source. The ENC-VI also accepts a subcarrier input for phase locked color framing to external video. Internal video switch allows for selection of EIA standard color bars or black burst.

- **Video Inputs: Red, Green, Blue**  
Impedance: Switchable 75 ohm or high impedance for bridging.

Setup not included in RGB source (encoder's internal NTSC setup optional jumper out, encoder adds setup):  
Input level: 0.661V p-p (100% level); 0.496V p-p (75% level).

Black level required during NTSC blanking intervals. Allowable range of DC black level: -2V to 2V.

Setup included in RGB source (encoder's internal NTSC setup option jumper in, encoder does not add setup):  
Input level: 0.714V p-p (100% level); 0.549V p-p (75% level).

Blanking level required during NTSC blanking intervals. Allowable range of DC blanking level: -2V to 2V.



ENC-VI

- **Sync Genlocking Input**  
Impedance: Switchable 75 ohm or high impedance for bridging.  
  
Input level: 0.3V p-p to 5V p-p negative composite sync or 0.3V p-p to 1.5V p-p negative sync on composite video.  
  
Genlocking is to external sync input if present, otherwise to .3V p-p negative sync on green if green input is present. Sync switch must be in external position for genlocking.  
  
Time delay from genlock sync to composite video sync: Internally adjustable from 350ns to 1950ns in 70ns steps.
  - **Video Outputs: NTSC Composite Video**  
Level: 1.0V p-p into 75 ohm termination, sync negative.  
DC level on blanking: 0.0V.  
Time delay from video input: 1050ns nominal.
  - **Component Video Outputs:**  
**R-Y, B-Y, Y + Sync**  
Levels (factory set, internally adjustable):  
Y + S: 1.0V p-p into 75 ohm termination, sync negative.  
R-Y: 0.7V p-p into 75 ohm termination.  
B-Y: 0.7V p-p into 75 ohm termination.  
DC level on blanking: 0.0V.  
Time delay from video input: 120ns nominal.
  - **Video Internal/External Switch**  
Selects Red-Green-Blue inputs or internal patterns for video.
  - **Bars/Black Switch**  
Select EIA color bar pattern or black burst when video is switched internal.
  - **Chroma On/Off Switch**  
Allows excluding subcarrier component (including burst) from Composite Video output.
- ENC-VI . . . . . \$4500.00

# 3M COMPANY

3M Center 223-5N  
St. Paul, MN 55144  
(612) 733-1110 FAX: (612) 736-1246



## 3/4" Broadcast Videocassette Tapes Master Broadcast U-Matic (MBR™)

The Master Broadcast video tape is designed to meet your most exacting needs. The Anti-Stat System of treated component parts and shell and Anti-Stat leader dissipates static charge for lower dropout activity and better performance under adverse environmental conditions. Ten units per carton.

	Playing Time	Price
MBR-10 Hanger or Album	10	\$ 8.92
MBR-20 Hanger or Album	20	9.62
MBR-30 Hanger or Album	30	31.51
MBR-50 Hanger or Album	50	38.36
MBR-60 Hanger or Album	60	40.96
Mini MBR-5S Hanger or Album	5	22.72
Mini MBR-20S Hanger or Album	20	25.59

# VIDEOCASSETTES/ VIDEOCASSETTE HANGERS

## Broadcast U-Matics (UCA Color Plus)

Broadcast UCA Videocassettes use a special Color Plus oxide video tape which provides a superior signal-to-noise ratio, color-noise ratio and lower dropouts. Ten units per carton.

	Playing Time	Price
UCA-5 Hanger or Album	5	\$20.11
UCA-10 Hanger or Album	10	20.47
UCA-20 Hanger or Album	20	23.32
UCA-30 Hanger or Album	30	25.71
UCA-60 Hanger or Album	60	34.60
UCA-75 Hanger or Album	75	56.78

## Broadcast Mini-U-Matics (UCA Color Plus)

Mini U-matic videocassettes are designed for use with such mini U-matic portable recorders. Features Color Plus oxide. An "S" after the model number (UCA-10S) indicates mini size. Ten units per carton.

	Playing Time	Price
UCA-10S Hanger or Album	10	\$19.41
UCA-20S Hanger or Album	20	21.94
UCA-30S Hanger or Album	30	37.94



## 1/2" Broadcast Videocassettes

Broadcast quality products designed specifically for use on high speed 1/2" equipment such as Betacam (PB), and MII Format (PV). Has 3M's exclusive Anti-Stat Treatment. Twenty units per carton.

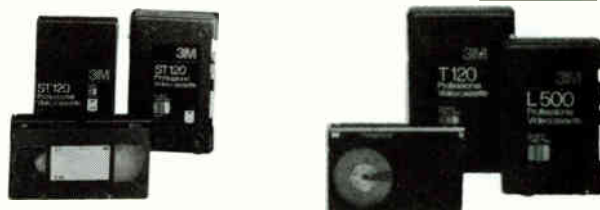
	Playing Time	Price
<b>Betacam Format</b>		
PB-5 Album	5	\$13.32
PB-10 Hanger or Album	10	14.80
PB-20 Hanger or Album	20	20.04
PB-30 Hanger or Album	30	22.91
PB-60L Hanger or Album	60	38.28
PB-90L Hanger or Album	90	50.54
<b>Betacam SP Format</b>		
PB-5M	5	\$27.14
PB-20M	20	33.86
PB-30M	30	37.35
PB-60ML	60	45.87
PB-90ML	90	71.87
<b>MII Format</b>		
MM10L Album	10	\$31.61
MM20S Album	20	36.87
MM30L Album	30	42.14
MM60L Album	60	63.21
MM90L Album	90	94.82
<b>Broadcast VHS</b>		
T60 Hanger or Album	60	\$19.28
T120 Hanger or Album	120	23.44

Standard Grade VHS Videocassettes Designed for General purpose applications. Twenty units per carton.

T-30	\$8.06
T-60	9.04
T-120	9.40

V-786

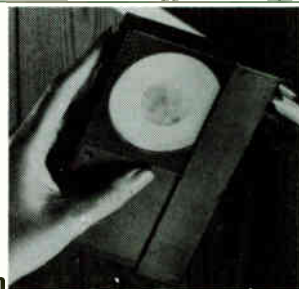
Prices and Specifications Subject to Change Without Notice.



## 1/2" Professional Videocassettes

High grade quality product with superior electromagnetic and dropout characteristics designed for critical applications. Twenty units per carton.

Beta	Price	VHS	Price
L-250 Sleeve	\$ 9.95	T-30 Sleeve	\$10.03
L-500 Sleeve	11.52	T-60 Sleeve	10.91
L-750 Sleeve	14.55	T-120 Sleeve	12.90
L-125 Album Box	11.38	T-30 Album Box	12.56
L-250 Album Box	12.46	T-60 Album Box	13.52
L-500 Album Box	14.20	T-90 Album Box	15.74
L-750 Album Box	17.56	T-120 Album Box	15.74
<b>S-VHS</b>			
ST-30	POR	T-150 Album Box	15.74
ST-60	POR	T-30 Hanger Case	23.46
ST-120	19.99	T-60 Hanger Case	12.92
		T-90 Hanger Case	14.66
		T-120 Hanger Case	15.14
		T-150 Hanger Case	22.86



## Snap Cap™ Hanger Bar System

- Allows maximum storage density (280 videocassettes in a 4' x 8' area)
- Adapts to many locations and space requirements
- Provides maximum protection of videocassettes without additional packaging
- Allows easy and uniform labeling
- Locks firmly onto videocassette but is easily removed
- Locks onto the hanger bar but is easily detached and transported
- Features light high strength aluminum bar
- Installs easily and inexpensively
- 40 units per carton

The Snap Cap Hanger System efficiently protects and stores your valuable videocassettes in a minimum of space. Whiel allowing you to transport and quickly access the tape.

	Playing Time	Price
<b>Betacart</b>		
BSC-5	5	\$15.30
BSC-30	30	24.84
<b>Betacam</b>		
PBSC-10	10	\$16.51
PBSC-20	20	21.68
PBSC-30	30	24.84

# 3M COMPANY

3M Center 223-5N  
St. Paul, MN 55144  
(612) 733-1110 FAX: (612) 736-1246

# 1" VIDEO TAPE/ACCESSORIES VIDEOCASSETTE HANGERS



## 1" Helical Open Reel Video Tape

No. 479 — #479-1" Helical video tape is a special application tape that can only be used with type "C" video recorders.

No. 480 — #480-1" Helical video tape is an improved broadcast video tape providing better signal-to-noise, color-noise qualities and virtually eliminates head stiction. For use on all recorders capable of using 479 mastering/broadcast video tape (type "C" recorders).

	Cat. No.	Playing Time	Reel Size	Price
Ampex VPR-1, 2	479-1-1630-R179B	34	1" x 8"	\$ 85.64
Sony BVH-1000,	479-1-1630-R179C132	34	1" x 8"	90.89
Video Memory	479-1-3170-R179B	66	1" x 9"	128.98
VM-1000	479-1-3170-R179C132	66	1" x 9"	134.23
	479-1-4610-R179B	96	1" x 10 1/2"	194.92
	479-1-4610-R179C129	96	1" x 10 1/2"	201.92
RCA TR 800,	479-1-5070-R179C129	105	1" x 10 1/2"	232.02
Merlin Eng. Mod.	479-1-6050-R179C134	125	1" x 11 1/2"	274.30
Ampex & Sony,	479-1-7500-R179C134	155	1" x 12 1/2"	336.10
Sony, BVH 1180,	479-1-9100-R179C134	188	1" x 14"	426.34
Hitachi HR300*				
Bosch-Fernseh,	479B-1-1630-R179B	34	1" x 8"	85.64
(BCN), IVC,	479B-1-1630-R179C132	34	1" x 8"	90.89
Philips, RCA,	479B-1-3170-R179B	66	1" x 9"	128.98
BCN-20 Portable	479B-1-3170-R179C132	66	1" x 9"	134.23
	479B-1-4635-R179B	96	1" x 10 1/2"	194.92
	479B-1-4635-R179C129	96	1" x 10 1/2"	201.92
Ampex VPR-1, 2,	480-1-1630-R179B	34	1" x 8"	89.92
Sony BVH-1000,	480-1-1630-R179C132	34	1" x 8"	95.17
Video Memory	480-1-3170-R179B	66	1" x 9"	135.44
VM-1000	480-1-3170-R179C132	66	1" x 9"	140.69
	480-1-4610-R179B	96	1" x 10 1/2"	204.68
	480-1-4610-R179C129	96	1" x 10 1/2"	211.68
RCA TR800,	480-1-5070-R179C129	105	1" x 10 1/2"	243.62
Merlin Eng.	480-1-6050-R179C134	125	1" x 11 1/2"	282.02
Mod. Ampex &	480-1-7500-R179C134	155	1" x 12 1/2"	352.92
Sony, Sony	480-1-9100-R179C134	188	1" x 14"	447.66
BVH 1180				
Hitachi HR 300*				
Bosch-Fernseh,	480B-1-1630-R179B	34	1" x 8"	89.92
(BCN), IVC,	480B-1-1630-R179C132	34	1" x 8"	95.17
Philips, RCA,	480B-1-3170-R179B	66	1" x 9"	135.44
BCN-20 Portable	480B-1-3170-R179C132	66	1" x 9"	140.69
	480B-1-4635-R179B132	96	1" x 10 1/2"	204.68
	480B-1-4635-R179C132	96	1" x 10 1/2"	211.68

\* 11 1/2" RCA TR 800  
12 1/2" Merlin Engineering Modified Ampex & Sony Machines  
14" Sony BVH 1180  
Hitachi HR 300

### Tape Accessory Descriptions

- B** At the end of a catalog number indicates box  
**R179** Flat flange reel, 1" x 8", 9" and 10 1/2"  
**C129** Fire retardant shipping case for 1" x 10 1/2" flat flange reels  
**C132** Fire retardant shipping case for 1" x 9" flat flange reels  
**C134** Fire retardant shipping case for 1" x 11 1/2", 12 1/2", 14" flat flange reels



## Hanger System

A videocassette case design that's triggered a revolution in 3/4" and 1/2" videocassette storage and handling. The shipper/storage case (patents applied for) represents a design concept based upon the idea that hanging your videocassettes not only is the best way to protect them from damage, but it will organize your storage area and simplify the way you transport videocassettes.

### Shipper/Storage Case

This sturdy shipping box can be labeled and mailed with no other packaging needed. Its unique hanging hook and slide-snap latch are only two of the features of this case that opens to reveal a recess for storing the record-lockout button when you are not using the record mode. The stabilizer bars on the box bottom and the expandable, spine-handle simplify storage and retrieval in any situation.

### CHB-1 Case Hanger

This extruded aluminum bar comes in 4' lengths and can be cut to fit doors, desk backs, cabinets, shelves, walls, etc. Standard screws or bolts anchor them securely to concrete, wood, plaster or metal surfaces, and when properly mounted, the bars can maintain weights of up to 240 lbs.

### 6 PH Six-Pack Hanger

A sturdy, aluminum frame that easily totes up to 6 videocassettes, with the case or without.

## Video Tape Reels and Accessories

R1398-1-8	Empty metal video reel in box	\$29.85
VB-1-10 1/2	Empty cardboard video boxes	7.91
C129-1-10 1/2	Fire retardant empty	19.29
C132-1-9	Plastic shipper/	17.29
C134-1-14	Storage cases	28.79
C137-2-10 1/2		42.38
6-PH (Six-Pack)	Scotch	7.78
CHB-4 Bar (25 per carton)	Case hanger	5.12
H-Bar	Accessories	6.43
UCS-HC (Mini; C-124; recorded)		\$32.27
8-HC (Beta; hanger box; unrecorded)	Head Cleaning	24.43
V-HC (VHS; hanger box; unrecorded)	Videocassettes	25.55
VRB-1-6 1/2	Empty plastic spot reels in box	3.81
VRB-2-6 1/2	Spot reels in box	4.17
8125-1/4-90	Diagonal stripe hold-down tape	5.72
Re-Label Tape	Re-label tape	2.25



# 3M COMPANY

3M Center, Building 223-5S-08  
 St. Paul, MN 55144  
 (612) 733-1110 (800) 328-1008

# CHARACTER GENERATORS

## D-5000 Character Generator

- Multi-font library 4 resident fonts • Dual 3.5" disc drive
- Proportional character spacing • Full editing capability
- High resolution character definition • 35ns • Multi-speed roll, crawl, reveal, and billboard dynamics • Auto centering, line and page • 512 color palette • Built-in sync and genlock
- 9 speeds roll and crawl • 100 page internal memory • Programmable roll, crawl, and roll masking • Built-in clock
- Built-in italics, all fonts • Internal colorizer • Background color in 4 line increments • Nonvolatile data storage • Split screen displays • Character kerning and overlap • Multi-color logos • Word flash and color change flash • Mix rolls and/or crawl with static displays • Slow reveal—7 speeds
- Billboard—9 speeds • Vertical roll, 9 rates plus pause (blanking to blanking), five different masks are selectable
- Horizontal crawl, 9 rates plus pause (blanking to blanking), position selectable

<b>D-5000</b> .....	<b>\$10,995.00</b>
Built-in keyer (factory retrofit) .....	<b>.800.00</b>
4 additional resident fonts .....	<b>.675.00</b>
24 hour memory backup unit .....	<b>.50.00</b>
Keyboard .....	<b>1,700.00</b>
Chassis .....	<b>9,295.00</b>
Custom fonts .....	<b>400.00</b>
Custom logos .....	<b>200.00</b>
1 font chip set .....	<b>125.00</b>

## Memory Expansion Options

Local disk drive single .....	<b>\$1,850.00</b>
Local disc drive dual .....	<b>2,250.00</b>
(Greater on line storage and disc duplication capability)	
4 Font RAM memory .....	<b>1,150.00</b>
(Down load 4 of 100 fonts from font library disc)	
Font library disc set .....	<b>.800.00</b>

## D-3600 Character Generator

- 4096 color palette • 3.5" dual disc drives • 1000 pages of text can be stored on each diskette • 100 speeds roll and crawl
- Keyer genlock • 35ns • 16 heights • 16 widths • Single channel NTSC • 5 upper/lower case fonts, each 92 characters
- 256 sizes, row-by-row selectable • Characters may be inverted • Automatic proportional spacing • Formatting
- Duplication • May be rackmounted

<b>D-3600</b> .....	<b>\$6,995.00</b>
---------------------	-------------------

## D-3602 Character Generator

- Dual channel version of the D-3600 • Remote "next page" function • Preview/program, off line/on line and two independent program channels

<b>D-3602</b> .....	<b>\$8,995.00</b>
Dual channel upgrade kit for D-3600 .....	<b>2,000.00</b>
Operator training video tape .....	<b>.50.00</b>



D-5000



D-3600



D-2200

## D-2200 Character Generator

- 512 color palette • Dual 3.5" disc drives • 10 speeds • 2 channel • Sync • Genlock • Keyer • 70ns • 8 fonts • 64 sizes • Fonts disc loadable • Edge to edge operation • 2000 pages of extended memory playback • Totally software driven
- Designed for independent facilities such as cable television and industrial/education television facilities • Ideally suited for two-channel production needs or unattended messaging applications

<b>D-2200</b> .....	<b>\$4,995.00</b>
Font library disc set .....	<b>.800.00</b>
Instruction manual .....	<b>.50.00</b>

# 3M COMPANY

3M Center, Building 223-5S-08  
 St. Paul, MN 55144  
 (612) 733-1110 (800) 328-1008

# GRAPHICS EQUIPMENT

## D-6000 Panther Graphics Generator

- Advanced character generator/graphics/paint system
- Camera grab • Painting and logo animation • 15 font faces
- 35ns • Proportional spacing • 20M byte hard drive • 5" disk removable storage • Word processor text editing, dynamics, and paint software • 1024 colors • B/W camera load • Sync and genlock • Keyer • RGB and NTSC outputs • Single channel

D-6000 . . . . . \$15,995.00

### Accessories/Options

- Font library disk set . . . . . \$800.00
- Instruction manual D-6000 . . . . . 50.00
- Operator training video tape (VHS) . . . . . 50.00
- Extra cable lengths for keyboard . . . . . per ft./2.60



D-6000

## Silver Video Production Workstation

### Digital Video Effects:

- Compression and Mosaics • Wipes, slides, spirals, zooms, inlays

### Animation:

- Real time animation over video • Cell by cell • Frame by frame VCR controller • 16 cell per screen

### Font Generator:

- Anti-aliased fonts • 3M font library, disk, loadable • Automatic digitizing of logos, fonts and symbols • 16 levels of anti-aliasing

### SEG Switcher:

- 4 input composite switching—cuts, wipes, DVE • Mirrors • Quad effects • Programmable rate control

### Business Graphics:

- Pie charts • Bar graphs • Input data by keyboard

### Paint System:

- 65,000 colors • Multiple brushes—airbrushing and transparencies • Multi-plane editing and undo function • Cut and paste • Continuous tone shading • Instant RGB color frame grab from VTR • Instant composite grab, black and white or color

The Silver consolidates 6 functions into a single video production workstation. It combines power and reliability with an easy-to-use icon menu. Designed for post production and corporate installations.

The Silver offers literally hundreds of creative applications. It can "grab" images from moving videotape and input information from either black and white or color video cameras. With the Silver, you can create your own fonts and special effects, and control multiple video inputs from VTRs—all from a single workstation that's menu driven.

The Silver has dual expansion capabilities through software and hardware. It is available as a modular machine to expand your hardware system as needed; and, Silver's application software is expandable through the use of software cartridges.

Silver . . . . . \$12,000.00

### Fader/Decoder

Decodes incoming composite video into RGB, has internal keyer and mixer . . . . . \$5,600.00

### Decoder

Decode incoming composite video into RGB. Not needed if above fader/decoder is used. . . . . \$3,500.00



Silver Video Production Workstation

### NTSC Saturation Controller/Encoder

Converts RGB output from the Silver into NTSC with controlled output saturation to comply with National Television Standards Codes . . . . . \$5,600.00

### VTR Controller

Controls single frame VTRs for field accurate editing and cell by cell animation. Sony 5850 version . . . . . \$3,900.00  
 JVC CR8250U/CR850U version . . . . . 3,900.00

### Personal Computer Interface

For complete two way communication, file transportation or storage to IBM or compatible personal computer  
 PC version . . . . . \$3,500.00  
 AT version . . . . . 3,500.00

### Accessories/Options

#### Memory Extension

Three planes of memory for DVE effects 3 1/2" disk drive for storage and recall . . . . . \$9,000.00

#### Software Expansion

Airbrush, smoothing brush, gradations, 16 frame logo animation 5-30fps, business charts and graphs, live video compression integration, 4 input SEG/DVE . . . . . \$5,600.00

# 3M COMPANY

3M Center, Building 223-5S-08  
 St. Paul, MN 55144  
 (612) 733-1110 (800) 328-1008

# ROUTING SWITCHERS

## 15X SERIES ROUTING SWITCHERS

The Series 15X Routing Switcher offers an inexpensive method of eliminating patch panels and providing selectable distribution of audio and video signals. Any output channel can be independently programmed to select any input signal. The 15X Series offers very flexible control options which are divided into two categories—local and remote which can be intermixed within the same frame. Units are available in sizes: 2 outputs, 6 outputs, and 12 outputs. Also available with Audio Breakaway.

Plug-in input and output amplifiers are used for video and audio. The audio input amplifiers incorporate balanced inputs with common mode rejection for canceling hum on input lines. The video inputs have looping BNC connectors and terminating switches.

Local Control	Remote Control
15 in x 3 out . . . . . \$3,300.00	15 in x 3 out . . . . . \$ 4,300.00
15 in x 4 out . . . . . 3,600.00	15 in x 4 out . . . . . 4,800.00
15 in x 5 out . . . . . 4,000.00	15 in x 5 out . . . . . 5,700.00
15 in x 6 out . . . . . 4,300.00	15 in x 6 out . . . . . 6,300.00
15 in x 7 out . . . . . 4,800.00	15 in x 7 out . . . . . 7,500.00
15 in x 8 out . . . . . 5,100.00	15 in x 8 out . . . . . 8,500.00
15 in x 9 out . . . . . 5,400.00	15 in x 9 out . . . . . 9,300.00
15 in x 10 out . . . . . 5,800.00	15 in x 10 out . . . . . 10,000.00
15 in x 11 out . . . . . 6,000.00	15 in x 11 out . . . . . 10,800.00
15 in x 12 out . . . . . 6,400.00	15 in x 12 out . . . . . 11,500.00

### Options

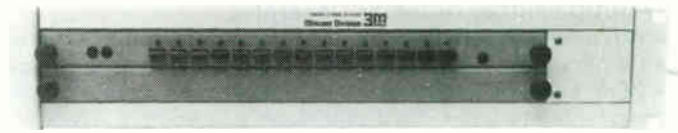
<b>Vertical Interval Switching</b> (Remote Only) . . . . .	\$ 350.00
<b>Audio Input/Output Cable (6' Pigtails)</b> 6 out frame . . . . .	\$ 170.00
12 out frame . . . . .	340.00
<b>Remote Control Cable</b> (Assembled and Tested) . . . . .	\$ 50.00
	add per ft./1.00
<b>Second Audio Level Switching (Remote Only)</b> 6 out frame, add . . . . .	\$ 1,240.00
12 out frame, add . . . . .	1,475.00
<b>Expansion Modules for:</b>	
15X Local Control Chassis, per output . . . . .	\$ 510.00
15X Remote Control Chassis, per output . . . . .	820.00
For 12 out frame with less than 6 outputs . . . . .	1,500.00

## 15X-2 Series Video/Audio Routing Switchers

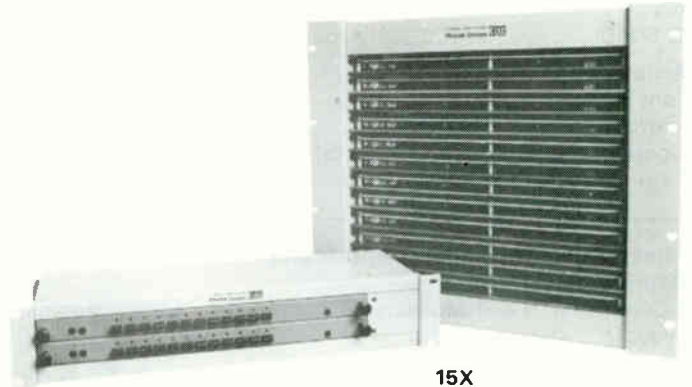
<b>Local Control, Video Only</b>	
15 in x 1 out . . . . .	\$2,000.00
15 in x 2 out . . . . .	2,200.00
<b>Local Control, Audio/Video</b>	
15 in x 1 out . . . . .	\$2,300.00
15 in x 2 out . . . . .	2,500.00
<b>Remote Control, Video Only</b>	
15 in x 1 out . . . . .	\$2,300.00
15 in x 2 out . . . . .	2,500.00
<b>Remote Control, Audio/Video</b>	
15 in x 1 out . . . . .	\$2,600.00
15 in x 2 out . . . . .	2,950.00
<b>15X-2 with 1 Local Control Panel and 1 Remote Control Panel</b>	
Video Only . . . . .	\$2,400.00
Audio and Video . . . . .	2,800.00

### Accessories/Options

<b>Vertical Interval Switching</b> (Remote Only), add . . . . .	\$ 350.00
<b>Remote Control Cable</b> (Assembled and Tested) . . . . .	50.00
	add per ft./1.00



15X-2



15X

## 15X Series Video/Audio Routing Switchers

- Bridging crosspoints • Choice of local or remote controls
- Modular—field expandable • 3 frame sizes • Low crosstalk • Second audio level (optional) • LED status indicators • Input and output amps
- Terminating switches on inputs • Audio breakaway

### Local Control

Mechanically interlocked pushbutton switches are used to select and switch the audio, video and tally signals.

Each video crosspoint is isolated from feeding back through the switch to the newly selected signal eliminating the glitch on other monitors. Each output has a separate plug-in tray containing the mechanical switch as well as the audio and video output amplifiers which are also separate plug-in units. LED status indicators above each pushbutton illuminate when the corresponding switch is depressed.

### Remote Control

Standard remote controls are available for momentary pushbuttons. Remote control pushbutton trays are interchangeable with the local modules. Only DC voltages are used for control. Switch module assemblies are available in 12 x 1 and 15 x 1 sizes.



101

## 101 Series Vertical Interval Bridging Switcher

A 10 x 1 bridging switcher with built-in video and audio DAs featuring vertical interval switching on all inputs, lighted pushbuttons, and switch position memory. The switch position memory is effective for at least 30 seconds, and longer when connected to an external battery source (terminals provided).

101 Vertical Interval Bridging Switcher . . . . . \$1,255.00

### Accessories/Options

Remote Control . . . . .	\$450.00
Instruction Manual (one supplied with each unit) . . . . .	30.00



# 3M COMPANY

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St. Paul, MN 55144  
(612) 733-1110 (800) 328-1008

## ROUTING SWITCHERS

### Series H Routing Switcher

Compact size, excellent mechanical and electronic integrity, and circuit redundancy give the 3M Series H switching equipment the best product performance per dollar of any Routing Switcher on the market.

The Series H Routing Switcher offers a number of other benefits as well. They include:

- No internal maintenance or service adjustments
- DC coupled inputs to outputs allow analog switching circuits to handle certain data signals without DC-restoration circuitry
- Bi-directional, parallel control bus with positive feedback from crosspoint latches gives immediate and positive confirmation of crosspoint latching
- Pre-tested and pre-adjusted hybrid circuits
- Microprocessor control system simplifies design, maximizes dependability
- Single line coax control capability simplifies wiring and connections
- Separate plug-in video and audio output amplifier cards to assure that failures are isolated to one point and disable only one output if removed
- Each video path can have multiple associated audio paths (i.e., stereo, SMPTE time code, multi-lingual applications)
- The microcontrol system can provide one video with up to 5 audio levels with separate control for each level
- Audio-follow-video, video only, audio only, and audio breakaway for easy adaptation to any switching application
- I/O ports for RS232 computer terminal control, and standardized I/O protocol to allow for external CPU control by a variety of devices
- Improved temperature uniformity, hybrid ceramic substrates have stable and predictable dissipation characteristics
- Easy and cost-effective switcher expansion through modular building block design with full expansion compatibility
- Control circuits are distributed by card, another valuable circuit redundancy feature

### Hybrid Circuits

A hybrid circuit consists of a high purity alumina ceramic substrate on which various alloys and resistive materials are printed to form conductor paths and resistive circuit elements.

Miniature leadless discrete components are attached directly to the substrate. Adjustments are made to screened resistors and capacitors by laser trimming. Each microelectronic hybrid substrate contains an entire circuit function. These centralized, modular functions include video and audio crosspoints, video and audio input amplifiers, and video and audio output amplifiers. Seven building block hybrid circuits make up the Series H system. They are:

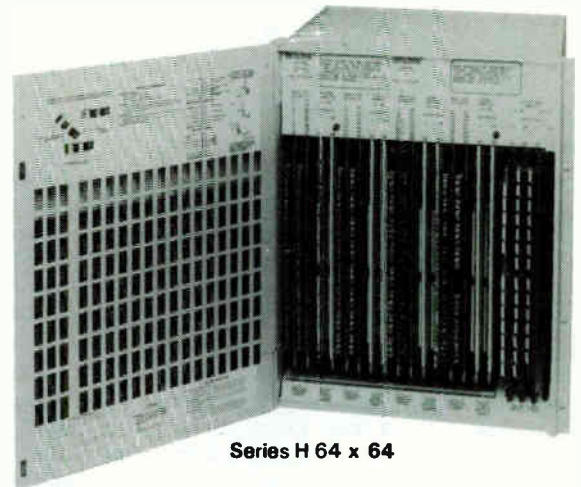
- 16 x 2 video crosspoint
- 16 x 2 audio crosspoint
- Quad audio input amplifier
- Quad video input amplifier
- Block control logic
- Video output amplifier
- Audio output amplifier

### 16 x 16 Audio/Video Matrix Card

The 16 x 16 audio/video matrix card is the basis of the Series H, model 128 x 32 audio/video switching system. It provides up to 16 inputs and 16 outputs of audio and video switching on an 11 1/2" x 15 1/4" circuit board. The audio/video matrix card is simply a carrier card for the hybrid circuits. All switching matrix functions are contained on this single card, demonstrating the packaging density that can be achieved using hybrid circuit design. This allows crosspoint densities never before attained.

The 16 x 16 Audio/Video Matrix Card consists of the following hybrid circuit devices:

- 16 x 2 video crosspoint
- 16 x 2 audio crosspoint
- Quad video input amplifier
- Quad audio input amplifier
- Logic control for the 16 x 16 A/V matrix card



Series H 64 x 64

### Video and Audio Output Amplifiers

The Series H Routing Switcher employs individual hybrid video and audio output amplifiers. These amplifiers are placed on separate output amplifier carrier cards. An example, the Model 128 x 32 uses five output amplifier motherboards. Two of the boards have 7 plug-in audio and video output circuits, and the remaining 3 boards have 6 audio and video output circuits, for a total of 32 outputs. Individual video and audio outputs are used for ease of maintenance and card changing. This technique also restricts malfunctions to no more than one video or audio output circuit.

### 32 x 32 Routing Switcher Matrix

- No internal maintenance or service adjustments
- I/O parts for RS232 computer terminal control, and standardized I/O protocol to allow for external CPU control by a variety of devices
- The switchers are controlled by the 6600 microprocessor controller or a 6500 controller

The Series H 32 x 32 Routing Switcher provides 1 video and 1, 2 or 3 audio switching levels in the same enclosure. The switcher is designed for studio and remote truck applications.

The switcher design allows a user to install a frame configured to meet initial needs such as a 20 x 20 1 video, 2 audio and provide room for expansion to 32 x 32 1 video, 3 audio within the metal frame by means of plug-in modules. This ensures expansion without obsolescence of previously purchased hardware.

Because video switching demands absolute freedom from signal interruptions, Series H equipment is designed using redundant circuits for all critical functions.

The compact matrix frame is only 19 1/4" H (11 rack units) x 19" W x 17" D. The switcher represents 372 video and audio crosspoints per rack unit (1 3/4").

The 32 x 32 also is available in a video-only switcher or audio-only at 1, 2 or 3 levels. Each audio level is independently addressable, and the system can be configured to switch the audio levels with the video or each separate level independently.

### 64 x 64 Audio/Video Routing Switcher

The Series H 64 x 64 routing switcher allows a user to install a frame configured to meet initial needs and provides room for expansion by means of plug-in modules.

The switcher provides 2 levels of switching, 1 video and 1 audio, in a matrix frame 22 3/4" H x 19" W x 17" D. The unit also is available with a companion 64 x 64 2 level audio only Series H frame, thus providing 64 x 64 1 video and 3 audios in two frames. The system can control up to five independent levels of audio.

The 64 x 64 routing switcher matrix is controlled by the 6600 microprocessor controller or a 6500 microprocessor-based control system.

# 3M COMPANY

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St. Paul, MN 55144  
(612) 733-1110 (800) 328-1008

# AMPLIFIERS

## P-50 Video Processing Amplifier

• Front panel control of 6 video signal parameters • Accepts most sync formats • Input AGC for maintaining proper signal level automatically • Generates a pulse-cross format with automatic picture brightening to allow the use of a standard monitor for VTR skew and tension adjustments • Rackmounting kit and instruction manual provided • Feet provided for tabletop use

The P-50 accommodates a wide range of sync formats and provides adjustment for all signal parameters including sync, video, pedestal, burst level, burst phase and chroma level. In addition to the processed output, a pulse cross output is provided enabling the operator to adjust skew and tracking controls on a video tape recorder for optimum performance.

### Specifications

#### Video Input

Level: 1.0V p-p,  $\pm 6$ dB, composite video

#### Video Outputs (2 each)

Level: 1.0V p-p,  $\pm 6$ dB, composite video  
Output No. 1 works in conjunction with the front panel Operate/Bypass switch  
Output No. 2 can be strapped to provide a non-composite video signal

#### Monitor Output

Level: 1.0V p-p,  $\pm 6$ dB, composite video  
Impedance: 75 ohms,  $\pm 5\%$ , source terminated  
Output mode selectable by the front monitor/pulse cross switch



P-50

#### Sync Output

Level: 4.0V p-p  
Impedance: 75 ohms,  $\pm 5\%$ , source terminated  
Sync signal is separated from the incoming video signal

Frequency Response:  $\pm 0.5$ dB to 5MHz, down  $< 3.0$ dB at 8.0MHz

Differential Gain: 1.0% maximum (10-90% APL)

Differential Phase: 1.0° maximum (10-90% APL)

#### Low Frequency Noise and Hum

Reduction:  $> 30$ dB

#### AGC (Sync Tip Detector)

Input: 1.0V p-p,  $\pm 6$ dB

Output:  $< 0.5$ dB change with  $\pm$ dB change on the input

#### Controls (referenced to Nominal Video Levels):

Video level:  $\pm 6$ dB; Sync level:  $\pm 6$ dB; Chroma level:  $\pm 6$ dB; Burst level:  $\pm 6$ dB; Burst phase:  $\pm 45^\circ$ ; Pedestal level:  $\pm 40$  IRE units

#### Power

Requirements: 100-135VAC, 50-400Hz, 16W nominal

Size: 1.75" H x 17.0" W x 9.30" D

Weight: 6 lbs.

P-50 ..... \$1700.00

## 720 Video Distribution Amplifier

• Three sections; 1 input, 4 outputs per section, with common power supply • Front panel gain adjustments • Cable equalization adjustments up to 1000' of cable • Front panel test points • High impedance, loopthrough inputs • Feet provided for tabletop use • 1 3/4" rackmounting, kit provided

The 720 has been designed for flexibility in almost any situation. It's ideal for studio, mobile, or duplication applications, where quality signal performance and reliability are mandatory.

Used independently, the 720 accepts up to three different sources with four outputs for each source. Multiple sections may be looped together to provide 4, 8 or 12 outputs from a single video source.

### Specifications

Input Impedance: Bridging,  $> 40$ dB, 75 ohm return loss, 0-10MHz

Max. Input DC:  $\pm 25$ V

Gain:  $\pm 6$ dB (front panel adjust)

Outputs: 4 each, 75 ohm source terminated

Max. Output: 2.2V p-p into 75 ohms

Output Isolation: 35dB at 3.5MHz between outputs

Frequency Response:  $\pm 0.25$ dB, 100Hz-5MHz;  $\pm 0.5$ dB, 5MHz-10MHz;  $< 3$ dB down at 15MHz, 50Hz tilt  $< 1^\circ$



720

Differential Phase: 0.5°

Differential Gain: 0.5%

Y/C Delay Error: 10ns

Cable Equalization: Capable of 1000 RG59U to 10MHz, unity gain through system

Isolation Between Amps: 50dB at 3.58MHz

Power Requirements: 103-135V, 50-400Hz, 10W nominal

Size: 1.75" H x 17.0" W x 9.30" D

720 ..... \$835.00

# MAGNI SYSTEMS, INC.

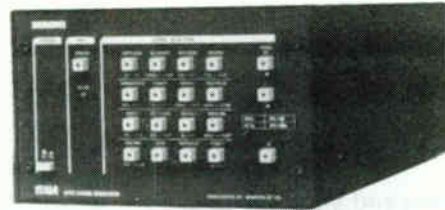
9500 S.W. Gemini Dr.  
Beaverton, OR 97005  
(503) 626-8400  
FAX: (503) 626-6225

# TEST SIGNAL GENERATORS

## 1510A Test Signal Generator

- High performance package at an affordable price • A 10-bit, digital test signal generator with over 32 precision test signals: Multiburst, NTC-7 composite, SMPTE color bars, matrix, modulated ramp, convergence, field squarewave, window, NTC-7 combination, multipulse, red field, bars/Y, modulated staircase, modulated bar, 50 IRE lum, 0 IRE lum • Field sweep signal to 6MHz, standard • Custom test signals available • Genlocks to external reference or internal oscillator • 12 character source ID and audio tone outputs—standard with every unit • Sized to share side-by-side rack with waveform monitor • 16 signal 1510S also available • Choice of rackmount or portable configurations

- 1510A Test signal generator . . . . . \$3,490.00
- 1510S Same as 1510A with 16 test signals . . . . . 2,490.00
- Option 03 Adds black burst and drive signal outputs . . . . . 600.00
- Option AT Adds audio tone (2-channel) output . . . . . 350.00



1510A

## 1515 Component + Composite Test Signal Generator

- Multiple formats: Composite NTSC, RGB and Y/B-Y/R-Y, standard on all units • Betacam, SMPTE, M-II and S-VHS formats available • Unique signals for testing distortions peculiar to component analog video: "Dual Timing Pulse" signal for setting Y/C delay and gain, color sweep for encoder/decoder tests, crosstalk test, noise coring test, bowtie test for delay matching, linearity test, clamping test • 12-character source ID standard with every unit • Optional black burst and pulse outputs

- 1515S Component TSG (SMPTE format) . . . . . \$5,300.00
- 1515B Component TSG (Betacam format) . . . . . 5,300.00
- 1515M Component TSG (M-II format) . . . . . 5,300.00
- 1515U Component TSG (SMPTE, Betacam, M-II and S-VHS formats) . . . . . 6,300.00
- Option 03 Adds black burst and drive signal . . . . . 600.00

1517



## 1517 Component (625/50) Test Signal Generator

- Supports RGB and the following CAV formats: EBU (M-II™), Betacam™, Y/CTCM, Y/CTDM • Sized for side-by-side rackmounting with a waveform monitor or vectorscope • 12-character source ID • Drive pulse outputs • Synclock (V and H) • Dual Timing Pulses and Timing Bowtie test signals to guarantee precise interchannel timing and amplitude measurements in CAV • Specific signals to ensure optimum CAV performance. Custom signals also available • Digital signal storage for greater precision and reliable replication • Modular design allows easy testing and maintenance

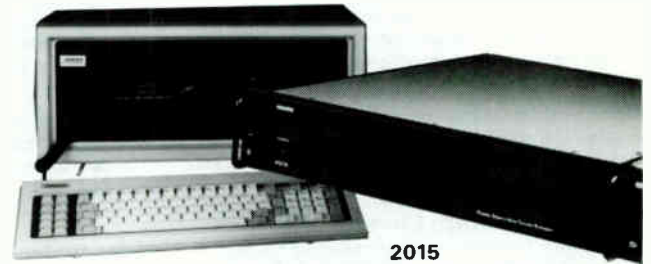
With Component Analog Video (CAV) test signal capability for 625/50 standards, the 1517 makes many of the features of the popular 1515 Test Signal Generator available to the non-NTSC broadcaster, studio or post-production house.

Designed for maximum flexibility, this unit allows the performance of equipment in either format to be measured easily with the CAV and RGB signals provided.

The more than 32 test signals configured into the 1517 are selectable from 16 front panel buttons. Commonly-used signals, such as color bars, are available in several formats to verify the performance of encoding/decoding equipment.

The 1517 may be sync-locked to external reference signals or operated from its own internal oscillator. This horizontal delay timing can be adjusted from 45µs of advance to 15µs of delay, and overlaid on the test signal for viewing on a picture monitor and setting.

The reference input is switch-selectable, loopthrough or 75 ohm internally terminated. This reference input is selected when the front panel Genlock control is activated.



2015

Signal source identification may also be displayed on a picture monitor through a programmable 12-character overlay.

In Average Picture Level (APL) Mode, test signals of 12.5% or 87.5% APL are provided by inserting 0% or 100% luminance level on three out of every four lines.

Each instrument provides three signal sources, with each available on two isolated BNC connectors. Adaptor cables for connection to a Betacam or M-II 12-pin connector are available.

- 1517 Component (625/50) . . . . . \$6,930.00
- Option 02 Drive signals output . . . . . 350.00
- Option 10 Single wide cabinet with handle . . . . . 65.00
- Option 30 Rackmount (for two units) . . . . . 180.00

## 2015 Programmable Test Signal Generator

- Broad library of test signals in many formats including: Analog: NTSC, PAL, SMAC, CAV, HDTV, and film-to-tape — Digital: Composite and 4:2:2 component • Capability of generating signals from 525/60 (NTSC) to 1125/60 (HDTV) and beyond • Custom signal capability: The user can create custom test signals, or can create "known-bad-signals" for testing correction circuits • 10-bit digitizing yielding 30MHz flat analog bandwidth • Utilizes IBM (or compatible) personal computer as controller • Software selectable clocks: 114.5MHz (32 x 3.58MHz) or 108.0MHz (8 x 13.5MHz) • Up to 3 channels are available, to be used independently or for 3-channel CAV signals

- 2015 Programmable test signal generator (Single channel) . . . . . \$9,950.00
- 2015 With 3 channels . . . . . 14,950.00
- 2015PL 3-channel 2015 with digital encoder flat to 10MHz for PAL output with 25Hz offset subcarrier . . . . . 17,450.00
- Optional Non-volatile memory (single channel) . . . . . 550.00
- Optional Non-volatile memory (three channel) . . . . . 1,450.00



# MAGNI SYSTEMS, INC.

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Beaverton, OR 97005  
(503) 626-8400  
FAX: (503) 626-6225

# WAVEFORM MONITORS/ VIDEO GRAPHICS CARD

## 500 Series Waveforms and Vectorscopes

The 500 Series offers the flexibility to accurately monitor component analog signals as well as composite video. The WFM560 Waveform Monitor provides 6 inputs, enabling you to run two complete channel sets in component format, or to tailor a combination of the two standards for your particular requirements. Switching between formats (SMPTE, Betacam, M-II) and displays (Alternate, Parade, A-B) is accomplished from the front panel, as is front panel memory storage of up to 18 switch position settings for later recall. Front panel status is recalled and restored in the event of a power down and repowering.

Basic component monitoring is available on the WFM530, with three inputs which can be dedicated to a single component train. Supporting either NTSC or PAL environments, the VS560/561 (with six inputs for composite video, color-difference and RGB signals) and VS530/531 (with three inputs for reliable composite vector display) expand their functionality through a serial interface allowing the operator to use line select and memory features through interconnection with one or more waveform monitors. Composite video and stereo audio displays are standard, as are graticule readouts in the VS560/561.

Graticule readouts, synchronously multiplexed with the video signal to ensure accuracy, provide an on-screen display of such parameters as input format, line selection and sweep speed, and are a standard feature of most 500 Series instruments.

### WFM530 Waveform Monitor

- Three inputs for composite monitoring • Advanced features for basic component capability • Supports NTSC, PAL, SECAM, 525/60 component and 625/50 component standards • Front panel memory • CRT readouts • Optional cursors • VITS display and line readout

**WFM530** 3-channel NTSC/PAL/SECAM/CAV Waveform Monitor. . . . . \$2245.00

### VS530/VS531 Vectorscopes

- Three inputs • Composite video and stereo audio displays • Alternate display and remote control • Supports NTSC (530) or PAL (531) standards

**VS530** 3-channel NTSC Vectorscope . . . . . \$2245.00  
**VS531** 3-channel PAL Vectorscope . . . . . \$2470.00

### WFM560 Waveform Monitor/Vectorscope

- Six inputs for full component and composite measurements, plus component vectorscope functions • Component format switching for SMPTE (EBU), Betacam, M-II • Supports NTSC, PAL, SECAM, 525/60 component and 625/50 component standards • Front panel memory • Time and voltage cursors, including risetime • Graticule readouts • VITS display and line readout • Built-in transcoder to feed RGB monitor

**WFM560** 6-channel NTSC/PAL/SECAM/CAV Waveform Monitor, CAV Vectorscope . . . . . \$3600.00

### VS560/561 Vectorscopes

- Six inputs—composite and component vector displays • Switch selection of composite video and component standards • Stereo audio display • CRT readouts • 560 NTSC and 525/60 component standards; 561 switchable between NTSC, PAL, 525/60 and 625/50 component standards

**VS560** 6-channel NTSC/CAV Vectorscope . . . . . \$3600.00  
**VS561** 6-channel PAL/NTSC/CAV Vectorscope . . . . . \$3960.00

### 1527 Combined Waveform Monitor, Vectorscope, Test Signal Generator with SC-H Phase Measurement Capability

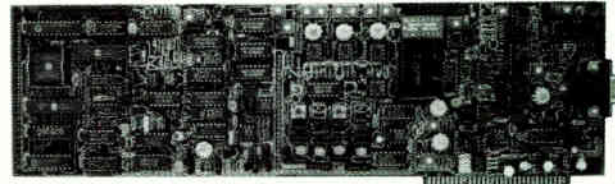
- Waveform and Vectorscope monitoring with a built-in test signal generator in one package • Simplified differential gain and differential phase measurements • SC-H phase measurement • May be used to measure the absolute SC-H phase of a single video signal even on "Demod Out" of type C recorder, relative SC-H phase of 2 signals, or incorrect color frame matching between 2 video signals even at points where the signals are not matched in time • A 10-bit, 4Xfsc test signal generator with 8 proven test signals: Multiburst, field squarewave, SMPTE color bars, matrix modulated



WFM560



VS561



4030

ramp, convergence, NTC-7 composite, calibration signal • Optional black burst output for master sync reference • Displays either of 2 external signal sources or built-in test signal generator. Display can be switched between output of device under test for easy comparison • 12-character source ID standard with every unit • Custom test signals available • Unique "auto" mode: matches test signal most often associated with each monitoring mode • Audio tone output standard • Choice of rackmount or portable configurations

**1527** Combined waveform monitor, vectorscope, test signal generator with SC-H phase measurement capability . . . . . \$7250.00  
**1527-20** Combined waveform monitor, vectorscope, test signal generator . . . . . \$5750.00  
**Option 03** Adds black burst and drive signal outputs. . . . . \$600.00

### 4030 Video Graphics Card

- Three modes: graphics, broadcast bandwidth composite video and full bandwidth composite video. Versions available for either NTSC or PAL • Full genlock with correct color framing • Black burst reference • Software selectable resolution • External key input • Software controlled fades and keying • Next frame control output • Supports locked or unlocked subcarrier • Broadcast mode display enhancement optionally available

The 4030 lends your PC graphics program exceptional speed, resolution and color quality. When operating outside of "broadcast quality" mode, very high resolution is available for high-resolution RGB monitors with a 1024 x 768 pixel display. Up to 256 of the 16.7 million colors available may be displayed at one time, and a refresh rate of 60Hz, non-interlaced, virtually eliminates flicker. Drawing speeds range from 10 million pixels per second for solid-line vectors to 60 million pixels per second for solid object fills, so that your displays move dynamically over the screen.

The 4030 supports a wide range of IBM-compatible software packages in the graphics, CAD and CAE areas. Appropriate sync, burst, blanking and timing instructions are inserted by the 4030 for the video output of the system to meet transmission standards.

The video output is switchable between three different modes: fading, internal keying and external keying, as well as being switch-selectable at the input between video and graphics. Fading or switching is software-controlled for different speeds. The key level of the graphics can be manipulated and faded, and an external video input is provided.

This high-resolution system adds plug-in color graphics and genlock/encoder cards to an IBM-compatible PC to offer true broadcast quality video direct from a PC graphics program.

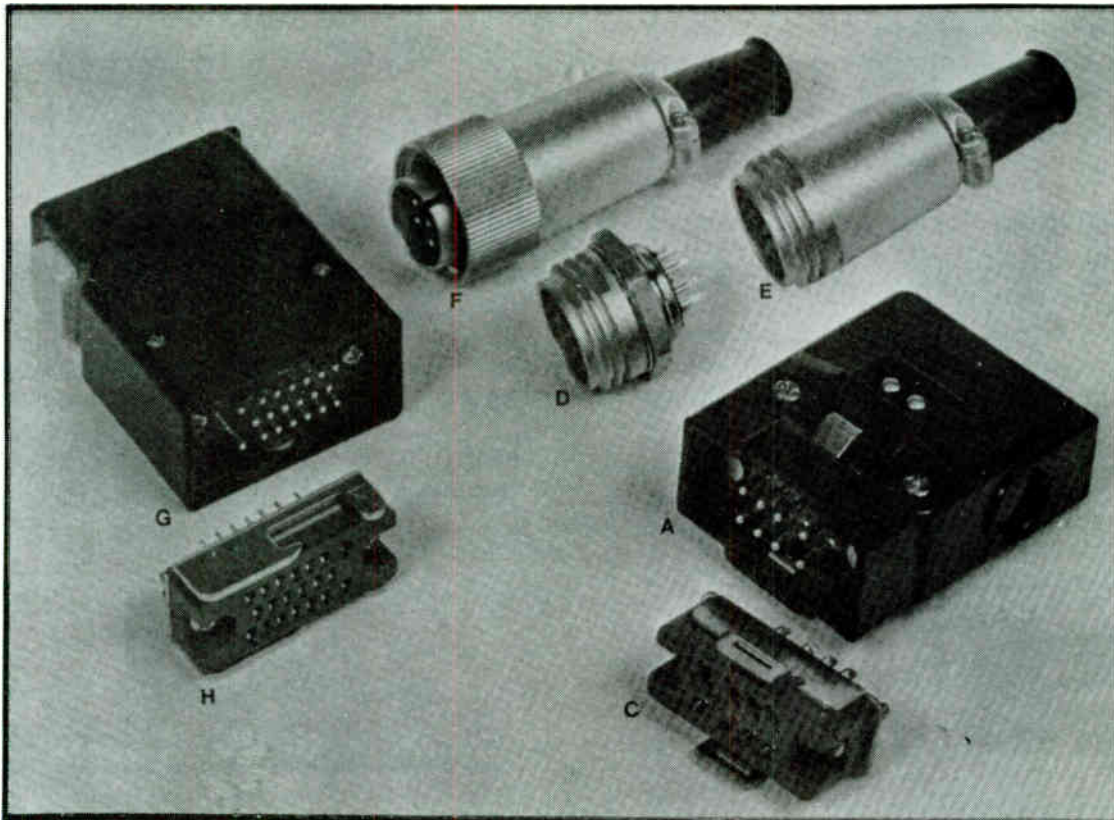
**4030** IBM Bus Video Graphics Card with RGB, Genlock, Luminance Key, Sync and Black Burst Generator and NTSC Encoder supplied with Advanced Graphics Co-Processor . . . \$3750.00  
**4031** As 4030 above but with PAL encoder . . . . . \$4345.00

# MARSHALL ELECTRONICS, INC.

P.O. Box 2027  
Culver City, CA 90230  
(213) 390-6608  
Telex 4996054 USA THREE

# MULTIPIN VIDEO CONNECTORS

*High quality precision connectors used on video recorders, cameras and remote switching devices. Directly interchangeable with Sony, JVC, Panasonic, Hitachi, RCA, etc., supplied parts.*



Part No.	Fig.	Description	Part No.	Fig.	Description
CP-08 VC	A	8 Pin Cable Plug	CS-20 TT	G	20 Pin Cable Socket (S)
CS-08 VC	A	8 Pin Cable Socket	PS-20 TT	H	20 Pin Panel Socket (S)
PS-08 VC	C	8 Pin Panel Socket	CP-20 ST	N.S.*	20 Pin Cable Plug (JVC 6060U)
CS-08 CX	A&C	8 Pin Cable Extension Socket	CS-20 ST	N.S.*	20 Pin Cable Socket (JVC 6060U)
CP-12 VC	A	12 Pin Cable Plug (J) (A) (T)	PS-20 ST	N.S.*	20 Pin Panel Socket (JVC 6060U)
CS-12 VC	A	12 Pin Cable Socket (J)	CP-33 TT	G	33 Pin Cable Plug (S)
PS-12 VC	C	12 Pin Panel Socket (J)	CP-34 TT	G	34 Pin Cable Plug (P) (N)
CP-10 RM	F	10 Pin Camera Cable Plug	PS-34 TT	H	34 Pin Panel Socket (P) (N)
CS-10 RM	E	10 Pin Camera Cable Socket	CS-34 TT	G	34 Pin Cable Socket (P) (N)
PS-10 RM	D	10 Pin Camera Panel Socket	CP-45 TT	G	45 Pin Cable Plug (J)
PP-10 RM	D	10 Pin Camera Panel Plug	CS-45 TT	G	45 Pin Cable Socket (J)
CP-12 RJ	F	12 Pin Camera Cable Plug	PS-45 TT	H	45 Pin Panel Socket (J)
CS-12 RJ	E	12 Pin Camera Cable Socket			
CP-20 TT	G	20 Pin Cable Plug (S)			

\*Not shown

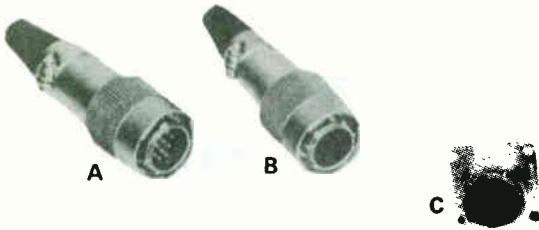
Equipment most commonly used on for Video: (J) JVC, (N) NEC, (P) Panasonic, (S) SONY  
Audio: (A) Ampex, (T) Teac

**NOTE:** Cable sockets in the TT series are designed to mate with panel plugs and will not mate with cable plugs without insert extension spacers.

# MARSHALL ELECTRONICS, INC.

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# CONNECTORS



## 14-PIN PROFESSIONAL VIDEO CONNECTORS

Designed for use with SONY & JVC broadcast and industrial cameras and VCRs.

Model No.	Key	Description
CP14 SRC	A	Cable Plug
CS14 SRC	B	Cable Socket
PP14 SRC	N/S*	Panel Plug
PS14 SRC	C	Panel Socket

\*Not Shown



## 14-PIN CONSUMER CAMERA CONNECTORS

Designed with 14-pin connectors for consumer and lightweight use with BETA cameras and VCRs.

Model No.	Key	Description
CP14K	A	Cable Plug (crimp contacts)
CS14K	B	Cable Socket (crimp contacts)
PS14K	N/S*	Panel Socket

\*Not Shown



## RM SERIES 12mm BAYONET LOCK CONNECTORS

Contacts available: 2, 3, 4, 5, 6, 7.  
(3-pin series are used with Hitachi FP-7, 21 & 22 Cameras).

MALE CABLE	FEMALE CABLE
RM12BPG-3P	RM12BPG-3S
RM12BPG-4P	RM12BPG-4S

(Shown are 3 & 4 contacts)

FEMALE PANEL  
RM12BRD-3S  
RM12BRD-4S

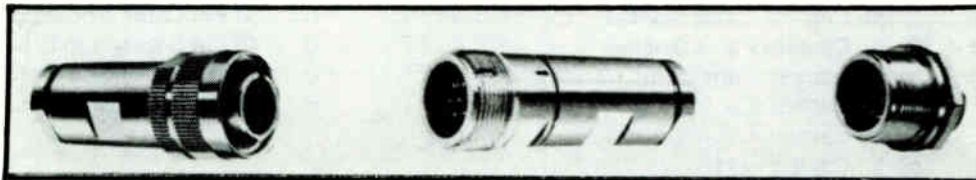
MALE PANEL  
RM12BRD-3P  
RM12BRD-4P



## SR SERIES 4-PIN MINIATURE SCREW-THREAD CONNECTORS

Used for lens connectors on video cameras and for compact communications equipment.

(Also available in 6-Pin configuration)



## TC 1108 SERIES WATERPROOF MULTI-PIN CONNECTORS

These small highly sophisticated connectors can be operated underwater to a depth of 30m. They are also safe for use in a variety of other harsh environments where humidity, rain and high winds are expected. They are available with 2 to 37 pins.

### Specifications

- Waterproof pressure: Resistance water pressure: 3 atu
- Temperature range: -25°C to +85°C
- Insulation resistance: DC500V 1000M ohm min.
- Contact resistance: DC1A max. 5M ohm max.



# MARSHALL ELECTRONICS, INC.

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# CONNECTORS & ADAPTORS

## COAXIAL CONNECTORS/BNC/UHF/N



### BNC 2-pc. FASTFIT

- 2 pc. construction
- **ULTRA-FAST Assembly** — Just strip cable, push-on and crimp shield
- Built-in center contact locks on conductor without solder or crimping
- Crimp tools available

Model No.	Cable Type
CP 88-2-59	22 Ga. RG/59, 62
CP 88-4-59M	20 Ga. RG/59
CP 88-1-58	20 Ga. RG/58



### BNC 3-pc. CRIMP

- Crimp or solder center contact
- Strain relief ferrule crimps shield

Model No.	Cable Type
CMC 88-59	22 Ga. RG/59
CMC 88-59M	20 Ga. RG/59
CMC 88-62	22 Ga. RG/62
CMC 88-58	RG/58
CMC 88-174	RG/174



### BNC 1-pc. TWIST-ON

- Twists directly onto stripped cable
- No solder or tools required
- Built-in energizing contact locks on center conductor

Model No.	Cable Type
CPFI UG88-2	22 Ga. RG/59, 62
CPFI UG88-4	22 Ga. RG/59
CPFI UG88-3	9841 Broadcast
CPFI UG88-10	TFE RG/59
CPFI UG88-1	20 Ga. RG/58
CPFI UG88-5	MATV 6/u



### UHF CRIMP TYPE

- Fast assembly
- Just crimp center pin and shield, comes with attractive 1/2" ferrule

Model No.	Cable Type
CPL 259-14	RG/59



### UHF 1-pc. TWIST-ON

- Twists directly on to stripped cable with excellent holding power
- Center contact may be crimped or soldered

Model No.	Cable Type
CPFI 259-11	RG/59, 62
CPFI 259-21	8281 Broadcast



### UHF SOLDER TYPE

- For RG/59 cable
- No adaptor required

Model No. CPL 259-9



### UHF PUSH-ON ADAPTOR

- Adapts UHF male cable end to quick on/off use

Model No. A-2121



### UHF 2-pc. CRIMP CABLE JACK

- One step assembly
- Just push on stripped cable and crimp shield

Model No.	Cable Type
CPF 249-14	RG/59, 62

## N CONNECTORS & ADAPTORS



**N2157**  
(Mil. No. UG-57B/u) Double male adaptor.

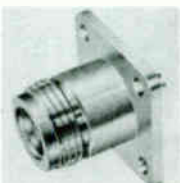


**N-2129**  
(Mil. No. UG.29B/u) Double female adaptor.



**N-2127**  
(Mil. No. UG-27B/u) Right angle adaptor  
N-2127-GT Gold contact, TFE

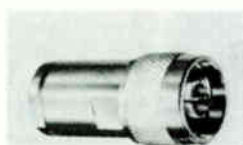
## CHASSIS MOUNTS



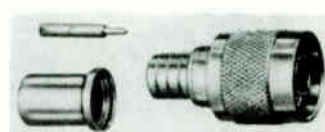
UG/58



N-2160



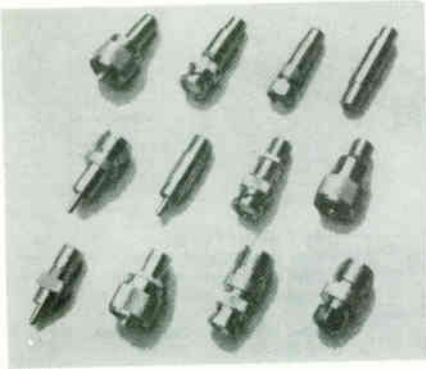
**SOLDER TYPE**  
(Mil. No. UG-21B/u) N male connector. For RG-8, 9, RG213/u cables. Nickel plated.



**CRIMP TYPE**  
• Crimp or solder center contact  
• Strain relief ferrule clamps shield

Model No.	Cable Type
N-8	13AWG RG/8, 213
N-59	22AWG RG/59

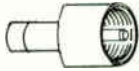
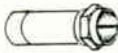













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## ADAPTERS BETWEEN SERIES

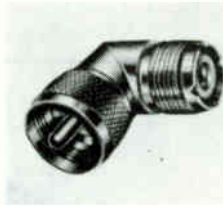
Precision adaptors provide an easy means of using existing cables and connectors to interconnect all types of video and audio equipment. 'F' adaptors allow the use of standard 'F' 59, 75 ohm cable assemblies supplies with most home video equipment to be converted to UHF, BNC or RCA type cables.

Description of adaptors are listed by male (plug) and female (jack). Parts listed as phono are the RCA type used for direct video lines on home video equipment.

 <b>PHONO FEMALE-UHF MALE</b> A-1401	 <b>PHONO FEMALE-'F' MALE</b> A-1403	 <b>PHONO FEMALE-'F' FEMALE</b> A-1404
 <b>PHONO FEMALE-BNC MALE</b> A-1402	 <b>'F' FEMALE-PHONO MALE</b> A-2021	 <b>UHF FEMALE-PHONO MALE</b> A-2020
 <b>'F' FEMALE-BNC MALE</b> A-2101	 <b>BNC FEMALE-'F' MALE</b> A-2104	 <b>UHF FEMALE-BNC MALE</b> A-2107
 <b>'F' FEMALE-UHF MALE</b> A-2102	 <b>BNC FEMALE-UHF MALE</b> A-2105	 <b>UHF FEMALE-'F' MALE</b> A-2108
 <b>'F' FEMALE-BNC FEMALE</b> A-2103	 <b>BNC FEMALE-PHONO MALE</b> A-2106	 <b>'F' FEMALE-3.5mm MINI-PLUG</b> A-2110



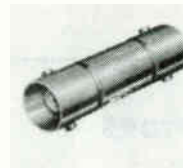
**A-2112**  
 UHF T  
 2 Females-Male



**A-2111**  
 UHF Right Angle  
 Adapts UHF Cable to Right Angle to keep Cable close to equipment



**A-2114**  
 BNC Right Angle  
 Adapts BNC Cable to Right Angle. Gold contact, TFE Insulation.



**A-2115**  
 BNC  
 Double Female



**A-2116**  
 BNC "T" Connector  
 2 Females-Male  
 Gold contact, TFE insulation.



**A-2117**  
 BNC "T" Connector  
 3 Females, gold contact, TFE Insulation



**CS-258**  
 UHF Double Female



**CH-239-SM**  
 UHF Female Chassis  
 4 hole mount.

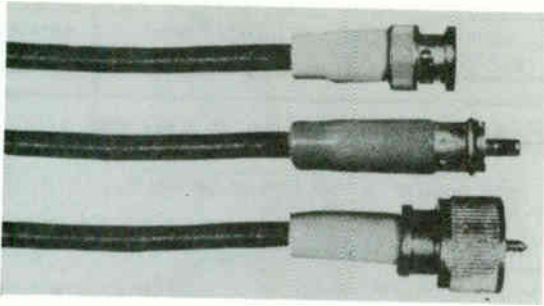


**CH-239-RML**  
 UHF Female Chassis  
 Rear mount 1/4" hole.  
 With Solder Lug.

# MARSHALL ELECTRONICS, INC.

P.O. Box 2027  
Culver City, CA 90230  
(213) 390-6608  
Telex: 49-96054 USA THREE

## VIDEO CABLES



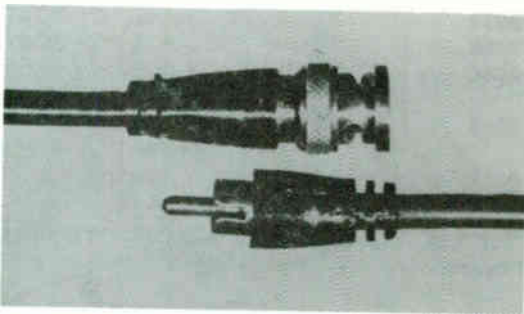
### 75 Ohm Video Cables

These extra-flexible RG-59/u Cables with heavy-duty, densely Braided Copper Shields meet the requirements of professional, industrial and consumer video equipment for 75 ohm cable; and they meet MIL-C-17 specifications. The dense, Braided Copper Shield provides 95% coverage for optimum conductivity and maximum shielding. The non-contaminating Glossy Black Jackets prevent signal degradation which can be caused by plasticizers migrating into the cable dielectric, as happens with non-MIL type jacket materials.

(RCA Male) Video Phono	(RCA Male) Video Phono	BNC Male	BNC Male
8746 3'	8726 3'	8403 3'	8403 3'
8752 6'	8732 6'	8406 6'	8406 6'
		8412 12'	8412 12'
		8425 25'	8425 25'
		8450 50'	8450 50'
		8475 75'	8475 75'
		84100 100'	84100 100'

Custom lengths or connectors available.

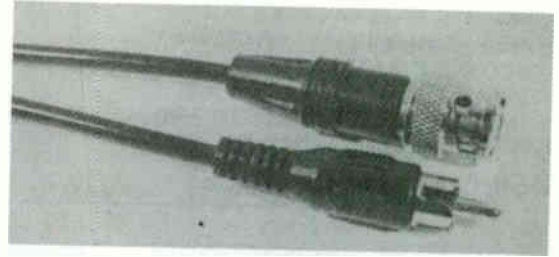
UHF Male	UHF Male	UHF Male	UHF Male
8503 3'	8603 3'	8503 3'	8603 3'
8506 6'	8606 6'	8506 6'	8606 6'
8512 12'	8612 12'	8512 12'	8612 12'
8525 25'	8625 25'	8525 25'	8625 25'



### Molded BNC and RCA RG-59 Cables

Heavy-duty jumper cables utilizing standard RG-59 75 ohm Cable with 90% Braided Copper Shield and Glossy Black Jacket.

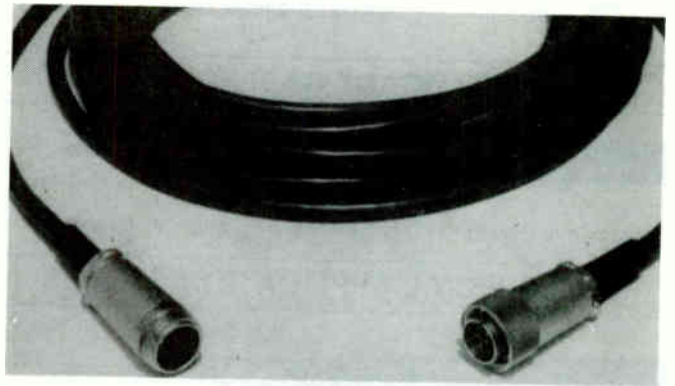
BNC-BNC	BNC-RCA	RCA-RCA
848B-3 3'	87BR-3 3'	87RR-3 3'
848B-6 6'	87BR-6 6'	87RR-6 6'
848B-12 12'	87BR-12 12'	87RR-12 12'
848B-25 25'	87BR-25 25'	87RR-25 25'



### Mini 75 Ohm Molded Cables

These Superflexible Molded Cables feature .150" diameter 75 ohm cables to meet special needs requiring a compact size and flexibility without sacrificing performance. Braided Copper Shield with 93% coverage. Black Jacket.

BNC-BNC	BNC-RCA	RCA-RCA
Molded Connector	Molded Connector	Molded Connector
83BB-3 3'	83BR-3 3'	83RR-3 3'
83BB-6 6'	83BR-6 6'	83RR-6 6'
83BB-12 12'	83BR-12 12'	83RR-12 12'
83BB-25 25'	83BR-25 25'	83RR-25 25'



### 10-Pin Industrial Color Camera Cables

Precision-made connectors with silver plated contacts meet the highest professional standards.

Directly interchangeable with Panasonic and Sony Industrial 10-pin EIAJ cables.

**Series A (For use with Panasonic, RCA, JVC, Quasar, Hitachi, G.E., Sharp)**

- 2622 1.5' 10-pin male—10-pin female
- 2624 16' 10-pin male—10-pin female
- 2626 33' 10-pin male—10-pin female
- 2627 53' 10-pin male—10-pin female
- 2629 100' 10-pin male—10-pin female

**Series B (For use with JVC-71)**

- 2604 5' 12-pin male—10-pin male

**Series C (For use with JVC-71)**

- 2605 33' 12-pin male—12-pin female

### 10-Pin Color Camera Cable by Mogami

Designed for light weight consumer camera extensions. This cable has all pins wired to new-type black 10-pin connectors. Rated for cameras drawing up to 10W or 950mA.

2725AS	25'
2733AS	33'
2750AS	50'

### 14-Pin Sony Type Color Camera Cable by Mogami

Designed for extension cable use with Sony consumer cameras and matching equipment.

2630	33'
2631	50'

### Custom Cables

Custom lengths or colors can be ordered to meet your exact specifications or needs, as well as imprinting on custom connector boots. Choose from Blue, Red, White, Gray or Purple Cable. For Gold-plated contact BNC please specify #BNC-1789 Connectors. Custom Cables can be produced quickly and economically.

Prices and Specifications Subject to Change Without Notice.

V-779




# MARSHALL ELECTRONICS, INC.

# COAXIAL CABLES


P.O. Box 2027  
Culver City, CA 90230  
(213) 390-6608  
Telex 4996054 USA THREE

DESCRIPTION	PART NUMBER	CENTER CONDUCTOR	DIELECTRIC AND O.D.	SHIELD CONSTRUCTION	JACKET AND O.D.	NOM CAP Pf/Ft	NOM VEL OF PROP	NOM IMP (OHMS)	NOMINAL ATTENUATION 10/100/1000MHz
-------------	-------------	------------------	---------------------	---------------------	-----------------	---------------	-----------------	----------------	------------------------------------




## RG 59 COAXIAL CABLES

									
59/U VIDEO RUNNER MIL C-17D UL 1354	W-8441	22(Solid)CCS	PE .146	BC - 95%	NCPVC .242	21.0	66%	73	1.8/3.4/11.5
Available in White, Black, Blue, Purple, Red or Grey.									
59/U JAN-C-17 TYPE UL 1354	W-5560	22(Solid)CCS	PE .146	BC - 95%	PVC .242	21.0	66%	73	1.8/3.4/11.5
59/U TYPE UL 1354	W-8449	22(7/30)BC	FP .146	BC - 95%	PVC .242	17.3	80%	75	1.0/2.5/8.8
59/U TYPE	W-5552	20(Solid)CCS	FP .146	BC - 95%	PVC .242	16.2	82%	75	1.1/2.5/8.8
59/U TYPE	W-8443	22(Solid)CCS	FP .146	BC - 95%	PVC .242	16.3	78%	80	1.1/2.5/8.8
59/U COMMERCIAL	W-5556	22(Solid)CCS	FP .146	BC - 80%	PVC .242	16.3	78%	80	1.1/2.5/8.8
59/U TYPE	W-5557	20(Solid)CCS	FP .146	BC - 80%	PVC .242	16.2	82%	75	1.1/2.5/8.8
59/U COMMERCIAL UL 1354	W-8442	22(Solid)CCS	PE .146	BC - 80%	PVC .242	21.0	66%	73	1.8/3.4/11.5


## VIDEO BROADCAST CABLES

									
									<b>100% SWEEP TESTED</b>
VIDEO BROADCAST	W-9841	20(Solid)BC	PE .200	2TC - 98%	PE .304	21.0	66%	75	.78/2.70/--

## RG 59 SPECIAL APPLICATION CABLES

									
59 B/U TYPE DUAL UL 20063	W-8444	23(Solid)CCS	PE .146	BC - 95%	PVC 2/ .242	21.0	66%	75	1.8/3.5/12.0
									
59/U TWISTED PAIR	W-8470	22(Solid)CCS	PE .146	BC - 95%	PVC .242	21.0	66%	73	1.8/3.4/11.5
One pair 20-Gage with Overall Foil Shield and 22-Gage drain wire. Color Code Black & Red. PVC Insulation.									
									
59/U TYPE TRIAX	W-7810	20(Solid)CCS	FP .146	2-BC - 95%	PE-Inner PE-Outer .325	16.2	82%	75	1.1/2.5/8.8

## MATV RG 59 CABLES



									
									<b>100% SHIELD COVERAGE</b>
59 MATV TYPE	W-8458	20(Solid)CCS	FP .146	FOIL+AL 40%	PVC .242	16.2	82%	75	1.1/2.5/8.8
59 MATV TYPE	W-8459	20(Solid)CCS	FP .146	FOIL+AL 67%	PVC .242	16.2	82%	75	1.1/2.5/8.8




Legend: BC = Bare Copper; CCS = Copper Covered Steel. Standard Color is Black unless otherwise noted.  
Write for our free General Wire & Cable Catalog featuring other Coaxial Cables available.





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 (213) 390-6608  
 Telex 4996054 USA THREE

# COAXIAL CABLES

DESCRIPTION	PART NUMBER	CENTER CONDUCTOR	DIELECTRIC AND O.D.	SHIELD CONSTRUCTION	JACKET AND O.D.	NOM CAP Pf/Ft	NOM VEL OF PROP	NOM IMP (OHMS)	NOMINAL ATTENUATION 10/100/1000MHZ	
<b>RG 62 COAXIAL</b>										
	RG 62 COMMERCIAL	W-8201	22(Solid)CCS	FP .146	BC - 80%	PVC .242	12.2	86%	93	.81/2.7/9.3
	RG 62 A/U COMMERCIAL UL 1381	W-6608	22(Solid)CCS	AD/PE .146	BC - 80%	PVC .242	13.5	84%	93	.81/2.7/9.3
	RG 62 A/U GEN. PURP. UL 1478	W-8462	22(Solid)CCS	AD/PE .146	BC - 84%	PVC .242	13.5	84%	93	.81/2.7/9.3

DESCRIPTION	PART NUMBER	CENTER CONDUCTOR	DIELECTRIC AND O.D.	SHIELD CONSTRUCTION	JACKET AND O.D.	NOM CAP Pf/Ft	NOM VEL OF PROP	NOM IMP (OHMS)	NOMINAL ATTENUATION 10/100/1000MHZ	
<b>RG 6 / RG 11 COAXIAL</b>										
	6 MATV TYPE	W-8465	18(Solid)CCS	FP .180	FOIL+AL - 40%	PVC .272	16.2	82%	75	0.8/2.1/6.8
	6 MATV TYPE	W-5726	18(Solid)CCS	FP .180	FOIL+AL - 60%	PVC .272	16.2	82%	75	0.8/2.1/6.8
	6 MATV TYPE	W-5727	18(Solid)CCS	FP .180	FOIL+AL - 90%	PVC .272	16.2	82%	75	0.8/2.1/6.8
	11 MATV TYPE	W-8466	14(Solid)CCS	FP .280	FOIL+AL - 60%	PVC .405	16.2	82%	75	.45/1.3/4.5
	11 MATV TYPE	W-8467	14(Solid)CCS	FP .280	FOIL+AL - 90%	PVC .405	16.2	82%	75	.45/1.3/4.5
	11/U TYPE	W-8468	14(Solid)BC	FP .285	BC - 95%	PE .405	16.2	82%	75	.45/1.3/4.5

DESCRIPTION	PART NUMBER	CENTER CONDUCTOR	DIELECTRIC AND O.D.	SHIELD CONSTRUCTION	JACKET AND O.D.	NOM CAP Pf/Ft	NOM VEL OF PROP	NOM IMP (OHMS)	NOMINAL ATTENUATION 10/100/1000MHZ	
<b>PLENUM RG-59/RG-62 COAXIAL CABLES</b>										
<b>NEC 725 (No Conduit Required)</b>										
	RG 59 MATV TYPE	W-2020	20(Solid)CCS	FFEP .144	FOIL+AL - 67%	FEP .215	16.2	84%	75	5.5db @ 400MHz
	RG 59/U TYPE FOAM	W-2039	20(Solid)CCS	FFEP .135	BC - 95%	FEP .208	16.0	84%	75	6.5db @ 400MHz
	RG 59/U TYPE	W-2040	22(Solid)CCS	FEP .135	BC - 95%	FEP .208	19.5	70%	70	7.1db @ 400MHz
	RG59/U TYPE	W-2041	22(Solid)CCS	FEP .135	BC - 95%	SOL .208	19.5	70%	70	7.1db @ 400MHz
	RG 62 FOAM	W-2250	23(Solid)CCS	FFEP .144	BC - 95%	FEP .215	13.5	84%	93	7db @ 400MHz
	RG 59 B/U TYPE DUAL	W-2095	23(Solid)CCS	FEP .135	BC - 95%	FEP 2/.208	19.5	70%	75	7.1db @ 400MHz
	RG 62 AIR DIELECTRIC	W-2251	22(Solid)CCS	FEP .144	BC - 95%	FEP .215	13.5	84%	93	7db @ 400MHz
	RG 62 AIR DIELECTRIC	W-2252	22(Solid)CCS	FEP .144	BC - 95%	SOL .215	13.5	84%	93	7db @ 400MHz

Legend: BC = Bare Copper; CCS = Copper Covered Steel. Standard Color is Black unless otherwise noted.

Prices and Specifications Subject to Change Without Notice.

# MARSHALL ELECTRONICS, INC.

# CABLES

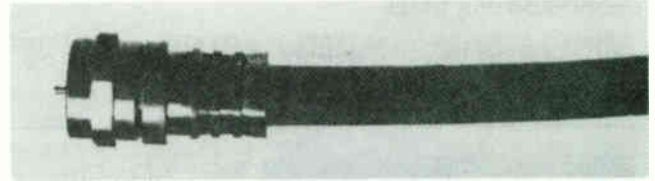
P.O. Box 2027  
Culver City, CA 90230  
(213) 390-6608  
Telex 4996054 USA THREE

## "F" 59 HEAVY-DUTY CABLES

- Low loss, flexible  
RG 59/u 75 ohm cable
- New advanced technology, 100% bonded aluminum shield
- 20-AWG center conductor
- High reliability connectors
- Impervious to moisture

Our most popular "F" 59 Jumper Cables for MATV, TV & VCR hook-ups feature heavy-duty flexible RG 59/u 75 ohm Cable with 20-AWG Center Conductor protected by a 100% bonded Aluminum Shield which is surrounded by a woven aluminum braid to provide the highest quality shielding for maximum picture fidelity.

Select Jumper Cables with Black Jacket and Golden Chromate Connectors; or White Jacket with Silver Cadmium Connectors.



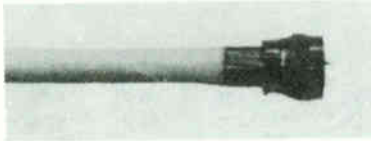
PART NO. (Black)	PART NO. (White)	CABLE LENGTH
8800-B	8800-W	12-In.
8801-B	8801-W	18-In.
8803-B	8803-W	3-Ft.
8806-B	8806-W	6-Ft.
8810-B	8810-W	10-Ft.
8825-B	8825-W	25-Ft.
8850-B	8850-W	50-Ft.
8875-B	8875-W	75-Ft.
8899-B	8899-W	100-Ft.

## "F" 59 STANDARD CABLES

- White jacket
- Hex-type crimp rings
- 22-AWG Center conductor. Custom lengths available

Our most popular "F" 59 Jumper Cables for MATV, TV and VCR hook-ups.

PART NO.	LENGTH
883	3-Ft.
886	6-Ft.



## "F" 59 PUSH-ON CABLES

This connector eliminates twisting standard type cables. Just push the cable directly onto the female jack. Excellent where cable set ups are always changing. Heavy-duty center conductor holds up under continual usage. Right Angle Plug on one end allows easy installation.

PART NO.	LENGTH
8903	3-Ft.
8906	6-Ft.
8912	12-Ft.



## STANDARD 8-PIN MONITOR CABLES

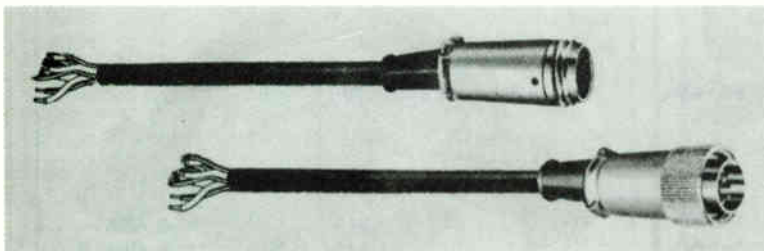
This standard 8-Pin Monitor Cable utilizes a universal 8-Pin Rectangular Connector to connect U-Matic and other Industrial Video Recorders to TV Monitors, on either end of a rugged, heavy-duty cable.

PART NO.	LENGTH	DESCRIPTION
2601	9-Ft.	8-Pin Male-Both Ends
2603	25-Ft.	8-Pin Male-Both Ends



## CAMERA CABLE ENDS

For breakouts and custom wiring. 12" long.



PART NO.	DESCRIPTION
5133-17	10-Pin Male Metal Connector All Pins Wired.
10MMR	10-Pin Male Plastic Connector All Pins Wired.
10F12	10-Pin Female Plastic Connector All Pins Wired.
14 MSC	14-Pin Beta Male Connector 7, 8, 11, 12 Not Wired.
14 FSC	14-Pin Beta Female Connector 7, 8, 11, 12 Not Wired.



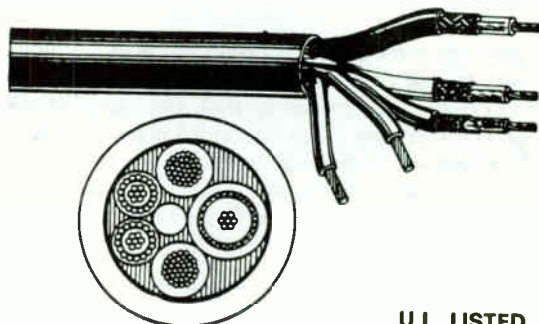
P.O. Box 2027  
 Culver City, CA 90230  
 (213) 390-6608  
 Telex 4996054 USA THREE

## CAMERA CABLE

Precision video cable for color cameras and high resolution CCTV systems not requiring external sync. Has one precision video coaxial cable, 2 shielded audio cables and 2 #16 AWG hook-up wires for power and control functions. All wires are color coded. Overall diameter is .360 inches.

**Part No. 9404**

## 5 CONDUCTOR



U.L. LISTED

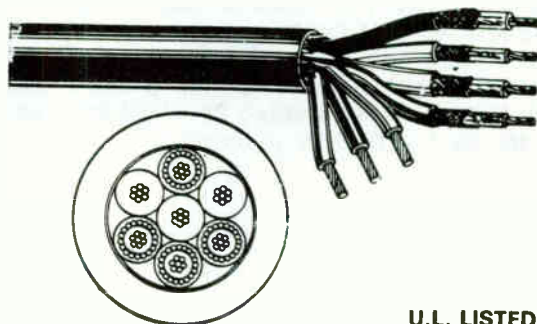
## CAMERA & MONITOR CABLE

An extremely flexible and compact cable for use with color or black and white cameras used in home and industrial video systems. Most often used with 10 pin round camera connectors and 8 pin rectangular monitor connectors. Has 4 specially designed compact video coax cables and 3 #22 AWG hook-up wires for power and control functions. Each video cable is of identical construction and is also used for sync and audio signals. All wires are color coded. Overall diameter is .270 inches.

**Part No. 9402**

Part No. 2566 is identical to 9402 but with 6 video coax and 3 #22 AWG wires. O.D. is .330 inches.

## 7 CONDUCTOR



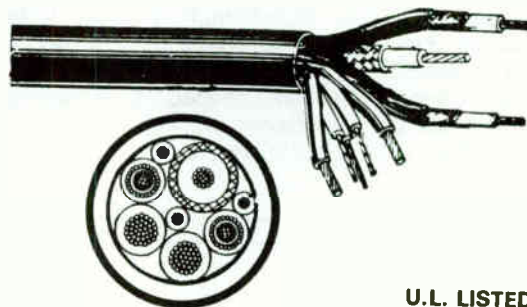
U.L. LISTED

## CAMERA CABLE

This superflexible cable is designed for use with color cameras in professional and industrial video systems. It contains 1 precision video coax, 2 shielded cables for audio and sync., 2 17 Ga. heavy-duty power leads, and 3 25 Ga. control leads. All wires are color coded. Overall diameter is .350 inches.

**Part No. 2722**

## 8 CONDUCTOR



U.L. LISTED

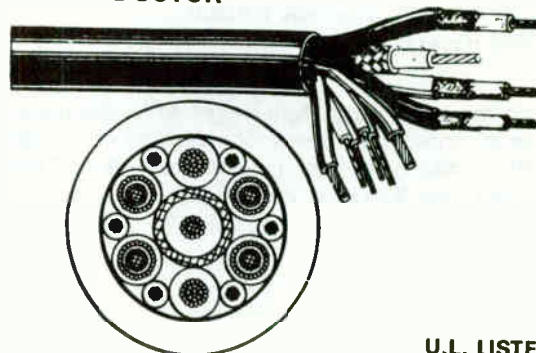
## CAMERA CABLE

Precision video cable for professional and industrial applications. Extremely flexible construction makes handling easy. Has one precision video coax, 4 shielded cables for audio and sync., 1-17 ga. and 20 ga. power leads and 6-28 ga. control leads. All wires color coded. Overall diameter is .390 inches.

**Part No. 2610C**

**2610D** (Same as above but with overall braided tinned shield.)

## 13 CONDUCTOR



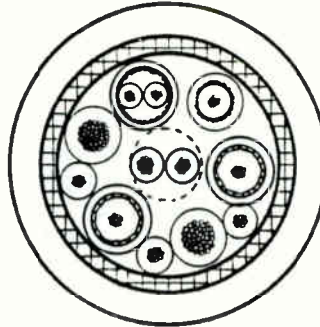
U.L. LISTED

Prices and Specifications Subject to Change Without Notice.

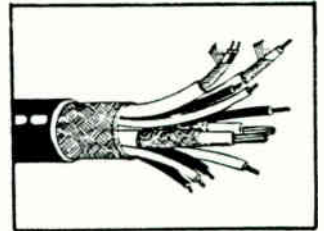
P.O. Box 2027  
 Culver City, CA 90230  
 (213) 390-6608  
 Telex 4996054 USA THREE

## PROFESSIONAL VIDEO CAMERA CABLE (With Overall Braided Shield)

Designed for professional applications requiring balanced audio line and overall braided shield. This cable is compatible with 14-Pin inputs on professional VHS, Beta and U-Matic portable equipment. Contains: 2 precision 75 ohm 28-AWG Coax; one 28-AWG Balance Audio Pair; one 28-AWG 50 ohm Coax; three 26-AWG Control Wires; one 24-AWG Twisted Pair; two 18-AWG Power Lines; and an Overall Braided Shield.  
**Part No. 9411** O.D. .433" (10.6mm)



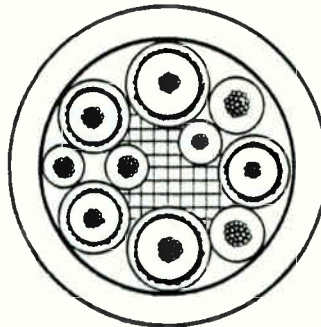
11-CONDUCTOR



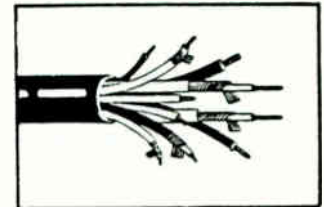
PART NO. 9411

## MINIATURE VIDEO/AUDIO CONTROL CABLE

Extremely flexible Multi-Conductor Cable designed for internal or external wiring of Electronic Equipment requiring transmission of Audio and Video or Data Signals. Contains: Two 28-AWG Video Coax; three 28-AWG Shielded Cables; three 28-AWG Control Lines; and two 24-AWG Control Lines.  
**Part No. 2687** O.D. .255" (6.5mm)



10-CONDUCTOR

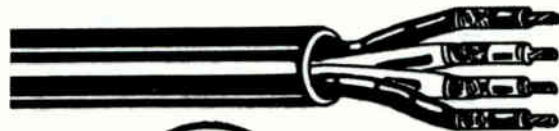


PART NO. 2687  
 U.L. LISTED

## SUPERFLEXIBLE MONITOR CABLE

This extremely flexible, high-strength Miniature Cable has 4 identical 28-Gage Mini Coax Cables. It is ideally suited for monitor applications from U-Matic Recorders where two audio and two video signals are needed. It is also used for microphone and communications systems.  
**Part No. 2326** O.D. .235" (5.96mm)

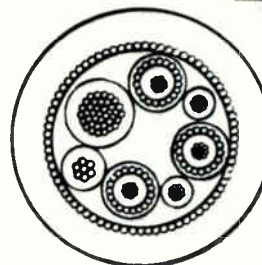
4-CONDUCTOR



## MINIATURE CAMERA CABLE (With Overall Shield)

This extremely small, light-weight Multi-conductor Cable is for use in various applications for video and audio signals. It is only .288 inches in diameter, but contains 1 Video Coax, 2 Shielded Cables, one 22-Gage, one 26-Gage and one 28-Gage Hook-Up Wires. Overall served shield is 18-Gage.  
**Part No. 2673**

MULTI-CONDUCTOR



U.L. LISTED

# MARSHALL PRODUCTS, INC.

3 Golf Center, Ste. 312  
Hoffman Estates, IL 60195  
(312) 310-0951

# VIDEO FURNITURE

## MVC Series 2-Door/4-Door Video Consoles

### Common Features

- Made from solid hardwoods and selected hardwood veneers
- Each set of doors is equipped with a brass plunge lock system
- Each console is built to meet your requirements, standard interior can be fitted with shelves positioned to suit your equipment exactly
- 4" heavy-duty casters
- 3-outlet power assembly with a 15' cord
- Fabric covered side speaker openings are available for video consoles with side mounted speakers
- Ample ventilation and service access is provided through the rear service opening
- The rear of each interior shelf is cut out to provide for cabling
- Complete enclosure

Model	Description	Oak	Walnut Cherry White Oak Pickled Oak	Mahogany
<b>2-Door Video Consoles</b>				
MVC-50	50" Console	\$ 892.00	\$ 1062.00	\$ 1164.00
MVC-60	60" Console	951.00	1132.00	1241.00
MVC-77	77" Console	1004.00	1195.00	1310.00
<b>4-Door Video Consoles</b>				
MVC-60-4	60" Console	\$ 1021.00	\$ 1216.00	\$ 1333.00
MVC-77-4	77" Console	1074.00	1279.00	1403.00
<b>Accessories</b>				
MVC-S	Shelf	88.00	130.00	\$ 140.00
MVC-RS	Rollout option on any shelf			44.00

## Video Bases — Stationary

- Designed to raise large video monitors high enough for group viewing
- Upper compartment provides waist-level storage for videocassette recorders
- Available with 8" clearance for 3/4" machines, and 4" clearance for 1/2" machines
- Lower compartment provides tapes and components storage
- Optional center shelf is available
- Optional backstops for tape storage also are available
- Features wood drawer pulls
- Antique brass pulls are available at no extra cost
- Constructed of solid hardwoods and selected hardwood veneers
- Optional extra shelf is solid wood
- 2" casters optional

Model	38" Tall, 8" VCR	Oak	Walnut Cherry White Oak Pickled Oak	Mahogany
VB-38-8W	Wood pulls	\$561.00	\$623.00	\$664.00
VB-38-8B	Brass pulls	561.00	623.00	664.00
Model	38" Tall, 4" VCR	Oak	Walnut Cherry White Oak Pickled Oak	Mahogany
VB-38-4W	Wood pulls	\$561.00	\$623.00	\$664.00
VB-38-4B	Brass pulls	561.00	623.00	664.00
<b>Accessories</b>				
VB-S	Opt. shelf	\$53.00	\$61.00	\$67.00
VB-TS	Tape back-stop with opt. shelf	61.00	70.00	76.00
VB-L	Set of 3 locks	35.10	35.00	39.00
VB	Castors	51.00	51.00	51.00



4-Door Console



2-Door Console



# MARSHALL PRODUCTS, INC.

3 Golf Center, Ste. 312  
Hoffman Estates, IL 60195  
(312) 310-0951

# MOBILE TABLES

## MTV-56/40C Video Tables

- Made by hand from solid hardwoods and selected hardwood veneers
- Available in standard heights from 28" -56" in both open and cabinet models • 25" x 32" shelf size easily handles large screen monitors
- Additional shelves either above or inside the cabinet base to handle additional equipment may be ordered • Cabinet models can be ordered with ventilation and cabling passages if you intend to operate equipment inside the cabinet • Brass plunge lock system • Monitor safety belt • 3-outlet, 15' power cord • Heavy-duty 4" casters • Other options include a slant bar to incline the monitor to avoid glare from overhead lights and a decorative wooden skirt to hide the casters

Model	Description	Oak	Walnut	Mahogany
			Cherry White Oak Pickled Oak	
MTV-28	28" H open table	\$295.00	\$347.00	\$379.00
MTV-40	40" H open table	362.00	427.00	466.00
MTV-48	48" H open table	371.00	438.00	478.00
MTV-56	56" H open table	378.00	447.00	487.00
MTV-28C	28" H With cabinet	397.00	469.00	512.00
MTV-40C	40" H With cabinet	524.00	620.00	679.00
MTV-48C	48" H With cabinet	531.00	629.00	688.00
MTV-56C	56" H With cabinet	538.00	638.00	698.00
MTV-S	Extra shelf	91.00	100.00	105.00
MLS-32	Lower skirt	70.00	85.00	95.00
MSH	Handles	40.00	45.00	47.00

## MXL/MVP Series Tables for

### Extra-Large Monitors and Video Projectors

#### Common Features

- Made from solid hardwoods and selected hardwood veneers • Brass plunge lock system featured on cabinet models • 4" casters • 3-outlet 15' power cord • Cabinet models can be ordered with ventilation and cabling passages for operation from inside the cabinet

#### MXL Series

- Standard shelf size is 25" x 41" • Special sizes may be ordered
- Standard height is 29" • Decorative wooden skirt to hide the casters is available as an option • Handles optional • Available as open table or as cabinet models

Model	Description	Oak	Walnut	Mahogany
			Cherry White Oak Pickled Oak	
MXL-29	29" H open table	\$312.00	\$368.00	\$401.00
MXL-40	40" H open table	347.00	410.00	447.00
MXL-29C	29" H With cabinet	419.00	497.00	542.00
MXL-40C	40" H With cabinet	451.00	534.00	583.00
MLS	Skirt	61.00	90.00	96.00
MSH	Handles	40.00	45.00	47.00

#### MVP Series — Adjustable Top

- Dual, split elevator mechanism gives precise control over the elevation of the front of the projector • Range is about 3" • Handles, opt.
- 25" x 32" shelf easily handles the largest projectors • Standard height is 28" • Available as an open table or as a cabinet model

Model	Description	Oak	Walnut	Mahogany
			Cherry White Oak Pickled Oak	
MVP-28	28" H open table	\$349.00	\$412.00	\$450.00
MVP-28C	28" H With cabinet	444.00	527.00	576.00
MSH	Handles	40.00	45.00	47.00



MAV-34C

MTV-56

## MAV-42/34C AV Tables

- Made by hand from solid hardwoods and selected hardwood veneers
- Available in standard heights from 26" -42" in both open and cabinet models • 18" x 24" shelf easily handles small video systems, 16mm, overhead and slide projectors • Additional shelves either above or inside the cabinet base to handle additional equipment may be ordered
- Cabinet models can be ordered with ventilation and cabling passages if you intend to operate equipment inside the cabinet • Brass plunge lock system • 3-outlet, 15' power cord • Heavy-duty 4" casters
- Monitor safety belt is optional

Model	Description	Oak	Walnut	Mahogany
			Cherry White Oak Pickled Oak	
MAV-26	26" H open table	\$274.00	\$321.00	\$350.00
MAV-34	34" H open table	326.00	384.00	419.00
MAV-42	42" H open table	333.00	393.00	429.00
MAV-26C	26" H With cabinet	363.00	428.00	468.00
MAV-34C	34" H With cabinet	439.00	519.00	568.00
MAV-42C	42" H With cabinet	444.00	527.00	576.00
MAV-S	Extra shelf	71.00	91.00	99.00
MSH	Handles	40.00	18.00	18.00

JSB-12 Safety belt  
12' x 1" nylon web belt with "J" hook ends, single-hand release buckle . . . . . \$18.00

HSB-12 Safety belt  
12' x 1" nylon web belt without hooks. Free end pulls through single-hand release buckle . . . . . \$16.00

## MPJ-28/MPT-34 Projection Tables

- Made by hand from solid hardwoods and selected veneers • Available in standard heights of 26" and 34" • These tables serve for both standing and sitting presentations • Choose between the traditional style and the popular "T" configuration • 17" x 23" equipment opening accommodates even the largest projectors and accessories
- Equipment support shelf is adjustable from 6" to 12" • 3-outlet, 15' power cord • Heavy-duty 4" casters

Model	Description	Oak	Walnut	Mahogany
			Cherry White Oak Pickled Oak	
MPJ-28	28" H open table	\$332.00	\$391.00	\$427.00
MPJ-34	34" H open table	339.00	400.00	437.00
MPJ-28C	28" H With cabinet	433.00	512.00	560.00
MPJ-34C	34" H With cabinet	441.00	522.00	570.00
MPT-28	28" H T configuration	325.00	383.00	417.00
MPT-34	34" H T configuration	330.00	390.00	425.00
MPT-28C	28" H T with cabinet	426.00	505.00	552.00
MPT-34C	34" H T with cabinet	432.00	511.00	556.00
MSH	Handles	40.00	45.00	47.00

# MATTHEWS STUDIO EQUIPMENT, INC.

2405 Empire Ave.  
Burbank, CA 91504  
(818) 843-6715 FAX: (213) 849-1525  
Telex: 69-1599 MATHEW BUBK

# STANDS

## Century Stands

Cat. No.	Description	Metric Weight	Weight	List
339573	*20" Double Riser, Folding Mini Century Stand	3.18 Kg	7 lb	\$145.00
339561	30" Double Riser, Folding Century Stand	4.08 Kg	9 lb	160.00
339562	30" Double Riser, "Sliding Leg" Folding Century Stand	4.08 Kg	9 lb	170.00
339564	40" Double Riser, Folding Century Stand (Standard)	5.44 Kg	12 lb	155.00
339565	40" Double Riser, "Sliding Leg" Folding Century Stand	4.99 Kg	11 lb	185.00
339568	60" Double Riser, Folding Century Stand	5.90 Kg	13 lb	180.00
339571	60" Double Riser, "Sliding Leg" Folding Century Stand	5.90 Kg	13 lb	195.00

\*Available with Standard leg size; please specify

## Century Stand Accessories

Cat. No.	Description	Metric Weight	Weight	List
349577	Grip Head w/Single Extension Arm	1.47kg	3 lb./4 oz.	\$ 54.00
349578	Grip Head w/Double Extension Arm	2.47kg	5 lb./7 oz.	83.50
349575	Grip Head only - 2-1/2" (Century Stand Type)	.48kg	1 lb./1 oz.	24.50
349576	Grip Head - 4-1/2" (Roller Stand Type) w/1-1/8" Male Pin and Receiver for 1-1/8" Pin	2.35kg	5 lb./3 oz.	90.00

## Light Stands

Cat. No.	Description	Metric Weight	Weight	List
386034	Preemie Baby	2.27 Kg	5 lb	\$ 139.00
386029	Beefy Baby Aluminum Stand	2.72 Kg	6 lb	143.00
386030	Beefy Baby (Double Riser-R.M.* Leg)	3.18 Kg	7 lb	167.00
386031	Beefy Baby (Triple Riser-R.M.* Leg)	3.63 Kg	8 lb	198.00
386025	Baby/Junior Stand (Double Riser) 5/8" Male Pin	6.35 Kg	14 lb	225.00
386020	Baby/Junior Stand (Triple Riser) 5/8" Male Pin	8.16 Kg	18 lb	285.00
386021	Low Boy Junior Stand	9.53 Kg	21 lb	295.00
386022	Junior Stand	10.89 Kg	24 lb	256.00
386033	Junior Stand (Triple Riser)	11.79 Kg	26 lb	325.00
386026	Low Boy Senior Stand	10.89 Kg	24 lb	306.00
386027	Senior Stand	11.79 Kg	26 lb	306.00
386028	Brace Stand	14.1 Kg	31 lb	399.00
387580	**Crank-O-Vator	30.8 Kg	68 lb	2290.00

\*R.M. — Rocky Mountain  
(articulated Leg for Leveling)

\*\*Parts specifications breakdowns  
for these products are available  
upon request

## Reflector and Light Stands

Cat. No.	Description	Metric Weight	Weight	List
386070	Lightweight Combo Reflector (Double Riser)	8.16 Kg	18 lb	\$235.00
389573	Combo-Reflector Lamp Stand (Double Riser)	10.43 Kg	23 lb	245.00
386066	Low Boy-Reflector Lamp Stand (Double Riser)	7.25 Kg	16 lb	236.00
386065	Sky High Combo-Reflector Lamp Stand (Triple Riser)	11.79 Kg	26 lb	285.00
389574	Aluminum Combo-Reflector Lamp Stand (Double Riser)	5.9 Kg	13 lb	305.00
386067	Aluminum Low Boy Combo-Reflector Lamp Stand (Double Riser)	3.86 Kg	8 lb/8 oz	275.00
386068	Combo Adaptor Wheels (3) (For 6065, 6066, 6067, 9573, 9574)	2.72 Kg	6 lb set	149.00
386032	Lightweight Adaptor Wheels (3) (for 6029, 6030, 6031, 6069, 6070)	2.04 Kg	4 lb/8 oz	127.00
429029	1-1/8" to 5/8" Stand Adaptor	.68 Kg	1 lb/8 oz	19.50

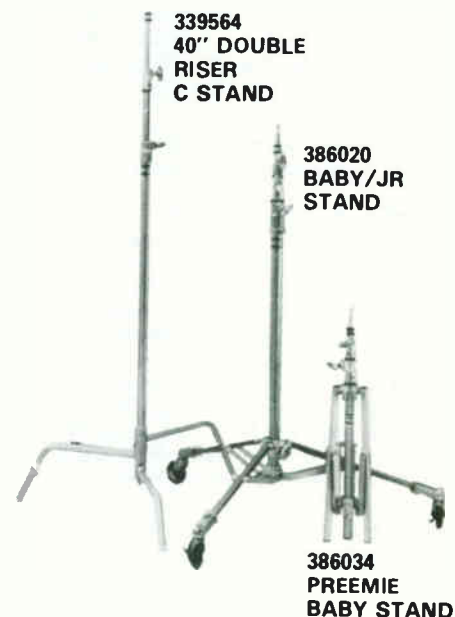
## Overhead Stands

Cat. No.	Description	Metric Weight	Weight	List
377573	Medium Roller Stand (14 ft.)	14.06 Kg	31 lb	\$365.00
377572	Medium Roller Stand (No Wheels)	11.34 Kg	25 lb	315.00
377574	Hi-Hi Roller Stand (18-1/2')	16.33 Kg	36 lb	385.00
377569	Hi-Hi Roller Stand (No Wheels)	13.61 Kg	30 lb	335.00
377575	Hi-Hi Roller Stand-Wide Base (No Wheels)	15.42 Kg	34 lb	365.00

All Matthews products are available  
in stainless steel on request

All roller heads are delivered standard  
with "L" Handle. Butterfly type  
handle is available on request at no  
extra charge

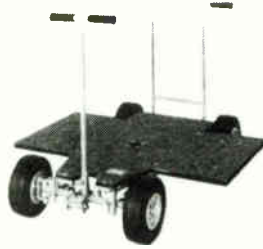
Matthews has been providing stands to the professional industry for well over a decade. The complete line includes over 35 professional stands serving every possible production requirement. All stands are constructed of durable lightweight alloys, providing both ease of handling as well as stability.



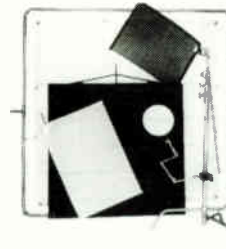
# MATTHEWS STUDIO EQUIPMENT, INC.

2405 Empire Ave.  
Burbank, CA 91504  
(818) 843-6715 FAX: (213) 849-1525  
Telex: 69-1599 MATTHEW BUBK

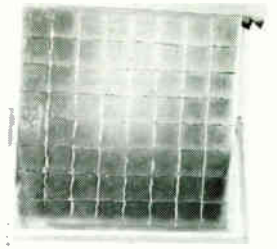
# DOLLIES/LIGHTING CONTROL



**DOORWAY DOLLY**



**LIGHTING CONTROL**



**42 x 42 REFLECTOR**

## Doorway Dolly

The Doorway Dolly was designed to be an inexpensive camera dolly narrow enough to fit through most standard doorways. Over the years, Doorway Dollies have been used not only for this purpose, but also as efficient equipment transporters for camera cases, lighting fixtures, cables, etc.

Pneumatic tires are standard, but the doorway can be fitted with track wheels for use on straight dolly tracks.

Steering is accomplished by use of a pull handle (like a wagon). A steering feature has been added which allows the operator to steer from on board the dolly. This is accomplished by inserting the pull handle through the push bar on dolly front.

A recent addition available for the push bar is an angled fitting to allow the bar to tilt down 34° for more clearance between the dolly and dolly operator.

## Tube Dolly

A specialized dolly originally designed to ride on sections of straight standard dolly track or tubing. The Tube Dolly was created to serve as a tracking platform for the older conventional type crab dollies (which were not capable of being adapted for track use). The crab dolly would be physically loaded onto the Tube Dolly. The rear carriage of the Tube Dolly is adjustable back and forth to compensate for differing wheel length of crab dollies.

Another application of the adjustable rear carriage is to serve as an outrigger platform for lighting or sound when camera is riding on the main platform.

## Star Track Dolly™

The latest addition to the Matthews family of dollies, the Star Track is a versatile, portable dolly that travels in a bag. Even with the compact, lightweight design, the Star Track is as sturdy as a rock.

The unit offers creative camera control in the most remote or restricted locations.

## Butterflies and Overheads

Butterflies and Overheads are portable, light-weight tubular frames that are designed to support any lighting control textile material, such as "silk" (diffusion), "net" (reduction), "solid" black (cutting), or "griffolyn" (reflective). The perimeters of all textile materials are color coded for easy identification (white/single scrim; red/double scrim; gold/silk/black/solid, etc.) The frames are designed to break down into easily assembled components for transportation and storage.

## Reflectors

A Reflector is designed to redirect natural or artificial light. The two faces (sides) offer a choice of intensities. The "hard" side can be compared to the spot position of a studio lighting fixture. The "lead" or "soft" side yields a more diffused pattern of light. Similar to that of a fill light.

### Butterflies

Cat. No.	Description	Metric Weight	Weight	List
309080	6' x 6' Butterfly Set (Breakdown)	8kg	17 lb/10 oz	<b>\$495.00</b>
309079	Frame (Breakdown)	5.10kg	11 lb/4 oz	<b>149.00</b>
309081	Single Scrim	.40kg	14 oz	<b>82.00</b>
309082	Double Scrim	.51kg	1 lb/2 oz	<b>102.00</b>
309083	Solid Black	1.02kg	2 lb/4 oz	<b>98.00</b>
309084	Artificial Silk (White)	.40kg	14 oz	<b>88.00</b>
309086	Storage Bag	.57kg	1 lb/4 oz	<b>49.00</b>
309605	China Silk (Not Included in Set/Optional)	.40kg	14 oz	<b>107.00</b>

### Overheads

Cat. No.	Description	Metric Weight	Weight	List
	20' x 20' Overhead (Breakdown), (Can be used without end rails to hold 20' x 30' nets and silks)			
319600	Deluxe Frame (Breakdown) — 2 support stands required	61.7kg	136 lb	<b>\$ 1350.00</b>
319604	Frame (breakdown) — 4 support stands required (Includes 4 Tubing Hangers)	22.2kg	49 lb	<b>895.00</b>
319602	Custom Fit Nylon Bag (for #9600 Frame)	6.8kg	15 lb	<b>235.00</b>
429615	Tubing Hanger for 4 1/2" Grip Head (Can Accommodate 1" to 2" O.D. Tubing)	.31kg	11 oz	<b>51.00</b>
319588	Single Scrim	2.16kg	4 lb/12 oz	<b>425.00</b>
319599	Double Scrim	3.43kg	7 lb/9 oz	<b>749.00</b>
319524	Solid	15.2kg	33 lb/8 oz	<b>420.00</b>
319544	Artificial Silk (White)	6.12kg	13 lb/8 oz	<b>440.00</b>
319018	Storage Bag	1.02kg	2 lb/4 oz	<b>89.00</b>
319644	China silk (Not Included in Set/Optional)	6.12kg	13 lb/8 oz	<b>590.00</b>

### Dollies & Dolly Track

Cat. No.	Description	Metric Weight	Weight	List
395000	Doorway Dolly, Complete w/Push Bar, Pull Handles Side Boards	42.64kg	94 lb	<b>\$1570.00</b>
395005	Doorway Dolly Push Bar Adaptors/Tilt 34° Angle (Set of 2)	1.02kg	2 lb/4 oz	<b>37.00</b>
395006	Doorway Dolly Flotation Wheel Adaptors (Set of 2)	6.80kg	15 lb	<b>205.00</b>
395001	Track Wheels for Doorway Dolly (Runs on Straight Track Only)	11.11kg	24 lb/8 oz	<b>730.00</b>
395047	Western Dolly, Complete w/Push Bar and Pull Handle (w/Pop Off Wheels)	97.53kg	215 lb	<b>2195.00</b>
395045	Pop Off Wheel Conversion Kit	6.80kg	15 lb	<b>875.00</b>
395048	Dolly Turret Bracket	6.92kg	15 lb/4 oz	<b>295.00</b>
395050	Western Dolly (Complete w/Push Bar and Pull Handle)	95.26kg	210 lb	<b>1865.00</b>
395051	Western Dolly Push Bar Adaptor/Tilt 34° Angle (Set of 2)	1.02kg	2 lb/4 oz	<b>72.00</b>
397064	Starter Track (For Straight or Curved Track)	3.17kg	7 lb	<b>124.00</b>
397050	Curved Track 8' Section	11.34kg	25 lb	<b>368.00</b>
397055	Straight Track 8' Section (Racking)	14.46kg	31 lb/14 oz	<b>295.00</b>
680CL1	Over Center Latch	.23kg	8 oz	<b>22.50</b>
397056	Flotation Wheels w/Adaptor Plates & Case (Complete)	39.86kg	87 lb/14 oz	<b>3795.00</b>

### Reflectors

Cat. No.	Description	Metric Weight	Weight	List
119069	24" x 24" Aluminum Hand Reflector w/Adjustable Yoke — 5/8" Socket	2.78kg	6 lb/2 oz	<b>\$125.00</b>
119056	Single Reflector Scrim	.11kg	4 oz	<b>35.00</b>
119057	Double Reflector Scrim	.11kg	4 oz	<b>39.00</b>
119054	2-Place Reflector Box	9.64kg	21 lb/4 oz	<b>155.00</b>
119055	4-Place Reflector Box	11.62kg	25 lb/10 oz	<b>185.00</b>
386029	Beefy Baby Stand (Aluminum)	3.01kg	6 lb/10 oz	<b>154.00</b>



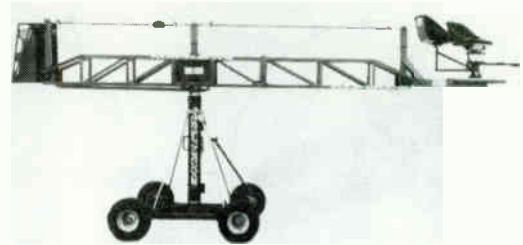
# MATTHEWS STUDIO EQUIPMENT, INC.

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# CRANES

## Tulip Crane™

The Academy Award winning Tulip Crane is a portable, professional camera crane system ideally suited for film and video commercial and feature applications. At home on rough terrain, studio floor, or standard dolly track, the Tulip Crane with its full range of accessories offers economy and portability without sacrificing creative versatility. The Tulip Crane folds to 8' for easy transport. The unit allows for fast set-up and strike time, offering a maximum height of 16.5' with a negative drop of minus 3'. The Crane was computer designed and is constructed of lightweight aerospace alloys. When totally assembled, the system weighs approximately 600 pounds. The Tulip Crane is certified to be mechanically safe.



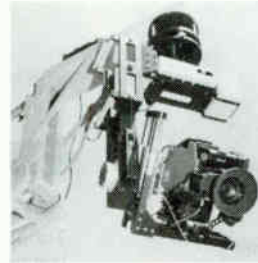
## Tulip Crane™ and Accessories

Cat. No.	Description	Metric Weight	Weight	List
725051	Tulip Crane™ Arm — Complete With: 2 - #5058 Seats, 2 - #5059 Seat Brackets, 2 - #5060 Seat Offset Arms, 1 - Seat Turret Assembly, 1 - Main Bearing Arm Adapter, 2 - Horizontal Stabilizing Bars, 1 - Fine Tune Adjustment Weight, and Hardware.	188,70 Kg	416 lb	\$29,600.00
725054	Pedestal - Complete With: Vertical Post, Leveling Struts, 2 - Level Gauges, 1 - set (4) #5057 Feet, and Hardware.	84,37 Kg	186 lb	7,400.00
725056	Push/Pull Bar (2 Recommended)	6,35 Kg	14 lb	79.00
725055	Pneumatic Conversion Kit 2 Fixed Axle; 2 with Self-Contained Steering Mechanism. Used for Exterior Transportation.	59,88 Kg	132 lb	1,790.00

## Cam-Remote™

The Cam-Remote is a sophisticated electronic pan and tilt head, designed by Ernst "Bob" Nettmann (two-time Academy Award winner/Technical & Scientific Category), in conjunction with Matthews' engineers. This system allows a camera to be completely operated without any artistic compromise from any distance as required.

The unit facilitates shooting from a limitless array of unusual, precarious, or tightly confined camera positions. In addition, the Cam-Remote brings a new element of safety to action and special effects photography, since it now allows cameramen and crews to capture dangerous shots or angles from a safe distance.



## Cam Remote™

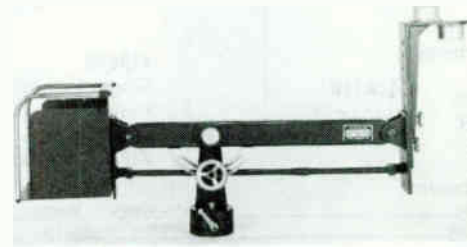
Cat. No.	Description	Metric Weight	Weight	List
759852	Pan/Tilt Head	22,68 Kg	50 lb	POR
759853	Control Desk	5,44 Kg	12 lb	POR
759854	Power Supply	4,54 Kg	10 lb	POR

## Mini-Jib Arm™

A portable, versatile offset jib arm that is compatible with all dollies, the Mini-Jib may also be mounted on to its own heavy duty tripod. The Mini-Jib is capable of rotating 360 degrees with a minimum diameter of 2 feet and a maximum diameter of 7½ feet.

The mounting configuration of the Mini-Jib is compatible with Elemack and may be adapted for use with Mitchell.

Additional arm length may be achieved with the use of one or more extension arms. The camera mounting elbow on the end of the arm may be attached at various heights, upright or inverted, to provide a multitude of camera positions.



## Mini-Jib Arm™ & Accessories

Cat. No.	Description	Metric Weight	Weight	List
515002	Mini-Jib Arm	46,26 Kg	102 lb	\$4,995.00
515021	Extension Arm (Elemack to Elemack unless otherwise specified)	6,8 Kg	15 lb	295.00
515022	Counter Balance Weight (Approximately 12 lb)	5,44 Kg	12 lb	51.50
515023	Counter Balance Weight (Empty)	91 Kg	2 lb	26.50
515024	Elemack (Arm) To Mitchell Adapter (For Additional Adapters, Please Specify O'Connor, Miller, Ronford, etc.)	5,22 Kg	11 lb/8 oz	250.00
515025	Mitchell To Elemack (Arm) Adapter	2,95 Kg	6 lb/8 oz	225.00
515003	Heavy Duty Tripod	10,89 Kg	24 lb	1,885.00
515004	Tripod Dolly	18,60 Kg	41 lb	1,530.00

Prices and Specifications Subject to Change Without Notice.

V-789

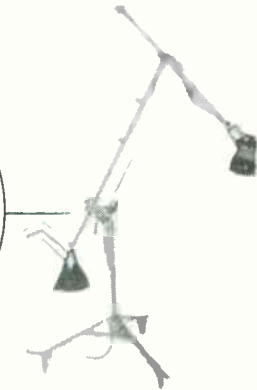
# MATTHEWS STUDIO EQUIPMENT, INC.

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# MOUNTING EQUIPMENT



**429698**  
C-Boom Clamp



**429050**  
Bazoooka



**429049**  
Junior/Senior Wall Sled



**429048**  
Baby Wall Sled



**429017**  
2 x 6 Wall Spreader



**429016**  
2 x 4 Wall Spreader



**429615**  
Tube Hanger



**429688**  
45° Angle  
Drop Down



**429614**  
Matth Gag

**429677**  
Double Extension  
Hanger  
shown with  
**429679** 5/8"  
male pin

**426019**  
Junior 36"  
Stand Extension

**429676**  
Single Extension  
Hanger  
shown with  
**429612** Stirrup

## Mounting Equipment

Cat. No.	Description	Metric Weight	Weight	List
429041	3" Baby Plate	.48kg	1 lb/1 oz	\$12.00
429085	6" Baby Plate	.62kg	1 lb/6 oz	13.00
429065	12" Baby Plate	.85kg	1 lb/14 oz	14.00
429590	Right Angle Baby Plate	.85kg	1 lb/14 oz	15.00
429582	Junior Wall Plate	1.64kg	3 lb/10 oz	26.00
429583	Set Wall Bracket	.79kg	1 lb/12 oz	26.00
429678	5/8" Drop Ceiling Scissor Clamp	.17kg	6 oz	9.00
429733	1/2" Drop Ceiling Scissor Clamp	.17kg	6 oz	9.00
429689	Drop Ceiling Cable Holder (For #9678)	.11kg	4 oz	5.00
429589	6" Furniture Clamp w/5/8" Pin	.68kg	1 lb/8 oz	28.00
429584	12" Furniture Clamp w/5/8" Pin	.82kg	1 lb/13 oz	29.00
429592	18" Furniture Clamp w/5/8" Pin	1.13kg	2 lb/8 oz	31.00
429593	24" Furniture Clamp w/5/8" Pin	1.28kg	2 lb/13 oz	33.00
429605	36" Furniture Clamp w/5/8" Pin	1.45kg	3 lb/3 oz	37.00
429595	Bar Clamp Adaptor w/5/8" Pin	.23kg	8 oz	15.00
429587	Gaffer Grip w/Two 5/8" Double Pins and Adjustable Jaws	.57kg	1 lb/4 oz	29.00

Cat. No.	Description	Metric Weight	Weight	List
429594	4" C-Clamp w/5/8" Pins	1.24kg	2 lb/12 oz	\$33.00
429694	4" C-Clamp	1.22kg	2 lb/11 oz	24.50
429596	6" C-Clamp w/5/8" Pins	1.70kg	3 lb/12 oz	38.00
429695	6" C-Clamp	1.67kg	3 lb/11 oz	27.50
429598	8" C-Clamp w/5/8" Pins	2.44kg	5 lb/6 oz	54.50
429696	8" C-Clamp	2.41kg	5 lb/5 oz	32.50
429229	10" C-Clamp	2.44kg	5 lb/6 oz	55.00
429690	C-Clamp w/Horizontal 1 1/8" Receiver (8" Clamp)	1.75kg	3 lb/14 oz	53.00
429697	C-Clamp w/Vertical 1 1/8" Receiver (8" Clamp)	1.75kg	3 lb/14 oz	53.00
429029	Stand Adaptor 1 1/8" to 5/8"	.68kg	1 lb/8 oz	19.50
427002	Single Suction Cup w/5/8" Pin	.68kg	1 lb/8 oz	75.00
427001	Double Suction Cup w/5/8" Pin	1.30kg	2 lb/14 oz	95.00
427000	6" Pump Cup w/5/8" Pin	.57kg	1 lb/4 oz	65.50
429581	Baby Double Header	1.75kg	2 lb/11 oz	37.00
429580	Baby Triple Header	1.47kg	3 lb/4 oz	46.00
429617	Junior Triple Header	3.85kg	8 lb/8 oz	79.00
429586	Baby Side Arm	.82kg	1 lb/13 oz	54.00
429585	Junior Side Arm	.91kg	2 lb	43.00
429751	Heavy-Duty Junior Side Arm	.82kg	1 lb/13 oz	46.00
429752	Heavy-Duty Baby Side Arm	.91kg	2 lb	49.00
429100	Baby Offset Arm	.74kg	1 lb/10 oz	26.00
429126	Baby Extendable Offset Arm	.62kg	1 lb/6 oz	45.00
429045	Junior Offset Arm	1.81kg	4 lb	37.00
429127	Junior Extendable Offset Arm	1.65kg	3 lb/10 oz	58.00
429046	Baby Trombone	4.39kg	9 lb/11 oz	95.00
429047	Junior Trombone	4.42kg	9 lb/12 oz	99.00
429624	Crowder Hanger—for 2 x 4 or 2 x 6 (Receives 1 1/8" — No Nailing Required)	.82kg	1 lb/13 oz	33.00
429492	TVMP Adaptor Stud	.23kg	8 oz	15.00
429625	Adaptor (5/8" For Crowder Hanger)	.74kg	1 lb/1 oz	19.00
429621	5/8" Receiving Mounting Plate	.28kg	10 oz	16.00
429622	Studio Overhead Grip Arm	2.8kg	6 lb/3 oz	97.00
429591	Trapeze	1.64kg	3 lb/1 oz	59.00
429050	Bazoooka	3.80kg	8 lb/6 oz	97.00
429048	Baby Wall Sled	1.98kg	4 lb/6 oz	64.00
429049	Junior/Senior Wall Sled	3.06kg	6 lb/12 oz	74.00
429016	2' x 4' Wall Spreader	3.17kg	7 lb	59.00
429017	2' x 6' Wall Spreader	4.08kg	9 lb	64.00
429231	2' x 4' Tube Stretcher (Works in conjunction with 2' x 4' or 2' x 6' Wall Spreader) (Set of 2)	2.29kg	5 lb	57.00
429688	45° Angle Drop Down (For Reflectors or Lighting Fixtures w/1 1/8" Stud)	.74kg	1 lb/10 oz	29.00
426015	Baby 6" Stand Extension	.40kg	14 oz	21.00
426016	Baby 12" Stand Extension	.51kg	1 lb/2 oz	23.00
426017	Baby 18" Stand Extension	.62kg	1 lb/6 oz	26.00
426018	Baby 24" Stand Extension	.74kg	1 lb/10 oz	28.00
426019	Junior 36" Stand Extension	2.10kg	4 lb/10 oz	53.00
429597	Baby Matth Pipe Adaptor (w/5/8" Pin)	.81kg	13 oz	19.50
429613	Matth Becky Adjustable Hanger	1.76kg	3 lb/14 oz	89.50
429614	Matth Gag	.51kg	1 lb/2 oz	28.50
429642	Double Matth Gag	1.02kg	2 lb/4 oz	38.00
429615	Tubing Hanger for 4 1/2" Grip Head (Can accommodate 1" or 2" O.D. Tubing)	.31kg	11 oz	51.00
429618	Baby Pipe Clamp	.82kg	1 lb/13 oz	29.50
429619	Junior Pipe Clamp	.96kg	2 lb/2 oz	57.50
429676	Single Extension Hanger (3') (Terminates w/1 1/2" Female Thread) (\$3.30 Per Foot for Additional Footage)	3kg	6 lb/1 oz	95.00
429677	Double Extension Telescoping Hanger (3' to 6') (Terminates w/1 1/2"-13 Female Thread) (\$6.60 Per Ft. for Additional Footage)	4.14kg	9 lb/2 oz	139.00
429612	Stirrup (For #9676 & #9677)	.45kg	1 lb	16.50
429679	5/8" Male Pin (For #9676 & #9677)	.14kg	5 oz	12.50
429680	1 1/8" Junior Receiver (For #9676 & #9677)	.20kg	7 oz	34.00
429681	Deck Pole	1.05kg	2 lb/5 oz	44.00
429682	Meat Ax (Specify Wood or Pipe Handrail)	4.54kg	10 lb	160.00
427080	* Matth Pole (For Vertical or Horizontal Use) (Adjustable from 96" — 178")	2.25kg	4 lb/12 oz	71.00
427083	* Mini Matth Pole (For Vertical or Horizontal Use) (Adjustable from 52" — 96")	1.30kg	2 lb/14 oz	45.00
427801	Baby Matth Boom	5.90kg	12 lb/1 oz	250.00
429648	Bailin Bracket	1.36kg	3 lb	28.00
429649	Small Tree Branch Holder	.17kg	6 oz	17.50
429650	Large Tree Branch Holder	.62kg	1 lb/4 oz	24.50
429233	Matth "T" Bar (4' Length)	6.80kg	15 lb	59.00
429490	Grip-A-Light w/1 1/4" Clamp	.34kg	12 oz	11.50
429491	Grip-A-Light w/1 1/2" Clamp	.34kg	12 oz	13.50
429496	Grip-A-Light w/5/8" Male Pin	.34kg	12 oz	12.50
429497	Grip-A-Light w/3/8" Male Pin	.34kg	12 oz	12.50
429698	C Boom Clamp	2.27kg	5 lb	116.00

\* Designed w/Double Cam Action to securely lock the tubes from rotating while in use.

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# MOUNTING EQUIPMENT/ ACCESSORIES

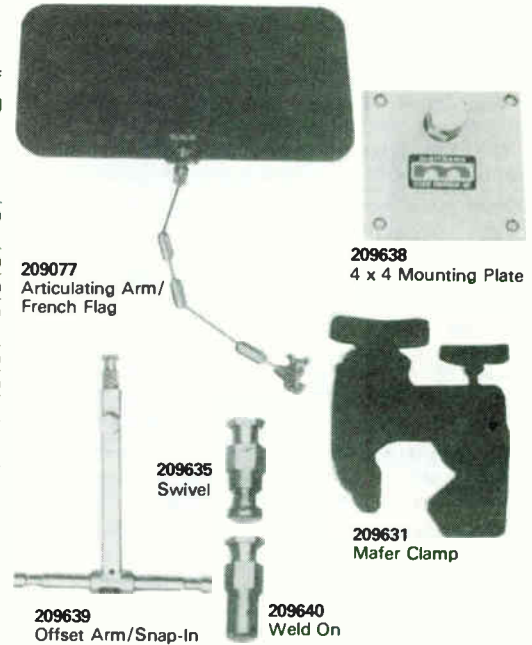
## French Flag

The French flag is a small metal, opaque flag (used to shade the camera lens) mounted on the end of an articulating arm. The joints are spring-tensioned ball, and the arm terminates in a screw locking "U" clamp (3/4" inner diameter)

## Articulating Arm (Flex-Arm)/French Flag

Cat. No.	Description	Metric Weight	Weight	List
209077	Articulating Arm/French Flag Camera Lens Shade (Spring Ball Joint)	4.82kg	1 lb/1 oz	\$63.50
209167	French Flag Only	.28kg	10 oz	13.50
209771	Articulating Arm (Flex-Arm) Spring Clamp	.62kg	1 lb/6 oz	85.00
209631	Mafer Clamp/Snap-in (Clamps to diameters from 1/2" to 1 7/8") (Clamps to flat surfaces from 0" to 2")	.43kg	15 oz	31.00
209632	5/8" Diameter Male Pin/Snap-in (For #9631)	.14kg	5 oz	4.00
209633	3/8" Diameter Male Pin/Snap-in (For #9631)	.05kg	2 oz.	4.00
209637	1/2" Pin/Snap-in (For #9631)	.11kg	4 oz	4.00
209634	* Articulating Arm/Snap-in Set	4.68kg	10 lb/5 oz	231.00
209635	Swivel/Snap-in (for #9631) (Joins Two Mafer Clamps Together)	.06kg	2 oz	4.00
209636	2 1/2" Grip Head/Snap-in (For #9631)	.60kg	1 lb/5 oz	35.00
209638	4" x 4" Mounting Plate/Snap-in (For #9631)	.23kg	8 oz	17.50
209639	Offset Arm/Snap-in (For #9631)	.57kg	1 lb/4 oz	29.50
209640	Weld On/Snap-in (For #9631)	.06kg	2 oz	4.50
349557	Mini-Extension Arm/Snap-in (For #9636)	.77kg	1 lb/11 oz	28.50

\*Set represents one Mafer Clamp and one each of all Snap-in accessories. Set list price reflects a savings of 5%



## Sandbags

Sandbags are employed on a set to provide additional ballast to objects, tall stands, or large surfaced units subject to wind (e.g., reflectors, butterflies, silks, etc.) Sandbags are also used as counter-balance weights for "boom arm" type configurations.

Weight descriptions (15 lbs., 25 lbs., 35 lbs., and 50 lbs.) refer to their capacity when filled. "Empty" refers to Sandbag shells that are sewn completely except for one inch in the seams, to accommodate filling the shells with sand. The seams are then to be sewn closed by the purchaser. This allows a savings in one-time shipping charges.

## Sandbags

Cat. No.	Description	Metric Weight	Weight	List
299550	15 lb	6.80kg	15 lb	\$23.50
29955E	15 lb (Empty)	.11kg	4 oz	16.00
299552	25 lb	9.50kg	25 lb	31.50
29952E	25 lb (Empty)	.15kg	6 oz	23.50
299556	35 lb	15.88kg	35 lb	33.50
29956E	35 lb (Empty)	.23kg	8 oz	26.50
299551	50 lb	22.7kg	50 lb	45.50
299168	50 lb (Empty)	.34kg	12 oz	35.50
299555	15 lb Fly-A-Way (Velcro)	.11kg	4 oz	31.00
299607	Matth Gag (Double Zipper)	.20kg	7 oz	30.00



## Century Stand Accessories

### Grip/Gobo Heads

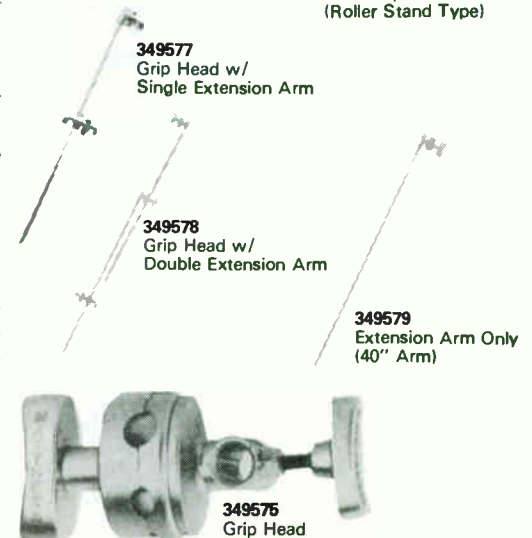
The term "Grip Head" refers to a head which seats onto or into a stand. "Gobo Head", on the other hand, is the mounting head on the end of an extension arm.

There are two sizes of Grip Heads available: the 2 1/2" or the 4 1/2". The 2 1/2" Grip Heads mount onto a standard 5/8" pin, similar to that found on Century Stand and "Baby" stands and other related mounting hardware.

The 4 1/2" Grip Head is intended for use with "Junior" (1 1/8" receiver) and other heavy-duty stands.

## Century Stand Accessories

Cat. No.	Description	Metric Weight	Weight	List
349577	Grip Head w/Single Extension Arm	1.47kg	3 lb/4 oz	\$54.00
349578	Grip Head w/Double Extension Arm	2.47kg	5 lb/7 oz	83.50
349575	Grip Head only 2 1/2" (Century Stand Type)	.48kg	1 lb/ 1 oz	24.50
349576	Grip Head 4 1/2" (Roller Stand Type) w/1 1/8" Male Pin and Receiver for 1 1/8" Pin	2.35kg	5 lb/3 oz	90.00
429614	Matth Gag	.51kg	1 lb/2 oz	28.50
349579	Extension Arm Only (40" Arm)	.99kg	2 lb/3 oz	34.00
349557	Mini Extension Arm (20" Arm)	.54kg	1 lb/3 oz	28.50



Prices and Specifications Subject to Change Without Notice.



# MATTHEY

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TELEVISION EQUIPMENT ASSOCIATES, INC.

Box 393  
S. Salem, NY 10590  
(914) 763-8893 TWX: 710-575-2600

## Video Delay Boxes (Variable), DV Series

• Impedance: 75 ohms • Frequency Response:  $\pm 0.05$ dB Ripple up to 5.5MHz (0.1dB p-p) • Return Loss: 27dB • Temperature Range: 0-70°C • Max. Input Voltage: 2VDC • Performance of box and 19" rack units is a function of the delay line combinations used

Small metal boxes with BNC connectors provide infinitely variable video delay either with switches (type 180 or 360) or taps (type 097) over a range of 10-665ns. A  $\pm 1$ ns trim achieves precise timing at installation and will compensate for temperature and aging variations during subsequent maintenance. For longer delay requirements, these variable boxes may be cascaded with lump delay boxes (type DV 0100-1000) for a maximum delay of 2500ns. The prefix DV identifies boxes which can be used as "stand-alone" units or can be mounted on a 19" rack panel (Type 5) which accommodates 15 separate boxes. The prefix DN refers to similar boxes which are not rackmountable.

Adjustment of time delay in TV signal routes is important in all countries of the world. 75 ohm delay units are suitable for use in all TV systems including NTSC, PAL, SECAM, and all variations.

The Smaller Video Delay Units are designed to make the fullest use of the miniature DIP video delay line modules, and retain feature important to TV engineers.

### Passive Delay Boxes

Rackmounted—V Series or Stand Alone N Series

Boxes with Switches and  $\pm$  Vernier

Delay Range-ns	Part Number	Price
3-9	UN 3/9	\$ 78.00
10-165	VU 180	205.00
	DV or DN 180	219.00
10-330	DN, DV or VU 360	394.00

Boxes with Taps and  $\pm$  Vernier

Delay Range-ns	Part Number DV	Price
15-165	097/A	\$305.00
65-215	097/B	366.00
115-265	097/C	407.00
215-365	097/D	483.00
315-465	097/E	534.00
415-565	097/F	560.00
515-665	097/G	561.00

### Rackmounted PC Card Delay (Infinitely Variable)

Video Delay Range 10-1830ns.

**Rack Frame Type 175:** Height 1<sup>3</sup>/<sub>4</sub>"; accommodates 10 PC cards (2 delay lines on each card); total 20 delays; BNCs on back of PC card; lucite front cover; cards mount horizontally . . . . . \$420.00

**Rack Frame Type 350:** Height 3<sup>1</sup>/<sub>2</sub>"; accommodates 16 PC cards (2 delay lines on each card); total 32 delays; BNCs on back of PC card; lucite front cover; cards mount vertically . . . . . \$301.00

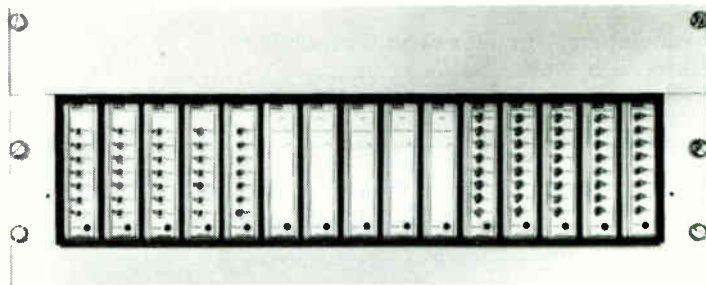
### PC Card Delay Lines for 175 and 350 Series

(Not Interchangeable)

#### Prices for Video Delay Channels

Video Delay Range	Part Number	Suffix "N" (taps)	Suffix "S" (switches)
	Prefix 175 or 350		
10-170ns	A	\$257.00	\$276.00
10-330ns	B	359.00	378.00
170-490ns	C	489.00	509.00
210-530ns	D	506.00	526.00
310-630ns	E	549.00	569.00
410-730ns	F	571.00	541.00
510-830ns	G	585.00	605.00
610-930ns	H	689.00	709.00
710-1030ns	J	710.00	730.00
810-1130ns	K	754.00	774.00
910-1230ns	L	776.00	796.00
1010-1330ns	M	791.00	810.00
1110-1430ns	N	895.00	914.00

# VIDEO DELAY BOXES/LINES



1210-1530ns	P	\$916.00	\$ 935.00
1310-1630ns	R	958.00	978.00
1410-1730ns	S	982.00	1001.00
1510-1830ns	T	995.00	1015.00

### Zero Loss Delay Video Delay Line

• 1 Input 1 Output • 1V p-p 'in' — 1V p-p 'out' • 75 ohm active • Delay selection 10-1830ns • Delay trim at front 5ns (8° Ø PAL) 6.4 Ø NTSC

The Zero Loss Delay unit is designed to delay a composite color TV signal without significant distortion. The printed circuit card selected will determine the delay time available. If additional delay is subsequently required, the user may add more Matthey DIP delay modules in spaces provided.

Gold plated switches or "handbags" ensure a long lifetime of very low noise operation.

The Zero Loss Delay unit can be fitted into any rack frame equipped with  $\pm 15$ V nominal DC power supply and an Amp-Blade 23-pin socket (such as the 3400 Series made by Grass Valley Group Inc.)

Features accessible without removing the PC card:

1. 5ns adjustment via 2 x 2ns switches and  $\pm 1$ ns fine trim screwdriver adjust.
2. Optional gain variation by screwdriver adjust  $\pm 0.7$ dB. (Note: gain is automatically compensated for each delay step switched).
3. Optional DC offset by screwdriver adjustment over the range  $\pm 750$ mV.

Items 2 and 3 are normally not necessary but can be fitted if stated on the order.

Part Numbers	Delay Times	Price
ZL 170	10-170	\$ 598.00
ZL 330	10-330	710.00
ZL 490	170-490	753.00
ZL 530	210-530	788.00
ZL 630	310-630	866.00
ZL 730	410-730	882.00
ZL 830	510-830	959.00
ZL 930	610-930	1070.00
ZL 1030	710-1030	1117.00
ZL 1130	810-1130	1160.00
ZL 1230	910-1230	1202.00
ZL 1330	1010-1330	1244.00
ZL 1430	1110-1430	1287.00
ZL 1530	1210-1530	1329.00
ZL 1630	1310-1630	1372.00
ZL 1730	1410-1730	1414.00
ZL 1830	1510-1830	1462.00

# MAXELL CORP. OF AMERICA

60 Oxford Dr.  
Moonachie, NJ 07074  
(201) 641-8600 FAX:(201) 641-9407

# PROFESSIONAL VIDEOCASSETTES/TAPE

## Broadcast Quality 1" Tape

- Most consistent RF output • Choice of Pros • Highest chroma S/N
- Incredibly low dropout rate • After 1000 passes retains 100% of original signal • Withstands three hours of still life without scoring or clogging • S version features shipper version

Product	Length	Per Carton	Price
CV-30	30 min.	5	\$ 73.60
CV-60	60 min.	5	95.50
CV-90	90 min.	5	125.50
CV-30S	30 min.	5	79.60
CV-60S	60 min.	5	101.50
CV-90S	90 min.	5	131.50



1" Tape

## Broadcast Quality U-Matic Epitaxial Videocassettes

- Exclusive epitaxial formulation • Outstanding picture clarity and consistent performance • Super-premium tape uses more sensitive oxide back coating that resists outside contaminants and prevents static bleed-off • Better tracking under adverse conditions such as heat, rain, cold and dust • Ideal for ENG applications

### KCA 3/4" Broadcast Quality Videocassettes

Product	Length	Per Carton	Price
KCA-5BQ	5 min.	20	\$23.90
KCA-10BQ	10 min.	20	25.90
KCA-20BQ	20 min.	20	27.43
KCA-30BQ	30 min.	20	29.51
KCA-60BQ	60 min.	20	47.95



KCA-30HG

### KCS 3/4" Mini Videocassettes "S" Series Broadcast Quality

Product	Length	Per Carton	Price
KCS-10BQ	10 min.	20	\$22.54
KCS-20BQ	20 min.	20	27.01



KCS-10BQ



L-500BQ

## U-Matic High Grade Videocassettes

- Exceeds industry standards • Unsurpassed chroma response • Maximum resolution and greater picture • Compatible U-Matics with any U-Matic system using 3/4" VTRs including cassette duplicating equipment

### KCA-HG 3/4" Videocassettes

Product	Length	Per Carton	Price
KCA-5HG	5 min.	20	\$23.00
KCA-10HG	10 min.	20	25.00
KCA-20HG	20 min.	20	26.50
KCA-30HG	30 min.	20	28.50
KCA-60HG	60 min.	20	41.50

## Broadcast Quality VHS and Beta Videocassettes

- High video output, chroma output, chroma S/N and video S/N
- Audio is as perfect as video • Ideally suited for use with Betacam and Recam

### Broadcast Quality VHS

Product	Length	Per Carton	Price
T-30BQ	30 min.	20	\$16.99
T-60BQ	60 min.	20	17.99
T-120BQ	120 min.	20	20.36

### Broadcast Quality Beta

L-500BQ	60 min.	20	\$17.99
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## Professional Industrial Plus VHS and Beta Epitaxial Videocassettes

- Accurately duplicates live images of every kind • Take into account even slight variations in individual color perception • Accurate color reproduction assured

### VHS Videocassettes

Product	Length	Per Carton	Price
T-30 PLUS	30 min.	10/50	\$7.99
T-60 PLUS	60 min.	10/50	8.99
T-90 PLUS	90 min.	10/50	9.25
T-120 PLUS	120 min.	10/50	9.99

### Beta Videocassettes

L-250 PLUS	30 min.	10/50	\$7.99
L-500 PLUS	60 min.	10/50	8.99
L-750 PLUS	90 min.	10/50	9.99

# MAXELL CORP. OF AMERICA

60 Oxford Dr.  
Moonachie, NJ 07074  
(201) 641-8600 FAX:(201) 641-9407

## EX VHS/Beta Consumer Videocassettes

- Universal videocassette meeting wide variety of performance needs
- Epitaxial magnetic formula
- Base film is 10% stronger than ordinary video tapes

### EX VHS Videocassettes

EX T-60	\$ 8.99
EX T-120	9.99
EX T-160	14.99

### Multipacks

EX T-120 2PK	\$19.99
EX T-120 3PK	29.99
EX T-120 4PK	39.99
EX T-120 10PK	99.99

### EX Beta Videocassettes

EX L-750	\$9.99
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## HGX Gold VHS/Beta Consumer Videocassettes

- High grade
- Extremely dense oxide particles in the Epitaxial magnetic formula
- Highly durable cassette shell
- Protected with plastic slip case

### HGX Gold VHS Videocassettes

HGX Gold T-60	\$11.99
HGX Gold T-120	12.99
HGX Gold T-160	17.99

### Multipacks

HGX Gold T-120 2PK	\$ 25.99
HGX Gold T-120 3PK	38.99
HGX Gold T-120 4PK	51.99
HGX Gold T-120 10PK	129.99

### HGX Gold Beta Videocassettes

HGX Gold L-750	\$12.99
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## XL HiFi VHS/Beta Consumer Videocassettes

- For use with HiFi Stereo video recorders
- Finest range of audio and video specifications
- Crystal-clear sound reproduction
- Oxide layer-made up of extremely small and uniform particles, and the SR smooth running back coating are bonded to the base by a method that actually joins the two layers molecularly

### XL HiFi VHS Videocassettes

XL HiFi T-120	\$16.99
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### Multipacks

XL HiFi T-120 2PK	\$33.99
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### XL HiFi Beta Videocassettes

XL HiFi L-750	\$16.99
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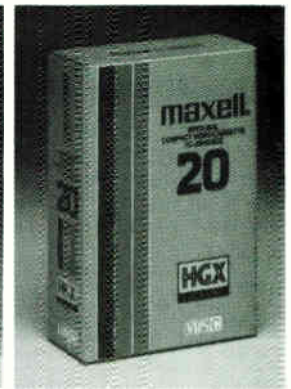
## RX Pro VHS/Beta Videocassettes

- Originally developed as the ultra-low noise, high resolution videocassette for professionals concerned with camera, digital audio recording, mastering and editing,

# CONSUMER VIDEOCASSETTES



RX Pro



TC-20



MP 8mm

- RX Pro is available for general consumer use
- It employs a five-layer tape structure, headed by super-fine high resolution Epitaxial particles
- RX Pro is made with Maxell's HDC, High Density Cross Linking Binder System

RX Pro T-120 VHS	\$19.99
RX Pro L-500 Beta	19.99

## MP Metal Particle 8mm Videocassettes

- Coated with an exclusive anti-oxidant known as Magnetite
- Coating prevents the oxidation which ordinary metal particle tapes are subject to
- Maintains outstanding dependability
- Bonded to the base film by HED process, these 8mm videocassettes are more durable

MP6-15	\$ 9.99
MP6-30	11.99
MP6-60	14.99
MP6-90	16.99
MP6-120	19.99

## VHS C TC-20 Compact Videocassette

- Designed for use with VHS-C recording systems
- Crafted to exacting tolerances for unfailing compatibility
- With the appropriate adaptor, TC-20 videocassettes can be played through a conventional VHS VCR
- In every other respect, it is the quality and performance equal of HGX Gold HiFi videocassettes

EX TC-20	\$ 9.52
HGX Gold TC-20	9.99
RX Pro TC-20	10.99



# MEMTEK PRODUCTS

P.O. Box 58118  
 Santa Clara, CA 95052-8118  
 (408) 559-2900

# VIDEOCASSETTES

## HS (High Standard) VHS Videocassettes

- Picture clarity (SN) is improved by +1.5dB and color reproduction (CN) by +2.0dB
- An ideal tape for general purpose video recording

**HS T-120** ..... \$4.99

## Pro HG (High Grade) VHS Videocassettes

- Professional quality video reproduction for the home video user
- Permapass™ binder system provides ultra low head wear and high tape durability
- Includes Safeguard™ Storage Case. More compact, improved locking system and durable plastic construction for maximum protection against the harmful effects of dust, dirt and debris

**Pro HG T-120** ..... \$5.99

## Pro VHS-C High Grade Videocassettes

- Superb clarity, color, sharpness
- High density magnetic tape coating for exceptional picture quality even at the longest (SLP) recording speed
- Convenient, compact size—great for camcorders and video correspondence

**Pro VHS-C TC-20** ..... \$5.99

## Pro Hi-Fi VHS Videocassettes

- Developed specifically to capture the extraordinary sight and sound of VHS Hi-Fi or PCM digital systems
- Optimum Hi-Fi performance even after 1,000 plays
- Permapass binder system eliminates oxide shedding and extends tape life
- Anti-static cassette mechanism reduces electro-static attraction of dropout-causing dust and debris
- Includes the see-through version of the Safeguard Storage Case

**Pro Hi-Fi T-120** ..... \$6.99

## Pro Cam VHS Videocassettes

- Designed to meet the demanding quality needs of portable recording
- Heavy-duty base film is 20% more resistant to environmental hazards such as excessive heat, cold and humidity
- Cassette shell is molded in high impact ABS plastic, 20% stronger to withstand the rigors of portable video recording
- Anti-static cassette mechanism reduces electro-static attraction of dropout-causing dust and debris
- Includes the see-through version of the Safeguard Storage Case

**Pro Cam T-120** ..... \$7.99

**Pro Cam T-30** ..... \$5.99

## Standard Beta Format Video Tape

- Ideal for every day recording needs
- Rich, vivid color reproduction and long-term reliability

**Standard L-750** ..... \$4.99



HS T-120



Pro HG T-120



Pro Cam T-120



MP-120



Pro VHS-C TC-20

## Pro Series 8mm Videocassettes

- Rich, vivid color reproduction
- Ultra-fine metal particle formulation for outstanding image quality
- Specially designed cassette mechanism has fewer moving parts for maximum reliability
- Double-lid locking system helps protect the tape from dropout-causing dust and dirt

**MP-30** ..... \$4.99

**MP-120** ..... \$9.99

# MEMTEK PRODUCTS

P.O. Box 58118  
Santa Clara, CA 95052-8118  
(408) 559-2900

## MAINTENANCE/CARE

### Safeguard™ VHS and Beta Head Cleaners

- Convenient, non-abrasive wet head cleaning system
- Safely cleans video recorder heads and all tape contact points to extend the life and enhance the performance of the VCR

Usage: Every 20 hours of VCR use or when dirty or clogged heads are suspected due to bad picture quality. . . . . \$15.99

### Safeguard 8mm Head Cleaner

- Safe, effective cleaning tape and solution will not damage delicate VCR heads, capstan, guides, etc.

Usage: To clean video heads and all tape contact points . . . . . \$15.99

### Safeguard VCR Head Cleaning Solution

- Safe, effective, non-abrasive solution will not damage delicate surfaces in VCR heads, guides, capstan, etc.
- Thoroughly dissolves dust, smoke, and oxide particle buildup

Usage: As replacement solution for Memorex Safeguard System Head Cleaners . . . . \$1.99

### Safeguard Dust-Away Spray

- Safely sprays away dust and dirt that can degrade equipment performance
- Flexible 6" nozzle tube pinpoints spray focus for cleaning accuracy

Usage: To help clean delicate audio and video instruments . . . . . \$2.99

### VHS Dry Head Cleaner

- Convenient, one-step, dry head cleaning system
- Safely and effectively cleans all VHS video recorder heads in 30 seconds

Usage: Every 20 hours or when experiencing loss of video performance . . . . . \$6.99

### VCR Dust Covers

- Soft and pliable vinyl
- Available in three sizes to fit virtually all VHS and Beta machines

Usage: To keep VCR heads, guides, connectors, and switches free of dust, dirt, and debris.

Small; 17" x 3 1/2" x 12" . . . . . \$5.99

Medium; 17 1/4" x 5" x 14 1/2" . . . . . 5.99

Large; 19 1/4" x 5" x 15" . . . . . 5.99

### Safeguard Storage Case

- Consumer pack with label included
- Custom engineered locking system assures maximum protection of videocassettes from the damaging effects of dust, dirt, and debris
- Improved compact design fits into a wider variety of cassette storage systems

- Also available in bulk (no label set) for professional/industrial use

Usage: To protect and store videocassettes. . . . . \$1.49

### Video Label Set

- Relabel videocassettes with these easy peel on/off labels
- 10 Label sets, each with multiple labels for videocassette face and spine

Usage: Identify video recordings . . . . \$1.99

## CABLES/CONNECTORS

### VCR Dubbing Cable

- Push on "F" connectors, 60" long cable is easy to use

Usage: When dubbing a videocassette or to connect VCR to Memorex splitters, switchers, amplifiers, and separators . . . . \$5.99

### Deluxe VHS Dubbing Cable

- Individual audio and video cables
- Easy to use, RCA phone type connectors

Usage: When dubbing between VHS VCRs . . . . . \$11.99

### Deluxe Stereo VHS Dubbing Cable

- Left and right audio channels can be connected for maximum audio/stereo output
- 60" coaxial cables with RCA phono type connectors

Usage: When dubbing between stereo or Hi-Fi VCRs . . . . . \$15.99

### VCR to Audio Connector Cable

- Connects the one audio channel of a VCR to both the left channel and right channel inputs of a stereo audio system for excellent VCR sound quality
- Easy to use RCA phono type connectors

Usage: To connect VCR audio to stereo system . . . . . \$7.99

### Video "F" Coaxial Cable

- Professional quality 95% shielding to minimize external signal interference
- 75 ohm cable impedance matches all video components
- Threaded "F" plugs for secure connection

Usage: For connecting VCR to TV, splitters, antenna input, auxiliary TV, video control switching box, cable channel converters, etc.

3' . . . . . \$4.99

6' . . . . . 5.99

12' . . . . . 7.99

24' . . . . . 9.99

### Two Way Splitter

#### UHF/VHF/FM/Cable

- For interference-free distribution of antenna, cable or VCR signals to up to two destinations
- Rugged zinc diecast housing resists corrosion

# VIDEO ACCESSORIES

Usage: For connecting multiple TV sets, VCRs, cable channel converters, switches, and games . . . . . \$3.99

### Four Way Splitter UHF/VHF/Cable

- For interference-free distribution of antenna, cable or VCR signals to up to four destinations
- Provides high isolation between outputs for lower insertion and return losses
- Rugged zinc diecast housing resists corrosion

Usage: Connects multiple TV sets, VCRs, cable channel converters, switches and games . . . . . \$4.99

### Coaxial Signal Separator

- Coaxial 75 ohm antenna signal separates to twin-lead 300 ohm UHF, coaxial 75 ohm VHF, twin-lead 300 ohm FM inputs
- Use with VCR, TV, and FM stereo

Usage: To separate UHF, VHF, and FM signals when using coaxial input . . . . . \$4.99

### Twin-Lead Signal Separator

- Twin-lead 300 ohm antenna signal separates to twin-lead 300 ohm UHF, coaxial 75 ohm VHF twin-lead 300 ohm FM inputs
- Use with VCR, TV, and FM stereo

Usage: To separate UHF, VHF, and FM signals when using twin-lead antenna input . . \$4.99

### Video A-B Switch

- High isolation — helps eliminate interference between inputs
- Easy pushbutton switch for two video sources
- Rugged diecast construction with threaded "F" type jacks for secure connections

Usage: To choose between two video inputs. . . . . \$9.99

### Video Selector Switch

- Convenient, pushbutton switching system
- Rugged, diecast construction
- Coaxial, high isolation helps prevent interference/ghosting

Usage: To select up to 3 video inputs . . . . \$10.99

10dB Signal Amp . . . . . 14.99

10dB Four Output Amp . . . . . 19.99

Remote Power Amp . . . . . 19.99

Matching Transformer . . . . . 2.99

Matching Univ. Transformer . . . . . 3.99

"F" Cable Coupler . . . . . 1.99

VHS to Beta Adaptor . . . . . 2.99

75 Ohm Terminator . . . . . 1.99

"F" Connectors 4-Pack . . . . . 4.49

# MERLIN ENGINEERING WORKS

2440 Embarcadero Way  
 Palo Alto, CA 94303  
 (415) 856-0900 TWX: 910-373-1782  
 FAX: (415) 858-2302

# VIDEO PROCESSOR

## ME-888B Digital Video Processor and Standards Converter

- Merlin ME-888B accommodates all world standards, including PAL-N used in Argentina, Uruguay and Paraguay
- Two modes of motion interpolation are now provided, selectable by front panel control
- SECAM output encoder
- Eight-bit resolution — luminance and chrominance
- International television standards conversion
- Time base correction and color correction
- Noise reduction and detail enhancement
- Multistandard synchronization and freeze frame
- Genlock, Doc, Lum/Chrom Delay and Output Fade

In addition to being a bidirectional television standards converter, the ME-888B is also a synchronizer, noise reducer, color corrector, image enhancer, field and frame store and time base corrector.

Designed to the highest multistandard broadcast signal specifications, the ME-888B is capable of handling "worst-case" conditions found in converting standards via videocassette—unstable VTR's disturbed sync, noise generated by "available light" shooting and even multi-generation recordings.

The full range of signal processing controls provides for correction of marginal signals...not only for transfer between standards, but for signal correction within a single standard.

### Specifications

<b>Frequency Response:</b>	(PAL, SECAM, NTSC, 4.4NTSC) $\pm 0.5\text{dB}$ 0 to 3.3MHz, -3dB at 3.5MHz
<b>Input Line Frequency:</b>	$\pm 6\%$
<b>Tolerance:</b>	All SPG outputs are derived from the subcarrier (except 4.4NTSC)
<b>Signal-to-Noise Ratio:</b>	52dB CCIR weighted, flatfield. (Rhode and Schwarz UPSF2 meter) Output luminance stability $\pm 15\text{ns}$
<b>Luma/Chroma Displacement:</b>	Horizontal: 600ns chroma advance, 100ns delay. Continuous adjustment. Vertical: 6 lines chroma advance, 1 line retard
<b>Black Level:</b>	$\pm 150\text{mV}$ continuous adjustment
<b>Noise Reduction:</b>	Temporal recursive filtering with eight selectable threshold levels. Separately selectable coefficients: Luma 0, 6, 9dB Chroma 0, 6, 9, 12dB
<b>Power Supply:</b>	Voltage 99-132V/187-264V (47-440Hz) Consumption Approx. 180W
<b>Weight:</b>	Approx. 42 lbs. (19kg)
<b>Dimensions:</b>	10.5" H x 17.5" W x 16" D (267 x 445 x 406mm) Cabinet is suitable for rackmounting when fitted with side lugs (supplied)
<b>Inputs (75 ohm terminated)</b>	
<b>Composite Video (A &amp; B channels)</b>	
<b>PAL, PAL-M, SECAM, NTSC, 4.4NTSC:</b>	Monochrome 525/60 or 625/50. Level: 1V p-p $\pm 6\text{dB}$ . Continuous adjustment. High and low indicators
<b>D.O.C. (A &amp; B channels):</b>	RF or digital (switch). Levels: RF—0.1V p-p to 1V p-p. Digital—2V p-p pos or neg (switch)
<b>Reference:</b>	Black burst or composite video, 0.3V p-p syncs. PAL, PAL-M, SECAM, NTSC, 4.4NTSC



ME-888B

<b>Outputs (75 ohms)</b>	
<b>Video, Video Monitor:</b>	1V p-p composite. PAL, PAL-M, NTSC, 4.4NTSC
<b>Y-U-V (optional RGB):</b>	0 ~ 1V p-p constant (fully adjustable)
<b>SPG (2V p-p pulses):</b>	Burst gate; mixed blanking; mixed syncs; PAL indent; vertical drive; horizontal drive; black burst (0.3V p-p sync; subcarrier 1V p-p)

<b>ME-888B</b>	.....	<b>\$53,400.00</b>
<b>ME-808</b>	Digital Television Standards Converter for NTSC and PAL standards only. 8-bit signal processing	<b>.. \$35,600.00</b>
<b>ME-808B</b>	Digital Television Standards Converter for NTSC, PAL and SECAM. 8-bit signal processing	<b>..... \$39,900.00</b>
<b>Options for the above units:</b>		
<b>A</b>	RGB input (separate unit)	<b>..... \$2,000.00</b>
<b>B</b>	RGB output (built-in)	<b>..... 800.00</b>
<b>C</b>	Remote panel for ME-888B	<b>..... 2,600.00</b>
<b>ME-830</b>	Multi Standard Precision Decoder	<b>..... 3,680.00</b>
<b>ME-840</b>	Multi Standard Precision Decoder with X, Y, Z output for Vectorscope display	<b>..... 6,000.00</b>
<b>ME-850</b>	Multi Standard Precision Decoder with switchable waveform and vectorscope capabilities	<b>..... 9,800.00</b>
<b>VISTEK</b>	V4022 NTSC Decoder (NTSC input/RGB, YUV Output)	<b>..... 7,300.00</b>
<b>VISTEK</b>	V4032 NTSC Coder (RGB, YUV input/composite video output)	<b>..... 3,950.00</b>

Prices and Specifications Subject to Change Without Notice.



# MICROTIME, INC.

1280 Blue Hills Ave.  
 Bloomfield, CT 06002  
 (203) 242-4242 (800) 243-1570  
 FAX: (203) 242-9876



T-220 FIT

## T-220 FIT™/Time Base Corrector

The T-220 FIT component digital TBC allows multiformat input selection with simultaneous multiformat outputs from:

- 1/2" or 3/4" heterodyne VTRs • 1/2" professional type M (component) format • 3/4" U-Matic® (Dub) Y688, or Composite Mode

The T-220's input processing control architecture permits standard outputs to be integrated with future developments, such as digital effects. This gives you a clean versatile TBC ready to interface with your component studio.

- Freeze: Vertical interpolator provides clean, crisp pictures • Vari-Trak™: Color to 3X forward and 1X reverse when used with Sony BVU-820 in Dynamic Tracking® mode • Search Performance: A full 40X forward and reverse • Infinite Window TBC: Allows operation with nonservo'd VTRs or Remote VTR feeds • DOC Detector: TTL/RF Selectable with automatic AGC • Plug compatible with Sony U-Matic Series • Also available in PAL B and PAL M

T-220 FIT Format Interchange TBC	\$11,900.00
Interconnect Cable (8') for BVU-820	.250.00
Extender Card	.500.00
Remote Control with 75' cable	1,295.00



Tx2

## Tx2 Time Base Corrector

- Color field identification pulse • RS-170A output in NTSC • Proc-amp controls with presets • Optional remote control • Shuttle to ±40X • 13.5MHz sampling • Available as single or dual TBC • Available in NTSC, PAL B and PAL M • Infinite window TBC • Frame freeze • Interpolated field freeze (field 1 or field 2) • Dub and composite inputs • Component and composite outputs • Noise reduction • Vari-Trak • Drop-out compensator • Standalone sync generator • Genlock

Single Component TBC	\$ 8,995.00
Dual Component TBC	14,995.00
Upgrade from Single to Dual	6,995.00
Extender Card	.500.00
Remote Control	1,295.00
(Dual TBC Controls with 75' cable)	
RGB Output Option	.495.00

# TIME BASE CORRECTORS/ SYNCHRONIZERS

## 300 Series

### Features Common To All Three TBCs

- Wide window • Genlock or standalone operation • Constant RS-170A output in genlock, regardless of reference changes • LED to indicate optimum SCH calibration • Proc-amp controls with presets • Sync and blanking derived digitally for stability and repeatability • Composite or noncomposite outputs • Top access to all circuitry — no extender board required

## T-300 Time Base Corrector

- 35 line memory—handles large gyro errors • Pictures in shuttle to ±5X for rapid editing and previewing of tapes • 3.58MHz subcarrier feedback for wideband video processing • 8 bit 4X subcarrier sampling for transparent performance • Averaging velocity correction for best color performance • Lightweight, low profile, and low power consumption—ideal for mobile or ENG applications

T-300	\$4,995.00
Remote Control with 75' cable	1,295.00
Additional cable	.ft./2.00
Rack Slide Mounting Adaptor	.95.00

## T-320D Time Base Corrector

- Freeze, field 1/field 2 selectable • Vertical interpolator to minimize flicker in freeze • Digital comb filter for improved separation of luminance and chrominance • RF sensing drop-out compensator • Pictures in shuttle to ±40X • Optional Vari-Trak (factory installed) for Dynamic Tracking operation with BVU-820 and BVU-870 • Heterodyne and 3.58MHz feedback modes

T-320D	\$6,995.00
Vari-Trak option (factory installed)	.500.00
Remote Control with 75' cable	1,295.00
Rack Slide Mounting Adaptor	.95.00

## T-320 Time Base Corrector

- 35 H-line window • RF sensing drop-out compensator • Pictures in shuttle to ±40X • Heterodyne and 3.58MHz feedback modes

T-320	\$5,995.00
Remote Control with 75' cable	1,295.00
Rack Slide Mounting Adaptor	.95.00



S-230

## S-230 TBC/Frame Synchronizer

- Selectable field 1, field 2, or full frame freeze • Infinite window heterodyne TBC handles large gyro errors • 8 bit, 4X subcarrier digital design • Steering signal interfaces with optional audio delay corrector • Selectable response to fading signals • Auto mode switching selects TBC or synchronizer mode

S-230	\$13,950.00
Remote Control with 75' cable	1,295.00
Additional cable	.ft./2.00

## S-130 Full Frame Synchronizer

- Full frame storage processes VITs, VIRs and Teletext • Selectable response to fading signals • Excellent hot cut performance • Available in NTSC, PAL B and PAL M TV standards • Internal microprocessor controlled troubleshooting • Manual selection of field 1, field 2 or full frame freeze

S-130 NTSC	\$10,990.00
Remote control with 75' cable	1,295.00
Additional cable	.ft./2.00



# MICROTIME, INC.

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# GRAPHICS SYSTEMS

## Ani-Maker and Image Maker Graphics Systems

High resolution 3D graphics, animation and paint—all fully integrated. The user interface is designed by artists, for artists, to help you master this sophisticated graphics system and, whether you are an expert or a beginner, you will create stunning, complex images, in next to no time.

The Ani-Maker is a full feature graphics workstation incorporating 32-bit full color paint, real time RGB frame grab, 3D modeling and animation, internal VTR controller and font generator software

The Image-Maker has all of these features and includes an off-line rendering station.

The standard Ani-Maker and Image-Maker are based on a PC-AT compatible CPU with 80386 microprocessor and math co-processor for optimum rendering speed. Lower cost systems based on the 80286 CPU are also available.

### 3D Modeling and Animation

Simple or complex models can be constructed quickly and easily, with a minimum of keyboard entries. The menu system guides you through the process from sketches, line art or free hand drawing to the finished model. After defining the models, create the paths (trajectories) for the models to follow. Several models can be on a single path, or each model can have its own unique path. Initially, the camera is fixed, but for more complex animation, you can program the camera position, and its point of attention. The result is models, camera and lights, all changing independently during the animation.

### Texture Mapping and Shaders

Phong, Gouraud, metals, reflectance maps, texture maps, solid and transparent surfaces are all standard. Texture maps can be created from scratch in paint, or from a frame grabbed image. All or part of an image can be mapped onto all or part of a model. Anti-aliasing to eliminate the "jaggies" is standard. Select horizontal, vertical, horizontal and vertical, or none, depending on the model.

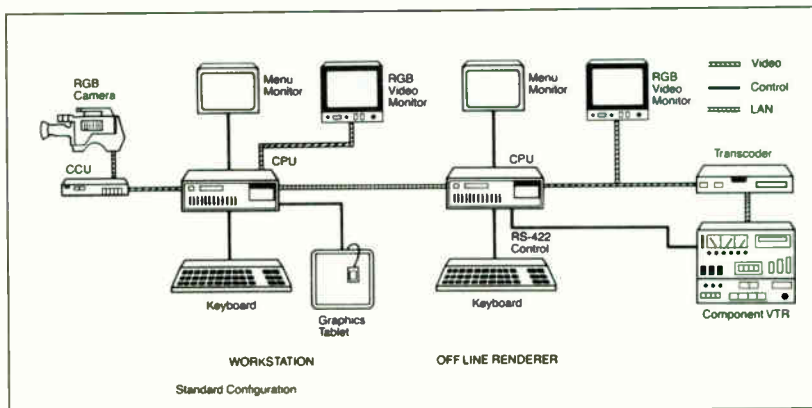
### Metamorphosis

3D shapes, color and transparency can all undergo metamorphosis during an animation. Just define the starting model and the finishing model, and let the system do the in-betweening. Turn a pumpkin into a vase, create a beating heart, or any number of unique transformations.

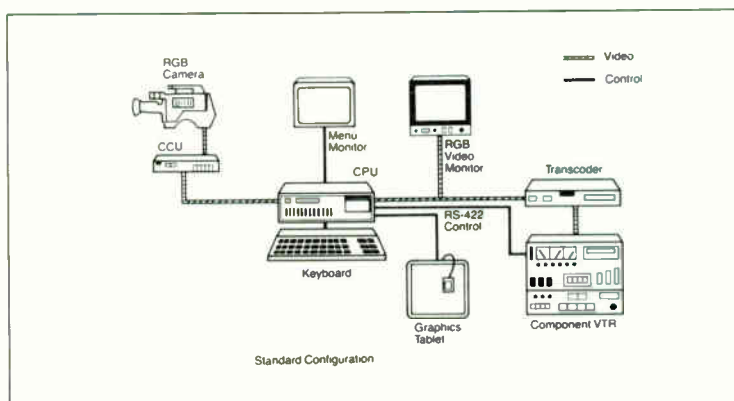
### Preview

You want client approval of a preview, before final rendering is started. Use wireframe preview to check the position and orientation of the models. Or use the fast rendered preview to check lighting and surfaces. You can even afford to try several "what if" previews before committing to final rendering.

## Typical Image-Maker System



## Typical Ani-Maker System



### Off-Line Rendering

With an Image-Maker, your overall productivity at the creative workstation is increased significantly. Completed designs are transferred on the Local Area Network (LAN) to the off-line renderer, freeing up the workstation for the next design. The LAN can also be used to link various combinations of workstations and rendering stations for special applications. An Ani-Maker can be upgraded to an Image-Maker at any time by adding the rendering station.

Each frame is normally rendered to the internal disk drive, and then edited to tape as a sequence. This avoids tying up the VTR during the entire rendering process and eliminates unnecessary wear and tear on the tape deck.

### 3D Fonts and Font Generation

6 vector based fonts are standard with all 3D systems (the paint-only Ani-Maker AM-3 and AM-4 do not have this feature). Use these fonts to create text for subsequent 3D modeling and animation or use the font generator to scale and modify them. You can even create your own custom fonts from a frame grabbed input, or create them free-hand.

### Paint

The 32-bit paint system allows you to create or modify images with the full 16.8 million color spectrum. A complete set of brushes, including variable air brushes, and tools for cut, paste and move, etc. are provided. A set of 2D fonts for titling is standard in the paint system, and anti-aliasing can be turned on or off as required.



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# GRAPHICS SYSTEMS

## Ani-Maker and Image Maker (Cont'd)

### Frame Grab and Video Interface

Hardware and software for real time RGB frame grab are standard. You can capture flat art, stills from a slide chain, or live video from a camera for use as a background, texture map or model outline. Digital matting is also standard. Create a model, matte it over a background and save the composited picture as a new background (all digitally). Keep adding new layers until your project is complete. In addition to frame grabbing, the paint system can matte an image over a live background for post production.

Ani-Maker and Image-Maker video inputs and outputs are RGB. If you have a Betacam or MII video system, just add a component transcoder (available from Sierra Video Systems and other suppliers). If your system is composite NTSC, you will need to add an NTSC encoder, and possibly a decoder (available from Faroudja Labs, and other suppliers).

Serial remote control of a VTR for frame-accurate editing of the finished animation is also standard. The RS-422 controller is built into the system software. The Sony, BVW-40®, BVH-2500®, VO-5850®, and other VTRs can be controlled.

### Film Interface

If your application calls for film output (transparencies, separations, etc.), Ani-Maker and Image-Maker can optionally give you high resolution rendered images. Frames can be rendered by the resolution independent software at standard TV resolution, or up to 8000x8000 pixels, without re-drawing the input. The Matrix PCR/QCR digital film recorder is currently supported for these high resolution formats, with aspect ratios of 2048 x1536 and 4096 x 3072.

### Disk Storage Options

The standard disk drive provides you with the capacity to store backgrounds, texture maps, rendered images, etc. For advanced applications, you may wish to add more storage. A Bernoulli box with removeable 20M byte cartridges allows you to transport data from one site to another. Conventional hard drives can also be added to suit your requirements.

### Specifications

#### Video:

NTSC compatible,  
525 lines per frame,  
30 frames per second, interlaced

#### Inputs:

RGB analog component video 700mV p-p  
Composite sync 4V p-p (75 ohm termination selectable)

#### Outputs:

RGB analog component video 700mV p-p  
Composite sync 4V p-p into 75 ohms

#### Genlock:

If a sync input is provided, the system will genlock to it. In the absence of a sync input, standalone mode is automatically selected

### Hardware Configuration

The hardware supplied will depend on the model ordered as shown below.

Description	IM-1	IM-2	AM-1	AM-2	AM-3	AM-4
80386 CPU, Co-processor and Keyboard	2		1		1	
80286 CPU, Co-processor and Keyboard		2		1		1
1.2M byte Floppy Disk Drive	2	2	1	1	1	1
20M byte Hard Drive*	4	4	2	2	2	2
Graphics Tablet and Puck	1	1	1	1	1	1
32-Bit Frame Buffer	2	2	1	1	1	1
12" RGB Video Monitor	1	1	1	1	1	1
12" Menu Monitor	2	2	1	1	1	1
RS-422 VTR Controller	1	1	1	1	1	1

\* In some systems, a single 40M byte drive may be partitioned into two logical drives.

### Physical Specifications

Description	Height In. (mm)	Width In. (mm)	Depth In. (mm)	Weight Lb. (kg)	Power Watts
CPU	6.4 (163)	20.8 (528)	16.5 (419)	45 (20.4)	250 (approx.)
Graphics Tablet	1.5 (38)	16.0 (406)	16.0 (406)	6 (2.7)	10
RGB Video Monitor	13.5 (343)	13.5 (343)	15.5 (394)	32 (14.5)	105
Menu Monitor	10.7 (272)	13.5 (343)	14.0 (356)	28 (12.7)	70
Keyboard	2.1 (53)	18.4 (467)	8.4 (213)	6 (2.7)	NA

# MILLER FLUID HEADS, INC.

2819 W. Olive Ave.  
Burbank, CA 91505  
(818) 841-6262 FAX: (818) 841-6416

# TRIPODS/HEADS



### System 20

Includes:  
Miller 20 fluid head 104  
Compact tripod with spreader 301  
Rubber feet 235  
Two handles 271  
System 20 (20 lb. capacity) . . . . \$1680.00

### System 30

Includes:  
Miller 30 fluid head 114  
Compact tripod with spreader 302  
Rubber feet 235  
Two handles 271  
System 30 (30 lb. capacity) . . . . \$2805.00

### System 40

Includes:  
Miller 50 fluid head 119  
Midi tripod with spreader 285  
Rubber feet 235  
Two telescopic handles 272  
System 40 (50 lb. capacity) . . . . \$3265.00

### Also available:

System 10A Includes Junior fluid head 101, Junior A tripod 33, column lift elevator spreader, feet and handle (10 lb. capacity) . . . . \$ 499.00  
System 10W Includes Junior fluid head 101, Senior tripod 330, spreader, feet and handle (10 lb. capacity) . . . . .690.00  
System 15 Includes Senior F fluid head 102, Professional Series Tripod 320, feet, handles (20 lb. capacity) . . . . .1495.00  
System 20 Special, same as System 20 except has Featherlite tripod 301 . . . . .1325.00  
System 25 Includes Light Professional Fluid Head 106, Professional Series Tripod 321, spreader, feet, and handles (30 lb. capacity) . . . . .2030.00  
System 35 Includes VG50 fluid head 118, ENG Tripod 310, spreader, feet, telescopic handles (50 lb. capacity) . . . . .2580.00  
System 40 ENG Special, same as System 40 except has one non-telescopic pan handle, quick release camera platform and compact tripod 302 . . . . .2895.00  
System 80 Includes Miller 60 fluid head 150, Maxi tripod 290, spreader, feet and handles (80 lb. capacity) . . . . .5645.00

Fluid Heads — Supplied with one handle



### Miller 20 Fluid Head 104

Capacity 20 lbs. features integrated counterbalance system, sliding camera platform and integrated claw ball level . . . . . \$900.00

### Miller 30 Fluid Head 114

Capacity 30 lbs. features integrated variable counterbalance system, multi-step drag control and integrated claw ball level. . . . . \$2025.00

### Miller 50 Fluid Head 119

Capacity 50 lbs. features integrated variable counterbalance system, multi-step drag control, sliding camera platform and integrated claw ball level . . . . . \$2295.00



### Senior F Fluid Head 102

Capacity 20 lbs. features continuous drag control, supplied flat base . . . . . \$710.00

### Light Professional Fluid Head 106

Capacity 30 lbs. features continuous drag control, supplied flat base . . . . . \$1095.00

### VG 50 Fluid Head 112

Capacity 50 lbs. features continuous drag control, supplied flat base. . . . . \$1210.00

# MILLER FLUID HEADS, (USA) INC.

2819 W. Olive Ave.  
Burbank, CA 91505  
(818) 841-6262 FAX: (818) 841-6416

# TRIPODS/ACCESSORIES



301/302



285



320/321



310/311

### 301/302 Compact Tripod With Spreader

- 30 lb. capacity • Weight 10 lbs. • Collapsed height 33"
- Extended height 58" • Also available in mini size
- 301 w/75mm bowl .....\$660.00
- 302 w/100mm bowl .....660.00

### 285 Midi Tripod With Spreader

- 50 lb. capacity • Weight 11 lbs. • Collapsed height 35" • Extended height 61" • Also available in mini size
- 285 w/100mm bowl .....\$780.00

### 320/321 Professional Series Tripod (Wood)

- 30 lb. capacity • Weight 11 lbs. 14 oz. • Collapsed height 40" • Extended height 60" • Also available in medium and mini sizes
- 320 w/75mm bowl .....\$550.00
- 321 w/100mm bowl .....550.00

### 310/311 ENG Tripod With Spreader

- 50 lb. capacity • Weight 11 lbs. • Collapsed height 36" • Extended height 60"
- 310 w/100mm bowl .....\$685.00
- 311 w/75mm bowl .....685.00

## Accessories

### 217 Column Lift Elevator

Provides up to 12" variable extension and ball leveling for above tripods .....\$380.00

### 365 Medium Duty Dolly (Formerly 209)

100 lb. capacity, 5" wheels .....\$525.00

### 224 Lightweight Dolly

25 lb. capacity, 2<sup>3</sup>/<sub>4</sub>" wheels .....\$395.00

### 229/238 Millmount

30 lb. capacity, 100mm bowl (229), 75mm bowl (238) .....\$490.00

- 245 Tripack case, 9" diameter .....\$250.00
- 250 Tripack case, 11" diameter .....295.00
- 234 Spreader suit 320, 321 tripod .....150.00
- 295 Monopod .....175.00
- 254 Hi Hat, 75mm bowl .....210.00
- 253 Hi Hat, 100mm bowl .....210.00
- 235 Rubber feet (set) .....55.00
- 271 Handle rod .....65.00
- 252 Soft case, 7" diameter .....115.00
- 272 Telescopic handle rod .....100.00
- 232 75mm claw ball level suit 102 .....115.00
- 233 100mm claw ball level suit 106, 112. ....115.00
- 360 100mm flat base adaptor suit 114, 116, 115, 119 ..95.00
- 361 75mm flat base adaptor suit 104 .....95.00
- 363 Gitzo adaptor suit 114, 116, 115, 119 .....175.00



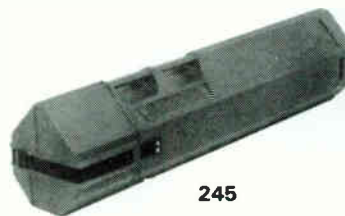
217



365



229/238



245



252



# MINOLTA CORP.

101 Williams Dr.  
Ramsey, NJ 07446  
(201) 825-4000

# VHS-C CAMCORDER

## Master™ Series-C 3300 VHS-C Camcorder With Multi-Dimensional Autofocus System

- Ultra-compact design with easy operation
- Multi-Dimensional Autofocus System
- Dual-area autoexposure system
- Advanced automatic white-balance system, RGB Sensor
- Built-in 6X power-zoom lens
- Playback capability—visual search with memory and still
- CCD high-resolution, color pictures with quick starts and excellent color rendition with no burning
- AE lock
- White-balance lock
- Also features powered manual focus control
- Built-in calendar/clock
- White fade control
- On-screen display
- .7" B/W electronic viewfinder
- Instant review
- SP/EP
- HQ circuitry
- 3-way power
- Compact VHS-C system
- Connects directly to TV sets and dubs any other video source

### Compact VHS-C System

The 3300 is totally compatible with full-sized VHS. Simply record with a VHS-C cassette, then slip into the Cassette Adapter AD-1 to enjoy playback on any full-sized VHS VCR.

### Multi-Dimensional Autofocus System

The Multi-Dimensional Autofocus System is the only autofocus system that can focus from the lens surface (at wide setting) to infinity automatically. Whether your subject moves closer to you or farther away, the system instantly adjusts the focus. Focusing worries are over.

### Built-In 6X Power-Zoom Lens

This wide autofocus range is achieved with a zoom lens controlled by a microcomputer. The zoom lens is so compact that it fits into the body of the camera/recorder. The zoom range is 9mm to 54mm (about 50mm to 300mm in the 35mm SLR format) and you can select two power-zooming speeds for creative versatility. With the tele or wide converters attached, the zoom range is extended and autofocus continues to operate normally. You can easily operate this feature with the zoom/focus control in front of the camera body.

### Standard Accessories

- AC-3300S AC Adaptor/Charger
- AD-1 Cassette Adaptor
- BP-3301 Battery Pack
- EP-2 Earphone
- IC-3000 Video/Audio Input Cord
- OC-3000 Video/Audio Output Cord
- RF-3000S RF Output Adaptor
- SS-M3000 Shoulder Strap
- TC-20SHG VHS-C Videocassette (60 minutes)



Master Series-C 3300

### Options

- AB-3300 Accessory Base—Mounts Tele and Wide Converter Lenses
- BC-2S Car Battery Cord
- CK-3300S Soft Camera Case
- CS-3300S System Case, Hard Molded
- DM-2 Super Directional Microphone
- LT-3300 1.5X Tele Converter (up to 81mm)
- LW-3300 0.65X Wide Converter [5.85mm focal length]
- RC-M3000 Remote Controller

### Specifications

<b>Color System:</b>	NTSC color EIA standard
<b>Format:</b>	VHS (VHS-C cassette)
<b>Tape Speed:</b>	33.35mm/sec. (SP mode); 11.12mm/sec. (EP mode)
<b>Recording Time:</b>	20 min. (SP mode); 60 min (EP mode)
<b>Lens:</b>	9-54mm f/1.6 6X power-zoom; two zooming speeds selectable
<b>Focusing:</b>	Multi-Dimensional Autofocus System (TTL phase-detection type with automatic focus-frame selection; powered manual focus also possible)
<b>Exposure Control:</b>	Full automatic with AE lock
<b>White Balance:</b>	Full automatic with white-balance lock
<b>Viewfinder:</b>	Electronic type; 0.7" B/W CRT
<b>Video Input:</b>	1.0V p-p, 75 ohms (unbalanced)
<b>Video Output:</b>	1.0V p-p, 75 ohms (unbalanced)
<b>Audio Input:</b>	Line: -8dBs, > 40K ohms Microphone: -63dBs, > 10K ohms
<b>Audio Output:</b>	Line: -6dBs, < 1.5K ohms Earphone: -6dBs < 600 ohms
<b>Pick-Up Device:</b>	1/2" solid-state CCD image sensor
<b>Date Recording:</b>	Month/day/year or hour/minute/second
<b>Minimum Illumination:</b>	15 lux (based on Minolta's standard test method)
<b>Microphone:</b>	Unidirectional condenser type
<b>Power Consumption:</b>	8.2W (max.) 7.5W (nominal), 9.6VDC
<b>Operating Temperature:</b>	32° ~ 104°F (0° ~ 40°C)
<b>Dimensions:</b>	5 1/4" H x 4 1/2" W x 9 3/16" D
<b>Weight:</b>	3 lbs. without battery back; 3.5 lbs. with battery pack

Master Series-C 3300 ..... \$1915.00

# MINOLTA CORP.

101 Williams Dr.  
Ramsey, NJ 07446  
(201) 825-4000

# VHS CAMCORDER

## Master™ Series-V 1400 VHS Camcorder

- High-resolution MOS image sensor—300,000 pixels
- Variable-speed electronic shutter—up to 1/2000 sec.
- Low-light recording down to 7 lux
- Full automatic operation
- 6X power-zoom lens with macro
- Compact and lightweight—just 4.4 lbs.
- Advanced HQ circuitry
- 7 lux
- Dubbing and TV recording
- Instant review and playback
- On-screen display in viewfinder
- Versatile viewfinder—slides to view from either eye
- Self-timer function
- Date recording
- 3-way power source
- Automatic white-balance

The Master Series-V 1400 is a versatile VHS video camera/recorder that gives superior recording quality with its MOS image sensor. It captures movement and action in clear, blur-free detail with its variable-speed electronic shutter—up to 1/2000 sec. Compact and lightweight, the 1400 comes with fully automatic features that make it easy to use. It offers full-size VHS recordings of up to 160 minutes.

### Variable-Speed Electronic Shutter—Up to 1/2000 sec.

The 1400 gives you versatility with five shutter speeds: normal (1/60), 1/120, 1/250, 1/1000 and a high-speed 1/2000 sec. The faster shutter speeds let you record fleeting moments—movement and details that appear as blurs to the human eye and on recordings with conventional camera/recorders. When you record a scene at a fast shutter speed and play it back in slow-motion or still-frame, the details of even the briefest moments are clear and sharp.

### Infrared Autofocus

The active infrared autofocus system makes constant focus adjustments to keep your subject sharp and clear, even in low light. You can choose either continuous autofocus for moving objects or instant autofocus set in manual mode. You can also use powered manual focus in manual mode for great creative effects.

### Autoexposure Control

With fully automatic exposure control, the 1400 continuously adjusts to changes in picture lighting. Exposure compensation is also possible for special lighting conditions, and for fading in or out.

### 6X Power-Zoom Lens with Macro

Select focal lengths from 12mm to 72mm (about 50-300mm in the 35mm format) with the 6X power-zoom. A macro setting gives you sharp focusing of subjects as close as 3/8" from the front of the lens.

### Standard Accessories

- AC-1400S AC Adaptor/Charger
- BP-1001 Battery Pack
- IA-1000 Video/Audio Input Adaptor
- OC-1000 Video/Audio Output Cord
- RF-1400S RF Output Adaptor
- SS-1400 Shoulder Strap
- VA-1 Video/Audio Cord



Master Series-V 1400

### Optional Accessories

- AC-1000S AC Adaptor/Charger
- BP-1002 Battery Pack 2-hour
- CS-1400S System Case
- DM 1 Unidirectional Microphone
- DM-2 Super-Directional Microphone
- OC-1400 Video/Audio Dubbing Cord
- Car Battery Cord

### Specifications

Recording System:	NTSC color EIA standard
Format:	VHS
Tape Speed:	33.35mm/sec. (SP)
Recording Time:	Max. 160 min.
Lens:	12-72mm f/1.6, 6X power-zoom with macro
Shutter Speed:	Electronic with speeds of 1/60, 1/120, 1/250, 1/1000, 1/2000 sec.
Focusing:	Active infrared autofocus or powered manual focus
Exposure Control:	Automatic plus manual exposure compensation
White Balance:	TTL automatic type
Viewfinder:	2/3" black-and-white electronic type
Video Input:	1.0V p-p, 75 ohms (unbalanced)
Video Output:	1.0V p-p, 75 ohms (unbalanced)
Audio Input:	Line: -7.8dBs > 47K ohms Microphone: -68dBs high impedance
Audio Output:	Line: -7.8dBs (316mVRMS) < 1K ohm Earphone: -26dBs (39mVRMS) 8 ohms
Pick-Up Device:	2/3" solid-state MOS image sensor
Date Recording:	Month/day/year
Minimum Illumination:	7 lux
Microphone:	Unidirectional condenser type
Power Consumption:	9.5W, 12V
Dimensions:	9 <sup>3</sup> / <sub>16</sub> " H x 4 <sup>5</sup> / <sub>8</sub> " W x 13 <sup>5</sup> / <sub>16</sub> " D
Weight:	4.4 lbs. (without battery pack)
Master Series-V 1400	..... \$1810.00

Prices and Specifications Subject to Change Without Notice.

# MINOLTA CORP.

101 Williams Dr.  
Ramsey, NJ 07446  
(201) 825-4000

# 8MM CAMCORDER

## Master™ Series-8 8100 8mm Camcorder

- Slim and lightweight design—just 2.4 lbs.
- 1/1200 sec. high-speed electronic shutter
- Low-light recording down to 7 lux
- 1/2" CCD image sensor
- Clean still and slow playback using double-azimuth 3-head system
- Flying erase head
- FM audio recording
- Easy 3-step recording
- Infrared autofocus
- Autoexposure and auto white-balance

## CCD Image Sensor

The 8100's solid-state CCD (Charge-Coupled Device) image sensor gives this camera/recorder high-resolution pictures and excellent color rendition without after-image or burning—plus low-light recording down to 7 lux.

## High-Speed Shutter

The 8100's 1/1200 sec. high-speed electronic shutter lets you capture fleeting moments as never before. So now you can enjoy the briefest moments without the picture being blurred.

## 6X Power-Zoom Lens with Macro

The 8100's zoom lens is a 9-54mm f/1.4 design with macro capability. Two fingertip control buttons let you adjust zoom from wideangle to telephoto. Use the macro setting for incredible close-ups as near as 3/8" from the lens surface.

## Versatile Viewfinder

The 8100's 2/3" black-and-white electronic viewfinder lets you see the scene you're recording, while the on-screen display keeps you informed of important recording information. You can also adjust the viewfinder to a variety of positions, especially useful for low-angle shooting.

## Built-In Calendar

The 8100's built-in quartz calendar lets you record the month/day/year along with your video.

## Instant Review

Push the instant-review button and the 8100 automatically rewinds and replays the last few seconds of your recording in the viewfinder.

## Playback/TV Recording

You can connect the 8100 directly to your TV set for playback. Or use it as a VCR to record from other video sources, like a video-ready TV or another VCR.

## Standard Accessories

- AC-8000S AC Adaptor
- BB-8100 Charger Base
- BP-8001 Battery Pack
- P6-60 8mm Videocassette
- RF-8000S RF Adaptor
- SS-8000 Shoulder Strap
- VA-1 Video/Audio Cord
- Earphone



Master Series-8 8100

## Optional Accessories

- BA-8000S Car Battery Adaptor
- BB-8000 Holds Charger Base
- BP-8002 Battery Pack, 2 hours
- CS-8100S Hard Molded System Case
- DM-1 Unidirectional Microphone
- DM-2 Super-Directional Microphone
- OC-8000 Video/Audio Output Cord
- P6-120 8mm Videocassette, up to 120 minutes
- RC-1000 Remote Controller
- SA-8100 Shoe Adaptor

## Specifications

Format:	8mm (8mm videocassette)
Video Signal:	NTSC color EIA standard
Tape Speed:	14.3mm/sec.
Recording Time:	Max. 120 min. with P6-120 cassette
Lens:	9mm-54mm f/1.4 6X power-zoom with macro capability; 46mm filter-thread diameter
Shutter Speed:	1/1200 sec., 1/60 sec. (Normal) selectable
Focusing:	Active-infrared type continuous autofocus; momentary autofocus and full manual focus also possible
Iris Control:	Automatic; manual exposure adjustment possible
White Balance:	Continuous automatic
Pick-up Device:	1/2" solid-state CCD image sensor
Minimum Illumination:	7 lux
Viewfinder:	Electronic viewfinder with 2/3" black-and-white CRT
Microphone:	Unidirectional, condenser type
Date Recording:	Month/day/year
Power Consumption:	7.0W
Dimensions:	5 <sup>13</sup> / <sub>16</sub> " H x 3 <sup>7</sup> / <sub>8</sub> " W x 9 <sup>3</sup> / <sub>4</sub> " D
Weight:	2.4 lbs without battery pack

Master Series-8 8100. . . . . \$ 1915.00



# MITSUBISHI ELECTRIC SALES AMERICA, INC.

110 New England Ave. W.  
Piscataway, NJ 08854  
(201) 981-1414 FAX: (201) 981-9492

## AM-1401R Color Monitor/Receiver

- 14" FST (Flat Square Tube) for enhanced picture quality • 0.4mm fine-pitch CRT to permit use as a high-resolution computer display/compatible with the IBM® PC-1 • Frequency synthesizer tuning • High contrast tinted faceplate • 138-channel, cable compatible • 19 function wireless remote control • RGB port (8-pin) for computer use • Max. 90 min. off timer

AM-1401R .....\$475.00

# MONITOR/RECEIVERS/ VIDEO CONTROL CENTER



AM-1401R

## CS-2056R 20" Stereo Color Monitor/ Receiver with Remote

- Dark gray finish • MTS stereo broadcast reception • Audio expansion • Separate bass and treble tone controls • 2 sets stereo audio inputs • Variable stereo audio output • 125-channel, cable compatible, 10-key random access, frequency synthesizer • Auto programmable channel memory scan tuning • 2 speaker sound • Quick view tuning • On screen time/channel display • Channel lock • Program timer • Off timer

CS-2056R .....\$630.00



CS-2056R

## CK-3101R 31" Stereo Console Color Monitor/ Receiver with Remote

- Variable/fixed stereo audio outputs • 4-speaker, sealed enclosure sound • MTS stereo broadcast reception • Audio expansion • Video output • Comb filter • Genuine oak veneer wood • Dark tint faceplate • Multi-Step Focus electron gun with high current cathode • ID circuit • Velocity scan modulation • Automatic picture • Latitude circuitry (APLC) • Separate bass and treble tone controls • 2 sets stereo audio inputs • 181-channel, cable compatible • Video noise reduction • Auto select S-VHS input • 2 sets of video inputs

CK-3101R .....\$2100.00



CK-3101R

## CS-2655R 26" Stereo Color Monitor/ Receiver with Remote

Same basic features as CK-3101R except does not feature multi-step focus electron gun or dark-tint faceplate. Offers 2-speaker sound .....\$950.00

## VS-412RS/VS-464RS Stereo Color Monitor/ Receivers with Remote

- Oak vinyl-clad wood • Contemporary styling • Washable, black matrix, anti-reflective screen • 120° viewing angle • Three 6-element, multi-coated f/1.0 glass lenses • APCL • Comb filter • Wide-band 7MHz video amplifier • Auto select S-VHS input • 2 sets of video inputs • Video output • 181 channel cable compatible • Antenna A/B • 10-key random access, frequency-synthesizer • Auto programmable channel memory scan tuning • On screen menu displays • Channel lock • On screen A/V functions • On screen time/channel • MTS stereo broadcast • Audio expansion • Separate bass and treble controls • 2 sets stereo audio inputs • Variable/fixed stereo audio outputs • 4 speaker sound • External speaker terminals

VS-412RS 40" screen featuring 330' lamberts .....\$2600.00

VS-464RS 46" screen featuring 260' lamberts .....2800.00



VS-412RS

## TX-102R Video Control Center

- 139-channel, cable compatible • Channel memory scan tuning • Quick view tuning • Remote control with many functions • 4 AC outlets • 3 sets of video inputs • 2 sets of video outputs (switched separately) • Separate bass, treble and balance controls • Auto manual fine tuning

TX-102R .....\$300.00



TX-102R

# MITSUBISHI ELECTRIC SALES AMERICA, INC.

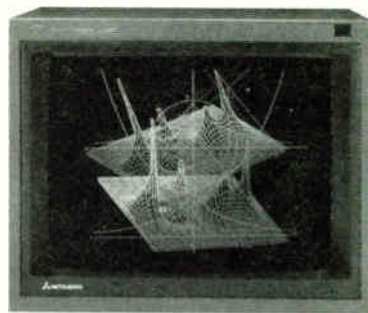
110 New England Ave. W.  
Piscataway, NJ 08854  
(201) 981-1414 FAX: (201) 981-9492

# MONITORS/RECEIVERS/ PROJECTION TELEVISION

## AM-3501R 35" Multi Sync Color Monitor

- High-resolution monitor with automatic variable scanning from 15 ~ 35kHz • Compatible with IBM® PC PGC/EGA/CGA
- NTSC composite video • RGB analog • RGB TTL • High-resolution graphic display for computers to workstations, with possibilities for countless other applications • Two-channel audio amplifier and speakers, and other advanced functions
- Monochrome TTL

AM-3501R . . . . . \$7500.00  
VIMTA-M 35014 Metal shipping case . . . . . 699.00  
1540-500 30" Metal Cart . . . . . 335.00



AM-3501R

## CS-3503R 35" Stereo Color Monitor/Receiver with Remote

- Black vinyl-clad wood • Contemporary tabletop styling with optional pedestal base • 10-key random-access frequency synthesizer • 181-channel, cable compatible • Auto-programmable channel-memory scan tuning • Quick-view tuning • On-screen menu displays • Channel lock • Program timer • Full-square Diamond Vision II picture tube • APLC • Comb filter • Video noise reduction • Auto-select S-VHS input • 2 sets of video inputs • MTS stereo • Separate bass and treble

CS-3503R . . . . . \$2,500.00  
MB-503 Optional base . . . . . 240.00



CS-3503R

## VS-683R 60" Projection Television Stereo Monitor/Receiver with Remote

- 181-channel, cable-compatible • Antenna A/B • 10-key random-access, frequency-synthesizer • Auto-programmable channel-memory scan tuning • MTS stereo broadcast reception • 4-Speaker, sealed-enclosure sound • Genuine oak veneer wood • Contemporary styling • Hinged, hide away bi-fold doors • Quick view tuning • On screen menu displays • Channel lock • Program timer • On screen A/V functions • On screen time/channel display • 2 sets of video inputs • 160fL of brightness • 120° viewing angle • Auto-select S-VHS input

VS-683R . . . . . \$4,400.00  
VS-583R Same features as above except 50"  
screen and 230fL . . . . . 3,800.00



VS-683R

## VS-2000 200" Video Projector

- Ultra-large display— 120" ~ 200" • Remarkably bright picture due to use of three large light output 13" CRTs and high speed, large diameter lenses • 750 lines resolution • High resolution picture electromagnetic focusing CRT • High contrast picture through the optical coupling system • All optically coated lenses to reduce light reflection and flare

VS-2000 . . . . . \$49,000.00



VS-2000

# MITSUBISHI ELECTRIC SALES AMERICA, INC.

110 New England Avenue W.  
Piscataway, NJ 08854  
(201) 981-1414 FAX: (201) 981-9492

## VHS RECORDER/ PLAYERS

### HS-423UR Super VHS 4-Head Hi-Fi MTS Stereo Videocassette Recorder with Remote

- 8 event/2-week • 107-channel, cable compatible • Voltage-synthesizer, 100-position • 10-key direct access (at remote) and up/down scan tuning • Programmable channel-memory scan tuning • Skip search • S-VHS to S-VHS dubbing input and output • 4-head Fx4 video plus 2 VHS Hi-Fi audio heads
- High-speed 99-position address • Search and 19-position index search (75X or 130X) • 2-speed visual search (10X and 36X in EP w/lock) • Still frame (SP/EP) • Variable slow motion (SP/EP) • Frame advance (SP/EP) • Fast play (SP/EP) • Fast play audio (EP) • Edit switch • Detail switch • Video mute
- Electronic digital counter/time/programming display • Real-time counter • Counter memory • Auto rewind • Auto on/play • Auto repeat • Power off eject • Remote control from Mitsubishi televisions with integrated remote • Illuminated cassette compartment



HS-423UR

HS-423UR ..... \$1200.00  
HS-422UR Same as HS-423UR without  
S-VHS capabilities..... .820.00

### HS-402UR Hi-Fi MTS Stereo Videocassette Recorder with Remote

- 107-channel, cable compatible • Voltage-synthesizer, 100-position • 10-key direct-access (at remote) and up/down scan tuning • 2-head video plus 2 VHS Hi-Fi audio heads • VHS-HQ • V-SCAN picture enhancement circuitry • Comb filter
- Digital auto tracking • 5-event/2-week • Still frame (SP/EP) • Slow motion (SP/EP) • Fine edit • Electronic digital counter/time/programming display • Counter memory • Auto rewind • Picture control • Speed search (SP/EP) • Frame advance (SP/EP) • Auto on/play • Power off eject • Remote control from Mitsubishi televisions with integrated remote

HS-402UR ..... \$520.00



HS-402UR

### HS-359UR VHS-HQ 4-Head Videocassette Recorder

- Speed search • Still frame • Variable slow motion • Frame advance • Edit switch • Automatic front loading • 107-channel, cable compatible • Programming for 8 individual events over a 2-week period • Multi One-Touch Recording
- Remote control

HS-359UR ..... \$430.00



HS-359UR

### HS-348UR VHS-HQ 2-Head Videocassette Recorder

- VHS-HQ, V-SCAN • Comb filter • Digital auto tracking
- Speed search (SP/EP) • Still frame (SP/EP) • Slow motion (SP/EP) • Frame advance (SP/EP) • Picture control • Fine edit
- Automatic front-load • 107-channel cable compatible
- Voltage-synthesizer, 100-position • 10-key, random access
- Programmable channel memory scan tuning • Electronic digital counter/time/programming display • 5-event over 2-weeks • Counter memory • Automatic rewind • Auto on/play
- Power/off eject • Remote control from Mitsubishi televisions and projection televisions with integrated remote

HS-348UR ..... \$313.00



HS-348UR



# MITSUBISHI ELECTRIC SALES AMERICA, INC.

110 New England Ave. W.  
Piscataway, NJ 08854  
(201) 981-1414 FAX: (201) 981-9492

## VIDEO PRINTER/ COPY PROCESSORS

### P-50U Video Printer and P-61U/P-70U Video Copy Processors

- Instant response • Good image quality • Useful sizes
- Low cost prints • Positive or negative prints • Contrast (light, medium or dark) • Copy button for unlimited copies
- Copies from TVs, VCRs, video cameras, video games and computer screens



P-50U

### P-50U Industrial Video Printer

- Low-cost 57' rolls of thermal printing paper • Print direction can be normal or reverse • Pocket size pictures 3 1/4" x 4" • Can be used with Videotex system • Optional wired remote control • Prints in only 15 seconds • 280 dots (horizontal) • 234 dots (vertical) • Color: gun metal gray

P-50U .....\$390.00

P-51U Same as above except beige and does not print Mitsubishi logo under the photograph .....\$425.00

### P-61U Video Copy Processor

- 3 direction printing (side normal and reverse) • 16' wired remote control from front or rear • Prints in only 17 seconds • 640 dots by 512 lines • AC power receptacle • AC power outlet, unswitched • Sharpness control • PAL full frame • 64 level gray scale • 8-bit parallel Centronics® interface • Print size: 4.3"H x 4.1"V • Image size: 3.9"H x 2.9"V • Underscan • 8 function dipswitch • Color: beige

P-61U .....\$1200.00



P-61U

### P-70U Video Copy Processor

- Print direction (normal, reverse or sideways) • 16' wired remote control • Prints in only 21 seconds • 640 dots by 512 lines • Quasi 64 level gray scale • 8-bit parallel Centronics interface • Print size: 8.5"H x 8.6"V—8.5"V x 11"H • Image size 7.8"H x 5.8"V • Color: beige

P-70U .....\$1400.00

#### Accessories:

C2CU Metal shipping case (P50U, 51U & 61U)...\$140.00

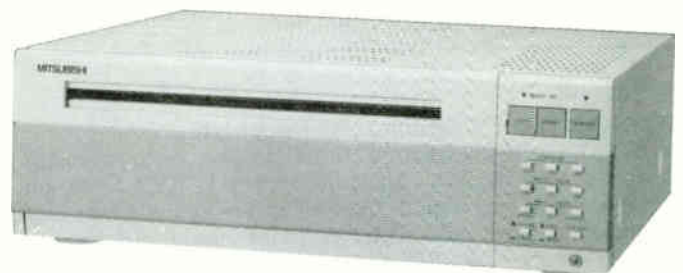
TDG-10U Time and date generator .....240.00

VCP Thermal Paper, 4 rolls to a pack

K50U Normal grade (P50U, 51U) .....\$18.00

K61S Supergrade (P50U, 51U & 61U) .....44.00

K70S Supergrade (P70U).....78.00



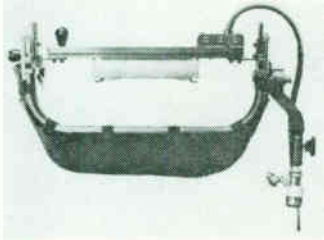
P-70U

# MODULIGHT SYSTEMS

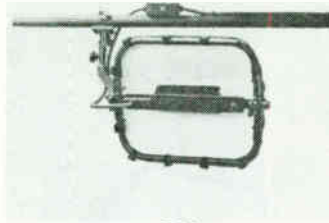
BARDWELL & MCALISTER, INC.

2621 Empire Ave.  
Burbank, CA 91504  
(213) 849-5533

# SOFTLIGHTS



2111H



2121H

## CONVERTIBLE SOFTLIGHTS

Rugged frame constructed of lightweight high stress aircraft tubing. Convertible design with non-removable soft reflector facilitates instant set up and knock down of fixture. High performance soft reflector coated with easy to clean, ultra high temperature white reflecting surface that resists color temperature shifts associated with conventional painted softlights. Rotating light bar provides ultimate control of light intensity and direction. Lamp reflectors designed for maximum lamp cooling. Wiring operates inside ventilated heat sink channel. Switches removed from lamp housing for cooler operation. Complete line of accessories.

### 2111H 1000W Handy Light

21" 1000W convertible softlight for multiple purpose location or studio operation. Supplied with inline switched 12.5' power cord and choice of plug.

- **Size:** 21" x 18"
  - **Weight:** 11.5 lbs. with cable
  - **Rating:** 8.3A maximum at 1000W. 120/240VAC or DC operation
  - **Cable:** 12.5' 3 conductor #16 AWG SO power cord with choice of plug
  - **Switching:** Single inline switch
  - **Lamp:** Single Tungsten-Halogen lamp
- 2111H .....\$329.00

### 2121H 2000W Handy Light

21" 2000W convertible softlight for multiple purpose location or studio operation. Supplied with inline switched 12.5' power cord and choice of plug.

- **Size:** 21" x 18"
  - **Weight:** 11.5 lbs. with cable
  - **Rating:** 16.6A maximum at 2000W. 120/240VAC or DC operation
  - **Cable:** 12.5' 3 conductor #14 AWG SO power cord with choice of plug
  - **Switching:** Single inline switch
  - **Lamp:** Single Tungsten-Halogen lamp
- 2121H .....\$349.00

### 2111S 1000W

21" 1000W convertible softlight for multiple purpose location or studio operation. Supplied with inline switched 25' power cord and choice of plug. Includes rotating light bar feature.

- **Size:** 21" x 18"
  - **Weight:** 18 lbs. with cable
  - **Rating:** 8.3A maximum at 1000W. 120/240VAC or DC operation
  - **Cable:** 25' 3 conductor #16 AWG SO power cord with choice of plug
  - **Switching:** Single inline switch
  - **Lamps:** Single Tungsten-Halogen lamp
- 2111S .....\$389.00

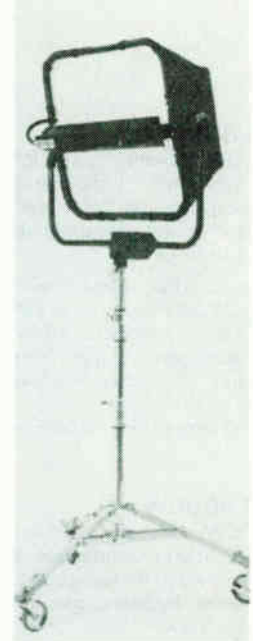
### 2121S 2000W

21" 2000W convertible softlight for multiple purpose location or studio operation. Supplied with inline switched 25' power cord and choice of plug. Includes rotating light bar feature.

- **Size:** 21" x 18"
  - **Weight:** 18 lbs. with cable
  - **Rating:** 16.6A maximum at 2000W. 120/240VAC or DC operation
  - **Cable:** 25' 3 conductor #14 AWG SO power cord with choice of plug
  - **Switching:** Single inline switch
  - **Lamps:** Single Tungsten-Halogen lamp
- 2121S .....\$399.00



2111S  
2121S



2841G  
2842G

### 2821S 2000W

28" 2000W convertible softlight for multiple purpose location or grid operation. Supplied with inline switched 25' power cord and choice of plug. Includes rotating light bar feature.

- **Size:** 28" x 24"
  - **Weight:** 21.5 lbs. with cable
  - **Rating:** 16.6A maximum at 2000W. 120/240VAC or DC operation
  - **Cable:** 25' 3 conductor #14 AWG SO power cord with choice of plug
  - **Switching:** 2 inline switches
  - **Lamps:** 2 Tungsten-Halogen lamps
- 2821S .....\$555.00

### 2841G 4000W

28" 4000W convertible softlight with rotating light bar for multiple purpose location or studio operation. Single 60A flush mount grounding pin plug provided for single circuit operation. Requires 0083 or 0083P header cable. Header cable not included in base price.

- **Size:** 28" x 24"
  - **Weight:** 18.5 lbs. without cable
  - **Rating:** 33.3A maximum at 4000W. 120/240VAC or DC operation
  - **Cable:** 1 25' 3 conductor #8 AWG SO header cable attachable to 60A flush mount grounding pin plug at switch box required.
  - **Switching:** 2 switches mounted in permanent switch box attached to pivoting yoke
  - **Lamps:** 2 lamps, individually switched
- 2841G .....\$745.00

### 2842G 4000W

28" 4000W convertible softlight with rotating light bar for multiple purpose location or studio operation. Two 20A flush mount grounding pin plugs provided for two circuit operation. Requires two 0143 or 0143P header cables. Header cables not included in base price.

- **Size:** 28" x 24"
  - **Weight:** 18.5 lbs. without cable
  - **Rating:** 33.3A maximum at 4000W. 120/240VAC or DC operation
  - **Cable:** 2 25' 3 conductor #14 AWG SO header cables attachable to 2 20A flush mount grounding pin plugs at switch box required
  - **Switching:** 2 switches mounted in permanent switch box attached to pivoting yoke
  - **Lamps:** 2 lamps, individually switched
- 2842G .....\$769.00

Prices and Specifications Subject to Change Without Notice.

# MODULIGHT SYSTEMS

**BARDWELL & MCALISTER, INC.**

2621 Empire Ave.  
 Burbank, CA 91504  
 (213) 849-5533

# SOFTLIGHTS

## 3541G 4000W

35" 4000W convertible softlight with rotating light bar for multiple purpose location or studio operation. Single 60A flush mount grounding pin plug provided for single circuit operation. Requires 0083 or 0083P header cable. Header cable not included in base price.

- **Size:** 35" x 30"
- **Weight:** 22.5 lbs. without cable
- **Rating:** 33.3A maximum at 4000W. 120/240VAC or DC operation
- **Cable:** 1 25' 3 conductor #8 AWG SO header cable attachable to 60A flush mount grounding pin plug at switch box required
- **Switching:** 2 switches mounted in permanent switch box attached to pivoting yoke
- **Lamps:** 2 lamps, individually switched

**3541G** ..... \$850.00

## 3542G 4000W

35" 4000W convertible softlight with rotating light bar for multiple purpose location or studio operation. Two 20A flush mount grounding pin plugs provided for two circuit operation. Requires two 0143 or 143P header cables. Header cables not included in base price

- **Size:** 35" x 30"
- **Weight:** 22.5 lbs. without cable
- **Rating:** 33.3A maximum at 4000W. 120/240VAC or DC operation
- **Cable:** 2 25' 3 conductor #14 AWG SO header cables attachable to 2 20A flush mount grounding pin plugs at switch box required
- **Switching:** 2 switches mounted in permanent switch box attached to pivoting yoke
- **Lamps:** 2 lamps, individually switched

**3542G** ..... \$875.00

## 3561G 6000W

35" 6000W convertible softlight with rotating light bar for multiple purpose location or studio operation. Single 60A flush mount grounding pin plug provided for single circuit operation. Requires 0063 or 0063P header cable. Header cable not included in base price.

- **Size:** 35" x 30"
- **Weight:** 22.5 lbs. without cable
- **Rating:** 50A maximum at 6000W. 120/240VAC or DC operation
- **Cable:** 1 25' 3 conductor #6 AWG SO header cable attachable to 60A flush mount grounding pin plug at switch box required
- **Switching:** 2 switches mounted in permanent switch box attached to pivoting yoke
- **Lamps:** 3 lamps with center lamp switched independently of two outboard lamps

**3561G** ..... \$960.00

## 4281G 8000W

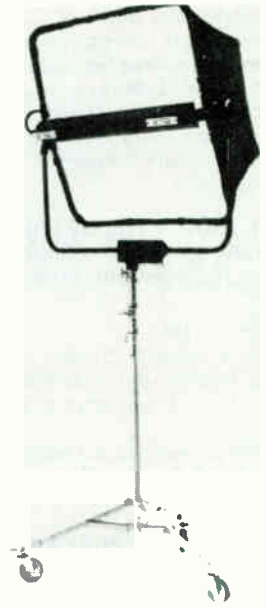
42" 8000W convertible softlight with rotating light bar for multiple purpose location or studio operation. Single 100A flush mount grounding pin provided for single circuit operation. Requires 0043 or 0043P header cable. Header cable not included in base price.

- **Size:** 42" x 36"
- **Weight:** 27 lbs. without cable
- **Rating:** 66.6A maximum at 8000W. 120/240VAC or DC operation
- **Cable:** 1 25' conductor #4 AWG SO header cable attachable to 100A flush mount grounding pin plug required
- **Switching:** 4 switches mounted in permanent switch box attached to pivoting yoke
- **Lamps:** 4 lamps, individually switched

**4281G** ..... \$1395.00



3561G



4281G/4282G

## 4282G 8000W

42" 8000W convertible softlight with rotating light bar for multiple purpose location or studio operation. Two 60A flush mount grounding pin plugs provided for two circuit operation. Requires two 0083 or 0083P header cables. Header cables not included in base price.

- **Size:** 42" x 36"
- **Weight:** 27 lbs. without cable
- **Rating:** 66.6A maximum at 8000W. 120/240VAC or DC operation
- **Cable:** 2 25' 3 conductor #8 AWG SO header cables attached to 2 60A flush mount grounding pin plugs required
- **Switching:** 4 switches mounted in permanent switch box attached to pivoting yoke
- **Lamps:** 4 lamps, individually switched

**4282G** ..... \$1449.00

## 4284G

Similar to 4282G except 4 20A flush mount grounding pin plugs provided for four circuit operation. Requires four 0143 or 0143P header cables (not included).

**4284G** ..... \$1469.00



# MOLE-RICHARDSON CO.

937 N. Sycamore Ave.  
 Hollywood, CA 90038-2384  
 (213) 851-0111 TWX: 910-321-4615  
 FAX: (213) 851-5593

# LIGHTING EQUIPMENT

Designers and manufacturers of specialized lighting equipment for motion picture, still and television studios. Products include: Solarspots®, HMI Solar-Arcs, HMI Solar-Arc Solarspots® and Brute Molarcs®, Molequartz® Molefays®, Molecools®, Molepars®, Softlites, Nooklites, Broads, Cyc-

Strips, Scoops, Pattern and Spot Projector Lighting Equipment, AC and DC Generators, Power Distribution, Microphone Booms and Perambulators, Grip Equipment, Special Effects, AC/DC Dimmers, Globes, Carbons, Acetate, Gelatine and Supplies.

## 2801 Mini-Mole Solarspot

A small, rugged Solarspot that can be focused from spot-to-flood with an even field. Used in the Motion Picture and Television Studios and Still Photography as a key-light, back-light or kicker.

Its small size makes the Mini-Mole adaptable to mounting on a camera as a camera light.

Quartz Tungsten-Halogen or Incandescent globes, available from 50 to 250W. The top of the fixture opens up and back for easy access to the globe.

2801 Head . . . . . \$143.00  
 2801 (Stg. Plug) Head . . . . . 165.60



4691



2801

## 4691 Litewate Brute Molearc

Designed to be used with the 9" and 6¾" negatives.

A lightweight high intensity arc light with matchless performance, designed for quick moves and ease of handling, especially in locations.

Unsurpassed as a daylight booster and a single source light. For use as a keylight or fill light with a smooth even field from spot-to-flood.

Carbons are available for matching daylight (white flame carbons) and for studio or night location shooting (yellow flame carbons).

4691 Head . . . . . \$13,895.00

## 5541 Molequartz Nine-Light Molefay

Designed for daylight booster when using the new quartz tungsten-halogen Dichroic FAY globes.

Lightweight and compact. Ideal for exterior fill light and for hard to get to or confined areas. By directing this lamp through a windshield or window, boosting of daylight can be achieved. Pivoted globe modules permit varied beam coverage. Converged for maximum light intensity of overlapping beams, or diverged for a broad, smooth field.

Individual globe switches are provided for intensity control without changing color temperature.

Each globe individually held in a globe retainer which mounts directly to the modules. Equally as useful indoors or at night when used with 3200°K quartz globes.

5541 Head . . . . . \$659.00



5541



4411

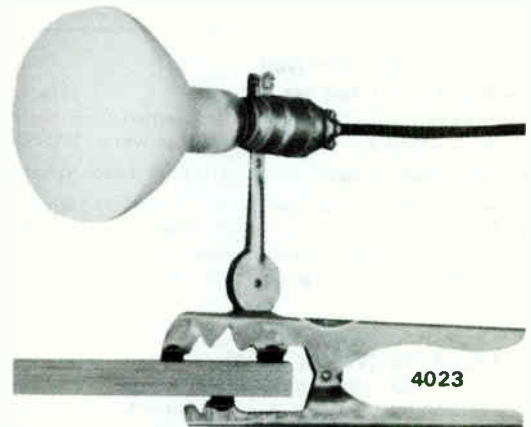
## 4411 Eight-Tube Molescent

The Molescent light fixture is a must for adding front fill light to the overhead fluorescent lighting while filming in color.

The Molescent fixture was designed to accept a wide variety of fluorescent lamps to match the available light in a store, schoolroom, office or factory.

There are two switches that control the light to half or full intensity. Available in kits.

4411 Head . . . . . \$597.50



4023

## 4023 Molegator Grip with Socket

Multipurpose fixture for studio, location, or remote use.

Lightweight and compact, it can be used as a fill light or floodlight in interiors of cars, buses or airplanes or any area where there is a minimum of space and a clamp-on-light is needed.

Fixture can be rotated or tilted to any position desired.

4023 . . . . . \$64.25  
 4023 (Stg. Plug) . . . . . 86.85

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Prices and Specifications Subject to Change Without Notice.

# MOLE-RICHARDSON CO.

937 N. Sycamore Ave.  
 Hollywood, CA 90038-2384  
 (213) 851-0111 TWX: 910-321-4615  
 FAX: (213) 851-5593

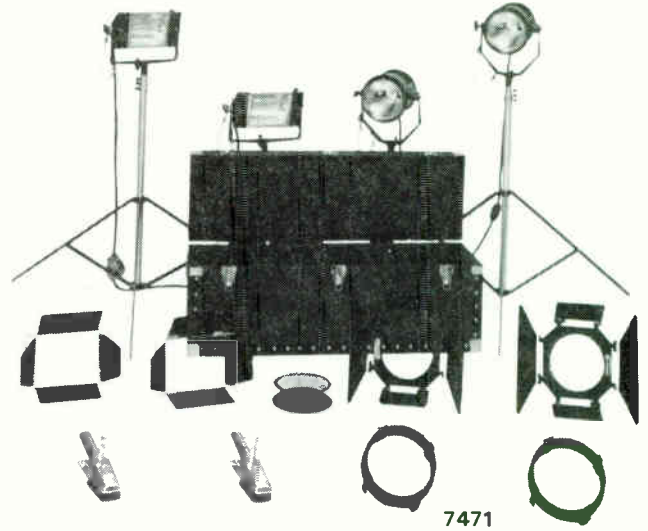
# KITS/STANDS/ EFFECTS/HANGER

## 7471 Molequartz® Molekit

Consisting of:

- 2 2921 Molequartz 1K Nooklite
- 2 2924 4-Leaf Light Shield
- 2 4051 Molequartz Teenie-Mole
- 2 4055 Accessory Holder
- 2 4054 4-Leaf Light Shield
- 1 4059S Single Moledura Scrim—Stainless Steel Screen
- 1 4059D Double Moledura Scrim—Stainless Steel Screen
- 2 4022 Molegator Grip
- 2 5603 Molepac Litewater Stand
- 1 5567 Carrying Case (empty weight 14 lbs.)  
(Globes not included in kit)

7471 .....\$1206.75



## 1391 Baby Size Low Stand

A sturdy but shorter version of the standard size Baby Stand, except with one extension.

- Mounting: 5/8" dia. standard spud • Extensions: 1 • Low: 20" • High: 33" • Folded for Storage: 18 7/8" • Weight: 11 1/2 lbs. • Finish: Baked maroon enamel • Caster Size: 3"

1391 .....\$145.00

## 3431 Double Riser Junior Size Stand

All aluminum heavy-duty low location stand. Extension leg extends to a level position on uneven ground.

- Mounting: Accepts 1 1/8" dia. yoke pin • Extensions: 2 • Low: 30 1/4" • High: 57 1/2" • Folded for Storage: 39 3/4" • Weight: 9 3/4 lbs. • Finish: Clear anodized aluminum • Caster Size: None

3431 .....\$272.00



## 500403 Adjustable Hanger

A streamlined and rugged hanger available in a variety of lengths for hanging Scoops, Broads or Spots in TV studios or other pipe hung applications.

Easily adjustable from minimum to maximum length from pipe grid. A variety of adaptors are available for hanging fixtures one at a time or in multiple.

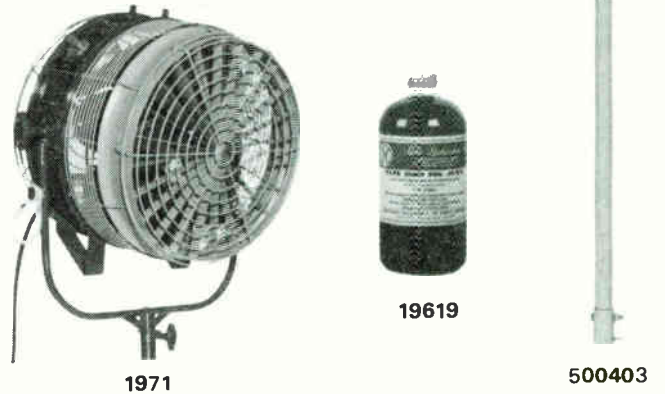
500403 (3') .....\$108.15

Note: The 500403 is available in lengths to 16'.

## 1971 Windmachine Moleffect®

The Windmachine was designed to create maximum air-flow with minimum noise for Hollywood sound stage use. A rheostat control varies the speed of the fan to produce wind effects from a light zephyr to a stiff breeze. This Moleffect is useful not only for routine wind effects, but also for dispersing snowflakes, creating a localized dusty breeze, etc. Radial vanes columnate air-stream; vanes may be removed for wide dispersion. At high speed the fan may be used to cool or ventilate a set or to clear smoke. The unit sets on the floor or mounts on a stand.

1971 .....\$1825.00



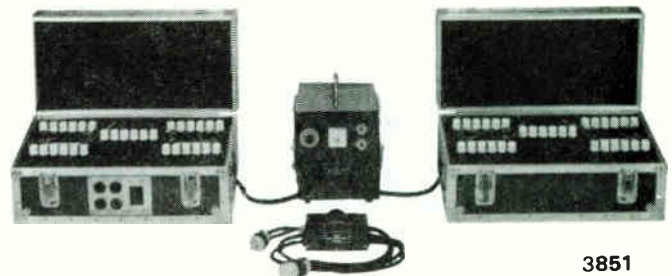
## 3851 Molepower® Wet Cell Battery Pack and Charger Kit

A truly portable power supply for the cameraman or lighting man on the run. Designed to give you up to 4,000W of power at 120VDC.

Comes in two separate cases for portability and ease in handling.

Jumper cable connects the two battery cases in series electrically. Special Molepower battery charger for convenience in recharging battery pack. For use in car, trucks, buses or the out of the way locations where there is no power and booster lighting is needed.

3851 .....\$3372.20



## 19619 Fog Juice (Water Type)

Used with the 1963 Fogmaker Moleffect to create the effects of fog, smoke, haze and mist. Adds a realistic element to a scene depicting a room of dense smoke from a fire, or a room of haze from cigarette smoke. Low lying fog obtained when using the 1967 Cooler with dry ice. Available in 55 gallon drum, case of 6 gallons, gallon or quart.

19619 .....gal./\$29.80

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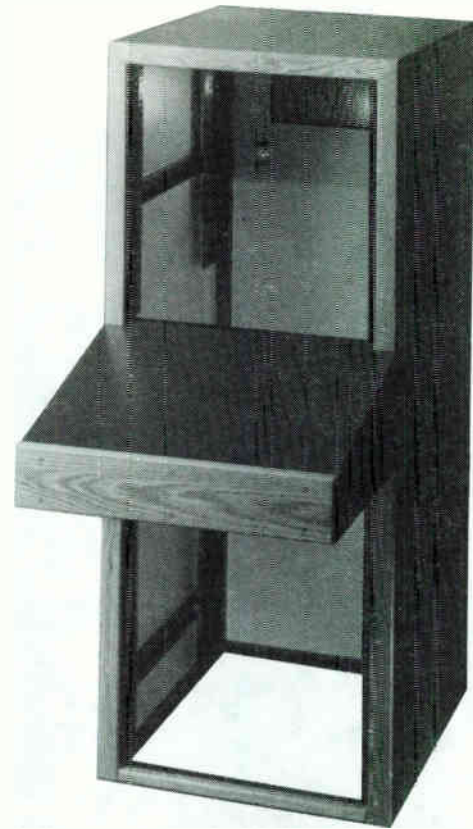
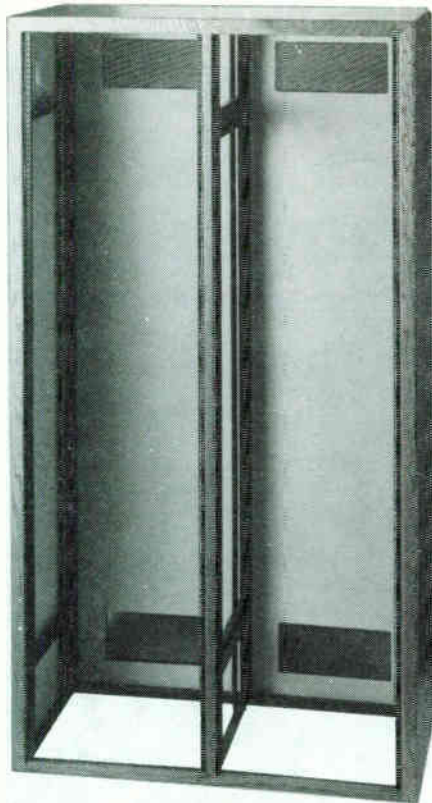
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# MORTON HI-TEK FURNISHINGS

950 W. Central Ave. Unit A  
Brea, CA 92621  
(714) 529-4007 (800) 255-4007

## VERTICAL RACK SYSTEM



### SERIES 100 Vertical Rack System

The Series 100 Vertical Rack System is designed to house 19" rack mounted equipment up to 24" in depth. Rack openings are 19-3/16" with 17-25/32" clearance between rails to handle slightly oversized equipment which does not adhere to the EIA RS-310-C rack standard. All rack rails are manufactured from heavy duty 10 gauge steel and are fully drilled and tapped for 10-32 screws eliminating the need for captive nuts and clips. Decorative black rack screws and protective washers are also available.

The Series 100 is based on our rugged 16 gauge tubular steel framework covered in a tough polyester resin-based substrate and finished in durable plastic laminate. All front and rear edges are trimmed in solid hand-selected oiled oak or walnut giving the look and feel of fine hand-crafted furniture with a contemporary styling.

Removable rear doors with top and bottom black anodized ventila-

tion screens are optionally available. Rear rack rails are also available for cabinets that will house large pieces of equipment which require rear support or rack slides. These rack rails are the same high-quality black anodized tapped steel rails that are used in the standard rack cabinets. The addition of rear rack rails also includes our adjustable mounting system so the depth of the rear rails can be easily changed.

Optional flat or sloped counter assembly may be added to these rack systems at the time of order. Counter is covered in matching plastic laminate with solid oak or walnut trim and has 14" of rack space per bay. The flat counter consumes 2 rack spaces in vertical height while the sloped counter requires 4 rack spaces. The standard knee clearance for either countertop is 25-9/16". 24-1/2" of rack space is available below the counter of each bay. Counters must be installed at the factory and can be retrofitted to existing vertical racks at an additional charge.

Consult factory for details regarding special configurations, pricing and delivery.

#### COUNTER ASSEMBLY

	1 BAY	2 BAY	3 BAY	4 BAY
Flat Counter	\$249.90	\$326.55	\$404.25	\$480.96
Sloped Counter	312.90	409.50	506.10	601.65

#### Series 100 Vertical Rack System

SIZE RACK SPACES	1 BAY	2 BAY	3 BAY	4 BAY	REAR RACK PER BAY	REAR DOOR PER BAY
4 Spaces (7.00')	\$294.00	\$ 470.40	\$ 646.80	\$ 823.20	\$ 66.68	\$ 37.80
8 Spaces (14.00')	334.95	535.50	736.05	936.60	75.86	44.63
12 Spaces (21.00')	375.90	601.65	827.40	1053.15	85.05	51.45
16 Spaces (28.00')	416.85	666.75	916.65	1166.55	94.24	58.28
20 Spaces (35.00')	457.80	732.90	1008.00	1283.10	103.43	64.84
24 Spaces (42.00')	498.75	798.00	1097.25	1396.50	112.61	71.40
28 Spaces (49.00')	539.70	863.10	1186.50	1509.90	121.80	78.22
32 Spaces (56.00')	580.65	929.25	1277.85	1626.45	130.99	85.05
36 Spaces (63.00')	621.60	994.35	1367.10	1739.85	140.18	91.61
40 Spaces (70.00')	662.55	1060.50	1458.45	1856.40	149.36	98.18
44 Spaces (77.00')	703.50	1125.60	1547.70	1969.80	158.55	105.00
Bolt-on Caster Base	199.50	252.00	304.50	357.00		

Prices and Specifications Subject to Change Without Notice.

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# MORTON HI-TEK FURNISHINGS

950 W. Central Ave. Unit A  
Brea, CA 92621  
(714) 529-4007 (800) 255-4007

# PRODUCTION CONSOLE SYSTEM



## SERIES 500 Production Console System

The Series 500 Production Console Systems are ergonomically designed for user comfort and are suitable for most editing and production requirements. Flat console countertop is 19-1/2" deep and 28-3/16" above the floor for comfortable desk height seating. The Series 500 features 14" of rack space (8 rack units) per bay above countertop and can house equipment up to 24" deep. Rack openings are 19-3/16" with 17-25/32" clearance between rails to handle slightly oversized equipment which does not adhere to the EIA RS-310-C rack standard. All rack rails are manufactured from heavy duty 10 gauge steel and are fully drilled and tapped for 10-32 screws eliminating the need for captive nuts and clips. Decorative black rack screws and protective washers are also available.

The Series 500 is based on our rugged 16 gauge tubular steel framework covered in a tough polyester resin-based substrate and finished

in durable hand-selected oiled oak or walnut giving the look and feel of fine hand-crafted furniture with a contemporary styling.

Removable rear doors with top and bottom black anodized ventilation screens are optionally available. Rear rack rails are standard for consoles that will house large pieces of equipment which require rear support or rack slides. These rack rails are the same high-quality black anodized tapped steel rails that are used for front mounted equipment. The rear rack rails also feature our adjustable mounting system so the depth of the rear rails can be easily changed.

Up to 24-1/2" of rack space (14 rack units) is optionally available below countertop to house switcher power supplies, etc. Adjustable rear rack rails are optional for rack space below countertop.

Custom consoles can be manufactured to almost any desired size and configuration. Consult factory for details regarding special configurations, pricing and delivery.

### Series 500 Production Console System

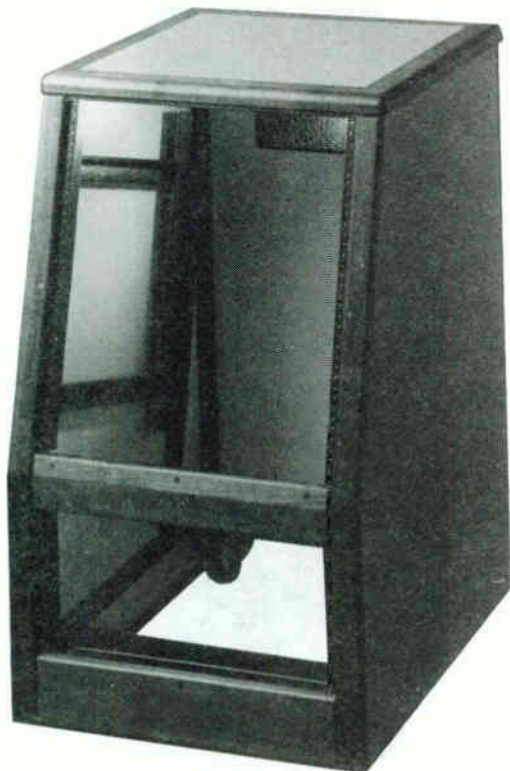
NUMBER OF BAYS	STANDARD UNIT	RACK	REAR RAILS	COUNTER	REMOVABLE
		SPACE BELOW COUNTER	BELOW COUNTER	RACK SPACE	REAR DOORS
1	\$1139.25	\$147.00	\$ 89.78	\$115.50	\$105.00
2	1606.50	235.20	179.55	231.00	210.00
3	2073.75	323.40	269.32	346.50	315.00
4	2541.00	411.60	359.10	462.00	420.00
5	3008.25	499.80	448.88	577.50	525.00
6	3475.50	588.00	538.65	693.00	630.00

Prices and Specifications Subject to Change Without Notice.

# MORTON HI-TEK FURNISHINGS

950 W. Central Ave. Unit A  
Brea, CA 92621  
(714) 529-4007 (800) 255-4007

# VCR HOUSING SYSTEM



## SERIES 1000 Portable VCR Housing System

The Series 1000 Portable VCR Housing System meets the need for 1/2" and 3/4" VCR editing systems by providing space efficient, aesthetically pleasing mobile cabinetry. The Series 1000 is available in two configurations. The Type A housing system was designed for front loading rack mounted 3/4" VCRs up to 24" deep while the Type B system is oriented to house top loading 1/2" and 3/4" VCRs in a configuration that facilitates easy access during editing sessions. Front surface is sloped back to allow viewing VCR controls and to change cassettes. Each Type B VCR tray is 28" wide by 18" deep and is mounted on velvet-glide slides rated at 100 pounds per tray. The Series 1000 comes complete with four heavy duty casters for mobility and rear cabling access.

Rack openings for the Type A System are 19-3/16" with 17-25/32" clearance between rails to handle slightly oversized equipment which does not adhere to the EIA RS-310-C rack standard. All rack rails are

manufactured from heavy duty 10 gauge steel and are fully drilled and tapped for 10-32 screws eliminating the need for captive nuts and clips. Decorative black rack screws and protective washers are also available.

The Series 1000 is based on our rugged 16 gauge tubular steel framework covered in a tough polyester resin-based substrate and finished in durable plastic laminate. All front and rear edges are trimmed in solid hand selected oiled oak or walnut, giving the look and feel of fine hand-crafted furniture with a contemporary styling.

Removable rear door with black anodized ventilation screen is optionally available. The Type A system also features rear rack rails to secure rack slides common to most rack mounted VCRs. Rear rails also include our adjustable mounting system so the depth of the rails can be easily changed.

Consult factory for details regarding special configurations, pricing and delivery.

### SERIES 1000 TYPE A PORTABLE VCR RACK SYSTEM

SIZE RACK SPACES	BASE UNIT	REMOVABLE REAR DOOR
6 Spaces (10.50")	\$714.00	\$ 84.00
12 Spaces (21.00")	777.00	93.45
18 Spaces (31.50")	840.00	102.90

### SERIES 1000 TYPE B PORTABLE VCR TRAY SYSTEM

NUMBER OF TRAYS	BASE UNIT	REMOVABLE REAR DOOR
1	\$808.50	\$ 96.60
2	871.50	107.10
3	934.50	117.60

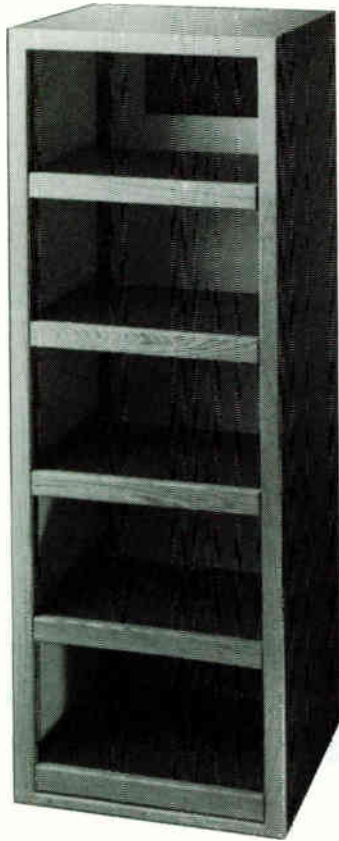
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# MORTON HI-TEK FURNISHINGS

950 W. Central Ave. Unit A  
Brea, CA 92621  
(714) 529-4007 (800) 255-4007

# VERTICAL DUPLICATION SYSTEM



## SERIES 1100 Vertical Duplication System

The Series 1100 Vertical Duplication System fulfills the need for space efficient aesthetically pleasing duplication racks. The Series 1100 features sliding trays 19" wide and 16" deep, mounted on 14" velvet-glide slides rated to carry 100 pounds per tray. The standard vertical spacing between trays is 10-1/2 inches.

Standard 19" rack space is optionally available to house time base correctors, monitors, etc. in the same duplication rack. Rear rack rails are also available for rack-furnished systems that will house large pieces of equipment which require rear support or rack slides. The addition of rear rack rails also includes our adjustable mounting system so the depth of the rear rails can be easily changed. Rack openings are 19-3/16" with 17-25/32" clearance between rails to

handle slightly oversized equipment which does not adhere to the EIA RS-310-C rack standard. All rack rails are manufactured from heavy duty 10 gauge steel and are fully drilled and tapped for 10-32 screws eliminating the need for captive nuts and clips. Decorative black rack screws and protective washers are also available.

The Series 1100 is based on our rugged 16 gauge tubular steel framework covered in a tough polyester resin-based substrate and finished in durable plastic laminate. All front and rear edges are trimmed in solid hand-selected oiled oak or walnut giving the look and feel of fine hand-crafted furniture with a contemporary styling.

Optional removable rear doors with top and bottom black anodized ventilation screens are also available.

Consult factory for details regarding special configurations, pricing and delivery.

Series 1100 Vertical Duplication System

# OF SLIDING VCR TRAYS PER BAY	NUMBER OF BAYS				REMOVABLE REAR DOOR PER BAY
	1 BAY	2 BAY	3 BAY	4 BAY	
1	\$441.00	\$ 749.70	\$1058.40	\$1367.10	\$ 63.00
2	551.25	937.65	1324.05	1710.45	71.40
3	661.50	1124.55	1587.60	2050.65	79.80
4	771.75	1312.50	1853.25	2394.00	88.20
5	882.00	1499.40	2116.80	2734.20	96.60
6	992.25	1687.35	2382.45	3077.55	105.00

SIZE RACK SPACES	OPTIONAL RACK SPACE				REAR RACK PER BAY
	1 BAY	2 BAY	3 BAY	4 BAY	
4 Spaces ( 7")	\$140.70	\$224.70	\$308.70	\$392.70	\$66.68
6 Spaces (10 1/2")	161.18	258.30	355.43	452.55	71.40
8 Spaces (14")	181.65	290.85	400.05	509.25	75.86
10 Spaces (17 1/2")	202.13	323.40	444.68	565.95	80.33
12 Spaces (21")	222.60	355.95	489.30	622.65	85.05



# MPO VIDEOTRONICS CORP.

2580 Turquoise Circle  
Newbury Park, CA 91320  
(805) 499-8513

# VIDEO PRESENTATION SYSTEMS

## 710 7" Color Monitor/Receiver with VHS Player

• 2-head VHS player (HQ) • 3-way power AC/DC • 19 lbs. • 3-speed playback 2, 4, 6 hour • Forward and reverse visual search • Automatic rewind • Programmable replay function • Earphone jack • Wireless remote control • 12" H x 11" W x 11<sup>3</sup>/<sub>4</sub>" D • NTSC color, 250 lines resolution

710 ..... \$1275.00

## 718-MM 7" Color Monitor/Receiver w/8mm Recorder/Player

• Integrated 8mm player/recorder • 250 lines resolution • Visual search, freeze frame • Color monitor/receiver offers VHF/UHF reception • LP (playback only), SP • 3-way power • Audio/video, RF out • AC, DC and car battery • Automatic tracking • 14.8 lbs. — 10<sup>1</sup>/<sub>2</sub>" H x 9<sup>1</sup>/<sub>2</sub>" W x 10<sup>1</sup>/<sub>2</sub>" D

718-MM ..... \$1450.00

1018-MM Same features as 718-mm except 10" ..... \$995.00

## 784LW 7" Color Monitor/Receiver w/VHS Recorder/Player

• 4 head VHS recorder/player • Freeze Frame, Search, and Slow Motion • AC/DC operation • Audio/video and RF output for hook-up to external monitor or TV • UHF/VHS reception • 19 lbs. • 11<sup>1</sup>/<sub>2</sub>" H x 8" W x 12" D

784LW ..... \$1450.00

## 984S 9" Color Monitor/Receiver w/VHS Recorder/Player

• 4 head VHS recorder/player • Freeze Frame, Search, Slow Motion • Remote control • Audio/video and RF output for hook-up to external monitor or TV • AC/DC operation • UHF/VHF reception • 24<sup>1</sup>/<sub>2</sub> lbs. • 15<sup>1</sup>/<sub>2</sub>" H x 10<sup>1</sup>/<sub>2</sub>" W x 12<sup>3</sup>/<sub>4</sub>" D

984S ..... \$1425.00

## 1010 10" Color Monitor w/VHS Player

• 2 head VHS deck, with HQ (High Quality) feature • 3 speed playback — 2, 4 and 6 hour play speeds • SP, LP-SLP • Forward and reverse visual search • Automatic repeat • Wireless remote control • 250 lines resolution • RF out • Audio/video out • 24 lbs. • 14<sup>1</sup>/<sub>2</sub>" H x 11" W x 11<sup>1</sup>/<sub>4</sub>" D

1010 ..... \$1140.00

## LDV-1208 12" Monitor w/8" Laser Disc Player

• High resolution • Full function remote control • Uses one or two sided 8" laser discs • Unit controls and laser disc loading slot are concealed behind a flip-down door for protection • Operates on a 117/120VAC current • May be connected to an external monitor or television

LDV-1208 ..... \$1795.00

## 1310 13" Color Monitor w/VHS Player

• Automatic front load VHS player • 250 lines resolution • Automatic rewind • Continuous run • 3-speed automatic playback (SP, LP and EP) • Forward and reverse search function in play mode • Front door to conceal controls • RF and composite video outputs • 42 lbs. • 19" H x 15" W x 15<sup>1</sup>/<sub>4</sub>" D

1310 ..... \$895.00

MPOP 1300 Monitor, playback only, continuous run electronic message generator ..... \$1095.00

MPOP 1300T Monitor, playback only, continuous run electronic message generator w/timer ..... \$1115.00

## VHS-1990R

### 19" Color Monitor/Receiver w/VHS Recorder/Player

• Front load VHS recorder/player • Wireless remote control • UHF/VHS reception (cable ready) • 4 program, 2 week programmable recording • 79 lbs. • 21<sup>1</sup>/<sub>2</sub>" H x 19<sup>3</sup>/<sub>4</sub>" W x 19" D • Continuous run

VHS-1990R ..... \$1045.00



784LW



1010



1310

## Accessories

### Carry Bags

C-63	710—padded cordura with shoulder strap	\$ 75.00
C-A9	718-MM, 784LW—padded cordura with shoulder strap	75.00
C-84	984S, 1010, 1010T—padded cordura with shoulder strap	95.00
C-71	1200, 1200C, 1264, LDV 1208—padded cordura	110.00
C-A4	1310, MPOP 1300—padded cordura	115.00

### Shipping Cases, Lightweight

S-62	984S, 1010/1010T—accommodates unit with carry bag	\$165.00
S-62	1200, 1264, LDV 1208—accommodates unit without carry bag	165.00
S-86	LDV 1208—accommodates unit with carry bag	165.00
S-A-3	1310, MPOP 1300—accommodates unit without carry bag	170.00

### Shipping Cases, Durable/Lightweight

S-81	718-MM, 784LW—accommodates unit with carry bag	\$170.00
S-D2	710—accommodates unit with carry bag	170.00

### Shipping Cases, Heavy-duty

S-74	984S, 1010/1010T—accommodates unit with carry bag	\$265.00
S-74	1200, 1264, LDV 1208—accommodates unit without carry bag	265.00
S-A5	1310, MPOP 1300—accommodates unit without carry bag	280.00
S-D1	1990R—includes locking casters	495.00
S-76	Castors for ATA cases	85.00

### Travel Cart

A-83 Heavy-duty, collapsible, 150 lb. capacity ..... \$95.00

### Remote Control

A-B4	718-MM wired remote	\$55.00
A-87	1010 wireless remote	27.00
A-A6	1310 wireless remote	25.00

### Batteries

B-85	784LW—12V, 1 hr. play	\$125.00
B-83	718-MM—12V, 1 hr. play	125.00

Prices and Specifications Subject to Change Without Notice.

V-819

# MYCOMP TECHNOLOGIES CORP.

200 McCormick Ave.  
Costa Mesa, CA 92626  
(714) 545-5111  
Telex: 85-5065 FAX: (714) 545-3487

# DISTRIBUTION AMPLIFIER/REMOTE CONTROLLER/TRANSMITTERS

## DA-108 Distribution Amplifier

- Compact single-rack-unit brushed metal housing • 8-out video, 8-out stereo audio • Solderless jumpers provide additional flexibility in selecting nominal gain settings and input/output configurations • High signal-to-noise ratio 115dB, 20Hz-20kHz • High input impedance 100K ohm balanced • Low output impedance, 75 ohms  $\pm$  0.5% allows for extended unbalanced low-level cable runs • Entire chassis assembly slides out to allow ready access • Convenient front panel test points or trims • Frequency response (audio):  $\pm$  0.1dB, DC to 30kHz, -3dB at 100kHz • Frequency response (video):  $\pm$  0.1dB, 10Hz-5MHz, +0.1dB, -0.2dB, 5MHz-8MHz, +0dB, -0.5dB at 10 MHz

The DA-108 is a high quality video/stereo audio distribution amplifier designed to drive up to eight duplication VCRs or slave DAs. It provides each with separate 75 ohm video and 33 ohm audio outputs. The audio circuitry provides extremely low noise and distortion signal paths for use with high fidelity recorders and digitally mastered audio sources.

DA-108 . . . . . \$1150.00



DA-108

## SUC-408 Duplicon 8 Serial VCR Remote Controller

- Eight isolated serial outputs for command and control communication to the recording VCRs • Single status feedback interconnection to the initial VCR in the system • Eight pushbuttons on the front panel allow selection of the operating modes for the VCRs • Sets all recording machines to identical functions simultaneously • Illuminated buttons • Daisy-chain expansion capability option • Loop-through capabilities

SVC-408 includes OC-D8 cable . . . . . \$960.00



Duplicon 8 Controller



Rear Panel

## Transmitters

### DRC-120-12 Transmitter

- 20 illuminated and relegendable pushbuttons • Functions as the operator's control panel in the machine control environment • Eight function buttons on the front panel directs operating commands (play, stop, fast forward, rewind, pause, hi-fi, record, eject) to the other system tributaries down line • 12 numerically identified buttons are used to select the banks of VCRs which will receive and respond to the operating commands • Illumination patterns of the pushbutton lamps (unlit, lit or flashing) indicate processing status to the operator

DRC-120-12 . . . . . \$2150.00

### DRC-120-20 Transmitter

- 20 buttons used for bank delegation in the machine control system • PRC-138 permits entering the function commands to the delegated banks

DRC-120-20 . . . . . \$2150.00

### PRC-138 Passive Remote Control Panel

- Accessory for the DRC-120-20 transmitter • Expands the number of pushbuttons by eight, thus allowing the delegation of up to 20 banks of VCRs from the front panel of the DRC-120-20 transmitter • Connects via a 25-pin D-connector cable to its corresponding DRC-120-20 transmitter and is enabled through DIP switch settings on the transmitter's IOB • DRC-120-20 supplies the operating voltage for its ancillary PRC-138

PRC-138 . . . . . \$460.00

### DRC-120Q Controller

- 20-button transmitter used in the quality control system • Provides VCR functions and individual bank and VCR select • Allows the operator five rack selects and eight machine selects for both switching and control • Six transport function controls (stop, play, rewind, fast forward, eject, hi-fi) and auto • Automatic sequencing option

DRC-120Q . . . . . \$2500.00

# MYCOMP TECHNOLOGIES CORP.

200 McCormick Ave.  
Costa Mesa, CA 92626  
(714) 545-5111  
Telex: 85-5065 FAX: (714) 545-3487

# RECEIVERS/EXPANSION BOX/ BUS CONTROLLER/INTERFACE

## DRC-202 Two Channel Receiver

- Three-fold purpose in a machine control system environment:
  - Receives commands sent by the transmitter
  - Acts upon those commands by applying the appropriate signals to its output pins to directly or indirectly control the slave VCRs
  - Relays confirmation back to the controlling transmitter that the commands were received
- Equipped with 2 machine control output connectors on back panel, both of which may be independently addressed and controlled
- Each output connector is normally attached to one or more EB-308 expansion boxes, each of which may be connected to as many as eight VCRs
- May control two banks of machines, each bank consisting of one or more racks
- Housed within a single rack unit high brushed metal package
- Standard back panel connectors
- Four thumbscrew disconnects for access to the dual-board electronics assembly
- No front panel operator controls on these modules
- Illuminated power switch on the rear panel functions as a power-on indicator

**DRC-202** ..... \$1480.00

## DRC-208 Modular Receiver

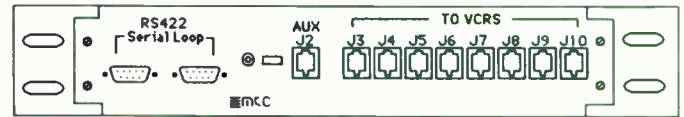
- Used within the Bidrex machine control system
- Accepts command transmitted over the RS422 line from the transmitter, acts upon those commands by sending the appropriate messages to the attached VCRs and relays operating status back to the controlling transmitter
- Eight separately addressable and independently controllable output connectors on the backplane are designed to be connected directly to the eight VCRs which they will control
- Modular receivers return full machine status to their respective transmitters and also provide full error reporting via their digital displays and alert lamps
- Digital display
- Two recessed incremental/decremental pushbuttons used for bank identification
- Illuminated fault/reset button

**DRC-208** ..... \$1120.00

## EB-308 Expansion Box

- Contains the circuitry to allow a single input signal from the two-channel receiver within the machine control environment to fanout into eight output signals
- Serves to prevent an electrical overload of the system lines
- Through eight 15-pin D connectors on its rear panel, each EB-308 in the system can be interfaced to eight duplicating VCRs/
- Can also be daisy-chained together thereby permitting a command to be issued to several racks of VCRs simultaneously
- Housed in a single rack unit high brushed metal case
- Powered by the system but a dedicated power connector is available on the rear panel should an auxiliary power supply be necessary
- To control the operating functions of 1/2" and 3/4" parallel remote control VCRs with Dupicon 8 requires adding expansion boxes to the duplicating system
- One single rack unit high expansion box can interface to a maximum of eight parallel VCRs of the same type through the 15-pin male D connectors on its back panel

**EB-308** ..... \$525.00



**MODULAR RECEIVER REAR PANEL**



**MODULAR RECEIVER FRONT PANEL**

## DRC-001A Bus Controller

- Regulates all communication traffic on the RS422 network by continuously polling all other connected devices within the system and forwards messages between them
- Polling sequence is able to identify any new receivers brought online since the last polling and to download the operating program to those units automatically
- Performs various housekeeping tasks
- Issues status reports on system activity to the optionally installed personal computer within the Bidrex system
- Two separate boards, a central processor board (CPB) and a memory expansion board, contained within a single rack unit high brushed metal housing comprise the bus controller's circuitry
- No operator controls on the unit except for an illuminated power switch on its rear panel which also functions as the power-on indicator

**DRC-001A** ..... \$1160.00

## DRC-301A Routing Switcher Interface

- Serial-to-serial translator which resides on the machine control system's RS422 line
- Accepts and encodes bank delegation commands as well as operating instructions from specially configured transmitters into crosspoint closure commands to the online routing switcher
- Central Processor Board (CPB) and a Serial I/O board (IOB) contain the on-board logic and I/O circuitry necessary to establish and maintain communication between the routing switcher and the machine control system
- Operating programs for the routing switcher interface can be custom designed for each system and are resident on EPROM within the device
- Allows for program signals to be routed automatically to VCR banks through the DRC-120 20-button transmitter. DRC-600 required

**DRC-301A** ..... \$1400.00



# MYCOMP TECHNOLOGIES CORP.

200 McCormick Ave.  
Costa Mesa, CA 92626  
(714) 545-5111  
Telex: 85-5065 FAX: (714) 545-3487

# CABLES/

# AUTOMATIC CASSETTE CHANGER

## Cables

### General Use Machine Control Cables

**IC-201/205** 1' and 5' interconnect cables used in all MTC machine control systems between receivers and controllers. 9-pin DF to 9-pin DM sericon cable . . . . . \$55.00  
**IC-301/305** 1' and 5' interconnect cables used to interconnect expansion boxes. 15-pin DM to 15-pin DF sericon cable . . . . . 55.00  
**IC-338/25P** Used to interconnect remote control panel to its complementary transmitter. 25-pin DM to 25-pin DF. . . 65.00  
**IC-338/15P** Used to interconnect a remote control panel or a duplicon 8 to an expansion box in parallel VCR systems. 25-pin DM to 15-pin DF . . . . . 55.00

### QC Switcher System Cables

**AICQ-108-RH/LH** Input cable assemblies for right and left channel hi-fi audio, 8 standard lengths to accommodate for VCRs positions in rack . . . . . \$55.00  
**AICQ-108-RN/LN** Input cable assemblies for right and left channel normal audio. . . . . 55.00  
**ICA-101/105** 1' and 5' video interconnect cables, used to interconnect audio switcher modules and the audio in port of the first VCR . . . . . 45.00  
**ICV-101/105** 1' and 5' video interconnect cables, used to interconnect video or RF switcher modules and the video in port of the first VCR. . . . . 15.00  
**MIC-3XX/#** 20-pin Hirose to 20- or 34-pin Hirose parallel cable used to connect VCRs to the multi-channel receiver in each QC rack. 8 standard lengths accommodate for VCRs position in rack (#). XX signifies VCR model number. For installation convenience, this cable is also available as a harness assembly . . . . . \$55.00

### Bidrex Serial Machine Control System Cables

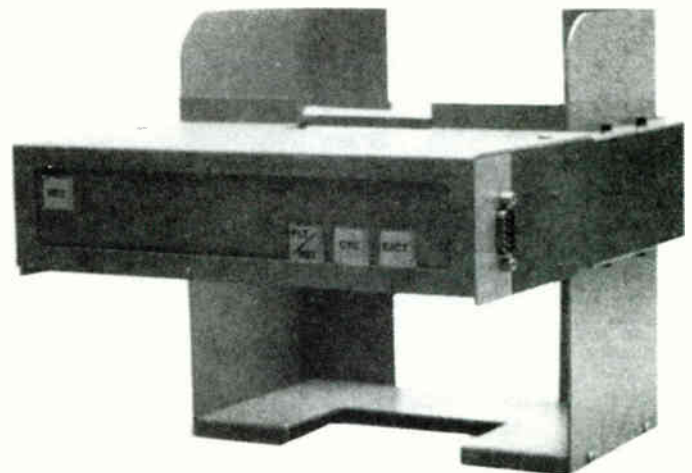
**CK368/370** Cable kit allowing internal wiring of Bidrex boards in specific VCR models (Sony SLO1800, Panasonic AG6810S, JVC BR7000UR). . . . . \$20.00  
**BMU-CKA, CKB** Analog monitoring cable kit for video, RF, audio signals and framing pulse  
**BMU-CKA** 1 RF, 2 audio, 1 FG pulse . . . . . 20.00  
**BMU-CKB** 2 RF, 4 audio, 1 FG pulse. . . . . 25.00  
**OC-200/#** Shielded, 6 conductor modular telephone type cables in 8 standard lengths to accommodate VCRs position in rack (#): connects slave VCRs to 8-channel modular receiver outputs . . . . . 10.00  
**OC-200/H** Harness of 8 above cables designed to facilitate installation . . . . . 90.00  
**IC-232/XX** Connects customer's PC to Bidrex Computer Interface module; XX = length to 50' maximum. . . . . 60.00

### Special Purpose Cables

**OC-D8** 25-pin D to 34-pin Hirose cable provides power and status connection between Duplicon 8 and the initial VCR in a serial VCR system; included with unit at shipment . . . \$65.00  
**EBYC-D8-34P/20P -A "Y"** cable used with parallel VCRs to interconnect the Duplicon 8, the expansion box and the initial parallel VCR control and status reporting . . . . . 95.00  
**OCA-100/H** or **OCV-100/H** Audio or video output cable harness assemblies used with distribution amplifiers to permit audio or video signals to be sent to 8 VCRs in rack. . . . . 85.00  
**ICA-10X-1** Audio interconnect cable for DA-108 provides 9-pin DM connector at DA and dual RCA or XLR connectors to VCRs for balanced audio signals . . . . . 45.00

## ACC-01 Automatic Cassette Changer

- Individual cassette change cycle completes in less than 15 seconds
  - Single motor driven mechanism with electronic monitoring of applied torque to prevent damage to machines and cassettes
  - Fault/Reset button permits local fault reset when the changer is installed within Bidrex machine control system
  - Monitors VCR recording with front panel illuminated record indicator
  - Cycle lamp remains steadily lit during normal operation; a malfunction during loading or unloading triggers a flashing signal on this indicator, instantly alerting the operator to a problem
  - Eject button allows local control of eject function for maintenance purposes
  - VHS format
  - Mounts on the face of the duplicating VCR
  - Allows automatic loading and unloading of up to four video cassettes
  - Variable sized upper and lower hoppers, there is no need to reconfigure your facility to meet a static sized changer
  - Installation requires no modifications to the VCR, however, minor modifications to the VCRs machine control cable may be necessary
  - 9-pin male D connector on the changer's side panel has flexible pinouts permitting multi-purpose interconnects
  - Power: 12VDC, supplied by VCR
- ACC-01** VCR mounting bracket included . . . . . \$425.00



ACC-01

# MYCOMP TECHNOLOGIES CORP.

200 McCormick Ave.  
Costa Mesa, CA 92626  
(714) 545-5111  
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# CONTROL SYSTEMS

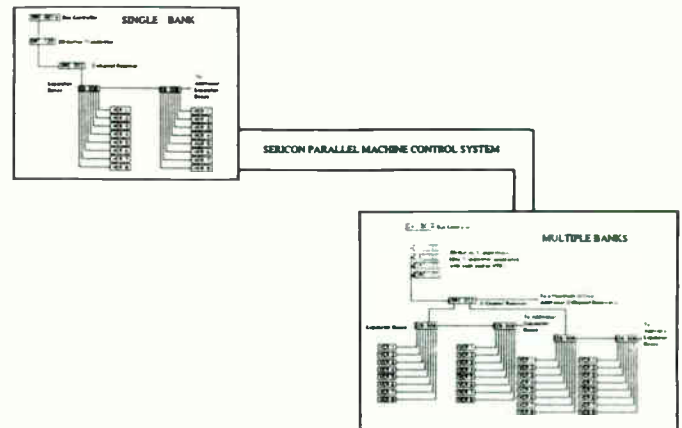
## Sericon Parallel Machine Control System

With Sericon, MTC offers a basic building block machine control system that allows you to get started economically...but with the potential to expand quickly and effortlessly when you're ready. The MTC packaging simplifies maintenance and the controls are easy to learn by even inexperienced operators.

With a Sericon System you can easily delegate the banks required for a job and reconfigure them quickly for the next pass from the convenient front panel pushbuttons of the transmitters.

During system operation the bus controller continuously polls all the modules on the Sericon line and forwards all necessary messages between the appropriate devices. The polling sequence begins with a query to the transmitters for their function and delegation keypresses. A built-in software feature prevents any keypresses from being lost should two transmitters respond simultaneously which, because of the finite time element involved, is unlikely. A delegation command causes the bus controller to update its delegation tables, to alert the transmitters to make the delegation assignments and to inform the optional routing switcher interface to change the audio and video crosspoints in the routing switcher to reflect this activity.

An active receiver returns to an immediate response to the bus controller confirming its receipt of the delegation command. No response alerts the bus controller that the receiver is not online. Each of these eventualities is immediately reflected in the illumination patterns of the transmitter's pushbutton lamps. If an operating command is sensed, the Bus Controller sends this message to the appropriate receivers for the delegated banks which then relay the command to the VCR's under their control. In the interim, the bus controller looks for any delegation



DIAGRAMS ABOVE SHOW THE VARIOUS MTC MODULES WHICH CONSTITUTE THE SYSTEM. IF REQUIRED, A ROUTING SWITCHER INTERFACE MAY BE ADDED TO THE LOOP.

changes or alterations in the status of transmitters which could affect delegation. It then triggers messages to these devices to update their lamps to reflect these changes for easy operator referral. The bus controller's polling routine next checks the receivers sequentially through their bus addresses to ascertain which banks are online. The polling sequence concludes with the bus controller's determining which transmitters are online by addressing each in turn until reaching the maximum number set by the system. The bus controller then loops back to the beginning to repeat the polling sequence. An entire polling sequence of the Sericon machine control system takes less than 150ms to complete.

## Unicon Multiple Control/Distribution System

The Unicon System combines the features of three of MTC's most popular products...Bidrex Machine Control, QC switcher and audio/video distribution amplifier...to create a universal control package for the cost-conscious video duplicator. MTC designed and built Unicon to provide maximum control in minimum space.

The heart of the Unicon System is the MCDS833 console, a compact two-rack unit high device housing a distribution amplifier, video and audio switcher modules, a modular receiver and a power supply module. The MCDS833 console offers universal control with integrated signal distribution, remote machine control and automated quality control and switching built-in. One console is installed in each eight-machine rack. Each MCDS833 package interfaces to eight Bidrex modified VCRs via the modular receivers separately addressable and controllable output connectors which permit individual machine control, analog signal monitoring and status feedback. Front panel LEDs and a digital display keep the operator apprised of on-going system activity. The distribution amplifier circuitry within the MCDS833 console provides each VCR with 75 ohm video and 33 ohm audio outputs. Front panel test points and trims allow adjustment of audio output signal levels, video quality and high frequency signals.

Local monitoring stations at each bank permit automated quality control checking of all completed tapes at the end of each recording pass, precluding the need to relocate the completed tapes to a separate QC area.

The auto QC sequencing option, cycles through all machines under control of the monitoring station, permitting even more efficient quality control. Selecting the pass check button on the local controller initiates an analog monitoring sequence at the end of the recording pass to assure all cassettes meet established signal levels. This 30-second test occurs simultaneously in all machines within the bank and any failing tapes are automatically ejected.



MCDS833 (Front Panel)



(Rear Panel)

The flexible Unicon System is expandable to 60 banks of five 8-machine racks...2400 VCRs.

The single master control station within the Unicon System requires an IBM PC, used for machine delegation and continuous status reporting. The bus controller is responsible for monitoring all communication traffic on the system's RS422 lines. The transmitters/controllers, system assigned to specific source VTRs, are used to input function commands to the delegated banks. A universal pass check can be implemented for all completed tapes from the front panel of the transmitters. The E-E check permits the technician to measure the signal levels being received by the individual VCRs to assure maximum quality in the completed tapes.

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# CONTROL SYSTEMS

## Quality Control Switching System

The QC Switcher system can supervise up to five racks or eight VCRs and comprises four units, any of which are available also as standalones:

### Switching Frame (QCS-XX)

In addition to the power supply, each frame can hold up to six switching modules of any configuration selected to meet the user's needs. The individual switching modules include:

- 8 x 1 stereo audio module (QAM-01)
- 8 x 1 video/RF module (QVM-01)

The versatile design allows mixing and matching of these modules for customizing of the QC station. There are no operator controls on the switching frame except for the power switch on the rear panel. The front panel features power-on indicator lamps for both the audio and video power supplies. The audio and video levels are internally trimmable and are adjusted to unity at the factory prior to shipment. Looping output connectors on all modules within the frame create a possible 128 x 8 matrix with negligible signal deterioration. MTC's design assures high module-to-module isolation necessary for low level signals. One switching frame resides in each QC rack.

### Multi-Channel Receiver (DRC208A3)

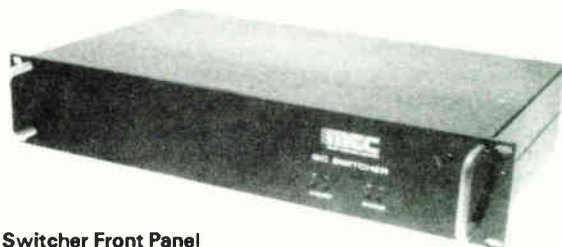
The Multi-channel Receiver offers eight parallel output connectors to allow separate assignment and control of VCRs from the front panel of the system controller. Switching can be done in the vertical interval or randomly. One Multi-channel Receiver is required for each QC rack. The system also requires one Modular Receiver (DRC-208) at the monitoring station. A digital display on its front panel gives instant verification of machine selection and on-going QC operation and also provides failure statistics to the operator.

### QC Controller (DRC1200)

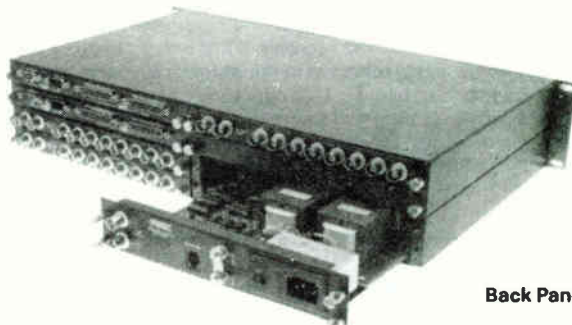
This twenty-button controller allows the operator five rack selects and eight machine selects for both switching and control, six transport function controls (stop, play, rewind, fast forward, eject, hi-fi) and auto, an automatic sequencing option. Installed in the monitoring station, a single controller provides the control panel for the entire QC system.

### Bidrex Serial Machine Control System

- Delegates, controls and monitors from 1 to 60 banks of duplication VCRs assigned to a maximum of ten source VTRs from a single command center
- Provides ongoing status feedback to the system and the PC which displays constant updates during system operation
- Monitors up to seven analog signals from the slave VCRs and during the post-duplication pass check (performed simultaneously on all completed tapes) ejects any cassettes failing to meet predefined standards
- Automatically rewinds all cassettes at insertion
- Monitors each VCR's E-E signals to check the video and audio signal levels being received by each individual machine



QC Switcher Front Panel



Back Panel

- Expandable...once the basic system is in place, additional modules may be very easily added as production increases
- Flexible...machine delegation patterns can be assigned different pass numbers, stored in memory and retrieved as necessary, allowing for instant changeover in machine assignments to meet varying requirements

In the Bidrex System, the PC screen gives the technician instant data on the delegation information and on the progress of the recording pass.

The innovative component responsible for the unique aspects of the Bidrex System is the Bidrex modular board itself. Connected directly to the modular receiver, one of these PCBs interfaces to each VCR in the system and performs complete remote transport function control and status feedback. It also acts as a data acquisition device for monitoring and analyzing all audio and video analog signals including the RF waveforms from the scanning heads as well as any stereo audio phase errors. This data is sent to and compiled by the receiver which acts appropriately upon any error report and relays the information to the computer for status updating.



# NALPAK VIDEO SALES, INC.

1937-C Friendship Dr.  
El Cajon, CA 92020  
(619) 258-1200

# ALL PURPOSE CARTS

## TK-150 Travel Carrier

- Large 11 1/2" x 9 1/2" steel base
- Ideal for soft luggage
- Patented "one-motion" opening and closing feature
- Double telescopic self-locking rods
- Can be pushed or pulled when loaded
- Weighs 4 1/2 lbs., supports up to 150 lbs.
- Extended height 41", collapses to 18 5/8"
- Carry-aboard feature
- High quality 4" rubber wheels
- Elastic cords permanently attached
- Wheel guard for added protection
- Handsome carry case included

TK-150 .....\$ 79.50

TK-154 with extra rear wheels .....102.50

## TK-300 Travel Carrier

- Heavy-duty model for large loads
- Sturdy, double telescopic self-locking rods
- Large 12 1/2" x 16" steel base
- Patented "one motion" opening and closing feature
- Load can be pushed or pulled
- "Step Glide" feature for easy access over stairs and curbs
- Weighs only 12 lbs., supports up to 300 lbs.
- Extended height 49", collapses to 20 1/8"
- Fits easily under airline seat
- 6" ballbearing wheels with solid rubber tires
- Elastic cords permanently attached
- Wheel and Mud guard for added protection
- Optional zippered carrying case available

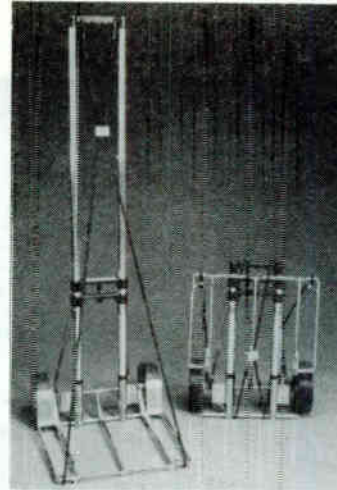
TK-300 .....\$ 115.95

## TK-400 Travel Carrier

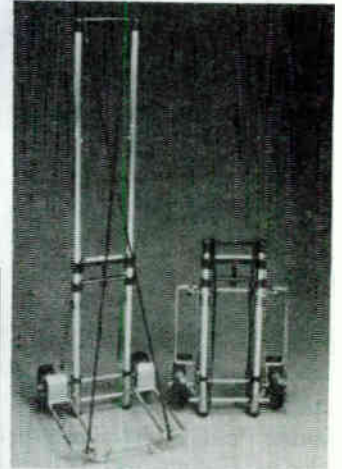
- Big 300 lbs. load capacity
- Can be used as a 2 or 4 wheel cart—all weight is on the wheels, no load on the arms, just push or pull
- Patented design back-support swivel-bearing caster wheels for added stability
- Sturdy 6" pneumatic rubber rim front wheels
- Sturdy, double telescopic self-locking rods
- Large 12 1/2" x 16" steel base
- Patented "one-motion" opening and closing feature
- Back-support caster wheels easy to extend and close
- "Step-Slide" feature for easy access over stairs and curbs
- Mud guards for added protection
- Weighs only 17 lbs., and supports up to 300 lbs.
- Extended height 49" collapses to 20 1/8"
- Fits easily under an airline seat
- Elastic cords permanently attached
- Optional zippered carrying case available

TK-400 w/extra rear wheels .....\$ 126.95

CB-100/200 carry bag .....24.95



TK-300



TK-150



TK-400

## TK-500 Production/Travel Carrier

- Upper removable platform 18" x 15" expands to 18" x 33" — 70 lb. capacity
- Lower platform with adjustable tilt—12 1/2" x 16"
- Total load capacity — 300 lbs.
- Sturdy 6" pneumatic rubber rim wheels
- Patented "one-motion" opening and closing feature
- "Step-slide" feature for easy access over stairs and curbs
- Mud guard for added protection
- Locking rear wheels
- Extended height 49" — collapses to 20 1/8"
- Elastic cords permanently attached
- Includes additional equipment straps
- Shipping weight fully assembled — 26 lbs.

Across town or across country the TK-500 will handle that special production job with ease.

Easily removable upper platform allows the TK-500 to be converted to a 300 lb. capacity luggage carrier and yet this beauty folds easily to fit under an airline seat.

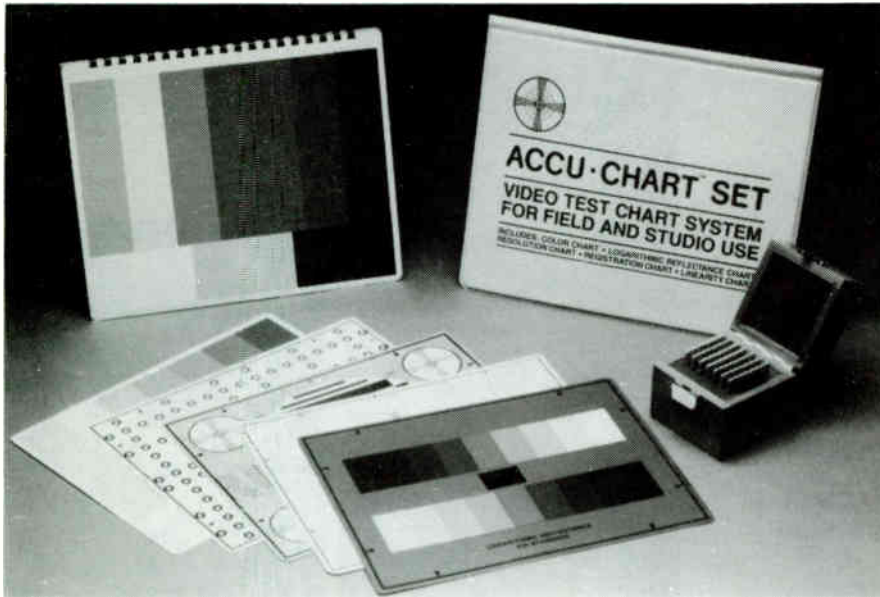
TK-500 w/removable shelf .....\$236.00

AC-500 accessory basket .....33.00

# NALPAK VIDEO SALES, INC.

1937-C Friendship Dr.  
El Cajon, CA 92020  
(619) 258-1200

# TEST CHARTS/SLIDES



Accu-Slides

Accu-Chart

## Accu-Chart™ Set

Video Test Chart System for Field and Studio use includes: Color Chart, Logarithmic Reflectance Chart, Resolution Chart, Registration Chart, Linearity Chart.

**ACC-2** Set of 5 charts with cover and pouch . . . \$117.50

## Individual 9" x 12" Charts

### Gray Scale Chart

Basic standard for setting light response characteristics of cameras. Essential for balancing R, G and B channels in 3-tube color cameras. Chart consists of 2 sets of 9 neutral gray patches on uniform gray background. Reflectances vary from 3% to 60% according to EIA Logarithmic (2) Law. Dead black (R 0.5%) patch establishes black level.

**AC-GS** Gray Scale . . . \$34.95

### Color Reference Chart

A subjective reference chart for checking color rendition. Consists of three primary (Red, Green, Blue) and three secondary (Yellow, Cyan, Magenta) plus 4 gray levels. In color bar format, but not intended for quantitative use. Use to evaluate overall system color reproduction by comparing transmitter image with original chart. Also for use as a field standard; record image of chart at beginning of each tape and adjust monitor on playback for proper color rendition.

**AC-CR** Color Reference. . . \$34.95

### Linearity Chart

Standard EIA "Ball Chart" for adjustment of camera and monitor linearity. Use with electronically generated grating test pattern for quantitative measurements as specified in EIA RS-170

**AC-LN** Linearity . . . \$19.95

### Resolution Chart

For evaluation of frequency response of video systems. Adapted from EIA standard chart, includes resolution targets for 200 to 800 TV lines in center and at four cor-

ners. Also, test objects to detect ringing and streaking. Continuous neutral gray background for shading adjustments.

**AC-RS** Resolution . . . \$19.95

### Registration Chart

Similar to EIA standard chart, used primarily for registration of 3-tube color cameras. Black square grid on white background includes 200-600 line resolution wedges and circular targets for evaluation of linearity.

**AC-RG** Registration . . . \$19.95

### Mini-Charts

Includes: Color Reference, Registration and Logarithmic Reflectance Chart. All charts are 4 1/2" x 6" pattern size

**MCS-1** . . . \$59.95

### Accu-Slides™

Provides the same accuracy for use with Telecine set-up and alignment as the standard Accu-Chart system. Accu-Slides are available in either a positive or negative image. They are mounted in a 2" x 2" glass protected format which is supplied with approved pin registered television mounts and anti-Newton ring optical glass. The Accu-Slideset consists of the same five test patterns as the Accu-Chart set and comes in a custom designed wooden box. Accu-Slides are also available individually.

### Accu-Slides

**Test Slides, available as positive or negative**

**AS-ST** Set of 5 slides complete with wooden box . . . \$80.00

### Individual Slides

**AS-RG** Registration . . . \$11.00

**AS-RS** Resolution . . . 11.00

**AS-LN** Linearity . . . 11.00

**AS-CR** Color Reference . . . 11.00

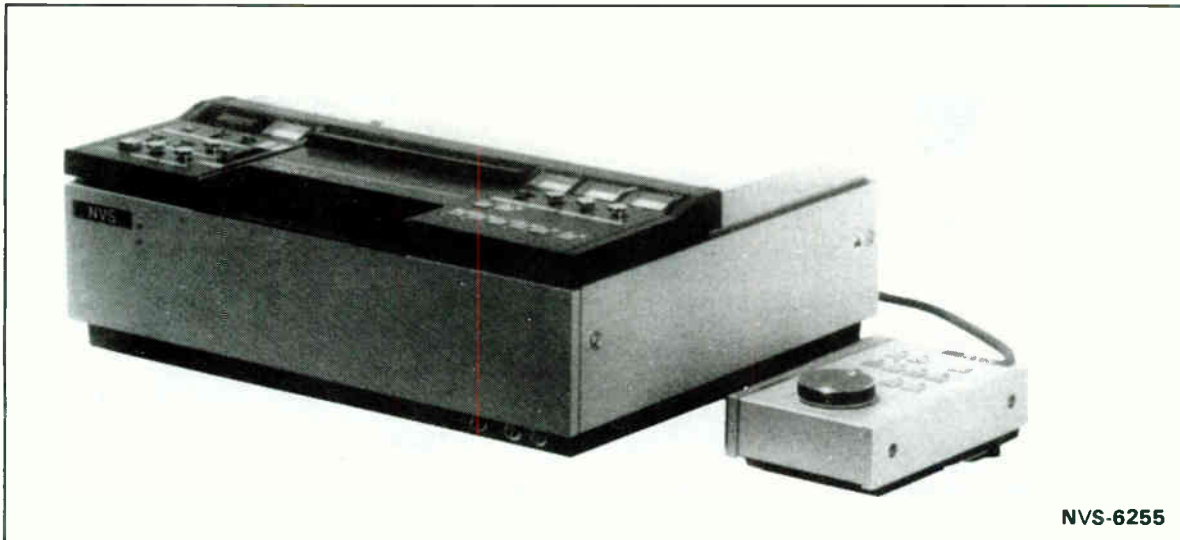
**AS-GS** Gray Scale . . . 11.00

**WB-1** Wooden Box, holds total of 7 slides . . . \$39.00

# NATIONAL VIDEO SERVICES, INC.

Commerce Park, Finance Drive  
Danbury, CT 06810  
(203) 792-3862

# MEDICAL VIDEO CASSETTE RECORDER



## NVS-6255 Wideband Video Cassette Recorder

- Provides every functional convenience for Medical Imaging Procedures
- Automatic Noise-Bar Elimination Circuit  
When going from the play mode to pause the noise-bar automatically positions itself into the vertical blanking for a perfect still frame picture
- Interchangeability  
The recordings made on this machine can be played back on any other  $\frac{3}{4}$ " cassette U-matic player. Of course, there will be loss of resolution
- Tape Transport  
A specially patented system has been developed to allow the recorder to remain in the stop mode indefinitely without head or tape wear; yet the recorder is available for data recording in less than 300ms. This results in a minimum amount of picture disturbance between scans. It also minimizes the patient exposure to the X-rays
- Electronic Counter  
An electronic counter, which counts in minutes and seconds, is included. The counter retains its memory even when power is turned off. Automatic rewind to "0" is standard if so selected
- Video Bypass  
In any mode except play, video is routed through a special bypass circuit so that the full bandwidth of the X-ray system is available for real time diagnostic work. The bypass circuit activates when power is removed from the machine as well

## Specifications

### Power

Requirement: 120V, 50/60Hz, 140W

Dimensions: 22.1H x 56.4W x 47.1Dcm

Weight: 67.3 lbs. (30.6kg)

Operating Temp.: 40°F to 104°F (5°C to 40°C)

Tape Type:  $\frac{3}{4}$ " standard cassette KCA-60

### Video:

Record Time: < 300ms

Playback Time: < 500ms

Signal-to-Noise

Ratio: > 46dB

### Horizontal

Resolution: 3dB at 400 lines (5MHz)

### Limiting

Resolution: > 450 lines

### Audio:

2 Channels

Input Line: -20/0dBs, 10K ohms, balanced

Input Line: -20dBs, 600 ohms, load, low impedance, balanced

Signal-to-Noise

Ratio: > 48dB (at 3% distortion level)

Frequency

Response: 50 to 15,000Hz

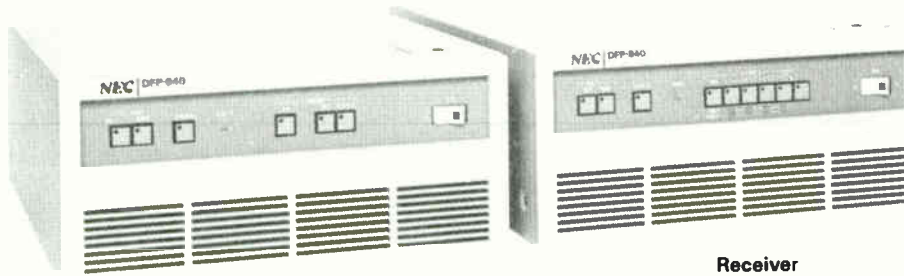
Options:

Full function remote control including variable search forward or reverse

Scan Rates: 525, 875, 1023 and 1049 Line System

NVS-6255 . . . . . \$11,500.00





**Transmitter**

**Receiver**

**DFP-840 Telephone Video System**

- Accepts and transmits a component signal from Betacam VTR without picture degradation
- No picture degradation even for standard NTSC signal by way of direct encoding system
- Built-in data modem which meets CCITT Rec. V29 and V27 ter. to transmit the data in 9600/7200/4800/2400 bps
- Automatic selection of data transmission speed in accordance with the quality of a transmission line being used—Automatic fall back system
- Free from data error by adopting HDLC standard protocol
- Transmission of high quality picture in a short time by way of the NEC exclusive information reduction system called HO-DPCM
- Two field memory in transmitter to send first picture while loading second picture
- Standard two field memory at receiving end can be expanded up to four field memory
- Built-in freeze processing circuit at receiving end to output complete NTSC signal which has four field sequence, even if input signal at transmitting end is composite

The DFP-840 Telephone Video System captures and stores field or frame information of a component video signal from Betacam VTR or a standard NTSC signal from color camera, and transmits it via the Direct Distance Dialing (DDD) network or a leased line. The picture quality at the receiving end is so excellent that this system is suitable even for broadcast application.

Electronic News Gathering (ENG) in the broadcasting industry is getting popular and indispensable with the introduction of Camera-VTR combo systems. The DFP-840 makes it possible to transmit the ENG material obtained from any remote area to central broadcast station via any existing telephone line.

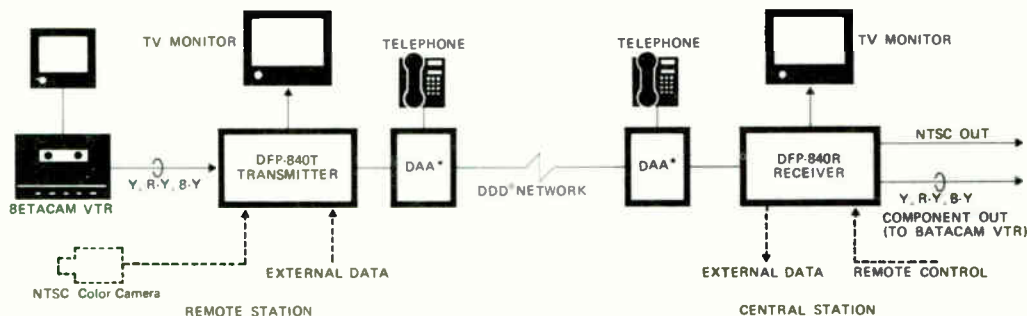
Security/Surveillance means keeping an eye on a multitude of on-site locations. The DFP-840 provides economical monitoring of plants, power stations, traffic control areas, airports—anywhere that visibility is vital and in-person patrolling is difficult and costly. Medical communications demand quick examination of X-rays, microscopy, specimen image transmission and other live camera data. The DFP-840 handles vital remote diagnosis, often in minutes or seconds. Manufacturing is a visual process. From blue prints on the drawing board to full-color images of finished products or parts, the DFP-840 can give you profitable, eye-to-eye 3-dimensional communication throughout your manufacturing operations.

**Specifications**

<b>Transmitter</b>	
<b>Input Video Signal:</b>	Composite NTSC Signal: 1V p-p, 75 ohm or Component Analog Signal Y: 1V p-p, 75 ohm; R-Y/B-Y: 0.7V p-p, 75 ohm
<b>Sampling Frequency:</b>	Y (or Composite NTSC): 4xfsc; R-Y/B-Y: 1xfsc
<b>Quantizing Level:</b>	8 bit/picture element (Y, R-Y, B-Y each)
<b>Memory Capacity:</b>	2 fields (corresponding to 6144K bits)
<b>Line Interface</b>	
<b>(Output Signal):</b>	0 to -31dBm, 600 ohm balanced (adjustable in 1dBm step)
<b>Dimensions:</b>	5.9" H x 13.5" W x 17.3" D (150 x 340 x 440mm)
<b>Weight:</b>	40 lbs. (18kg)
<b>Receiver</b>	
<b>Line Interface</b>	
<b>(Input Signal):</b>	0 to -40dBm, 600 ohm balanced
<b>Output Video Signal:</b>	Composite NTSC Signal: 1V p-p, 75 ohm or Component Analog Signal Y: 1V p-p, 75 ohm; R-Y/B-Y: 0.7V p-p, 75 ohm
<b>Memory Capacity:</b>	2 fields (corresponding to 6144K bits) (max. 4 fields as option)
<b>Dimensions:</b>	5.9" H x 13.5" W x 17.3" D (150 x 340 x 440mm)
<b>Weight:</b>	Approx. 40 lbs. (18kg)
<b>System Performance</b>	
<b>S/N Ratio:</b>	40dB (p-p/RMS) or more
<b>Transmission Time</b>	
<b>(at 9600 bps):</b>	Composite Signal: Approx. 64 sec.* Composite Signal: High Speed Mode: Approx. 48 sec.* Detail Mode: Approx. 95 sec.*

\*Measured in the Field Transmission Mode

<b>DFP-840 Transmitter</b> .....	<b>\$16,500.00</b>
<b>DFP-840 Receiver</b> .....	<b>15,800.00</b>
<b>DFP-850 Telephone Video System</b> Low cost and compact system for teleconferencing and security/surveillance applications without modem .....	<b>7,810.00</b>
<b>DFP-850 With modem</b> .....	<b>9,140.00</b>



**System Configuration for ENG Application**

• DAA: Data Access Arrangement    • DDD: Direct Distance Dialing

# NEC HOME ELECTRONICS (USA), INC.

1255 Michael Drive  
Wood Dale, IL 60191-1094  
(312) 860-9500 (800) 323-1728  
FAX: (312) 860-5812

# COLOR MONITORS/RECEIVERS/ VHS RECORDER/PLAYERS

## PM-971A 9" Color Video Monitor

- Black matrix picture tube • Picture tube corrects for pincushion distortion • Switchable AFC • Blue raster switch for quick correct picture setup • High DC restoration • Heavy-duty switching power supply • Video input/loop output with BNC connectors; switchable input impedance 75 ohms/high • Detachable 3-prong, grounded AC cable • Audio inputs, built-in audio amplifier and loudspeaker • Full range of controls: color, tint, black level, picture and sharpness • EIA rackmount capability

PM-971A . . . . . \$430.00  
RM-97A Dual PM-971A rackmount kit (6 rack units high) . . . . .90.00

## PM-1271A 12" Color Video Monitor

- Black matrix picture tube with detachable tinted glass filter • 90° deflection line picture tube with black stripe shadow mask • 0.6mm slit pitch • Detachable tinted glass shield • 350 lines horizontal resolution • Selectable AFC speed • 3.58MHz trap filter • DC restoration • BNC type input/loop output • 8-pin VTR connector • Automatic controls: color killer, degausser, voltage control, color control, beam limiter • Power requirements: 120VAC, 60Hz • Power consumption: 61W

PM-1271A . . . . . \$420.00  
RM-127A Rackmount kit for PM-1271A (8 rack units high) . . . . .87.00

## PM-1971A 19" Color Video Monitor

- Black matrix picture tube with detachable tinted glass filter • 90° deflection in-line picture tube with black stripe shadow mask • Detachable tinted glass filter • 400 line horizontal resolution • Selectable AFC speed • 3.58MHz trap filter • DC restoration • Built-in stereo amp and speakers • Wide range of inputs/outputs for future expansion plus 8-pin/input/output socket

PM-1971A . . . . . \$685.00

## PM-2571A 25" Color Video Monitor

- 100° deflection in-line picture tube with black stripe shadow mask • Other features same as PM-1971A

PM-2571A . . . . . \$850.00

## PM-3071A 30" Color Video Monitor

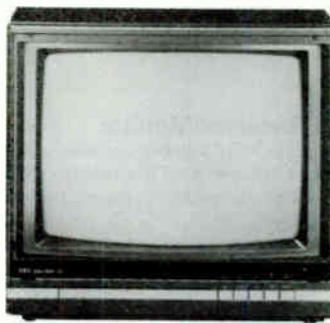
- S-VHS input/output • Flatter, squarer tube with Invar shadow mask, high-contrast black matrix and dark glass screen • 110% electromagnetic deflection • Horizontal resolution of 600 lines • Switchable AFC • Blue raster switch • 3.58MHz trap filter • High DC restoration • Switching power supply for constant picture size • Built-in stereo amp and stereo speakers; external speaker output terminals • Wide range of inputs/outputs for future expansion plus 8-pin/input/output socket • Earphone output jack • Detachable 3-prong, grounded AC cable for safe connection • Full range of controls: color, tint, black-level, picture and sharpness

PM-3071A . . . . . \$2100.00

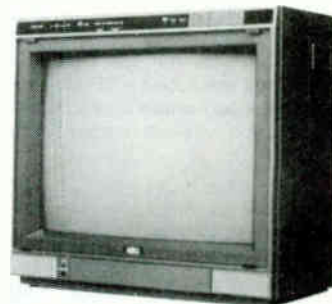
## PR-2000A 20" Color Video Monitor/Receiver

- Flatter, squarer tube with shadow mask; black matrix; precise inline guns; detachable tinted glass filter • Comb filter • 350 lines horizontal resolution • Quartz frequency synthesis 142-channel cable-capable tuner receives VHF, UHF, mid-, super-, and hyperband channels • 20-function wireless remote control • Stereo TV reception, built-in MTS decoder; dbx noise reduction on stereo broadcasts; also receives Separate Audio Program (SAP) • Built-in stereo amp and stereo speakers; external speaker output terminals • On-screen time and channel display • Auto flesh tone control • Two sets of audio/video inputs with BNC connectors for video, left and right phono jacks for audio • "TV" audio/video outputs send out whatever channel is tuned • "Monitor" audio/video outputs send out whatever channel is on-screen • Fixed audio outputs for recording; variable audio outputs for volume-controlled connection to a high fidelity system • Two RF inputs with loophrough output for connecting a cable converter box, VCR or other RF source • Detachable, 3-prong, grounded AC cable for safe connection • Front-panel earphone mini jack and headphone stereo phone jack • "Sound Wide" synthesized stereo from monophonic sources • Sleep timer with 30-, 60- and 90-minute settings

PR-2000A . . . . . \$800.00



CM-1991A



PR-2000A

## PR-2600A 26" Color Video Monitor/Receiver

- Horizontal resolution: 560 lines • Other features same as PR-2000A

PR-2600A . . . . . \$1050.00

## CM-1991A (RGB) 19" Color Monitor

- Shadow mask tube with high contrast black matrix and detachable tinted glass filter • RGB analog inputs • Better than 350 lines horizontal resolution • 90° deflection in-line picture tube with black stripe shadow mask • Comb filter • Auto flesh tone • Built-in stereo amp and speakers • High efficiency circuitry • BNC input/output connections • 8-pin VTR connector • 34-pin multiconnector interfaces to many personal computers • Two audio/video inputs with monitor output

CM-1991A . . . . . \$785.00

## CM-2591A (RGB) 25" Color Monitor

- 100° deflection in-line picture tube with black stripe shadow mask • Other features same as CM-1991A

CM-2591A . . . . . \$1050.00  
IC-10A RGB cable interface IBM-PC to CM-1991A or CM-2591A (6') . . . . .79.00

## PV-1200A Professional VHS VCR

- Auto repeat for continuous, unattended playback—ideal for trade shows, point-of-purchase displays and public spaces • Hour meter for a visual indication of head life, especially useful in intensive playback and duplication applications • Professional-grade BNC connector video input and output • VHS HQ circuitry • Digital head drum/capstan servo • Unified wireless remote control also operates NEC TV monitor/receivers • 110-channel cable-capable tuner receives VHF, UNF, mid- and superband channels; 20 preset stations • Picture search operates in EP mode • "Jet Search" ultra-high-speed search; EP mode • 4-event/21-day programmable timer can be set by remote control • Every day and every week recording options • One-touch segment recording up to five hours • Electronic tape counter with memory • Assembly editing • Detachable 3-prong, grounded AC cable • 4 1/4" H x 17" W x 14 3/4" D

PV-1200A . . . . . \$535.00

## PV-1400A Professional VHS VCR

- All the features of the PV-1200 plus: On-screen display of VCR channel and operating mode • Four-head special effects for a clear, noise-free picture in stop action, frame advance and slow motion • Picture search operates in both SP and EP modes • On-screen display of timer programming information • 4 1/4" H x 17" W x 14 3/4" D

PV-1400A . . . . . \$650.00  
RM-140A Rackmount kit—Fits PV-1200A, PV-1400A, DX-1000U (3 rack units high) . . . . .87.00

# NEC HOME ELECTRONICS (USA), INC.

1255 Michael Drive  
Wood Dale, IL 60191-1094  
(312) 860-9500 (800) 323-1728  
FAX: (312) 860-5812

# COLOR MONITORS/ RECEIVERS

## CT-2006A 20" Stereo TV Receiver/Monitor

- 20" flat square, tinted picture tube • Fully cable-capable quartz-PLL synthesized tuner • MTS decoder for stereo TV reception • Built-in stereo power amp and speakers • Full-function "system" remote control

CT-2006A .....\$549.00

## CT-2020A 20" Professional Color Monitor/Receiver

- 142-channel CATV-ready quartz tuner • Direct access tuning • Skip memory • Black stripe picture tube for nearly distortion-free image • Smoked-glass, non-glare screen • Comb filter • Auto-flesh tone • Horizontal resolution—350 lines • Built-in stereo amp and speakers • Multiple input/output connections • On-screen channel/time display • 20-function wireless remote control

CT-2020A .....\$799.00

## CT-2030A 20" Stereo TV Receiver/Monitor

- 20" black stripe tinted flat-square picture tube • Fully cable-capable quartz tuner with skip memory • MTS stereo and SAP reception with dbx noise reduction • Stereo speakers and amplifier • NEC system infrared wireless remote control • Multiple video and audio monitor connections • 450 lines resolution • Auto-flesh color control • On-screen channel and time display • Two antenna outputs with converter output • 90-minute sleep timer

CT-2030A .....\$799.00

## CT-2060A/CT-2660A

### 20/25" Square Cornered TV Receivers

- Cable-ready quartz—PLL tuner for reception of all 142 channels • MTS decoder built-in for stereo and SAP sound • Stereo speakers up front for natural sound • Flat and distortionless screen (CT-2060A) • Comb filter for 380 horizontal lines • Channel/time display on screen • Unified system wireless remote control • Video input with stereo and audio input

CT-2060A—20" .....\$599.00

CT-2660A—26" .....799.00

## CT-2620A 26" Stereo Receiver/Monitor

- Built-in stereo TV/SAP decoder with dbx\* • Full coverage cable-capable quartz PLL tuner • 26" full-square black stripe picture tube with tinted screen • 560 horizontal lines (video input) with comb filter • Auto flesh tone, black level retention and peak white suppressor circuits • On-screen channel and time display • Full-function "system" remote control • Full array of audio and video connections • 90-minute sleep timer • 2 RF inputs and 1 RF output

CT-2620A .....\$1049.00

## CT-2700A 27" Stereo TV Receiver/Monitor

- 27" diagonal square planar picture tube • Comb filter for 560 lines of resolution • Fully cable-capable quartz-PLL synthesizer tuner • MTS/SAP decoder for stereo and bilingual sound • Comprehensive on-screen display • Remote with sound and picture controls • Stereo amp with 5 or 2.5W per channel output • Hook up for VCRs or videodisc players and an extra monitor • Quick view for shuttling between two channels • 24-hour timer for turning on, 180 minute timer for turning off

CT-2700A .....\$1099.00



CT-2020A



DT-2680A

## DT-2680A 26" Digital Monitor/Receiver

- PIP—Picture in a Picture feature lets you watch two TV programs at once or freeze any picture you see on the inset screen at the touch of a button. As many as three different still pictures (together with a live one) can be displayed and shifted to the desired corner at one time • Black-stripe "Square 90" CRT with 110° deflection • Full range of picture controls • Digital comb filter for more than 500 lines horizontal resolution • Full function remote control • On-screen display • Quick view function for switching between channels • Sleep timer • Return function • RGB input for personal computer • Cable ready tuner with 142-channel capability • Complete set of input/outputs

DT-2680A .....\$1799.00

## KX-2750A 27" Console TV/Monitor

- 27" square planar screen • Comb filter for 500 lines of horizontal resolution • 166-channel cable-capable quartz PLL synthesizer tuner • MTS decoder for stereo TV and SAP sound • Comprehensive on-screen display • Total remote control, complete with picture controls • Connection for 3 video inputs and 1 video output • "Quick View" function to shuttle between two channels • Two built-in timers • Stereo amp with 10W + 10W power output • "Sound Wide" for simulated stereo • 2 antenna inputs for VHF and cable • 1 antenna input for UHF • Switching regulated power supply ensures a perfectly centered, steady picture • Automatic "kine" bias control for optimum white balance

KX-2750A .....\$1299.00

## CT-3000S 30" Square Tube Component TV with MTS

- Jumbo 30" square tube with tinted screen • Comb filter—horizontal resolution of 560 lines • Fully cable-capable tuner • Built-in MTS decoder for stereo sound and SAP • Stereo amp, stereo speakers and "sound wide" • Multi-function "system" remote control • Comprehensive on-screen display • Connections for 3 video inputs and 1 video output • "Quick view", 24 hr. on-timer, 180 minute sleep timer • S-input for S-VHS VCR • Switching regulated power supply • Automatic kine bias control for best white balance

CT-3000S .....\$2199.00



# NEC HOME ELECTRONICS (USA), INC.

1255 Michael Drive  
Wood Dale, IL 60191-1094  
(312) 860-9500 (800) 323-1728  
FAX: (312) 860-5812

# PROJECTION TELEVISIONS

## PJ-3715EN

### Stereo Projection Television

- 37" diagonal screen • Built-in MTS/SAP capability • 130° viewing angle • 180fL brightness • 400 lines of horizontal resolution • 142 channel quartz PLL tuner • Skip memory channel programming • On-screen time, channel and sleep timer display • Unified remote control • Comb filter • 2 video and stereo audio inputs • Video 2 loop out • Monitor out with fixed and variable audio out • 10W per channel stereo amplifier • 2 way stereo speaker system • Dimensions: 41<sup>1</sup>/<sub>8</sub>" H x 35<sup>3</sup>/<sub>32</sub>" W x 21" D • Weight: 125<sup>1</sup>/<sub>2</sub> lbs.

PJ-3715EN 37" Diagonal Screen . . . . . \$2400.00



PJ-4670EN

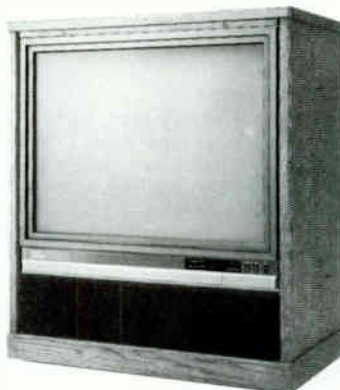
## PJ-4625EN/PJ-4100EN

### Stereo Projection Televisions

- Big and bright 46" and 41" (diagonally measured) black-stripe screen • Optical coupling and liquid-cooled CRT for exceptional brightness • Comb filter for high resolution of 500 horizontal lines • Built-in MTS decoder for stereo TV and SAP reception • Built-in stereo amp with high power output: 10W + 10W with internal and external speaker systems • 142 channel cable-ready PLL synthesizer tuner • Sound Wide for simulated stereo from mono programs • Skip memory tuning • Full-function "system" remote control • On-screen channel and time display • 2 video inputs with stereo; 1 "Monitor" output with stereo (fixed and variable); 1 loop output; 2 RF inputs and 1 RF output • Wide viewing angle of ±12° (vertical), ±60° (horizontal) • Casters for easy installation • Dimensions: PJ-4625EN—53<sup>5</sup>/<sub>16</sub>" H x 42<sup>5</sup>/<sub>16</sub>" W x 21<sup>5</sup>/<sub>8</sub>" D; PJ-4100EN—47<sup>3</sup>/<sub>16</sub>" H x 40<sup>5</sup>/<sub>8</sub>" W x 25<sup>1</sup>/<sub>32</sub>" D • Weight: PJ-4625EN—196.5 lbs.; PJ-4100EN—174.4 lbs.

PJ-4625EN 46" diagonal screen . . . . . \$3000.00

PJ-4100EN 41" diagonal screen . . . . . 2800.00



PJ-4100EN

## PJ-4650

### Stereo Projection Television

- 46" diagonal screen; built-in MTS/SAP capability • 120° viewing angle • 280fL brightness • 600 lines of horizontal resolution • 142 channel quartz PLL tuner • Skip memory channel programming • On-screen time, channel and sleep timer display • Unified remote control • Comb filter • Optical coupling and liquid cooling • All glass lenses • Electromagnetic focusing • 2 video and stereo audio inputs • Video 2 loop output • Monitor out with fixed and variable audio out • 10W per channel stereo amplifier • 2 way stereo speaker system • Dimensions: 54<sup>1</sup>/<sub>2</sub>" H x 45" W x 31<sup>1</sup>/<sub>16</sub>" D (set-up) (25<sup>15</sup>/<sub>16</sub>" D shipping) • Weight: 318<sup>1</sup>/<sub>2</sub> lbs.

PJ-4650EN . . . . . \$3400.00



PJ-4680S

## PJ-4670EN

### Stereo Projection Television

- Bright 46" (diagonal) screen • Optically coupled, liquid-cooled 7" CRTs • Fully cable capable frequency synthesized tuner with MTS/SAP decoder • 600 lines horizontal resolution • Multi-function remote control • Comprehensive on-screen display • 120° viewing angle • Parental lock • Skip memory • Sound wide • Multiple video in, outputs • Monitor outputs • On/off timers • Dimensions: 53<sup>3</sup>/<sub>4</sub>" H x 42<sup>3</sup>/<sub>4</sub>" W x 32<sup>3</sup>/<sub>4</sub>" D • Weight: 316.8 lbs.

PJ-4670EN . . . . . \$3600.00

## PJ-4680S

### Surround Sound Projection Television

- Surround sound Dolby, Matrix and Hall • Large 46" diagonal black-stripe screen • Optical coupling and liquid-cooled CRTs • Comb filter for 600 line horizontal resolution • Fully cable capable frequency synthesizer tuner • MTS reception for stereo and SAP • Stereo amps (15W + 15W for front, 15W + 15W for rear), stereo speakers and "Sound Wide" • Multi-function unified "system" remote control • Comprehensive on-screen display • Connections for 2 video inputs and 2 video outputs • "Quick View" to switch between two channels • S-input for S-VHS VCR • 52<sup>15</sup>/<sub>16</sub>" H x 16<sup>1</sup>/<sub>2</sub>" W x 26<sup>17</sup>/<sub>32</sub>" D • 308 lbs.

PJ-4680S . . . . . \$3700.00

# NEC HOME ELECTRONICS (USA), INC.

1255 Michael Drive  
Wood Dale, IL 60191-1094  
(312) 860-9500 (800) 323-1728  
FAX: (312) 860-5812

# VHS RECORDER/PLAYERS

## N906U VHS VCR

- Direct-coupled video system • VHS HQ (High Quality) improves picture quality • 110-channel cable-capable voltage synthesized tuner
- 3-event/7-day programmable timer • 13-function wireless infrared remote control • Auto power-on and power-off eject • 3<sup>29</sup>/<sub>32</sub>" H x 16<sup>15</sup>/<sub>16</sub>" W x 14<sup>3</sup>/<sub>4</sub>" D

N906U .....\$349.00



N906U

## N916U Deluxe VHS HQ VCR

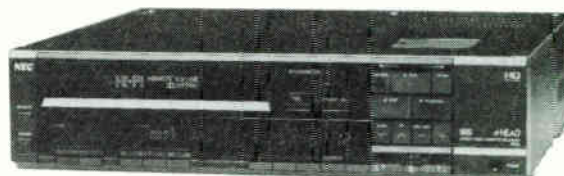
- 4-event/21-day on-screen remote programmable timer • On-screen function display • 110-channel cable-capable frequency synthesized tuner • "Jet Search" searches tapes at 21 times play (EP) • 35-function system wireless remote control • HQ system for improved picture quality • Memory backup • 3<sup>29</sup>/<sub>32</sub>" H x 16<sup>15</sup>/<sub>16</sub>" W x 14<sup>3</sup>/<sub>4</sub>" D

N916U .....\$419.00

## N926U VHS HQ VCR with ExacTrac

- ExacTrac 4-head design • HQ system for better picture quality • 110-channel cable-capable frequency synthesized tuner • NEC "system" remote control • On-screen programming/function display • 8-event/21-day programmable timer • 240 lines resolution • 3<sup>29</sup>/<sub>32</sub>" H x 16<sup>15</sup>/<sub>16</sub>" W x 14<sup>3</sup>/<sub>4</sub>" D • 15.9 lbs.

N926U .....\$529.00



N926U

## N946U Stereo VHS HQ VCR with MTS Decoder

- Linear stereo record playback with Dolby NR • VHS HQ improves picture quality • 110-channel cable-capable frequency synthesized MTS tuner • NEC "system" remote control • On-screen programming function display • 8-event/21-day programmable timer • 240 lines resolution • 3<sup>29</sup>/<sub>32</sub>" H x 16<sup>15</sup>/<sub>16</sub>" W x 14<sup>3</sup>/<sub>4</sub>" D

N946U .....\$579.00

## N965U VHS Hi-Fi VCR

- VHS Hi-Fi audio recording/playback with level meters, level control, dual tracking controls • MTS/SAP stereo tuner built into VCR for stereo reception and recording • HQ recording circuitry for best picture quality • ExacTrac Dual-Azimuth 4-head design for noiseless special effects • Linear Dolby stereo record/playback • On-screen timer programming using remote control unit, for unattended recording of 8 programs up to 3 weeks ahead • 140-channel frequency synthesized tuning for direct access to cable and broadcast stations • Unified remote control with full-function operation of VCR and NEC remote control TVs • Fixed and variable left/right audio line output connections with remote control volume adjustment • "Jet Search" 2-speed cue and review (9X and 21X) in EP mode • Auto power-on (with tape insertion) and power-off tape eject • Automatic program search and tape remaining functions • Segment recording for one-touch recording up to 5 hours • Digital servo system for head drum/capstan speed control • 4<sup>5</sup>/<sub>32</sub>" H x 17" W x 14<sup>3</sup>/<sub>4</sub>" D

N965U .....\$949.00



DX-5000U

## DX-2500U/DX-3500 VHS Hi-Fi VCR with Digital NR and Digital Special Effects

- Digital noise reduction for 9dB improvement in S/N ratio • Clean digital special effects: Time-lapse playback, freeze, slow motion, search and picture memory • VHS Hi-Fi • HQ video system and NEC DC system • 140-channel cable-capable tuner • Multichannel TV Sound (MTS) for stereo and SAP • Full-function "system" remote control with "quick view" • 2-channel linear recording with Dolby NR • On-screen programming • 8-event/21-day programmable timer • Auto power-on, auto playback, auto rewind, and auto

power-off eject • Multi-function fluorescent display with double-entry timer indication • NEC segment recording with delay functions

DX-2500U .....\$999.00

DX-3500U Features all the above plus double-speed playback, HQ video system, NEC DC system and ExacTrac 4 video heads; VHS index search system full function system remote control with LCD display

DX-3500U .....\$1149.00

## DX-5000U VHS Hi-Fi "HQ" VCR with Digital Picture Processing

- Digital video noise reduction • ExacTrac 4-head digital special effect system • Hi-Fi and linear stereo with Dolby NR • 140-channel cable capable quartz • PLL tuner with MTS sound • VHS index search system • 79-operations system remote control with liquid crystal display • On-screen display • On-screen remote timer setting • Auto power-on/play • Multi-display • Memory backup • 3<sup>29</sup>/<sub>32</sub>" H x 16<sup>15</sup>/<sub>16</sub>" W x 14<sup>3</sup>/<sub>4</sub>" D

DX-5000U .....\$1349.00

# NOVA SYSTEMS, INC.

50 Albany Turnpike  
Canton, CT 06019  
(203) 693-0238

# TIME BASE CORRECTORS

## NOVA Series Digital Time Base Correctors

All NOVA time base correctors give you optimum performance for a wide variety of applications using 3/4" and 1/2" video tape recorders. Each of the 1 3/4" high extruded aluminum packages includes the following features:

- Presets for the front panel controls
- Digital, full color dropout compensation (DOC)
- Twenty times forward and reverse shuttle operation
- A test mode which applies a color bar signal to the video output
- Black burst output from a built-in sync generator for locking up SEG's, character generators, etc.
- Remote control capability that provides all front panel controls except power on/off and phasing controls found behind the adjusting slot. Dimensions: 3 1/2" H x 8 1/2" W x 4" D
- 8-bit, 4X subcarrier sampling for maximum transparency
- Perfect RS170A relationship regardless of reference SCH
- Digital clamp for the most stable performance
- Low power consumption for long, trouble-free operation

### NOVA 620

#### Full Frame of Memory

Offers full frame of video storage to instantly freeze a field or frame for special effects. Time base correct even non-capstan servo type VTRs. Also includes a comb filter for maximum picture quality.

NOVA 620 ..... \$5990.00

### NOVA 620S Full Frame S-VHS TBC

Same as 620 with S-VHS input processing

NOVA 620S ..... \$6490.00

### NOVA 511

#### 32 Line Memory

Offers 32 line memory and heterodyne or direct operation. Designed for time base correcting both 3/4" and 1/2" capstan servo VTR's. Also includes a comb filter to heighten picture quality.

NOVA 511 ..... \$4990.00

### NOVA 501

#### 32 Line Memory

Offers 32 line memory and direct operation (subcarrier feedback). An ideal time base corrector for VTR's which accept a derived subcarrier input. Also provides maximum picture bandwidth.

NOVA 501 ..... \$4490.00

### NOVA 700 Time Base Corrector

• 32 line video memory for twice the "window" of conventional time base correctors

- Fifteen times forward and reverse shuttle operation
- Heterodyne picture processing
- 8-bit, 4X subcarrier sampling for maximum transparency
- Perfect RS 170A output with digitally generated SCH
- Digital processing amplifier and clamp for stable, repeatable operation
- Low power consumption for long, trouble-free operation

NOVA 700 ..... \$3490.00

### NOVA 700S Time Base Corrector

Same as 700 with S-VHS input processing.

NOVA 700S ..... POR



NOVA 620S



NOVA 620/501/511



NOVA 700

### Optional Accessories

"S" Option Factory Upgrade

620 to 620S ..... \$750.00

700 to 700S ..... 750.00

Remote control — specify TBC model

(Not available for NOVA 700)

(3 1/2" H x 8 1/2" W) ..... \$650.00

Filler panel for remote control

(rackmount configuration) ..... 75.00

Rack ears for remote control ..... 24.00

Cable for remote control

10' ..... 50.00

25' ..... 65.00

50' ..... 90.00

Rack slide kit ..... 75.00

Prices and Specifications Subject to Change Without Notice.

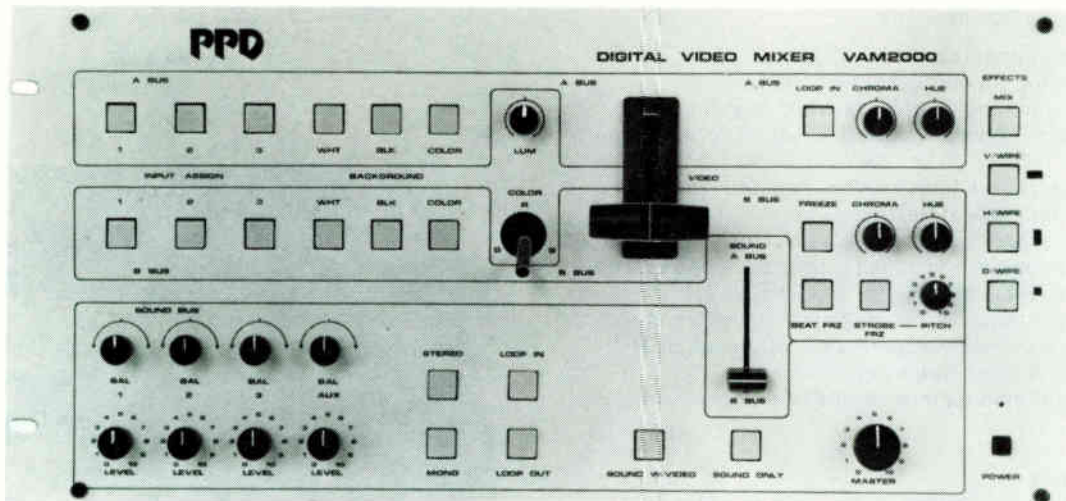
V-833



# NUMARK ELECTRONICS CORP.

P.O. Box 493  
Edison, NJ 08818  
(201) 225-3222 Telex: 28-7249  
FAX: (201) 287-2155

# VIDEO/AUDIO DIGITAL MIXER



VAM2000

## VAM2000 Digital Video/Audio Mixer

The PPD VAM2000 is the first video mixer to let you combine any three video sources to do dissolves and wipes without special VTR's or the need for any other units.

Previously, to wipe or dissolve between two VTR's (Video Tape Recorders), you needed special VTR's, Time Base Correctors for each machine, and a common sync generator connected to all the units and the SEG (Special Effects Generator). The VAM2000 accepts three unsynchronized video inputs from VCR's, cameras, or any other combination of video sources, and combines them with each other without the need for sync generators or TBC's.

The VAM2000 uses custom high-speed digital IC's to do glitch-free digital freezes, spectacular variable rate "strobe freezes", and it can "freeze to the beat" of audio from any one of its 4 stereo audio inputs.

A large, long throw "T-Bar" allows complete user control for clean dissolves and wipe patterns, including vertical, horizontal, and corner wipes. These can be a combination of any one of the three video inputs with another, or with a background of white, black, or a color chosen by joystick from an almost infinite palette of hues.

Stereo balance and gain controls for each of four audio inputs are on the front panel along with an A/B audio bus fader, illuminated mono, stereo, manual fade, and "audio follow video" select switches which are conveniently located for easy single-user operation. In the "audio follows video" mode, the A and B buses for the audio—as well as the video—are smoothly faded as the large "T-bar" style lever is moved from A bus to B. Separate external video and audio effects loops are front panel switchable for maximum flexibility.

Three video inputs, with three corresponding preview monitor outputs, and three main video outputs, all with BNC connectors, are located on the back panel along with all audio input and output jacks. It is housed in a 19" rackmountable enclosure.

The PPD VAM2000 is designed for video nightclubs, video post production work, A/V production houses, Veejay (Video Jockey) systems, cable TV stations, college, industrial and private TV studios.

**VAM2000 . . . . . \$4990.00**

# BEN NYE CO., INC.

11571 Santa Monica Blvd.  
Los Angeles, CA 90025  
(213) 477-0443



**Creme Foundations** .7 oz. They look realistic for every stage setting, and skin tone. Expect at least 65 applications. Applied water free.

**Proscenium (P) Series** Shades which won't wash out under strong lighting or in broad staging.

- |                 |                    |
|-----------------|--------------------|
| P-1 White       | P-7 Bronzestone    |
| P-2 Lite Pink   | P-8 Dark Coco      |
| P-3 Warm Pink   | P-9 Black          |
| P-4 Ultra Fair  | P-10 Auguste       |
| P-5 Old Age     | P-11 Chinese       |
| P-6 Natural Tan | P-12 Japanese      |
|                 | P-13 Blithe Spirit |

**Lite (L) Series** Contemporary shades for either proscenium or intimate staging.

- |                  |                |
|------------------|----------------|
| L-1 Creamy Peach | L-3 Rose Beige |
| L-2 Lite Beige   | L-5 Tan Rose   |

**Tan (T) Series** Golden shades especially suited to blondes and brunettes.

- |                |                |
|----------------|----------------|
| T-1 Golden Tan | T-2 Bronze Tan |
|----------------|----------------|

**Medium (M) Series** Healthy, ruddy shades which appear natural when applied thinly.

- |                 |                |
|-----------------|----------------|
| M-1 Lite Bronze | M-3 Medium Tan |
| M-2 Suntone     | M-5 Desert Tan |

**Olive (Y) Series** Subtle olive-brown shades suited for actors with olive skin tones.

- |                  |               |
|------------------|---------------|
| Y-1 Lite Olive   | Y-5 Olive Tan |
| Y-3 Medium Olive |               |

**Natural (N) Series** Super subtle shades for Anglo female shades for Film, Video, Ballet or Fashion.

- |           |                |
|-----------|----------------|
| N-1 Fair  | N-4 Deep Olive |
| N-2 Creme | N-5 Blush      |
| N-3 Buff  | N-6 Bronze     |

**Film & Tape (FT) Series** Subtle, neutral shades for men and women. Use on actors for a no make-up look.

- |                   |                    |
|-------------------|--------------------|
| FT-1 Pale English | FT-5 Bronze Beige  |
| FT-2 Subtle Tan   | FT-9 Olive Amber   |
| FT-3 Creamy Beige | FT-11 Olive Sable  |
| FT-4 Medium Beige | FT-13 Golden Ebony |

**Twenty (TW) Series** Natural appearing shades for Asian, Latin, and Black actors.

- |                    |                   |
|--------------------|-------------------|
| TW-20 Rice Paper   | TW-26 Amber       |
| TW-22 Golden Beige | TW-27 Coco Tan    |
| TW-23 Fawn         | TW-28 Cinnamon    |
| TW-24 Honey        | TW-29 Blush Sable |
| TW-25 Amber Lite   |                   |

**Creme Foundations** . . . . . \$4.75



**Creme Rouge** 1/4 oz. Select from this assortment for coloring, and contouring the cheeks.

- |                 |                  |
|-----------------|------------------|
| CR-1 Red        | CR-5 Dark Tech   |
| CR-2 Dusty Rose | CR-7 Coral       |
| CR-3 Sandy Rose | CR-8 Blush Coral |
| CR-4 Raspberry  |                  |

**CR** . . . . . \$2.75

**Creme Highlight** 1/4 oz. Useful to neutralize discoloration beneath the eyes, and to create the illusion of wrinkles, bags, or folds for old age and character makeups.

- |  |
|--|
| CH-1 Extra Lite — For fair skin, or proscenium character highlighting. |
| CH-2 Lite — Best for neutralizing eye shadows.                         |
| CH-4 Medium — Under eye neutralizer for ruddy skin types.              |
| CH-5 Deep — For light to medium brown skin shades.                     |
| CH-6 Dark — For dark brown skin shades.                                |

**CH** . . . . . \$2.75

**Creme Brown Shadow** 1/4 oz. A set of shadow contours for corrective or character shading.

- |  |
|--|
| CS-2 Medium Brown — A realistic appearing contour shadow for intimate staging.   |
| CS-3 Character — Our classic warm shadow to design realistic appearing wrinkles, crowsfeet, jowls, or facial contouring. |
| CS-4 Dark Brown — Excellent for contouring ruddy skin shades when used very thinly, or as a shadow for black actors.     |
| CS-5 Extra Dark — A rich, dark brown for black actors.   |

**CS** . . . . . \$2.75

**Mellow Yellow**® 1/4 oz. A must for any makeup artist when covering redness on the skin due to sunburn, acne, or capillaries.

- |           |             |
|-----------|-------------|
| MY-1 Fair | MY-2 Normal |
|-----------|-------------|

**MY** . . . . . \$3.75

**Five O'Sharp**® 1/4 oz. Designed to neutralize a blue-beard shadow. Apply beneath or above the base. Match to skin tone of actor.

- |                                     |            |
|-------------------------------------|------------|
| FS-1 Studio — For dark blue beards. |            |
| FS-3 Olive                          | FS-5 Ruddy |

**FS** . . . . . \$3.75

**Creme Color Liners** 1/4 oz. Spectrum includes shades for character, fantasy, animal, and clown designs. All are pigmented for superior coverage. Stain and irritation free, they remove easily with soap and water or Makeup Remover.

- |                      |                     |
|----------------------|---------------------|
| CL-1 White           | CL-15 Maroon        |
| CL-2 Forest Green    | CL-17 Misty Violet  |
| CL-3 Green           | CL-18 Purple        |
| CL-5 Yellow          | CL-19 Blue          |
| CL-6 Goldenrod       | CL-21 Peacock Blue  |
| CL-7 Orange          | CL-22 Sky Blue      |
| CL-9 Sunburn Stipple | CL-23 Blue Gray     |
| CL-10 Dark Sunburn   | CL-25 Steel Gray    |
| CL-11 Cinnamon       | CL-26 Gray          |
| CL-13 Fire Red       | CL-27 Beard Stipple |
| CL-14 Blood Red      | CL-29 Black         |
| CL                   |                     |

**CL** . . . . . \$2.75

# THEATRICAL MAKE-UP



**Face Powders** Light textured, yet ultra-absorbent. Less powder is required to "set" and absorb excess oil since our creme makeups feel "non-oily". The convenient shaker bottles make application easy and economical.

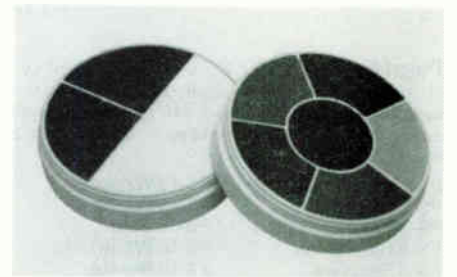
**Fair Translucent** General Purpose powder to complement fair and olive skin tones for straight, beauty, or old age makeups.

**Neutral Set Translucent** A special powder to set bright colors or special effect designs. It retards perspiration where applied.

**Coco Tan Translucent** 1 3/4 oz. 3 1/4 oz. A golden-rust tint designed for black actors.

**Super White Powder** Use this powder to set any type of white makeup. It contains white pigment to make whites brighter.

- |                      |        |
|----------------------|--------|
| TP 1 3/4 oz. . . . . | \$3.25 |
| TP 3 1/4 oz. . . . . | 4.75   |



**Clown White** Amateur and professional clowns alike love our formula. It is very opaque, easily applied and resists wear caused by heat and perspiration. Set with Super White Face Powder. Removes easily with Makeup Remover.

- |                        |        |
|------------------------|--------|
| CW-1 .65 oz. . . . .   | \$1.75 |
| CW-3 2 1/4 oz. . . . . | 3.00   |
| CW-4 8 oz. . . . .     | 6.50   |

**Rainbow Wheel** .1 oz. Six brilliant creme lining colors essential for designing clowns, animals, or fantasy.

- |          |        |
|----------|--------|
| Fire Red | Black  |
| Green    | Blue   |
| Orange   | Yellow |

**RW** . . . . . \$6.50

**Red White & Black** .1 oz. Perfect for mime or clowning. The Creme White base is light textured, but opaque. The red has a tint of blue, and the black ideal for outlining or shading.

**RB** . . . . . \$6.00

# BEN NYE CO., INC.

11571 Santa Monica Blvd.  
Los Angeles, CA 90025  
(213) 477-0443



**Dry Cheek Rouge** .10 oz. Eight shades to intensify cheek colors and contours. Excellent for creating a stipple texture on skin, or on Nose & Scar Wax. May also be used as an eye shadow.

DR-1 Flame Red	DR-6 Misty Pink
DR-2 Coral Red	DR-7 Coral
DR-3 Raspberry	DR-9 Dark Tech
DR-5 Brick Red	DR-10 Chestnut
DR.....	.....

**\$3.75**

**Professional Cheek Blushers** 1/2 oz. For Film, video or fashion.

PB-1 Dusty Pink	PB-2 Nectar Peach
PB-3 Golden Amber	
PB.....	.....

**\$4.00**

**Pressed Eye Shadow** .10 oz. An array of dry shadows suitable for all stages. May be used as dry color "paints" on the face. An asterisk (\*) denotes a matte finish, others are iridescent.

ES-1 Toast*	ES-8 Forest Moss
ES-2 Misty Lilac	ES-10 Dark Brown*
ES-3 Sterling Pink	ES-11 Iridescent
ES-4 Violet*	Taupe
ES-5 Deep Violet*	ES-12 Blue Mist*
ES-6 Burgundy*	ES-14 Charcoal*
ES-7 Silver	ES-15 Bronzed Sable
ES.....	.....

**\$3.75**

**Pearl Sheen** .07 oz. Brilliant, pearlescent eye shadows which may be applied anywhere on the face for spectacular visual effects. Spreads as easily as our Creme Makeups. Apply with a round sable brush.

PS-1 White	PS-13 Walnut
PS-2 Frosty Lilac	PS-14 Copper
PS-3 Lavender Lilac	PS-15 Gold
PS-5 Ultra Violet	PS-16 White Gold
PS-6 Sapphire	PS-18 Bronze
PS-7 Amethyst	PS-19 Silver Gray
PS-9 Rose	PS-21 Charcoal
PS-10 Dusty Rose	PS-22 Turquoise
PS-11 Soft Brown	
PS.....	.....

**\$3.75**

**Liquid Eye Liner** .15 oz. Ready to apply with a fine brush applicator for precise detail. Use also for fantasy or clown outlining. Waterproof.

LE-1 Black	LE-3 Pearl Gray
LE-2 Dark Brown	LE-4 Midnite Blue
LE.....	.....

**\$4.00**

**Cake Eye Liner** .06 oz. Concentrated colors to line and shade the eyes. Black is especially opaque as a "paint" for clown and animal designs. Apply wet with a round sable brush.

EL-1 Black	EL-5 Brown
EL-4 Dark Brown	EL-7 Silver
EL.....	.....

**\$3.00**

**Liquid Mascara** 1/4 fl. oz. Eyelashes look thicker and longer with our waterproof mascara. Tank style with brush applicator.

LM-1 Black	LM-2 Brown
LM.....	.....

**\$4.00**

V-836

**Eyebrow Pencils** 7". Moist pencils to create realistic etching, outlining or shading.

EP-1 Light Brown	EP-5 Dark Brown
EP-2 Auburn	EP-7 Midnite Brown
EP-4 Medium Brown	EP-8 Black
EP.....	.....

**\$.90**

**Pencil Sharpener** Keeps pencils sharp. Capable of sharpening normal and extra wide pencils.

SP-1 (Dual size)..... **\$2.75**

**Color Lining Pencils** 7". Suited for eye shading, contouring, animal or fantasy designs.

CP-1 Charcoal	CP-8 Blue
CP-2 Rust	CP-10 Iridescent Blue
CP-4 Violet	CP-11 Green
CP-5 Iridescent	CP-13 Gold
Violet	CP-14 Silver
CP-7 Purple	CP-15 White
CP.....	.....

**\$.90**



**Lip Liner Pencils** 7". Moist, striking colors for outlining the lips. Can be used for characters too.

LP-1 Red	LP-3 Brandy
LP-2 Plum	LP-4 Maroon
LP.....	.....

**\$.90**

**Lipsticks** .10 oz. Professional quality, richly colored shades to embellish lip contours.

LS-1 Glossy Gloss	LS-8 Cranberry
LS-3 Coral	LS-9 Plum
LS-4 Dusty Rose	LS-10 Bordeaux
LS-5 Garnet	LS-12 Natural Brown
LS-6 Plum Pink	LS-14 True Red
LS-7 Natural	LS-15 Siren Red
LS.....	.....

**\$3.75**

**Nose & Scar Wax** Combines modeling wax and putty with a realistic flesh tone for easier blending. Use for shaping the nose, distorting features, creating cuts and moles.

**Nose and Scar Wax-Fair**

NW-1 .7 oz.	.....	\$ 1.75
NW-2 1 1/2 oz.	.....	3.00
NW-3 6 1/2 oz.	.....	7.50
NW-4 16 oz.	.....	12.50

**Nose and Scar Wax-Brown**

BW-1 .7 oz.	.....	\$ 1.75
BW-2 1 1/2 oz.	.....	3.00
BW-3 6 1/2 oz.	.....	7.50
BW-4 16 oz.	.....	12.50

**Modeling Tool** 6" wooden tool is a must for expert application of Nose & Scar Wax.

MT-1..... **\$3.75**

# THEATRICAL MAKEUP

**Plains Dust** A realistic looking powder to make faces, hands, or costumes appear dusty or dirty. Darken with water or glycerine mist.

PD-1 4 1/2 oz.	.....	\$5.75
PD-2 8 oz.	.....	9.75

**Ash Powder** Apply to face, body, or costumes to create an ashen effect from "burnt" materials or light soils.

AP-1 4 1/2 oz.	.....	\$5.75
AP-2 8 oz.	.....	9.75

**Charcoal Powder** Charred dust for special effect makeups. Especially useful for emergency patient simulations, or "disaster drills".

CM-1 4 1/2 oz.	.....	\$5.75
CM-2 8 oz.	.....	9.75

**F/X Colors** 1/4 oz. Ultra-realistic shade for bruises, burns, old age, and character stippling. Dense color concentration.

FX-1 Medium Plum	FX-10 Sapphire Blue
FX-3 Burnt Coral	FX-11 Sallow Green
FX-4 Charcoal Blue	FX-13 Capillary Stipple
FX-5 Dark Burgundy	FX-15 Liver Spot
FX-7 Midnite Blue	FX-17 Freckle Stipple
FX-9 Gray Purple	FX-19 Age Spot
FX.....	.....

**\$3.75**

**F/X Color Kits** 1/2 oz. Each "Kit" contains four colors to design bruises, burns, age stippling, or extreme exposure.

CK-1 <i>Bruises</i> : Gray Purple, Midnite Violet, Dark Burgundy, Sallow Green	
CK-3 <i>Cuts &amp; Bruises</i> : Sapphire Blue, Blood Red, Yellow, Forest Green	
CK-5 <i>Burns &amp; Blisters</i> : Charcoal Blue, Fire Red, Burnt Coral, Medium Plum	
CK-7 <i>Age Stipple</i> : Freckle Stipple, Age Spot, Capillary Stipple, Liver Spot	
CK-9 <i>Severe Exposure</i> : Dark Sunburn, Dusty Rose, Burnt Coral, Medium Plum	
CK.....	.....

**\$6.50**

**Spirit Gum Matte Adhesive** Affix crepe wool, bald caps, or modeling wax firmly to skin. A very sticky adhesive.

SG-1 1/4 oz.	.....	\$1.75
SG-2 1 oz.	.....	3.00
SG-3 6 oz.	.....	7.50

**Spirit Gum Remover** Stubborn spirit gum comes clean quickly.

GR-1 1 oz.	.....	\$2.00
GR-2 8 oz.	.....	7.50

**Bald Cap** Made of liquid rubber, long in the bald, and colored with a good looking flesh tone.

BP-1..... **\$7.95**

**Crepe Wool** yd. Realistic colors to create wool hair pieces, such as moustaches, sideburns, and beards.

WH-1 White	WH-6 Dark Brown
WH-2 Blonde	WH-7 Light Gray
WH-3 Auburn	WH-8 Medium Gray
WH-4 Light Brown	WH-9 Dark Gray
WH-5 Medium Brown	WH-10 Black
WH.....	.....

**\$6.00**

**Crepe Wool Application** Basic, informative primer on how to prepare and lay a full-beard and moustache.

HP-1..... **\$3.50**

Prices and Specifications Subject to Change Without Notice.



# BEN NYE CO., INC.

11571 Santa Monica Blvd.  
Los Angeles, CA 90025  
(213) 477-0443



**Snow White Hair Color** An intense white coloring for any hair shade including blonde and brunette. Apply with a toothbrush. Won't flake, and shampoos out easily.

HW-2 2 oz. . . . . \$ 3.50  
HW-3 8 oz. . . . . 8.50  
HW-4 18 oz. . . . . 15.00

**Silver Gray Hair Color** Looks realistic. Apply with toothbrush. Styles easily and won't flake. Washes out with shampoo. High-light with hair whitener.

HG-2 2 oz. . . . . \$ 3.50  
HG-3 8 oz. . . . . 8.50  
HG-4 16 oz. . . . . 14.00

**Liquid Latex** For creating old age wrinkles, scars, or "slip" type prosthetics. Colored with a subtle flesh tone. May be used to adhere crepe wool to the face. Low ammonia content.

LL-1 1 oz. . . . . \$ 2.50  
LL-2 2 oz. . . . . 3.50  
LL-3 8 oz. . . . . 7.50  
LL-4 16 oz. . . . . 12.00

**Castor Sealer**

Apply to seal any rubber latex appliance.

KS-1 2 oz. . . . . \$3.00  
KS-2 8 oz. . . . . 8.00

**Theatrical Makeup Kit** A standard for actors and make-up artists everywhere. Superb for production or instruction. Five different Kits available:

TK-1 White Female                      TK-2 White Male  
TK-3 Olive Female                      TK-4 Olive Male  
TK-5 Black: Female & Male

Contents Include: Five Creme Foundations, Creme Rouge, Highlight, Shadows, and Lining Colors, Black Liner (not photographed), Nose & Scar Wax, Spirit Gum, Flat Brushes #2, #5, Dry Cheek Rouge, Latex Sponge, Translucent Face Powder, Velour Puff, Eyebrow Pencil, Lip Liner Pencil, Stipple Sponge, Silver Gray Hair Color, and Makeup Remover.

TK . . . . . \$25.29

**Film & Video: Master Kit** Contains all the right stuff for straight male, corrective, fashion female, and special effects makeup. Base shades for every skin tone are included.

Contents: six Professional Size Foundations, two Creme Rouges and Shadows, Creme Highlight, Translucent Powder, Powder Puff, Latex Sponge, Flat Brushes #2, #5, #7, Cake Eye Liner, Round Sable Brush #1, two Eyebrow Pencils, Pressed Shadow, Pearl Sheen Shadow, Dry Rouge, Mellow Yellow, Beard Cover, Dry Rouge Brush, and Makeup Remover. For Special Effects: Liquid Latex, Stage Blood, Silver Gray Hair Color, Nose & Scar Wax, Spirit Gum, Stipple Sponges, FX Color Kit: Bruises.

FK-1 . . . . . \$59.95

**Stage Blood** Realistic "arterial" color and viscosity. Peppermint flavored, and safe to digest. Completely cleans from most costumes.

SB-4 2 oz. . . . . \$ 3.50  
SB-5 8 oz. . . . . 8.00  
SB-6 18 oz. . . . . 12.00  
SB-7 32 oz. . . . . 20.00

**Thick Blood**

TB-1 1 oz. . . . . \$ 4.00  
TB-2 6 oz. . . . . 15.00  
TB-3 1 lb. . . . . 27.50

**Gelatin Blood Capsules** Fill this extra large capsule with our Stage Blood for release in mouth.

GB-1 10 Pack . . . . . \$1.95  
GB-2 35 Pack . . . . . 4.95

**Bronzing Body Tint** Designed for an instant natural looking tan. The color is ruddy-golden. Water-resistant.

BT-1 2 oz. . . . . \$ 3.50  
BT-2 8 oz. . . . . 8.50  
BT-3 18 oz. . . . . 15.00

**Makeup Remover** Light liquid quickly removes any type of makeup. It has an orange peel scent.

MR-3 2 oz. . . . . \$ 2.75  
MR-4 8 oz. . . . . 7.00  
MR-5 18 oz. . . . . 10.00

**Brush Cleaner** Fast drying cleaner instantly removes any "oil" base makeup from brushes, and dries in seconds. One ounce cleans 75 brushes.

BC-1 2 oz. . . . . \$ 3.00  
BC-2 8 oz. . . . . 7.00  
BC-3 16 oz. . . . . 10.00

**Latex Sponge Applicators** For any creme or "grease" style makeup. Each 3" x 4" foam rubber block can be divided into eight sections. Keep fresh in an airtight bag.

LF-1 . . . . . \$ 1.25  
LF-2 Dozen Pack . . . . . 13.50

# THEATRICAL MAKE-UP

**Bald Cap Stipple Wheel** A special four color palette of basic shades to texture the bald cap for extreme realism.

EW-9 . . . . . \$8.50

**Nylon Stipple Sponge** 3" x 4" Block. Use to simulate capillaries, pock marks, bruises, sunburn, beard stubble or old age stippling. Can be divided into eight sections.

NS-1 . . . . . ea./\$ 1.00  
NS-2 Dozen Pack . . . . . 10.00

**Velour Powder Puff** Large 4" diameter puffs made of soft velour, and padded so makeup won't be disturbed.

VP-1 . . . . . \$ 1.25  
VP-2 . . . . . 13.50

**Custom Flat Brushes** Works like red sable, but costs a lot less. Professional length handles are easy to grasp and store.

FB-2 No. 2 - 1/8"                      FB-7 No. 7 - 1/4"  
FB-3 No. 3 - 3/16"                      FB-10 No. 10 - 11/32"  
FB-5 No. 5 - 5/32"                      FB-12 No. 12 - 3/8"  
FB . . . . . \$2.75 - 4.25

**Red Sable Round Brushes** The two smaller sizes are excellent for applying our water-color Cake Eye Liners. The larger brushes make application of the Pressed Eye Shadow, and Pearl Sheens easy.

No. 1 - Fine Point                      No. 4 - Medium Point  
No. 2 - Small Point                      No. 6 - Wide Point  
RS . . . . . \$3.00 - 5.00

**Lash/Eyebrow Comb** Combination brush to separate the eyelashes after applying mascara, and to comb the eyebrows.

EC-1 . . . . . \$2.75

**Dry Rouge Brush** Excellent for spreading dry rouge easily. Professional size can be used to remove excess face powder.

RB-1 Short handle . . . . . \$2.00  
RB-2 Professional Camel hair . . . . . 6.00

**Duster Brush** Brush designed to dust away excess face powder. May be used to apply dry rouge.

PA-1 . . . . . \$12.00



Film & Video Kit

**Basic Production Kit** Contents Include: four Professional Size Foundations, two Creme Rouges and Shadows, Creme Highlight, Beard Cover, Mellow Yellow, Latex Sponge, Translucent Powder, Puff, Flat Brushes #2, #5, Dry Rouge, Dry Rouge Brush, Pearl Sheen, two Eyebrow Pencils, two Lipcolors. (Kit not pictured)

FK-2 . . . . . \$39.95

**Klown Kit** Design a happy or a sad clown with expert colors and tools. Step-by-step directions included. For amateurs and professionals alike.

Contents: Clown White, Latex Sponge Applicators, six color Rainbow Wheel, Neutral Set Powder, Puff, Flat Brush #5, Black Pencil, Large Foam Nose, Double Sided Tape, Makeup Remover, Pouch.

KK-1 Master . . . . . \$21.95  
KK-2 Basic . . . . . 11.95

Prices and Specifications Subject to Change Without Notice.

# O'CONNOR ENGINEERING LABS

100 Kalmus Drive  
Costa Mesa, CA 92626  
(714) 979-3993  
Telex: 68-5641

# CAMERA SUPPORT SYSTEMS

## REGULAR SUPPORT SYSTEMS

### SYSTEM 30

Model 30 fluid head with one handle,  
Model 55M claw ball metal tripod with  
spreader and spike guards ..... \$2195.00

Same as above, except substituting  
Model 55W claw ball wooden tripod ..... 2079.00  
O'Connor molded system case for above  
(08143) ..... 185.00†  
Anvil "ATA" case for above (00985) ..... 329.00†

### SYSTEM 50

Model 50 fluid head with two handles,  
Model 55M claw ball metal tripod with  
spreader and spike guards ..... \$3299.00

Same as above except substituting  
Model 55W wooden tripod ..... 3179.00  
O'Connor molded system case for above  
(08143) ..... 185.00  
Anvil "ATA" case for above (00985) ..... 329.00

### SYSTEM 100

Model 100 fluid head with side loading  
platform and two handles,  
Model 55M claw ball metal tripod with  
spreader and spike guards ..... \$4769.00  
Anvilite tripod case and Anvil "ATA"  
fluid head case for above (100C-094 and 55-019)  
..... 468.00†

## HEAVY DUTY SUPPORT SYSTEMS

### SYSTEM 105

Model 100 Fluid Head with Side Loading Platform  
and two handles, Super Claw Ball or Mitchell 155M  
Metal Tripod, with Model 54 Spreader ..... \$5072.00  
Same as above except with Super Claw Ball or Mitchell  
155W-B Wooden Tripod, with Model 54 Spreader  
..... 4785.00

### SYSTEM 105HD

Model 105HD Fluid Head with Side Loading Platform  
and two handles, Super Claw Ball or Mitchell 155M  
Metal Tripod, with Model 54 Spreader ..... \$5562.00  
Same as above except with Super Claw or Mitchell  
155W-B Wooden tripod, with Model 54 Spreader  
..... 5275.00

### SYSTEM 155

Model 155 Fluid Head with Side Loading Platform  
and two handles, 155M Mitchell Metal Tripod, with  
Model 54 Spreader ..... \$7344.00  
Same as above except with Super Claw Base 155W-B  
Wooden Tripod, with Model 54 Spreader ..... 7029.00

## BETA-CAM TRIPOD BRACKET

• Heavy-duty one piece base plate • SMPTE standard  
base plate hole pattern (3/8"-16 thread on 1" center) to fit  
all professional fluid camera heads • Positive twist lock  
permits quick camera attachment and release • Black anodized  
aluminum and stainless steel construction • Mates  
with System 50 for Sony Beta-Cam with or without the  
recorder ..... \$349.00



SYSTEM 30



SYSTEM 50



SYSTEM 100



SYSTEM 105



SYSTEM 105HD



SYSTEM 155



BETA-CAM TRIPOD BRACKET

†Price applies if purchased with Camera Support System.

# O'CONNOR ENGINEERING LABS

100 Kalmus Drive  
Costa Mesa, CA 92626  
(714) 979-3993  
Telex: 68-5641

# HEADS/TRIPODS/ PEDESTAL

## Fluid Camera Heads

### Model 30B Fluid Camera Heads

Fluid Head with quick release adjustable camera platform and Claw Ball/Pro Jr. Base with tiedown all assembly, one 10" handle, and counterbalance adjustment wrench . . . . . \$1395.00  
Extra Handle (1/2" x 15") . . . . . 80.00  
Anvil "ATA" case for above (30B-066) . . . . . 239.00 †

### Model 50D Fluid Camera Heads

Fluid Head with 150" lb. counterbalance spring, quick release adjustable camera platform and Claw Ball/Pro Jr. Base with tiedown assembly, one 15" handle . . . . . \$2445.00  
Extra Handle (1/2" x 15") . . . . . 80.00  
Anvil "ATA" case for above (50D-130) . . . . . 239.00 †

### Model 100C Fluid Camera Heads

Fluid Head with 500" lb. counterbalance spring, Mitchell base with tiedown assembly, side loading or fixed platform and one 15" handle . . . . . \$3795.00  
Extra Handle (5/8" x 15") . . . . . 130.00  
Extended Handle (3/4" x 26") in place of 15" handle . . . . . add 40.00  
Anvil "ATA" case for above (100C-094) . . . . . 339.00 †

### Model 100-HD Fluid Camera Heads

Fluid Head with 800 or 1000" lb. counterbalance spring, Mitchell base with tiedown side loading platform and one extendable handle . . . . . \$4295.00  
Extra Handle (5/8" x 15") . . . . . 130.00  
Extended Handle (3/4" x 26") in place of 15" handle . . . . . add 40.00  
Anvil "ATA" case for above . . . . . 339.00

### Model 150B Fluid Camera Heads

Fluid Camera Head with 1000" lb. counterbalance spring, Mitchell base with tiedown assembly, side loading platform and one 15" handle . . . . . \$5995.00  
Mitchell to Super Claw Ball Adaptor with tiedown . . . . . 275.00  
Extra Handle (15") . . . . . 130.00  
Extended Handle (3/4" x 26") in place of 15" handle . . . . . add 40.00  
Anvil "ATA" case (150B-110) . . . . . 429.00 †

## Tripods

### Model 35 Top-Lok Tripod—Multi-Ball

• Multi-Ball top casting fits all fluid camera heads with 100mm ball, 150mm ball and O'Connor Claw-ball • Rated at 60 lb. capacity, the 35 Tripod is set up by simply lifting the top release ring, the feet instantly extend and lock with a slip-proof mechanism • Folds to a compact 34" and weighs approximately 7 lbs. . . . . \$499.00

### Model 55M-C Tripods—Claw Ball

Claw Ball Metal Tripod Complete: (regular tripod, spreader and spike guards) . . . . . \$845.00  
Claw Ball Metal Tripod only:  
Regular (56" to 24") . . . . . 655.00  
Baby (24" to 18") . . . . . 630.00

### Model 55W-C Tripods—Claw Ball

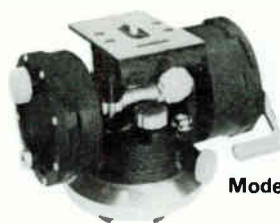
Claw Ball Wooden Tripod Complete: (regular or sawed off tripod, spreader and spike guards) . . . . . \$719.00  
Claw Ball Wooden Tripod only:  
Regular (60" to 30") . . . . . 519.00  
Sawed Off (43" to 19") . . . . . 519.00  
Baby (22" to 17") . . . . . 509.00

### Model 155M Tripods—Super Claw Ball or Mitchell

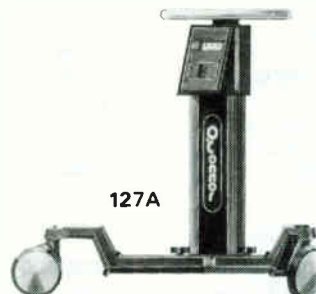
Super Claw Ball or Mitchell Metal Tripod Complete: (regular tripod, Model 54 spreader) . . . . . \$1216.00  
Super Claw Ball or Mitchell Tripod only:  
Regular (36" to 65") . . . . . 1049.00  
Baby (22" to 38") . . . . . 1039.00

### Model 155W Tripods—Super Claw Ball or Mitchell

Super Claw Ball Wooden Tripod (Please specify Super Claw Ball or Mitchell top casting)  
Regular (67" to 38") . . . . . \$779.00  
Sawed Off (58" to 34") . . . . . 779.00  
Baby (38" to 26") . . . . . 769.00



Model 100C



127A



Model 55M-8, Regular and Baby

### 127A Aeroped Pedestal

• Full floating column pedestal for small broadcast and industrial studios • Pneumatic column can support up to 120 lbs. of camera, prompter, and fluid head yet floats its 22" of travel with a very light touch on the 16" diameter column ring • 3-way selector valve located on the control panel permits quick adjustment of the column pressure for perfect balance • Self-contained air reservoir • Cast aluminum base is over 40" in diameter, for stability but can pass through a 29" wide doorway . . . . . \$7500.00

## Hi Hats

### Model 45

Claw Ball Hi Hat (5 1/2" height) . . . . . \$165.00

### Model 145

Super Claw Ball Hi Hat (6" height) . . . . . \$225.00

### Model 53 Tripod Dolly

Tripod Dolly with 6" diameter wheels; choice of:  
Regular (43" diameter) . . . . . \$1295.00  
Wide Stance (48" diameter) . . . . . 1295.00

### Model 54 Tripod Spreader

Spreader, Internal adjustable with locking pins . . . . . \$179.00

## Molded Cases—For Systems and Tripods

Fits Systems 30 and 50 or Model 55 Reg (08143) . . . . . \$185.00 †  
Fits Model 55 Baby (08144) . . . . . 176.00  
Fits System 30 and 50, wooden (08174) . . . . . 191.00 †  
Fits Model 155 Regular (08169) . . . . . 195.00  
Fits Model 155 Baby (08170) . . . . . 205.00

## Tripods—Cases

Fit all Model 55 (Metal or Wood)  
Regular Length (55-019) . . . . . \$129.00 †  
Baby Length (55-020) . . . . . 109.00 †  
Fit all Model 155s  
Regular and Sawed Off Length (155-022) . . . . . 169.00 †  
Baby Length (155-023) . . . . . 159.00 †

### Model 51 Claw Ball/Column Adaptor

Claw Ball to Round Column Adaptor (Please specify 1 3/4", 1 7/8", or 2") . . . . . \$245.00

### Model 21 Video Monitor Side Mount

A Universal Side Mount Plate for mounting any monitor beside a video camera, with 2 3/8-16 screws . . . . . \$175.00

† Price applies if purchased with system or tripod.



# O'CONNOR ENGINEERING LABS

100 Kalmus Drive  
Costa Mesa, CA 92626  
(714) 979-3993  
Telex: 68-5641

# ADAPTORS AND COMPONENTS

## TRIPOD COMPONENTS

00896	Retractable spike guards (set of 3)	\$ 29.00
55-009	Claw ball top casting	135.00
155-001	Super claw ball top casting	250.00
155-017	Mitchell top casting	195.00
08119	Spare stainless steel spike and nut	4.50
08120	Spreader lock pins	ea./5.70
55C-021	Tripod foot, with spreader attachment	8.00
61A	Lift-Lok column—adds 16" to any tripod with an O'Connor top casting	195.00

## ADAPTORS

To mate base of Fluid Head to top casting of tripod.

151-001	Claw ball to Mitchell, with tie-down	\$325.00
155-024	Super claw ball to Mitchell, with tie-down	500.00
08111	Mitchell to Arri 35, with tie-down	349.00
100C-060	Mitchell to super claw ball, with tie-down	275.00
00823	Pro Jr./Flat to Mitchell, with tie-down	235.00
50D-062	Pro Jr./Flat to Arri 16	170.00
00843	Pro Jr./Flat to claw ball with tie-down	180.00

## FLUID HEAD COMPONENTS

Camera Platforms (handles not included)

### For Model 30

30B-057	Lisand adjustable quick release platform assembly, with camera plate and screw (3/8"-16")	\$360.00
30B-067	O'Connor adjustable quick release platform assembly, with camera plate with screw (3/8"-16")	360.00

### For Model 50

50D-123	O'Connor adjustable quick release platform assembly, with camera plate and screw (3/8"-16")	\$360.00
50D-095	Lisand adjustable quick release platform assembly, with camera plate and screw (3/8"-16")	360.00
50D-131	O'Connor side loading adjustable quick release platform assembly, with camera plate and screw (3/8"-16")	395.00

### For Model 100 or 100-HD

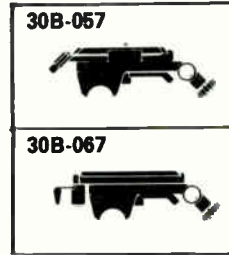
100C-074	Fixed camera platform with fixed camera screw	\$450.00
100C-087	O'Connor side loading adjustable quick release platform with camera plate and two screws (3/8"-16")	870.00

### For Model 150

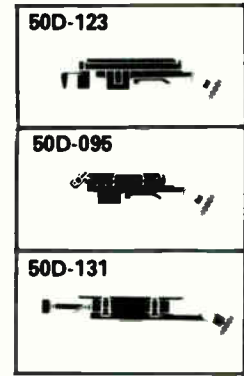
150B-109	O'Connor side loading adjustable quick release platform with removable side loading camera mounting plate and two screws (3/8"-16")	\$870.00
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## Handles

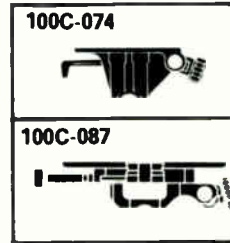
08094	Standard handle for Model 50 (1/2" diameter, 15" length)	\$ 80.00
08095	Standard handle for Model 100 or 150 (5/8" diameter, 15" length)	130.00
08122	Extended handle for video for Models 100 or 150 (3/4" diameter, 26" length)	170.00



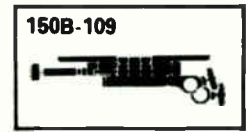
FOR MODEL 30



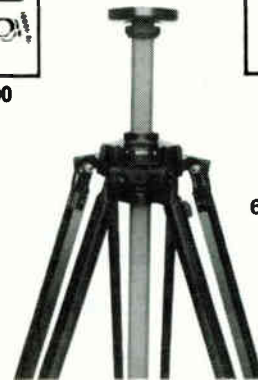
FOR MODEL 50



FOR MODEL 100



FOR MODEL 150



61A

## Camera Mounting Plates with Screws

08065	Lisand type for Models 30 or 50	\$ 55.00
08066	Cine 60 type for Models 30 or 50	55.00
18137	O'Connor type for Models 30 or 50	55.00
08118	Side mounting type for Model 50	60.00
08107	Side mounting type for Models 100 or 150	195.00
08106	3/8"-16" replacement screw	5.00
00841	1/4"-20" replacement screw	5.00

## Bases (tie-down assembly is included)

08068	Pro Jr./flat base for Models 30 or 50	\$130.00
100C-096	Pro Jr. base for Model 100	155.00
08067	Claw ball/Pro Jr. base for Models 30 or 50	155.00
50D-060	Arri 16 ball base for Models 30 or 50	250.00
08121	Arri 35 ball base for Models 30 or 50	290.00
50D-128	Mitchell base for Model 50	250.00
100C-090	Mitchell base for Model 100	250.00
100C-092	Super claw ball base for Model 100	250.00
08108	Flat base for Models 30 or 50	75.00
100C-095	Arri 35 ball base for Model 100	290.00

## Replacement Tie-Down Assemblies

08102	Pro Jr./flat base or Pro Jr./flat to Arri 16 adaptor	\$30.00
08070	Claw ball/Pro Jr. base	55.00
08071	Pro Jr./flat to claw ball adaptor	65.00
08110	Pro Jr./flat to Mitchell adaptor or Mitchell base	50.00
08112	Arri 35 ball base	95.00
08073	Super claw base or Mitchell to super claw ball adaptor	65.00
08113	Mitchell to Arri 35 adaptor	95.00

# OLYMPUS CORPORATION

## CONSUMER PRODUCTS GROUP

145 Crossways Park  
Woodbury, NY 11746  
(516) 364-3000  
FAX: (516) 349-1271  
Telex: 14-4523

# CAMCORDER/ VIDEOLITES

### VX-802 Movie 8, 8mm Camcorder

- Two-speed 1/500 sec. and 1/1000 sec. electronic high-speed shutter
- Advanced Piezo auto focus system • Improved 1/2" CCD imaging device • Sleek construction • Easy-to-use • 2.6 lb. • Record two full hours of colorful, picture-perfect videos on a single, pocket-size 8mm cassette • Playback directly through a TV set or through the camera's 2/3" black and white electronic viewfinder • Autofocus can be overridden manually • Two user selectable autofocus zone modes, manual focus, and focus lock for further creativity • 6X power zoom lens has a focal length range of 9mm to 54mm at the touch of a button. This is the equivalent of a 35mm to 210mm zoom on a 35mm camera • Macro setting allows effective close-ups • Auto exposure • Automatic white balance and two programmed white balance positions • Low light shooting capability of 7 lux • Three video heads reproduce colorful, detailed images in standard playback, and jitter-free stills when the frame is frozen, or when advanced frame by frame • Flying erase head produces smooth, clear transitions between scenes or when editing in special effects • Insert button makes editing in scenes from another video source as easy as pressing a button • High resolution pictures • High-fidelity sound reproduction • Two rotary audio heads (FM system) produce a wide dynamic range with minimum interference • Uni-directional microphone is switchable to normal or high sensitivity • External microphone jack is provided

**163-802** VX-802 Movie 8, 8mm Camcorder with CCD Image Sensor, Autofocus 6X f/1.2, Power Zoom Lens, High Speed Electronic Shutter, VF-BA82 AC Adaptor, VF-RM7 Remote Control, VF-BP81 Battery Pack, Shoulder Strap . . . . . \$1750.00

### Accessories

**164-009** VF-BA82 AC Adaptor/Battery Charger with RF Converter, Audio/Video Input and Output for VX-801 and VX-802 . . . . . \$299.00  
**164-013** VF-BC81 Car Battery Cord for VX-801 and VX-802 . . . . . 95.00  
**164-024** VF-BP81 Battery Pack (60 minutes) for VX-801 and VX-802. . . . . 49.00  
**164-022** Duracell 8mm Camcorder Battery Pack for VX-801 and VX-802. Includes six 9V Alkaline Batteries . . . . . 49.95  
**164-026** VF-KC81 Extension Cable for VX-801 and VX-802 . . . . . 76.00  
**164-039** VF-KG2 Character Generator for VX-802 . . . . . 269.95  
**164-112** VF-CS81 Movie 8 Semi-Hard Carrying Case for VX-801 and VX-802 . . . . . 99.00  
**164-113** VF-CS82 Movie 8 Hard Carrying Case for VX-801 and VX-802 . . . . . 139.95  
**164-114** VF-CS80 Movie 8 Soft Carrying Bag for VX-801 and VX-802 . . . . . 69.95

### Woodbury VideoLites

- Developed exclusively for today's generation of portable video camcorders • Lightweight design • Compact shield assembly with tempered glass permits the use of barndoors, and is molded from strong, high temperature Ryton plastic • Constant bulb-life light output at 3400°K • Molded Pyrex reflectors cover a 40° field in uniform pattern to insure maximum light output and even distribution

**164-062** WVL-120 AC Woodbury VideoLite, with barndoors and glass shield. Includes FMG 150W, 120V lamp. . . . . \$ 99.95  
**164-063** WVL-12 DC Woodbury VideoLite, with barndoors and glass shield. Includes EXV 100W, 12V lamp . . . . . 99.95



Movie 8 VX-802



VideoLite

**164-064** WVL-120/12 Woodbury VideoLite Kit AC/DC, with barndoors and glass shield. Includes FMG 150W, 120V lamp; FPJ 50W, 12V lamp; 10' AC extension cord; cigarette lighter adaptor for DC use. . . . . \$149.95

### Accessories

**164-053** WPP-12 NC, Woodbury Power Pak, 4.5AH, NiCad Battery, Charger, Cordura Carry Case, Carry Strap. For Woodbury VideoLites WVL Series only, and DC operated equipment with 12V car battery cord . . . . . \$189.00  
**164-056** FMG 150W, 120V replacement lamp for WVL-120AC, WVL-120/12 Kit or Model 120. . . . . 29.95  
**164-052** EXV 100W, 12V replacement lamp for WVL-12 DC, WVL-120/12 Kit AC/DC or Model 12L . . . . . 29.95  
**164-057** FPJ 50W, 12V replacement lamp for WVL-120/12 Kit. Can also be used with WVL-12 DC or Model 12L (DC). . . . . 29.95  
**164-065** WPP-1000 Woodbury Power Pak, rechargeable NiCad battery pack for Olympus VX-801, VX-802, and other similar 8mm camcorders. (Nikon, Chinon, ELMO) . . . . . 49.00  
**164-067** WPP-1500 Woodbury Power Pak, extended play rechargeable NiCad battery pack for Olympus VX-801, VX-802, and other similar 8mm camcorders, (Nikon, Chinon, ELMO). . . . . 95.00

# OMNIMOUNT SYSTEMS

10850 Vanowen St.  
North Hollywood, CA 91605  
(818) 766-9000  
Telex: 18-1149/West/LSA

# MOUNTS

## Omnimount Mounting Systems

- Capacity to 225 lbs. in six series
- Wall or ceiling mounting
- Omni-directional movement
- Through the assembly wiring (except 25 series)
- Can be mounted to the back, bottom, top, or sides of object
- Unlimited versatility

Omnimount products have been specified and installed safely and productively for many years. Laboratory data from structural testing has been combined with field experience to set weight range guidelines. And with the extraordinarily varied applications and installations you have with Omnimount products, it is important to be fully aware of those guidelines. Further, since the uses are "limited only by your imagination," creatively unexpected applications are being added all the time. The more familiar you become with Omnimount assemblies, the more uses you're likely to find for them.

The heart of the Omnimount System is a patented ball and clamp assembly. It works with a variety of tube lengths and bend configurations, brackets, mounting plates, pipe adaptors, and accessories—all in very many sizes and load handling capabilities.

## Model Number Information

The series number and code numbers combine to make a model number as shown below.

Series Numbers tell the weight range

- Series 25** 0-12 lbs.
- Series 50** 6-20 lbs.
- Series 75** 15-40 lbs.
- Series 100** 35-70 lbs.
- Series 300** 50-125 lbs.
- Series 500** 95-225 lbs.

First letter code identifies the type of mount

Wall mount assemblies

- WA-Single Bend Tube
- WB-Double Bend Tube
- WBX-Extended Double Bend Tube

Ceiling mount assemblies

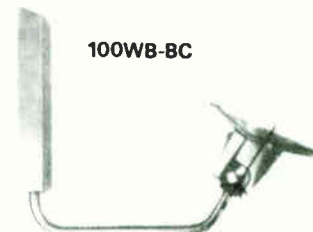
- CA-Single Bend Tube
- CB-Double Bend Tube
- CBX-Extended Double Bend Tube

Straight Mount Assemblies

- ST-Straight Tube
- STX-Extended Straight Tube

Second letter code identifies mounting hardware

- BC-Bracket and Cover
- MP-Mounting Plate
- SM-Strut Member
- LN-Locknut
- PA-Pipe Adaptor
- TA-Threaded Rod



## 25 Series

25WBX-BC	\$29.95
25WBX-PA	35.50
25CBX-PA	27.95
25CBX-MP	27.50
25ST	14.50
25ST-LN	14.95
25ST-PA	17.50
25ST-MP	16.95
25ST-TA	17.50
25STX	14.50
25STX-LN	14.50
25STX-PA	17.50
25STX-MP	16.95
25STX-TA	17.50

## 50 Series

50WA-BC	\$34.95
50WA-PA	40.50
50WA-TA	40.50
50WB-BC	38.50
50WB-PA	42.95
50WB-TA	42.95
50WBX-BC	49.95
50WBX-PA	53.95
50CA-PA	34.50
50CA-MP	34.95
50CA-TA	34.50
50CB-PA	37.50
50CB-MP	36.95
50CB-TA	37.50
50CBX-PA	46.50
50CBX-MP	45.95
50ST	24.95
50ST-LN	25.50
50ST-PA	29.95
50ST-MP	30.50
50ST-TA	29.95
50STX	26.95
50STX-LN	27.50
50STX-PA	31.95
50STX-MP	31.50
50STX-TA	31.95



# OMNIMOUNT SYSTEMS

10850 Vanowen St.  
North Hollywood, CA 91605  
(818) 766-9000  
Telex: 18-1149/West/LSA

# MOUNTS

## 75 Series

75WA-BC	\$33.99
75WA-PA	59.95
75WA-TA	59.95
75WB-BC	57.50
75WB-BCSL	57.95
75WB-PA	63.50
75WB-TA	63.50
75WBX-BC	71.95
75WBX-PA	77.95
75CA-PA	55.95
75CA-MP	54.50
75CA-TA	55.95
75CB-PA	60.95
75CB-MP	59.95
75CB-TA	60.95
75CBX-PA	71.50
75CBX-MP	79.50
75ST	41.95
75ST-LN	42.50
75ST-PA	48.50
75ST-MP	47.50
75ST-MPSL	47.95
75ST-TA	48.50
75STX	45.50
75STX-LN	44.95
75STX-PA	52.50
75STX-MP	50.95
75STX-TA	52.50

## 100 Series

100WA-BC	\$ 62.50
100WA-PA	68.95
100WA-TA	68.95
100WB-BC	66.50
100WB-BCSL	67.50
100WB-PA	72.95
100WB-TA	72.95
100WBX-BC	98.50
100WBX-PA	117.95
100CA-PA	64.50
100CA-TA	64.50
100CB-PA	69.95
100CB-MP	67.95
100CB-TA	69.95
100CBX-PA	105.50
100CBX-MP	125.50
100ST	48.95
100ST-LN	49.50
100ST-PA	55.95
100ST-MP	54.95
100ST-MPSL	53.50
100ST-TA	55.95
100STX	52.50
100STX-LN	50.95
100STX-PA	56.60
100STX-MP	58.95
100STX-TA	56.60
100UDM-1	67.50
100UDM-2	67.95

## 300 Series

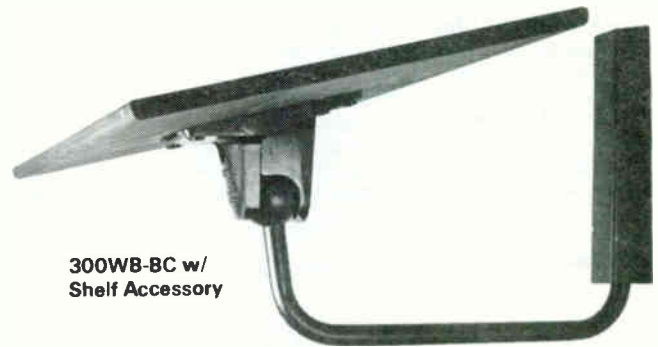
300WA-BC	\$101.95
300WA-PA	119.95
300WA-TA	119.95
300WA-SM	186.50
300WB-BC	115.95
300WB-PA	133.50
300WB-SM	196.50
300WB-TA	133.50
300WBX-BC	129.95
300WBX-PA	147.50
300WBX-SM	196.50
300CA-PA	109.50
300CA-MP	127.95
300CA-TA	109.50
300CB-PA	121.95
300CB-MP	140.95
300CB-TA	121.95
300CBX-PA	125.50
300CBX-MP	153.95
300ST	74.95
300ST-LN	78.50
300ST-PA	94.95
300ST-MP	113.95
300ST-TA	94.95
300STX	81.50
300STX-LN	99.95
300STX-PA	98.95
300STX-MP	117.95
300STX-TA	98.95
300UDM-3	101.50

## 500 Series

500WA-PA	\$283.95
500WA-TA	283.95
500WA-SM	263.95
500WB-PA	301.50
500WB-SM	280.95
500WB-TA	301.50
500WBX-PA	303.50
500WBX-SM	383.95
500CB-PA	240.95
500CB-MP	255.95
500CB-TA	240.95
500CBX-PA	243.50
500CBX-MP	318.50
500ST	200.95
500ST-LN	203.95
500ST-PA	223.95
500ST-MP	238.50
500ST-TA	223.95
500STX	205.95
500STX-LN	208.95
500STX-PA	226.95
500STX-MP	241.50
500STX-TA	226.95



200WB-BC



300WB-BC w/  
Shelf Accessory



50ST-MP

### Shelf Accessories

The shelf accessories are made from select all Birch plywood. There are no voids, and 13 cross grained inner ply veneers make up the core. This is the strongest plywood construction available.

The shelves are finished in black. Four large "T" nuts are secured into pre-drilled holes at the center. Quick and easy attachment of the shelf to the clamp plate is provided with four mounting bolts (included).

Part No.	Size	
ACC-1218SA	12" x 18"	\$25.95
ACC-1222SA	12" x 22"	27.95
ACC-1424SA	14" x 24"	29.95
ACC-1520SA	15" x 20"	29.95
ACC-1818SA	18" x 18"	32.95
ACC-1822SA	18" x 22"	32.95
ACC-1827SA	18" x 27"	36.95
ACC-1830SA	18" x 30"	36.95

Hole centers vary with clamp assembly sizes.  
When ordering, specify for the appropriate Series 300 or 500 clamp assemblies.

# OSCARVISION SYSTEMS, INC.

20 Arcadia Rd.  
Old Greenwich, CT 06870  
(203) 637-7880

# VIDEO PRESENTATION SYSTEMS

## 2000 Portable Video System

• Video remote • 3 speeds • 8 hour capability • Pause review • Speed search • Audio dub • Video dub • Tracking control • Automatic rewind • VHF/UHF/CATV capability • 10" (diagonal) NTSC color monitor/receiver • Standard VHS record/playback, rotary 2-head helical scan system • 15 1/2" H x 11 1/8" W x 13 3/4" D • 25 lbs.

**2000** ..... \$1295.00  
**2004** With 4-head VHS Recorder/Player ..... 1375.00



2000

## L54 Portable Video System

• 12-function video remote • 3 speeds • 8 hour capability • Pause review • Speed search • Audio dub • Video dub • Tracking and slow tracking control • Automatic rewind • AC/DC operable • Battery and charger included • Battery charges internally • VHF/UHF/CATV capability • 5" (diagonal) NTSC color monitor/receiver • Standard VHS record/playback, rotary 4-head helical scan system • 9 1/2" H x 9 1/2" W x 13" D • 17 lbs. without battery pack, 21 lbs. with battery pack

**L54** ..... \$1325.00  
**L50** Same as L54 except 2-head ..... 1250.00



MVP-1300

## 500 Attache "Li'l Oscar"

### Portable Video System

• Video remote • 3 speeds • 8 hour capability • Pause review • Speed search • Audio dub • Video dub • Tracking control • Automatic rewind • AC/DC operable • VCR batteries and shoulder strap included • VHF/UHF/CATV capability • 5" (diagonal) NTSC color monitor/receiver • Standard VHS record/playback, rotary 2-head helical scan system • 3 1/2" H x 22" W x 7" D • 24 lbs. with batteries

**500 Attache** ..... \$1250.00  
**504 Attache** With 4-head VHS Recorder/Player ..... 1325.00



1300R

## 1300R Portable Video System

• 2-heads • High resolution, 350 lines • 8 hour playback/recording • Compact, portable • Ideal for sales or training • 32 lbs. • Original video tape recording can be made via the built-in 10-pin camera jack • Duplicate tape copies can be recorded • 4-head model also available • 15 3/4" H x 13 1/2" W x 15 1/2" D

**1300R** ..... \$1095.00  
**1304** Same features as 1300R except with 4 heads ..... 1195.00



MVP-1900

## MVP-1300 Portable Video System

• 350 vertical lines of resolution • Audio/video signal input/outputs • Concealed controls • Front load • 3 speeds • Auto repeat • Still frame • Picture search • 13" (diagonal) data grade color monitor • Rotary 2-head helical scan system • 120VAC/60Hz • 15 3/4" H x 13 1/2" W x 15 1/2" D • 34 lbs.

**MVP-1300** ..... \$ 850.00  
**MVP-1900** 19" Receiver ..... 1050.00

## Accessories

**SC-10** Soft Carry Case with Shoulder Strap for 1000/2000 ..... \$ 89.95  
**SC-13** Soft Carry Case with Hand Grip only for MVP-1300 . . .99.95  
**HC-10** Hard Shipping Case for 2000 Series ..... 150.00  
**HC-10L** Hard Shipping Case for 1000CD/2000 with Pad Lock ..... 165.00  
**CC-3** Car Battery Cord for 500 Series or L54 ..... .9.95  
**M-12** VCR Battery Pack for 500 Series ..... 49.95  
**MP-4** 12-Function Wired Remote for all 4-Head Systems . . .28.00  
**TC-18** Travel Cart for up to 100 lbs. .... 24.95  
**VB-12** 12V 4AH Battery Pack for 500 Series ..... 180.00

## Quartz Tele-Packs

For • TV • ETV  
• Cable • Closed Circuit

### Quartz Tele-Pack No. TP/C/1 (For 20' x 30' Studio)

- 12 6" Quartz Fresnel Spotlights
- 6 6" 4-Wing Barndoors
- 2 6" Quartz Ellipsoidal Spotlights
- 14 6" Diffuser Frames
- 6 8" Quartz Fresnel Spotlights
- 4 8" 4-Wing Barndoors
- 2 8" 2-Wing Barndoors
- 6 8" Diffuser Frames
- 6 14" Quartz Scoops
- 6 14" Diffuser Frames
- 4 3 1/2" Quartz Ellipsoidal Spotlights
- 4 4" Diffuser Frames
- 2 4' Quartz Strip-Lites
- 26 CC-500 C Clamps
- 4 CC-1 C Clamps
- 22 650W FAD Quartz Lamps
- 12 1000W FER Quartz Lamps
- 4 325W EHV Quartz Lamps
- 1 Roll 3' x 25' Spun Glass Diffuser

### Tele-Pack No. TP/A/100 (For 20' x 30' Studio)

Includes all items in No. TP/C/1 plus the following Dimming System, Power Grid, Distribution and Wiring Equipment:

- 2 SM2-824 Dimmer Packs (38.4kW)
- 1 SM2-CP16 Control Console, 16 channels
- 2 25' Control Cables
- 1 SM2-ER 19" Equipment Rack
- 6 16" Power and Rigging Tracks, each with 8-15A independent receptacles
- 1 35' Electrical Raceway
- 8 Raceway Fittings
- 1 Lighting Patch Panel with 48-6' 3-wire #12 rubber cables and male connectors
- 48 Pr. Home Run Cables (from grid receptacles to patch panel)
- 1 Power Distribution Box
- 2 Sets Power Cables—4 per set

### Quartz Tele-Pack No. TP/C/2 (For 15' x 20' Studio)

- 6 6" Quartz Fresnel Spotlights
- 6 6" 4-Wing Barndoors
- 6 6" Diffuser Frames
- 6 650W FAD Quartz Lamps
- 6 14" Quartz Scoops
- 6 14" Diffuser Frames
- 12 CC-500 C Clamps
- 6 1000W FER Quartz Lamps
- 1 Roll 3' x 25' Spun Glass Diffuser

### Tele-Pack No. TP/A/200 (For 15' x 20' Studio)

Includes all items in No. TP/C/2 plus the following Dimming System, Power Grid, Distribution and Wiring Equipment:

- 1 SM2-824 Dimmer Pack (19.2kW)
- 1 SM2-CP8 Control Console, 8 channels
- 1 25' Control Cable
- 3 16" Power and Rigging Tracks, each with 8-15A independent receptacles
- 1 25' Electrical Raceway
- 5 Raceway Fittings
- 24 Pr. Home Run Cables (from grid receptacles to dimmers)
- 1 Single Dimmer Pack Power Distribution Box with 4 Power Cables

### Quartz Tele-Pack No. TP/C/3 (For 30' x 40' Studio)

- 18 6" Quartz Fresnel Spotlights
- 18 6" 4-Wing Barndoors
- 18 6" Diffuser Frames
- 8 8" Quartz Fresnel Spotlights
- 8 8" 4-Wing Barndoors
- 8 8" Diffuser Frames
- 18 14" Quartz Scoops
- 18 14" Diffuser Frames
- 2 6" Quartz Ellipsoidal Spotlights
- 4 4" Quartz Strip-Lites
- 46 CC-500 C Clamps
- 36 650W FAD Quartz Lamps
- 26 1000W FER Quartz Lamps
- 2 Rolls 3' x 25' Spun Glass Diffuser

### Tele-Pack No. TP/A/300 (For 30' x 40' Studio)

Includes all items in No. TP/C/3 plus the following Dimming System, Power Grid, Distribution and Wiring Equipment:

- 3 SM2-824 Dimmer Packs (57.6kW)
- 1 SM2-CP24 Control Console, 24 channels
- 3 50' Control Cables
- 1 SM2-ER 19" Equipment Rack
- 8 20" Power and Rigging Tracks, each with 12-20A independent receptacles
- 1 50' Electrical Raceway
- 10 Raceway Fittings
- 1 Lighting Patch Panel with 48-6' 3-wire #12 rubber cables and male connectors
- 48 Pr. Home Run Cables (from grid receptacles to patch panel)
- 1 Power Distribution Box
- 3 Sets Power Cables—4 per set
- 1 12 Circuit Plugging Box with switches for non-dim application

### Quartz Tele-Pack No. TP/C/5-R (For 40' x 60' Studio)

- Lighting Instruments**
- 24 14" Quartz Scoops
- 24 8" Quartz Fresnel Spotlights
- 24 6" Quartz Fresnel Spotlights
- 2 6" Quartz Ellipsoidal Spotlights
- 2 6" Quartz Ellipsoidal w/Iris
- 2 Quartz Photo Floods

### Accessories

- 12 14" 2-Wing Barndoors
- 12 8" 4-Wing Barndoors
- 12 6" 4-Wing Barndoors
- 24 14" Diffuser Frames
- 24 8" Diffuser Frames
- 24 6" Diffuser Frames
- 3 SG-25 Rolls Spun Glass

### Lamps

- 48 1000W FER Quartz Lamps
- 28 650W FAD Quartz Lamps
- 2 250W ENH Quartz Lamps

### Dimmer Control Equipment

- 4 SM2-824 Dimmer Packs (76.8kW)
- 1 SM-CP32TF1 Control Console, 32 Channels with Time Fade
- 4 50' Control Cables
- 1 SM2-ER 19" Equipment Rack

### Prewired Grid System and Hanging Equipment

- 20 16" Power and Rigging Tracks, each with 8-15A independent receptacles
- 6 20 lb. Deluxe Pantographs
- 6 20 lb. Standard Pantographs

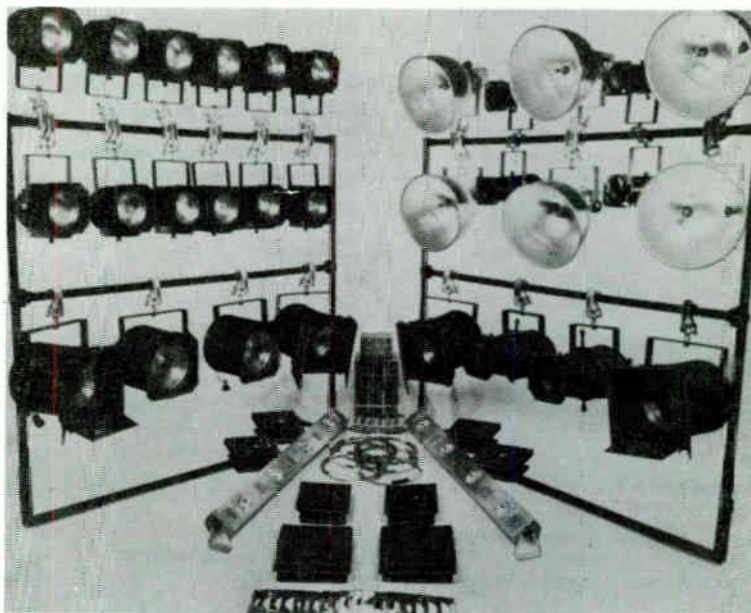
### Quartz Tele-Pack No. TP/A/500

Includes all items in No. TP/C/5R plus the following Distribution and Wiring Equipment:

- 75' Electrical Raceway
- 12 Raceway Fittings
- 1 Lighting Patch Panel with 80-6' 3-wire #12 Rubber Cables and male connectors
- 80 Pr. Home Run #12 wires (from grid receptacles to patch panel)
- 1 Power Distribution Box
- 4 Sets Power Cables, 4 per set
- 2 12 Circuit Plugging Boxes with switches for non-dim application

### Deluxe Quartz Tele-Pack No. TP/A/600 (For 40' x 60' Studio)

- Lighting Instruments**
- 24 14" Zoom (pole) Focusing Quartz Scoops
- 24 8" Deluxe Pole Focusing Quartz Fresnel Spotlights



TP/C/1

- 24 6" Deluxe Pole Focusing Quartz Fresnel Quartz Spotlights
- 2 6" Deluxe Pole Focusing Quartz Ellipsoidal Spotlights
- 2 6" Deluxe Pole Focusing Quartz Ellipsoidal w/Iris
- 2 Quartz Photo Floods

### Accessories

- 12 14" 2-Wing Barndoors
- 12 8" 4-Wing Barndoors
- 12 6" 4-Wing Barndoors
- 24 14" Diffuser Frames
- 24 8" Diffuser Frames
- 24 6" Diffuser Frames
- 3 SG-25 Rolls Spun Glass
- 2 Giraffe Poles

### Lamps

- 48 1000W FER Quartz Lamps
- 28 650W FAD Quartz Lamps
- 2 250W ENH Quartz Lamps

### Dimmer Control Equipment

- 4 SM2-824 Dimmer Packs (76.8kW)
- 1 SM-CP32TF1 Control Console, 32 Channels with Time Fade
- 4 50' Control Cables
- 1 SM2-ER 19" Equipment Rack

### Prewired Grid System and Hanging Equipment

- 20 16" Power and Rigging Tracks, each with 8-15A independent receptacles
- 6 20 lb. Deluxe Pantographs
- 6 20 lb. Standard Pantographs

### Distribution and Wiring Equipment

- 75' Electrical Raceway
- 12 Raceway Fittings
- 1 Lighting Patch Panel with 80-6' 3-wire #12 Rubber cables and male connectors
- 80 Pr. Home Run #12 wires (from grid receptacles to patch panel)
- 1 Power Distribution Box
- 4 Sets Power Cable, 4 per set
- 2 12 Circuit Plugging Boxes with switches for non-dim application



# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way

Secaucus, NJ 07094

See Directory for Your Nearest Regional Office

# COLOR CAMERAS

### WV-555/B ENG/EFP/Studio Color Camera

- Horizontal Resolution: 600 lines
- S/N Ratio: 54dB
- Three 2/3" Saticon tubes using 1/2" scanning
- Minimum illumination 8fc (80 lux) at f/1.4, + 12dB gain on
- Built-in EIA RS-170A sync generator with genlock
- Two line vertical aperture correction
- Feedback beam control (FBC)
- Knee circuit for improved visible dynamic range
- Lightweight diecast chassis with 1.5" viewfinder
- Optional remote control, WV-RC32

#### Standard Composition

**ENG Color Camera WV-555B . . . \$6,100.00**

- WV-555BH: Camera head (w/o lens)
- WV-VF32: 1.5" Electronic viewfinder
- WV-PS37: Battery Pack (2AH)
- WV-BC32: Battery charger
- WV-Q37: Tripod mounting adaptor
- WV-CC32: Carrying case
- Rain coat
- Registration and white balance chart
- Color sheet
- PCB extender

**ENG Color Camera WV-555A\* . . . \$4,900.00**

- WV-555AH: Camera head (w/o lens)
- WV-VF32: 1.5" Electronic viewfinder
- WV-Q37: Tripod mounting adaptor
- WV-CC32: Carrying case
- Rain coat
- Registration and white balance chart
- Color sheet
- PCB extender

#### ENG Color Camera Head

**WV-555BHQ . . . \$5,300.00**

- WV-555BH: Camera head (w/o lens)
- WV-Q37: Tripod mounting adaptor



WV-555/B

#### Studio Configuration

**WV-555BST\* . . . \$7,200.00**

- WV-555BH: Camera head (w/o lens)
- WV-VF37: 5" Electronic viewfinder
- WV-RC32: Remote control unit
- WV-Q37: Tripod mounting adaptor
- 32A-25: Studio cable
- Registration and white balance chart
- Color sheet
- PCB extender

\*WV-555A and WV-555BST are not available in Canada.

### WV-888 Professional ENG/EFP/Studio Color Camera

- High performance middle index prism optical system with three 2/3" Saticon II tubes
- NTSC and Y/IQ output
- Horizontal Resolution: 650 lines
- S/N Ratio: 57dB
- Feedback beam control, digital automatic white, automatic-black and pulse cancel controls
- Automatic centering
- +9 and +18 high gain selection switch
- Genlock
- Switchable audio output level of -20dB or -70dB
- EIA, IQ color bar generation with 7.5 IRE setup
- Operates from four different power sources: body-integrated NiCad battery, body-integrated AC power supply, optional RCU or VTR, or any other power source
- Gamma correction adjustable from .45 to 1.0

- Diecast chassis
- Lightweight and well balanced design
- Standby switch reduces power consumption during idle modes
- Studio adaptability with optional studio viewfinder and RCU, WV-RC31

#### ENG Standard Composition

**WV-888 . . . \$8,900.00**

- WV-BBBH: Camera head (w/o lens)
- WV-VF32: 1.5" Viewfinder
- WV-CC34: Carrying case
- WV-Q35: Tripod mounting adaptor
- Rain coat
- Registration and white balance chart
- Color sheet
- PCB extender
- UM-3/AA size battery for microphone
- Operating instructions



WV-888

#### Studio Standard Composition

**WV-888ST\* . . . \$10,500.00**

- WV-BBBH: Camera head (w/o lens)
- WV-VF37: 5" Viewfinder
- WV-RC31: RCU
- 32A-25: Studio cable
- WV-Q35: Tripod mounting adaptor
- Registration and white balance chart
- Color sheet
- PCB extender
- Operating instructions

\*WV-BBBST is not available in Canada.

### WV-890 Plumbicon (P3) ENG/EFP/Studio Color Camera

- Three 2/3" Plumbicon tubes
- Auto centering
- Horizontal Resolution: 600 lines
- S/N Ratio: 59dB
- White/black automatic balance
- Compact and lightweight
- Easy access control
- NTSC and Y/IQ output
- +9/+18dB high gain selection switch
- 2-line vertical aperture correction
- Genlock
- Single cable connection for use in video production in mobile and field situations as well as studio production
- Optional RCU, WV-RC31

#### Standard Composition

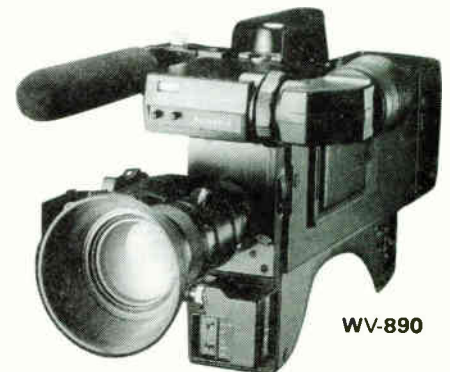
**ENG Color Camera WV-890 . . . \$12,500.00**

- WV-B90H: Camera head (w/o lens)
- WV-VF32B: 1.5" Electronic viewfinder
- WV-CC34: Carrying case
- WV-Q35: Tripod mounting adaptor
- Rain coat
- Registration and white balance chart
- Color sheet
- PCB extender

#### Studio Configuration

**WV-890ST . . . \$14,200.00**

- WV-B90H: Camera head (w/o lens)
- WV-VF37B: 5" Electronic viewfinder
- WV-RC31: Remote control unit
- 32A-25: Studio cable
- WV-Q35: Tripod mounting adaptor



WV-890

- Registration and white balance chart
- Color sheet
- PCB extender

# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

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# COLOR CAMERAS

## WV-6000 (S1)

### Professional Single Tube Camera

- One 2/3" 6MHz high band Saticon™ tube
- Horizontal resolution—420 lines
- Color bar generator—Feedback beam control
- Built-in genlock circuit—2 line vertical enhancer
- 12X servo zoom, f/1.6 and macro
- 2 position auto white circuit
- 50dB S/N—requires only 20 lux illumination
- Character and time/date generator
- VTR remote capability
- +6, +12dB gain up and AGC system
- 1.5" electronic viewfinder
- Stereo microphone
- Optional CCU WV-RC60
- Audio video fade in/out
- Adjustable diopter with 1.5" viewfinder (B/W only)

- Color temperature conversion filter turret
- -20dB/-60dB switchable audio output
- Stereo audio monitor output
- H, SC phase controls
- R.B. gain and R.B. and Y. Pedestal control
- Optional color electronic viewfinder
- Rugged aluminum diecast chassis

### Standard Composition

- **ENG Color Camera WV-6000 . . . \$3700.00**
- WV-6000H: Camera head
- WV-VF60: 1.5" B/W electronic viewfinder
- WV-LZ12/12: 12:1 servo zoom lens
- WV-CC60: Carrying case
- WV-Q40A: Shoulder pad
- WV-MC60: Stereo microphone
- **Camera Head WV-6000H . . . . \$2300.00**
- WV-6000H: Camera head



WV-6000 (S1)

### • Studio Configuration

- WV-6000ST . . . . . \$4600.00
- WV-6000H: Camera head
- WV-RC60: Remote control unit
- WV-FV65: 5" B/W electronic viewfinder
- WV-LZ12/12: 12:1 servo zoom lens
- WV-LK11: Lens conversion kit
- 14C-30: Studio cable

## WV-V3

### Three-Tube Video Camera

- Three 1/2" Newvicon tubes
- Horizontal resolution: 570 lines
- S/N Ratio: 54dB
- Minimum Illumination: 35 lux f/1.4 (100% full video)
- ATW (Auto Tracing White Balance System)
- Auto centering function
- Built-in color bar generator
- Automatic audio/video fade in/out
- Gain control (0 + 6 + 12dB)
- Negative/positive picture reversal
- VHS/VTR compatibility switch
- 2 position white balance memory
- Optional title generator
- Internal sync (external sync option)
- Compatible with 555 series lens
- Optional remote control, WV-RC33

### Standard Composition

- **WV-V3 . . . . . \$4900.00**
- WV-V3H: Camera head
- WV-VF34: 1.5" electronic viewfinder
- WV-MC34: Microphone
- WV-CC35: Carrying case
- WV-PS33: 2-hour battery
- WV-BC30: Battery charger
- **WV-V3L Includes standard composition packaging with 10:1 power servo, zoom lens . . . . . \$5500.00**

### Studio Configuration

- **WV-V3ST . . . . . \$6200.00**
- WV-V3H: Camera head
- WV-VF65AP: 5" Electronic viewfinder
- WV-RC33: Remote control



WV-V3

- WV-AD33: Genlock adaptor
- 14C-30P: Studio cable (30')
- WV-Q36: Tripod mounting adaptor

## WV-555BN (N3)

### ENG/EFP/Studio Color Camera

- Three 1/2" Newvicon tubes
- Horizontal Resolution: 600 lines
- S/N Ratio: 56dB
- 2-line vertical enhancer with comb filter
- Feedback beam control
- Auto-centering circuit
- Built-in full field color bar
- Auto white and auto black
- Y, I/Q encoder can be connected with recam system
- Vertically installed plug-in circuit board
- Knee circuit
- Built-in genlock
- Iris weighting circuit
- Low burn-in
- Optional remote control unit, WV-RC32

about with the Remote Control Unit. In addition, standard NTSC genlock sync generator makes the camera compatible with most professional VTR systems. And the Y/IQ component output lets you connect the WV-555BN with component recorders like the Panasonic 1/2" M-Format VTRs.

Color reproduction on the WV-555BN is controlled by precise prism optics for fresh, true skin tones. The WV-555BN is built for mobility. Its compact lightweight body with magnesium alloy side panels facilitates on-location shooting. An aluminum diecast chassis makes the camera sturdy enough for rough field use. It also has special RF protection to keep video signals free from interference.

### Standard Composition

- **ENG Color Camera WV-555BN . . \$6100.00**
- WV-555BNH: Camera head (w/o lens) with WV-Q37
- WV-VF32B: 1.5" Electronic viewfinder



WV-555BN (N3)

**Nite Hawk**

- WV-PS37: Battery pack (2AH)
- WV-BC32: Battery charger
- WV-CC32: Carrying case
- Registration and white balance chart
- Color sheet
- PCB extender
- **Camera Head WV-555BNH . . . \$5300.00**
- Camera head (w/o lens) with tripod mounting adaptor (WV-Q37)

Get the advantages of the first 3-Newvicon tube camera in your studio with professional options for the WV-555BN. A 5" electronic viewfinder gives you a wider view of your subject. Camera operators are free to move

# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way

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# CCD CAMERAS

### 300CLE 3 CCD Color Camera

- High resolution, more than 700 lines
- S/N ratio, more than 60dB
- Variable speed electronic shutter (1/60, 1/250, 1/500, 1/1000 sec.)
- Ergonomically designed (right/left eye VF)
- Split configuration
- S-VHS (Pro Series) compatible/NTSC switchable
- Color matrix masking
- 25 lux minimum illumination (f/1.7 at + 18dB)
- Detail selectable (high, low, and off)
- SMPTE color bars
- Camera check in viewfinder
- Iris 1/2 open/close switch

### WV-F300

- Camera head
- Camera adaptor

WV-F300 .....\$5900.00

### WV-S330 Basic Kit

- WV-VF38, 1.5" viewfinder
- WV-PS60, 1.65AH battery
- WV-PS31, AC adaptor with quick charger
- WV-CC37, carrying case

WV-S330 .....\$1400.00

### WV-S350 ENG/EFP Kit

- J12X10BKRS, 12X servo zoom lens
- WV-MC35, microphone
- WV-VF-38, 1.5" viewfinder
- WV-PS60, 1.65AH battery
- WV-Q47, tripod mounting adaptor
- WV-PS31, AC adaptor with quick charger
- WV-CC37, carrying case

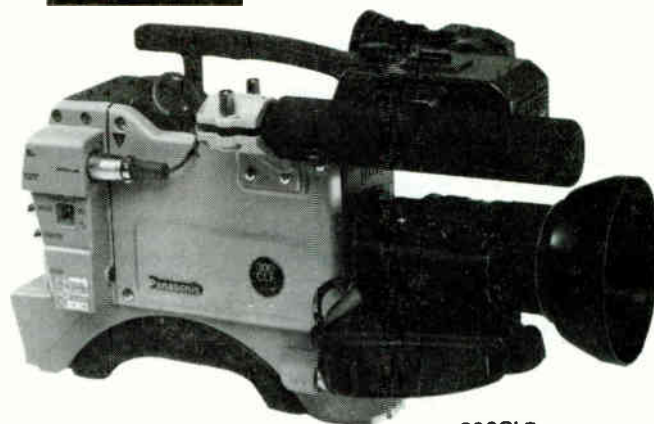
WV-S350 .....\$2800.00

### WV-S370 Studio Kit

- J12X10BKRS, 12X servo zoom lens
- WV-LK35, lens control kit
- WV-VF65B, 5" viewfinder
- WV-Q47, tripod mounting adaptor
- WV-RC36, remote control unit
- 32A-25, studio cable
- WV-Q95, extension board

WV-S370 .....\$5600.00

**PRO  
SERIES**



300CLE

### WV-200CLE Industrial 3 CCD ENG/EFP Color Camera

- More than 600 lines resolution
- Greater than 56dB signal to noise
- Y/C (Pro Series S-VHS) or NTSC switchable output
- Color matrix masking
- 25 lux minimum illumination
- Ergonomic design
- 2 memory 3 position auto-white balance
- SMPTE color bars
- Detail hi/low/off switch
- ± 1/2 stop iris open/close
- IQ color encoder system

### Standard Configuration:

- Camera head
- WV-VF38, 1.5" viewfinder
- J12X10BKRS, Canon 12X (10-120mm) lens
- WV-MC35, microphone
- WV-Q47, tripod mounting adaptor
- WV-CC37, soft carrying case

WV-200CLE .....\$6900.00

### Accessories:

WV-LK35	Lens control kit	.....\$1000.00
WV-MC35	Microphone	.....100.00
WV-VF38	1.5" viewfinder	.....500.00
J12X10BKRS	Canon 12X servo zoom lens	.....1500.00
A12X9BERM-84	Fujinon servo zoom lens	.....2750.00
A14X9BERM-24B	Fujinon servo zoom lens	.....5800.00
J15X9.5BKRS	Canon servo zoom lens	.....1650.00
J18X8.5BIRS	Canon servo zoom lens	.....9300.00
A10X10BRMV	Fujinon servo control zoom lens	.....1200.00
A12X9BERM2	Fujinon servo control zoom lens	.....2750.00
A14X9BERMV	Fujinon servo control zoom lens	.....5800.00
A16X95BRM	Fujinon servo control zoom lens	.....1678.00
J15X95BV	Canon servo control zoom lens	.....1650.00
WV-LC10	(12 to 8-pin) lens conversion cable	.....100.00
WV-Q47	Tripod adaptor	.....150.00
WV-CC37	Carrying case	.....330.00
WV-CA32/10	32P-10P VTR cable	.....90.00
WV-CA32A14	32P-14P VTR cable	.....150.00
10H-30AS	10m 10P-10P VTR extension cable	.....95.00

10H-50AS	15m 10P-10P VTR extension cable	.....\$145.00
WV-CC38	Hard shell carrying/shipping case	.....750.00
WV-VF65B	5" viewfinder	.....750.00
WV-RC36	Remote control unit	.....1800.00
32A-25	(7.5m 32P-32P) RCU cable	.....400.00
32A-50	(15m 32P-32P) RCU cable	.....530.00
32A-100	(30m 32P-32P) RCU cable	.....790.00
WV-PS33	(3H) battery	.....495.00
WV-PS60	(1.5H) battery	.....210.00
WV-BC30	(For WV-PS33) battery charger	.....100.00
DE-1232	(For WV-PS60) battery charger	.....60.00
WV-PS31	AC adaptor with quick charger	.....435.00
WV-AD19	Battery case	.....400.00
AG-BP202	Battery pack	.....55.00
WV-VT10	M-II adaptor	.....2000.00
AG-B640	AC adaptor with battery charger	.....420.00
WV-CA38	Conversion cable for desktop VCR monitor, must use with WV-CA32A14	.....170.00



# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

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# COLOR CAMERA SYSTEM



**WV-D5000 Camera Head  
with WV-S050 ENG System Kit**



**WV-D5000 Camera Head  
with WV-S060 EFP System Kit**

### WV-D5000 Video Camera (Camera head only)

The WV-D5000 is a component video camera that offers great flexibility in system configurations. So it can handle a wide variety of video applications. A full range of available accessories can tailor this camera system to meet your specific needs, and provide considerable system potential for the future.

- Integrated color mosaic filter single chip CCD System
- 2/3" CCD insures high quality and virtually eliminates burn-in and after image. And 286,000 pixels assure superior reproduction quality
- Signal-to-noise ratio — 46dB
- Minimum illumination — 7 lux at f/1.4
- Auto Tracing White Balance (ATW) or Manual Setting (AWC)
- 2 line vertical enhancer
- Strobe effect shutter
- Fade-in/fade-out
- Nega-posi picture reversal
- Record review
- VTR remote control
- TTL auto focus (Magic Window) optional 8/AF
- Automatic intermittent recording — optional WV-CR12
- Multi-purpose modular systems makes the WV-D5000 ideal for education, industrial training, research, motion analysis (sports), film/slide transfer installations, photography, color monitoring, botanical/zoological observation, tele-conference, telecommunication input for videography and many other uses

WV-D5000 (camera head only) . . . . . \$1375.00  
 WV-D5000 RGB camera . . . . . 1535.00  
 WV-D5010 Same as WV-D5000 less strobe effect shutter . . 1275.00

### WV-S050 ENG System Kit

The S050 is the kit for users who demand versatility and convenience for their Electronic News-Gathering applications.

#### WV-S050 Standard Configuration

WV-LZ 14/12A 12X Power Servo Zoom Lens  
 WV-VF01 1" Electronic Viewfinder  
 WV-GR12 Shoulder Pad/Grip  
 WV-MC12 Stereo Microphone  
 WV-Q43 Cheek Pad  
 WV-CA10 VCR Cable  
 WV-Q44 Camera Strap  
 WV-S050 . . . . . \$935.00

### WV-S060 EFP System Kit

The S060 is the Electronic Field Production Kit that lets professionals enhance their video creativity with the D5000.

#### WV-S060 Standard Configuration

WV-LZ 14/12A 12X Power Servo Zoom Lens  
 WV-VF01 1" Electronic Viewfinder  
 WV-GR12 Shoulder Pad/Grip  
 WV-MC12 Stereo Microphone  
 WV-AD36 Genlock Adaptor  
 WV-CA10 VCR Cable  
 WV-PS03 AC Adaptor  
 WV-S060 . . . . . \$1265.00

### WV-S070 Studio Kit

The S070 kit modules expand the D5000 into a complete, professional-class studio recording system.

#### WV-S070 Standard Configuration

WV-LZ 15/12 12X Automatic Iris Studio Lens  
 WV-LK11 Lens Control Kit  
 WV-VF65 5" Electronic Viewfinder  
 WV-Q39 5" EVF Bracket  
 WV-RC35 Remote Control Unit  
 WV-AD37 RCU Adaptor  
 14C-30 Studio Cable  
 WV-S070 . . . . . \$2970.00

#### Optional Accessories

WV-VF01 1" B/W viewfinder . . . . . \$275.00  
 WV-MC12 Stereo microphone . . . . . 40.00  
 WV-PS03 AC adaptor . . . . . 220.00  
 WV-CA10 (10-pin/10-pin) VCR cable . . . . . 35.00  
 WV-CA11 (10-pin/14-pin) extension cable . . . . . 45.00  
 WV-PH10 Pan/tilt head . . . . . 660.00  
 WV-Q39 5" viewfinder bracket . . . . . 165.00  
 WV-AD36 Genlock adaptor . . . . . 220.00  
 WV-AD37 RCU adaptor . . . . . 275.00  
 WV-AD38 RGB output adaptor . . . . . 275.00  
 WV-RC35 Remote Control Unit (RCU) . . . . . 550.00  
 WV-CR12 Camera remote controller . . . . . 440.00  
 WV-LZ 14/8AF 8X autofocus zoom lens . . . . . 550.00  
 WV-LZ 14/12A 12X servo zoom lens . . . . . 770.00  
 WV-LZ 15/12 12X auto iris studio lens . . . . . 825.00  
 WV-CL19 1.5X Teleconversion lens . . . . . 145.00  
 WV-LT21 35mm SLR lens adaptor (Canon) . . . . . 50.00  
 WV-LT22 35mm SLR lens adaptor (Nikon) . . . . . 50.00  
 WV-LT23 35mm SLR lens adaptor (Minolta) . . . . . 50.00  
 WV-LT24 35mm SLR lens adaptor (Olympus) . . . . . 50.00  
 WV-LT25 35mm SLR lens adaptor (Pentax) . . . . . 50.00  
 WV-CC28 Carrying case . . . . . 145.00  
 WV-831P Camera mounting bracket . . . . . 52.00

Prices and Specifications Subject to Change Without Notice.

V-849

# PANASONIC INDUSTRIAL COMPANY

AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way  
Secaucus, NJ 07094

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# PORTABLE COLOR CAMERA/ CAMCORDERS

## WV-3260/8AF Color Camera

- High performance CCD pick-up element • 380 lines of horizontal resolution • TTL (through-the-lens) auto-focus 8X power zoom lenses • Automatic focusing even through glass • "Magic Window" three-step selectable TTL auto-focus zone • Low light capability-0.7 fc (7 lux) at f/1.4
- Interchangeable 35mm SLR lenses by using optional adaptor • Strobe effect shutter • Auto tracing white balance system (ATW) • Automatic intermittent recording • Character generator function • One inch electronic viewfinder character display • REC review • VCR remote control function • Fade-in/fade-out function (audio/video) • Negative/positive picture reversal • Three setting sensitivity switch • 2H enhancer
- Automatic iris (close/open) control

WV-3260/8AF .....\$2035.00

PRO  
LINE



WV-3260/8AF

## AG-160 VHS Camcorder

- Full VHS compatibility • 1/1000-second electronic shutter recording • CCD pick-up element • Lens: 6:1 power zoom lens with macro function, auto iris, f/1.2 (9mm ~ 54mm); lens front diameter 49mm • Low light sensitivity (as low as 7 lux) • TTL (Through-The-Lens) piezo autofocus system • Auto-tracing white balance (ATW) • Up to 2 hours and 40 minutes recording time at standard speed using AC current and a T-160 cassette • Automatic recording of date and time by easy push-button operation • Large 2 2/3" electronic viewfinder with multi-display (e.g., battery condition, insufficient light, tape counter, etc.) • Up to 120-minute recording from one battery • Standby mechanism for clean add-ons (and battery saving) • Still and speed search (approx. 3X normal SP speed) modes • A/V input compatible for recording from TV (with VW-KM4 adaptor supplied) • Audio dub function • Rec/Review function • ALC 6X electronic zoom lens with macro-focus function • Edit switch • Pause remote-control unit (VW-RM1), optional • Unidirectional high sensitivity microphone • External microphone input • Dimensions: 7 1/2"H x 6 1/16"W x 12 5/8"D • Weight: 5.3 lbs. (without battery)

AG-160 .....\$2200.00

PRO  
LINE



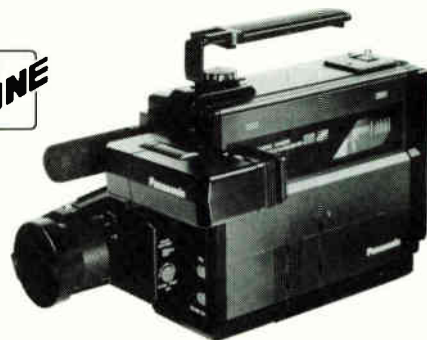
AG-160

## AG-100S VHS Camcorder

- Uses standard VHS cassettes • Immediate playback • Still and speed search • Recording check • 1/2" high band Newvicon camera tube • 1/2" electronic viewfinder • 6X power zoom lens (9 to 54mm, f/1.4) • Automatic white balance adjustment • Viewfinder angle adjustment and eyesight compensation • Two hours of continuous recording on a single battery pack • Manual aperture control • Standby function • External microphone input • Earphone output • Three-way power supply • Memory counter • Dimensions: 7 1/2"H x 6 1/16"W x 12 5/8"D • Weight: 5.5 lbs. (without battery pack)

AG-100S "VHS Reporter" System • Includes AG-100 camcorder, with 6X zoom lens • AG-B1 compact AC adaptor • VW-VBM2 Rechargeable battery pack (2AH) • VW-PM1 Adjustable padded shoulder brace and camcorder strap • AG-HT1 Hardshell carrying case for entire system (with strap).....\$1780.00

PRO  
LINE



AG-100S

# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way  
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# COLOR CAMERA/TITLERS

### WV-CD500 3 Chip Solid-State Color Camera

- Middle index prism optical system
- Three interline CCD image sensors
- Compact and lightweight due to separate optional power supply and optional remote
- Optional remote lenses, pan tilt and controls available
- All solid-state components and a metal enclosure case for long life and high reliability
- Free of image burn-in, almost no blooming and very short lag
- Distortion free picture due to a precise alignment of elements on image plates
- Solid-state 510(H) x 492(V) image sensor array and 360 lines horizontal resolution (green channel)
- Convenient RGB non-composite output for medical and image processing applications
- Virtually no effect from magnetic fields
- Solid-state sensors: no tubes, deflection or focusing coil assemblies
- 50dB signal-to-noise ratio
- Auto tracing continuous white balance
- 80 Lux minimum illumination
- All customer adjustments on the camera head can be set by using the optional remote control unit (WV-RC60)
- Internal sync generator (equivalent to RS-170) with genlock
- Suitable for medical, scientific, and surveillance applications. It can also be optimally used in image processing applications and in manufacturing and production systems

WV-CD500 .....\$6270.00



Camera Head  
WV-CD500  
(Lens: optional)

### Optional Accessories

A10x108RMV	Fujinon f/1.6 10X servo zoom lens 10-100mm .....	\$1200.00
A10x108MD-D4	Fujinon 10X zoom lens .....	1715.00
CC-35T	Remote control for "J" lenses .....	1200.00
J13x98IE2	Canon 13X zoom lens .....	5750.00
J15x958V	Canon 15X zoom lens .....	1650.00
RMD-2	Remote control for BMD-D4 .....	750.00
WV-AD35	Adaptor for Olympus microscope .....	TBA
WV-PS50	AC supply for WV-CD500 .....	225.00
WV-RC50	Remote control for WV-CD500 .....	485.00
WV-7230B	Pan-tilt for indoor use .....	690.00
WV-7330	Remote control for pan-tilt and BMD-C4 lens .....	368.00

### WJ-3500 System Switcher, Titler, Special Effects Generator

- Superimposition of titles and graphics on color camera and other line video source with key level control
- Seven different color selection for titles/graphics or background. White/red/yellow/green/cyan/blue/magenta
- 2 wipe patterns, horizontal/vertical and mix (with wipe/mix lever)
- Three video inputs; background color, line video, slave camera (genlockable)
- Program and effect output
- Negative/positive pattern selector
- Audio mixing for line and microphone inputs
- AC/DC operation
- 42dB signal-to-noise (S/N) ratio
- Video output: X1 (BNC connector)

WJ-3500 .....\$1375.00



WJ-3500

### WV-J10 Video Titler

- Superimposition of titles and graphics on color camera or video tape recorder video signal
- Seven different color selections
- Super auto fade in/out
- Two separate (switchable) video outputs
- Key level control
- Soft/sharp select for VTR playback picture tone
- Pattern (picture) reversal between input signal and title camera signal
- VTR remote control
- Four audio inputs
- Audio fade in, fade out
- 2X variable focus zoom lens for title camera (supplied)

WV-J10 .....\$935.00



WV-J10

Prices and Specifications Subject to Change Without Notice.

V-851



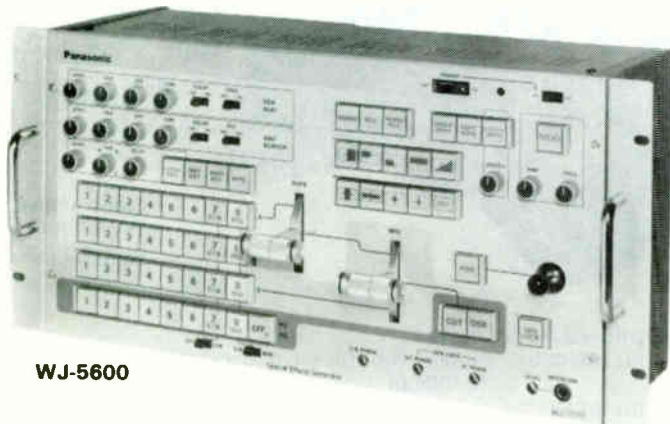
# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way  
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# COLOR PRODUCTION SYSTEMS

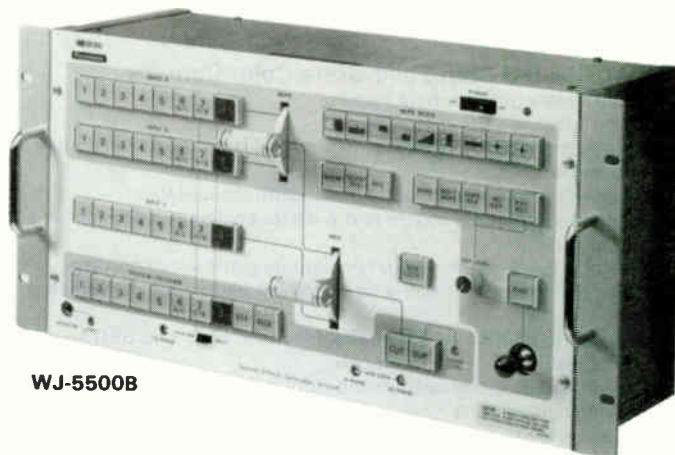


WJ-5600

### WJ-5600 Color Special Effects Generator

- Two built-in mixing amplifiers allow three-channel mixing
- 8-channel inputs
- Three black burst outputs
- Mixing in fade-in, fade-out and dissolve modes
- Switch-over in normal; normal-reverse; and reverse
- Wipe waveforms in three stages: soft, sharp, and color border
- Switchover by self-collating non-locking button during the vertical interval
- A built-in positioner circuit
- Two color generators for the matte key and border wipe, and for downstream keying and background
- Color generators adjusted independently for hue, saturation and luminance
- The matte key has a negative/positive selection switch
- Downstream keyer has a built-in edge on/off switch
- Color matte key and RGB chroma-key are independent
- Chroma-key creates key signals in full hue, and controls key delay levels
- Downstream key signals capable of color/monochrome switch-over
- Input signals in both the VBS composite and VB non-composite modes. VBS genlock is also possible
- AC or 12VDC power operation available
- Rackmountable

WJ-5600 .....\$7260.00

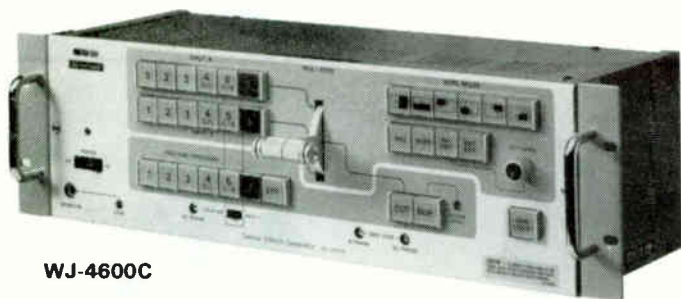


WJ-5500B

### WJ-5500B Deluxe Color Special Effects Generator

- Vertical interval switching of 8 program inputs, 1 auxiliary input for VTR, 1 super input, and 1 external key input (monochrome)
- Downstream mixing of up to three cameras, including super
- Nine wipe patterns with soft/sharp edges; normal, normal-reverse, and reverse wipe modes; wipe positioner
- Wipe key, internal key, external key
- Built-in EIA RS-170A sync generator (HD, VD, Sync, BL, BFP, SC and black burst outputs) plus genlock capability
- Genlock circuitry for non-synchronous video signal mixing
- Subcarrier phase and horizontal phase adjustments for genlock
- Color bar generator with subcarrier phase control
- Black burst (program output only) 3 outputs
- Can mix composite and non-composite video inputs
- Effect, preview and two program outputs
- "Cut" pushbutton transfers program and preview buses
- 2-step illuminated, non-locking pushbuttons: light dimly when pressed to indicate selected preview inputs; light brightly when pressed to indicate selected program inputs
- Illuminated lock release buttons light up when pressed to show function selected
- Supplies intercom power to eight cameras and level adjustable
- Supplies tally light on/off switching to all ten inputs
- BNC connectors
- Audio amplifier for intercom with level control
- Rackmountable

WJ-5500B .....\$5060.00



WJ-4600C

### WJ-4600C Color Special Effects Generator

- DC operation for EFP use
- Vertical interval switching of 6 program inputs
- Fades, dissolves, and six wipe patterns
- Super, external key (monochrome); internal key

- Built-in EIA RS-170A sync generator (HD, VD, Sync, BL, BFP, SC, and black burst outputs) plus genlock capability
- Genlock circuitry for non-synchronous video signal mixing
- Subcarrier phase and horizontal phase adjustments for genlock
- Black burst (program output only) 3 outputs
- Can mix composite and non-composite video inputs
- Effect, preview, and two program outputs
- "Cut" pushbutton transfers program and preview buses
- 2-step illuminated, non-locking pushbuttons: light dimly when pressed to indicate selected preview inputs; light brightly when pressed to indicate selected program inputs
- Illuminated lock-release buttons light up when pressed to show function selected
- Supplies intercom power to six cameras and level adjustable
- Supplies tally light on/off switching to all eight inputs
- BNC connectors
- Audio amplifier for intercom with level control

WJ-4600C .....\$2650.00

WJ-CC46 Carrying case for WJ-4600C .....\$440.00

# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way  
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# 3/4" RECORDERS/PLAYERS

### NV-9450A

#### 3/4" Portable Video Cassette Recorder/Player

- Real time monitoring with video confidence heads • SMPTE time code capability • TBC connection capability • Professional-standard connectors (Video/BNC, Audio/XLR)
- Automatic backspacing for assemble editing • Microprocessor controlled operation • Remote control facility • 3-way power supply • 2 audio meters • 10X picture search capability • Lightweight 19.6 lbs. (including battery) • Supplied with handle and shoulder strap

NV-9450A ..... \$5000.00



NV-9450A

### NV-9400

#### 3/4" Portable Video Cassette Recorder/Player

- 3-way power: Rechargeable Panaloid battery (included); 12V battery power with optional car/boat battery cable, NV-C24; or optional AC adaptor/battery rechargers, NV-B50 and HV-B50R (NV-B50R for use with AK-750) • NV-9400 has a capstan servo system with a crystal reference signal generator to help insure precise head-to-tape speed and high picture stability • Automatic Assembly Editing (AAE) from Stop mode. AAE features assembles the record segments without tear or roll • Dropout/noise compensator • Automatic Phase Control (APC) for stable color signal • Dubbing mode turns off APC to maintain luminance/chroma relationship when dubbing
- Pause control stops tape travel in Record mode, and features a still frame in Playback • Two audio channels; audio dubbing on channel 1; balance control for channels 1 and 2 during Playback • Five function meter: Monitors video level, audio channel 1, audio channel 2, battery voltage and servo lock
- Optional RF modulator NV-U956 plugs into VCR for playback on TV channels 5 or 6 (switchable) • 3/4" cassettes recorded on NV-9400 can be played on other U-format VCRs • Mates with Panasonic ENG/EFP color cameras, such as AK-750 and WV-3800

NV-9400 ..... \$3500.00



NV-9400

#### Optional Accessories

NV-U956	RF modulator (NV-9400) .....	\$ 170.00
NV-B50	AC adaptor/battery charger (NV-9400) .....	.385.00
LCR-3012VBP	Rechargeable Panaloid battery (NV-9400) .....	.65.00
NV-C45	10P 14P cable (NV-9450A) .....	.77.00
NV-H25	Carrying case with shoulder strap (NV-9400) .....	.85.00
NV-A450	Remote control unit (NV-9450A) .....	.350.00
NV-B450	AC adaptor/charger (NV-9450A) .....	.600.00
NV-C450	Car/battery cable (NV-9450A) .....	.35.00
NV-F450	Time code generator (NV-9450A) .....	.1870.00
NV-BP450	Battery pack 12V/2.2A NiCad (NV-9450A) .....	.150.00

### NV-9200E 3/4" High Performance Video Cassette Recorder/Player

- PAL/SECAM recording/playback and NTSC playback • 3 motors; reel drive, rotating video head, and capstan servo motors
- Recording and playback in either color or high-resolution B/W • Picture resolutions of 350 lines B/W, and 250 lines color; HPF heads • 46dB S/N • Sync and subcarrier input, FM output allow time base corrector (TBC) connection • One-piece aluminum diecast chassis • Automatic tape rewind; Auto Search stops either FF or REW mode at zero • Two audio level meters for each audio channel; audio limiter on/off switch • Audio Dub In on CH1; audio monitor selector for CH2 or mix • Optional remote controllable

NV-9200E ..... \$3550.00



NV-9200E

#### Optional Accessories

NV-A970	High Performance Editing Controller with SMPTE Time Code Generator and Reader NV-9240 .....	\$5500.00
NV-A505	Full Function Remote Search Controller .....	.990.00
NV-J500	Multi-Source Switcher (NV-A505) .....	.600.00
NV-A800A	Auto Search Controller (NV-9240/9240XD) .....	.495.00

NV-A810	Remote Control Unit 9200E, 9240XD .....	\$165.00
NV-A850	Programmable Auto Search Controller (NV-9240XD) .....	.550.00
NV-C80	Extension Cable Deck to Controller (16.4', NV-A800A, A810, A850, A970) .....	.120.00
NV-C15	TV/Monitor Connection Cable (5') .....	.28.00
NV-C21S	VTR/TV Extension Cable (10') .....	.33.00
NV-U234	RF Modulator CH3 and 4 Switchable .....	.80.00

Prices and Specifications Subject to Change Without Notice.

V-853

# PANASONIC INDUSTRIAL COMPANY

AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way  
Secaucus, NJ 07094

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## S-VHS EDITING SYSTEM/ PORTABLE RECORDER

### AG-7500 Pro Series S-Video

#### Component Analog Hi-Fi S-VHS Editing VCR

- Excellent picture quality • Digital decoder for complete Y/C separation • Separated S-Video input/output terminals (4-pin) • 7-pin dub-in/dub-out terminals for superior dubbing quality • Edit switch • 4-channel audio (linear 2-channel, hi-fi 2-channel) with Dolby NR • Insert and assemble editing • Jog/shuttle dial (17-step) • Auto-promoting illuminated switch system • Framing servo circuitry for clear editing • Digital servo circuitry (10 bits) for jitter reduction • Improved audio editing accuracy • Rotary erase heads • Automatic backspace function • External SC input for TBC connection • External sync input • SMPTE time code rec./play capability • Built-in sync generator • DOC output terminal • LED tape counter for frame display • VHS mode selector

AG-7500 ..... \$5900.00



AG-7500



### AG-A750 Pro Series Editing Controller

- Edit point setting with large jog and search dial • Frame trim for simple revision of edit in and out points • Auto-promoting illuminated switches • Preview of programmed edit prior to actual editing • Easy, automatic review • LED frame counter (Green) readout in hours, minutes, and seconds • Free choice of editing mode • Preroll for both source machine and editor • Lap time display • Audio monitor level adjustment for both source machine and editor • Trigger output • On-line connection of up to three machines (using optional NV-J500 Multi-Source Switcher and NV-A505 Remote Search Controller)

AG-A750 ..... \$1950.00



AG-A750



#### Options:

##### NV-J500 Multi-Source Switcher

Equipped with 3 input and 1 output terminals each for video, audio

NV-J500 ..... \$600.00

### AG-7400 Pro Series S-Video

#### Component Analog Hi-Fi S-VHS Portable VCR

- Excellent picture quality over 400 lines • Y/C comb filter • Digital servo circuitry (10 bits) for jitter reduction • Framing servo circuitry for clear editing • Ball-bearing equipped tape posts (P1, P2, back tension for jitter reduction) • Rotary erase heads • 14-pin camera connector for use of professional 3-tube camera • Battery alarm and tape-end alarm indication possible in viewfinder • 4-channel audio (linear 2-channel, hi-fi 2-channel) with Dolby NR • Auto backspace function • Camera-in switch (ENC/YC) • Camera selector (14-pin/10-pin) • Camera trigger ( $\pm$ ) • SMPTE time code recording and playback • Separated S-Video terminals (4-pin) • External battery connector for long time operation • XLR 4-pin DC input • Audio dub selector (ch. 2 or ch. 1/ch. 2) • Detail switch • Picture adjustment VR • Mike jack (1/4" phone) • VHS mode selector • Frequency band 5.4MHz - 7.0MHz

AG-7400 ..... \$2900.00



AG-7400



### NV-A505 Remote Search Controller

Bi-directional search dial, step-shift, pre-roll

NV-A505 ..... \$990.00



# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

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# S-VHS PLAYER/RECORDER/ DUPLICATOR/VIDEOTAPE

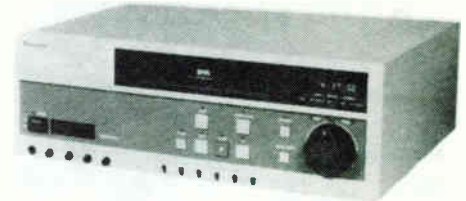
### AG-7100 S-VHS Video Cassette Player

- Excellent S-VHS system picture quality • Digital-servo circuitry (10 bits) for jitter reduction • S-VHS/VHS playback LED indicator • 14-step dial search • Noiseless slow (forward) • Random auto repeat function • External timer play • 19" rackmountable with optional adaptor

The AG-7100 provides excellent video playback quality, plus the durability and flexibility needed for a multitude of industrial and professional video playback applications.

The AG-7100 automatically selects for S-VHS or VHS playback and has a random auto repeat feature, which along with its loopthrough function facilitates segmented and/or extended length presentations in multi unit systems. Two channel linear audio is provided with Dolby B noise reduction for clear sound reproduction.

AG-7100 .....POR



AG-7100

### AG-7300 S-VHS Video Cassette Recorder

- Excellent S-VHS system picture quality • Y/C comb filter • Separate S-Video input/output connectors (4-pin) • Rotary erase head • Edit switch • Video sensor recording (line-in only) • External SC input • Y/C filter circuitry • 17-step dial search • Forward (noiseless) and reverse slow and noiseless frame shift • Random auto repeat function • Real time counter • Loopthrough recording for dubbing • External sync • 19" rackmountable with optional adaptor

The AG-7300 S-VHS VCR might well be considered the "workhorse" of the family. Its excellent performance and high durability lend it to use in a wide range of industrial through professional video applications. From basic S-VHS or VHS record and playback to an alternative, editing source deck for the AG-7500/AG-A750 editing system.

The AG-7300 provides composite, plus S-Video (4-pin), input and output connections. Two channel audio with Dolby B noise reduction and SMPTE time code record/playback capability on track 2 are also provided. Internally, the AG-7300 has a diecast aluminum



AG-7300

chassis, direct drive reel motors, ball bearing based tape guide posts and a 10-bit digitally controlled servo circuit, that all contribute to the reduction of tape jitter.

AG-7300 .....POR

### AG-7800 S-VHS Hi-Fi Duplicator

- Excellent S-VHS system picture quality • Digital-servo circuitry (10-bit) for jitter correction • Y/C comb filter • 2/6-hour recording/playback (S-VHS mode) • 2-hour recording/playback (VHS mode) • 4-channel audio (2-channel Hi-Fi, 2-channel linear with Dolby NR) • Separate S-Video input/output terminal (4-pin) • 34-pin remote control terminal • Serial remote control receiver unit • Auto cassette changer connection • 19" rackmountable with optional adaptor

The AG-7800 provides the durability and heavy-duty construction needed for the extended periods of operation required in the tape duplication field. The AG-7800 adds the flexibility of both S-VHS (2 and 6 hr.) and VHS (2 hr.) record and playback. Also included is a built-in serial remote receiver unit that allows centrally actuated transport control for large or small multiple unit systems.

Preventive maintenance is aided by front panel test terminals, an hour meter and an easily removable top cover panel (for periodic head and tape path cleaning).



AG-7800

A diecast aluminum chassis and ball bearing based tape guide posts are incorporated to insure jitter-free operation and reliability.

AG-7800 .....POR

### NV-ST120P/ST60P S-VHS Videotape

- NV-ST120P 2-hour S-VHS Videotape .....\$20.00
- NV-ST60P 1-hour S-VHS Videotape .....16.00

# PANASONIC INDUSTRIAL COMPANY

AUDIO/VIDEO SYSTEMS GROUP

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# VHS EDITING VCR/ PORTABLE VCR/ACCESSORIES



AG-6500

### AG-6500 VHS Editing Video Cassette Recorder/Player

- High picture quality with wide video heads: more than 240 lines (color) horizontal resolution—white clip level raised 20%
- Built-in timing and memory circuits let you specify in advance the in-point and out-point for an edit

- 8-Digit tape counter including an error display in case of abnormal operation
- Hi-Fi sound reproduction with high definition circuitry
- Framing servo circuitry for clear editing results
- Durably constructed for studio and production use
- Jog/search dial
- Front loading, 19" slide rackmountable
- Insert and assembly editing
- High-speed search
- SMPTE
- Time code record/playback
- Dub in/dub out terminals
- In-point/out-point controls with auto-start/auto-stop
- Counter displays for in-point/out-point and lap time

The AG-6500 is a VHS video cassette recorder specially developed for editing and post production. The High Quality Picture System, extra-wide video heads and the chroma IC produce extremely clear, stable images, all the way up to 3<sup>rd</sup> generation dubbing. Complicated editing is made easy, with the rotary erase head, framing servo circuitry, and advanced jog/shuttle dial mechanism.

**AG-6500 . . . . . \$4395.00**



AG-6400

### AG-6400 VHS Hi-Fi Portable Recorder/Player

- High picture quality with wide video head—more than 240 lines (color) video horizontal resolution
- Hi-Fi sound reproduction with high definition circuitry
- S/N Ratio—Video: better than 45dB (color); Audio: better than 70dB (Hi-Fi sound) better than 48dB (normal)
- Framing servo circuitry for clear editing results
- High power capacity for professional camera connection
- XLR 4-pin external DC input connection

- Time code record/playback capability
- Stereo headphone jack with level adjustment
- Remote controllable from camera or remote control unit (when used with a Panasonic camera having VCR remote control capability)
- Full logic control transport and loading system
- Multi-function display with 4-digit tape counter, tape loaded indication and battery indication
- Memory stop at "0000" position in fast-forward and rewind modes
- Switchable illumination for display and meters
- Tracking and slow tracking adjustment
- Noiseless slow/still
- Condensation/tape-end indication LED
- Soft carrying case supplied

The AG-6400 Portable Video Recorder is light and quick in the field, but big on professional features, starting with superb picture quality. The extra-wide GW 4 video heads and High Quality Picture System guarantee clear and stable images. The sound is excellent, too: 2-channel Hi-Fi audio and 2-channel linear audio with Dolby NR. Advanced framing servo circuitry executes clean, nearly invisible edit points, and the applicable camera range extends up to 27W.

**AG-6400 . . . . . \$2195.00**

### Optional Accessories

#### AG-B640 AC Adaptor

Provides a maximum power supply of 48W and enables simultaneous charging of up to two battery packs. Weighs 2.9 lbs. . . . . \$420.00

#### AG-BP202 Battery Pack

Powers the AG-6400 for up to 2 hours of continuous shooting. . . \$55.00

#### VW-R17E Remote Controller

12-mode wired remote controller . . . . . \$55.00

#### NV-C80 Extension Cable

34-pin extension cable for connecting VCRs . . . . . \$120.00

#### AG-C65 Dubbing Cable

7-pin dubbing cable for source unit-to-editor unit connection. . \$45.00

#### NV-A505 Remote Search Controller

Remote Search Controller with Bi-Directional Search Dial, Step-Shift, Pre-Roll . . . . . \$990.00

#### NV-A800A Auto-Search Remote Controller

Dual digital display with pause/still button for viewable freeze . . . \$495.00

#### NV-J500 Multi-Source Switcher

Multi-Source Switcher equipped with 3 input and 1 output terminals each for video, audio . . . . . \$600.00

#### AG-A100 Dubbing System Controller

Dubbing System Controller for 10 slave and 2 master VCRs. Expandable into 40 slave VCRs of AG-6500 with multiple AG-A100s. . . . \$880.00

#### AG-DA100 Audio/Video Distributor

Audio/Video distribution amplifier 1 x 10 or 2 x 5 Video within stereo audio follow . . . . . \$880.00

#### AG-SW100 Audio/Video Switcher

Dubbing System Switcher Video/Audio routing with vertical interval 10 x 1 video switching and stereo audio follow . . . . . \$990.00

# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way  
Secaucus, NJ 07094

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# VHS RECORDERS/PLAYERS

### AG-6300 VHS Video Cassette Recorder

- High performance VCR perfect for use in editing systems with all the precision and connectors required for professional use • Two DD Reel motors for smooth tape transport • Forward (noiseless) and reverse slow motion playback and frame shift • 17 step dial search • Audio dubbing selector • Audio level/tracking meter • EXT SYNC IN • Time code IN and OUT connectors • DUB/NORMAL switch select • Random auto repeat functions • Real time counter • Two channel audio with Dolby NR system • Audio limiter and audio level meter • Headphone level control • Loophrough recording for dubbing • Intermediate loading system • Mode lock function • Optional remote control • External clock timer • 19" rackmountable • Multiple AC power sources

AG-6300 . . . . . \$2420.00

AG-6300MD Same as AG-6300 but conforms to UL-544 standards for use in medical environments . . . . . 2475.00



AG-6300

### AG-6200 VHS Video Cassette Recorder

- Ideal for dubbing and a wide range of other applications including education, research, medical analysis and demonstration • Noiseless slow (forward) • 14-step dial search • Intermediate loading • Audio dubbing possible on channel 2 • Headphone level control • Audio limiter and audio level meters • 2-channel audio with Dolby NR system • Real time counter with "tape remaining" time counter • Random auto repeat • Optional remote control • Mode lock function • Time code connectors • Loophrough recording for dubbing • 19" rack-mountable • Multiple AC power sources

AG-6200 . . . . . \$2195.00

AG-6200E Multi-System VHS Video Cassette Recorder. A multi-system VTR international video PAL, CCIR and 4.43MHz NTSC. . . . . 2365.00



AG-6200

### AG-6100 VHS Video Cassette Player

- Playback only video cassette deck that offers the advanced functions of the AG-6200 • Noiseless slow (still) • 14-step dial search • Frame advance • Intermediate loading • 2-channel audio with Dolby NR system • Segment repeat • Optional remote control • External clock timer can be connected for timer—playback control • Mode lock function • Loophrough operation • 19" rackmountable • Multiple AC power sources

AG-6100 . . . . . \$1870.00



AG-6100

### AG-6651 Hi-Fi VHS Professional Recorder/Player

- For use in large and small scale systems • Serial remote recording • 34-pin remote control terminal • Loophrough remote control • 4-channel audio • Hi-fi sound and linear audio • Internal/remote switching • Auto-changer connection • Auto off/eject status and warning indicator • Large REC indicator • Tape running indicator • VCR mode indicator • Recessed audio REC level control • Simple internal mode select system • Low power consumption • Test terminals and hour meter • Simple rackmounting with optional AG-M600 or AG-M601 mount racks (standard 19" racks)

AG-6651 . . . . . \$2350.00

### AG-6650 Hi-Fi VHS Professional Recorder

- All the features of the AG-6651 in a recording only unit

AG-6650 . . . . . \$1750.00

### Optional Accessories for AG-6651/AG-6650

NV-C80	34-pin remote control extension cable . . . . .	\$120.00
PC-600	Hard shell carrying case . . . . .	195.00
AG-M600	19" rackmount kit . . . . .	77.00
AG-M601	19" rackmount kit for use w/AG-CL68 . . . . .	77.00
AG-A600	Remote control unit w/search dial . . . . .	200.00
AG-IA12	Serial remote transmitter circuit board . . . . .	160.00



AG-6651



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# VHS RECORDER/PLAYERS

### AG-2500 VHS Video Cassette Recorder/Player

- GT4W Super 4-head video system
- Double fine slow motion
- Field still/double speed playback/cue and review
- Linear time counter (in hours, minutes, seconds)
- DD cylinder motor with oil film suspension system
- High quality picture system
- One month, 8-event program timer with built-in calendar (up to the year 2002)
- Multi-function display
- 3-speed playback: standard (SP), long (LP), and super long (SLP)
- Programmable remote control
- Auto operation: Auto power on; auto play; auto rewind; auto eject; power off eject
- Super OTR (One-Touch Timer Recording)
- 93-channel/16-position cable compatible TV tuner
- One-button recording
- Picture sharpness control
- Counter memory
- Fine editing (automatic backspacing)
- TV/monitor output connector (8-pin) video input/output connector (BNC)



AG-2500

The AG-2500 is ideal for use in corporate offices for recording technical documentation, and as a valuable sales and training tool

High schools, colleges and universities can open up whole new worlds of creative instructional applications with the AG-2500

Government offices can use the AG-2500 for planning and program development, implementation, and monitoring

**AG-2500 . . . . . \$795.00**

### AG-2400 VHS 4 Head System with Quartz-Servo Direct Drive Cylinder

- 2/4/6 hour playback; 2/6 hour record
- 4 head system with quartz-servo direct drive cylinder
- 5-speed search/variable slo-mo playback
- Multi-function LCD display
- Diecast aluminum chassis
- Wired remote control enables variable slo-mo playback
- Video adding for basic insert editing
- Audio dubbing capabilities
- Memory function
- Auto-rewind

AG-2400 is ideal for use with a portable video camera and is also perfect for stationary VCR applications when connected to the matching AG-V340 Video Tuner/Timer (optional). There are four precision video heads mounted on the cylinder. Two heads are used for conventional recording and playback, while the other two enable clear STILL, FRAME ADVANCE, and SLOW playback modes. In addition, a SPEED SEARCH mode is included, making it easy to locate any desired point on the tape. Recording is possible in the 2-hour and 6-hour VHS modes and playback is possible in all 2/4/6 hour modes.

With liquid crystal display (LCD), this single panel can transport speed modes (LP, SLP), cassette status, tape counter, remaining tape time, battery charge level, audio dubbing, and video adding. By simply connecting a single 20-pin cable, the AG-V340 can be added to provide you with the capabilities of a full-size conventional VCR. In addition, a standard 10-pin connector on the AG-2400 allows the unit to be used with most conventional video cameras. Weight: 4.84 lbs. (without internal battery pack). Dimensions: 8 7/16" x 2 3/4" x 10 3/8".

**AG-2400 . . . . . \$1095.00**



AG-2400

#### Accessories Supplied:

- VSQ0251** Wired remote control
- VFB0053** Shoulder strap
- VFA0020** 300-75 ohms transformer, 75-75 ohms transformer
- VSQ0107** Antenna selector
- VEB003** Earphone
- VSQ0015-1** VHS matching box, 75-300 ohms transformer
- VFB0050** V lock tool
- VUP5075** Adaptor connector (RCA-BNC)
- VJP1431** Audio-output cord
- VJA0147-1** Coaxial cable with one-touch Type F connector
- VFC0036** Carrying case

#### Optional Accessories:

- AG-BP202** Battery pack 12VDC 2AH . . . . . \$ 55.00
- AG-B12** Plug-in AC adaptor/battery charger  
12VDC 1.5A . . . . . 165.00
- AG-B11** AC adaptor/battery charger multiple  
AC power 12VDC 1.5A . . . . . 195.00
- AG-V340** Tuner/timer for AG-2400, 14 day-  
4 event, 107CH cable ready,  
16 mode wireless remote . . . . . 525.00
- AG-CR240** Car battery cable. . . . . 30.00

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# VHS RECORDERS/PLAYERS

### AG-1000

#### Compact VHS Video Cassette Player

• 3 video head system • Clear still picture and slow advance  
• 3 speed playback • Auto-repeat playback • Automatic play-  
back • Series playback • Audio/video input and output  
terminals • A/V loopthrough • External timer playback • Easy  
connection to TV sets • Use as a rental video cassette player,  
for demonstrations and promotions

AG-1000 .....\$650.00

AG-HT10 Hard shell carrying case .....100.00



AG-1000

### AG-1100

#### VHS Video Cassette Player

• 3 video head system • VHS high quality picture system • 3-  
speed playback (SP, LP and SLP) with up to 6 hour play with  
standard T120 tapes • Front loading • Remote control com-  
patible • Automatic power-on • Automatic play • Automatic  
rewind • External timer play • Tracking controls for regulator  
and slow play • Rear panel video and audio output correction  
terminals • Audio recording capability • LED indicators for  
play, still play, dew (moisture condensation) and power on  
• Optional wired remote control AG-A10 • End of tape auto  
repeat

AG-1100 .....\$550.00

AG-HT10 Hard shell carrying case .....100.00



AG-1100

### AG-1220

#### VHS Video Cassette Recorder/Player

• GT3s 3 video head system • 93-channel/16-position cable  
compatible tuner • DD cylinder motor with oil film suspension  
system allows for slim cabinet only 3 1/4" high • Linear time  
counter (hours, minutes, seconds) • One month—8-program  
calendar timer • Auto operations • 3-speed recording/  
playback • High quality picture system • Noiseless still/still  
advance, noiseless slow • Multifunction display • Advanced  
One Touch Timer Recording (OTR) • 14-function wireless re-  
mote control

AG-1220 .....\$495.00



AG-1220 PRO LINE

### AG-1720

#### Hi-Fi VHS Video Cassette Recorder

• GT4w super 4-head system • VHS Index Search System  
(VISS) • Linear time counter (in hours, minutes, seconds)  
• Built-in multiplex (MTS/SAP I, II) decoder • 1-month/8-event  
program timer with built-in calendar (up to the year 2002)  
• 93-channel/99-position cable compatible TV tuner • Super  
OTR

AG-1720 .....\$995.00



AG-1720 PRO LINE

### AG-1820

#### Hi-Fi VHS Digital Video Cassette Recorder/Player

• GT4w super 4-head system • Digital special effects • VISS  
• Linear time counter (in hours, minutes, seconds) • Built-in  
multiplex (MTS/SAP I, II) decoder • Multiple on-screen display  
(OSD) • 1-month/8-event program timer with built-in calendar  
(up to the year 2002) • Sleek design look • 5-pin terminal for  
optional AG-A95 edit controller

AG-1820 .....\$1380.00



AG-1820 PRO LINE

Prices and Specifications Subject to Change Without Notice.

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# DUBBING SYSTEM/ VHS RECORDER/PLAYERS

## AG-A100 Dubbing Controller

- Either one or two master VTRs can be connected • From one to ten slave VTRs can be connected • Remote control of the start and stop of the playback mode of the master VTRs (one or two units) • Remote control of slave VTRs (one to ten units) recording, playback, fast forward, rewind, forward and reverse search, stop, pause/still and cassette ejection • As many as 40 slave VTRs can be connected by using the multi-connection system (with four Dubbing Controllers, AV Distributors and Switchers) • Remote control possible with any master VTR which has an RCA-type record remote jack • Mountable in 19" rack

AG-A100 .....\$880.00

## AG-DA100 Audio Video Distributor

- Two inputs, A and B, selectable for two outputs. A (1-5) and B (2-10)
- Because loopthrough type input terminals are used, video/audio distribution can be further expanded by using an additional AV Distributor
- Video and audio output levels can be adjusted while monitoring the level meter • Distribution to as many as 40 slave VTRs is possible by using the multi-connection system (with four Dubbing Controllers, AV Distributors and Switchers)

AG-DA100 .....\$880.00

## AG-SW100 Switcher

- Video/audio selection of one from as many as 10 input signals for monitoring • Manual and automatic modes can be selected for the output signal • Selection timing for the automatic mode ranges from about 1 second to 30 seconds • Selection timing can be set according to the external pulse • Audio monitoring selectable as either audio channel 1, mixed, or audio channel 2 • Mode lock function for inhibition of remote control input (normal side) and front panel control (remote side) • Automatic skip function makes selection quicker by skipping terminals with no input signal • Interval switching function makes it possible to switch within the synchronized signal of the video signal if a video input signal is present at input terminal 1 • Mountable in 19" rack

AG-SW100 .....\$990.00

## AG-6810 Hi-Fi VHS Video Cassette Recorder/Player

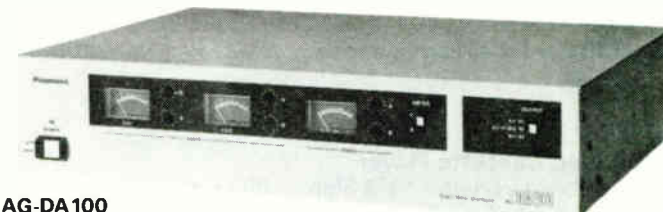
- 2 Hi-Fi audio channels and 2 conventional audio channels with separate level controls and level meters • Loopthrough recording for dubbing • Oversized auto-off/eject LED indicator • Forward and reverse search • Test terminals on the front panel • Hour meter up to 5000 hours for scheduling maintenance work • 19" EIA rack compatibility and convenient 3-part cover panel • Remote control connectors • Precision DD cylinder motor • One-piece aluminum diecast chassis • Short FF function can automatically advance the tape past the transparent leader tape (internal on/off switch) • Special function allows recording on cassettes with record protect tab out (internal on/off switch) • SMPTE time code recording and playback are possible. For use with synchronizers and edit controller • Headphone jack and headphone level control on front panel • Picture sharpness control • 34 pin remote control connector for versatile remote connections, including use of full-function editing consoles • All indicators use LEDs for longer service life • Mode lock switch with indicator lamp prevents accidental misoperation

The AG-6810 is a Hi-Fi Video Cassette Recorder designed for a wide range of professional applications. It is equipped with virtually all the functions and features required for professional applications such as tape dubbing facilities, discos, demonstration and promotional activities, and a variety of educational uses. The picture and sound quality meet the stringent quality requirements of professional use. The 2-channel Hi-Fi Audio HD system with 2 rotational audio heads makes it possible to obtain sound recordings with the following outstanding audio specifications:

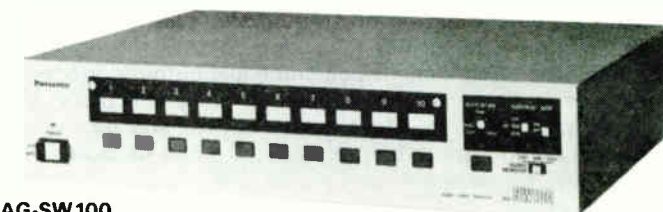
- 1) Wide dynamic range: more than 85dB
- 2) Extended flat frequency response: 20Hz-20kHz
- 3) Low wow and flutter: 0.005% or less



AG-A100



AG-DA100



AG-SW100



AG-6810

## Accessories Supplied

2 pcs. Volume Control Protection Caps

AG-6810 VHS Hi-Fi Recorder/Player  
for general professional use .....\$2100.00

## AG-6820 Hi-Fi VHS Duplication Recorder

- VHS Hi-Fi 2 hour record only VTR • Built-in serial remote receiver for all VTR function controls • Built-in self diagnostics • Mode select switch allows user to customize setup mode of VTR • Stereo linear audio with Dolby B noise reduction • Test point and hour meter (located inside VTR) • Large REC and auto-off eject indicators • 4 independent audio inputs (2 linear, 2 Hi-Fi) • 1 audio meter (switchable between Hi-Fi/normal)

AG-6820 .....\$1700.00

## AG-CL68 Automatic Cassette Changer

- Designed for quick, easy attachment to the AG-6800 series duplication VCRs (AG-6800, AG-6810, AG-6820) • Built-in self diagnostics • Holds up to 2 blank tapes for loading and 2 recorded tapes for unloading • Automatic cycling operation, or multiple remote cycle operations • Large warning indicator for VTR and cassette changer malfunction • Eject button and reset button located on front of unit for convenient access • Rugged construction

AG-CL68 .....\$550.00



# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

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# VHS EDITING/PRESENTATION SYSTEMS

### AG-1950 Editing Recorder/Player

- Jog and shuttle search knob • Automatic assembly editing
- Insert editing and audio dubbing functions • Edit switch
- Editing controller (AG-A95 available) • GX4 video head system • Flying erase head • LDD cylinder and double DD reel motors • High picture quality system • High definition (HD) audio: Dynamic range of more than 90dB with rotary audio heads and HSS (high-speed switching) Hi-Fi system • Quality sonics • Multi-function FL display: Realtime counter (hr. min. sec.) wide 16-segment L/R level meters, tracking meter, remaining tape time, edit position, edit in/out points, mode (rec/play/pause/etc.), dew warning, tape speed, VCR/TV, audio track, memory/search, and insert/audio dub • Automatic tape program search • Automatic functions: Auto power on, auto play, power off eject, auto tape canceller, auto rewind, and search lock • One shot recording • Automatic intermittent recording • Simulcast recording • 30-function wireless remote control • 8-hour recording with NVT-160 (EP mode) • Dual video input/output terminals • 5-pin terminal for optional editing controller • 16-station preset cable compatible TV tuner • Stereo microphone inputs (mini)

AG-1950 . . . . . \$1650.00



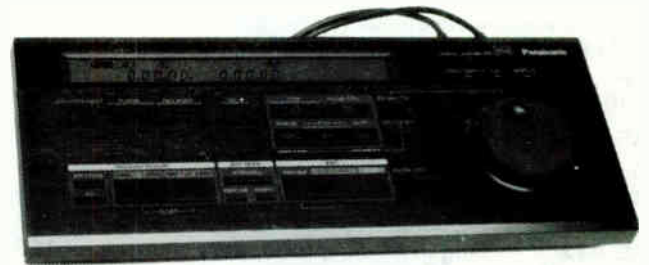
AG-1950

### AG-A95 Editing Controller

- Usable with a variety of recorders including AG-1950, AG-6400, AG-2400, NV-8420 • Direct tape search • 8 programmable memory inset and outset points • Assemble/insert/audio dub • +7, -4 frame accuracy with AG-1950 • Built-in jog/shuttle search dial • Preview and edit stop functions • LCD multi-function display

The A95 editing controller now makes VHS editing extremely affordable. Equipped with 8 programmable memory inset-outset points, the A95 is an excellent way to get into the world of editing. In addition, the A95 will work with a variety of console and portable VHS recorders.

AG-A95 . . . . . \$440.00



AG-A95

### AG-500R Integrated Monitor/VHS Player

- Built-in 3-heads • Built-in infrared receiver • Auto-repeat playback • 10" color monitor with comb filter—better than 300 lines resolution • Audio and video in/out terminals • Clear still freeze-frame. Slow-motion and search • Headphone jack • Folding carrying handle • Timer assisted auto-start and auto-stop • Covered frontal controls include V-hold, sharpness, contrast, bright, tint and color control • Memory stop and search lock • Dew indicator • Tracking control and slow tracking control • Can play VHS video cassettes at all three speeds: SP/LP/SLP

The AG-500R is no larger than a portable TV set and has a fold-up handle for easy carrying. Use it in the office, as an educational tool, for employee training, in the rental business, for demonstration and promotional or as a video guide service in a hotel lobby.

AG-500R . . . . . \$1250.00

AG-A50 Remote Control . . . . . 30.00

PC-500 Carrying Case . . . . . 90.00



AG-500R

Prices and Specifications Subject to Change Without Notice.

V-861

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## AUDIO/VIDEO SYSTEMS GROUP

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# VHS RECORDER/PLAYER/ ACCESSORIES

### NV-8950 VHS Motion Analyzer-Recorder/Player

- Two hour/six hour recording on NV-T120
- Variable playback speeds
- Audio switchover function for multiplex recording playback
- Wireless remote control of 14 modes
- Quick program selection
- Front loading
- Electronic display type of tape counter
- Automatic rewind
- Dolby NR system
- Includes camera connector for video camera

NV-8950 . . . . . \$2585.00  
NV-V950 Tuner/timer. . . . . 495.00

### AG-V340 Video Tuner/Timer

- 2/4/6 hour playback; 2/6 hour record
- 14 day — 4 event
- 4 head system w/ quartz-servo direct drive cylinder
- 107 channel cable ready
- 5-speed search/variable slow motion playback
- Multi-function LCD display
- Diecast aluminum chassis
- Wired remote control enables variable slow motion playback
- Video adding for basic insert editing
- Audio dubbing capabilities
- Memory function
- Auto-rewind
- 16 mode wireless remote control

AG-V340 For use with AG-2400. . . . . \$525.00

### Optional Accessories

AG-CR240 Car battery cord. . . . . \$ 30.00  
AG-811 AC adaptor/battery charger. . . . . 195.00  
AG-B12 Plug-in AC adaptor/battery charger . . . 165.00  
AG-BP202 Battery pack . . . . . 55.00  
AG-C240 Conversion cable (use AG-2400  
w/NV-V410) . . . . . 35.00

### NV-A800A Auto-Search Remote Controller

The NV-A800A provides random access to any point on the tape with an accuracy within plus or minus one second. Dual digital displays show present tape position and selected position based on the reading of the control track. Simply push in the address of the desired point on the tape and press the search/play button. Playback will begin when your address is reached.

The unit also has a pause/still button with viewable freeze-frame. This unit has a 6.6' (2m) cable. For use with NV-9240/9600/AG6000 Series.

NV-A800A . . . . . \$495.00

### Optional Accessories—Industrial Recorders

AG-A600 Remote controller for AG Series. . . . . \$200.00  
AG-M600 19" rackmount bracket for AG Series. . . . . 77.00  
LCR-3012VBP Rechargeable panaloid battery (NV-9400). . . . . 65.00  
LCS-2012V Rechargeable battery, 12V (NV-8420, CT-300VT) . . . . . 55.00



NV-8950



AG-V340



NV-A800A

NV-A850 Search and Controller for use with the VHS-format VTR models AG-6100/6200/6300/6300MD/6810 or the 3/4" VTR models NV-9240/9240XD and NV-9600 . . . . . \$550.00  
NV-A810 Remote control unit (NV-9240/9600). . . 165.00  
NV-B50 AC adaptor/battery charger for NV-9400. . . . . 385.00  
NV-B58 AC adaptor/battery charger for NV-8420 . . . . . 220.00  
NV-B59 Plug-in AC adaptor for NV-8420 . . . . . 165.00  
NV-C15 VTR/TV connection control cable (5') . . . 28.00  
NV-C21S VTR/TV extension cable (10') for NV-C15. . . . . 33.00  
NV-C37 External battery cable for car or boat battery for NV-8420 . . . . . 25.00  
NV-C80 Extension cable (16.4') (NV-A800A/A810/A850) . . . . . 120.00  
NV-U234 RF modulator CH 3 and 4 switchable . . . 80.00  
PC-842 Hard shell carrying case (NV-8420) . . . 120.00  
PC-895 Hard shell carrying case for NV-8950. . . . . 165.00

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# VIDEO FLOPPY RECORDER

## AG-800 Video Floppy Recorder

- Uses standard 2" floppy disk
- High resolution 350 lines
- Recording capacity of 50 pictures/disk (in field mode)
- Automatic field/frame playback
- Forward/reverse manual playback
- Automatic playback/auto advance
- Auto repeat playback
- On-screen display
- Optional wireless remote controller

### Applications:

Point-of-Purchase Display, Public Information Services, Educational Institutions, Medical/Research Applications, Travel Agencies, Forensic, Story-boards for movie producers, Industrial, Museum and Exhibition Halls.

With the AG-800 you can store up to 50 color pictures on a single, tiny, 2" floppy disk, and use any TV set or monitor to present high-resolution color stills. The AG-800 is designed to provide all the flexibility and quality demanded for business and industrial applications.

### • Super-Compact 2" Floppy Disk

The AG-800 uses a metal particle formulation in a disk that is just about 2" square. If storage space is already at a premium, you'll appreciate being able to keep so much information on these compact, lightweight disks. And for some business applications, these features can add up to significant savings in postage and handling costs. In addition, a specially designed plastic case and shutter protect the contents of each disk.

### • Fast, Direct Information Supply

The 2" disks for the AG-800 are easy to dub, so you can send your images and data to many different audiences, wherever there is an AG-800 and a TV monitor.

### • Record Images from Many Sources

Any standard NTSC video signal can be used to record an image on the AG-800. Record your scenes using a video camera, camcorder, VCR, or cable/broadcast TV signal. And you can even record graphics from computers or video games.

### • Switchable Frame/Field Recording

A video picture "frame" on your TV screen is made up of two "fields". With the AG-800, you can record each picture as a field or as a frame. This means you can record up to 25 high-quality frames, or as many as 50 sharp, clear field pictures on a single disk.

### • Automatic Field/Frame Playback

Field pictures and frame pictures can be mixed on the same disk. And the AG-800 automatically plays them back in the field mode, or frame mode, as appropriate.

### • Automatic Recording Verification

The AG-800 offers you the convenience of checking a picture automatically, as soon as you've recorded it.

### • Easy Disk Updates

You can record images on any one of 50 different disk tracks by choice. And you can replace one picture with another at anytime. In fact, you can replace one frame of video with two fields of video whenever you wish.

### • Direct Duplication Circuitry

When you need additional dubs of a disk, the AG-800 maintains high image quality through the direct connection facilities of its Y/C separate 5-pin terminal.



AG-800

### • Automatic Playback/Auto Advance

The AG-800 will play back your entire video "slide show" automatically, one picture at a time. Each picture will be displayed for about four seconds. Or you can use the optional Wireless Remote Control Unit (AG-A80) to set the pause time at anywhere from 1 to 8 seconds.

### Specifications

Power Source:	120VAC, 50/60Hz
Power Consumption:	Approx. 24W
Recording System:	Still video floppy format standardized by the electronic still camera conference
Rotational Speed:	3,600 rpm
Disk Used:	2" (47mm)Ø still video floppy disk
Recording Capacity:	Frame mode: 25 pictures/disk Field mode: 50 pictures/disk
Television System:	EIA standard (525 lines, 60 fields) NTSC color signal
Modulation System:	Luminance: frequency modulation Color: line sequential frequency modulation
Input	
Video Input:	1.0V p-p, 75 ohm (BNC)
Dubbing Input:	Y: 1.0V p-p, 75 ohm; 1.0V p-p, 75 ohm (5P)
Trigger Input:	Forward: 1kHz, 1.0V p-p, 0.3 sec. Auto return: 1kHz, 1.0V p-p, 1 sec.
Output	
Video Output:	1.0V p-p, 75 ohm (BNC)
Dubbing Output:	Y: 1.0V p-p, 75 ohm, C: 1.0V p-p, 75 ohm (5P)
VHF Antenna Input:	75 ohm
RF Output:	Channel 3 or 4 (switchable)
Horizontal Resolution:	350 lines
S/N Ratio:	Luminance: 46dB Color: 45dB
Operating Temp:	41°F—104°F (5°C—40°C)
Operating Humidity:	35%—80%
Weight:	8.1 lbs.
Dimensions:	2 <sup>13</sup> / <sub>16</sub> " H x 8 <sup>1</sup> / <sub>2</sub> " W x 13 <sup>1</sup> / <sub>4</sub> " D
AG-800	..... \$1200.00
AG-A80	Wireless remote controller ..... 60.00
AG-A180*	Dubbing controller ..... 1200.00
AG-C18*	Remote control cable ..... 20.00
AG-C19*	Dubbing cable ..... 20.00
AG-DA180*	Video distributor ..... 650.00
AG-IA180*	RS-232C interface adaptor ..... 1200.00
AG-TC180*	RGB input adaptor ..... 750.00
NV-VF50	Video floppy disk (Box of 10) ..... 100.00



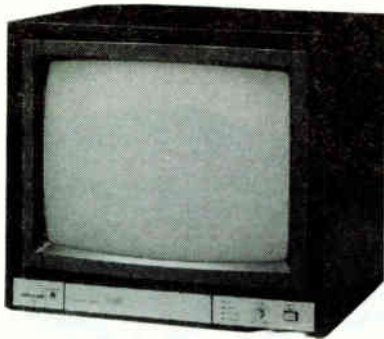
# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

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Secaucus, NJ 07094

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# COLOR MONITORS/ RECEIVERS



CT-2000M

### CT-2000M

#### 19" Color Video Monitor w/4-System Capability

- 4-system capability enables display of CCIR or EIA standard signals in PAL/SECAM/NTSC color formats including M-NTSC videotape playback with 4.43MHz subcarrier • LEDs • Video impedance switch for termination or bridging • Quick-on CRT uses no current when unit is off • Automatic AC power source compensation from 80V to 260V, 50/60Hz • Headphone jack and built-in speaker

CT-2000M ..... \$995.00

### CT-1400MG 14" Video/Data Color Monitor

- Designed for a wide variety of applications • 8-pin VCR connector, RGB linear (Teletext, etc.) and RGB (TTL), allows direct connection and easy switching • Composite video and audio inputs allow you to hook up your VCR or other video devices easily • Square corner data grade picture tube • Built-in audio amplifier and speaker

CT-1400MG ..... \$799.00

### MT-1340G 13" Medical Video Monitor

- RGB linear and composite monitor for medical applications • Resolution more than 400 lines (RGB) • .52mm dot pitch data grade tube for crisp, fine detail • U.L.-544 rating for critical environments • 1.5V p-p linear RGB input for true rendition of subtle color tones • Built-in audio amp and speaker

MT-1340G ..... \$660.00

### CT-1301M 13" Color Video Monitor

- CompuFocus CRT • 280 lines resolution • BNC video in/out with automatic termination • 8-pin VTR connector • Headphone jack • Suitable for fleet sales, educational use, corporate communications, visual presentation

CT-1301M ..... \$500.00

### CT-1380V 13" Color Monitor/Receiver

- CompuFocus system • 94 channel capable tuner • 14-position electronic tuner • Panalock audio inputs • Panabrite control • Audio/video out

CT-1380V ..... \$399.00

### CT-1030M 10" Color Video Monitor

- Solid-state IC chassis • Automatic termination • Comb filter • Metal cabinet • Front panel push controls • BNC video/8-pin VCR connectors (selectable) • RCA audio connector • Rackmountable with optional brackets • 300 lines resolution

CT-1030M ..... \$450.00

BA-100 Rackmount brackets ..... pr./50.00

### ST-1000M 10" CCTV Color Monitor

- 100% solid-state IC chassis • 300 lines resolution • BNC video in/out with automatic termination • Comb filter • Metal cabinet and magnetic shield ring (for the deflection yoke) to reduce interference • B/W color mode switch • Front panel controls • Optional rack angle brackets for easy mounting in standard EIA 19" rack • No audio • Use in security, medical, scientific/industrial process observation, fiberoptic and studio monitoring, closed circuit TV applications

ST-1000M ..... \$450.00

BA-100 Rackmount brackets ..... pr./50.00



CT-2580VY

### PRO SERIES S-VIDEO COMPONENT ANALOG VIDEO MONITORS

#### CT-2580VY 25" Pro Series Color Monitor/Receiver

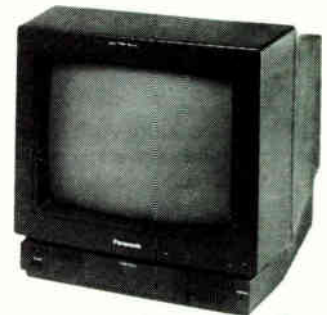
- High quality performance with a 25" 110° tint face screen • 420 lines resolution • 155 channel tuning capability • Programmable channel scan and S-Video input/output terminals for compatibility • 20-function remote control unit with off-timer and last channel/alternate channel one button viewing • Ideal variety of professional applications • Input source selection • Pushbuttons located on the front panel • Two line inputs/VCR input—8-pin • Green LEDs

CT-2580VY ..... \$995.00

#### CT-2010Y 20" Pro Series Color Monitor

- Ideal for business and educational applications • Comb filter and advanced video circuitry • 450 lines resolution • 20" square-corner screen • Source selection can be made using the three pushbuttons located on the front panel • Two line inputs/VTR input • Color, tint, brightness, contrast, sharpness, volume, and vertical hold can also be controlled via the front panel • Audio can be monitored through the built-in speaker or headphones, and up to four video (and audio) inputs can be connected to the rear panel facilities • Includes two sets of line input/output jacks, one set of S-Video input/output terminals and one 8-pin VTR terminal

CT-2010Y ..... \$795.00



CT-1331Y

#### CT-1331Y 13" Pro Series Color Monitor

- Direct compatibility with the S-VHS format, for superb picture quality • Ideal for a wide variety of educational, professional and corporate applications • Interfaces with a wide variety of equipment • 8-pin VCR input, line A/B video input/output (BNC), RCA audio input/output S-Video input/output connectors with bridging capability, for direct compatibility • Input source is switch selectable from the front panel for line A/B, VCR, or Y/C • Front panel controls also include color, tint, brightness, contrast, sharpness, volume, and vertical hold • More than 420 lines resolution for NTSC inputs • Headphone jack • Front mounted speaker • No termination switch—automatic 75 ohm termination

CT-1331Y ..... \$595.00

# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way  
Secaucus, NJ 07094

See Directory for Your Nearest Regional Office

# COLOR MONITORS

### BT-S700N 7" AC/DC Color Monitor

- Single lever selector for normal scan, pulse cross, under scan and blue-only operation • AC/DC operation • Built-in folding carrying handle • Selectable BNC/VTR inputs via front panel pushbutton • Audio monitoring facilities with built-in speaker

**BT-S700N** . . . . . \$715.00



BT-S700N

### BT-S701N 7" Color Video Monitor

- Line A/B selectable by front panel pushbutton • External sync switch • Front panel controls (concealed behind door) • Single level selector for normal scan, pulse cross, under scan and blue-only operation • Desktop construction design

**BT-S701N** . . . . . \$660.00



BT-702N

### BT-S702N Dual 7" Color Monitor

- Line A/B selectable by front panel pushbuttons • External sync switch • Rackmountable in standard 19" EIA rack • Single lever selector for normal scan, pulse cross, under scan and blue-only operation • Front panel controls (concealed behind door)

**BT-S702N** . . . . . \$1375.00



BT-S1000N

### BT-S1000N 10" Diagonal AC/DC Color Monitor

- Normal/underscan switch • Built-in pulse-cross circuit • Blue-only capability • 300 lines of resolution with comb filter • AC/CD operation • Line/VCR selectable • Automatic 75 ohm termination • External sync switch • Rackmountable

**BT-S1000N** . . . . . \$660.00



BT-S1300N

### BT-S1300N 13" Color Video Monitor

- High resolution CompuFocus picture tube with overlapping field lens gun • Line/VTR selectable • Normal/underscan switch allows viewing of picture corners • Blue-only switch defeats red and green signals and makes hue and chrominance adjustment simpler • Pulse-cross display for easy observation of sync detail

**BT-S1300N** . . . . . \$750.00



BT-M1310Y

### BT-S1900N 19" Color Video Monitor

- High resolution CompuFocus picture tube with overlapping field lens gun • Line 1/2/VTR selectability • External sync switch for use with non-composite video signal • Normal/underscan switch • Chroma switch for black and white display • Blue-only switch defeats red and green signals and makes hue, chrominance adjustment easier • Pulse cross switch (H-delay, V-delay) • Audio monitoring facilities w/built-in speaker

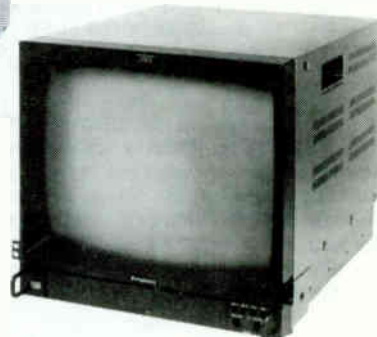
**BT-S1900N** . . . . . \$935.00



BT-D1910Y

### BT-M1310Y 13" Pro Series S-Video Component Analog Color Monitor

- More than 560 lines of horizontal resolution • 0.39mm dot pitch and in-line gun CRT • A/B split, pulse cross, and underscan • Preset selector for contrast, brightness, chroma, phase and aperture • Blue only display • Switch selectable AFC fast/slow, comb/trap filter, RGB cutoff, color/auto/mono mode internal/external sync • BNC connector with automatic termination • Manual degaussing • Front access white-balance adjustment • Tally light • A, B, or RGB selectors with loopthrough; VTR selector • S-Video input with loopthrough • Optional component input (R-Y, B-Y, Y) • 19" EIA rackmountable, metal cabinet • Commercial U.L. listing



### Standard Accessories

- AC power cord • Rackmount handles • Service and operations manual

**BT-M1310Y** . . . . . \$1895.00

### BT-D1910Y 19" Pro Series S-Video Component Analog Color Monitor

All the features of the BT-M1310Y above except for a 0.55mm dot pitch

**BT-D1910Y** . . . . . \$2195.00



# PANASONIC INDUSTRIAL COMPANY

## AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way  
Secaucus, NJ 07094

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# VIDEO/DATA PROJECTION SYSTEMS

### PT-101Y/PT-301Y

#### Color Video/Data Projection Systems

With the PT-101Y and PT-301Y you can throw a clear, bright video image on the screen of your choice, from 50" diagonal to 300" diagonal (PT-101Y: 50"-120"; PT-301Y: 150"-300").

For teleconferencing, business, entertainment and education, Panasonic's advanced electronic and optical expertise gives you a big, bright outlook.

Panasonic's 4-element hybrid lens and dual focus configuration contribute directly to higher resolution, not only at the center, but around the edges as well. So you get better clarity all throughout the image. Liquid cooled CRTs and an improved QPF (Quadra-Potential Focus) gun design produce a brighter, better focused image. (When compared with the PT-101Y.)

#### • Output of More Than 650 Lumens and High 1000-Line Resolution (RGB)

The 7" CRTs have an additional glass plate enclosing a liquid coolant to reduce heat and permit greater power for higher luminous output. A fluorescent coating enhances color quality while doubling the life of the CRT. And Panasonic has improved its QPF electron gun by adding an electrode that results in sharper focus.

Both the PT-101Y and PT-301Y have a 4-element glass/polymer hybrid lens. They also feature an unusual dual focus configuration with separate adjustment for the edges and the full screen. These innovations improve focus accuracy, overall resolution, and raise the contrast level. It also enhances blue display clarity, and reduces loss of detail in bright white areas.

Improved circuitry widens the video bandwidth for better picture clarity. Dynamic-Focus circuitry helps keep the image sharp and clear at the edges of the picture.

#### • Compact, Lightweight, Easy-to-Install

These video projection systems are versatile enough for use in all kinds of locations, from small conference rooms to big department store displays. Either system can easily be moved from one location to another using the PC-101 Carrying Case or the ET-CR101 Custom Adjustable Cart. Both upright and ceiling mount are possible, and you can use front or rear projection. The lightweight, compact chassis and special mounting plate simplify ceiling installation.

Choose the model that meets your range of screen size requirements. The PT-101Y throws an image of 50" to 120" diagonally, while the PT-301Y attains 150" to 300".

#### • 4-System Capability: PAL/SECAM/NTSC 3.58/M-NTSC 4.43

The PT-101Y and PT-301Y let you avoid the delay and expense of format conversion when you're picking up video programs from international sources. These advanced projection systems are compatible with CCIR or EIA standard signals in PAL, SECAM, and NTSC color formats, including M-NTSC 4.43 videotape playback. Let the projector adapt to the input signal automatically, or you can select the format manually.

#### • Line/Video/RGB (TTL/Linear) Selectable

Designed for a broad range of applications, the PT-101Y and PT-301Y can each accommodate three different inputs: Line, Video, and RGB. Select any of these sources instantly with the touch of a button on the control panel. And you have other input options as well. Most RGB cameras and analog RGB computers connect directly to the projector. RGB signals from many IBM PC-type computers can be accepted via the ET-10G RGB Interface (optional). There's also a selection of optional computer connector cables available, so you can project data and images in full color using popular computers. A pair of S-Video/BNC conversion adaptors is available as an option.



PT-101Y

#### • 2,000 Character Display and Blue Mode Selector

Let the PT-101Y and PT-301Y bring the persuasive power of full color large-screen projection to your computer data and graphics. When using the RGB input, you can view up to 2,000 characters, the same number as on a typical 80-column by 25-line computer display. A special Blue Selector circuit lets you choose Fine Blue for enhanced visibility of the blue portions of RGB data displays. Or Blue Mono will produce white characters on an attractive blue background.

#### Additional Features:

- S-video input
- Built-in cross-hatch generator
- Sync inversion switch broadens computer signal compatibility
- Four-corner independent dynamic convergence controls for fast calibration
- Separate high voltage circuit for stabilized raster size
- The PT-101Y projector which is adjustable from 50"-120" diagonal will come factory preset in the following configurations

PT-101Y/72	Preset for 72" diagonal; ceiling mount . . . . .	\$7040.00
PT-101Y/72F	Preset for 72" diagonal; floor mount . . . . .	7040.00
PT-101Y/120	Preset for 120" diagonal; ceiling mount . . . . .	7040.00
PT-101Y/120F	Preset for 120" diagonal; floor mount . . . . .	7040.00
PT-301Y	Video/data projector for 150" to 300" screens . . . . .	7800.00

#### Optional Accessories

ET-10G	PC/RGB interface (cable required) . . . . .	\$495.00
PC-101	Custom carrying case with wheels . . . . .	440.00
ET-CR101	Heavy-duty adjustable cart . . . . .	275.00
ET-721S	Semi-curved 72" screen . . . . .	990.00
ET-SS101	Screen stand . . . . .	440.00
ET-11C15	15 meter remote control cable (approximately 50') . . . . .	185.00
ET-11C30	30 meter remote control cable (approximately 98') . . . . .	275.00
ET-11C50	50 meter remote control cable (approximately 164') . . . . .	385.00
ET-100C	Interface cable for IBM, IBM compatibles, Panasonic PCs . . . . .	65.00
ET-101C	Interface cable for Apple PCs . . . . .	65.00
ET-102C	Interface cable . . . . .	40.00
ET-100YC	Studio Cable . . . . .	POR



# PANASONIC INDUSTRIAL COMPANY

AUDIO/VIDEO SYSTEMS GROUP

One Panasonic Way  
Secaucus, NJ 07094

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## BT-P4500D

### 45" HIGH RESOLUTION VIDEO PROJECTOR WITH COMPUTER INTERFACE AND STEREO AUDIO

This self-contained, rear projection, portable unit is perfectly computer-compatible for use with small groups or for impromptu meetings. Easily set-up or stored, it is an excellent choice for sales meetings, board rooms, school rooms, exhibits, point-of-sales presentations and forms an essential component for management information systems.

The 45" diagonal color picture provides 5 times the viewing area of an ordinary 19" TV set, and features an 80° horizontal viewing angle and a brightness level of 120 foot-Lamberts. The high resolution is attained through the use of 5 element glass lenses and special long persistence phosphors. These features enable a highly viewable display to be produced under normal room illumination so the audience can take notes or refer to written materials during the presentation.

The many modes of the BT-P4500D allow it to be used as a general purpose display device suitable for a wide variety of applications in business, education, entertainment, government and TV or film production. It can display computer generated, real time or stored, data and graphic displays, as well as standard or RGB video. It can demonstrate medical techniques, be used as a VCR or videodisc display or for teleconferencing. As a data display it can operate in a monochrome green mode or in full color.

The unit's height of 5 feet is high enough for seated audiences in many applications and a matching base will be available for larger standing groups. Both the projector and matching base provide casters for easy transport.

The BT-P4500D incorporates interface circuitry and connectors which allow it to be fully compatible with most personal, business and industrial computers. A direct connection is usually all that is required. A total of 27 connectors and 7 mode switches give the projector unmatched interface capabilities. The unit also comes complete with stereo audio amplifiers and high quality speakers.

#### 45" High Contrast Video Image for Presentation Impact

You can reach more people with greater impact when you use the BT-P4500D. The picture size is five times that of an ordinary 19" television and it has a viewing angle of  $\pm 40^\circ$  horizontally. The image has very high contrast and is clearly visible in a well-lit room.

#### 2000-character Compugraphic Display

The superior resolution enables it to display computer graphics with up to 640 x 240 pixels on a non-interlaced display. 80 column, 2000 character displays in full color are sharp and clear. The 7" cathode ray tubes using a P1 phosphor for the green tube, provide a significant improvement in flicker reduction and image clarity as compared to competitive 5" tubes.

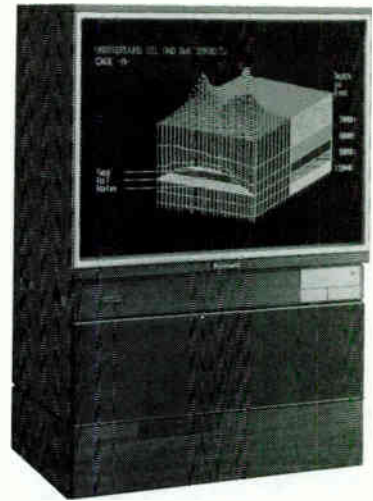
#### Multiple Input/Output Jacks Featured as well as 20-pin Computer Terminal

The BT-P4500D offers extensive connection facilities. At the top are standard 8-pin VTR, stereo audio (RCA) and video (BNC/RCA) connectors. In the lower section are RGB inputs used for high resolution video displays. Horizontal/vertical composite or separate sync signals can also be connected or the sync may be superimposed on the green signal. The G-MONO input is used for a monochrome computer data display. A unique 20-pin input connector allows direct connection to IBM, Apple and most other small business and personal computers. Cables are optionally available.

#### Additional Features

- 2-way, 4-speaker system (two 6-1/2" woofers and two 2-3/8" tweeters) and two 8.5W amps for stereo reproduction
- Through-out jacks for RGB, SYNC, VIDEO and AUDIO
- Two AC outlets (150W max. each, unswitched)
- Walnut grain finish
- Space-saving design has front panel controls
- Built-in cross-hatch test pattern generator

# VIDEO/GRAPHICS PROJECTOR



- Optional Cables: ET-100C (IBM)  
ET-101C (APPLE III)  
ET-102C (NEC, PANASONIC)

NOTE: When using the BT-P4500D with an RGB (Computer) input, reduce the brightness level to eliminate the spaces : the top and bottom of the screen. This may be caused by timing differences between computer systems.

#### Specifications

<b>Projection Tube</b>	7" specially developed high-brightness CRT
<b>Inputs</b>	
<b>Computer Interface</b>	eg. APPLE III, IBM, NEC, PANASONIC personal computers
<b>Composite Color</b>	1Vp-p, 1,000 characters (75 ohm)
<b>Composite Monochrome (Green)</b>	1Vp-p, 2,000 characters (75 ohm)
<b>RGB TTL</b>	Separate or composite SYNC (TTL)
<b>RGB Linear</b>	1Vp-p, separate or composite SYNC (TTL) or SYNC-on-GREEN (75 ohm)
<b>Audio</b>	Stereo/Mono, 0.4Vrms
<b>VTR</b>	Direct 8-pin connector
<b>Power Input</b>	120VAC, 60Hz
<b>Power Consumption</b>	215W (average)
<b>Dimensions</b>	57.7"H x 38.2"W x 23.4"D (1,466 x 970 x 595mm)
<b>Weight</b>	204.6 lbs. (93kg)
<b>Computer Compatibility:</b> (partial listing)	
IBM 3101, 3279 (+R.G.B. OUT), 5292, personal computer	
IBM display writer 6580-25L	
APPLE II, IIE, III	
TEKTRONIX 4027	
CHROMATICS 1999	
RAMTEK 6211-1	
DEC Rainbow, professional	
NEC personal computer	
Most 80 character by 25 line terminals	

**Rear Panel:** 27 connectors and 7 mode switches permit any of the following connections:

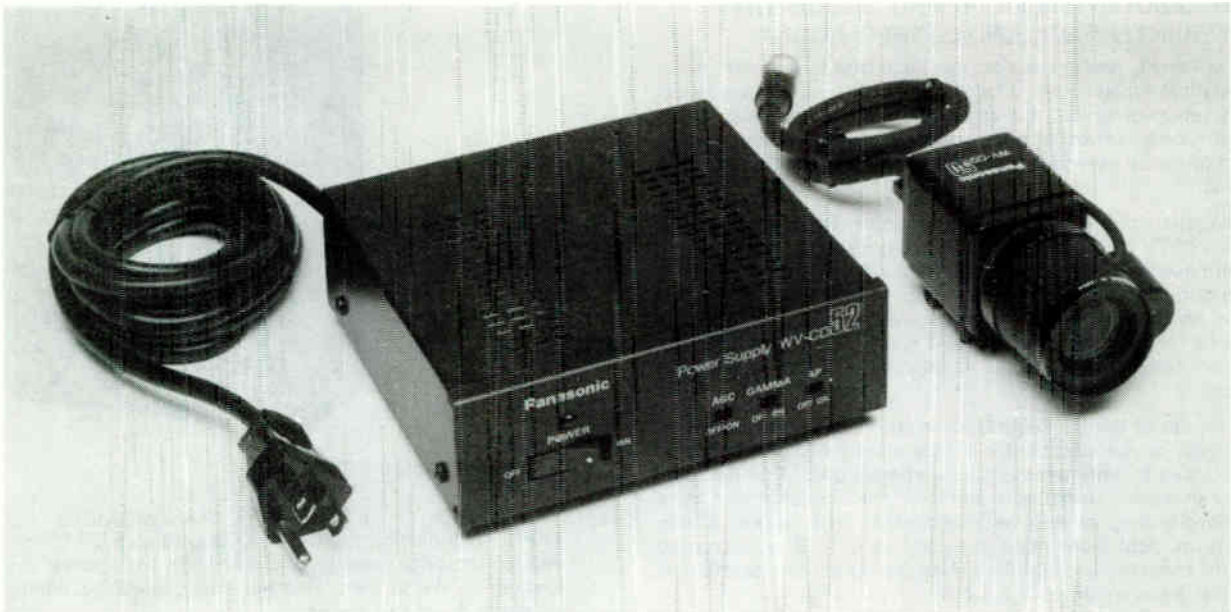
- RGB plus SYNC inputs with both BNC and RCA jacks
- SYNC can be switched from Linear to TTL
- SYNC can be composite-external, SYNC-on-GREEN or separate horizontal and vertical SYNC
- Loop-through is possible with an additional set of 7 BNC connectors for all above functions
- 8-pin VTR connector — EIAJ
- 20-pin computer input
- Monochrome data input — BNC and RCA
- Stereo audio inputs — RCA
- Two 117VAC convenience outlets, 150W

**BT-P4500D** ..... \$5495.00

Prices and Specifications Subject to Change Without Notice.

V-867

One Panasonic Way  
 Secaucus, NJ 07094  
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**WV-CD50 Solid-State Closed Circuit Camera**

A single CCD chip is employed in the Panasonic WV-CD50 Closed Circuit TV camera to provide a wide array of benefits to the user. Since the Charged Coupled Device (CCD) image sensor eliminates bulky tubes, the camera is extremely compact and lightweight. This gives it a broad scope of applications, including use in installations too small for standard tube-type cameras. In addition, the CCD chip provides consistently crisp images even in limited light. These characteristics make the WV-CD50 ideal for security work, pattern recognition systems, automated inspection, robotic vision systems and all kinds of exacting applications.

**High Sensitivity and Resolution**

The CCD system incorporates approximately 250,000 image elements to virtually eliminate distortion over the entire picture. A very low noise level and wide dynamic range add to image quality. Resolution is a high 380 (H) x 350 (V) lines. Requiring a minimum illumination of only .5FC, the WV-CD50 is an excellent choice for low light situations. Bright lights also pose no problem since there is no possibility of burn-in.

**Built Compact for Convenience**

Solid state CCD chip technology has made a camera small enough to fit into the palm of your hand. The WV-CD50 weighs in at only 200 grams, so it can be used to reduce the size and weight of any equipment which requires a video camera. For example, build the WV-CD50 into robots when unrestricted movement and speed are important considerations. The camera is so compact, it can even be mounted easily on microscopes.

**Easy to Operate**

The power supply unit placed by the monitor is used to operate the WV-CD50. All

major camera functions including power, automatic gain control, gamma and aperture can be controlled from the power supply. You can set the camera and its power supply up to 325 feet apart.

**Withstands Rough Conditions**

The WV-CD50 is virtually unaffected by the vibrations and magnetic fields that can put tube cameras out of business. Thus it keeps working even in locations where large amounts of electricity are used.

**Long Life**

The use of a CCD semi-conductor element in the WV-CD50 means stable performance for many years, easy maintenance and a low power consumption.

\*Built-in lens C-mount adaptor: WV-AD20

**Specifications**

**Camera Head WV-CD51**

- Pick-up Element:** 510 (H) x 492 (V)
- Scanning Area:** 6.83 (V) x 9.07 (H)mm
- Lens Mount:** Special (built-in C-mount adaptor)
- Synchronization:** Internal/External 2:1 Interlace
- Scanning Frequency:** Horizontal: 15.737kHz  
Vertical: 59.9Hz
- Video Output:** 1.0Vp-p Composite/75 ohms (BNC connector)
- Resolution:** Horizontal: More than 380 lines at center  
Vertical: More than 350 lines at center
- Minimum Illumination:** 5 lux (with F1.4)
- Recommended Illumination:** 100 lux
- Light Control:** Depending on optional lens used
- S/N Ratio:** More than 46dB

**The length between Camera head and Power Supply:**

Maximum 328 ft. (100m)  
 (With optional extension cable: WV-CS150 2pcs)

**Ambient Temperature:**

+ 14°F to + 122°F (- 10°C to + 50°C)

**Dimensions (excluding lens):**

1-5/8" (W) x 1-5/8" (H) x 2-3/16" (D)

41 (W) x 41 (H) x 55 (D)mm

**Weight (excluding lens):**

approx 0.5lbs (200g)

**Power Supply WV-CD52**

**Power Source:**

AC 120V 60Hz

**Power Consumption:**

12W

**Gamma on/off:**

on: 0.6

**AGC (Automatic gain control) on/off:**

on: + 10dB

**Dimensions:**

5-1/2" (W) x 2" (H) x 5-1/16" (D)

140 (W) x 51 (H) x 129 (D)mm

**Weight:**

approx 2.6lbs (1.2kg)

WV-CD50 . . . . . \$ 1690.00

**Optional Accessories**

- WV-LS16 Auto Iris Lens (16mm f/1.4) . . . . . \$397.00
- WV-LS8 Auto Iris Lens (8mm f/1.4) . . . . . 460.00
- WV-CS15 Camera Ext. Cable (15') . . . . . 92.00
- WV-CS30 Camera Ext. Cable (30') . . . . . 127.00
- WV-CS150 Camera Ext. Cable (150') . . . . . 345.00
- WV-7010 Ceiling Bracket . . . . . 23.00
- WV-7015 Wall Bracket . . . . . 31.00

# PANASONIC INDUSTRIAL COMPANY

## CLOSED CIRCUIT TELEVISION SYSTEMS

One Panasonic Way  
Secaucus, NJ 07094

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# CCD COLOR CAMERAS

## WV-CD110A/KT

### Color Mini Camera with Camera Drive Unit

- The WV-CD110A color CCTV camera features a single cable connection to the WV-PS10A camera drive unit. The CCD (charge coupled device) used in the WV-CD110A camera creates a high resolution picture with virtually high image burning resistance, no geometric distortion, with low lag and longer life
- The Automatic tracing White-Balance (ATW) through the lens sensor in the WV-CD110A camera, ATW continuously adjusts the picture during changes in lighting conditions for the best possible color reproduction. The camera can also be switched for manual white balance setup when required
- With the use of the optional WV-AD20 C-mount lens adaptor a variety of auto iris and manual iris lenses can be used with the WV-CD110A camera (\*Note: recommended for use with lenses with neutral density filters)
- For multi camera systems the WV-PS10A camera drive unit delivers VD signal for system synchronization
- With its full line of features, coupled with its excellent color reproduction and small size, the WV-CD110A/KT color CCTV camera and camera drive unit offers an excellent choice for surveillance, medical and industrial applications



WV-CD110A  
(Lens Optional)

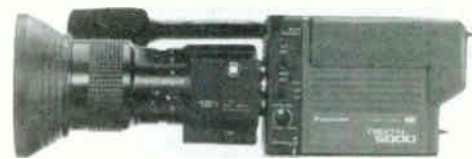


WV-PS10A

## Specifications

### WV-CD110A Solid-State Color Camera

<b>Power Supply:</b>	To be supplied from the camera drive unit WV-PS10A
<b>Pick-up System:</b>	Sequential color difference
<b>Pick-up Device:</b>	One integral stripe filter CCD 422(H) x 489(V)
<b>Resolution:</b>	Horiz.: > 280 lines at center Vert.: > 350 lines at center
<b>Recommended Illumination:</b>	35fc (350 lux)
<b>Min. Illumination:</b>	1fc (10 lux) at f/1.4, at high gain
<b>Luminance S/N:</b>	46dB
<b>White Balance:</b>	Auto (Auto tracing white-balance)/Lock (Manual) switchable
<b>Gain Control:</b>	Normal/high (+ 6dB) switchable
<b>ALC Lens Select:</b>	Standard (STD)/Option switchable
<b>Ambient Operating Temp.:</b>	14°F to 104°F (-10°C to +40°C)
<b>Dimensions:</b>	2 <sup>5</sup> / <sub>16</sub> " H x 2 <sup>1</sup> / <sub>16</sub> " W x 4 <sup>7</sup> / <sub>16</sub> " D (58 x 74 x 112mm)
<b>Weight:</b>	0.9 lbs. (400g)



WV-D5010 (With Optional Lens)

<b>WV-CD110A/KT</b>	Consists of WV-CD110A Color Camera/Mounting Bracket and WV-PS10A Camera Drive unit . . . . . \$1335.00
<b>WV-CD110A</b>	Camera head only . . . . . 1025.00
<b>WV-CMS1A</b>	Consists of WV-CD110A mounting bracket, WV-CM110A 10" Color Monitor . . . . . 2185.00
<b>WV-PS10A</b>	Camera drive, external drive in/out, VP/Sync not rackmountable . . . . . 290.00
<b>WV-PS10</b>	Camera drive unit same features as WV-PS10A except it is rackmountable . . . . . 260.00

## Optional Accessories

<b>WV-32</b>	Panning controller; controls up to three panning heads (left, right, auto) . . . . . \$270.00
<b>WV-35A</b>	Auto panning head; coverage 320° . . . . . 242.00
<b>WV-40</b>	Dust proof housing for WV-CD110 camera . . . . . 104.00
<b>WV-46KT</b>	Drip proof housing; mounting bracket; fan/heater unit and sun shield; power supply (WV-47) for fan/heater . . . . . 437.00
<b>WV-AD20</b>	C-mount adaptor with ALC connector . . . . . 23.00
<b>WV-LA6</b>	Wide angle ALC lens (6mm at f/1.4) . . . . . 196.00
<b>WV-LA12</b>	Standard ALC lens (12mm at f/1.4) . . . . . 173.00
<b>WV-LZ81/6</b>	Zoom (motorized) ALC lens, 8.5-51mm (6X) f/1.2. For use with WV-CD110, WV-CD110A, WV-CD110KT, WV-CD110A/KT and WV-CMS1, WV-CMS1A . . . . . 673.00

## WV-D5010 Video Camera (Camera head only)

The WV-D5010 is a component video camera that offers great flexibility in system configurations. A full range of available accessories can tailor this camera system to meet your specific needs, and provide considerable system potential for the future.

- Integrated color mosaic filter single chip CCD System
  - 2/3" CCD insures high quality and virtually eliminates burn-in and after image. And 286,000 pixels assure superior reproduction quality
  - Signal-to-noise ratio — 46dB
  - Minimum illumination — 7 lux at f/1.4
  - Auto Tracing White Balance (ATW) or Manual Setting (AWC)
  - 2 line vertical enhancer
- WV-D5010** . . . . . \$ 1275.00

### Optional Accessories

<b>WV-VF01</b>	1" B/W viewfinder . . . . . \$275.00
<b>WV-PS03</b>	AC adaptor . . . . . 220.00
<b>WV-CA10</b>	(10-pin/10-pin) VCR cable . . . . . 35.00
<b>WV-CA11</b>	(10-pin/14-pin) extension cable . . . . . 45.00
<b>WV-PH10</b>	Pan/tilt head . . . . . 660.00
<b>WV-AD36</b>	Genlock adaptor . . . . . 220.00
<b>WV-AD37</b>	RCU adaptor . . . . . 275.00
<b>WV-RC35</b>	Remote Control Unit (RCU) . . . . . 550.00
<b>WV-CR12</b>	Camera remote controller . . . . . 440.00
<b>WV-LZ14/8AF</b>	8X autofocus zoom lens . . . . . 550.00
<b>WV-LZ14/12A</b>	12X servo zoom lens . . . . . 770.00
<b>WV-LZ15/12</b>	12X auto iris studio lens . . . . . 825.00
<b>WV-CL19</b>	1.5X teleconversion lens . . . . . 145.00
<b>WV-LT21</b>	35mm SLR lens adaptor (Canon) . . . . . 50.00
<b>WV-LT22</b>	35mm SLR lens adaptor (Nikon) . . . . . 50.00
<b>WV-LT23</b>	35mm SLR lens adaptor (Minolta) . . . . . 50.00
<b>WV-LT24</b>	35mm SLR lens adaptor (Olympus) . . . . . 50.00
<b>WV-LT25</b>	35mm SLR lens adaptor (Pentax) . . . . . 50.00
<b>WV-831P</b>	Camera mounting bracket . . . . . 52.00



# PANASONIC INDUSTRIAL COMPANY

## CLOSED CIRCUIT TELEVISION SYSTEMS

One Panasonic Way  
Secaucus, NJ 07094

See Directory for Your Nearest Regional Office

# CCD COLOR CAMERAS

### WV-CD130 Series Solid-State CCD Color Cameras

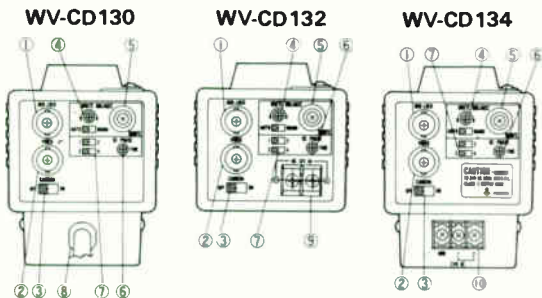
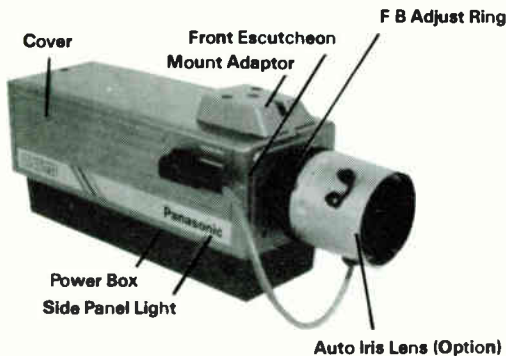
- Pick-up element is a  $\frac{2}{3}$ " CCD 510(H) x 492(V) color pixel 330 lines of horizontal resolution and 350 lines vertical resolution
- Long life and high reliability from the use of all solid-state components and a metal camera case
- Genlock feature for multi camera system
- The unique ATW (automatic tracing white balance) sensor in the WV-CD130 camera series continuously adjusts the picture during changes in lighting conditions for the best possible color reproduction. The camera can also be switched for manual white balance setup when required
- High sensitivity 1fc (10 lux) at f/1.4 minimum illumination
- Clear images from low contrast subjects using built-in Automatic Gain Control (AGC) circuit
- Low sensitivity to image burn and negligible lag
- Precise image geometry through the use of solid-state processing
- Compact and lightweight construction with protection against shock and vibration
- Built-in selectable camera identification generator offers numbers from 0 to 999 for camera ID in systems operations

The WV-CD130 CCTV surveillance camera series are high quality picture and compact color cameras that offer some of the most advanced features available today.

Incorporating innovative Charge Coupled Device (CCD) single-chip sensors, these cameras perform superbly and offer improved maintenance-free operation.



(Lens: option)



- |                          |   |
|--------------------------|---|
| 1 GENLOCK Connector      | 7 AUTO/MANUAL White Balance Selector Switch |
| 2 VIDEO Output Connector | 8 Power Cord                                |
| 3 CAMERA ON/OFF Switch   | 9 12VDC IN Power Supply                     |
| 4 WHITE BALANCE Control  | 10 24VAC IN Power Supply                    |
| 5 REMOTE Control         | Terminal                                    |
| 6 SC PHASE/FINE Control  |   |

### Specifications Comparison

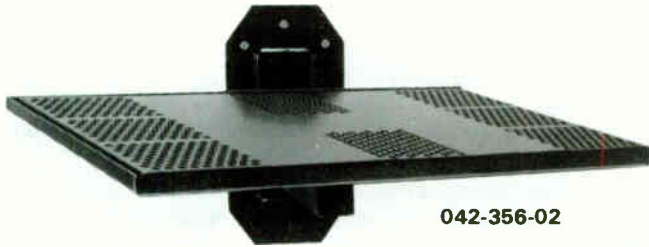
Specifications	WV-CD130	WV-CD132	WV-CD134
Power Source	120VAC	12VDC	24VAC
Power Consumption	8W	6W	9W
Pick-up Device	510(H) x 492(V) CCD image sensor		
Scanning Area	8.8(H) x 6.6(V) mm <sup>2</sup> (Equivalent to scanning area of $\frac{2}{3}$ " pick-up tube)		
Synchronizing			
Random Interlace	Yes	Yes	Yes
2:1 Interlace	Yes	Yes	Yes
External VBS	Yes	Yes	Yes
Genlock	Yes	Yes	Yes
VS Genlock	Yes	Yes	Yes
SC Phase	Adjustable externally		
H Phase	Adjustable internally		
Video Output	1.0V p-p composite/75 ohms		
Resolution			
Horizontal	330 lines		
Vertical	350 lines		
Signal-to-Noise Ratio	46dB		
Min. Illumination	1fc (10 lux) at f/1.4		
Recommended Illumination	10fc (100 lux) at f/1.4		
Automatic Light Control	40,000 to 66,000:1 with auto iris lens		
White Balance	Automatic tracing white balance (ATW) through the lens (TTL) or adjustable manually from camera or remote control unit		
Camera Number Display	Yes (0 to 999)		
Connectors	BNC connector x 2 (video, genlock), 4P connector x 1 (for ALC lens) 4P connector (white balance)		
Lens	Option (auto iris lens)		
Lens Mount	C-Mount		
Ambient Operating Temperature	14°F to +122°F (-10°C to +50°C)		
Dimensions (excluding lens)	3 $\frac{3}{4}$ " H (95mm) 2 $\frac{3}{4}$ " W (70mm) 7 $\frac{1}{2}$ " D (191mm)	2 $\frac{3}{4}$ " H (70mm) 2 $\frac{3}{4}$ " W (70mm) 7 $\frac{1}{2}$ " D (191mm)	3 $\frac{3}{4}$ " H (95mm) 2 $\frac{3}{4}$ " W (70mm) 7 $\frac{1}{2}$ " D (191mm)
Weight (excluding lens)	2.42 lbs. (1.1kg)	1.65 lbs. (0.75kg)	2.42 lbs. (1.1kg)

WV-CD130 (120VAC) ..... \$1985.00  
 WV-CD132 (12VDC) ..... 1925.00  
 WV-CD134 (24VAC) ..... 1985.00

# PEERLESS SALES COMPANY

1950 Hawthorne Ave.  
Melrose Park, IL 60160  
(312) 865-8870

# WALL MONITOR MOUNTS



042-356-02

## Single Arm Style Wall Mounts

Peerless Wall Swivel Mounts conserve valuable floor space and provide a perfect viewing angle. The universal, random perforated mounting trays and a wide range of available sizes assure you of getting the right mount for the job.

All of the single arm style wall mounts offer 120 degrees of swivel. Tilt can be specified to meet your requirements: flat tray (no tilt); fixed 10° tilt; or adjustable tilt, up to 15°

Locking security trays allow for easy removal of the set for servicing, as well as adding security.

Brackets are finished in solar black baked enamel.

Model	Description	Tray Size	Tilt	Locking	Price
042-354-02	Wall swivel for 20" cube style set	20" W x 11" D	Flat	Yes	\$50.00
042-356-02	Wall swivel for 20" cube style set	20" W x 11" D	Adj	Yes	66.00
044-375-02	Wall swivel for large sets	24" W x 16" D	Flat	Yes	80.00
044-376-02	Wall swivel for large sets	24" W x 16" D	Fixed 10	Yes	83.00
2142-210	Wall swivel for 16" to 19" set	21 1/2" W x 12" D	Flat	Yes	58.00
2142-211	Wall swivel for 16" to 19" set	21 1/2" W x 12" D	Fixed 10	Yes	61.00
2126-212	Wall swivel for 16" to 19" set	21 1/2" W x 12" D	Adj	Yes	71.00
2171-000	Wall swivel for larger 19"-20" set	24" W x 13 1/2" D	Flat	No	35.40
2172-000	Wall swivel for larger 19"-20" set	24" W x 13 1/2" D	Fixed 10	No	37.60
2173-000	Wall swivel for larger 19"-20" set	24" W x 13 1/2" D	Adj	No	48.00
2176-000	Wall swivel for larger 16" sets	19" W x 15" D	Flat	No	32.60



2121-000

## Double Arm Style Wall Mounts

Where maximum head clearance is an important concern, and where a locking tray is not required, Peerless double arm style wall swivel is an excellent choice. Almost all the bracket is hidden by the TV or monitor, giving your installation a clean, unobtrusive appearance.

Swivel is 15° in either direction. Finished in solar black baked enamel.

Model	Description	Tray Size	Price
2121-000	Non-locking universal wall swivel	24" W x 13 1/2" D	\$37.60
2121-010	Non-locking universal wall swivel, fixed 10° tilt	24" W x 13 1/2" D	39.60
2116-000	Non-locking universal wall swivel	19 1/4" W x 15" D	35.00
2123-000	Non-locking universal wall swivel	25 7/8" W x 15 3/4" D	47.00
1100-000	Non-locking universal wall swivel	21" W x 10" D	32.60

# PEERLESS SALES COMPANY

1950 Hawthorne Ave.  
Melrose Park, IL 60160  
(312) 865-8870

# WALL MONITOR MOUNTS



1469-128

## Yoke Style Wall Mounts

Peerless sturdy yoke style wall mounts give a professional, high-tech look to any TV/monitor installation. They are especially suited for medium and larger sets, and feature unlimited swivel and tilt.

Both height and width of the yoke bracket can be adjusted, and the 13" deep mounting tray is randomly perforated to accommodate virtually any make and model monitor, up to 27" screen size. Unit is finished in solar black baked enamel.

The yoke style mount is also available with cabinet mounting plates in place of the perforated tray. These attach at the bottom edge on each side of the monitor cabinet.

The yoke style bracket is also available as a ceiling mount.

Model No.	Description	Height	Width	Price
1469-170	Small yoke wall mount for 16" set	12" to 18"	13 <sup>3</sup> / <sub>4</sub> " to 22"	\$157.00
1469-128	Small yoke wall mount for tall 19" set	18" to 24"	13 <sup>3</sup> / <sub>4</sub> " to 22"	169.00
1470-171	Yoke wall mount for 19" set	12" to 18"	22" to 36"	162.00
1470-173	Yoke wall mount for 21" to 27" set	18" to 24"	22" to 36"	166.00
1471-234	Large yoke wall mount for 25" -27" set	24" to 30"	22" to 36"	173.00

## Small Monitor Wall Mounts

For TV receivers and monitors 9" to 16" select one of Peerless' small monitor wall swivels. All of the models below offer 120 degrees of swivel and adjustable tilt. All are equipped with a security tray using a key-type lock.

Finished in solar black baked enamel.



041-307-02



042-314-02

Model No.	Description	Tray Size	Tilt	Locking	Price
041-307-02	Small monitor wall swivel	9" W x 9" D	Adj	Yes	\$51.00
041-310-02	Small monitor wall swivel	9 <sup>1</sup> / <sub>2</sub> " W x 11 <sup>1</sup> / <sub>2</sub> " D	Adj	Yes	53.00
042-314-02	Small monitor wall swivel	13" W x 12" D	Adj	Yes	52.00
042-334-02	Wall swivel for 10" to 16" sets	17" W x 12" D	Adj	Yes	55.00



# PEERLESS SALES COMPANY

1950 Hawthorne Ave.  
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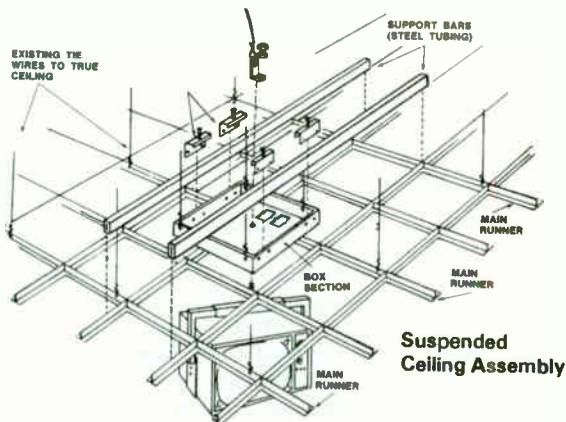
## CEILING MOUNTS



Yoke Style Bracket



Structural Ceiling Box



Suspended Ceiling Assembly



Extension Column



Escutcheon Plate

### Yoke Style Mounts

Sturdy construction and high-tech good looks make the yoke style ceiling mount a favorite choice of professionals for TV and video monitor installations.

These brackets feature unlimited swivel and tilt. Also, both width and height of the bracket are adjustable, so that virtually any size monitor can be accommodated. The yoke bracket comes equipped with a randomly perforated 13" deep mounting tray for easy attachment of the set. Top bar of bracket has a 1/2" mounting hole as standard, or a 3/4" mounting hole if specifically ordered. Unit is finished in solar black baked enamel.

Note: Yoke bracket may be ordered with cabinet mounting brackets, which attach to the bottom edge on each side of the monitor, in place of the perforated mounting tray.

Yoke style ceiling mounts are ideal for suspended ceilings, as well as structural and finished ceilings. Simply order the appropriate mounting kit along with the yoke bracket for your application.

### 1433-460 Structural Ceiling Kit

In the structural ceiling assembly, a ceiling box, finished in white baked enamel, bolts directly to structural ceiling or beam. Yoke bracket is then bolted through center hole of ceiling box. Dimensions of ceiling box are 2 5/8" H x 11" W x 8" D.

### 1433-450 Suspended Ceiling Kit

An assembly for installing monitors, receivers, or audio speakers in areas where false ceilings, with a typical 2' x 2' or 2' x 4' grid pattern, are in place.

A metal box is set into a grid system itself, replacing one of the ceiling tiles. Support bars over 8' long are laid on top of the box section and attached to it with brackets. The support bars cross at least 3 main runners, where the grid systems' tie wires are placed. These elements, along with five additional tie wires, will spread a concentrated load over a large area. The need to bolt the yoke bracket directly to the structural ceiling has been eliminated and installation is greatly simplified.

### 1433-465 Finished Ceiling Kit

Where a finished structural ceiling exists, use the almond baked enamel Finished Ceiling Plate to complete a neat, clean installation. (May also be ordered in black).

### 1445-000 Extension Column

Can be used in either of the above installations in order to lower the level of the installed set. The extension column is finished in woodgrain vinyl and has a 1/2" threaded rod running through the center. Order in 1' increments (minimum billing 2'). May be cut to exact size on the job.

### 1418-000 Escutcheon Plate

When using the extension column to come through a false ceiling, use this escutcheon plate, or finishing ring to give a neat, trim appearance to your installation.

# PEERLESS SALES COMPANY

1950 Hawthorne Ave.  
Melrose Park, IL 60160  
(312) 865-8870

# CEILING MOUNTS

## Yoke Style Ceiling Mounts

Model No.	Description/Typical Use	Height	Width	Price
1479-160	Small yoke bracket for 16" set	12" to 18"	13 <sup>3</sup> / <sub>4</sub> " to 22"	\$ 130.00
1479-128	Small yoke bracket for 19" set	18" to 24"	13 <sup>3</sup> / <sub>4</sub> " to 22"	142.00
1480-161	Yoke bracket for 19" set	12" to 18"	22" to 36"	135.00
1480-163	Yoke bracket for 21" to 27" set	18" to 24"	22" to 36"	139.00
1481-234	Yoke bracket for tall 25" to 27" set	24" to 30"	22" to 36"	146.00
1433-460	Structural ceiling kit			27.00
1433-450	Suspended ceiling kit			108.00
1433-465	Finished ceiling kit			29.40
1445-000	Extension column w/woodgrain vinyl trim			ft./9.40
1418-000	Ecutcheon plate			6.60

Note: Check dimensions of set to be mounted when ordering bracket in order to assure proper fit.



### Small Monitor Ceiling Mounts

Model 052-307-02 offers an easy, attractive way to ceiling mount a small monitor. It features both swivel and tilt, with a universal locking security tray measuring 9" x 9". Standard clearance to ceiling is 12". If additional clearance is required, order extension column 1445-000. This extension column replaces the bracket's standard column and should be measured to provide the total desired clearance.

Model 052-310-02 has the same design and features as 052-307-02, but provides a tray measuring 11<sup>1</sup>/<sub>2</sub>" W x 9<sup>1</sup>/<sub>2</sub>" D, or 9<sup>1</sup>/<sub>2</sub>" W x 11<sup>1</sup>/<sub>2</sub>" D. Standard clearance to ceiling is 15".

Model 052-314-02 is ideal for most monitors in the 10" to 16" range. Tray is 13" W x 12" D. Has swivel, tilt, and locking tray. Includes white ceiling box. Capacity limited to 35 lbs.

Model 052-334-02 has same design and features as 052-314-02 with 17" W x 12" D tray.

Model	Description	Tray Size	Price
052-307-02	Small monitor ceiling mount	9" W x 9" D	\$66.00
052-310-02	Small monitor ceiling mount	9 <sup>1</sup> / <sub>2</sub> " W x 11 <sup>1</sup> / <sub>2</sub> " D	79.00
052-314-02	Small monitor ceiling mount	13" W x 12" D	87.00
052-334-02	Small monitor ceiling mount	17" W x 12" D	93.00

# PEERLESS SALES COMPANY

1950 Hawthorne Ave.  
Melrose Park, IL 60160  
(312) 865-8870

# CAMERA MOUNTS

## Camera Mounts

CCTV camera mounts, both light duty and heavy-duty, are available in a wide range of styles and capacities. Our light-weight camera mounts, in diecast aluminum or plastic, are ideally suited for use with today's small cameras.

For camera installations where a drop ceiling is in place, false ceiling camera scissor clamps quickly and easily to the ceiling's T-bar supports. This mount is available in 5" or 9" length, finished in either black, with aluminum pan/tilt, or almond with plastic pan/tilt.



4000-000



4002-000

4000-100



4004-050



4005-000

## Light Duty Mounts

Model	Description	Price
4000-000	Light duty camera mount; interior use; diecast aluminum	\$ 18.00
4000-100	Light duty camera mount; interior use; almond plastic	14.00
4002-000	Larger light duty mount; steel tubing, almond finish	22.00
4004-050	False ceiling camera mount; 5" aluminum pan/tilt, black	21.40
4004-150	False ceiling camera mount; 5", plastic pan/tilt, almond	17.00
4004-090	False ceiling camera mount; 9", aluminum pan/tilt, black	23.60
4004-190	False ceiling camera mount; 9", plastic pan/tilt, almond	19.40
4005-000	Largest light duty mount; for ceiling or wall; satin chrome	41.40

## Heavy-Duty Mounts

Made of heavy gauge steel, 4020 and 4040 series heavy-duty camera mounts are designed to accommodate larger cameras and housings for outdoor use. The 4040 series mounts are equipped with pan/tilt bracket.



4020-160



4040-160

Model	Description	Price
4020-130	Heavy-duty camera mount with 13" arm	\$ 21.00
4020-160	Heavy-duty camera mount with 16" arm	33.60
4020-200	Heavy-duty camera mount with 20" arm	55.00
4020-240	Heavy-duty camera mount with 24" arm	75.00
4040-130	Heavy-duty camera mount with 13" arm	36.40
4040-160	Heavy-duty camera mount with 16" arm	49.40
4040-200	Heavy-duty camera mount with 20" arm	84.00
4040-240	Heavy-duty camera mount with 24" arm	105.00

Prices and Specifications Subject to Change Without Notice.

V-875



# PEERLESS SALES COMPANY

1950 Hawthorne Ave.  
Melrose Park, IL 60160  
(312) 865-8870

# A/V EQUIPMENT CARTS



1542-000



1542-500

## Jumbo Carts

Mobility, stability, and safety are what professionals look for in an equipment cart, and that is why Peerless has developed the Jumbo line of carts.

Jumbo carts feature flared profile design for maximum stability, heavy gauge steel construction, with absolutely no spot welds, and heavy-duty 8" pneumatic wheels.

Now available in four sizes, as listed below, each jumbo cart can be ordered with an electrical outlet box offering 4 grounded receptacles and a heavy-duty 15' extension cord. Outlet box mounts to the side of cart.

Jumbo carts are finished in solar black baked enamel. Completely MIG welded at the factory. They ship fully assembled and ready for immediate use.

Model	Description	Height	Base	Price
1540-000	Jumbo cart	54"	39 x 27	\$ 395.00
1542-000	Jumbo Junior cart	47"	34 x 24	355.00
1540-500	Jumbo Shorty cart	30 <sup>1</sup> / <sub>4</sub> "	39 x 27	335.00
1542-500	Jumbo Junior Shorty cart	24 <sup>3</sup> / <sub>4</sub> "	34 x 24	310.00
1553-000	Electrical outlet box			29.00
1555-000	Web safety belt for Jumbo carts			11.00
1503-100	8" dia. pneumatic swivel caster			48.40
1503-200	8" dia. pneumatic rigid caster			43.00



Style A



Style C



Style B

## Educational Television Carts

In addition to the Jumbo line, Peerless offers three distinct tubular frame ETV carts, all 50" high and all featuring 4" solid stem casters.

The style A cart has three shelves and measures approx. 23" x 33" at the base.

The style B cart has two shelves, with 13" of clearance between, and measures approx. 26" x 36" at the base.

The style C cart has two shelves, with 26" of clearance between, and measures approx. 23" x 33" at the base.

Any of these three cart styles may be ordered with a metal top shelf, as shown, or an adjustable tilt, ventilated and insulated top shelf.

Model	Description	Price
1530-000	Style A cart with adjustable top shelf	\$ 181.00
1519-000	Style A cart with metal top shelf	151.00
1528-000	Style B cart with adjustable top shelf	169.00
1517-000	Style B cart with metal top shelf	139.00
1524-000	Style C cart with adjustable top shelf	155.00
1513-000	Style C cart with metal top shelf	126.00

# PENTAX CORP.

35 Inverness Drive East  
Englewood, CO 80112  
(303) 799-8000

# CAMCORDERS

## PV-C55A VHS Camera/Recorder

- Horizontal resolution—300 lines • HQ (High Quality) circuitry • Accepts full size VHS cassette • SP tape speed • Battery, AC, car battery power sources • Battery remaining indicator • 2 hours, 40 minutes recording time • Instant play back • Visual search • Stop action • A/V input/output • Extension microphone jack • Pause remote jack • Earphone jack • Time remain indicator • Tape counter • Time/date set • Record review • Min. illumination—7 lux • Auto white balance • 6:1 power zoom • Auto/manual iris •  $\frac{2}{3}$ " MOS pickup •  $7\frac{1}{2}$ " H x  $6\frac{7}{16}$ " W x  $14\frac{1}{8}$ " L • Weight: 5.5 lbs. (without battery)

PV-C55A (No. 8103050) . . . . . \$1799.00



PV-C55A

## PV-C66A VHS Camcorder

- Weighs only 4.4 lbs. • Recording time of up to 2 hours and 40 minutes • High speed shutter control—variable settings • Four high speed settings, up to  $\frac{1}{2000}$  second, provide blur-free action shots during slow motion or still playback • HQ circuitry • Auto-focus (with manual control) • Continuous auto white balance • Auto iris • Electronic self-timer • Manual iris control •  $\frac{2}{3}$ " (B/W CRT) electronic viewfinder for constant playback capability • Viewfinder adjustable for left-eye viewing, also displays vital information such as: battery condition, low light level warning, high speed shutter setting and the date, which can be recorded on the tape • When used with

the audio/visual adaptor it can record television programs directly from any monitor/receiver equipped with A/V output jacks • Powered by battery, AC or with a car battery adaptor in a car's cigarette lighter • Playback through a conventional television set or another VCR •  $\frac{2}{3}$ " MOS Image Sensor pickup tube • NTSC 525 lines, 2:1 interlace • 7 lux minimum illumination (at 50 IRE) • 7-100,000 lux automatic sensitivity control • f/1.6 special mount lens, 6X zoom macro function • Unidirectional microphone • 350 lines horizontal resolution

PV-C66A . . . . . \$1899.00

## PV-C800A Camera/Recorder "Movie 8"

- 8mm format • Horizontal resolution—350 lines •  $\frac{2}{3}$ " MOS pickup • 7 lux minimum light level • f/1.2 lens • Auto-focus • 6:1 power zoom • Up to 2 hours recording time • Electronic viewfinder • Search/still frame • Audio/video output • Audio video input • RF compatible • Microphone jack • Earphone jack • Constant/manual auto-white balance • Review feature • Detachable carrying handle • Date switch • Auto/manual control • 5.3" H x 4.9" W x 12.0" L • Weight: 3.2 lbs. (without battery)

PV-C800A (No. 8103070) . . . . . \$1749.00



PV-C800A

## PV-C850A 8mm Video Camera/Recorder

- Compact size • Lightweight 2.4 lbs. (or 2.8 lbs. with a PV-BT810 battery pack and a P6-30 cassette) • Designed extra slim • High-performance  $\frac{1}{2}$ " CCD image sensor • Fully automatic system—infrared focusing, white balance and iris control • High-speed shutter mechanism employs a shutter speed of  $\frac{1}{2000}$  second • Three-head system incorporates an extra special effects head • Full video-deck capability • Flying Erase (FE) head • Hi-Fi recording • Adjustable  $\frac{2}{3}$ " electronic B&W viewfinder with indicators for recording status, battery level, tape counter/remaining time, shutter and date • Power assisted 6X (9mm-54mm) f/1.4 zoom lens with macro function • Required minimum illumination: 7 lux • Power assisted cassette load/eject mechanism • High sensitivity unidirectional electret microphone • 3-way power source (battery pack, AC and DC car battery) • Tape counter memory function • Earphone jack • Mike jack • Camera remote jack • Accessory shoe

PV-C850A . . . . . \$1849.00

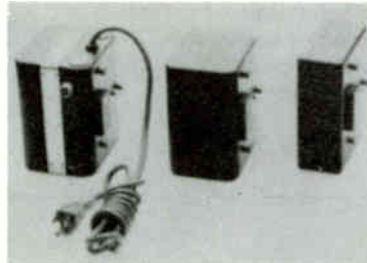


PV-C850A

# PEP, INC.

25 West 54th Street  
New York, NY 10019  
(212) 246-2490

# ENG/EFP POWER UNITS AND ACCESSORIES



## ON-BOARD Camera Power

<b>H12</b>	ON-BOARD battery, 4 AH 12 volt	<b>\$400.00</b>
<b>H14</b>	ON-BOARD battery, 4 AH 14.4 volt	<b>\$440.00</b>
<b>H77</b>	ON-BOARD battery, 4 AH + 7.2 volt for HL77 Camera	<b>\$450.00</b>
<b>HAC3</b>	ON-BOARD AC Adaptor, 40 watts 13.5 volts	<b>\$495.00</b>

## BRICK Pack Batteries

<b>B12G</b>	BRICK Pack battery for 12V Sun Gun, 4 AH 12 volt with 3-pin amphenol connector	<b>\$395.00</b>
<b>B12</b>	BRICK Pack battery, 4 AH 12 volt with 5-pin XLR	<b>\$395.00</b>
<b>B14</b>	BRICK Pack battery, 4 AH 14.4 volt with 4-pin XLR	<b>\$425.00</b>

## FAST Charge Nicad VTR Batteries

<b>V90</b>	FAST Charge VTR battery for BVU 50/110, a direct replacement for Sony BP90—will also charge from the BC 210 Nicad charger or overnight charge	<b>\$295.00</b>
<b>V90N</b>	Standard Charge VTR battery for BVU 50/110, a direct replacement for Sony BP90—will charge from the BC 210 Nicad charger or overnight charge	<b>\$275.00</b>
<b>V60</b>	VTR battery for V04800 etc., FAST charge Nicad	<b>\$210.00</b>

## Universal FAST Charger

<b>UF1</b>	Universal Safety Charger, 100/120/220/240 volt 50/60 Hz, FAST charges all PEP batteries* *ON-BOARD models H14 and H12 as well as Anton/Bauer 4 AH Nicad "Snap-on" batteries mount directly on charger battery bracket for charging. All other batteries require charge adapter cable for connection	<b>\$450.00</b>
<b>HL</b>	Charge adapter cable for 2 AH ON-BOARD batteries L12 and L14 to UF1 charger	<b>\$30.00</b>
<b>HS</b>	Charge adapter cable for 4 AH BRICK Pack batteries B12G, B12 and B12S and for FAST charge VTR batteries V20, V44 and V60	<b>\$30.00</b>

<b>HC</b>	Charge adapter cable for V90 FAST charge BVU 50/110 battery	<b>\$30.00</b>
<b>HX</b>	Charge adapter cable for B14 BRICK Pack	<b>\$30.00</b>

## Battery Charging Stations

<b>BCS 5</b>	Simultaneously FAST charges up to five (5) PEP ON-BOARD or Anton/Bauer "Snap-on" 4 AH Nicad batteries in less than one (1) hour	<b>\$1595.00</b>
<b>BCS 90</b>	Simultaneously Overnight Charges up to eight (8) PEP V90 N or Sony BP90 batteries	<b>\$395.00</b>
<b>BCS 5/90</b>	Simultaneously FAST charges up to five (5) PEP ON-BOARD or Anton/Bauer "Snap-on" 4AH Nicad batteries in less than one (1) hour, and at the same time, overnight charges eight (8) PEP V90 or Sony BP90 batteries in twelve (12) hours	<b>\$2090.00</b>

## Overnite Trickle Chargers

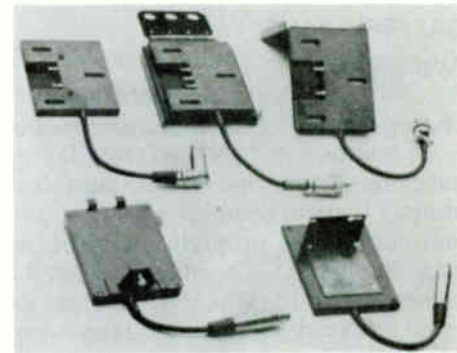
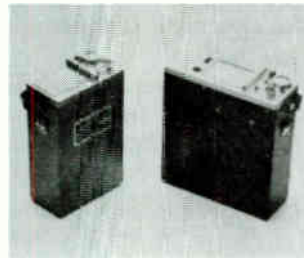
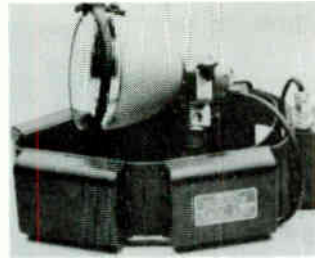
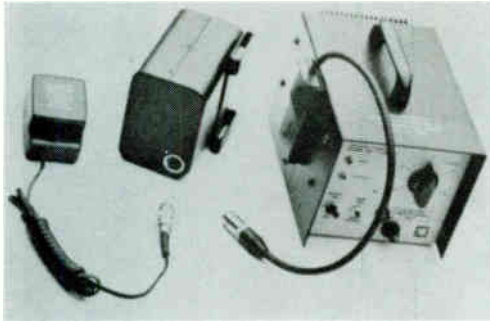
<b>N12H</b>	Overnite (14 hr.) trickle charger with H connector for 4 AH 12 volt ON-BOARD battery H12	<b>\$75.00</b>
<b>N14H</b>	Overnite (14 hr.) trickle charger with H connector for 4 AH 14.4 volt battery H14	<b>\$75.00</b>
<b>N122L</b>	Overnite (14 hr.) trickle charger with L connector for 2 AH ON-BOARD 12 volt battery L12	<b>\$75.00</b>
<b>N142L</b>	Overnite (14 hr.) trickle charger with L connector for 2 AH ON-BOARD 14.4 volt battery L14	<b>\$75.00</b>
<b>N12S</b>	Overnite (14 hr.) trickle charger with SEN connector for 4 AH BRICK 12 volt batteries B12G, B12 and B12S	<b>\$75.00</b>
<b>N122S</b>	Overnite (14 hr.) trickle charger with SEN connector for 2 AH VTR batteries V20, V44 and V60	<b>\$75.00</b>
<b>N12C</b>	Overnite (14 hr.) trickle charger for V90 and V90N VTR battery	<b>\$75.00</b>
<b>N14X</b>	Overnite (14 hr.) trickle charger for B14 BRICK battery	<b>\$75.00</b>



# PEP, INC.

25 West 54th Street  
New York, NY 10019  
(212) 246-2490

# ENG/EFP POWER UNITS AND ACCESSORIES



## 30 Volt DC Portable Battery Packs

- F-30-EC** "Frezzi-Belt" battery pack. 30 volt. 4 AH output capacity. Includes internal battery charger (14 hours) **\$545.00**
- F-30-EXFA** "Frezzi-Belt" battery pack. 30 volt. 4 AH output capacity. Re-charges in 1 hour or less with "Frezzi-Fast" Charger (see below). Also includes internal battery charger (14 hours). **\$595.00**
- BC-30C** Fully charges 30 volt "Frezzi-Belt" Model F30-EXF Battery Pack (above) in 1 hour or less. Requires 120/240 volt, 60hz AC input **\$450.00**

## Battery Mounting Brackets

- HM300** Battery Mounting Brackets for BVP 300/330 and Thompson MC601. Mounts ON-BOARD batteries H12, H14, L12, and L14 **\$105.00**
- HM76B/C** Battery Mounting Bracket for RCA TK76B and TK76C. Mounts ON-BOARD battery H14 **\$155.00**
- HM77** Battery Mounting Bracket for HL77. Mounts ON-BOARD battery H77 **\$145.00**

## Six (6) AMP-HR Power Belts

- F-12-EXF** (12V) 6 AH Recharges in 1 hour or less with PEP model UF1 Universal Safety Charger also includes internal battery charger (14 hours) **\$475.00**
- F-14-EXF** (14.4V) 6 AH Recharges in 1 hour or less with PEP model UF1 Universal Safety Charger also includes internal battery charger (14 hours) **\$495.00**

## 12 Volt OB Lights

- FL12V** Lighthead with cable terminated in 2-pin amp connector for use with PEP model V90 FAST charge VTR battery. Includes FAV 100 watt bulb, 1/4 - 20 TV camera mount stud and removable handle **\$195.00**
- FL12C** Lighthead with cable terminated in Sony VTR plug in-line connector for use with V90N standard charge battery. Includes FAV 100 watt bulb, 1/4 - 20 TV camera mount stud and removable handle **\$195.00**

## FL12G

Lighthead with cable terminated in 3-pin amphenol connector for use with B12G battery. Includes FAV 100 watt bulb, 1/4 - 20 TV camera mount stud and removable handle **\$195.00**

## FL12S

Lighthead with 24" cable terminated in XLR4 rt. angle connector for use with PEP model B12S BRICK battery. Includes FAV 100 watt bulb, 1/4 - 20 TV camera mount stud and removable handle **\$195.00**

## Belt Holsters

- BHV** Belt Holster for V90 battery, use with FL12 light **\$35.00**
- BHC** Belt Holster for ER6/V90N battery with retainer for in-line DC plug and mate, use with FL12C light **\$45.00**
- BHG** Belt Holster for ER6/V90N battery to 3-pin amphenol output, use with FL12 G light **\$55.00**
- BU** Belt, 2" Leather, cut to length **\$25.00**

## Lamps

- FAV** 100 watts/11.5 volts DC **\$30.00**
- FBT** 150 watts/30 volts DC **\$37.00**
- FBV** 250 watts/30 volts DC **\$39.00**

## Model FL Portable Light

- FL30** Lighthead with 30 volt DC 150 watt. Model FBT lamp, handle, power cable with plug. (Lighthead accepts 150 or 350-watt lamps — see below) **\$195.00**
- FLDF-101** Dichroic Filter (swing away) **\$88.00**
- FLS-101** Scrim (swing away) **\$44.00**
- FLCM-101** 1/4 - 20 Video Camera Mount Stud **\$12.00**
- FLCM-102** Dove-Tail Film (cine) Camera Mount **\$45.00**
- FLSS-101** Lightstand **\$68.50**
- FLH-101** Replacement Handle **\$12.00**

# PERMACEL

U.S. Hwy. #1, P.O. Box 671  
New Brunswick, NJ 08903  
(201) 418-2400

# GAFFER'S TAPE

## GAFFER'S TAPE

### Application

Popular matte-surface cloth tape used throughout the photography/motion picture/television industries for a wide range of holding and sealing applications—temporary mounting of lighting fixtures and reflectors; moisture and dust-proof sealing of equipment cases and film containers; protecting and positioning of floor cables. The versatile product preferred by photographers, cameramen and grips whenever an extra-strong, waterproof and easy-to-use cloth tape is needed.

### Features/Benefits

Gaffer's Tape is conformable to odd-shaped and irregular surfaces. Provides a positive, waterproof and dirt resistant seal...yet permits easy, clean removal. Easy hand tear. Performs well over a wide range of temperatures...indoors or outdoors. Excellent shock resistance...and, abrasion resistant.

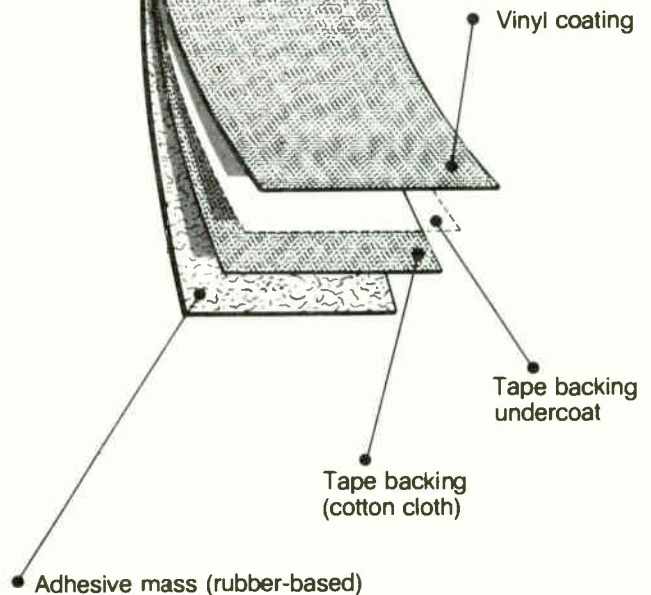
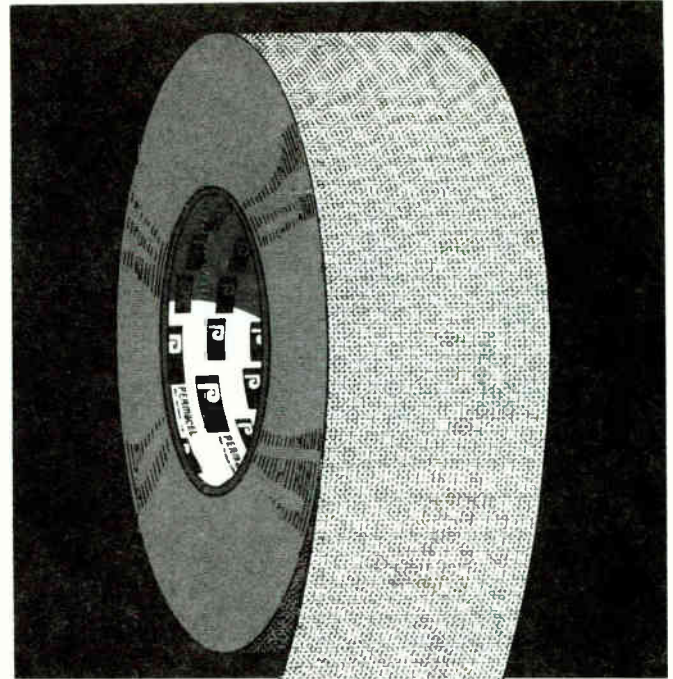
### Technical Data

<b>Backing Material:</b>	Vinyl coated cotton cloth
<b>Adhesive:</b>	Rubber-based
<b>Colors:</b>	Gray, Black
<b>Total Tape Thickness:</b>	14.0 mils/0.356mm
<b>Tensile Strength:</b>	50 lbs. per in./8.94kg per cm
<b>Unwind at 150FPM:</b>	30 oz. per in./335gm per cm
<b>Adhesion to Steel:</b>	40 oz. per in./446gm per cm
<b>Gov't. Specification:</b>	None applicable

### Stock Sizes

	Price Per Roll*
<b>Gray:</b>	
1" x 60 yds./25mm x 55m . . . . .	\$ 7.66
1 1/2" x 60 yds./38mm x 55m . . . . .	11.49
2" x 60 yds./51mm x 55m . . . . .	15.32
3" x 60 yds./76mm x 55m . . . . .	22.98
4" x 60 yds./102mm x 55m . . . . .	30.64
<b>Black:</b>	
3/4" x 60 yds./19mm x 55m . . . . .	6.14
1" x 60 yds./25mm x 55m . . . . .	7.66
1 1/2" x 60 yds./38mm x 55m . . . . .	11.49
2" x 60 yds./51mm x 55m . . . . .	15.32
3" x 60 yds./76mm x 55m . . . . .	22.98
4" x 60 yds./102mm x 55m . . . . .	30.64

- \*3/4" tape—64 rolls per case
- 1" tape—48 rolls per case
- 1 1/2" tape—32 rolls per case
- 2" tape—24 rolls per case
- 3" tape—16 rolls per case



# PERMA POWER ELECTRONICS, INC.

5601 W. Howard Ave.  
Chicago, IL 60648  
(312) 647-9414  
Telex: 49-48559 PRM PWR

# SURGE SUPPRESSORS



PD-200

## Surge Suppressors/Extended Life Surge Suppressors

Protection from power line noise and surges with fail-safe automatic shutdown.

### Surge Suppressors

- Suppression on all 3 power line conductors
- Low let-through voltage
- High single-surge energy rating
- Fail-safe Automatic Shutdown\* Duplex receptacles

Surge Suppressors feature single-stage filtering, provided by three heavy-duty metal oxide varistors, to provide protection on all three conductors in a typical 120VAC circuit.

### Extended Life Surge Suppressors Additional Features

- High steady-state (repetitive surges) power rating
- Lower let-through voltage
- High pulse lifetime
- Reduced RF/EMI "noise"

Extended Life Surge Suppressors have a 2-stage circuit which uses heavy-duty metal oxide varistors to protect you against high-voltage lightning-induced surges, and high-speed semiconductor devices to protect against frequent fast surges. Only this kind of hybrid circuit can provide the necessary high power dissipation while still providing fast response time and low let-through voltage.

## Specifications

	Perma Power Surge Suppressors 1875W	Extended Life Surge Suppressors 1875W
<b>Electrical Rating:</b>	15A	15A
<b>Resettable Circuit Breaker:</b>	Normal (line-to-neutral) Common (line-to-ground) Common (neutral-to-ground)	Normal (line-to-neutral) Common (line-to-ground) Common (neutral-to-ground)
<b>Protection Modes:</b>	1ns	5ps
<b>Response Time<sup>1</sup>:</b>	70 joules each mode (210 total)	70 joules each mode (210 total)
<b>Energy Dissipation:</b>	225VDC	225VDC
<b>Clamping Threshold: (Nominal):</b>	156VRMS	156VRMS
<b>Let-Through Voltage<sup>2</sup>:</b>	400V	270V
<b>Pulse-Life<sup>3</sup>:</b>	10 <sup>6</sup> cycles	10 <sup>6</sup> cycles
<b>Pulse Life<sup>4</sup>:</b>	10 <sup>4</sup> cycles	10 <sup>6</sup> cycles
<b>Steady-State Power:</b>	0.8W	5.0W
<b>Max. Transient Voltage<sup>5</sup>:</b>	> 6000V	> 6000V
<b>Noise Filtering:</b>	More than 10dB, 5-50MHz	More than 20dB, 2-100MHz

### Test Waves

1. Manufacturer's specification for the intrinsic component material
2. U.L. Std. 1449, Revisions effective July, 1987; 1.2 x 50μs, 6000V; 8 x 20μs, 500A
3. ANSI Std. C62.41 (IEEE 587-1980); 0.5μs, 100kHz, 6000V, 200A, ringwave
4. 5kW peak, 10 x 1000μs, exponential. (Accepted industry test impulse for inductive load switching transients)
5. Limited in 120VAC distribution systems by wiring devices arc-over to 6000V peak (ANSI Std. C62.41)

## PD-200 Tele-Line™ Surge Suppressor

The Tele-Line Surge Suppressor protects your modem, computer, terminal or electronic telephone equipment from power surges on your phone line. This wall plug-in unit provides complete protection, even if the primary telephone service entry surge arrestor is non-functional. Tele-Line Surge Suppressors employ a 3-element gas tube and three metal oxide varistors (MOV) in a coordinated 2-stage circuit. Let-through voltage is 350V max.

The Tele-Line Surge Suppressor connects to the power line earth ground through your power receptacle. An indicator lamp confirms the existence of a positive earth ground connection.

A separate Tele-Line Surge Suppressor is required for each line in a multiple-line system.

## Specifications

<b>Connectors:</b>	2 RJ-modular Tele-Line jacks; 7' jumper wire included
<b>Indicator Light:</b>	Earth ground
<b>Dimensions:</b>	4 <sup>3</sup> / <sub>4</sub> " H x 3 <sup>1</sup> / <sub>8</sub> " W x 2 <sup>1</sup> / <sub>4</sub> " D
<b>Protection Modes:</b>	Normal/metallic (line-to-line) Common/longitudinal (lines-to-ground)
<b>Clamping Voltage:</b>	180V
<b>Let-through Voltage<sup>1</sup>:</b>	350V peak
<b>Response Time:</b>	1ns
<b>Pulse Life<sup>2</sup>:</b>	10,000 cycles

### Test Waves

1. FCC Docket 19528 (Part 68, Subpart D)
2. IEEE Standard 587 (8 x 20μs, 500A, unipolar current wave)

Industrial and Office/Commercial Surge Suppressors

6' Cord Model No.	12' Cord Model No.	Number of Outlets	Master Switch & Indicator Light	Protection	Case Dimensions LxHxD	User Price	
						6' cord	12' cord
KT410	—	4	1	Single Stage	12" x 2" x 2"	\$47.60	—
KT610	—	6	1	Single Stage	15" x 2" x 2"	49.60	—
KS410	—	4	1	Extended Life	12" x 2" x 2"	76.40	—
KS610	—	6	1	Extended Life	15" x 2" x 2"	78.40	—
PT209*	—	2	Light only	Single Stage	3 <sup>1</sup> / <sub>8</sub> " x 4 <sup>3</sup> / <sub>4</sub> " x 2 <sup>1</sup> / <sub>4</sub> "	33.00*	—
RT410	RT412	4	1	Single Stage	12" x 2" x 2"	46.60	\$49.90
RT610	RT612	6	1	Single Stage	15" x 2" x 2"	48.60	51.90
PS209*	—	2	Light only	Extended Life	3 <sup>1</sup> / <sub>8</sub> " x 4 <sup>3</sup> / <sub>4</sub> " x 2 <sup>1</sup> / <sub>4</sub> "	61.80*	—
RS410	RS412	4	1	Extended Life	12" x 2" x 2"	75.40	78.70
RS610	RS612	6	1	Extended Life	15" x 2" x 2"	77.40	80.70

\* Cordless Wall Plug-in

### Rackmount Surge Suppressors

Model No.	Number of Outlets	Protection	Case Dimensions LxHxD	6' cord	12' cord
JT06808	6 (on back)	1	19" x 1 <sup>3</sup> / <sub>4</sub> " x 2 <sup>1</sup> / <sub>4</sub> "	\$53.70	\$67.00
JS06808	6 (on back)	1	19" x 1 <sup>3</sup> / <sub>4</sub> " x 2 <sup>1</sup> / <sub>4</sub> "	92.50	95.80

### Case Descriptions

P-Tan Plastic • R-Tan and Walnut Vinyl on Steel  
K-Silver and Black Vinyl on Steel • J-Silver and Black on Steel

### Power Protection for Telephone

PD-200	Telephone Line Surge Suppressor	2 RJ-11 modular jacks	7' jumper	\$39.00
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Prices and Specifications Subject to Change Without Notice.

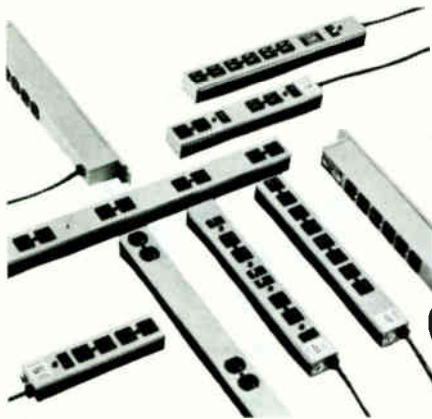
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# PERMA POWER ELECTRONICS, INC.

5601 W. Howard Ave.  
Chicago, IL 60648  
(312) 647-9414  
Telex: 49-48559 PRM PWR

# MULTIPLE OUTLET STRIPS



## Sockets Plus™ Multiple Outlet Strips

**Convenient.** Sockets-Plus multiple outlet strips are the quickest, most convenient way to provide electric power when and where it's needed, with convenient control and complete safety. Conventional cube taps and extension cords can result in overloaded circuits and chaotic stacking of plugs into existing wall outlets. Sockets-Plus multiple outlet strips provide orderly power distribution, as well as control and safety.

**Extra features.** On/off switches and indicator lights are extra features that put the user in complete control of his local power use. See at a glance what's on, what's off. Save steps; easily control power to any machine, computer, or lamp with handy on/off switch options.

**Safe.** All Sockets-Plus multiple outlet strips come with 3-wire U-ground outlets, and are housed in electrically-grounded steel cases. Because they have built-in circuit breakers, there's no danger of overloading one of the main circuits. If the power drain is too great, they shut off the power here, not in a fuse box somewhere down the line. The line is guarded, so users can relax.

High abuse/hospital strips are designed for applications with special safety requirements, or where equipment is exposed to fumes from corrosive chemicals or liquids. Their plugs and receptacles are "Hospital Grade"—verified by Underwriters Laboratories to have passed a series of torturous tests assuring the user of continuous, safe operation, even in the face of human negligence and corrosive environments.

## General Specifications

Rugged steel construction, tough silver and black industrial finish—Top is electrostatically painted silver enamel over a zinc phosphate undercoating, resulting in a hard, corrosion-resistant surface. Sides of conventional-length strip models (K case) are zinc chromated and then covered with thick (14 mil) black vinyl panels, providing added protection, plus handsome appearance. Sides of "J" unit long strips are painted black. Rack-mount strips have black or silver front, and silver back. Easy mounting—All strips are provided with two screws and cross-slots on the bottom for rapid mounting.

### Industrial/Laboratory Models

6' Cord Model No.	12' Cord Model No.	Number of Outlets	Master Switch & Indicator Light	Outlet Pairs with Indicator Light	Switched Outlets with Indicator Light	"Live" Outlet (For clock, etc.)	Case Length	User Price	
								6' Cord	12' Cord
K400	K402	4	—	—	—	—	9"	\$20.60	\$23.90
K410	K412	4	1	—	—	—	9"	22.90	26.20
K420	K422	4	—	2	—	—	12"	26.20	28.50
K440	K442	4	—	—	4	—	15"	30.80	34.10
K510	K512	5	1	—	—	1	12"	24.90	28.20
K520	K522	5	—	2	—	1	12"	27.20	30.50
K540	K542	5	—	—	4	1	15"	32.80	36.10
K600	K602	6	—	—	—	—	12"	22.60	25.90
K610	K612	6	1	—	—	—	12"	24.90	28.20
K630	K632	6	—	3	—	—	15"	30.50	33.80
K710	K712	7	1	—	—	1	15"	27.90	31.20
K800	K802	8	—	—	—	—	15"	25.60	28.90
K810	K812	8	1	—	—	—	15"	27.90	31.20

### Office/Commercial Models

R400	R402	4	—	—	—	—	9"	\$19.60	\$22.90
R410	R412	4	1	—	—	—	9"	21.90	26.20
R420	R422	4	—	2	—	—	12"	24.20	27.50
R440	R442	4	—	—	4	—	15"	29.80	33.10
R600	R602	6	—	—	—	—	12"	21.60	24.90
R610	R612	6	1	—	—	—	12"	23.90	27.20
R800	R802	8	—	—	—	—	15"	24.60	27.90
R810	R812	8	1	—	—	—	15"	27.10	30.40

### Office/Commercial Models Designed for Permanent Mounting

M400	M402	4	—	—	—	—	9"	\$19.40	\$22.30
M410	M412	4	1	—	—	—	9"	21.70	24.60
M610	M612	6	1	—	—	—	12"	23.70	26.60
M810	M812	8	1	—	—	—	15"	26.70	29.60

### Office/Commercial Models Extension Units Designed for Permanent Mounting, No Circuit Breaker

N400	—	4	—	—	—	—	9"	\$15.50	—
N600	—	6	—	—	—	—	12"	17.90	—
N800	—	8	—	—	—	—	15"	20.00	—

### 2, 4, & 6' Industrial/Laboratory Models

J082A011	J082A211	8	1	3 inches between pairs	24"	\$42.70	\$46.75
J084A011	J084A211	8	1	9 inches between pairs	48"	49.95	52.45
J164A011	J164A211	16	1	3 inches between pairs	48"	57.10	60.10
J126A011	J126A211	12	1	9 inches between pairs	72"	61.20	64.20
J248A011	J248A211	24	1	3 inches between pairs	72"	68.20	71.20

### Hospital Grade/High Abuse Models

K410H	—	4	1	—	9"	\$ 46.35	—
K610H	—	6	1	—	12"	51.00	—
J084A011H	—	8	1	9 inches between pairs	48"	80.00	—
J126A011H	—	12	1	9 inches between pairs	72"	103.80	—

### Industrial Rackmount Models

6' Cords Model No.		Number of Outlets		Front Panel Height "A"	Mounting Centers "B"	User Price
Silver	Black	Front	Back			
J06AS0S	J06A0B	0	6	3 1/2"	3"	\$40.00
J06B0S	J06B0B	0	6	1 3/4"	1 1/4"	40.00
J24A0S	J24A0B	2	4	3 1/2"	3"	40.00
J24B0S	J24B0B	2	4	1 3/4"	1 1/4"	40.00
J60A0S	J60A0B	6	0	3 1/2"	3"	40.00
J60B0S	J60B0B	6	0	1 3/4"	1 1/4"	40.00
12' Cords						
J06A2S	J06A2B	0	6	3 1/2"	3"	43.30
J06B2S	J06B2B	0	6	1 3/4"	1 1/4"	43.30
J24A2S	J24A2B	2	4	3 1/2"	3"	43.30
J24B2S	J24B2B	2	4	1 3/4"	1 1/4"	43.30
J60A2S	J60A2B	6	0	3 1/2"	3"	43.30
J60B2S	J60B2B	6	0	1 3/4"	1 1/4"	43.30

### Hospital Grade/High Abuse Rackmount Models

J24A0SH	—	2	4	3 1/2"	3"	\$65.25
J24B0SH	—	2	4	1 3/4"	1 1/4"	65.25
J06A0SH	—	0	6	3 1/2"	3"	65.25
J06B0SH	—	0	6	1 3/4"	1 1/4"	65.25

# PHILIPS TEST & MEASURING INSTRUMENTS

DISTRIBUTED BY JOHN FLUKE MFG. CO., INC.

P.O. Box C9090, M/S 250C

Everett, WA 98206

(206) 356-5400

# TEST EQUIPMENT



PM 5539

### PM 5539 TV Color Analyzer

- First practical solution to the problem of 'objective setting' of color monitors
- The three LED bars mounted over each other ensure quick and accurate reading of the color levels and balance
- High sensitivity allows accurate setting of the color white at low luminance levels

The PM 5539 has been developed to meet the increasing demand for measurement and adjustment of the 'color' white of color TV-sets and color monitors.

The light emitted by a color picture tube consists of the three primary colors: red, green and blue. White is obtained by additive mixing of these colors in the appropriate proportions. The PM 5539 has three independent LED displays so that the intensities of the three primary colors can be measured simultaneously.

To cope with different white standards or different brands of picture tubes, the PM 5539 has four matrix circuits which can be adjusted to give correct readings. The white level is normally adjusted at both high and low brightness levels, but the ratio of the three primary colors should also stay the same at gray levels. To permit this gray scale tracking, the PM 5539 has a wide sensitivity range (1 to 300 NIT full scale).

PM 5539 . . . . . \$3695.00



PM 5565

### PM 5565 Waveform Monitor

- Designed for use in broadcast studios and OB vans
- Input at the front for a standard oscilloscope probe
- Internal graticule for accurate level readings
- Low power consumption
- Compatible with other brands of waveform monitors



PM 3055

### PM 3055

#### Dual Time Base Oscilloscopes

- 50MHz bandwidth; 5ns timebase
- Design concept for more performance at an unbeatable cost
- Front-panel layout promotes simple, secure operation
- One-touch autoset for instant signal display
- LCD panel gives at-a-glance display of settings, status and error messages
- Fast action up/down controls and menu-driven softkeys
- Versatile triggering functions up to 100MHz
- IEEE interface option

The PM 3055 sets standards in ease of operation and price/performance for 50MHz oscilloscopes. This breakthrough in scope technology introduces well-accepted principles like microcomputer control for simple, secure operation, plus cost-effective manufacturing techniques. The auto-set function automatically sets amplitude, timebase and triggering, for instant display of any connected signal. Significant front-panel features include an LCD panel for direct information readout; fast-action fingertip up/down controls for ranges and settings; and menu-driven softkeys for timebase and trigger settings with a step-through function sequence. All modular construction reduces cost and simplifies service; each module is individually tested to eliminate zero-hour defects and guarantee long, trouble-free service.

PM 3055 . . . . . \$1395.00

The PM 5565 was designed for use in television studios, VTR and telecine centers and OB vans. The main application of the instrument is to set up and check the signals of B/W and color cameras, videotape recorders, film and slide scanners etc.

As a unique feature for an instrument of its price class, the PM 5565 has a probe input at the front. This enables the PM 5565 to be used for fault finding in the equipment to which it is allocated, thus eliminating the need for an extra oscilloscope for servicing purposes.

The PM 5565 has two video inputs and a monitor output at the rear plus the facility for synchronization from a third video or composite sync input. The vertical sensitivity is 1V p-p or 2.0V p-p full screen size. Filters for display of luminance only or chrominance only are provided. Differential gain measurement is also possible with one separate button.

Horizontal deflections are one or two lines as well as one or two fields, full screen size. Also 20 times magnification is possible. For the convenience of adjusting color cameras, the PM 5565 accepts the signals from a 'parade display' switcher.



PM 5567

### PM 5567 Vectorscope

- Designed for use in broadcast studios and OB vans
- Internal graticule for accurate vector readings
- Low power consumption and high reliability
- Very easy access to servicing
- Compatible with other brands of vectorscopes
- Easy to operate because of logic ergonomy

The PM 5567 was designed for use in television studios, VTR and telecine centers and OB vans. The main application is for setting up and checking the color content of signals from color cameras, video tape recorders, film- and telecine scanners etc.

The colors of the selected signal are displayed as vectors.

PM 5567 . . . . . \$2395.00

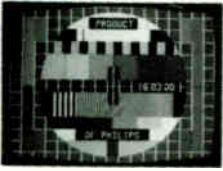
# PHILIPS TEST & MEASURING INSTRUMENTS

DISTRIBUTED BY JOHN FLUKE MFG. CO., INC.

P.O. Box C9090, M/S 250C  
Everett, WA 98206  
(206) 356-5400

# MONITOR/

# TEST EQUIPMENT



PM 5625

## PM 5625 Color Monitor

- Low cost, high performance color monitor with 14" In-Line, "HiBri", self-converging CRT
- Two inputs for encoded signals and one for RGB signal
- Split-screen display of the two encoded signals
- User controls easily accessible from the front, test and set-up controls behind front panel door
- Pulse cross display mode
- Reduced picture size display mode
- Internal and external synchronization
- Available for NTSC, PAL and SECAM

The PM 5625 has been designed to meet all monitoring needs in television systems where high quality is required. The color monitor has a modern 14" In-Line picture tube with a fine pitch of 0.65mm which gives an excellent resolution and color quality.

The extensive range of features includes:

- Two inputs A and B for encoded signals
- RGB input
- Internal/external synchronization
- Pulse cross
- A split-screen display of A and B
- Color subcarrier notch (switchable)
- Switchable 75 ohm termination resistors on the A and B inputs

These convenient features which are complemented by advanced, up-to-date circuitry design make the PM 5625 very suitable for broadcasting studios, outside broadcasting vans (EFP) and video production

**PM 5625 . . . . . \$1890.00**

## PM 5630 Color Generator, PO (Parallel Outputs)

- Generates six different video signals on parallel outputs
- All video signals are generated digitally
- Provides all synchronization signals necessary for TV studios and OB vans
- High stability through the use of TCXO as reference oscillator

The PM 5630 is a combined color sync pulse generator and color test signal generator. "PO" indicates that all test signals are available simultaneously at separate outputs.

The sync pulse generator is in conformity with the latest EBU and RS-170A standards for broadcasting, and it supplies all necessary synchronization signals for driving television studios and other television systems. Special custom-made integrated circuits are carefully selected crystal oscillators ensure unsurpassed accuracy and stability.

The signal generator works digitally, i.e. all test signals are stored in programmable read-only memories as digital information. This information feeds digital to analog converters in such a way that the required analog waveforms are obtained. This principle guarantees very accurate and stable output signals. The signals comprise the following important studio alignment signals:

- Color bars (several versions)
- Pluge with gray scale
- Convergence pattern (grid-dots-checker board, several versions available)
- Red pattern
- Gray scale (5 or 10 riser)
- Window (10%-100% white) in steps of 10%
- Black burst

**PM 5630 . . . . . \$5250.00**



PM 5631

## PM 5631 Color Generator, MP (Multi Pattern)

- Generates up to 99 different video signals selectable from the front panel
- Provides all necessary synchronization signals for TV studios and OB vans
- All main functions remotely controllable via optional IEEE bus interface
- Color field reference pulse available
- Can be genlocked to other video sources

The PM 5631 is a combined color sync pulse generator and color pattern generator. "MP" indicates that a large number of signals can be selected on a single output.

The sync pulse generator is in conformity with the latest EBU and RS-170A standards for broadcasting, and supplies all necessary synchronization signals for driving television studios and other television systems. Special custom-made integrated circuits and carefully selected crystal oscillators ensure unsurpassed accuracy and stability.

The signal generator works digitally. All test signals are stored in programmable read-only memories as digital information. This information feeds digital to analog converters in such a way that the required analog waveforms are obtained. This principle guarantees very accurate and stable output signals. The generator has a standard library of some 90 pre-programmed patterns that include:

- Color bars
- Composite color patterns
- Color test signals
- Monochrome signals

In the manual mode, pattern selection is done with pushbuttons (up/down counter with display) and modifications are available for testing purposes. The instrument can also be controlled remotely via an IEC/IEEE interface (optional).

The PM 5631 is recommended where a number of test signals are needed on a single output, by manual or computer control, such as in broadcast studios, CCTV and CATV studios, outside broadcast vans, factories for manufacturing of high quality consumer TV products and professional color equipment.

**PM 5631 . . . . . \$6500.00**

## PM 5633 Color Generator, RGB

This generator is an RGB I Y; R-Y, B-Y version of the PM 5631. All test signals and features are essentially identical to those of the PM 5631. The generator has three output sockets for either RGB output or Y, R-Y, B-Y output as selected internally on the instrument.

**PM 5633 . . . . . \$6700.00**



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# TEST EQUIPMENT



PM 5646

## PM 5646 TV Test Signal Generator

- Low cost and lightweight
- Ideal for video production centers and small TV studios
- Perfect for professional and consumer TV repair

The PM 5646 is a universal test signal generator with a built-in sync pulse generator (SPG) and auxiliary RF modulator for Band I.

The PM 5646 delivers a variety of signals useful for lining up monitors, cameras, waveform monitors, vectorscopes and other equipment.

Moreover, the PM 5646 generates test signals for checking video tape recorders, mixers and all types of transmission equipment. For final testing, the PM 5646 provides a composite test pattern.

Since the PM 5646 has a text captioning option, it can also deliver a standby pattern. Light in weight, the PM 5646 is perfect in situations where portability is paramount.

PM 5646 . . . . . \$3595.00



PM 5651

## PM 5651 Studio VITS Generator

- Self-contained unit with insertion and generation of the CCIR or NTC 7 specified VIT signals
- Program path is protected via by-pass relay
- Insertion of VIT signals selectable by internal matrix from line 8 to line 22 (321-335)

- Optional source code generator available

The PM 5651 is designed for application in broadcasting studios, video tape recording and telecine centers.

The PM 5651 offers professional EBU and NTC 7 signals at an attractive price such that it is now economically feasible to introduce a VITS generator/ inserter/deleter at each video source. In addition, the PM 5651 has an optional source code generator which makes the identification of signal-source or program material easy or even automatic. The EBU source code is standard in the European version, other codes on request.

The generator has extreme accuracy and stability due to its digital generation principle, where the signals are stored in a digital format in PROMs and turned into analog waveforms by means of a high-speed precision D/A converter. By-pass relay protection, easy programming and serviceability are self evident features of this type of equipment.

PM 5651 . . . . . \$4500.00



PM 5654

## PM 5654 VITS Generator and Inserter

- Full-performance VITS generator and inserter with extensive full-field capabilities
- Using PROMs and D/A converters, test signals are digitally generated for high accuracy and stability
- Built-in security features prevent unauthorized access to programming; e.g. line selection from protected front panel for storage in non-volatile memory
- Program protection with by-pass relay included as standard
- Generates NTC-7 + FCC VITS and VIRS
- Inserts 4 (or 6) Ext. Signals, such as teletext, data and special test signals

- Remote control of all main functions, insertions and full-field signals
- Full-field signals include 60Hz and 250kHz as well as color signals (Ext. Inp. 1)
- Automatic substitution of missing program signal with black burst/ internal or external signal
- Optional module with VITS detector circuit and data detector circuit
- Lines can be deleted without VITS or VIRS insertion
- Insertion and deletion from line 10 to line 21 in both fields

The PM 5654 inserts digitally generated test signals to guarantee high accuracy and stability.

The instrument is available in 525-line as well as 625-line versions.

PM 5654 generates VITS (Vertical Interval Test Signals) and inserts signals for TV transmitters, satellite links and terrestrial microwave links. PM 5654 also inserts teletext and data. In transmitter as well as other applications, the instrument has automatic program signal substitution.

With built-in security measures to prevent unauthorized access to programming, the PM 5654 permits line selection directly from its front panel for storage in a non-volatile memory.

The instrument has special features like Red, color bar and 60Hz and 250kHz squarewaves.

From the VITS panel, a substitution signal can be selected and programmed.

Without inserting VITS or VIRS, line content can still be deleted with the PM 5654.

The PM 5654 is realistically designed for the demands of actual applications. The instrument contains no unnecessary features. This allows the PM 5654 to be priced without charges for unwanted extras.

PM 5654 . . . . . \$7990.00

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# TEST EQUIPMENT

## PM 5661/ PM 5662 Waveform/ Vector Monitors

The PM 5661 supplies all essential waveform monitoring and vectorscope capabilities. The unit's compact size—only a half-rack wide—makes it absolutely ideal when power and space are limited.

This all-in-one waveform/vector monitor always delivers highly cost-effective performance. A benefit that can be yours in NTSC and all PAL-system versions.

As for portability, you just pick up the PM 5661 and carry the unit with ease almost wherever you have to work. Out of the studio and into the field, with no loss in quality.

Of course, wherever you work, the display remains bright and crisp. This is true whether you're monitoring waveforms, VITS, or viewing a signal's chrominance characteristics on the vectorscope. And to switch from one function to the other, all you do is press a button.

For an enhanced range of signal monitoring and measuring capabilities, including Sc-H phase display, Philips now has the PM 5662 Waveform/Vector Monitor. Available for NTSC and all PAL-system versions.

Having all the measuring facilities and cost-effectiveness of PM 5661, the PM 5662 also provides horizontal sync timing, relative to the reference subcarrier (burst), to verify color framing and signal format. This Sc-H phase display capability now greatly simplifies a previously complex monitoring and analyzing task.

And all these advantages are yours, while allowing you to operate with the ease you've come to prefer. A front panel ergonomically designed for ease of use, and carefully geared to your working habits, is the crucial difference you get with all the instruments in the new Philips range of waveform monitors and vectorscopes.

Perhaps most attractive of all is that, regardless of your monitoring and measuring needs, you can now have

the Philips waveform monitor and vectorscope, or a combination unit, at the most competitive price available.

Devoting a significant percentage of annual turnover to R&D, Philips is dedicated to maintaining its technological leadership. That explains the crucial difference that's always yours with test and measuring equipment from Philips.

These new instruments deliver all the display modes you need. And with control panel formats clearly designed for your convenience. So you can continue to work in the way you've learned to work best.

Like all the instruments in the new Philips waveform and vector monitoring group, these units give the brightest, crispest displays. The instruments' capabilities work for you even in high ambient light conditions, thanks to a CRT with the highest acceleration voltage available. The internal gratitudes are parallax-free for optimized accuracy.

PM 5661 . . . . . \$3900.00

PM 5662 . . . . . 5900.00

## PM 5665 Waveform Monitor

The PM 5665 Waveform Monitor has full line selection, allowing you to select any line, using a strobe facility. This instrument also lets you subtract the A-B input signals from each other. So you can now detect timing differences more easily.

The PM 5665 dual filter display shows a complete video signal simultaneous with luminance information. Your camera set-ups will be much easier now that you don't have to switch back and forth any longer.

No matter what TV signal you have to analyze, Philips Waveform Monitor and Vectorscope will do the job best.

Simply select the instruments—or combination instrument—from the comprehensive Philips range now ready to fill all your monitoring and measuring needs. The Philips units are all consistently accurate and versatile. Certain to please even the most de-

manding users.

And of course every instrument in this waveform and vector monitoring group is available in NTSC and all PAL versions.

At the top of the line are the PM 5665 Waveform Monitor and PM 5667 and PM 5668 Vectorscopes. High in cost/performance value, low in power consumption and weight. And extremely easy to operate.

PM 5665 . . . . . \$2100.00

## PM 5667/PM 5668 Vectorscopes

The PM 5667 and PM 5668 Vectorscopes measure chrominance signals with a higher degree of precision. Perfect companions to the PM 5665 Waveform Monitor, these Philips vectorscopes are ideal for measuring chrominance amplitude and phase, differential phase, and other distortions.

Safeguard the quality of your television color picture by using the PM 5667 or PM 5668 vector displays to readily detect errors in recording and playback, color encoding, and even transmission processes that can negatively affect chrominance, phase or amplitude. With the parallax-free graticule, you can easily spot significant phase shifts.

Far better resolution in measuring differential phase is another benefit you get when using one of the Philips Vectorscopes with the PM 5665 Waveform Monitor.

And, the PM 5668 Vectorscope comes equipped with Sc-H phase measurement—an absolutely essential tool for matching color frames when editing or when working with animation.

PM 5667 . . . . . \$2100.00

PM 5668 . . . . . 4250.00

**Ultra Arc Series II Long Throw Followspots**

Series II Long Throw is designed for Broadway theaters, arenas, and larger facilities where the highest output is essential at long distances. A competitor to followspots using 1000-2000W discharge lamps, Series II features the Osram HTI 400W 250 hour color balanced light source. Universal 120/240V operation, draws less than 8A. Recommended throw 100'-300'.

- Ultra Arc Series II Long Throw . . . . . \$5218.00
- Ultra Arc Series II Long Throw with auto zoom . . . . . \$5848.00

**Ultra Arc Series II Short Throw Followspots**

An identical Series II, the Short Throw delivers the same performance and efficiency at shorter distances. This model is designed for midsized theaters and halls, and is also excellent for use on stage or close to the stage. Recommended throw 25'-150'.

- Ultra Arc Series II Short Throw . . . . . \$4594.00
- Ultra Arc Series II Short Throw with auto zoom . . . . . \$5224.00

**Mighty Arc II Followspots**

A narrow beam, very high output followspot designed to compete with the fixture intensive lightplots of today's concert tours. Features the Osram HTI 400W, 250 hour color balanced lamp, coated optics, auto zoom, and solid-state ballast for 120/240V operation. Available with overhanging yoke. Recommended for throws from 35'-150'.

- Mighty Arc II without stand . . . . . \$4599.00
- Mighty Arc II with ultra quartz stand . . . . . \$4767.00
- Mighty Arc II with ultra arc stand . . . . . \$5171.00

**Ultra Arc Long Throw Followspots**

The Ultra Arc competes with the strongest (and heaviest) followspots on the market, and it does this with a Marc 350 lamp, drawing only 5A at 120V, and weighing only 143 lbs. Now available with simmer switch to dramatically increase lamp life. Recommended for throws from 100'-300'.

- Ultra Arc Long Throw . . . . . \$4441.00
- Ultra Arc Long Throw with auto zoom . . . . . \$4966.00

**Ultra Arc Short Throw Followspots**

An identical Ultra Arc designed for use at shorter distances. In concert lighting the Short Throw has proven very effective as an onstage followspot. Years of service in rental shops and on tour attest to its ruggedness and durability. Recommended for throws from 25'-150'.

- Ultra Arc Short Throw . . . . . \$3985.00
- Ultra Arc Short Throw with auto zoom . . . . . \$4510.00

**Mighty Arc Followspot**

A high intensity followspot designed to be super compact and inexpensive while still featuring most of the performance characteristics of larger followspots. Utilizes the Marc 350 lamp, and features auto zoom, coated optics, DIC, and solid-state ballast. Excellent as an onstage or trussmounted followspot. Recommended for throws from 25'-150'.

- Mighty Arc . . . . . \$2695.00



Series II Long Throw



Series II Short Throw



Ultra Arc Long Throw



Ultra Arc Short Throw



Mighty Arc



Mighty Arc II

**Ultra Quartz Followspots**

The professional's quartz followspot. The compact and economical Ultra Quartz is brighter at 360W than comparable 1000W units. The ENX high output quartz lamp is quick to change and comes in its own reflector. Ultra Quartz has simple to operate controls, and rugged construction that will hold up over the years in nightclub or school use. Recommended throw 25'-75'.

- Ultra Quartz . . . . . \$1247.00
- Ultra Quartz 220/240V . . . . . \$1362.00

Note: All fixtures include lamp and ballast.

**Accessories**

- Long Throw Roadcase . . . . . \$757.00
- Short Throw Roadcase . . . . . \$671.00
- 220/140V Step-Down Transformer . . . . . \$160.00
- Marc 350 Ballast — Replacement . . . . . \$727.54
- HTI Ballast — Replacement . . . . . \$827.00



# PINNACLE SYSTEMS, INC.

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Santa Clara, CA 95051  
(408) 970-9787 Telex: 36-2364  
FAX: (408) 970-9798

# DIGITAL EFFECTS SYSTEMS

## 2010 Software Based Effects System

- "Pipelined" architecture with multiple frame buffers • Uses 4:2:2 component video processing in the digital domain • Full frame manipulation • Full manipulation of frozen pictures • No inter-field flicker in freeze-frame mode • Graphics creation (montage) capability • Full manipulation of live video over the montage • Second live background behind montage, creating 3 layers of video • Proportional borders outside the picture • Borders work with all functions including splits and crops • Advanced pre-programmed effects such as transpose, blinds, mirrors, jumble and multi-image • Processes non time-base-corrected video • Over 2,500 keyframe on-line storage • Over 6,000 keyframe offline storage per micro-diskette • Variable axis smooth compressions and expansions • Smooth positioning • Cropping from any or all sides • Proportional border of any size and color • Full manipulation of frozen, cropped or bordered pictures • Automatic flips and tumblers • Large number of pre-programmed transitions, including pushes, pulls, splits, transpositions and blinds • Continuous posterization • Continuous tinting • Continuous variable aspect ratio mosaics • Continuous blinds • Continuous multi-images • Continuous jumble • Variable aspect ratio • Random multi-freeze • Field accurate variable duration • Variable time acceleration • Powerful sequencing capabilities • Linear or variable trajectory motion with or without trailing • Fine adjustment control • A/B video switching • Built-in digital keyer keys live images over the graphics buffer • Built-in analog keyer keys manipulated images over the second video input • Key input and key output • External control: RS422, RS232, and contact closure are standard • Status menu screen • Built-in diagnostics

### Options

- Upgrade to Pinnacle's System 2020 • Component (Y, R-Y, B-Y) In and Out • Multiple channels • A/B Video Switching

2010's user interface consists of a menu driven interface system that works with a high resolution RGB monitor or a composite monochrome monitor. The menus are controlled from the 2010's control panel. The panel integrates a 3-axis joystick, a control bar, cursor keys, numeric pad and several dedicated function keys in a light, compact package. The user interface is designed to provide easy access to any function with minimum key strokes. A large number of popular effects are pre-programmed thus facilitating "on-air" use. Sophisticated custom sequences can be created easily with "help-screens" guiding the user through various steps.

2010's software-based architecture allows easy hardware and software upgrades at the customer site. In addition to the Data Disk Drive, a second 3.5" disk drive (the Program Disk Drive) is provided to facilitate software upgrades and enhancements in the field by simply mailing a new micro-diskette to the user. Additionally, 2010's modular architecture provides spare "expansion slots" to allow future hardware upgrades and enhancements at the user site.



## 2010 Video WorkStation with Software-based Digital Effects

Includes Video WorkStation chassis, control panel, effects system software, montage frame buffer, key processing channel, and 25' control panel interconnect cable and 2010 software . . . . . \$23,500.00

## 2020 WorkStation with FreezeFile™

Includes all the features and electronics of the 2010 plus a single channel still store. Standard system stores 150 frames or 300 fields. Stills can be stored and recalled randomly and can be arranged in a stack or sequence play list. Digital effects and transitions between stills are possible using 2020 software . . . . . \$32,800.00

## 2020-2 WorkStation with Preview Channel

All the features of the 2020 with the addition of a preview channel output frame buffer and integration software. Output is full bandwidth RGB for preview before encoding . . . . \$39,900.00

## 2030 WorkStation with Paint

All the features of the 2020-2 plus Pinnacle Painter full-color 32 bit paint software, digitizing tablet, pen with cancel button, keyboard, extended paint memory package, 2030 software and component digital video integration package for Paint, FreezeFile and Effects. . . . . \$49,200.00

## 2033 WorkStation with 3-D Modelling

All the features of the 2030 plus Pinnacle 32 bit Sculptor 3-D modelling, lighting, texture mapping software package, 8 Standard stream fonts, floating point processor, extended 3-D memory package, 2033 software and component digital video integration package for 3-D, Paint, FreezeFile and Effects . . . . \$57,950.00

## 2040 WorkStation with 3-D Animation

All the features of the 2033 plus frame-by-frame animation and machine control, including motion scripting, lighting, choreography, real-time wireframe preview, in-betweening, trajectory calculations, VTR control, and 2040 software and component digital video integration package for animation, 3-D Modelling, Paint, FreezeFile, and Effects . . . . \$67,850.00

# PIONEER COMMUNICATIONS OF AMERICA, INC.

Sherbrooke Plaza  
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Upper Saddle River River, NJ 07458-1827  
(201) 327-6400 FAX: (201) 327-9379

# LASERDISC PLAYERS

## LD-V2000 LaserDisc Player

A general purpose level 1 and level 3 player with a slimline profile and automatic disc loading system, the LD-V2000 supports both 12" and 8" discs with complete Standard Play (CAV) and Extended Play (CLV) features available during manual and computer modes.

The LD-V2000 performs frame searches to any of the CAV disc's 54,000 still frames in less than 8 seconds and will also time search to the nearest second on CLV discs. A wireless remote control is included.

### Specifications

<b>Output Video Level:</b>	NTSC composite, 1V p-p (75 ohm terminated)
<b>Horizontal Resolution:</b>	400 lines
<b>Output Audio Level:</b>	650mVRMS (100% mod. 50K ohm terminated)
<b>Computer Control Port:</b>	8-pin DIN connector
<b>Power Requirement:</b>	120V, 50/60Hz
<b>Power Consumption:</b>	35W



LD-V2000

<b>Dimensions:</b>	100H x 420W x 387Dmm
<b>Weight:</b>	18.9 lbs.
<b>LD-V2000</b>	.....\$635.00

## LD-V3000 8" LaserDisc Player

The LD-V3000 is a compact, portable player designed to play 8" LaserVision videodiscs exclusively. It can be controlled manually (level 1) via a hard-wired remote control; used as a standalone programmable interactive system (level 2); or controlled by an external computer (level 3).

The player includes an internal 1K programmable memory and utilizes a programming language compatible with existing Pioneer players.

Random access search to any of up to 25,000 video frames is performed in 4 seconds or less. The player features front loading disc access, rugged components and a semi-conductor laser diode light source.

The LD-V3000's compact size, light weight and extensive level 2 capabilities make it ideal for a wide variety of "on-the-road" demonstrations, training and educational applications, or in installations with especially tight space limitations.

### Specifications

<b>Output Video Signals:</b>	NTSC composite
<b>Output Audio Signals:</b>	2 channels (L, R)
<b>Interface Port:</b>	8-pin DIN type
<b>Max. Search Time:</b>	< 4 seconds
<b>Dimensions:</b>	5.2" H x 9.9" W x 12.2" D
<b>Weight:</b>	11.7 lbs.
<b>LD-V3000</b>	.....\$1075.00
<b>RU-V3000T Remote Control</b>	.....\$45.00



LD-V3000

## LD-V4200 LaserDisc Player

Designed for use as an economical, but high performance level 3 player, the LD-V4200 features an RS-232C interface, slimline profile, front panel player controls and player generated text overlay. Long distance frame searches are accomplished in less than 3.5 seconds, and short searches (less than 100 frames) do not produce a blanked video output. The LD-V4200 plays both 12" and 8" Standard Play (CAV) and Extended Play (CLV) discs. An optional hard wired remote control is available.

### Computer Control

<b>Port:</b>	RS-232C, 15-pin D-sub connector
<b>EFM Signal Out:</b>	5-pin DIN connector
<b>Max. Search Time:</b>	< 3.5 seconds
<b>Power Requirement:</b>	120V, 50/60Hz
<b>Power Consumption:</b>	36W
<b>Dimensions:</b>	100H x 420W x 395Dmm
<b>Weight:</b>	19.8 lbs.
<b>LD-V4200</b>	.....\$1065.00
<b>RU-V101 Remote Control</b>	.....\$55.00
<b>CC-03 RS-232C Cable (Male DB-15 to male DB-25DTE)</b>	.....\$30.00
<b>CC-04 RS-232C Interface Cable Kit For Apple Macintosh Plus/SE, Apple II GS, and Mac II. (Male DB-15 to Apple "Circular-8")</b>	.....\$20.00

### Specifications

<b>Output Video Level:</b>	NTSC composite, 1V p-p (75 ohm terminated)
<b>Horizontal Resolution:</b>	400 lines



LD-V4200

# PIONEER COMMUNICATIONS OF AMERICA, INC.

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## LD-V6000A LaserDisc Player

The LD-V6000A videodisc player is capable of playing LaserVision videodiscs under 3 levels of control: in manual mode (level 1); as a standalone programmable interactive system (level 2); and under external computer control via a built-in RS-232C interface port (level 3).

The LD-V6000A provides external sync and subcarrier inputs with loopthrough terminals, and has the ability to communicate with computers using ASCII character codes or 8-bit binary commands.

The LD-V6000A offers a front loading design, rugged components and a semiconductor laser diode light source. An optional remote control unit is available.

The LD-V6000A has all the powerful functions found in the LD-V6000, plus several upward compatible performance improvements.

Maximum search time is less than 2 seconds. Level 1 control functions have been expanded to include Chapter Search, and CLV functions have been included. The LD-V6000A also features a "track jump" capability which allows almost instant access to nearby video frames.

### Specifications

<b>Output Video</b>	
<b>Signals:</b>	NTSC composite, 1V p-p, 75 ohm; RF, channel 3/4
<b>Horizontal Resolution:</b>	370 lines



LD-V6000A

<b>Output Audio Signals:</b>	2 channels (L, R), 20-20,000Hz, $\pm$ 3dB
<b>Interface Port:</b>	RS-232C, DCE baud rate from 300-9600
<b>Max. Search Time:</b>	< 2 seconds
<b>Dimensions:</b>	5 <sup>15</sup> / <sub>16</sub> " H x 16 <sup>17</sup> / <sub>32</sub> " W x 16 <sup>5</sup> / <sub>16</sub> " D
<b>Weight:</b>	30.9 lbs.
<b>LD-V6000A</b>	.....\$1925.00
<b>RU-V6000T Remote Control</b>	.....60.00
<b>CC-05 RS-232 Interface Cable Kit. For Apple Macintosh Plus/SE, Apple II GS, and Mac II. (Male DB-25 to Apple "Circular-8")</b>	..20.00

## LD-V6010A LaserDisc Players

The LD-V6010A is identical to the LD-V6000A, except that it utilizes a video circuit which eliminates the external sync and subcarrier inputs, which are not required by most standalone or single-player applications. The RS-232C interface and other performance and design features are unchanged from the LD-V6000A.

The LD-V6010A has all of the new features found in the LD-V6000A, including 2 second search time, "track jump" and CLV functions.

### Specifications

<b>Output Video</b>	
<b>Signals:</b>	NTSC composite, 1V p-p, 75 ohm; RF, channel 3/4
<b>Horizontal Resolution:</b>	370 lines
<b>Output Audio</b>	
<b>Signals:</b>	2 channels (L, R), 20-20,000Hz, $\pm$ 3dB
<b>Interface Port:</b>	RS-232C, DCE baud rate from 300-9600
<b>Max. Search Time:</b>	< 2 seconds
<b>Dimensions:</b>	5 <sup>15</sup> / <sub>16</sub> " H x 16 <sup>17</sup> / <sub>32</sub> " W x 16 <sup>5</sup> / <sub>16</sub> " D
<b>Weight:</b>	30.9 lbs.



LD-V6010A

<b>LD-V6010A</b>	.....\$1765.00
<b>RU-V6000T Remote Control</b>	.....60.00
<b>CD-232 Cable Kit for LD-V6000A and LD-V6010A</b>	.....95.00
<b>CC-05 RS-232 Interface Cable Kit for Apple Macintosh Plus/SE, Apple II GS, and Mac II. (Male DB-25 to Apple "Circular-8")</b>	..20.00

## LD-V6200A LaserDisc Players

The LD-V6200A maintains all the functions and performance of the basic LD-V6000A videodisc player, while substituting the IEEE-488 parallel interface port for the RS-232C interface found in the LD-V6000A and LD-V6010A players. The IEEE-488 interface is particularly well suited for multiple player control from a single external computer.

### Specifications

<b>Output Video</b>	
<b>Signals:</b>	NTSC composite, 1V p-p, 75 ohm; RF, channel 3/4
<b>Horizontal Resolution:</b>	370 lines
<b>Output Audio</b>	
<b>Signals:</b>	2 channels (L, R), 20-20,000Hz, $\pm$ 3dB
<b>External Sync:</b>	+ 2V to -2V (min.) + 2V to -4V (max.)
<b>External Subcarrier:</b>	2V p-p
<b>Interface Port:</b>	IEEE-488
<b>Max. Search Time:</b>	< 3 seconds < 2 seconds "A" version
<b>Dimensions:</b>	5 <sup>15</sup> / <sub>16</sub> " H x 16 <sup>17</sup> / <sub>32</sub> " W x 16 <sup>5</sup> / <sub>16</sub> " D
<b>Weight:</b>	30.9 lbs.



LD-V6200A

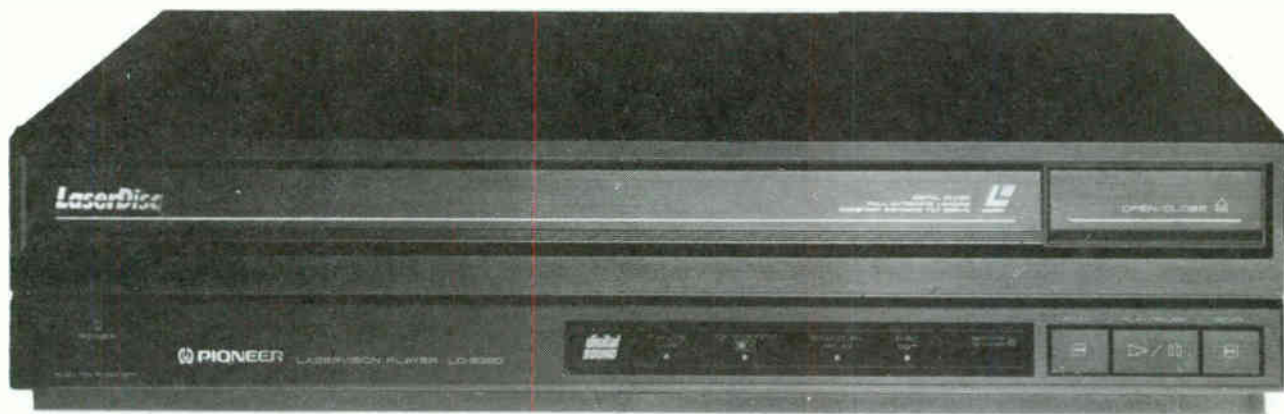
<b>LD-V6200A</b>	.....\$1995.00
<b>RU-V6000T Remote Control</b>	.....60.00
<b>CK-488 Interface Cable Kit. Includes IEEE-488 (GPIB) cable plus BNC-to-RCA video cable. Suitable for use with IBM InfoWindow and similar systems</b>	.....135.00



# PIONEER COMMUNICATIONS OF AMERICA, INC.

Sherbrooke Plaza  
600 E. Crescent Ave.  
Upper Saddle River, NJ 07458-1827  
(201) 327-6400 FAX: (201) 327-9379

# LASER DISC PLAYERS



**LD-838D**

### **LD-838D LaserVision Player with Digital Sound**

- Random access or scanning up to 45X normal speed
- Slows down to one frame every three seconds
- Freeze frame
- Broad band amplification circuit
- 400 lines resolution
- Constant-distance tilt servo monitors disc position and adjusts to keep on track
- Digital sound
- Sampling frequency of 88.2kHz twice the normal
- 98dB S/N audio, digital
- 70dB S/N audio, analog
- Separate power sources
- Front loading
- Remote controllable
- 10-selection random programming
- 4-way repeat
- Fast access time—Six seconds for CAV discs and 10 seconds for CIV discs

LaserVision discs are encoded with billions of bits of information, arranged in spirals like the grooves of a record. But instead of a needle, a laser beam reads the encoded information and translates it into video and audio signals. To precisely and accurately read such high density information is an ultra-precise objective lens. Its incredibly fine focal ability drastically reduces crosstalk and almost totally eliminates beats and video noise.

CCD IC acts as a time base corrector to correct time variations in the video signal caused by disc curvature or eccentricity. Maintaining top-level signal quality from the very beginning ensures a clear image on the TV screen.

From the laser, the disc signals are converted to RF electrical signals and processed into video and audio images. Since this RF signal is the basis for what you see and hear, maintaining signal quality is of paramount importance. Since the signal is very weak, and therefore susceptible to external interference, a broad-band amplification circuit is built into the laser pickup unit to instantly boost it, reducing the effect of external noise for clear reproduction.

**LD-838D . . . . . \$550.00**

### **CLD-1010 LD/CD/CDV Player**

- Capable of playing 5" CD videodiscs (CDV) compact discs and 8" and 12" LaserVision discs
- Standard front panel controls are as follows: open/close, play/pause, scan (forward and reverse) chapter skip/track search
- 400 line resolution
- 46dB S/N, video
- Audio features include two-times oversampling digital filter
- 96dB S/N, audio
- 95dB on CD/s and LaserDiscs™ with digital soundtracks
- Remote controllable with noise reduction switch, digital analog switch and a TV/LVP button
- CDs and LDs can be programmed to play back up to 10 tracks or chapters
- Editing features
- Front loading, auto disc size detectors, time search
- Full random access and special effects
- Five mode repeat

**CLD-1010 . . . . . \$800.00**

# PIONEER COMMUNICATIONS OF AMERICA, INC.

Sherbrooke Plaza  
600 E. Crescent Ave.  
Upper Saddle River, NJ 07458-1827  
(201) 327-6400 FAX: (201) 327-9379

# LASERDISC INTERACTIVE VIDEO SYSTEM



LD/VS 1

## LD/VS 1 LaserDisc/Video System

- Superimpose capability • Stereo sound mixing • RS-232C interface
- Built-in system switcher • Digital video signal processing • 720K byte 3.5" floppy disk drive and MSX2 type ROM cartridge expansion slot

The UC-V102 LaserDisc Controller is the core of the LaserDisc/Video system. Equipped with MSX2 Basic programming, three internal expansion slots can be used to extend its functional capability. There are also provisions for real-time computer graphics and digitized video input.

Besides extensive input capability, the UC-V102 also offers multiple audio/video output versatility. With appropriate expansion controllers (such as dual RS-232C multiplexers), up to five LaserVision players can be connected, expanding communication potential and capability.

Computer graphics can be superimposed on the LaserVision playback video signal, allowing the user to create graphics and text information screens. Personalized presentations and messages are easy to create and non-permanent information such as prices and sales news can be easily updated. And for even greater flexibility, the superimposed signal can be provided with either composite video or analog RGB signals.

For increased versatility and application flexibility, input can be easily selected from three composite audio/video systems. For example, three LaserVision players could be connected to the UC-V102, allowing almost limitless access capability and interactive versatility. Output is equally flexible, consisting of both a discrete audio/video output system and an analog 21-pin RGB audio/video system.

Through the RS-232C interface, the UC-V102 can control the LD-V4200 LaserVision player. The standard one-channel interface can also be expanded to five channels by adding two of the optional UK-V104 RS-232C Expansion Boards, making it possible to control up to five LaserVision players for comprehensive multi-image presentations and demonstrations. The high-speed communication rate of 19,200 bps also makes the system useful in a variety of other control applications. A variety of application programs can be written using the built-in MSX2 Basic. The created programs can be stored on either a 3.5" floppy disk or in a ROM cartridge that can be inserted in the ROM cartridge slot on the front panel. The optional UK-V107 Floppy Disk Drive permits simultaneous use of a second floppy disk.

Computer generated sound can be mixed with the stereo audio signal from the LaserVision player for a variety of audio applications.

The UK-V103 Digitizer Board offers real time video mosaic imaging, which can be used for switching between pictures from different LaserVision players, or for other visual effects.

### Type A (Without Touch Screen)

LD-V4200 LaserDisc Player  
TVM-1300 13" RGB Monitor  
UC-V102 LD Controller  
UK-V101 Keyboard  
UK-V103 Digitizer Board  
CC-03 LD-V4200 RS-232C Cable ..... \$3535.00

### Type B (With Touch Screen)

Includes all Type A components plus UK-V105TS Touch Screen ..... \$3995.00

## UC-V102 (VideoDisc Controller)

<b>CPU</b>	Equivalent to Z80A (3.58 MHz clock)
<b>Memory</b>	
Main memory	64 KB (expandable up to 256 KB)
V-RAM	128 KB
BASIC ROM	48 KB (MSX 2 BASIC)
DISK BASIC ROM	16 KB
RS-232C BASIC ROM	8 KB
<b>Screen display</b>	
Text display	40 characters x 24 lines, 32 characters x 24 lines, 80 characters x 24 lines
Graphic display	256(W) x 212(H) dots, 512(W) x 212(H) dots
Color display	2, 4 or 16 colors among 512 colors, 256 colors
Sprite	Can be set up to 256 types
Video output	Video output (pin jack), analog RGB (multi-connector)
<b>Screen control</b>	
Superimpose function	This function superimposes the computer pictures onto the external video signals.
<b>Sound output</b>	
Sound source	(1) 8 octaves, 3 VOICES+1 noise
Output	(2) Stereo audio input (4 channel) Stereo audio output (pin jack, multi-connector); mixing between sound sources (1) and (2) possible
<b>Floppy disk drive</b>	35-inch 720 KB 1 drive mounted. The 2nd drive can be added
<b>RS-232C interface</b>	300, 1200, 2400, 4800, (9600) bps
<b>AV source switching function</b>	1 video/audio input channel can be selected from among 3 video/audio input channel and 1 RGB multiconnector system
<b>Audio output switching function</b>	Built-in switch for selecting monaural or stereo for audio output
<b>Clock function</b>	Year, month, day, hour, minutes, seconds
<b>Other interfaces</b>	Printer interface, controller (joystick) interface, keyboard interface provided
<b>Expansion functions</b>	(1) Up to 3 expansion boards can be mounted in the unit (2) 1 ROM cartridge slot provided on front panel (compatible with MSX specifications)
<b>Keyboard (UK-V101 option)</b>	Keyboard with 10 keys Built-in Z-level tilt mechanism
<b>Power requirements</b>	AC 120 V, 60 Hz Input current: 0.65A
<b>Operating temperature</b>	+ 5°C to + 35°C
<b>Dimensions (W x D x H)</b>	16-9/16 x 15-3/8 x 5-1/8 in. (420 x 390 x 130 mm)
<b>Weight</b>	20 lbs. 4 oz. (9.2 kg)

## UK-V105TS (Touch Screen)

<b>PERFORMANCE</b>	
<b>System</b>	AD conversion with sheet resistance
<b>Resolution</b>	X: 256, Y: 256 (typical) X: 1024, Y: 1024 (max.)
<b>Data conversion speed</b>	100 ms/point max.
<b>INTERFACE</b>	
<b>System</b>	Connected to UC-V102 expansion I/O bus
<b>Addresses</b>	054H to 057H
<b>Power supply</b>	5 V ± 5%, 200 mA max.

"MSX 2" is a registered trademark of Microsoft Corporation of the United States.

# PLASTIC REEL CORP. OF AMERICA

Brisbin Ave.  
Lyndhurst, NJ 07071  
(201) 933-5100

# VIDEO REELS/CASES

## Video Tape Reels/Cases

Plio-Magic's quality of endurance gives you precision reels that last and last for long-term dollar savings. There's a reel for all types of tape systems: 1" and 2" video tape reels with NAB centers. For shipping, transporting or storage, Plio-Magic® custom designed cases are available for video tape reels and cassettes. All offer the unparalleled protection of PRC's super tough material assuring dust resistant, safe protection for your valuable programs. We maintain large inventories in four centralized locations, assuring you of products when your requirements dictate.

## Video Tape Reels

### Anti-Static Video Tape Reels and Boxes

Number	Description	Less Than Ctn.	1 to 25 Ctns.	26 Ctns.	Ctn. Qty.
14661	6 1/2" x 1" (12 min)	\$2.53	\$1.40	\$1.25	48
14681	8" x 1" (30 min)	2.85	1.65	1.50	48
14655	5" x 2" (5 min)	1.01	.62	.49	60
14665	6 1/2" x 2" (10 min)	2.24	1.45	1.05	48
14680	8" x 2" (20 min)	3.02	1.76	1.56	24

### Video Tape Reel Boxes Only

3956104	6 1/2" x 1"	\$.55	\$.48	\$.46	48
3958104	8" x 1"	.64	.56	.53	48
3955504	5" x 2"	.48	.43	.40	60
3956504	6 1/2" x 2"	.60	.53	.50	48
3958004	8" x 2"	.67	.59	.56	24

Standard Color: Reels-natural; Boxes-white

## Videocassette Storage Cases

### 38213 Beta Only

Quantity	Price
25,000 and up	\$.45
10,000-24,999	.49
2,500-9,999	.53
500-2,499	.56
100-499	.59
1-99	1.40

### 38214 VHS Universal (Holds VHS or Beta)

Quantity	Price
25,000 and up	\$.42
10,000-24,999	.46
2,500-9,999	.49
500,2,499	.54
100-499	.60
1-99	1.45

Prices listed are for 1/3 standard window, black only. All other colors, please add \$.02. Standard colors: Black, blue, brown, red, white and gray. Ctn. Qty.-100 pieces.

### VHS Universal Full Window (38224) or Clear (38234)

Quantity	Price	Also available:
25,000 and up	\$.44	Clear Bar Code Reader Case-same prices
10,000-24,999	.49	Clear Bar Code Reader Case with back pocket for rental contract, etc., please add \$.03 to clear prices.
2,500-9,999	.54	Clear case with full window wrap-around, please add \$.05 to clear prices.
500-2,499	.59	
100-499	.64	
1-99	1.50	

Prices listed above are for black and clear only. Please add \$.02 for white. Standard colors: Black, white and clear. Ctn. Qty.-100 pieces

### 3/4" U-Matic 38215

Quantity	Price	Also available:
25,000 and up	\$.79	3/4" with full window wrap-around in clear or black, please add \$.25 to above prices.
10,000-24,999	.84	
2,500-9,999	.89	
500-2,499	.94	
50-499	.99	
1-49	1.70	

Prices listed above are for 1/3 standard window, black only. All other colors, please add \$.05. Standard colors: Black, blue, brown and white. Ctn. Qty.-50 pieces



## Videocassette Slip Sleeves\*

### Plastic Slip Sleeves

Number	Description	250-500	750-1500	1750 & Up	Ctn. Qty.
38515	3/4" U-Matic	\$1.08	\$1.02	\$.98	250
38514	1/2" VHS	.60	.58	.52	250
38513	1/2" Beta	.60	.58	.52	250

### Cardboard Slip Sleeves

39514	1/2" VHS	\$.39	\$.37	\$.35	250
39513	1/2" Beta	.39	.37	.35	250

Standard Color: Black

\*Carton Quantities Only

## Video Vaults™

### Videocassette Shipping Cases-Plastic

Number	Description	1-19	20-199	200 & Up	Ctn. Qty.
38805	3/4" U-Matic Bulk	\$5.90	\$3.99	\$3.66	20
38802	1/2" Beta-Bulk	5.90	3.99	3.66	20
38801	1/2" VHS Bulk	5.90	3.99	3.66	20
38803	1/2" Beta in Plastic Box	5.90	3.99	3.66	20
38800	1/2" VHS in Plastic Box	5.90	3.99	3.66	20
38701	8mm Kodak Cassettes*	5.90	3.99	3.66	20

### Inserts Only:

39602	1/2" Beta Cas-sette	\$2.00	\$2.00	\$2.00	—
39601	1/2" VHS Cas-sette	2.00	2.00	2.00	—

Standard Color: Beige, red, blue

\* Holds either 1 or 2

## Corrugated Videocassette Mailers\*

Number	Description	100-200	300-400	500 & Up	Ctn. Qty.
39415	3/4" U-Matic	\$.37	\$.33	\$.29	100
39414	1/2" VHS/Beta	.23	.22	.18	100

\*White only; shipped flat.

## Multiple Cassette Shipping Case For:

Number	Description	Less Than Ctn.	1-4 Ctns.	5-9 Ctns.	10 Ctns. & Up	Std. Ctn.
32702	2-3/4" U-Matic	\$18.00	\$16.25	\$15.95	\$15.95	9
327xx	3 to 10-3/4" U-Matic	49.50	47.00	47.00	47.00	4
328xx	2 to 4-1/2" VHS or Beta	18.00	16.75	16.25	15.95	11
328xx	5 to 10-1/2" VHS or Beta	49.50	47.00	47.00	47.00	4

Standard Color: Beige



# PLATT LUGGAGE, INC.

2301 S. Prairie Ave.  
Chicago, IL 60616-9990  
(312) 225-6670

# CASES



## Make Your Own Case Multi-Purpose Cases

The **Make Your Own Case** carries just about everything that can be carried.

These cases carry calculators, computers, typewriters, adding machines, copiers, dictating and test equipment, tools, measuring instruments, video recorders and cameras, photography equipment, cassette recorders, and CBs to name a few.

The versatility comes from its unique interior of pre-cut shock absorbent polyfoam cubes in the body and convoluted foam in the lid. The cubes are easily removed to firmly house and protect your equipment. The lid foam adds to the protection by firmly securing the products inside.

There are two basic styles:

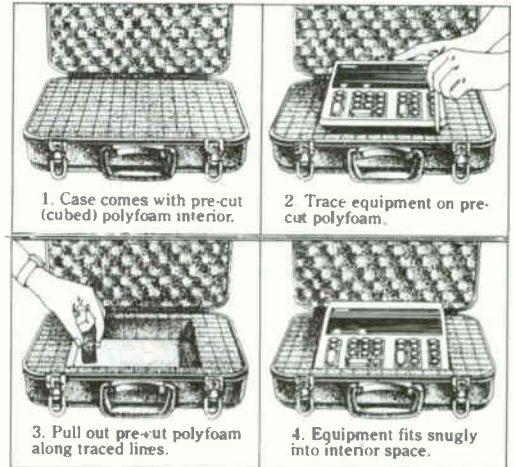
### 1. Molded Case

Features tough, lightweight, ABS Thermoplastic exterior, steel core handle, positive closure drawbolt key locks and aluminum frame for maximum strength. 2000 Series has cast chrome locks and golf grip handle. Color: black.

### 2. Deluxe Soft/Molded Case

It has a unique, patented soft/molded construction. A skin of rich reinforced expanded vinyl is sewn through a thick layer of ABS Thermoplastic. It combines the rugged lightweight qualities of the molded case with the rich good looks of a softside case. Cast chrome side catches, combination lock and golf grip handle complete the deluxe hardware package. Color: oxford brown.

**Note:** No. combination lock on 2207-S/M



## Pick the Correct Size Make Your Own Case.

### Molded

No.	Inside dimensions	Depth of body section
1412	12x8 $\frac{3}{4}$ x4 $\frac{3}{4}$	3
1414	12x11x4 $\frac{3}{4}$	2 $\frac{3}{4}$
1416	16x12x4 $\frac{3}{4}$	2 $\frac{3}{4}$
1426	16x12x6	4
1419	18 $\frac{3}{4}$ x13x5	3
1425	18 $\frac{3}{4}$ x13x7	4
2005	19 $\frac{3}{4}$ x13 $\frac{3}{4}$ x5	3
2007	19 $\frac{3}{4}$ x13 $\frac{3}{4}$ x7	4
2205	21 $\frac{7}{8}$ x15 $\frac{7}{8}$ x5 $\frac{1}{4}$	3 $\frac{3}{4}$
2207	21 $\frac{7}{8}$ x15 $\frac{7}{8}$ x7	4
2805	27 $\frac{3}{4}$ x19 $\frac{3}{4}$ x5	3
2807	27 $\frac{3}{4}$ x19 $\frac{3}{4}$ x7	4

### Soft/Molded

6266-S/M	18 $\frac{3}{4}$ x12 $\frac{3}{4}$ x6	4
2005-S/M	19 $\frac{3}{4}$ x13 $\frac{3}{4}$ x5	3
2207-S/M	21 $\frac{7}{8}$ x15 $\frac{7}{8}$ x7	4

# POLAROID CORP.

575 Technology Square  
Cambridge, MA 02139  
(617) 577-2000 (800) 343-5000

# VIDEO IMAGE RECORDER



FreezeFrame

## FREEZEFRAME VIDEO IMAGE RECORDER

- Delivers T339 autofilm prints. Perfect 3 x 4 aspect ratio with remarkable color fidelity
- 35mm adaptor gives user ability to use Polaroid Instant slide film or conventional 35mm film to make enlargements of copies
- Digital freeze field capture capability allows user to capture images off air or from other standard video devices
- Accepts NTSC input; compatible with wide variety of video sources such as VCR, laser disc player or video camera
- Accepts RGB TTL and Analog inputs; compatible with computer hardware with a 15.75kHz horizontal sweep frequency (IBM PC)
- Color preview capability allows user to preview image and adjust color, tint, contrast, sharpness and brightness before making print or slide
- Raster fill capability allows user the option of eliminating annoying raster lines for a more pleasing print

The Polaroid FreezeFrame Video Recorder delivers, at the touch of a button, high quality instant color prints or slides from video images. The recorder features digital freeze field capture, advanced raster fill technology, color preview capability, NTSC signal acceptance and RGB computer input. Polaroid instant film selections for the recorder included AutoFilm Type 339 color prints, Polachrome 35mm color slides and PolaPan 35mm black and white slides. The system also accepts conventional 35mm slides and negative films.

The system consists of: the image recorder, a separate user control panel, autofilm camera back, NTSC video input/output cables, power cord and a control unit cable.

## Markets

Business, broadcasting, medicine, education, government and law enforcement.

## Applications

Presentation, documentation, training, editing, reviewing with clients.

## SPECIFICATIONS

<b>Power Source:</b>	115VAC + 15%-10% 60Hz
<b>Power Consumption:</b>	Approximately 40W
<b>Dimensions:</b>	5.7" H x 9 1/2" W x 17" D
<b>Weight:</b>	14.3 lbs.
<b>Video System:</b>	EIA Standard (525 lines, 60 fields/sec.) NTSC Color Signal or RGB Inputs — RS170 Standard 15.75kHz 60Hz
<b>Video Input Signal Level:</b>	NTSC or Analog RGB: 1.0V p-p, 75 ohms; neg sync Digital RGB: Standard TTL levels (IBM PC standard levels) composite neg sync into "Video In"
<b>Monitor Output Level:</b>	1.0V p-p, 75 ohms, +0 to 1dB
<b>Film Formats:</b>	Polaroid 3" x 4" integral color print 35mm film
<b>Film Types:</b>	Polaroid 3" x 4" AutoFilm, Type 339 integral color print, Instant 35mm film — Polaroid Polachrome, Polapan ISO 100 and 200 color transparency film
<b>Horizontal Resolution:</b>	More than 350 lines — NTSC only, 50% MTF More than 700 lines at center — RGB input More than 650 lines at corners — RGB input (RGB at 5% MTF)
<b>Vertical Resolution (Measured at CRT):</b>	250 lines (field — no fill) 500 lines (frame — no fill)
<b>Print Overscan:</b>	10% maximum (as measured linearly in H and V directions) for Type 339 No overscan for 35mm
<b>Exposure Method:</b>	Intensity modulation
<b>Exposure Time:</b>	Less than 8 sec. for Type 339 film
<b>Image Quality:</b>	5% geometric distortion maximum as per EIA RS-375A specifications
<b>Image Format:</b>	4:3 aspect ratio
<b>Freeze Field (NTSC only):</b>	Luminance: 7 bits (128 gray levels) Chroma sampling: 10.74mHz (3 times subcarrier frequency)
<b>Certification:</b>	U.L., CSA, FCC, Class B Certified

610679 FreezeFrame Video Image Recorder . . .	\$1899.00
610681 35mm Camera Adaptor . . . . .	300.00
610985 35mm Instant Processing Kit Includes one 35mm camera/adaptor, one auto processor, one illuminated slide mounter, 25 slide mounts . . .	499.00
607286 Polaroid Type 339 Color Instant Print Film. 20 exposures per pack . . . . .	25.54



# POOK, DIEMONT & OHL, INC.

701 E. 132<sup>nd</sup> St.  
Bronx, NY 10454  
(212) 402-2677

## RIGGING

### Systems

- Counterweight systems
- Portable grids
- Motorized winches
- Motor controls
- Curtain tracks
- Hemp systems
- Acoustic ceiling panels
- Truss systems



PDO's grids are designed to meet the support requirements of the studio lighting equipment and drapery, and to provide for maximum lighting flexibility. Drapery and track configurations maximize the utility of the space, and provide a multiple choice of set-up possibilities and fast changeovers.

### Facilities

- Television studios
- Sound stages
- Displays and exhibits
- Theaters
- Concert halls





# PORTAC, INC.

108 Aero Camino  
Goleta, CA 93117  
(805) 685-2960

# MESSAGE GENERATOR/CONTROLLER

## KBD-6100 Series Message Generator/Controller System

- 50 pages of display memory
- Programmable order of page display by time and by day up to 7 days a week in advance
- Six background colors programmable by page
- Selectable roll, crawl, flow or static display; programmable by page
- Insert/Delete capability
- Any character or word may be programmed to flash
- Direct page for urgent messages
- Automatic line centering
- Two-line heading includes fixed message, plus time, day and date
- Internal NiCad "lifetime" battery to protect and save memory
- Lockout key to prevent unauthorized use
- Control capability for up to six of any combination of the accessory units
- Single keyboard for control of up to four completely independent channels

The KBD-6100 electronic time-managed message generator/controller system is designed specifically for multi-channel use with single keyboard simplicity.

A display memory of fifty pages is available for each channel plus a fixed two-line heading with time and date display. Each page may be programmed to display on one of six background colors, in one of four display modes and all may be pre-programmed to appear at any time on any day of the week with each day completely independent.

The KBD-6100 series system has capability for up to four channels, each separately controlled by one keyboard that is supplied with a 25' cable. The keyboard is fitted with an eight-position pushbutton switch permitting display on an adjacent monitor of each channel's "edit" (black/white) output or "run" (color) output.

The standard PREVIEW capability allows the operator to view all pages programmed at a glance and any changes may be made easily via the Insert/Delete capability. Dual output for editing is provided as standard.

Each microprocessor-controlled unit contains programming pages for each day of the week and the schedules may be displayed on an edit monitor so that it is very simple to revise a schedule. Program outputs may be fed to dedicated monitors at strategic locations: lobby, restaurant, convention center, etc., and may also be routed to an MATV system for distribution to guest rooms.

The memory of each channel of the KBD-6100 system is protected by an internal NiCad "lifetime" battery back-up. Thus, even if there is a complete loss of power, the KBD-6100 system will retain all of the display and programming information stored in the memories of each of the units. The battery back-up is good for the "shelf-life" of the battery itself which is approximately 2 to 3 years.

### Specifications

- Video Output:** Internally generated RS-170 1V p-p NTSC compatible composite video terminated with 75 ohm. Sync 0.3V, Video 0.7V
- Video Input:** 0.75–1.5V p-p composite video into 75 ohm termination.
- Connectors:** F (F-61) and BNC (UG-1094) for each video output. RCA audio jacks.
- Display Format:** 12 x 14 dot-pattern characters. 8 lines of 32 characters per line.



**KBD-6100**

### Power

**Requirements:** 105–125V 60Hz 50W max.

**Dimensions:** MKU (keyboard)—3 1/2" H x 17" W x 7 1/4" D  
Shipping weight—7 lbs.—(including cables)  
RCG—4 1/2" H x 19" W x 15" D  
Shipping weight—16 lbs.  
VCU-4—2" H x 17 1/4" W x 11" D  
Shipping weight—9 lbs.

<b>KBD-6101</b>	Single channel with keyboard (50 pages) . . . . .	<b>\$ 7,424.00</b>
<b>KBD-6102</b>	Two channel with keyboard (100 pages) . . . . .	<b>13,848.00</b>
<b>KBD-6103</b>	Three channel with keyboard (150 pages) . . . . .	<b>20,272.00</b>
<b>KBD-6104</b>	Four channel with keyboard (200 pages) . . . . .	<b>26,696.00</b>
<b>KBD-6100</b>	Basic unit (add-on) without keyboard (50 pages) . . . . .	<b>6,424.00</b>

### Accessories

<b>VCU-4</b>	Video Control Unit for pre-programmable control of four videotape players, both 1/2" and 3/4". Up to six VCU-4s may be added to any single system. . . . .	<b>\$1,470.00</b>
<b>SCU-4</b>	Signal Control Unit for pre-programmable video switching. BNC connectors. . . . .	<b>1,200.00</b>
<b>RF-SCU-4</b>	RF Signal Control Unit for pre-programmable RF signal switching. . . . .	<b>1,650.00</b>
<b>PCU-4</b>	Power Control Unit for pre-programmable control of AC power. . . . .	<b>1,440.00</b>
<b>ECU-4</b>	Equipment Control Unit for pre-programmable A/B switching using screw-terminal dry contacts. . . . .	<b>1,200.00</b>
<b>SSU-4</b>	Signal Switching Unit (includes one pre-programmed message) . . . . .	<b>1,300.00</b>
<b>FMG-1</b>	Fixed Message Generator (includes one pre-programmed message) . . . . .	<b>995.00</b>

# PORTAC, INC.

108 Aero Camino  
Goleta, CA 93117  
(805) 685-2960

# CHARACTER/MESSAGE GENERATORS



**KBD-2**

## KBD-2 Keyboard Character Generator

- 12 pages of memory
- Selectable roll, crawl, flow or static display. Programmable by page
- Programmable order of page display
- Insert/Delete editing mode
- Any character may be programmed to flash
- Full cursor control
- Direct page for urgent messages
- Internal battery to save memory
- BNC and F connectors
- Automatic line centering
- Lockout key to prevent unauthorized use

Memory is essentially "non-volatile" during power failure. Memory retention during power failure is chiefly limited to the shelf life of the internal battery which is in excess of one year.

**KBD-2 Keyboard Character Generator . . . . . \$3175.00**

### Options

- "-A" Automatic Audio Changeover. Feeds "background" audio with internally generated video background for messages — switches over to VTR audio when VTR video is used. (Only available with "-X" option) . . . **\$250.00**
- "-C" Provides for pre-programming each page to one of six background colors (red, green, blue, orange, violet, neutral). Message characters appear in white or black . . . . . **\$430.00**
- "-D" Dual output for editing. Provides output signals on two connectors — one, for local "edit" use shows editing data during set-up. The main output shows a test bar pattern during editing . . . . . **\$230.00**
- "-F" Spanish Font. Special keytops with accents . . . **450.00**
- "-H" "Heading" option. Shows fixed message plus time, day and date above normal display. . . . . **550.00**
- "-H2" Two Line Heading without time, day and date . . . **260.00**
- "-P" Permits Pre-programming Order of page display by time and day. . . . . **820.00**
- "-P2, -P3, -P4" Multiple -P Page option to allow for two, three, or four programming pages per day by time and day . . . **1080.00**
- "-S" External audio cassette recorder storage to provide extended memory capability. . . . . **845.00**
- "-T" Provides for addition of one page to show time, day and date. This page may be inserted in the display sequence to show time between pages. . . . . **\$365.00**
- "-X" Superimposes an external video (VTR) signal with auto changeover to internal sync generator if external signal fails or is turned off. (Specify -X1 to superimpose characters on external video; -X2 to blank characters when external video is used; -X3 will blank heading (-H option) only when video is used . . . . . **\$375.00**
- "-X1/X2" Switches between X1 and X2 options. (Requires -X option) . . . . . **25.00**
- "-24" Added storage options. Increase display storage capability to 24 . . . . . **370.00**
- "-56" or 56 pages . . . . . **1280.00**

Note: Any number of options may be added to the basic KBD-2.



**KBD-2000 w/VCU-4**

## KBD-2000 Keyboard Message Generator/Controller

- Up to 50 message pages
- Fixed two-line heading with time and date display
- Six color backgrounds
- Can be pre-programmed for the entire week with each day completely independent
- U.L. listed

The microprocessor controlled keyboard contains timing pages for each day of the week and the schedules for each day can be displayed on an edit monitor so that it is very simple to revise a schedule. Program outputs can be fed to dedicated monitors at strategic locations: lobby, restaurant, convention center, etc., and then routed to an MATV system for distribution to guest or patient rooms.

The KBD-2000 when combined with the VCU-4 video control unit, can control four pre-loaded video tape players. Movies or educational videotapes may be scheduled to be shown at various times throughout the day or week and will pre-empt any messages. At the end of the program, the system will automatically resume message display and the tape player will rewind. The system gives the user complete control over what is to be displayed between videotape programs and the time at which those programs are to be turned on, 24 hours a day. VCU-4s can be stacked for increased program capability and/or multiple channel operation.

**KBD-2000 Keyboard Character Generator/Controller . . . \$6425.00**  
**KBD-2000S With external audio cassette recorder storage for extended memory . . . . . 7270.00**

### Accessories

- ECU-4** Equipment control unit for pre-programmable A/B switching. Uses four dry-contact low current relays that are connected to screw terminals . . . . . **\$1200.00**
- PCU-4** Power Control Unit for pre-programmable control of AC power. Has four AC receptacles and four dry-contact relays connected to screw terminals . . . . . **1440.00**
- RFSCU-4** RF signal control unit for pre-programmable RF signal switching . . . . . **1650.00**
- SCU-4** Signal control unit for pre-programmable video switching. BNC connectors. . . . . **1200.00**
- VCU-4** Video control unit for pre-programmable control of up to twenty-four video players, both 1/2" and 3/4" . . **1470.00**

# PORTA-PATTERN, INC.

P.O. Box 38945  
750 North Highland Ave.  
Los Angeles, CA 90038  
(213) 461-3561  
Telex 203432 TV CHARTS UR

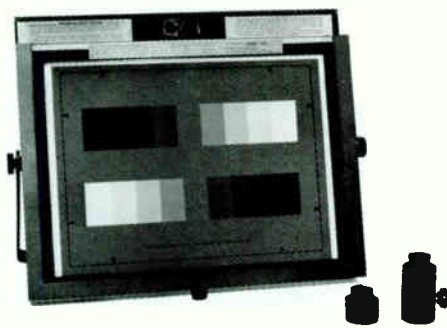
# TEST CHARTS

## TEST CHART SYSTEM

The PORTA-PATTERN Test Chart System is a convenient, portable 9" x 12" chart package for studio or field use. The system has been designed to offer maximum versatility and protection for the Test Charts, thus providing faster, easier camera set-up and alignment.

The light weight self-standing aluminum Chart Holder provides three point positional alignment. A spirit level is an integral part of the unit's design for horizontal alignment accuracy. Optional Microphone and Light Stand Mounting Adaptors allow the system to be stand mounted with the same alignment capabilities.

The system contains one each Resolution, Linearity, Registration and Logarithmic Reflectance Charts. The charts are mounted in recessed, high-impact plastic frames for chart surface protection. Each chart frame is color coded for ease of location in the holder. Charts are placed in order of usage. After use the front chart can be reversed so all chart surfaces are protected.



001-10*	Four Chart System with NO adaptors	\$320.00
001-11*	Four Chart System with microphone stand adaptor	335.00
001-12*	Four Chart System with light stand adaptor	345.00
001-13*	Four Chart System with mic and light stand adaptors (*Includes Charts indicated)	360.00
001-15	Microphone stand adaptor	35.00
001-16	Light stand adaptor	40.00
001-17	Aluminum frame assembly, complete w/o adaptors	200.00
001-50	Dual system carrying case	85.00
001-51	Single Chart carrying case	60.00
001-24*	Resolution Chart	75.00
001-25*	Linearity (Ball) Chart	75.00
001-26*	Registration Chart	75.00
001-27*	Nine-Step Log Chip Chart	100.00
001-28	Production Slate	60.00
001-29	Blank plastic chart frame	50.00
001-30	BBC Zone Plate Chart, 525 line	150.00
001-31	BBC Zone Plate Chart, 625 line	150.00
001-32	Multi-Burst Chart	75.00
001-33	Window Chart	75.00
001-34	Chess Board Chart	75.00
001-35	Reverse Registration Chart	75.00
001-36	BBC #61P Flesh Tone Reference Chart	150.00
001-37	Pulse Bar Chart	160.00
001-38	CCIR Linearity (Ball) Chart	75.00
001-39	Auto-Registration Chart	75.00
001-40	Lens Focus Chart	75.00
001-42	Line Resolution Chart	75.00
001-43	Full-Field Color Bar Chart	145.00
001-44	Eleven-Step Log Chip Chart	110.00
001-45	Depth of Modulation Chart (Rev. 1984)	75.00
001-46	RCA P-200 Resolution Chart	85.00
001-47	RCA P-300 Resolution Chart	85.00
001-48	BBC #62 High Saturation Color Bar Chart	180.00

## ELECTRONIC FIELD PRODUCTION THREE CHART SYSTEM

In order to provide a greater range of available test patterns in a package better adapted to the portability of EFP camera systems, PORTA-PATTERN has developed a Three Chart System which will accept any combination of three charts presently available in the PORTA-PATTERN catalogue.

The system consists of three protective plastic frames, similar to those used for all individual PORTA-PATTERN Test Charts, uniquely hinged end-to-end which allows the frames to be folded upon themselves, thus providing complete surface protection for all three charts, and, when closed, takes up no more space than a single PORTA-PATTERN Test Chart.

The entire system is held closed by a Velcro™ closure system, and a vinyl coated nylon case is included to provide a complete Three Chart System in a package 15" high x 18" wide x 1 1/2" thick.



014-10	EFP Three Chart System with three Black & White Geometric Test Patterns, including case	\$230.00
014-11	EFP Three Chart System with two Black & White Geometric & one Nine-Step Log Chip Chart, including case	260.00
014-12	EFP Three Chart System with one Black & White Geometric, one Log Chip & one of either Color Bar, BBC #61P Flesh Tone or Pulse Bar Chart, including case	290.00

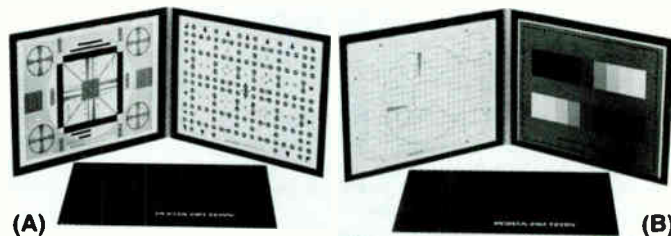
## DUOCHART™ SYSTEMS

The PORTA-PATTERN DUOCHART System is a lightweight, durable portable video test chart package in the convenient PORTA-PATTERN 9" x 12" image size. Each chart is recess-mounted on lightweight, heavy-duty expanded PVC Foamex™ and hinged to fold face-to-face when not in use. Black Velcro™ provides a light and dirt seal when the system is closed. Each system includes a black vinyl case for carrying and storage. There are three DUOCHART systems to provide the right information for the required set-up and evaluation.

**(A) RESOLUTION/LINEARITY.** This system contains the standard Resolution and Linearity Charts. The Resolution Image is designed as a standard reference for measuring and evaluating overall camera resolution as well as testing for camera streaking, ringing, interlace and aspect ratio. The Linearity Image is designed for measuring and adjusting scan linearity. The image is a matrix of circles that provide reference when combined with the proper electronically generated grating signal.

**(B) REGISTRATION/LOG GREY SCALE.** This system contains the standard Registration and Log Grey Scale Charts. The Registration Image is designed for adjustment of scan timing (registration) in multiple tube color cameras. The Log Grey Scale contains two rows of nine paint chips each, providing the range of reflectance from TV white (60%) to TV black (3%), scaled in increments to approximate the transfer characteristics of the color picture tube.

**(C) MULTI-BURST/FLESH TONE REFERENCE.** This system contains the Multi-Burst Chart and the BBC #61P Color Flesh Tone Chart. The Multi-Burst Image is a dual range grouping of bursts. The full scan range is from 1 MHz to 8 MHz in 1 MHz steps. The half scan range is from 0.5 MHz to 4 MHz in 0.5 MHz steps. The bursts are spaced by a solid black bar for separation of burst information on a waveform monitor. The BBC #61P Color Flesh Tone Image has been developed to provide a standard color reference for matching and evaluating cameras after normal color balance is achieved. The image is manufactured in close cooperation with the Research Department of the BBC with advanced electronic color separation to assure spectral characteristics and long lasting chromaticity.



020-10	Resolution/Linearity	\$130.00
020-11	Registration/Nine-Step Log Grey Scale	160.00
020-12	Multi-Bursts/BBC #61P Flesh Tone Reference	195.00



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(213) 461-3561  
Telex 203432 TV CHARTS UR

# TEST CHARTS

## ENG TWO CHART SYSTEM

The PORTA-PATTERN ENG Chart System has been designed to provide basic alignment, registration, color balance and Auto-White balance information for fast electronic news gathering or field camera set-up.

The system consists of a Registration Chart and a specially designed Color Balance Chart, mounted on durable white acrylic. The two acrylic frames are hinged together, and the charts are folded face-to-face when not in use. Black Velcro™ provides a light and dirt seal when the system is closed, and the white acrylic has a non-reflective surface for Auto-White balance use.

**008-10** ENG Portable Two-Chart System, Registration and Color Balance, including Carrying Case ..... **\$185.00**

## TEST SLIDES AND TEST SLIDE SYSTEMS

The PORTA-PATTERN Test Slides and Slide System provide the same accuracy and convenience for Color and Black & White Telecine set-up and alignment as the industry standard PORTA-PATTERN Test Charts. These Slides are available in either a 2" x 2" glass protected format, for use with slide projectors, or a 3/4" x 4" Field Lens format for use with large image Telecine systems.

**002-10P\*** Test Slide System, Positive, 8 Slides with Hardwood Case. . . . **\$175.00**  
**002-10N\*** Test Slide System, Negative, 8 Slides with Hardwood Case. . . . **175.00**  
 (\*Includes Slides as Shown)  
**002-20** Hardwood Slide Case, 10 Slide Capacity ..... **65.00**  
**002-24P\*** Resolution Slide, Positive ..... **15.00**  
**002-24N** Resolution Slide, Negative ..... **15.00**  
**002-25P\*** Linearity (Ball) Slide, Positive ..... **15.00**  
**002-25N** Linearity (Ball) Slide, Negative ..... **15.00**  
**002-26P\*** Registration Slide, Positive ..... **15.00**  
**002-26N** Registration Slide, Negative ..... **15.00**  
**002-27** Nine-Step Log Grey Scale Slide ..... **130.00**  
**002-32P\*** Multi-Burst Slide, Positive ..... **15.00**  
**002-32N** Multi-Burst Slide, Negative ..... **15.00**  
**002-33\*** Window Slide ..... **15.00**  
**002-34P\*** Chess Board Slide, Positive ..... **15.00**  
**002-34N** Chess Board Slide, Negative ..... **15.00**  
**002-36\*** BBC #61P Type Flesh Tone Reference Slide ..... **65.00**  
**002-38P** CCIR Linearity (Ball) Slide, Positive ..... **15.00**  
**002-38N** CCIR Linearity (Ball) Slide, Negative ..... **15.00**  
**002-41P** Depth of Modulation Slide, Positive ..... **15.00**  
**002-41N** Depth of Modulation Slide, Negative ..... **15.00**  
**002-43\*** Full-Field Color Bar Slide ..... **65.00**

## 16MM BLACK & WHITE ALIGNMENT FILM

The PORTA-PATTERN 16mm Alignment Film contains the Chess Board Image to be used as a universal test film for operational alignment and evaluation of Telecine projector optical resolution and geometry, film transport jitter and weave, and travelling ghosts.

## 16MM BBC #61P TYPE COLOR FLESH TONE REFERENCE FILM

The PORTA-PATTERN 16mm Color Flesh Tone Reference Film contains the BBC #61P TYPE Image to be used for subjective evaluation of 16mm Color Telecine systems.

**005-10** 16mm Black & White Chess Board Alignment Film, 50 Feet. . . **\$130.00**  
**005-12** 16mm BBC #61P Type Flesh Tone Reference Film Loop, 10 Feet ..... **100.00**  
**005-20** 35mm B & W Chess Board Aspect Ratio Transfer Alignment Film, 100 Feet ..... **395.00**

## SPHERICAL TRANSPARENCY ILLUMINATOR

The PORTA-PATTERN Spherical Transparency Illuminator provides a laboratory-type test standard in a practical, video-oriented test package. It is a unique approach to 8" x 10" format transparency illumination for testing, set-up and evaluation of color television camera systems.

A wide range of ultra-stable color temperatures and illumination levels are easily achieved by the use of two front panel controls. The modified 20" integrating sphere produces a flat illumination field throughout a cone angle of greater than 20 degrees without any additional adjustments.

The light source is a low-voltage, regulated DC controlled quartz iodine lamp that assures a constant color temperature independent of AC line variations. This light source illuminates the interior of the sphere, which is coated with high efficiency Eastman BaSO4 sphere coating.

The illumination level is varied by adjusting the light source position inside the sphere, employing the principle of the inverse square law. A precision lamp position assembly, controlled by a numerically calibrated, vernier knob, enables the selection of established illumination levels without the use of a light meter.

Constant color temperature is achieved by the regulated DC power source, which is controlled by a front panel adjustment and is calibrated by an easily read meter.

The PORTA-PATTERN Spherical Transparency Illuminator mounts on any light stand that will accept an 1 1/2" stud. The unit includes a yoke, hood and transparency holder and 10-foot power cord.



**010-10** Spherical Transparency Illuminator, including Hood, Yoke and spare lamp, 117 Volt, 60 Hz ..... **\$2825.00**  
 Same as above, 230 Volt, 50 Hz ..... **2825.00**  
*Note: Above Illuminators shipped via COLLECT AIRFREIGHT ONLY*  
**010-60** Vinyl coated nylon fitted dust cover ..... **140.00**  
**010-75** Test Bench Mount ..... **60.00**  
**010-99** 12 Volt, 50 Watt Replacement Lamp for above ..... **17.50**

## 8" x 10" ILLUMINATOR TRANSPARENCIES

The PORTA-PATTERN 8" x 10" Transparencies represent advanced state-of-the-art technology using emulsions high-impact acrylic. The Geometric Images are direct reading to the camera. There is no glass between the Camera Lens and the Image to cause distortion or light loss. The elimination of the normal "sandwich" type of construction prevents buckling of the image surface and moisture collection.

This all acrylic construction eliminates the danger and high cost of breakage under normal operating conditions. Neither image emulsion nor acrylic base is subject to heat distortion or damage under usual operating conditions.

Highest quality photographic reproduction insures accurate resolution and maximum and minimum density stability. Dimensional stability and resolving power are in excess of 0.010 percent. All Geometric Image transparencies include tube scan information to aid in camera set-up. Geometric Images are available in standard positive image transparencies or negative image transparencies for lower Average Picture level.

**006-20** Hardwood Transparency Case, 10 Transparency Capacity ..... **\$150.00**  
**006-24P** Resolution Transparency, Positive ..... **165.00**  
**006-24N** Resolution Transparency, Negative ..... **172.50**  
**006-25P** Linearity (Ball) Transparency, Positive ..... **165.00**  
**006-25N** Linearity (Ball) Transparency, Negative ..... **172.50**  
**006-26P** Registration Transparency, Positive ..... **165.00**  
**006-26N** Registration Transparency, Negative ..... **172.50**  
**006-27** Nine-Step Log Grey Scale Transparency ..... **240.00**  
**006-30P** BBC Zone Plate Transparency, 525 Line, Positive ..... **165.00**  
**006-31P** BBC Zone Plate Transparency, 625 Line, Positive ..... **165.00**  
**006-32P** Multi-Burst Transparency, Positive ..... **165.00**  
**006-32N** Multi-Burst Transparency, Negative ..... **172.50**  
**006-33P** Window Transparency, Positive ..... **165.00**  
**006-33N** Window Transparency, Negative ..... **172.50**  
**006-34P** Chess Board Transparency, Positive ..... **165.00**  
**006-34N** Chess Board Transparency, Negative ..... **160.00**  
**006-36** BBC #61P Type Flesh Tone Reference Transparency ..... **190.00**  
**006-37P** Pulse Bar Camera Transparency, Positive ..... **180.00**  
**006-37N** Pulse Bar Camera Transparency, Negative ..... **187.50**  
**006-38P** CCIR Linearity (Ball) Transparency, Positive ..... **165.00**  
**006-38N** CCIR Linearity (Ball) Transparency, Negative ..... **172.50**  
**006-39P** Auto-Registration Transparency, Positive ..... **165.00**  
**006-39N** Auto-Registration Transparency, Negative ..... **172.50**  
**006-40P** Lens Focus Transparency, Positive ..... **165.00**  
**006-40N** Lens Focus Transparency, Negative ..... **172.50**  
**006-42P** Line Resolution Transparency, Positive ..... **165.00**  
**006-42N** Line Resolution Transparency, Negative ..... **172.50**  
**006-43** Full-Field Color Bar Transparency ..... **190.00**  
**006-44** Eleven-Step Log Grey Scale Transparency ..... **275.00**  
**006-45P** Depth of Modulation Transparency, (Rev. 1984), Positive ..... **165.00**  
**006-45N** Depth of Modulation Transparency (Rev. 1984), Negative . . . **172.50**  
**006-46P** RCA P-200 Resolution Transparency ..... **180.00**  
**006-47P** RCA P-300 Resolution Transparency ..... **180.00**

# PORTAVIDEO INTERNATIONAL, INC.

1930 W. 3rd St. P.O. Box 22130  
 Temple, AZ 85282  
 (602) 894-1222  
 (800) 528-3350

# VHS VIDEOCASSETTE PLAYER/ VIDEO PRESENTATION SYSTEM



VP-3100



VP-7700/7700A

## VP-3100 VHS Videocassette Player

- Portable—The structurally integrated handle on the tamperproof hardcase allows the VP-3100 to be carried like a briefcase
- Compact design—Saves space and is small enough to fit under an airline seat
- Lightweight—Allows user to carry without fatigue
- Vidclear—Eliminates noise bars and distortion in the still mode for jitter free picture quality
- Automatic rewind—Automatically rewinds at the end of the tape
- Tape counter and reset button
- Soft eject mechanism
- Dew and power indicator lamps
- Soft touch controls
- Video and audio outputs

## Vented Protective Hardcase

The VP-3100 is designed and engineered to be played inside the protective case. The vent slots located on the top and bottom of the case will prolong the life of the player by allowing it to remain cool during operation. Connection, operation and troubleshooting instructions are printed on the hardcase making operation simple for rental and business users.

## Unique Quick Connector

The exclusive quick connector (patent pending) system makes connection to a television or monitor a snap. No screwdriver is necessary for screw terminal installations. Simply squeeze the metal prongs together, slip them between the posts, release, and the hook up is complete.

## Applications

Rental Stores  
 Seminars  
 Conventions  
 Schools  
 Libraries  
 Sales Presentations

Training  
 Recruitment  
 Internal Communications  
 Point of Purchase  
 Self-Improvement Programs  
 Do-It-Yourselfers

## Specifications

<b>Playback System:</b>	Twin heads, Helical Scanning System
<b>Video Signal:</b>	525 lines, 60Hz standard TV signal
<b>Tape Width:</b>	1/2" (12.7mm)
<b>Tape Speed:</b>	33.4mm/sec.
<b>Playback Time:</b>	Up to 2 hours, 40 minutes/T-160 tape
<b>Usable Tape:</b>	VHS pre-recorded videocassette
<b>RF Output:</b>	VHF ch-3 or 4
<b>Video Output:</b>	1V p-p, 75 ohm unbalanced
<b>Horizontal Resolution:</b>	240 TV lines for VHS standard recorded tapes
<b>Video S/N:</b>	43dB
<b>Audio Output:</b>	Line output; -5dB (1K ohm)
<b>Audio Frequency Response:</b>	100Hz to 10kHz
<b>Audio S/N:</b>	40dB
<b>Operating Temperature:</b>	40°F to 106°F (5°C to 40°C)
<b>VP-3100</b>	<b>\$299.00</b>

## VP-7700/7700A Portable VHS Videocassette Player With 5" Color TV/Monitor

- Portable: Designed to be carried/handled as easily as a briefcase
- Compact Design: For presentations around the corner or around the world, the VP-7700 allows easy carry on to any airline
- Lightweight: Easy to carry without fatigue/strain
- Color Tuner: Fully functional monitor allows crisp, clear high quality video or use video output to 5" screen and/or to larger screen TVs and monitors
- Videocassette Player: Plays standard 1/2" VHS tapes
- Protective Hardcase: Engineered and vented to withstand industrial applications and wide temperature variations
- Vidclear: Eliminates noise bars and distortion in still mode for jitter free picture quality
- Automatic Rewind
- Still Frame
- Soft Eject Mechanism
- Video and Audio Outputs
- Soft Touch Microprocessor Controls
- Built-in RF Modulator

## Specifications

<b>Playback System:</b>	Twin head, Helical Scanning System
<b>Video Output:</b>	NTSC color, standard 1/2" VHS cassette, 1V p-p, 75 ohm, unbalanced
<b>Video Signal:</b>	525 lines, 60Hz standard TV signal
<b>Playback Time:</b>	Up to 2 hours, 40 minutes/T-160 tape, 33.4mm/sec
<b>RF Output:</b>	VHF ch-3 or ch-4
<b>Horizontal Resolution:</b>	240 TV lines for VHS standard pre-recorded tapes
<b>Audio Output:</b>	Line output; -5dB (1K ohm)
<b>Audio Frequency Response:</b>	100Hz to 10kHz
<b>Audio S/N:</b>	40dB
<b>Operating Temperature:</b>	40° F to 106° F (5° C to 40° C)
<b>Dimensions:</b>	6" H x 22" W x 16" D
<b>Weight:</b>	29 lbs.
<b>Power Source:</b>	120VAC, 60Hz
<b>Picture Tube:</b>	5" diagonal-lintron plus tube 12.8 square inches, 90°
<b>VP-7700</b>	<b>\$595.00</b>
<b>VP-7700A With Auto Replay</b>	<b>745.00</b>

# POWER-SONIC CORP.

3106 Spring St.  
P.O. Box 5242  
Redwood City, CA 94063  
(415) 364-5001 Telex: 34-8400

# BATTERY PACKS

## Rechargeable Video Battery Packs

- Suspended Electrolyte
- Leak Proof
- Easy Handling
- High Discharge Rate
- Compact and Rugged
- Extended Shelf Life

Power-Sonic rechargeable batteries are lead dioxide systems. The dilute sulphuric acid electrolyte is suspended and thus immobilized. Should the battery be accidentally overcharged producing hydrogen and oxygen, special one-way valves allow the gases to escape avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof, and usable in any position.



Replaces Panasonic LCR3012 VPB  
and JVC PBP1

**PS-1230/L**  
Nominal Voltage: 12V  
Nominal Capacity: At 150mA (20 hr. rate) 3.0AH  
At 500mA (5 hr. rate) 2.5AH  
At 1800mA (1 hr. rate) 1.8AH  
Weight: 2.9 lbs. (approx.)  
Dimensions: 9.37" x 2.56" x 1.26"  
Termination: 2.5mm I.D. DC power plug on 4" lead  
**PS-1230/L** .....\$45.00

**PS-1260PBR (12V-6AH)**  
Case: Leatherette (brown)  
Dimensions (approx.): 4.48" x 2.75" x 9.25"  
Weight (approx.): 6.5 lbs.  
Output: 12VDC, 6.0AH  
Through standard cigarette lighter receptacle  
Input (Charger): 120VAC at 60Hz  
Charger with cigarette lighter termination is rated at 500mA and is U.L. and CSA listed  
Safety Feature: 10A circuit breaker automatically resettable  
**PS-1260PBR** .....\$55.00



Replaces PB20A

**PS-1230/20A**  
Nominal Voltage: 12V  
Nominal Capacity: At 150mA (20 hr. rate) 3.0AH  
At 500mA (5 hr. rate) 2.5AH  
At 1800mA (1 hr. rate) 1.8AH  
Weight (approx.): 3.1 lbs.  
Dimensions: 5.25" x 5.00" x 1.30"  
Termination: 2.1mm I.D. DC power plug on 10" lead  
**PS-1230/20A** .....\$53.00



Replaces BP60

**PS-1230/60**  
Nominal Voltage: 12V  
Nominal Capacity: At 150mA (20 hr. rate) 3.0AH  
At 500mA (5 hr. rate) 2.5AH  
At 1800mA (1 hr. rate) 1.8AH  
Weight (approx.): 3.1 lbs.  
Dimensions: 2.62" x 2.62" x 5.00"  
Termination: 2.1mm I.D. DC power plug on 4" lead  
**PS-1230/60** .....\$55.00

Replaces Panasonic LCR1812, RCA 149722  
Hitachi BP60, 65 and others



**PS-1220/L**  
Nominal Voltage: 12V  
Nominal Capacity: At 100mA (20 hr. rate) 2.0AH  
At 320mA (5 hr. rate) 1.6AH  
At 1300mA (1 hr. rate) 1.3AH  
Weight (approx.): 1.6 lbs.  
Dimensions: 8.00" x 1.00" x 2.42"  
Termination: 2.5mm I.D. DC power plug on 10" lead  
**PS-1220/L** .....\$43.00  
**PS-1220LCS** With Pressure Contact Plug .....45.00

**PS-12120PBR (12V-12AH)**  
Case: Leatherette (brown)  
Dimensions (approx.): 8.54" x 2.75" x 9.25"  
Weight (approx.): 12 lbs.  
Output: 12VDC, 12.0AH  
Through standard cigarette lighter receptacle  
Input (Charger): 120VAC at 60Hz  
Charger with cigarette lighter termination is rated at 800mA and is U.L. and CSA listed  
Safety Feature: 10A circuit breaker automatically resettable  
**PS-12120PBR** .....\$75.00



# PRIME IMAGE, INC.

19943 Via Escuela  
Saratoga, CA 95070  
(408) 867-6519

# TIME BASE CORRECTORS

## TBC+ /TBC•Sync+ Time Base Correctors

- True color lock — full reverse, 5X forward, stop scan and slow motion
- Full 16 line, 8 bit system
- Compatible with dynamic tracking VTRs
- Front panel set up adjustments
- RF and TTL dropout correction
- Advanced vertical steering
- Genlock — stand alone operation
- Corrected output meets full RS-170A specs
- Super efficient construction constructed of steel
- Incorporate a unique air intake and cooling system
- Occupy only 1<sup>3</sup>/<sub>4</sub>" vertical rack space
- Weighs only 16 lbs. (TBC+) and 18 lbs. (TBC•Sync+)
- Requires only 50-55W

## Plus—Digital Effects

Standard operator selectable, in channel digital effects for variable mosaic, posterization, and sepia tone enhancement of the video image. These effects may be used individually or in any combination and are adjustable over the full picture level range.

## TBC•Sync+

Incorporates all of the features of the TBC+, plus provides for frame or field synchronization between synchronous and asynchronous sources. TBC•Sync+ also provides for non-V locked recorders to be edited or mixed with camera or recorder inputs.

## DUB•TBC+ DUB Mode Corrector

The DUB•TBC+ provides up to twelve generations of clearer, crisper video tape copies for all commonly used dub mode video tape recorders having Y/C688 or R-Y/B-Y type capabilities. The DUB•TBC+ removes time base error and avoids degradation due to excessive signal processing—avoids up to four major encoding-decoding degrading processing steps for each generation of copying.

## Specifications

### Interface

TBC+ and TBC•Sync+ systems are designed to work with NTSC type 525 line, 60Hz field inputs. Corrected outputs conform to EIA RS-170A requirements and may be referenced to external genlock sources.

**Video In:** 1V p-p, 75 ohms, BNC  
**Genlock In:** High impedance, looping, 2 BNCs  
**DOC In:** RF or TTL, 100mV min., BNC  
**Vertical Sync In:** Composite sync, 300mV min., BNC  
**Video Out 1:** 1V p-p, 75 ohms, BNC (output may be bypassed)  
**Video Out 2:** 1V p-p, 75 ohms, BNC (monitor output)  
**Advance Sync Out:** 1V p-p, 75 ohms, BNC (not required for TBC•Sync+)

### Performance

**Window:** 16 horizontal lines (TBC+)  
**Bandwidth:** 4.2MHz  
**Signal-to-Noise Ratio:** 56dB  
**Differential Phase:** 2°  
**Differential Gain:** 2%  
**K Factor:** 3%  
**Sampling:** 8 bit Luma; 8 bit Chroma  
**Residual Timebase Error:** ± 15nsec



## TBC•Sync+ Only

**Window:** Full TV frame  
**Operational Controls & Indicators**  
**Power Switch (on/off):** 2 position rear panel rocker  
**Video Level (Preset Switch):** ± 3dB  
**Color Level (Preset Switch):** ± 3 to -60dB  
**Setup Level (Preset Switch):** ± 10 IRE units  
**Hue (Preset Switch):** ± 45°  
**Video Level Indicator:** 7 LEDs (4 yellow, 1 green, 2 red)  
**Genlock Indicator:** LED (green)  
**Posterization Control:** Pull-on, rotate for magnitude  
**Sepia Switch:** Pull-on/push-off  
**Mosaic Control:** Pull-on, rotate for magnitude  
**Bypass Switch:** 2 position, push-on/push-off  
**Horizontal Phase Adjust:** ± 1µsec, trimpot  
**Burst Phase Adjust:** ± 120nsec, trimpot  
**TBC•Sync+ Only**  
**Freeze Switch:** Select "off/freeze frame/freeze field"  
**Strobe Control:** Variable strobe rate up to 5 sec intervals

## Environmental

**Operating Temp.:** +32°F (0°C) to +113°F (45°C)  
**Operating Humidity:** 10% to 95% RH, non-condensing  
**Power Supply:** 117VAC, ± 10%, 60Hz  
**Power Dissipation:** 50W (TBC+)  
 55W (TBC • Sync+)  
**Height:** 1.75" (4.45cm)  
**Width:** 19" (48.3cm)  
**Depth:** 15" (38.1cm)  
**Weight:** 16 lbs. (TBC+)  
 18 lbs. (TBC•Sync+)

100-000 TBC+ with digital effects . . . . .	\$5,555.00
150-000 TBC+ without digital effects . . . . .	3,990.00
160-000 DUB•TBC+ without digital effects . . . . .	5,200.00
165-000 DUB•TBC+ with digital effects . . . . .	6,200.00
200-000 TBC•Sync+ with digital effects . . . . .	8,888.00
250-000 TBC•Sync+ with limited digital effects . . . . .	6,666.00
Upgrade TBC+ without digital effects	
to full TBC+ with digital effects . . . . .	1,850.00
Upgrade TBC•Sync+ without digital effects	
to full TBC•Sync+ with digital effects . . . . .	2,500.00
Optional dynamic tracking connector for	
Sony BVU820 type VTR . . . . .	100.00
Optional additional maintenance or operating	
manual . . . . .	100.00

# PRO-TAPES AND SPECIALTIES

832 8th Ave.  
New York, NY 10019  
(212) 586-8873 (800) 345-0234  
Telex: 17-8102 PROTAPE

# TAPES

## Pro-Gaffer™ Gaffer Tape

Pressure sensitive vinyl cloth tape. Applications include: securing and holding overhead lighting, stage blocking and spiking, set and stage decoration, audio wire hold-down. Comes in silver, black, white, brown, blue, green, red, yellow.

Product	Std. Roll Size	Price Per Roll
Pro-Gaffer	1 x 60	\$ 5.11
	2 x 60	10.22
	3 x 60	15.35
	4 x 60	20.44
	6 x 60	30.66
Short Lengths	2 x 12	2.19
	2 x 30	5.18

## Gaffer Tape

Vinyl impregnated, premium cloth tape. Non-reflective, non-skid backing. Hi-temp adhesive. For holding overhead lights. Other holding and securing applications. Silver and black.

Product No. & Description	Roll Length	Width Inches	Price Per Roll
Gaffer Tape Silver, Black, Permacel	60 yds.	3/4	\$ 6.53
		1	7.98
		2	15.95
		3	23.93
		4	31.91
Gaffer Tape Silver, Black	*30 yds.	2	12.15
Short Lengths	*12 yds.	2	4.54

## P68 Colored Gaffer Tape

13 brilliant colors. Used for color coding cable, stage blocking, set and stage decoration, repairs and mending.

Product No. & Description	Roll Length	Width Inches	Price Per Roll
Colored Gaffer Tape, P68	60 yds.	1/2	\$ 6.80
Colors: Brown, Blue, Green		3/4	9.27
Red, Olive Drab, Orange, White		1	11.56
Yellow, Black, Burgundy		2	23.13
	*30 yds.	2	15.67

\*Short Length Rolls of Gaffer Tapes Available in 2" Width Only

## Pro-Sheen™ Metallic Film Tapes

A highly decorative tape designed for stage and set decoration, high visibility, metallic finish. Durable adhesive system, 6 colors.

Product	Std. Roll Size	Price Per Roll
Pro-Sheen,	1/2 x 72 yd.	\$ 5.19
Silver, Gold,	3/4 x 72 yd.	7.34
Copper,	1 x 72 yd.	8.63
Metallic Red,	2 x 72 yd.	17.26
Metallic Blue,	3 x 72 yd.	25.89
Metallic Green	6 x 72 yd.	51.78

## Camera Tape

Waterproof, premium vinyl cloth. Printable with marker or grease pencil. Used to seal and protect, label film cans.

Product No. & Description	Roll Length	Width Inches	Price Per Roll
Camera Tape White Waterproof	60 yds.	1/2	\$ 7.56
		3/4	9.27
		1	11.56
		2	23.13

## Glow Tape

Glow in the dark phosphorescent vinyl tape. Used to mark dark areas in theaters and darkrooms.

*Standard Roll Size	Price Per Roll
1 x 5	\$ 4.54
2 x 5	9.09
3 x 5	13.63
1 x 10	9.09
2 x 10	18.18
3 x 10	27.26

\*Special Sizes and Shapes Available Upon Request.

## Paper Tapes

Product No. & Description	Roll Length	Width Inches	Price Per Roll
Pro-Mask™	60 yds.	3/8	\$ .55
General Purpose Masking Tape		1/2	.73
		3/4	.90
		1	1.17
		2	2.34
Pro-Mask	60 yds.	1/2	1.57
Black Paper Masking		3/4	1.96
		1	2.61
		2	5.22
P-743 Opaque	60 yds.	3/4	5.17
Black Photo Matte Finish		1	6.75
		2	13.50
P786 Premium Masking Tape	60 yds.	1/4	1.23
		1/2	1.47
		3/4	1.78
		1	2.32
P-787 Masking Tape Medium Temp. Stain Resistant	60 yds.	3/4	1.21
		1	1.63
		2	3.27
Can-Tape	60 yds.	1/4	.85
Prem. Colored Paper Tape		3/8	1.18
White, Red, Blue, Green, Yellow		1/2	1.53
Orange		3/4	2.17
		1	2.77
		2	5.55

# PROTON CORP.

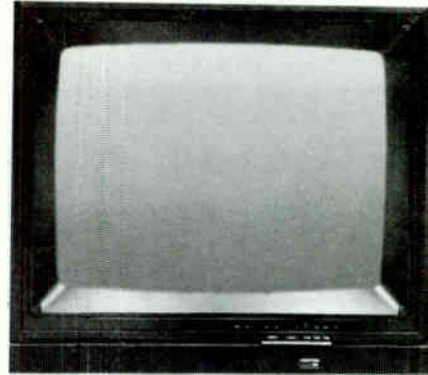
737 W. Artesia Blvd.  
Compton, CA 90220  
(213) 638-5151 Telex: 18-2391 FULET INT TRNC  
(800) 428-1006 CA  
(800) 772-0172

# MONITORS/ MONITOR/RECEIVERS

## 625 25" Stereo Color Monitor/Receiver

- Built-in MTS Stereo/SAP Decoder • 139-channel tuning capability • On-screen channel display • 16-color RGB input
- Dual speakers • Full function remote control • Multiple audio and video inputs and outputs • Last channel recall feature
- On/off sleep timer • 3.58MHz trap • Video noise reduction system • Horizontal resolution in excess of 380 lines • Low overscan (5%) • Black level compensation • High (95%) DC restoration • Comb filter • 85-140VAC power supply • Compact design with black cabinet

**625** .....\$1099.00

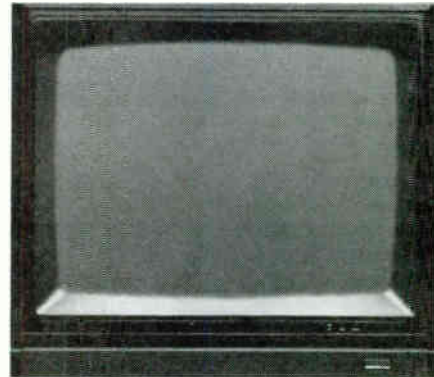


625

## 602M 25" NTSC Color Video Monitor

- Low overscan (typically 5%) for up to 15% more of the image • Stable power supply and DC restoration for truer blacks and brilliant whites • Geometric linearity (typically 99.3% accurate) for straighter lines and more precise shapes • Deflection yoke assures excellent convergence • Video bandwidth greater than 4.7MHz for horizontal resolution in excess of 380 lines • Pure black cabinet for enhanced picture quality • High performance comb filter • Automatic shutdown • Separate video/audio inputs • RGB input • 10W stereo amplifier • Video output

**602M** .....\$899.00



602M

## VT-210 20" Stereo Flat Screen Monitor Receiver

- High contrast flat square picture tube • 500 lines of resolution • Video noise reduction (VNR™) • High frequency double-differential video peaking circuit • Highly regulated power supply • High fidelity stereo sound • MTS stereo/SAP decoder • RGB input • 3.58MHz trap defeats RGB "Chroma Beat" interference • Remote control • 3 sets of A/V inputs/outputs • Sculptured all black cabinet

**VT-210** .....\$899.00



VT-210

## 619A 19" Stereo Color Monitor/Receiver

- Horizontal resolution in excess of 370 lines • Built-in MTS Stereo/SAP Decoder • 139-channel tuning capability • Last channel recall feature • Full-function infrared remote control for random channel access, dual direction channel scanning or channel step up/down selection • Two RF input sources • Two composite video inputs • Noise reduction system • High frequency double differential video peaking • Comb filter • Black level compensation • Automatic brightness and contrast limit • Two sets of audio, inputs/outputs • Compact design with black cabinet

**619A** .....\$749.00

## 600M 19" Color Monitor

- Horizontal resolution—370 lines for greater depth • More clarity • Low overscan • Black level stabilization • Automatic brightness and contrast limit • Optimum Picture Control (OPC) • Defeatable automatic color control • Built-in stereo amplifier • Built-in volume control • Video and audio inputs and outputs • Standby mode • High frequency double-differential • Video peaking circuit • Highly regulated power supply

**600M** .....\$549.00



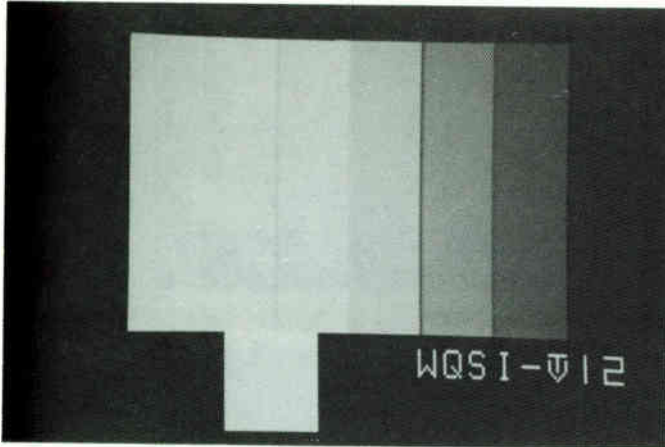
600M



# QSI SYSTEMS, INC.

12 Linscott Rd.  
Woburn, MA 01801  
(617) 938-1403

# VIDEO SOURCE IDENTIFIERS



## BG-308/BG-316 Color Bar Generators

- 1kHz audio test tone
- Internally switchable for either constant display or flashing mode
- Split-field NTSC bars patterns

BG-308 is a split-field color bar generator with a field programmable 8 character video source identifier positioned in the black block of the split-field pattern. The BG-308, one rack unit high, is perfect for the microwave equipped ENG truck.

### Specifications

<b>Video Output</b> (color bar with 8 character ID):	1V p-p, 75 ohm source terminated, BNC connector
<b>Blackburst Output:</b>	75 ohm source terminated, BNC connector
<b>Pulses:</b>	Within RS-170 specifications
<b>Subcarrier:</b>	3.579545MHz $\pm$ 10Hz, 0-50°C
<b>Vector Accuracy:</b>	Within 1.5°
<b>Audio Output:</b>	Internally adjustable 0 to 8dBm, 600 ohms balanced, transformer isolated, male XLR
<b>Tone:</b>	1kHz sinewave, distortion < 3%
<b>Power:</b>	117VAC, 2W
<b>Size:</b>	1 $\frac{3}{4}$ " H x 19" W x 12" D. Rackmount
<b>BG-308</b> .....	\$1695.00
<b>BG-316</b> Same as BG-308 but with 16 character ID .....	1895.00

## VSID-82 Video Source Identifier

- Switch selected 5 x 7 or 7 x 9 matrix
- Eight easily programmed alphanumeric characters
- Adjustable mattes
- Switchable background delete
- Line by line vertical positioning
- Adjustable horizontal and vertical size

Developed for security, broadcast, medical and industrial applications, the VSID-82 provides an efficient and effective visual indicator of video signal's identity. The VSID-82 generates eight alphanumeric characters and inserts them into a composite video signal. The ID is movable anywhere on-screen or into the vertical interval, with separate controls for character and background matte levels. It can also be adjusted for several sizes.

Switches on the board allow the user to select either a 5 x 7 or a 7 x 9 character matrix and, if desired, to delete the full-surround background. Because the ID is programmed with DIP switches, it can be easily changed at any time, even in the field.

### Specifications

<b>Power:</b>	5VDC at 500mA per card
<b>Size:</b>	$\frac{5}{8}$ " H x 4 $\frac{1}{2}$ " W x 9" D
<b>Video Input:</b>	1.0V p-p nominal, on board termination
<b>Video Output:</b>	Adjustable to 1.0V p-p, 75 ohm source terminated
<b>Frequency Response:</b>	$\pm$ .5dB to 8MHz
<b>Differential Gain:</b>	< 0.5%
<b>Differential Phase:</b>	< 0.5°
<b>Display Size:</b>	Horizontally adjustable from $\frac{1}{4}$ to full screen. Vertically adjustable, three sizes per matrix. Character heights of 14, 28, and 42 raster lines in 5 x 7; 18, 36, and 54 raster lines in 7 x 9.



## VSID Series Video Source Identifier — Dual Matrix

<b>Unit</b>	
<b>VSID-82/101</b>	Single Card in Rack Frame . . . . \$1375.00
<b>VSID-82/101BX</b>	Same as above, except with remote data input . . . . .1675.00
<b>VSID-83/102</b>	Double Card in Rack Frame . . . . .2095.00
<b>VSID-82/102BX</b>	Same as VSID-82/102, except with dual remote data inputs . . . . .2595.00
<b>VSID-82/103</b>	Triple Card in Rack Frame . . . . .2850.00
<b>Cards</b>	
<b>VSID-82</b>	Single Card . . . . . \$595.00
<b>Frame with Power Supplies</b>	
<b>VSID-82/195RMPS</b>	Sixteen (16) Card Frames. . . . . \$1995.00
<b>Systems Support Equipment</b>	
<b>"X" Board</b>	Universal Extender Board for Frames . . . . . \$99.95

# QSI SYSTEMS, INC.

12 Linscott Rd.  
Woburn, MA 01801  
(617) 938-1403

# COLORBAR GENERATOR/ VIDEO SOURCE IDENTIFIERS

## CB-2440 SMPTE Colorbar Generator/Video Source Identifier

• SMPTE colorbar pattern • Genlockable • Automatic switchover to internal synchronization upon loss of genlock signal • 24 character ID • 40 separate IDs in memory with minimum 72 hours battery back-up • ID inserted in VBI of input program video • Switchable 1kHz stereo test tone, locked out in live mode • 2 blackburst outputs and 1 isolated colorbar output • LED status indicators for genlock, ID programming and tone generators • 1 rack unit high

### Specifications

**Colorbar**  
**Output:** 1V p-p, blanking at 0VDC, 75 ohm source terminated  
**Pattern:** SMPTE  
**Pulse Widths:** Within RS-170 specifications  
**Subcarrier Frequency:** 3.579545MHz  $\pm$  10Hz from 10° to 50°C ambient, front panel adjustable  
**Vector Accuracy:** Within 1.5°

**Blackburst**  
**Outputs:** 2, 75 ohm source terminated, blanking at 0VDC  
**Pulse Widths:** Within RS-170 specifications  
**Subcarrier Phase:** Adjustable  $\pm$  30° to match colorbars

**Genlock**  
**Input:** Front panel switchable  
**Input:** 75 ohm terminated, composite video  
**H Phase:** Front panel adjustable  $\pm$  1 $\mu$ s minimum  
**Subcarrier Phase:** Front panel adjustable over 360° range  
**Indicator:** Red LED

**Audio**  
**Tones:** Left and right 1000Hz tones 600 ohm balanced, transformer isolated, individually switchable from front panel  
**Indicators:** Red LEDs  
**Tone Levels:** Internal jumper selection of 0, 4, or 8dB attenuation on each tone, adjustable to +10dB, factory set at +8dB

**Inputs:** L and R balanced, relay switched to outputs with BARS/LIVE switch in LIVE mode

**Identifier**  
**Input:** 1V p-p nominal, internal 75 ohm termination  
**Display Length:** 24 characters maximum  
**IDs in Memory:** 40 maximum  
**Display Modes:** Two, active area over internal colorbars, and vertical interval over external video, selected with BARS/LIVE switch



CB-2440

**Character Display — Active area:** ASCII 64 character, 7 x 9 matrix, full surround black background  
**Display Size:** Vertically and horizontally adjustable within the active area  
**Character Matte:** Internally adjustable from 60 to 110 IRE. Factory set at 78 IRE

**Character Display — Vertical Interval:** ASCII 64 character, 5 x 7 matrix insert horizontally adjustable, vertically fixed at 7 lines with adjustable start selection  
**Character Matte:** Internally adjustable from 30 to 70 IRE. Factory set at 45 IRE

**Output:** Selection between colorbars or external video with the BARS/LIVE switch 75 ohm source terminated, 1V p-p nominal  
**Differential Gain:** < 0.5%  
**Differential Phase:** < 0.5°  
**Frequency Response:**  $\pm$  0.5dB, to 8MHz  
**Tilt and Overshoot:** < 1%  
**Hum and Noise:** -60dB below 1V p-p

**Mechanical**  
**Video Connectors:** BNC  
**Audio Connectors:** Output—3 pin male XLR, input—3 pin female XLR  
**Size:** 3/4" H x 19" W x 16" D  
**Weight:** 9.5 lbs.  
**Power:** 117VAC  $\pm$  15%, 50/60Hz, 22VA

CB-2440 . . . . . \$3495.00

## 2400 Satellite Video Identifier

• No decoder required • Convenient, quick change numerics • Locking toggle switch for mode selection • Front panel numeric readouts • Excellent video transparency • Only one rack unit high

### Specifications

**Display Size and Position:** **In Active Area** 7 x 9 matrix, 18 lines per field, positionable within the active area  
**Video Input:** 1V p-p nominal, 75 ohm internal termination  
**Video Output:** Unity gain, 75 ohm source terminated  
**Differential Phase:** < 0.5°  
**Differential Gain:** < 0.5%  
**Frequency Response:**  $\pm$  0.5dB to 8MHz  
**Tilt and Overshoot:** < 1%  
**Hum and Noise:** -60dB below 1V p-p

**In All Modes**  
**Video Display:** 24 characters in a 10 numeric, 12 alphanumeric and 2 numeric format  
**Character Programming:** Numeric: 3 front panel touch buttons. Alphanumeric: one internal switch bank per character.  
**Automatic Bypassing:** Direct relay bypassing from video input to video output on power loss  
**Front Panel Controls:** Locking toggle switch for Active Area/Vertical Interval. Touch buttons for Cursor, Count and Access.  
**Front Panel Displays:** 10 digit numeric LEDs for Telephone Number, 2 digit numeric LEDs for Code  
**Internal User Controls:** 2 16-position rotary switches (Fine and Coarse) for vertical positioning. 12 6 bit Dip switches for alphanumeric character programming.

**Power:** 117VAC, 50/60Hz, 13VA. Rear panel mounted power switch and fuseholder  
**Mechanical:** Size 1 3/4" H x 19" W x 12" D, rackmountable

**In Vertical Interval** 5 x 7 matrix, 7 lines per field, fixed on lines 10 through 16  
1V p-p nominal, Hi-Z looping to video output  
Hi-Z looping to video input  
< 0.1°  
< 0.1%  
Flat to 8MHz  
None  
-60dB below 1V p-p



2400

2400 Satellite Video Identifier . . . . . \$1995.00

Prices and Specifications Subject to Change Without Notice.

V-907

# QSI SYSTEMS, INC.

12 Linscott Rd.  
Woburn, MA 01801  
(617) 938-1403

# SWITCHER/IDENTIFIER COLOR BAR GENERATOR

## SW-402 Mini-Production Switcher

- One rack-unit high • Four video inputs • Two switchable buses • Dissolve between buses • Two program and two preview outputs • Tally contacts (dry closure)

The SW-402 is a four input, two output mini-production switcher with a simple dissolve feature between the two selected signals. Designed originally to augment the QSI AF-1000 autophasing blackburst generator, the SW-402 can easily be integrated into other systems. The SW-402 is a compact, easy to operate, mini-production switcher—ideal where space and dollars are limited.

### Specifications

- Inputs:** 1V p-p composite, internal termination, BNC  
**Outputs:** 1V p-p, adjustable, two preview, two program, BNC  
**Dissolve:** Between buses  
**Power:** 115VAC ± 10%, 230VAC optional  
**Size:** 1 3/4" H x 19" W x 12" D  
**Tally:** Dry contacts on program bus, 9-pin connector, supplied
- Frequency Response:** ± 0.5dB to 8MHz  
**Differential Gain:** < 0.5%  
**Differential Phase:** < 0.5°  
**Switching:** Vertical interval  
**Sync Source:** Video or black on input #1  
**Weight:** Net weight: 6 lbs.
- SW-402** ..... \$1895.00



SW-402

## PSF-777 Color Bar Generator

- 1kHz audio test tone output • Can be powered by most common camera/VTR—11VDC to 15VDC batteries • Internally selectable for either flashing ID or constant display

PSF-777 is a battery operated split-field colorbar generator with 8 character user programmable video identification in the black block of the split-field bar pattern.

The PSF-777 is perfect for the remote engineer when testing temporary microwave links or long cable runs.

### Specifications

- Video Output (with 8 character ID):** 1V p-p, 75 ohm source terminated  
**Pattern:** Split-field NTSC bars  
**Pulses:** Within RS170 specifications  
**Subcarrier:** 3.579545MHz ± 10Hz, 0-50°C  
**Vector Accuracy:** Within 1.5°  
 Video bypass with power switch off
- Audio Output:** Front panel switchable (transformer isolated)  
 -56dB, 150 ohm balanced; 0dB, +4dB +8dB at 600 ohm balanced
- Tone:** 1kHz Sinewave; distortion < 3%  
**Power:** 11VDC to 15VDC, 120mA
- External Controls:** Power switch; LED indicates power on and low battery (flashing); and 4 position audio level switch
- Mechanical:**  
**Video Connector:** 2 BNC for video in/out  
**Audio Connector:** XLR  
**Power Connector:** 2.1mm coaxial power jack  
**Size:** 3" H x 4.6" W x 8.6" L  
**Weight:** 3.5 lbs. (less battery)

Optional transistor battery pack (2) with 115VAC power adaptor.

- PSF-777** ..... \$1295.00  
**PSF-BAT** Battery board option for PSF-777 ..... .89.95



PSF-777



Vertical Interval ID



PCID-864

## PCID-864 Portable (ENG) Camera Identifier

- 8 characters • Reduces the risk of airing your competitors' signal
- Labels the unit instantly (in the field if desirable) to identify every EJ camera and VTR you have in use—a real time-saver in identifying signal sources • Identifies live news feeds from each helicopter or van when you have more than one crew sending to a steerable antenna • Battery (not included) • Provides at least 32 hours of continuous operation
- ID is internally selectable for active picture area or VBI display
- Weighs 12 oz. with battery • Also has external DC input connector
- Clips on camera operator's belt or pocket • 8" H x 4" W x 1 1/2" D • 9VDC

- PCID-864** ..... \$595.00



# QSI SYSTEMS, INC.

12 Linscott Rd.  
Woburn, MA 01801  
(617) 938-1403

# COUNTDOWN GENERATOR/ VIDEO DISTRIBUTION AMPLIFIER

## VT-7 7 SEGMENT VIDEO LEADER COUNTDOWN GENERATOR

- Selectable expanding size
- Selectable fixed sizes; any one of eight
- Set: Places "10" in screen, no audio
- Count: Countdown starts with "9" and 1/2 second tone burst
- Count video deleted after "2" displayed
- Video bypass on power-down
- Switch selectable 1/2 second flashing characters
- Hold: Stops countdown on last number and silences audio
- Remote inputs for all control functions
- 400Hz Counting Audio, 200Hz Black Cue
- Accepts any composite video input
- Numerals generated in any display area
- Pulse out at "5", "3" and terminal count

The VT-7 Video Leader Countdown Generator provides video and audio tape cueing information at the head end of each program segment. Video cueing is a 1 second interval numerical countdown for 10 seconds, consisting of 8 seconds of displayed numbers and 2 seconds of terminal or no numeral video. Audio cueing is 0.5 second of 400Hz tone burst during the first half display of each new video numeral. The first half second of "2" count contains a 200Hz tone burst, indicating that the terminal video has been reached.

All electronics are rack mounted with Size Flash, Set, Count, and Hold front panel controls. Remote contact closures may be input through the rear panel. Remote inputs are priority.



VT-7

### SPECIFICATIONS

#### MECHANICAL

Size: 19"W x 1-3/4"H x 12"D, Rack Mount

#### CONNECTORS

Video: BNC

Audio: XLR

Remote Control: Terminal Strip

#### ELECTRICAL

Power: 115VAC, 60Hz, 10 watts

Controls: Toggle switches, pushbuttons and external dry closures

#### VIDEO

Input: 1.0Vp-p, 75 ohm terminated

Output: Adjustable to 1.0Vp-p, 75 ohm source terminated

Audio Output: 600 ohm balanced, transformer isolated

VT-7 10 Second Countdown Timer 7 Segment . . . . . \$1395.00

## 6 x 1 UTILITY VIDEO DISTRIBUTION AMPLIFIER

- 1 in x 6 out
- Looped-through input
- Excellent transparency
- Output source terminated in 75 ohms
- Front panel gain and equalization controls

The 6 x 1 DA Video Distribution Amplifier is designed to handle standard utility video distribution for your television system. The 6 x 1 DA is a desk top type distribution amplifier with looped-through video input and six isolated video outputs. The compactness and self-contained power supply makes the VDA highly portable for those tight quarters in your operations.

### SPECIFICATIONS

Size: 4-1/2"W x 2"H x 4-1/2"D

Power: 115VAC, 50/60Hz 5 watts

Optional: 230VAC, 50/60Hz 5 watts

#### VIDEO

Input: Hi-Z looped-through 1.0 VPP

Outputs: 75 ohm source terminated

Frequency Response: 0.5dB to 10MHz

Differential Gain: Less than 0.5%

Output Isolation: 40dB

Equalization: Utility — Single control, approximate compensation of 200-1000 ft. of RG59U coaxial cable.



6 x 1

Noise: Less than 60dB, below 1 VPP

Differential Phase: Less than 0.5°

Propagation Delay: Approximately 10 ns.

Gain: Adjustable from less than unity to greater than +10dB

6 x 1 DA Portable 1 in, 6 out distribution amplifier with front panel control for gain and equalization . . . . . \$350.00

# Q-TV

DIVISION OF Q-CO INDUSTRIES, INC.  
104 E. 25th St.  
New York, NY 10010  
(212) 460-9050

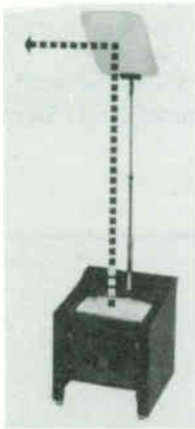
# VIDEO PROMPTER SYSTEMS



Q-TV's/SC Monochrome Video Monitors are 100% solid-state with professional quality features which make them ideally suited for use in high quality display applications. The equipment is designed for operation from either composite video sync signals, or from systems in which external sync is provided. Monitor cabinet construction is steel with a baked, vinyl finish.



A compact, economically priced prompting system that is unmatched in performance, versatility and reliability.



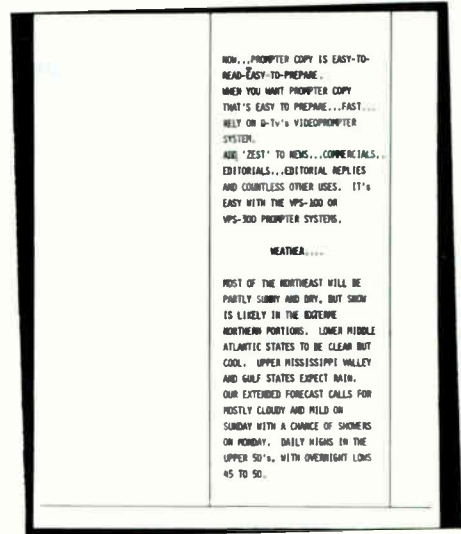
Successful speech presentation starts here with Q-TV's "Speech-Cue" System. Step behind it and you're in total command of your speech material...in total command of your audience. The "Speech Cue" System provides you with the most favorable conditions for "Face-to-Face" communications.

### Executive Speech

#### Prompter Package Includes:

- 1 VPS-100 Console Transport
- 1 Vidicon Camera with lens
- 2 15" Hi-Resolution Prompter Monitor
- 1 25' Coaxial Cable
- 1 10' Coaxial Cable
- 2 Executive Speech Prompter with  
Hi-efficiency transparent two-way glass, aluminum base, matching side panels, locking cap and adjustable rod
- 1 Instruction Manual

**ESP Package . . . . . \$6100.00**



No special prompter paper required...No special prompter ribbons necessary...No special typewriter needed...It all means savings. Use any standard wide bond paper or handy "snap-packs" for typing prompter scripts.

# Q-TV

DIVISION OF Q-CO INDUSTRIES, INC.

104 E. 25th St.  
New York, NY 10010  
(212) 460-9050

# PROMPTERS

## Mini-Q II Prompter

- Hi-efficiency optical reading surface for easy-to-read copy
- Copy reading surface: 9 1/2" x 9 5/8"
- 7 lines of text in reading area for "complete thought" preview
- Shadow-free lighting illuminated by two 50W hi-intensity lamps
- Script capacity: 30'
- No special paper required. Uses standard 8 1/2" wide bond paper
- The compact miniaturized motor is "sound-take" silent
- Miniature variable speed hand control measures 4 1/2" x 1" with 25' cable
- Universal camera mount
- Solid-state circuitry
- Power: 12V battery-pack belt, 5A; or AC to DC power converter
- Weight: 9 lbs. less mount

### Mini-Q II Prompter System includes:

- 1 Mini-Q II Prompter
- 1 Hand Control with 25' Ext. Cable
- 1 Camera Mount
- 1 Power Cable (unterminated)
- 1 Equipment Case
- 1 Instruction Manual

Mini-Q II Prompter . . . . . \$2985.00

### Optional Accessories

DC Power Supply . . . . . \$150.00  
 Prompter Paper, lined, 300' Roll . . . . . 26.50



Mini-Q II

## MVP-9 Mini Video Prompter

- Meets the requirements of the small professional studio
- Simple to operate
- Compact and realistically priced
- Variable speed forward/reverse script drive
- Vidicon pick-up camera
- Can be located in the control room or studio floor
- Houses a lightweight 9" prompter monitor and over-the-lens beam-splitter
- Readable from distances up to 8-10'
- Mounts with adjustable bracket onto the camera pan and tilt head

### MVP-9 System includes:

- 1 VPS-100 Console Transport
- 1 Vidicon Camera with lens
- 1 9" Prompter Monitor with eye-line
- 1 Remote Hand Control
- 1 Prompter Camera Mount
- 1 Instruction Manual

MVP-9 . . . . . \$3950.00



MVP-9

Prices and Specifications Subject to Change Without Notice.



# Q-TV

DIVISION OF Q-CO INDUSTRIES, INC.  
 104 E. 25th St.  
 New York, NY 10010  
 (212) 460-9050

# PROMPTER SYSTEMS

## VPS-100 Console Transport/ VPS-300 Conveyor Transport Prompter Systems

The VPS-100 and VPS-300 prompting systems offer the broadcast industry and its allied fields a versatile, efficient and rapid method for providing prompter copy through a video signal.

Prompter copy is prepared on standard 8 1/2" x 11" single sheets of paper using any manual or electric typewriter. The prompter script is conveniently fed through the aperture of the VPS-100 by means of taping the individual sheets into a continuous roll; or by placing the individual sheets of copy on the conveyor belt of the VPS-300.

Prompter copy is scanned by the Vidicon camera and transmitted to one or more prompter/monitor readouts mounted on or off camera. The prompter script appears as clearly defined copy. Both units are equipped with a remote hand control for easy operator control.

When used with the VPS Eye-Line, prompter copy is superimposed directly over the taking lens of the television camera for direct "eye-to-eye" contact with the viewing audience. The high brilliance image is clearly visible to the speaker but in no way detectable by the camera lens.

### One VPS-100 Prompter System

- 1 VPS-100 Console Transport
- 1 Vidicon Camera w/lens
- 1 15" Prompter/Monitor
- 1 Remote Hand Control
- 1 25' Coaxial Cable
- 1 Prompter Camera Mount
- 1 Camera Balancing Assembly
- 1 VPS Eye-Line
- 1 Instructional Manual

**\$4750.00**

### Two VPS-100 Prompter System

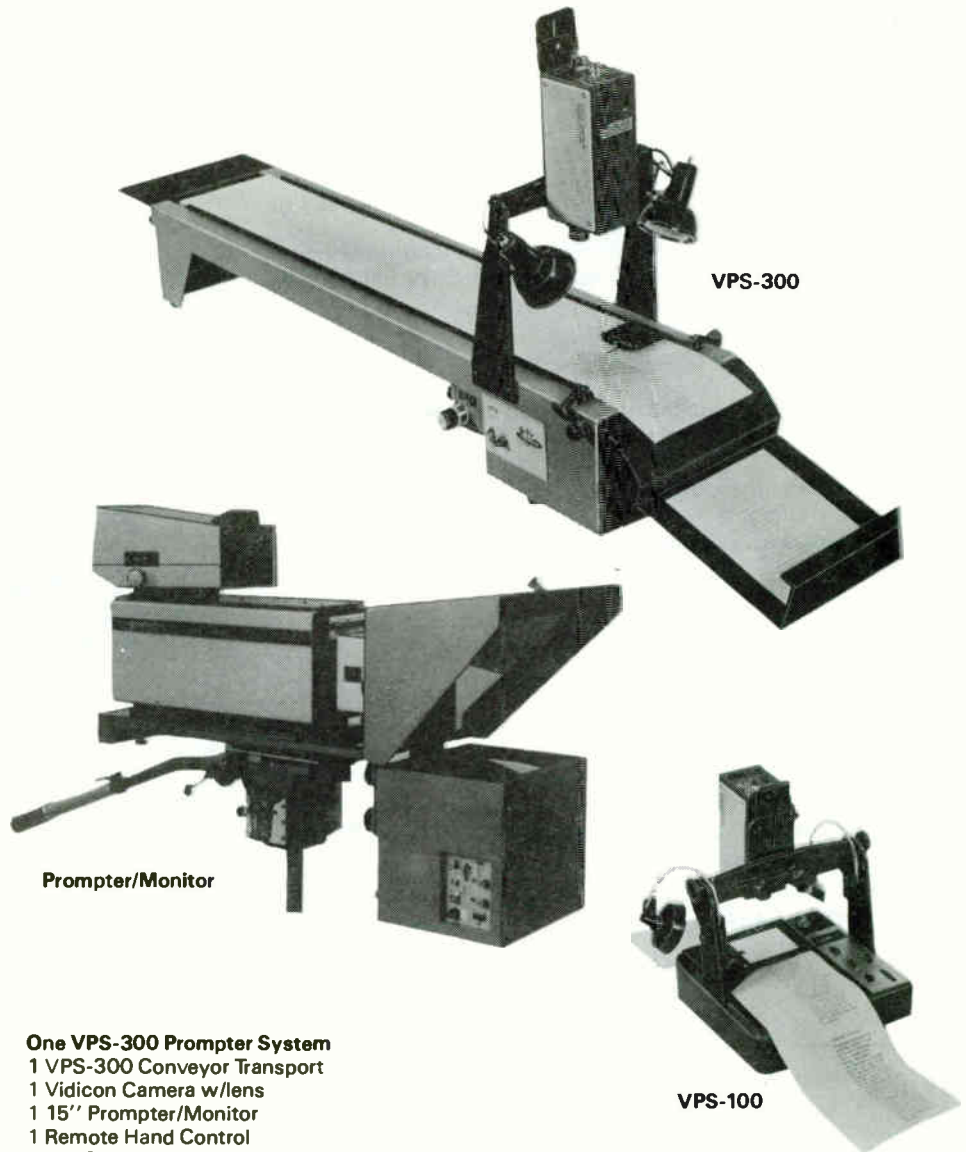
- 1 VPS-100 Console Transport
- 1 Vidicon Camera w/lens
- 2 15" Prompter/Monitor
- 1 Remote Hand Control
- 2 25' Coaxial Cable
- 2 Prompter Camera Mount
- 2 Camera Balancing Assembly
- 2 VPS Eye-Line
- 1 Instruction Manual

**\$6500.00**

### Three VPS-100 Prompter System

- 1 VPS-100 Console Transport
- 1 Vidicon Camera w/lens
- 3 15" Prompter/Monitor
- 1 Remote Hand Control
- 3 25' Coaxial Cable
- 3 Prompter Camera Mount
- 3 Camera Balancing Assembly
- 3 VPS Eye-Line
- 1 Instruction Manual

**\$8250.00**



Prompter/Monitor

VPS-300

VPS-100

### One VPS-300 Prompter System

- 1 VPS-300 Conveyor Transport
- 1 Vidicon Camera w/lens
- 1 15" Prompter/Monitor
- 1 Remote Hand Control
- 1 25' Coaxial Cable
- 1 Prompter Camera Mount
- 1 Camera Balancing Assembly
- 1 VPS Eye-Line
- 1 Instruction Manual

**\$5350.00**

### Two VPS-300 Prompter System

- 1 VPS-300 Conveyor Transport
- 1 Vidicon Camera w/lens
- 2 15" Prompter/Monitor
- 1 Remote Hand Control
- 2 25' Coaxial Cable
- 2 Prompter Camera Mount
- 2 Camera Balancing Assembly
- 2 VPS Eye-Line
- 1 Instruction Manual

**\$7100.00**

### Three VPS-300 Prompter System

- 1 VPS-300 Conveyor Transport
- 1 Vidicon Camera w/lens
- 3 15" Prompter/Monitor
- 1 Remote Hand Control
- 3 25' Coaxial Cable
- 3 Prompter Camera Mount
- 3 Camera Balancing Assembly
- 3 VPS Eye-Line
- 1 Instruction Manual

**\$8850.00**

### Videoprompter Equipment w/Monitor for On-Camera Prompting

- 1 15" Prompter Monitor
- 1 Prompter Camera Mount
- 1 Camera Balancing Assembly
- 1 VPS Eye-Line

**\$1910.00**

### VPS Equipment w/o Monitor for On-Camera Prompting

- 1 Prompter Camera Mount
- 1 Camera Balancing Assembly
- 1 VPS Eye-Line

**\$1135.00**

### Roll-Away Stand Unit

- 1 Heavy-duty Elevated Tripod Stand w/ Casters
- 1 Stand Monitor Mount
- 1 VPS Eye-Line

**\$1860.00**

### Display Monitor

- 1 15" Hi-Resolution Prompter Monitor (B & W)
- 1 13" Hi-Resolution Prompter Monitor (Color\*)

**\$775.00**

\*Color applicable to computer prompting only . . . . . **\$850.00**

# Q-TV

DIVISION OF Q-CO INDUSTRIES, INC.

104 E. 25th St.  
New York, NY 10010  
(212) 460-9050

# COMPUTER PROMPTER SYSTEMS

## QCP Mark I Computerprompter Program

• IBM PC, XT, and AT compatibility • True variable-speed, bi-directional, smooth scrolling • Four fonts: two full upper- and lower-case fonts as well as two all uppercase fonts • Proportional spacing—for the most easy-to-read prompter copy • Comprehensive Word Processor for text creation and last-minute changes. Highlights: Automatic Wrap, dynamic Insert and Delete Modes, Transfer Text, Search-for Text, and more • Compatibility with any PC-DOS ASCII file. Use your own word processor and QCP Mark I will prompt the text by employing its unique "Convert" mode. Additionally, Convert enables you to prompt any ASCII file sent via telephone lines and other transmission schemes • Easy-to-understand menu of special functions, displaying such choices as: Character Size, All Upper-Or-Lower-Case, Eight Character and Background Colors, Position of Speaker Arrow, and more • Unlimited use of Special Markers to pinpoint specific areas of text to jump to • Text Underlining and Coloration to highlight any section of script • Large selection of international characters. The QCP Mark I is multilingual, allowing you to prompt such languages as Spanish, French, German, Italian and Portuguese • Printing in three convenient formats. Also, with a single keystroke, the program will automatically paginate your text so that pages end only between sentences • Compatibility with both Floppy and Hard Disk Drive systems. Once "booted up," the entire QCP Mark I is loaded in and you may remove the program disk • Thorough PC-DOS Disk Functions, available without having to leave the program. They include: Format and Copy Disk, Copy, Erase and Rename File

QCP Mark I is an innovative computerprompter program offering multipurpose applications. It fully answers today's prompting requirements, be it in news, public speaking, commercials, or corporate television.

The QCP Mark I Computerprompter program allows you to compose a prompter text on an IBM compatible computer. Crisp, clean letters are displayed on a monochrome or color prompter monitor giving a speaker exceptional legibility of prompter text.



### QCP Mark I includes:

- 1 QCP Mark I Computerprompter Program
- 1 Limited Backup Program
- 1 Composite Video Board
- 1 Variable Speed Script Control
- 1 Instruction Manual . . . . . \$4975.00

## VPS-500 II Computerprompter™

• Word processing • Clear, crisp copy • Quick access to all copy • Memory up to 1 hour, 45 minutes • Optional printer for hard copy • Smooth scrolling • Variable speed control • Various colors, underlining • Positive or negative display

The VPS-500 II is a fully self-contained program, written entirely in super fast machine code. It sets up, automatically, in 25 seconds flat. Everything you'll need to do your work is stored right inside the computer.

You don't even have to know what a computer looks like to operate the VPS-500 II.

It takes a minimum amount of instruction to learn. So even the first time you use it, you can be prompting quickly and confidently.

The VPS-500 II creates, edits, saves, erases, and prompts to an astounding 1 hour and 45 minutes.

What's more, it can assemble as much as 32 separate text files for prompting. Plus keep you informed of where they are with an easy-to-read run order list.

You can also highlight points and separate speakers with 10 color combinations and a handy underlining feature.

The VPS-500 II can provide you with immediate hard copy printouts of your prompter text, complete with emphasis and underlining indications. And, in 3 convenient styles: Prompt, Script, Draft.



### VPS-500 II includes:

- 1 Computerprompter Keyboard
- 1 Disk Drive
- 1 VPS-500 II Computer Software
- 1 Variable Speed Script Control
- 1 Interconnecting Cable
- 1 Manual
- 1 Equipment Case . . . . . \$4200.00

# QUANTA CORP.

2440 S. Progress Dr.  
Salt Lake City, UT 84119  
(801) 974-0992 FAX: (801) 974-5147

# ELECTRONIC VIDEO PAINT SYSTEMS

## QVP-100/QVP-200 Series

### Quantapaint™ Electronic Paint Systems

• 640 x 486 NTSC (768 x 576 PAL-I) pixel resolution • Pixel-keying • 16.7 million available colors • RGB camera capture, a unique "undo" function allowing the artist to erase his/her last operation • Text mode with five font selection • Seven levels of zoom for picture magnification • Offers NTSC, composite downstream keying, simultaneous RGB out, graphics chassis, bit pad and stylus • Optional business graphics and animation software • Pop-up menu • Sixteen predefined brushes or patterns • Windows and slide shows • Drawing tools • Painting and display effects • Quantapaint QVP-200 is exactly like the QVP-100 but includes an IBM XT-compatible computer • Complete stand-alone system • Computer comes with a floppy disk controller, realtime clock chip, IBM-PC XT-compatible BIOS, video display card, 640K, and 1M byte of above board RAM

<b>QVP-100</b>	Computer Required* Rackmount chassis with encoder, composite keying, and graphics card, sync/genlock/NTSC/RGB (PAL available), bit pad and stylus, rackmount kit with slides, Quantapaint software with RGB camera capture, operator manual . . . . .	<b>\$ 9,995.00</b>
<b>QVP-115</b>	QVP-100 with business graphics software. . . . .	<b>11,495.00</b>
<b>QVP-120</b>	QVP-100 with animation software and animation machine controller. Specify VTR: BVH 2000 Betacam™ Series, BVU-800, BVW-15/40, VPR3, VPR6, and VPR-80. (Requires VTR with time code reader). . . . .	<b>13,495.00</b>
<b>QVP-125</b>	QVP-100 with business graphics and animation software with animation machine controller. Specify VTR: same as QVP-120 above. (Requires VTR with time code reader) . . .	<b>14,995.00</b>

## QVP-200 Series

<b>QVP-200</b>	QVP-100 with 100% IBM™ XT-compatible computer with: One 5 1/4" floppy drive (360K per diskette), monochrome green screen with swivel base, two RS-232 serial ports and one parallel port, 640K RAM and Intel above board RAM, 8088-2 microprocessor and keyboard. . .	<b>\$13,995.00</b>
<b>QVP-210</b>	QVP-200 with 30M byte hard disk . . . . .	<b>15,995.00</b>
<b>QVP-215</b>	QVP-210 with business graphics. . . . .	<b>17,495.00</b>
<b>QVP-220</b>	QVP-210 with animation software and animation machine controller. Specify VTR: BVH 2000 Betacam series, BVU-800, BVW-15/40, VPR3, VPR6, and VPR-80. (Requires VTR with time code reader) . . . . .	<b>19,495.00</b>
<b>QVP-225</b>	QVP-210 with business graphics and animation software with animation machine controller. Specify VTR: BVH-2000, BVW-15/40, Betacam series, BVU-800, VPR3, VPR6, VPR-80 . . . . .	<b>20,995.00</b>

\*Minimum requirements for your computer to work with Quantapaint QVP-100  
8MHz processor, 100% IBM compatible, 640K bytes of RAM, Intel above board with 1M byte of RAM, one 5 1/4" floppy disk drive, One 20M byte hard disk and controller, keyboard, CRT display screen (monochrome) and controller, available slot for Quantapaint interface board, Com1 serial port available for bit pad, Com2 serial port available for animation control or character generator interface options, LPT1 parallel port available for ink jet printer option, DOS version 3.1 or later

## QVP-2500 Series

### Quantapaint Electronic Paint Systems

• Basic automatic drawing functions with individual enhancements • Dynamic painting functions • Illustration aids • Incorporates a powerful microcomputer with 3 1/2" floppy disk drive and may include a 53M byte fixed disk, a graphics tablet with pushbutton stylus, control keyboard and CRT (computer) monitor • Execution of all commands is fast and simple by means of "touching" the appropriate area of the menu on the graphics tablet with the tip of the stylus • Palette of 16.7 million colors may be called upon to create individual page palettes of 256 colors each



Quantapaint 32

<b>QVP-2500</b>	Rackmount chassis with microcomputer and graphics card, Quantapaint II software, rackmount kit with slides, sync/genlock/encoder/NTSC (PAL available), monochrome digitizer, operator manual, dual 3 1/2" disk drive, computer monitor, bit pad and stylus, keyboard . . . . .	<b>\$17,995.00</b>
<b>QVP-2501</b>	All QVP-2500 features, plus: additional RAM board, RGB 256 color digitizer (camera capture) . . . . .	<b>19,995.00</b>
<b>QVP-2502</b>	All QVP-2501 features, plus: 30M byte hard disk, business graphics, animation software (requires QVP-AMC) . . . . .	<b>24,995.00</b>

## QVP-3000 Series

### Quantapaint 32 Electronic Paint Systems

• Complete stand-alone system • Powered by Texas Instruments' 34010 dedicated 32-bit graphics processor that runs at a clock rate of 49MHz • System includes 4M bytes of onboard CMOS video RAM, a single floppy disk drive, and a graphics tablet with stylus, control keyboard and status monitor • 720 x 486 NTSC (720 x 576 PAL) broadcast-quality resolution and a total of 16.7 million colors • Outputs include RGB and, with the optional encoder, NTSC or PAL • 32-bits per pixel allows every pixel on the screen to be a different color, each with a transparency level from invisible to opaque—256 increments in all • All painting, drawing, and special effects can be selected from the graphics tablet and executed with the tip of the stylus from the on-screen, pop-up menu • Fourteen natural drawing tools • Variety of electronic brushes ranging from 1 pixel in diameter up to 50 pixels • Numerous "tricks" effects • Screen clear command • Quick save function • Paint mixing palette • Penstroke animation

<b>QVP-3000</b>	Rackmount Electronics Chassis with: 32-bit graphics board, processor, 1M byte of RAM, RGB video in/out, single 3 1/2" floppy disk drive, 720K, single 30M byte hard disk, 2 RS-232 serial ports, 1 parallel port, Quantapaint 32 software with full-color gamma corrected camera capture, DOS version 3.1, software enable module, computer monitor, monochrome, keyboard, bit pad and stylus, installation/operator manual . . . . .	<b>\$29,995.00</b>
<b>QVP-3015</b>	QVP-3000 with business graphics software (16-bit mode) . . . . .	<b>31,995.00</b>
<b>QVP-3020</b>	QVP-3000 with animation software (16-bit mode) and animation machine controller. Specify VTR: BVH-2000, Betacam Series, BVU-800, BVW-15/40, VPR-3, VPR-6, VPR-80 (requires VTR with time code reader) . . . . .	<b>33,495.00</b>
<b>QVP-3025</b>	QVP-3000 with business graphics and animation software (16-bit mode) and AVC. Specify VTR: BVH-2000, Betacam Series, BVU-800, BVW-15/40, VPR-3, VPR-6, VPR-80 (requires VTR with time code reader). . . . .	<b>34,995.00</b>



# QUANTA CORP.

2440 S. Progress Dr.  
Salt Lake City, UT 84119  
(801) 974-0992 FAX: (801) 974-5147

# TELEPRODUCTION TITLERS

## Microgen™ MG-100 Teleproduction Titler

- 2 sets of proportioned characters designed specifically for television graphics, and selectable by row
- 50-Page RAM with battery back-up
- Automatic page sequencing
- Full range of editing and display functions
- Roll and crawl at 9 speeds
- Complete system flexibility—upstream or downstream
- 256 color palette capability for row by row coloring of characters or background
- Dual channel capability
- RS-232 Data I/O Port optional
- Dimensions: 4 1/4" H x 15 3/4" W x 14 3/4" D

The Microgen MG-100B standard features have made it the best value in low cost television production titlers. Quality character display, color, real-time editing and optional dual channel are just some of the reasons thousands of Microgens are creating titles in almost every conceivable television application.

- MG-100-S** Single channel, self-contained chassis, English keyboard. Includes sync/color generator, NTSC, 256 colors, 50-page memory . . . . . **\$2295.00**
- MG-100-D** Dual-channel, self-contained chassis, English keyboard. Includes sync/color generator, NTSC, 256 colors, 50-page memory . . . . . **\$2995.00**
- MG-100-D/RS** Dual-channel, self-contained chassis, English keyboard. Includes sync/color generator, NTSC, 256 colors both channels, 50-page memory with RS-232 data I/O Port. . . . . **\$3495.00**

## Microgen MG-100/PLUS Teleproduction Titler

- 50ns horizontal resolution
- Four face styles, upper and lower case
  - Helvetica Medium with border
  - Rockwell Bold with border
  - Souvenir Light with border
  - Serpentine Bold with shadow
- 50-page RAM with battery back-up
- Automatic page sequencing
- Full range of editing and display functions
- Roll and crawl at 9 speeds
- Complete system flexibility—upstream or downstream
- 256 color palette capability for row by row coloring of characters or background
- Dual channel capability
- RS-232 data I/O Port optional
- Dimensions: 4 1/4" H x 15 3/4" W x 14 3/4" D

- MG-100/PLUS-S** Single-channel, self-contained chassis, English keyboard. Includes sync/color generator, NTSC, 256 colors, 50-page memory. . . . . **\$2995.00**
- MG-100/PLUS-S/RS** Single-channel, self-contained chassis, English keyboard. Includes sync/color generator, NTSC, 256 colors, 50-page memory, with RS-232 Data I/O Port. . . . . **\$3495.00**
- MG-100/PLUS-D** Dual-channel, self-contained chassis, English keyboard. Includes sync/color generator, NTSC, 256 colors both channels, 50-page memory . . . . . **\$3995.00**



MG-100



MG-200

- MG-100/PLUS-D/RS** Dual-channel, self-contained chassis, English keyboard. Includes sync/color generator, NTSC, 256 colors both channels, 50-page memory, with RS-232 Data I/O Port. . . . . **\$4195.00**

## Microgen MG-200 Teleproduction Titler

- Instant sizing allows keyboard selection of 8 different font sizes from one type face at the touch of a key
- Built-in 3 1/2" disk drive provides 400-page memory; 800 pages with optional second drive
- 512 background and character colors available; maximum 28 colors per page
- Red, green, blue, cyan, yellow, magenta, black and white are accessed by depressing the appropriate key(s)
- Variable size graphic blocks may be created from the keyboard
- Full surround border in either black or white may be defined on a row-by-row basis
- Easy edit
- Dynamic displays—roll, crawl, flash can be repeated continuously
- Automatic page sequencing
- Sync generator with genlock, NTSC or PAL-T encoder, and full studio timing/phasing adjustment built-in at no additional cost
- Dimensions: 4 5/8" H x 17 1/2" W x 17 1/2" D

- MG-202/SD** Tabletop, self-contained chassis with both serif and sans serif faces, single 3 1/2" disk drive built-in . . . . . **\$4995.00**
- MG-202/DD** As above but with dual 3 1/2" disk drives built-in . . . . . **\$5490.00**

# QUANTA CORP.

2440 S. Progress Dr.  
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(801) 974-0992 FAX: (801) 974-5147

# TELEPRODUCTION TITLERS

## QCG-34/QCG-38 Teleproduction Titling Generators

- Resolution of 25ns at 32 scan lines
- Instant sizing—8 to 64 scan line heights plus incremental extend/condense for both resident face styles—keyboard accessed
- 512 colors—easy RGB palette selection of background and character colors
- True proportional spacing—upper and lower case, two faces
- Edge selection—full surround border, 8 colors row selectable per page
- Easy edit—real time composition and editing capability—Quanta's exclusive text editing package
- Roll—260 rows, 9 speeds plus pause, edit in roll compose, roll to fixed title
- Crawl—260 rows, 9 speeds plus pause, edit in crawl compose
- Automatic page sequencing—random or sequential, date/time generator for real time sequences—dwell time selectable 1/4 to 99 seconds per page
- Manual page sequencing—random or sequential, forward or reverse, 0 second dwell time
- Built-in 3 1/2" Disk Drive—400 pages—second drive optional
- Built-in full terminal complement—sync/genlock RS170, NTSC or PAL Encoder full studio timing
- Graphic blocks/graphic separators—variable size and color
- Real time clock and date generator
- Full battery back-up
- RS-232 Data I/O Port—optional

The QCG-34 is a real time professional teleproduction titling system for use in broadcast or non-broadcast applications.

Fully self-contained, the QCG-34 provides for either stand alone operation or may be integrated into a full television production studio. The proportionally spaced type face styles provide over 40 resident fonts per face style instantly on-line with Quanta's exclusive instant sizing. Ease of operation, real time functions and dependability make the QCG-34 a versatile, multi-feature low-cost character generator.

## Specifications

### PERFORMANCE

#### Horizontal

Resolution: 25ns at 32 scan lines

#### Resident Type

Faces: (QCG-34) Four face styles, upper and lower case  
Helvetica medium with border  
Serif with border  
Cooper Black with border  
Bolt Bold with shadow

#### Resident Type

Faces: (QCG-38) Eight face styles, upper and lower case  
Helvetica medium with border  
Serifa with border  
Cooper Black with border  
Bolt Bold with shadow  
Optima Bold with border  
Rockwell Bold with shadow  
Bookman Bold with border  
Helvetica Bold with border (caps only)  
Graphic symbols

Faces proportionally spaced with upper and lower case. 40 sizes per face with 8 to 64 scan line heights plus widths of normal, condensed and extended

#### Color:

512 colors for colorizing characters by row or page and backgrounds by row or page. Maximum 34 colors per page (13 each characters and backgrounds, 8 each edges—available simultaneously)

#### Character

Edge: Full surround border, 8 colors per page selected by row. See-through characters through edge selection/background selection

#### Editing

Functions: Cursor up, down, right, left, home; line feed; return; key repeat; erase row, page; center row, page; justify row or page—right or left; move up, down; insert/delete character, word, row; variable size graphic separators; variable size graphic blocks; scan line pair adjustment of top or bottom leading, or both (row tuck); caps lock; 4 columnar tab settings per page; color palette selection of RGB colors



QCG-38

**Memory:** Single 3 1/2" disk; 400 pages (max. 40 characters per row, 13 rows per page). Second disk available (optional)

**Display Functions:** Flash by character; recall page by number; recall next page, prior page; matte characters in/out of Program output; sequential or random page sequencing; real time clock and date generator displayable any size, color or location on page

**Dynamic Functions:** Automatic or real time sequencing of any combination of pages; dwell time, 1/4-99 sec., selectable by page. Roll 260 rows max.; crawl 260 rows max.; position on any row, any size/color and mix with static text as required. Roll/crawl at 9 speeds plus stop with programmed speed changes imbedded in message or manual keyboard adjustment. All dynamic displays may be one time or continuous

### ELECTRICAL

#### Battery

Back-Up: System has NiCad battery for RAM and real time clock. Automatic program restoration including dynamic displays after power failure

#### Video

Standards: Built-in RS170 Sync Generator with Genlock. Built-in NTSC or PAL encoder. Subcarrier phase and horizontal phase adjustment accessible from rear panel. Upstream or downstream operation. Chromalock plus regeneration of sync for proper genlock to non-time base corrected signals

#### Inputs:

1 composite video in, looping

#### Outputs:

2 program, 1V p-p composite at 75 ohms

1 edit, 1V p-p composite at 75 ohms

1 key, 1V p-p composite monochrome at 75 ohms

#### Data I/O

Ports: RS-232 (optional)

### ELECTRICAL

#### Power

Requirements: 105-110/210-270VAC, 48/70Hz

### MECHANICAL

#### Dimensions:

4 5/8" H x 17 1/2" W x 17 1/2" D

#### Color:

Almond and Black

**QCG-34/SD** Tabletop, self-contained chassis with 2 faces (serif and sans serif), upper and lower case, proportional spacing, single 3 1/2" disk drive built-in . . . . . \$6995.00

**QCG-34/DD** As above with dual disk drives . . . . . 7490.00

**QCG-38/SD** Tabletop, self-contained chassis with 2 faces (serif and sans serif), upper and lower case, proportional spacing, single 3 1/2" disk drive built-in . . . . . \$7995.00

**QCG-38/DD** As above with dual disk drives . . . . . 8490.00

## Options

**DD-34** Second disk drive—customer installed . . . . . \$495.00

**RS-232/34** RS-232 Data I/O Port—Factory installed, plus shipping both ways (page transfer only) . . . . . 500.00

**OM-34** Operating manual . . . . . 50.00

**FD-3.5** 10-pack of 3 1/2" diskettes . . . . . 150.00

**Note:** The QCG-34 and QCG-38 series are available with French, French QWERTY, German-Nordic, or Spanish-Portuguese keyboards. Contact Quanta pricing and delivery.

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# TELEPRODUCTION TITLERS



QCG-300

## QCG-300 Teleproduction Titling Generator

- Instant sizing—8 to 64 scan line heights plus incremental extend/condense for face styles—keyboard accessed
- 512 colors—easy RGB palette selection of background and character colors
- True proportional spacing—upper and lower case, four face styles
- Edge selection—full surround border, 8 colors row selectable per page
- Easy edit—real time composition and editing capability—Quanta's exclusive text editing package
- Roll—260 rows, 9 speeds plus pause, edit in roll compose, roll to fixed title
- Crawl—260 rows, 9 speeds plus pause, edit in crawl compose
- Automatic page sequencing—random or sequential, date/time generator for real time sequences—dwell time selectable 1/4 to 99 seconds per page
- Manual page sequencing—random or sequential, forward or reverse, 0 second dwell time
- Built-in 3 1/2" Disk Drive—400 pages—second drive optional
- Built-in full terminal complement—sync/genlock RS170, NTSC or PAL Encoder full studio timing
- Graphic blocks/graphic separators—variable size and color
- Real time clock and date generator
- Full battery back-up
- RS-232 Data I/O Port—optional

The QCG-300 is a real time professional teleproduction titling system for use in broadcast or non-broadcast applications.

Fully self-contained, the QCG-300 provides for either stand alone operation or may be integrated into a full television production studio. The proportionally spaced type face styles provide over 40 resident fonts per face style instantly on-line with Quanta's exclusive instant sizing. Ease of operation, real time functions and dependability make the QCG-300 a versatile, multi-feature low-cost character generator.

## Specifications

### PERFORMANCE

<b>Horizontal Resolution:</b>	55ns at 24 characters per row
<b>Resident Type Faces:</b>	Proportionally spaced with upper and lower case. 40 sizes per face with 8 to 64 scan line heights plus widths of normal, condensed and extended
<b>Color:</b>	512 colors for coloring characters by row or page and backgrounds by row or page. Max. 34 colors per page (13 each characters and backgrounds, 8 each edges—available simultaneously)
<b>Character Edge:</b>	Full surround border, 8 colors per page selected by row. See-through characters through edge selection/background selection
<b>Editing Functions:</b>	Cursor up, down, right, left, home; line feed; return; key repeat; erase row, page; center row, page; justify row or page—right or left; move up, down; insert/delete character, word, row; variable size graphic separators; variable size graphic blocks; scan line pair adjustment of top or bottom leading, or both (row tuck); caps lock; 4 columnar tab settings per page; color palette selection of RGB colors
<b>Memory:</b>	Single 3 1/2" disk; 400 pages (max. 40 characters per row, 13 rows per page). Second disk available (optional)
<b>Display Functions:</b>	Flash by character; recall page by number; recall next page, prior page; matte characters in/out of program output; sequential or random page sequencing; real time clock and date generator displayable any size, color or location on page

### Dynamic

#### Functions:

Automatic or real time sequencing of any combination of pages; dwell time, 1/4-99 sec., selectable by page. Roll 260 rows max.; crawl 260 rows max.; position on any row, any size/color and mix with static text as required. Roll/crawl at 9 speeds plus stop with programmed speed changes imbedded in message or manual keyboard adjustment. All dynamic displays may be one time or continuous

### ELECTRICAL Battery

#### Back-Up:

System has NiCad battery for RAM and real time clock. Automatic program restoration including dynamic displays after power failure

### Video

#### Standards:

Built-in RS170 Sync Generator with genlock. Built-in NTSC or PAL encoder. Subcarrier phase and horizontal phase adjustment accessible from rear panel. Upstream or downstream operation. Chromalock plus regeneration of sync for proper genlock to non-time base corrected signals

### Inputs:

#### Outputs:

1 composite video in, looping  
2 program, 1V p-p composite at 75 ohms  
1 edit, 1V p-p composite at 75 ohms  
1 key, 1V p-p composite monochrome at 75 ohms

### Data I/O

#### Ports:

RS-232 (optional)

### ELECTRICAL Power

#### Requirements:

105-110/210-270VAC, 48/70Hz

### MECHANICAL

#### Dimensions:

4 3/8" H x 17 1/2" W x 17 1/2" D

#### Color:

Dark Brown and Almond

<b>QCG-304/SD</b>	Self-contained chassis with English keyboard, four custom face styles, proportional spacing, upper and lower case, 3 1/2" disk drive(s), 512 colors, NTSC (PAL available), sync/genlock, operating manual . . . . .	<b>\$5695.00</b>
<b>QCG-304/DD</b>	Same as above except dual disk drives . . . . .	<b>.6190.00</b>

## Options

<b>DD-300</b>	Second disk drive—customer installed . . . . .	<b>\$ 495.00</b>
<b>RS-232/300</b>	RS-232 data I/O port—factory installed. Plus shipping both ways (page transfer only) . . . . .	<b>.500.00</b>
<b>QCG-300FEK</b>	Face expansion kit—QCG-300 to QCG-304 With return of ROM set . . . . .	<b>.600.00</b>
	Without return of ROM set . . . . .	<b>1000.00</b>
	Operating manual . . . . .	<b>.50.00</b>
<b>OM-300</b>	10-pack of 3 1/2" diskettes . . . . .	<b>.150.00</b>
<b>FD-3.5</b>		
<b>LCK-300</b>	Language conversion kit . . . . .	<b>.500.00</b>

**NOTE:** The QCG-300 Series is available with French, French QWERTY, German-Nordic or Spanish-Portuguese keyboards.



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# TELEPRODUCTION TITLERS

## QCG-400 TELEPRODUCTION GRAPHICS AND TITLING GENERATOR

- 7 resident type faces — 56 fonts on-line
- 30 topical graphics display symbols
- Instant sizing — true proportional spacing
- 128 colors — each page is palette assignable
- Built-in 3-1/2" high density disk drive (400 pages) — second drive optional
- Built-in full terminal complement—sync/genlock and NTSC or PAL-I encoder—full studio timing adjustments standard
- 224-row RAM with battery back-up — dynamic displays and automatic sequencing
- Patented NANOLOG™ character smooth & fill refinement—high resolution average rise times
- LED front-panel operator prompting
- RS-232 data I/O port option

The QCG-400 Teleproduction Graphics and Titling Generator is designed for real time, easy operation in a wide variety of titling applications.

Incorporating the Easy Edit and quick, versatile composition features which have made Quanta the preferred standard of mid-range character generators world-wide, the QCG-400 is a modern, low-profile, ultra-portable self-contained unit.

### Specifications

#### Performance

<b>Resident Faces</b>	7 faces at 6 vertical sizes each (from 8 to 64 lines high) Face #1 Helvetica Medium, proportional upper and lower case Face #2 Bolt Bold, caps non-proportional, lower case proportional Face #3 Serifa, proportional upper and lower case Face #4 Cooper Black, proportional upper and lower case Face #5 Helvetica Medium Italic, proportional upper and lower case Face #6 Grotasque 9, proportional upper and lower case Face #7 Upper Case: Helvetica Bold, (all caps) proportional Lower Case: 30 selected symbols
<b>Graphic Symbols</b>	Weather, sports, transportation, medical, communications, miscellaneous
<b>Face Selection</b>	By character, maximum of two faces can be mixed on a row. All 7 faces may be used on a page
<b>Character Color</b>	Select any of 16 pre-defined palettes of 8 colors each. Palette is stored with page. Character color by word
<b>Background Selection</b>	Select either of 2 pre-defined palettes of 8 colors each or external video. Palette is stored with page. Background color by row
<b>Edge Styles</b>	Selectable by row: Fine border, bold border, 4-quadrant drop shadow positionable
<b>Edge Luminance</b>	Eight levels black to white, stored with page
<b>Page Size</b>	16 rows (max.) 32 characters on a row available with Grotasque 9
<b>System Parameters</b>	Stored within a block: tabs, memory protect, roll/crawl pointers and speeds, shadow quadrants, status line size, user-defined center of screen, last selected face description, flash speed
<b>Roll Message Length</b>	224 rows
<b>Crawl Message Length</b>	6,110 characters
<b>Roll Speed</b>	9 plus pause (start and re-start). Programmable roll to stop function provided
<b>Crawl Speed</b>	4 plus pause (start and re-start)
<b>Roll/Crawl Display Areas</b>	Blanking to blanking. Crawl displays can include static text area
<b>Character Flash</b>	By word. Flash speeds: 2
<b>Special Display Elements</b>	Graphic separators, graphic blocks, underline accents, special symbols (optional on international language versions)
<b>Clock Displays</b>	Real time clock (hours, minutes) or event timer (minutes, seconds)
<b>Tab Positions</b>	8 Columnar tabs with vertical tabbing
<b>Editing Functions</b>	Insert row or character; delete row or character; center row or page; justify row or page left or right; row move left or right;



reduce top leading; reduce intercharacter spacing (selected characters); erase row or page; capture character attributes; Get, Save or Exchange row or page. Applicable editing functions operate right of the cursor on a row or from the cursor to end of page

<b>Resident Memory</b>	224 Rows (RAM) with battery back-up for non-volatile retention. Battery will last in excess of 24 hours
<b>Automatic Sequencing</b>	Full 14-page resident memory
<b>Disk Memory</b>	400 pages plus 2 blocks per disk
<b>Page Access</b>	Random or sequential
<b>Disk Access Time</b>	Page: average .4 sec: max. 1.2 sec. Block: average .6 sec: max. 1.5 sec.
<b>Electrical:</b>	
<b>Television Standards</b>	Built-in RS-170 sync generator with gen lock. Built-in NTSC or PAL encoder. Gen lock/Color lock; built-in 360° subcarrier; horizontal drive phase adjustable ±1.5 usec. on back panel
<b>Stand-Alone Operation</b>	Yes
<b>Input</b>	One, external video in, looping
<b>Edit Output</b>	One, 1.0V p-p composite at 75 ohms
<b>Program Output</b>	Two, 1.0V p-p composite at 75 ohms:
<b>Key Output</b>	One, character plus edge, 1.0V p-p composite at 75 ohms
<b>Power: (PC Card Selectable)</b>	117VAC, 60Hz, 150W max 220VAC, 50Hz, 150W max
<b>Data I/O Port</b>	One, RS-232 Optional

#### Mechanical:

<b>Dimensions</b>	Self-Contained Chassis: 18"W x 5"H x 17-1/2"D
<b>Ventilation</b>	Filtered, forced-air cooled
<b>Color</b>	Dark brown and almond
<b>QCG-400/SD</b>	Tabletop, self-contained chassis with 7 resident faces, 30 graphic symbols, upper & lower case, proportional spacing, single 3 1/2" disk drive built-in ..... \$6595.00
<b>QCG-400/DD</b>	As above but with second 3 1/2" disk drive built-in ..... 7090.00
<b>QCG-400/RM/SD</b>	Rackmount chassis with single 3 1/2" disk drive built-in and remote keyboard. Includes 7 faces, 30 graphic symbols, upper and lower case, proportional spacing ..... 8995.00
<b>QCG-400/RM/DD</b>	As above but with second 3 1/2" disk drive built-in ..... 9690.00
<b>OPTIONS</b>	
<b>DD-400</b>	Second 3 1/2" disk drive for QCG-400 units customer installed ..... \$ 495.00
<b>RS-232/400</b>	RS-232 Data I/O port for QCG-400 units factory installed ..... 500.00
<b>KBD-400</b>	Remote keyboard for "daisy-chain" operation with QCG-400 rackmount chassis ..... 1995.00
<b>OM-400</b>	Operating manual ..... 50.00
<b>SMM-400</b>	Service and maintenance manual ..... 150.00
<b>FD-3.5</b>	10-pack of 3 1/2" diskettes ..... 150.00
<b>LCK-400</b>	Language conversion kit ..... 1000.00

NOTE: QCG-400/SD or QCG-400/DD also available with French, French QWERTY, German-Nordic or Spanish-Portuguese keyboards.

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# TELEPRODUCTION TITLERS

## QCG-500 Professional Teleproduction Graphics and Titling System

- Instant sizing in single scan line increments
- 16 million color palette
- Color menu allows positive color matching and key-in of RGB values
- Font-Flex™
- Easy edit
- Built-in sync/genlock and encoder
- Full studio timing for simple system integration
- Base resolution of 29ns
- Optional second disk drive
- 24 face styles

The QCG-500 is a fully disk loadable, broadcast quality character generator and graphics system designed for cost effective teleproduction titling and text efficiency.

A powerful software intensive system, the QCG-500 offers real time speed and convenience. No slow, time consuming menu selections are required—all functions are immediately accessible from the keyboard and happen as the operator commands them.

A low profile remote keyboard accesses the rackmounted electronics with built-in 3 1/2" disk. The entire electronics chassis requires only 7" of vertical rack space. Big system features provide a degree of professional flexibility never before attainable in the QCG-500 price range. Disk compatibility with the Q8 Teleproduction Graphics System also makes the QCG-500 an ideal remote unit or addition to an existing Q8 graphics production facility.

Graphics enhancement accessories provide for a full paint system and digital effects, all conveniently controlled from the QCG-500 tri-level keyboard permitting interaction between text, paint or effects operations.

### Specifications

<b>Disk Loadable:</b>	Program, faces, pages
<b>Rackmount:</b>	Chassis includes electronics, single drive, power supply
<b>Number of Keyboards:</b>	One standard
<b>Disk:</b>	Single 3 1/2" double density, double sided; second drive optional 600 maximum
<b>Pages per Disk:</b>	600 maximum
<b>Power Requirements:</b>	150W power supply; 110/120VAC switchable
<b>Stand-Alone Operation:</b>	Yes
<b>Encoder:</b>	Built-in, NTSC RS-170 or PAL
<b>Genlock/Colorlock:</b>	Built-in, horizontal and subcarrier phase adjustments
<b>Phasing:</b>	External, 360° subcarrier, horizontal drive ± 1.5µs
<b>System Integration:</b>	Keyboard selectable upstream/downstream, or jumper selectable
<b>Edit Output:</b>	One, 1.0V p-p composite at 75 ohms
<b>Program Output:</b>	Two, 1.0V p-p composite at 75 ohms
<b>Key Output:</b>	One, character + edge or full page, 1.0V p-p composite at 75 ohms
<b>Sync Output:</b>	4.0V p-p composite
<b>External Video Input:</b>	One, looping
<b>Options:</b>	2nd 3 1/2" disk drive
<b>Electronic Video Paint:</b>	Yes, addressed by QCG-500 keyboard
<b>Digital Video Effects:</b>	Yes, addressed by QCG-500 keyboard
<b>Camera Capture Digitizer:</b>	Yes, addressed by QCG-500 keyboard
<b>QCG-500 includes:</b>	Rackmount Electronics Chassis, Remote Keyboard English, Single 3 1/2" Disk Drives, Styles at 64 and 32 Scanlines, 16 Million Colors, NTSC, Operating Manual, Service and Maintenance Manual, Single Scanline Fontflex™, Sync/genlock, 24-Face Library Disk, System Software (License Required), Color Menu, Operator Training Diskette, Rackmount Kit and Slides, 2 Maintenance Extender Boards. . . . . \$11,995.00



**QCG-500**

<b>QCG-500/50 RGB</b>	As above with one 3/4" Rackmount, RGB/NTSC Encoder . . . . .	<b>13,995.00</b>
<b>QCG-500/DD/RGB</b>	As above with dual drives. . . . .	<b>14,490.00</b>
<b>QCG-500/SD/PVM/ENC-RGB</b>	QCG-500 with Rackmount Chassis, includes: Preview Channel with RGB Edit Out and Frame Grab providing Encoded Program and RGB Program Outs and Encoded and RGB Key Outs. (No simultaneous preview and program of dynamic displays such as roll and crawl.) . . . . .	<b>\$16,995.00</b>
<b>QCG-500/DD/PVW/ENC-RGB</b>	As above with dual drives . . . . .	<b>17,490.00</b>
<b>Options</b>		
<b>DD-20/500</b>	20M byte Hard Disk, includes: 3 1/2" Rackmount Chassis, Power Supply, Host Adaptor, Controller Board (not available with RS232-500 or clock option) . . . . .	<b>\$3,995.00</b>
<b>QCC-1/500</b>	Camera Capture Font/Logo Compose (Card mounts in chassis) . . . . .	<b>495.00</b>
<b>DD-500</b>	3 1/2" Disk Drive Expansion Kit (Customer Installed) . . . . .	<b>495.00</b>
<b>RS232-500</b>	RS232 Data I/O and Protocol, includes: 2 Port Serial I/O Boards (unavailable with DD-20) . . . . .	<b>795.00</b>
<b>CLK-500</b>	Clock and Up/Down timer, includes 2 Port Serial I/O Boards (unavailable with DD-20/500) . . . . .	<b>795.00</b>
<b>KB-500</b>	Keyboard, English (Multiple keyboards require external switch, customer supplied) . . . . .	<b>1,995.00</b>
<b>FD-3.5</b>	10-Pack of 3 1/2" Diskettes . . . . .	<b>150.00</b>
<b>PVW-500</b>	Preview update kit, includes: Rackmount chassis with Frame Grab Board, NTSC Encoder, Interface Board, Power Supply, Ribbon Cable, Software, Rackmount Kit with Slides (No simultaneous preview and program of dynamic displays such as roll and crawl) . . . . .	<b>\$5,495.00</b>
<b>RGB-500</b>	RGB Encoder Update Kit, includes: Power Supply, Word/Word Board (exchange) Palette RAM Board (exchange), Rear Panel RGB/NTSC Encoder, One 3/4" Rackmount Chassis Rackmount Kit with Slides . . . . .	<b>\$2,995.00</b>
<b>QST-500</b>	Automated Subtitling System via Time-code Input. Includes: Plug-in Time Code Reader Board, Audio Connector, Software and Manual. Indicate language and standard. Dual Disks are required. (Not available with RS232 or clock options.) . . . . .	<b>\$1,995.00</b>
<b>OM-500</b>	Operating Manual . . . . .	<b>50.00</b>
<b>SMM-500</b>	Service and Maintenance Manual . . . . .	<b>300.00</b>

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# TELEPRODUCTION TITLERS

## Q8 Teleproduction Titler

• **FONT-FLEX™**: Exclusive Instant Sizing, Instant Extend/Condense, Instant Italics—Left or Right • 16 Million Colors: Interactive Menu Selection, Positive Color Matching, Characters/Backgrounds/Edges • Automatic Page Sequencing: Program up to 800 pages for automatic display • Automatic Keystroke Sequencing: Build animated or special editing sequences assigned to single keystrokes • Pop-On Animation: Sophisticated keystroke sequencing—reveal characters, words or rows at selected frame rates programmable • Easy Edit: Expanded text manipulation—real • Selectable Edge Styles & Colors • "Unlimited" Roll: Total disk (400 time in any composition mode • Character "Tuck" • Vertical Row "Tuck" • Type Faces Disk Loadable • Fade/Matte/Key • Built-In Sync/Genlock with Full Studio Timing • Built-In Color Encoder plus RGB Outputs • 26ns Base Resolution • Dual 8" Disk Drives—Standard: 800 pages combined capacity • RS-232 Data I/O Port • Multiple Keyboard Operation: Up to 5 • Dual Channel Version: 2 independent or interactive channels—Program/Preview; A/B Mix • Expanded Dual 5-Megabyte Memory Option: Removable media memory—greatly increases system access speed and page storage capacity

Q8 is a broadcast teleproduction graphics and titling system, microprocessor driven, incorporating high technology circuitry and the simplicity of real time operation. Employing quality components and user-oriented design considerations, Q8 provides a complete complement of video typography, graphics display, character generator effects and animation, text handling and composition functions.

### Q-8S Single Channel System, NTSC, Includes:

- Single-channel chassis, 117VAC/60Hz ± 10% with sync/color lock, NTSC color encoder, RGB output, RS-232 data I/O port
- System software (license required)
- 1 floppy disk chassis—dual 8" disk drives
- 1 keyboard—English, 117VAC power supply, 25' cable
- QCC-1 camera capture font/logo compose—PC card
- 2 Rackmount kits with slides
- 1 Face library—all styles at 64 and 32 scanlines
- 2 Maintenance extender boards
- 1 5-Pack 8" floppy diskettes
- 1 Operating manual
- 1 Operator training diskette
- 1 Service and maintenance manual

**Single-Channel System . . . . . \$19,495.00**

### Q-8D Dual-Channel System, NTSC, includes:

- 2 Single-channel chassis, 117VAC/60Hz ± 10% with sync/color lock, NTSC color encoder, RGB output, RS-232 data I/O port
- System software (license required)
- 1 Floppy disk chassis—dual 8" disk drives
- 2 Keyboards—English, 117VAC power supply, 25' cable
- QCC-1 Camera capture font/logo compose—PC card
- 3 Rackmount kits with slides
- 1 Face library—All styles at 64 and 32 scanlines
- 4 Maintenance extender boards
- 1 5-Pack 8" floppy diskettes
- 1 Operating manual
- 2 Operator training diskettes
- 1 Service and maintenance manual

**Dual-Channel System . . . . . \$29,495.00**

### OPTIONS

- DD-20/8** 20M byte Fixed Disk Add-on, Includes:  
3 1/2" Rackmount Chassis, 20M byte Fixed Disk, Power Supply, Host Adaptor, Controller Board . . . . . \$ 3,995.00
- QST-Q8** Automated Subtitling System via Time-code Input. Includes: Plug-in Time Code Reader Board, Audio Connector, Software, and Manual. Indicate Language and Standard. (Dual channel units require subtitle display via time-code in one channel only.) . . . . . \$1,995.00
- EN-10** Keyboard, English, 117VAC Power Supply, 25' Cable. . . . . 4,450.00



Q8

- RKB-8** Recall Keyboard with Editor Interface . . . . . \$1,995.00
- SCA-8** Second Channel Upgrade (Q-8S to Q-8D), NTSC, RGB, 117VAC/60Hz ± 10%, Includes:  
1 Single-Channel Chassis, 1 Rackmount Kit with Slides, 1 117VAC Power Supply, 2 Maintenance Extender Boards, Connecting Cables, 1 Operating Manual, Supply, 25' Cable . . . . . \$14,995.00
- QCC-1/8** Camera Capture Font/Logo Compose (PC Card Mount in Q-8 Electronics Chassis). . . . . 2,995.00
- KC-8** Keyboard Cable Extension Kit  
50' Cable with Connectors. . . . . 45.00  
75' Cable with Connectors. . . . . 55.00  
100' Cable with Connectors. . . . . 65.00

### ACCESSORIES

- FD-10** 10-Pack 8" Floppy Diskettes. . . . . \$ 225.00
- FLD-8** Face Library Diskette (All face styles at 64 and 32 scanlines) . . . . . 1,000.00
- FS-8** Single Face Style . . . . . 100.00
- INT-8** International Language Conversion Kit, Includes:  
System Software, International Face Library at 64 scanlines (Face Styles as Above), Operations Manual Addendum with International Keyboard Layouts. . . . . \$995.00

**SPECIFY:** French AZERTY, French QWERTY, German-Nordic, or Spanish-Portuguese

Note: Q-8S or Q-8D also available with French, French QWERTY, German-Nordic or Spanish-Portuguese keyboards. Contact Quanta for pricing and delivery.

FONT-FLEX is a trademark of Quanta.



# QUANTEL

655 Washington Blvd., Suite 602  
Stamford, CT 06909  
(203) 348-4104

# VIDEO EFFECTS SYSTEMS

## DLS 6030 Digital Library System

- Small size, compact electronics
- Up to 6400 stills storage capacity
- Standard SMD interface built in
- Powerful, user-friendly control
- Digitally-linkable capability
- Store digitally on standard video tape
- Digital production effects possible

With unprecedented capabilities for recording, accessing and presenting pictures, sophisticated disk storage, digital production effects, and limitless off-line digital storage on standard videotape, the DLS-6030 can meet your most demanding requirements. Now and far into the future.

Storage can be either field or frame to give you the flexibility you need for pictures and captions.

The DLS 6030 accepts asynchronous input so you can capture pictures from incoming remotes.

Picture grab lets you capture stills from live video in rapid succession, then later edit them to select those you want to store permanently.

You can also erase individual pictures from the disk at any time without affecting pictures stored on adjacent tracks. Special "write protect" features are included to prevent accidental erasure.

Since all picture information remains in digital form, complete fidelity is maintained without generation loss—even if you use small ENG-type recorders. An elegant digital innovation from the digital video people.



DLS 6030

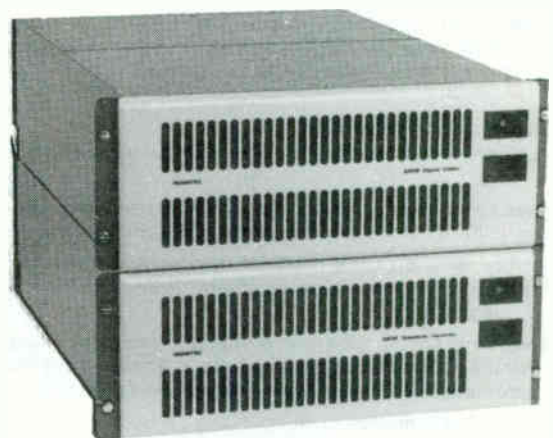


DLS 6010

## DSC 4800 Satin TV Standards Converter

- Freeze
- Noise reduction
- Component input and output
- 4:2:2 component digital input/output
- Auto input standard select
- Overscan
- Internal test signals
- Remote control
- Engineering set-up
- Laser frame
- Image enhancement
- Revert
- Single wire reference

Satin is an advanced bidirectional broadcast quality TV standards converter. Besides handling PAL and NTSC signals, other color standards can be processed via the component RGB input and output. Picture quality is excellent. This is achieved because Satin is completely digital—with the digital decoder and coder contained in the Codec and the line and field conversion taking place in the standards converter unit. The result is a superb technical performance which is maintained year in and year out. Satin is ready now for the digital studio. Video processing is SMPTE 4:2:2 component digital format in accordance with the CCIR.601 international standard. Satin also features a digital interface conforming to the international standard—a further building block in the realization of the all-digital studio.



DSC 4800 (Satin)

# QUANTEL

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(203) 348-4104

## Mirage™ — Three-Dimensional TV Images In Motion

The Mirage system brings to reality that which has never been done before in realtime: the concept of forming live television pictures into three-dimensional shapes and moving them in three-dimensional space. Effects are accomplished with live video or during post-production in the edit suite. Mirage will process any shape that can be conceived including globes, cylinders and cones. Using Mirage's Floating Viewpoint Control, the user can take the viewer's eye not only around the image but through it as well. The Morph shape generator allows creative people without computer programming experience to form their own custom shapes.

## Encore™ — Multi-Dimensional Images

Second only to Mirage in its video manipulation capabilities, Encore also provides three-dimensional perspective with Floating Viewpoint Control, plus compression, expansion, flips, rotation, mosaic, posterization and more. Its integral combiner lets the user connect 14 units for multi-channel operation. And using Mirage as an Encore channel, the system will produce free-form manipulation of flat pictures including such effects as an Encore picture flying down a Mirage cylinder.

## Paintbox® — The Ultimate TV Graphics System

Quantel's Paintbox is a complete electronic graphics and design system that has become the world standard. Paintbox provides the user with all the facilities that are available in a conventional graphics studio—electronically. Working with a simple touch tablet and pressure-sensitive stylus, pictures are displayed in front of the artist on a TV screen. Live video may be captured and designers have complete freedom to create or change images in real-time in whatever art medium they select, ranging from oils, water color, chalk, pencil and crayon to air brush. Paintbox animates, produces TV's finest typography, and perspective may be added as an option. Instant access to thousands of pictures is available through Quantel's Central Lending Library in addition to its own library storage capabilities.

## Cypher Graphics Generator

Much more than just a perfect caption generator with print-quality type faces and logos, Cypher also has the manipulative power of Encore available for each and every character. Cypher can generate any character from an enormous resource of type faces. With Floating Viewpoint Control, Cypher users can orchestrate the movement of the caption or its individual characters with the utmost ease. Each visible character can be modified separately or together in size position, rotation or perspective. Each color in a caption can be different, multi-colored, and even animated to produce unusual color changes and effects. Traditional typographic capabilities such as kerning, letter spacing, word spacing, text justification and line spacing are designed into the Cypher system, as well as rolls and crawls.

## Harry-Digital CEL Recorder

Harry, is a digital cel recorder for use with Paintbox digital art/graphics system.

Harry allows cel animation, video retouching, matte work, and video rotoscoping to be performed directly from a Paintbox touch tablet.

This capability eliminates the need for complicated frame-by-frame editing sessions with video tape recorders. Harry can do it easier, faster, and in digital form.

Harry is a real time random access record/replay system fully integrated with the Paintbox. Cels can be prepared one at a time on the Paintbox and then automatically stored in Harry. Capacity is 2,700 cels.

During rehearsal or sequence build-up, Harry can replay at any speed. Any cel can be edited or repeated for twinning purposes. Cels can be replayed at normal video frame rates for program output.

Harry can also record approximately 90 seconds of live video which can then be retouched one frame or field at a time. The modified video can be edited and replayed in real time.

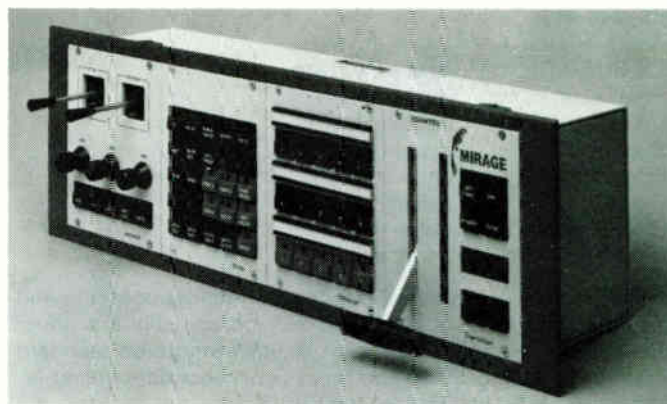
Complex matte preparation and rotoscoping can likewise be performed frame-by-frame from a live source returning to a live replay.

All these functions can be done easily using the Paintbox menu. No additional control panels are required. Like the Paintbox, Harry has been designed to be used by artists and graphics designers.

V-922

Prices and Specifications Subject to Change Without Notice..

# VIDEO EFFECTS SYSTEMS



Mirage



Viewpoint Control Panel



Paintbox System

### Options for Harry

**Rainbow** bringing several important enhancements together in a single package. Included are: Color Grading, Color Changing, Track and Trail, Differencing and Averaging.

**Dynamic Rounding** This feature allows the combining of digitally generated pictures without the intrusion of annoying interference artifacts.

**Paradoxically**, the totally pure, noise-free nature of digital pictures generates noise when two such pictures are added together—an inherent problem with the digital standard. The option package eliminates this problem, taking the Harry one step beyond the digital standard.

**Audio Scratch Track** This feature gives Harry a 60 second random access internal audio scratch track facility (optionally 120 seconds), allowing operators to make perfectly timed cuts against audio—frequently the controlling factor in an editing job.

### Operating System Refinements Are:

- Non-additive Mixing—neatly complementing Harry's existing additive mixing capabilities
- Enhanced clip library management system for easier and faster access to stored clips; these are now organized alphabetically and a keyword search facility has been added
- Library for storing keyer set-ups—invaluable in complex multi-generation edits

# QUICKSET INTERNATIONAL, INC.

3650 Woodhead Dr.  
Northbrook, IL 60062  
(312) 498-0700 (800) 247-6563  
Telex: 72-4362 FAX: (312) 295-8553

## QuickSet Husky (Wt. Capacity 17 lbs.)

### Tripods, Counterbalance Spring Heads

Load Capacity . . . . . 17 lbs. (7.7kg)  
Maximum Height . . . 57"-72" (144.8-182.9cm)  
Minimum Height . . . 23"-31" (58.4-78.7cm)  
(dependent on model)  
Column Height . . . . . 16" (40.6cm)  
Tilt Angle . . . . . 60° up, 90° down  
Pan Rotation . . . . . 360°  
Weight . . . . . 7 lbs. (3.2kg)

#### QKTH-1

Lightweight all aluminum tripod. Spring loaded counterbalance head, safety elevator column, all black finish. 2-section tubular legs.

#### QKTH-3

Same as QKTH-1 with 3-section tubular legs.

#### QKTH-7

Same as QKTH-1 but with strut supports.

#### QKTH-9

Trolley, Same as QKTH-1 but with single length leg with struts and detachable wheels.

### Photographic Tripods

Load Capacity . . . . . 17 lbs. (7.7kg)  
Maximum Height . . . 72"-90" (182.9-228.6cm)  
Minimum Height . . . 30"-31" (76.2-78.7cm)  
(dependent on model)  
Column Height . . . . . 16" (40.6cm)  
Tilt Angle . . . . . 60° up, 90° down  
Pan Rotation . . . . . 360°  
Side Tilt . . . . . 40° up, 105° down  
Weight . . . . . 7.5-8.25 lbs. (3.4-3.75kg)

#### QKTH-17

Lightweight aluminum tripod. 3-section elevator column and 3-dimensional pan, tilt and side tilt head.

#### QKTH-21

Same as QKTH-17 but with 4 section tubular legs.

### Fluid Head Tripod Systems

Load Capacity . . . . . 10 lbs. (4.5kg)  
Maximum Height . . . 57"-72" (144.8-182.9cm)  
Minimum Height . . . 25"-31" (58.4-78.7cm)  
(dependent on model)  
Column Height . . . . . 16" (40.6cm)  
Tilt Angle . . . . . ± 90°  
Pan Rotation . . . . . 360°  
Weight . . . . . 4 lbs. (1.8kg)

#### QKTH-23

Lightweight aluminum tripod, 2 section legs, manual lift column, 15 lb. capacity fluid head.

#### QKTH-25

Same as QKTH-23 but with struts and safety elevator column.

#### QKTH-26

3 section legs, manual lift column.

#### QKTH-27

Same as QKTH-25 but with 3 section legs, safety elevator column.

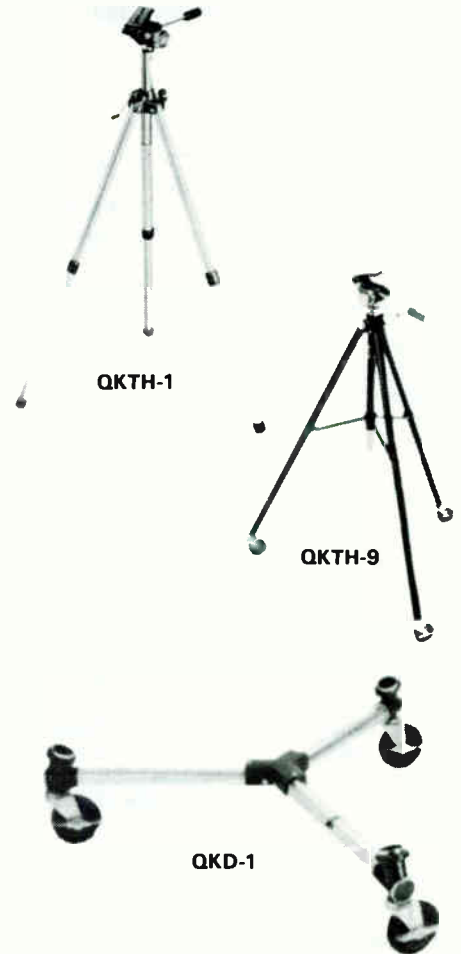
#### QKTH-28

3 section legs, struts, safety elevator column.

#### QKTH-29

Trolley. Same as QKTH-25 but with single length leg and detachable wheels.

# LIGHTWEIGHT TRIPODS/ TROLLEY/HEADS/DOLLY



### QKTH-9 Trolley-Counterbalance Spring Head

Load Capacity . . . . . 20 lbs. (9.1kg)  
Maximum Height . . . . . 58" (148.6cm)  
Minimum Height . . . . . 43 1/4" (110.2cm)  
Column Height . . . . . 16" (40.6cm)  
Tilt Angle . . . . . 60° up, 90° down  
Pan Rotation . . . . . 360°  
Wheel Circle . . . . . 38" (96.5cm)  
Weight . . . . . 9 1/4 lbs. (4.2kg)

### QKT-11 Tripod

Load Capacity . . . . . 17 lbs. (7.7kg)  
Maximum Height . . . . . 57" (144.8cm)  
Minimum Height . . . . . 23" (58.4cm)  
Weight . . . . . 7 lbs. (3.2kg)

### QKT-11

Same as QKTH-1, but without head.

### QKD Dollies

Load Capacity . . . . . 50 lbs. (22.7kg)  
Wheel Size . . . 3 or 4" x 3/4" (10.2 x 1.9cm)  
Wheel Circle . . . . . 35" (88.9cm)  
Folds to . . . . . 4" x 6" x 19"  
(10.2 x 15.2 x 48.3cm)  
Weight . . . . . 8 lbs. (3.6kg)

### QKD-1

For Husky tripods only, 4" wheels

### QKD-3

Fits most round foot pad tripods, 3" wheels

## Tripods and Trolleys

(All include Spring Loaded Counterbalance Heads, Wt. Capacity 17 lbs.)

QKTH-1	Tripod, 2 Section Legs, Safety Elevator Column (Max. Ht. 57")	\$205.00
QKTH-3	Tripod, 3 Section Legs, Safety Elevator Column (Max. Ht. 72")	215.00
QKTH-7	Tripod, 2 Section Legs, Struts, Safety Elevator Column (Max. Ht. 57")	230.00
QKTH-9	Trolley, Struts, Safety Elevator column, 3" Wheels (Max. Ht. 58")	280.00

## Photographic Systems

(All include 3-Dimensional Pan, Tilt and Side Tilt Head)

QKTH-17	Photographic Tripod, 3 Section Legs, Elevator Column (Max. Ht. 72")	\$220.00
QKTH-21	Photographic Tripod, 4 Section Legs, Elevator Column (Max. Ht. 90")	270.00

## Fluid Head Systems

(Wt. capacity 15 lbs.) (Available October, 1987)

QKTH-23	Tripod, 2 Section Legs, Manual Lift Column (Max. Ht. 57")	\$180.00
QKTH-25	Tripod, 2 Section Legs, Struts, Safety Elevator Column (Max. Ht. 57")	240.00
QKTH-26	Tripod, 3 Section Legs, Manual Lift Column (Max. Ht. 72")	190.00
QKTH-27	Tripod, 3 Section Legs, Safety Elevator Column (Max. Ht. 72")	225.00
QKTH-28	Tripod, 3 Section Legs, Struts, Safety Elevator Column (Max. Ht. 72")	250.00
QKTH-29	Trolley, Struts, Safety Elevator Column, 3" Wheels (Max. Ht. 58")	290.00

## Tripod Only

QKT-11	Tripod, 2 Section Legs	\$135.00
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## Dolly

QKD-1	Dolly, 4" Wheels (for Husky only)	\$105.00
QKD-3	Dolly, 3" Wheels (fits most round foot pad tripods)	135.00



# QUICKSET INTERNATIONAL, INC.

3650 Woodhead Dr.  
Northbrook, IL 60062  
(312) 498-0700 (800) 247-6563  
Telex: 72-4362 FAX: (312) 295-8553

# MEDIUM WEIGHT TRIPODS/ PEDESTALS/COLUMNS/ HEADS/DOLLIES

## QuickSet Samson (Wt. Capacity 70 lbs.)

### QST-1 ENG/EFP Tripod

Load Capacity . . . . . 70 lbs. (31.8kg)  
Maximum Height . . . . . 58" (147.3cm)  
Minimum Height . . . . . 32" (81.3cm)  
Weight . . . . . 9 lbs. (4.1kg)

### QST-1

Strong, lightweight tripod, struts, extendable legs. Without elevator column.

### QST-3 Tripod With Elevator

Load Capacity . . . . . 40 lbs. (18.2kg)  
Maximum Height . . . . . 76" (193cm)  
Minimum Height . . . . . 34" (86.4cm)  
Weight . . . . . 10 lbs. (4.5kg)

### QST-3

Strong, easily portable tripod with geared elevator center column.

### QST-5

3/4 size version of QST-3

Maximum Height . . . . . 55" (139.7cm)  
Minimum Height . . . . . 21" (53.3cm)

### QST-9 Trolley

Load Capacity . . . . . 40 lbs. (18.2kg)  
Maximum Height . . . . . 54" (137.2cm)  
Minimum Height . . . . . 36" (91.4cm)  
Column Height . . . . . 18" (45.7cm)  
Wheel Circle . . . . . 34" (86.4cm)  
Weight . . . . . 13 lbs. (5.9kg)

### QST-9

Trolley, tubular, single section legs with wheels permanently attached. Geared elevator column.

### QSP-1 Mobile Pedestal

Load Capacity . . . . . 40 lbs. (18.2kg)  
Maximum Height . . . . . 55" (139.7cm)  
Minimum Height . . . . . 37" (94cm)  
Wheel Circle . . . . . 28" (71.1cm)  
Weight . . . . . 23 lbs. (10.5kg)

### QSP-1

Mobile pedestal has geared elevator column housed within 4" diameter vertical tube. Three radiating arms, at the base, house 4" wheels.

### QSC-1 Stationary Column

(includes Side Arm and Head)

Load Capacity . . . . . 15 lbs. (6.8kg)  
Maximum Height . . . . . 30" (76.2cm)  
Minimum Height . . . . . 37" (94cm)  
Horizontal Reach . . . . . 10" (25.4cm)  
Weight . . . . . 8 lbs. (3.6kg)

### QSC-3 Safety Elevator Column Unit

Load Capacity . . . . . 25 lbs. (11.4kg)  
Maximum Height . . . . . 24" (60.9cm)  
Minimum Height . . . . . 6" (15.2cm)  
Weight . . . . . 6 lbs. (2.7kg)

### QSC-3

Geared elevator column with mounting flange.

### QSD-1 Dolly

Load Capacity . . . . . 50 lbs. (22.7kg)  
Wheel Size . . . . . 4" x 3/4" (10.2 x 1.9cm)  
Wheel Circle . . . . . 42" (106.7cm)  
Folds to . . . . . 6 1/2" x 7 1/2" x 21 1/2"  
(16.5 x 19.0 x 54.6cm)  
Weight . . . . . 9 lbs. (4.1kg)

### Video Friction Head

Load Capacity . . . . . 25-35 lbs. (11.4-15.9kg)  
Tilt Angle . . . . . 45° up, 90° down  
Pan Rotation . . . . . 360°  
Dimensions . . . . . 5 1/2" x 6 1/2" x 6 1/2"  
(14.1 x 16.6 x 16.6cm)

Weight . . . . . 2 1/2 lbs. (1kg)  
Mountings . . . . . 1/4 x 20 camera screw

### QSH-4

Standard Counterbalance Spring (25 lb. cap.)

### QSH-3

Heavy-Duty Counterbalance Spring (35 lb. cap.)

3/8 x 16 mounting screw available on special order.

### QSH-6 CAM Head

Load Capacity . . . . . 40 lbs. (18.1kg)  
Tilt Angle . . . . . 30° up, 40° down  
Pan Rotation . . . . . 360°  
Dimensions . . . . . 8 1/2" x 6 1/2" x 4 1/2"  
(21.6 x 16.6 x 11.5cm)

Mountings . . . . . 1/4 x 20 camera screw  
3/8 x 16 mounting screw available on special order.

### QSH-9 Photographic Geared Still Head

Load Capacity . . . . . 25 lbs. (11.4kg)  
Tilt Angle . . . . . 45° up, 90° down, ± 15° side  
Pan Rotation . . . . . 360°  
Dimensions . . . . . 8 1/2" x 6 1/2" x 6"  
(21.6 x 16.5 x 15.2cm)

Weight . . . . . 2 1/2 lbs. (1.1kg)

### QSH-11 Geared Movie Head

Load Capacity . . . . . 25 lbs. (11.4kg)  
Tilt Angle . . . . . 45° up, 90° down  
Pan Rotation . . . . . 360°  
Dimensions . . . . . 6" x 6 1/2" x 7 1/2"  
(15.2 x 16.5 x 19cm)

Weight . . . . . 2 lbs. (1kg)

## Tripods, Pedestals, Trolley and Columns

<b>QST-1</b>	ENG/EFP Tripod (Use with QSH-27 or QSH-19 only) (Wt. Cap. 70 lbs.) (Max. Ht. 58") . . . . .	<b>\$350.00</b>
<b>QST-3</b>	Tripod, Safety Elevator Column (Wt. Cap. 40 lbs.) (Max. Ht. 76") . . . . .	<b>395.00</b>
<b>QST-5</b>	Tripod, 3/4 Size, Compact Safety Elevator Column (Wt. Cap. 40 lbs.) (Max. Ht. 55") . . . . .	<b>390.00</b>
<b>QST-9</b>	Trolley, Safety Elevator Column (Wt. Cap. 40 lbs.) (Max. Ht. 54") . . . . .	<b>435.00</b>
<b>QSP-1</b>	Mobile Pedestal, Safety Elevator Column (Wt. Cap. 40 lbs.) (Max. Ht. 55") . . . . .	<b>650.00</b>
<b>QSC-1</b>	Stationary Column Unit (Incl. Side Arm and Panhead) (Wt. Cap. 15 lbs.) (Max. Ht. 30") . . . . .	<b>305.00</b>
<b>QSC-3</b>	Safety Elevator Column Unit for bench or cart mount (Wt. Cap. 25 lbs.) (Max. Ht. 24") . . . . .	<b>230.00</b>

## Heads-Video, Cam and Gear Type

<b>QSH-4</b>	Video Friction Head w/Counterbalance Spring (Wt. Cap. 25 lbs.) . . . . .	<b>\$185.00</b>
<b>QSH-3</b>	Video Friction Head w/Heavy-Duty Counterbalance Spring (Wt. Cap. 35 lbs.) . . . . .	<b>195.00</b>
<b>QSH-6</b>	Cam Head (Wt. Cap. 40 lbs.) . . . . .	<b>490.00</b>
<b>QSH-9</b>	Photographic Geared Still Head (Wt. Cap. 25 lbs.) . . . . .	<b>360.00</b>
<b>QSH-11</b>	Geared Movie Head (Wt. Cap. 25 lbs.) . . . . .	<b>335.00</b>

## Fluid Heads

<b>QSH-15</b>	"Mini" (Wt. Cap. 10 lbs.) For tripods with Samson columns . . . . .	<b>\$ 435.00</b>
<b>QSH-17</b>	"Junior" (Wt. Cap. 30 lbs.) For tripods with Samson columns . . . . .	<b>820.00</b>
<b>QSH-19</b>	"Junior" (Wt. Cap. 30 lbs.) For QST-1 Tripod . . . . .	<b>805.00</b>
<b>QSH-25</b>	"Super-Hydro" (Wt. Cap. 50 lbs.) For tripods with Samson columns . . . . .	<b>1040.00</b>
<b>QSH-27</b>	"Super-Hydro" (Wt. Cap. 50 lbs.) For QST-1 Tripod . . . . .	<b>1020.00</b>

## Dolly and Accessories

<b>QSD-1</b>	Dolly for QST-1 and QST-3 tripods . . . . .	<b>\$165.00</b>
<b>QSM-1</b>	Second Control Arm for Video, Cam and Fluid Heads . . . . .	<b>48.00</b>

QSH-6



### QSH-15 Mini Fluid Head

Load Capacity . . . . . 10 lbs. (4.5kg)  
Tilt Angle . . . . . ± 90°  
Pan Rotation . . . . . 360°  
Dimensions . . . . . 4" x 5" x 6"  
(10.2 x 12.7 x 15.2cm)

Base . . . . . For Samson Column  
Weight . . . . . 4.5 lbs. (2.0kg)

### Junior Fluid Heads

Load Capacity . . . . . 30 lbs. (13.6kg)  
Tilt Angle . . . . . ± 85°  
Pan Rotation . . . . . 360°  
Dimensions . . . . . 4" x 6" x 6"  
(10.2 x 15.2 x 15.2cm)

Weight . . . . . 7.0 lbs. (3.2kg)

### QSH-17

For Tripods w/Samson Columns

### QSH-19

For QST-1 Tripod

### Super-Hydro Fluid Head

Load Capacity . . . . . 50 lbs. (22.6kg)  
Tilt Angle . . . . . ± 80°  
Pan Rotation . . . . . 360°  
Dimensions . . . . . 6 3/4" x 6" x 7"  
(17.1 x 15.2 x 17.8cm)

Weight . . . . . 10 3/4 lbs. (4.9kg)

### QSH-25

For Tripods w/Samson Columns

### QSH-27

For QST-1 Tripod



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# HEAVYWEIGHT TRIPODS/ PEDESTALS/COLUMNS/ HEADS/DOLLIES

## QuickSet Hercules (Wt. Capacity 150 lbs.)

**QHT-1 Tripod With Elevator**  
Load Capacity . . . . .150 lbs. (68.2kg)  
Maximum Height . . . . .73" (185.4cm)  
Minimum Height . . . . .33" (83.8cm)  
Weight . . . . .19 lbs. (8.6kg)

**QHT-3**  
3/4 size version of QHT-1  
Maximum Height . . . . .55" (139.7cm)  
Minimum Height . . . . .26" (66.0cm)

**QHT-1**  
Strong, heavy-duty tripod with geared center column.

**QHT-3**  
Same as QHT-1, but in 3/4 size where lower operating height is required.

**QHP-1 Mobile Pedestal**  
Load Capacity . . . . .80 lbs. (36.4kg)  
Maximum Height . . . . .56" (142.3cm)  
Minimum Height . . . . .38" (96.5cm)  
Weight . . . . .35 lbs. (15.9kg)  
Wheel Circle . . . . .34" (86.4cm)

**QHP-1**  
Heavy-duty mobile pedestal. Geared elevator column housed within a 6" diameter vertical tube. Three radiating arms, at the base, hold double lock 4" wheels.

**QHH-3 Instrument Geared Head**  
Load Capacity . . . . .15-50 lbs. (6.8-22.7kg) \*  
Tilt Angle . . . . .45° up, 90° down  
Pan Rotation . . . . .360°  
Dimensions . . . . .7" x 6" x 6 3/4"  
(17.8 x 15.2 x 17.1cm)  
Weight . . . . .7 lbs. (3.2kg)  
\*Choice of counterbalance spring

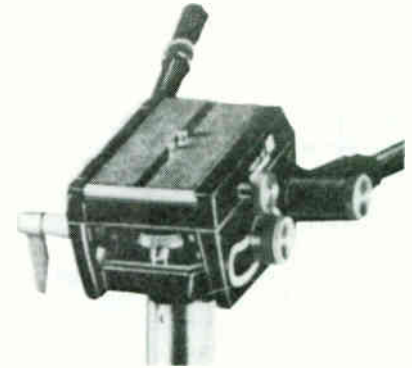
**QHH-5 Cam Head**  
Load Capacity . . . . .80 lbs. (36.3kg)  
Tilt Angle . . . . .35° up, 45° down  
Pan Rotation . . . . .360°  
Dimensions . . . . .5" x 9" x 10"  
(12.7 x 22.9 x 25.4cm)  
Weight . . . . .21 lbs. (9.5kg)

**QHH-7 Cam Head**  
Load Capacity . . . . .140 lbs. (63.3kg)  
Tilt Angle . . . . .± 50°  
Pan Rotation . . . . .360°  
Dimensions . . . . .8 1/2" x 9 1/2" x 9 1/2"  
(21.6 x 24.1 x 24.1cm)  
Weight . . . . .25 1/2 lbs. (11.6kg)

**QHH-11 Instrument Geared Head, Calibrated**  
Same as QHH-3 with calibrations and verniers.  
Calibrations: Azimuth in 1° (0°-360°) w/  
Verniers; Elevation in 1° (+90° to -45°) w/  
Verniers; Verniers at 15 minutes



**QHP-1  
Mobile Pedestal**



**QHH-5 Cam Head**

**QHD-1 Dolly**  
Load Capacity . . . . .500 lbs. (226.8kg)  
Wheel Size . . . . .4" x 1" (10.2 x 2.5cm)  
Wheel Circle . . . . .45" (114.3cm)  
Folds to . . . . .7" x 13" x 28"  
(17.8 x 33.0 x 71.1cm)  
Weight . . . . .17 lbs. (7.7kg)

**QHD-1**  
Dolly with 4" wheels

**QHD-7**  
Dolly with 8" wheels and cable guards.

### Tripods, Pedestals, and Columns

**QHT-1** Tripod, Safety Elevator Column (Wt. Cap. 150 lbs.) (Max. Ht. 73") . . . . . \$780.00  
**QHT-3** Tripod, 3/4 Size, Safety Elevator Column (Wt. Cap. 150 lbs.) (Max. Ht. 44") . . . . . \$765.00  
**QHP-1** Mobile Pedestal, Safety Elevator Column (Wt. Cap. 80 lbs.) (Max. Ht. 56") . . . . . \$985.00

### Heads

**QHH-3** Instrument Geared Head (Wt. Cap. 50 lbs.) . . . . . \$ 735.00  
**QHH-11** Instrument Geared Head, Calibrated, Verniers on Pan and Tilt (Wt. Cap. 50 lbs.) . . . . . \$1575.00  
**QHH-5** Cam Head (Wt. Cap. 80 lbs.) . . . . . \$810.00  
**QHH-7** Cam Head (Wt. Cap. 140 lbs.) . . . . . \$1120.00

### Dollies

**QHD-1** Dolly, 4" Wheels (Use with QHT-1 Tripod) . . . . . \$ 450.00  
**QHD-7** Dolly, 8" Wheels, Cable Guards (Use with QHT-1 Tripod). . . . . \$1095.00

### Microscope Stand

**QHM-MS** Microscope Stand with Pan/Tilt Head (Wt. Cap. 25 lbs.) . . . . . \$400.00  
**QHM-MB** Base for Microscope Stand . . . . . \$ 95.00

### Accessories

**QHM-2** Second Control Arm for QHH-5, 7 Cam Heads . . . . . \$ 70.00  
**QHM-WP** Wedge Plate and Adaptor Assy, for QHH-5, 7 Heads . . . . . \$400.00  
**QHM-ST** Spike Tips (Set of 3) . . . . . \$100.00  
**QHM-HH** Hi-Hat . . . . . \$150.00  
**QHM-3** "Quick-On" Instrument Mount (Wt. Cap. 60 lbs.) . . . . . \$190.00



# QUICKSET INTERNATIONAL, INC.

3650 Woodhead Dr.  
Northbrook, IL 60062  
(312) 498-0700 (800) 247-6563  
Telex: 72-4362 FAX: (312) 295-8553

# HEAVYWEIGHT TRIPODS/ PEDESTALS/COLUMNS/HEADS/ DOLLIES/ADAPTOR CHART

## QuickSet Gibraltar (Wt. Capacity 400 lbs.)

QGT-3 Heavy-Duty  
Field/Studio Tripod

Load Capacity: 400 lbs. (181.8kg)  
Max. Height: 41 1/2" (108cm)  
Min. Height: 25 5/8" (64.8cm)  
Weight: 24 lbs. (10.9kg)

QGT-3 Heavy-duty crutch leg type tripod without separate elevating column mechanism 3" diameter swivel foot plate. (QGM-ST spike tips available)

QGT-5 Tripod with Elevator

Load Capacity: 200 lbs. (90.7kg)  
Max. Height: 85" (215.9cm)  
Min. Height: 42" (106.7cm)  
Weight: 42 lbs. (19.1kg)

QGT-7 — 3/4 Size Version of QGT-5

Max. Height: 65" (165.1cm)  
Min. Height: 30" (76.2cm)

QGT-5 Heavy-duty capacity tripod featuring extendable legs and geared elevator column

QGT-7 Same as QGT-5 but in 3/4 size for lower operating height

QGP-1 Mobile Pedestal

Load Capacity: 200 lbs. (90.7kg)  
Max. Height: 60" (152.4cm)  
Min. Height: 42" (106.7cm)  
Weight: 96 lbs. (43.5kg)  
Wheel Circle: 38" (96.5cm)

QGP-1 Heavy-duty mobile pedestal. Geared elevator column is housed within 8" diameter vertical tube. Radiating arms at the base house 8" wheels with cable guards

QGP-3 Counterbalance Studio Pedestal

Load Capacity: 150 lbs. (68.2kg)  
Max. Height: 54" (137.2cm)  
Min. Height: 36" (91.4cm)  
Doorway Width: 32" (81.3cm)  
Steering Wheel

Weight: 250 lbs. (113.3kg)

QGP-3 Studio pedestal, counterbalanced for loads to 150 lbs.

QGH-3 Instrument Geared Head

Load Capacity: 55-200 lbs.  
(22.7-90.0kg)  
Tilt Angle: 53° up, 67° down  
Pan Rotation: 360°  
Dimensions: 10" x 10" x 12"  
(25.4 x 25.4 x 30.5cm)  
Weight: 18 lbs. (8.2kg)

QGH-5 Cam Head

Load Capacity: 375 lbs. (170.5kg)  
Tilt Angle: ± 50°  
Pan Rotation: 360°  
Dimensions: 13" x 11" x 10"  
(33 x 28 x 25cm)  
Weight: 46 lbs. (20.9kg)

Specify type of camera, lens and teleprompter for Cam designation.

QGH-9 Instrument

Geared Head Calibrated  
Same as QGH-3 with calibrations and verniers.

QHD-1 Dolly

Load Capacity: 500 lbs. (226.8kg)  
Wheel Size: 4" x 1" (10.2x2.5cm)  
Wheel Circle: 45" (114.3cm)  
Folds to: 7" x 13" x 28"  
(17.8 x 33.0 x 71.1cm)  
Weight: 17 lbs. (7.7kg)

QHD-1 Dolly With 4" double lock wheels

QHD-7 Same as above with 8" wheels and cable guards



QGT-5



QGP-1

## TRIPODS, PEDESTALS, AND COLUMNS

QGT-3	Heavy-duty Field/Studio Tripod, Round Foot Pad (Wt. Cap. 400 lbs.) (Max. Ht. 42")	\$ 925.00
QGT-5	Tripod, Safety Elevator Column (Wt. Cap. 200 lbs.) (Max. Ht. 85")	1430.00
QGT-7	Tripod, 3/4 size, Safety Elevator Column (Wt. Cap. 200 lbs.) (Max. Ht. 65")	1420.00
QGP-1	Mobile Pedestal, Safety Elevator Column (Wt. Cap. 200 lbs.) (Max. Ht. 60")	3500.00
QGP-3	Counterbalance Studio Pedestal (Wt. Cap. 150 lbs.) (Max. Ht. 54")	5325.00

## HEADS — CAM, GEAR AND INSTRUMENT TYPE

QGH-3	Instrument Geared Head (Wt. Cap. 200 lbs.)	\$ 1420.00
QGH-5	Cam Head, Heavy-duty (Wt. Cap. 375 lbs.) (inc. Wedge Plate and Adaptor)	3500.00
QGH-9	Instrument Geared Head, Calibrated with Verniers on Pan and Tilt (Wt. Cap. 200 lbs.)	2595.00

## DOLLIES

QHD-1	Dolly, 4" Wheels (Use with QGT-3 and 7)	\$450.00
QHD-7	Dolly, 8" Wheels with Cable Guards (Use with QGT-3 and 7)	895.00

## ACCESSORIES

QGM-ST	Spike Tips (Set of 3)	\$ 150.00
65840	Adaptor for QGH-5 Cam Head to QGT-3 Tripod	145.00
65850	Adaptor for QGH-3 or 9 Heads to QGT-3 Tripod	135.00

\* Adaptor is needed for QGH-3, 5, or 9 Head.

## Adaptor Chart

To Adapt To:	Samson or Rainbow Col.	Hercules	Gibraltar	Rainbow
Rainbow Pro 1000 Head (QRH-1)	24083 \$30	NA	NA	24081 \$5
Rainbow Pro 2000 Head (QRH-2)	75715 \$75	NA	NA	24080 \$5
Rainbow Cam Head (QRH-6)	STD	75760 \$60	NA	24084 \$50
Rainbow Cam/Fluid Head (QRH-7)	NA	NA	NA	24080 \$5
Rainbow 88 Fluid Head (QRH-15)	75705 \$50	NA	NA	STD
Rainbow 88 Fluid Head (QRH-23)	75705 \$50	NA	NA	STD
Samson Heads (QSH-1,3,5,9,11)	STD	75760 \$60	NA	24084 \$50
Hercules Heads (QHH-3,5,7,11)	75750 \$60	STD	69010 \$30	24060 \$105
Gibraltar Cam Head (QGH-5)	NA	NA	65840* \$145	NA
Gibraltar Geared Heads (QGH-3,9)	NA	69020 \$35	65850* \$135	NA
Pro Jr. Base Heads	75450 \$105	55410 \$70	NA	STD
Mitchell Base Heads	NA	55861 \$105	65810 \$115	NA
Transit Adaptor (ASA 3.5" x 8 thread)	75910 \$60	55901 \$65	65910 \$60	NA
75mm Claw Ball Head	NA	NA	NA	24081 \$5
100mm Claw Ball Head	NA	NA	NA	24081 \$5

\* For Gibraltar tripods without columns; STD on Gibraltar column tripods

# RAMPART CASES, INC.

7th & Charles St.  
Gloucester City, NJ 08030  
(609) 456-0101 (800) 932-0415

# CASES

## Rampart ATA Style Cases

- Exterior laminates are available to suit your needs in ABS plastic, aluminum, or fiberglass
- 1/4", 3/8", or 1/2" exterior plywood construction
- Exclusive Rampart Design Aluminum tongue and groove valance insures tight closure
- Edging is extruded aluminum, machine riveted every three inches. (More metal per inch than any competitor)
- All interior partitions are secured by riveted aluminum bracing
- Recessed, spring loaded handles and spring latches, machine riveted for durability and security
- Full length, heavy-duty piano hinge secured with machine driven rivets
- Large steel ball corners protect case surface from excessive wear
- Double woven nylon lid straps, riveted and heat sealed
- Interior lined with 2.2 lb./cu. ft. esterfoam or ethafoam as required

Rampart Cases afford superior protection for your goods. They are designed and manufactured to the most exacting specifications.

Rampart Cases are individually designed and fabricated to suit any requirement. We maintain an extensive computer library containing hundreds of repetitive designs. These designs may be modified to suit your individual requirements or we can custom design a Rampart Case to your specifications at no additional cost.

Rampart Cases are of the highest quality and manufactured to provide safe transport of the most delicate equipment while still retaining aesthetic appeal. Rampart Cases use 3/8" exterior grade plywood as a standard feature. Our exclusive design interlocking, heavy-duty aluminum valance is the sturdiest in the industry. With more metal per lineal inch than any competitor, you are assured years of service without concern of damage to the most vulnerable part of any transit case—the open edges.

## ATA Style Instrument Cases

Sensitive test equipment requires the finest in protection to assure that it arrives at its destination without damage to delicate calibration settings. Rampart's custom interior foam cushioning guarantees you will be able to use your equipment upon arrival.

## ATA Style Rampart Display Cases

The major reason that you attend trade shows and conventions is to attract new business. A damaged display is obviously a poor representation. Protect your investment with a Rampart Case, custom designed to your needs.

## Rampart Defender Cases

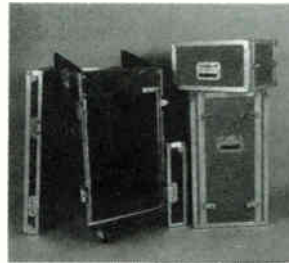
Defender—Perfect for local or short distance use. The "Defender" offers a high level of protection but is lighter in weight and considerably less expensive. The exterior of the Defender features top grade plywood laminated with high impact, high gloss ABS plastic or aluminum and the same hardened framework as the Rampart Series. Exterior mounted latches, attache or spring loaded valance mounted handles offer easy maneuvering and quick portability. A full length piano hinge securely riveted guarantees precision alignment for the interlocking valance. The Defender interior features urethane foam cut to fit your particular needs. With the Defender, you receive all the design options of our Rampart case, in a lighter weight and less expensive case.



Audio Visual Cases



Instrument Cases



Display Cases

## ATA Style Audio Visual Cases

Overhead projection, motion, multi-image and strip equipment will arrive safe and ready for your presentation when shipped in a Rampart Case. Our cases are designed to hold power packs, cords and cables, all in the same sturdy case as your other A/V equipment.

## ATA Style Computer Cases

Our design library contains specifications for hundreds of systems and individual components, whether you are shipping display units, keyboards, disk drives or other peripheral equipment a Rampart Case assures that your hardware will reach its destination unharmed.

## Rampart Traveler Case

The Traveler—The newest addition to our full line of quality cases is the lightest and least expensive way to protect delicate equipment for local moves. The Traveler's exterior is constructed of 1/8" high gloss, high impact ABS plastic molded to fit securely in our custom design tongue and groove aluminum valance and protected with high quality aluminum edge trim. Square steel plated corners ensure the ultimate in protection. Attache and spring loaded valance mounted handles are available to speed quick transport. The interior of the case offers all the flexibility of custom design as all Rampart Cases do. Lined with high density urethane foam, the Traveler protects and defends your equipment in a light and inexpensive design.

Route 38, Bldg. 203-3  
Cherry Hill, NJ 08358  
(609) 486-5830 FAX: (609) 486-5840

### JPR-985PR

#### "Lyceum" ITV Color Receiver/Monitor

- 25" diagonal picture
- Full off-air channel capability including 57 cable TV channels
- 51 function Digital Infrared Remote Control (Optional Extra)
- New Color Processing System
- Improved all solid-state design
- Solid-state CCD (Charged Coupled Device) comb filter for improved bandwidth and resolution
- Vertical detail enhancement
- Keyboard electronic tuner with on screen display
- Automatic Light Sensor (ALS)
- Electronic-to-electronic videotape recording capability
- 110° precision in-line slotted mask COTY picture tube
- Expanded Video-Audio termination panel
- Broadcast stereo sound
- Automatic color balance
- 27 function optional remote control

#### General Specifications

<b>Color Standard:</b>	525 line NTSC Color
<b>Chassis:</b>	CTC 131 all solid-state, unitized
<b>Power Requirements:</b>	120VAC $\pm$ 10%, 60 Hz
<b>Power Consumption:</b>	Not to exceed 157W Av. 134W
<b>Power Cord:</b>	Type SJT 3-wire, 20' long, shielded
<b>Service Adjustments:</b>	Accessible behind rear panel cover
<b>Certification:</b>	U.L. Commercial
<b>Height:</b>	21 3/4" (55.2 cm)
<b>Width:</b>	25 1/4" (64.1 cm)
<b>Depth:</b>	19" (46.26 cm)
<b>Shipping Weight:</b>	106 lbs.
<b>Cabinet:</b>	Rosewood Veneers on fiberboard
<b>Picture Tube:</b>	25" 110° COTY Precision in-line 52% Light Transmission with High Potential, Bipotential Gun, Super Arched Shadow Mask and striped, pigmented phosphors



JPR-985PR

Simulated TV Reception



CRK-37



CRK-32

### JPR-980WR

#### "Lyceum" ITV Color Receiver/Monitor

- 20" diagonal square picture eliminates "corner cut-off"
- Channel lock Electronic Scan tuning
- Optional infrared wireless remote control
- Improved all solid-state design
- Keyboard electronic tuner with LED readout
- Automatic Light Sensor (ALS)
- Precision in-line slotted mask COTY picture tube
- 150 channel tuning system allowing access of up to 57 cable channels

#### General Specifications

<b>Color Standard:</b>	525 line NTSC Color
<b>Chassis:</b>	ColorTrak, all solid-state CTC 130
<b>Power Requirements:</b>	120 VAC $\pm$ 10%, 60 Hz
<b>Power Consumption:</b>	130W, max.
<b>Power Cord:</b>	Type SJT 3-wire, 10' long
<b>Service Adjustments:</b>	Accessible at rear of cabinet
<b>Certification:</b>	U.L. Commercial Listing
<b>IR Remote Capabilities:</b>	When used with optional CRK-39K or CRK-40A IR Transmitter
<b>Height:</b>	18 3/4" (47.6 cm)
<b>Width:</b>	19 3/4" (50.2 cm)
<b>Depth:</b>	15 3/4" (40.0 cm)
<b>Shipping Weight:</b>	52 lbs.
<b>Cabinet:</b>	Simulated walnut finish on plastic
<b>Picture Tube:</b>	20" Precision In-Line 52% Light Transmission, Accufilter, 110° deflection



JPR-980WR

Simulated TV Reception



CRK-40A



CRK-39K



# RCA CONSUMER ELECTRONICS

600 N. Sherman  
Indianapolis, IN 46206  
(317) 267-5000

# CAMCORDERS

ProWonder & Small Wonder Camcorders	CPR 150	CPR 175	CPR 300	CPR 350
Super VHS (S-VHS)		Yes		Yes
2/3" Solid-State MOS Sensor	Yes	Yes	Yes	Yes
Lines of Resolution	1249	1500	1500	1700
2/3" B/W EVF (with Playback)	Yes	Yes	Yes	Yes
Adjustable Diopter	Yes	Yes	Yes	Yes
Viewfinder Display	Record Battery Counter OSD	Record Battery Counter Date OSD	Record LED Battery Counter Time Remain Time/Date OSD	Record LED Battery Counter Time Remain Time/Date OSD
Macro Focus		Yes	Yes	Yes
Power Zoom Lens Ratio	6:1	6:1	8:1	8:1 2 sp.
Infrared Auto Focus	Yes	Yes	Yes	Yes
f No.	1.6	1.6	1.2	1.2
High-Speed Electronic Shutter		Yes Variable Speed	Yes Variable Speed	
Tape Type	VHS-C	VHS-C or S-VHS-C	VHS	VHS or S-VHS
Tape Speeds	SP SLP	SP SLP	SP	SP
Maximum Recording Time	1 hr.	1 hr.	2 hr./40 min.	2 hr. (S-VHS) 2 hr./40 min. (VHS)
Auto White Balance	Continuous Automatic	Continuous Automatic	Continuous Auto/Manual	Continuous Auto/Manual
Auto/Manual Iris	Yes	Yes	Yes	Yes
Auto High Gain	Yes	Yes	Yes	Yes
Built-in Microphone	Yes	Yes	Yes	Yes
External Microphone Jack	Yes	Yes	Yes	Yes
TV Monitor Playback	Yes	Yes (also Y/C out)	Yes	Yes (also Y/C out)
Optional Character Generator			Yes	Yes
Quick Review	Yes	Yes	Yes	Yes
Earphone	Yes	Yes	Yes	Yes
Low Light Level	7 lux	7 lux	7 lux	7 lux
Battery Life (Hours)	1	1	2	2
Weight (w/o battery and tape)	2.8 lbs.	2.8 lbs.	5.5 lbs.	5.5 lbs.

# RCA CONSUMER ELECTRONICS

600 N. Sherman  
Indianapolis, IN 46206  
(317) 267-5000

## VHS RECORDER/PLAYERS

### VPT290 Videocassette Recorder

- 2-head system • Infrared remote control • Integrates into unified RCA audio/video system • Remote control programming with fluorescent display instructions • Up to one year, 4-event programmer • Fluorescent displays • Delayed-start XPR • Broadcast/cable frequency-synthesis tuner with auto-programming • High speed search and stop action • Compact design • Automatic power-on when cassette is inserted • Automatic rewind and shut-off • HQ picture VHS system • 8-hour recording capability

VPT290 ..... \$349.00



VPT290

### VPT295 Stereo Videocassette Recorder

- 2-head system • Broadcast stereo recording capability with SAP audio channel reception • Stereo playback with Dolby\* noise reduction • Infrared remote control • Integrates into unified RCA audio/video system • Remote control programming with fluorescent display instructions • Up to one year, 4-event timer • Fluorescent displays • Record stereo simulcasts (with optional FM tuner) • Delayed-start XPR • Broadcast/cable frequency-synthesis tuner with auto-programming • High speed search and stop action • Compact design • Automatic power-on when cassette is inserted • Autoplay • Automatic rewind and shut-off • HQ VHS system • 8-hour recording capability

VPT295 ..... \$449.00



VPT295

### VPT385 Videocassette Recorder

- 3-head system • Infrared remote control • Integrates into unified RCA audio/video system • Remote control programming with fluorescent display instructions • Up to one year, 4-event programmer • Fluorescent function displays • Delayed-start XPR • Broadcast/cable frequency-synthesis tuner with auto-programming • "Field-still" video system with jitter-free special effects • Compact design • Automatic power-on when cassette is inserted • Automatic rewind and shut-off • HQ picture VHS system • 8-hour recording capability

VPT385 ..... \$399.00



VPT385

### VPT390 Videocassette Recorder

- 3-head system • Infrared remote control • Integrates into unified RCA audio/video system • Remote control programming with on-screen instructions • Up to one year, 6-event timer • On-screen display graphics • Delayed-start XPR • Broadcast/cable frequency-synthesis tuner with auto-programming • "Field-still" video system with jitter-free special effects • Compact design • Automatic power-on when cassette is inserted • Autoplay • Automatic rewind and shut-off • HQ VHS system • 8-hour recording capability

VPT390 ..... \$429.00



VPT390

### VPT395 Stereo Videocassette Recorder

- 3-head system • Broadcast stereo recording capability with SAP audio channel reception • Linear stereo playback with Dolby noise reduction • Infrared remote control • Integrates into unified RCA audio/video system • Remote control programming with on-screen instructions • Up to one year, 6-event timer • On-screen display graphics • Record stereo simulcasts (with optional FM tuner) • Delayed-start XPR • Broadcast/cable frequency-synthesis tuner with auto-programming • "Field-still" video system with jitter-free special effects • Compact design • Automatic power-on when cassette is inserted • Autoplay • Automatic rewind and shut-off • HQ VHS system • 8-hour recording capability • Built-in AC outlet

VPT395 ..... \$549.00

\*Dolby is a trademark of Dolby Laboratories Licensing Corp.



VPT395

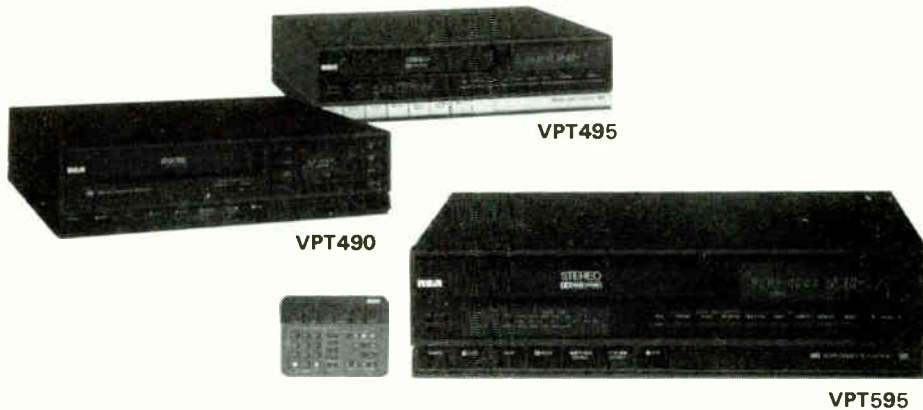
Prices and Specifications Subject to Change Without Notice.

V-931

# RCA CONSUMER ELECTRONICS

600 N. Sherman  
Indianapolis, IN 46206  
(317) 267-5000

# VIDEOCASSETTE RECORDERS



## VCRs WITH PIX-IN-PIX AND ON-SCREEN PROGRAMMING

- **Pix-in-Pix.** Now you can watch a TV program and a video tape. Both at the same time and both on the same screen. One signal is displayed as the main image, while the other appears as an inset in one corner. This second image (it takes up about 1/12<sup>th</sup> the total viewing area) can be turned on and off, moved to any corner of the screen, or even swapped with the main picture—all via remote control
- **Multi-Pix (VPT595 only).** Splits your TV screen into miniature still frames from 12 different broadcast or cable channels. It's a great way to preview what's on TV in just a few seconds. The same Multi-Pix capability also lets you freeze sequential frames from any TV program (off-air or cable) or from video tape. You can even vary the speed to produce an effect very like slow motion
- **Special digital effects (VPT595 only).** Off-air freeze. Instantly freeze a picture on your TV screen, either from a tape or off-air. Useful for freezing addresses or movie credits
- **Other digital effects.** "Mosaic" effect converts your picture into a colorful abstract pattern. "Posterization" produces an effect similar to those seen in music videos.

- "Field-still" video system. A special head enables this system to generate clean, jitter-free special effects (SP and SLP modes). Field-still video performance helps minimize noise bars in Stop Action, Frame Advance and Slow Motion
- On-screen programming MTS stereo
- Compact size

### VPT595 with Multi-Pix

- Advanced digital effects—Multi-Pix, Pix-in-Pix, "Mosaic," "Posterization," Stop Action and Slow Motion—all activated by remote control
- Digital circuitry provides rock-solid, noise-free still frames and slow motion in both SP and SLP modes. You can even "freeze" off-air pictures whenever you want
- Six-event/one-year on-screen programming
- Built-in MTS Stereo with Dolby noise reduction

- Built-in MTS stereo with Dolby™ noise reduction
- 120-channel broadcast/cable FS tuning\* with Auto-programming
- Compatible with RCA unified TV/VCR remote controls

### VPT495 with Dolby Stereo

- On-screen six-event/one-year remote programming
- 120-channel broadcast/cable FS tuning\* with Auto-programming
- Jitter-free "field-still" special effects (SP and SLP modes)
- On-screen tape counter display
- Compatible with RCA's TV/VCR remote control system

### VPT490

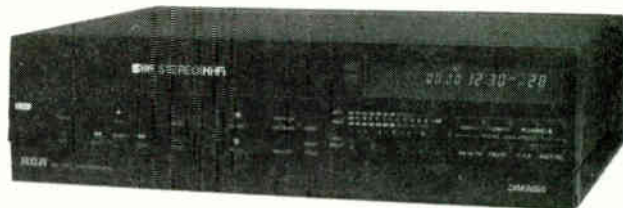
- Offers same basic features as VPT495 but without stereo recording and playback

## DIMENSIA VHS VCRs

- Well over 400 lines of resolution
- Compatible with your present VHS tape library. S-VHS VCRs automatically switch to standard VHS whenever you insert a standard VHS cassette for recording or playback
- High-Performance S-VHS Video Tape. A high-density, high-resolution oxide tape formulated especially for use with S-VHS VCRs

### VPT640HF S-VHS Hi-Fi Stereo

- Superior picture
- Built-in MTS Hi-Fi stereo
- On-screen remote programming of as many as six shows up to one year in advance
- 120-channel broadcast/cable FS tuning\* with Auto-programming
- Complete compatibility with Dimensia audio/video systems



VPT695HF

### VPT695HF S-VHS VCR

- S-VHS circuitry
- Advanced digital special effects including built-in MTS Hi-Fi stereo sound, 8-event/1-year on-screen programming, Pix-in-Pix, Multi-Pix, Off-air freeze, "Mosaic" and "Posterization"
- Remote control operates all Digital Special Effects, plus on-screen remote programming and playback controls

- 167-channel broadcast/cable FS tuning\*
- On-screen readouts include tape time remaining as well as tape counter
- Electronic indexing makes it easy to find the start of a previously taped show
- Headphone jack permits private listening
- Compatible with RCA's "intelligent" Dimensia audio/video systems

\*Local systems vary; check your cable company's compatibility requirements



# RCA CONSUMER ELECTRONICS

600 N. Sherman  
Indianapolis, IN 46206  
(317) 267-5000

# COLOR TELEVISIONS

## COLORTRAK 20" DIAGONAL TABLE MODELS WITH BUILT-IN MTS STEREO

- Top performance in space-saving cabinetry
- FPR560R and 570R include 10-jack audio/video monitor panel for hooking up auxiliary components
- Digital command 31-button remote control. Select channels by digital pushbutton, scanning up or down, or previous channel recall. On-screen time and channel number display at the touch of a button
- Built-in MTS stereo sound. Built-in dbx™ system automatically suppresses noise during stereo broadcasts. SAP (Second Audio Program) for "bilingual" telecasts
- ColorTrak light sensor. Virtually eliminates manual picture adjustments by monitoring room light. Once the picture is set the way you like it, automatic picture controls adjust contrast and color intensity for consistent picture performance
- Square-corner Hi-Con™ screen. 20" diagonal picture tube gives you a bigger picture with straight edges and no corner cut-off. Hi-Con tinting enhances contrast by absorbing over 2/3 of picture-fading room light as it strikes the screen
- Auto-Programming. Programs channel scan memory with one touch of a button. Includes add/erase controls for updating channel scan list



FPR560R



FPR555R

- 147-channel broadcast/cable tuning\*. Electronic digital counters and comparators automatically lock onto the signal with quartz crystal accuracy—no fine tuning needed. Built-in cable tuning eliminates most cable adaptors for unscrambled channels so you can still use your TV's remote control

### FPR570R Monitor-Receiver

- Front-mounted 5" oval speakers
- 5W/channel amplifier
- 50-15,000Hz (from auxiliary audio inputs), into 8 ohms, with no more than 1% THD
- 10-jack monitor panel simplifies VCR hookup

- Tawny Oak finish on plastic
- 18" H x 24<sup>5</sup>/<sub>8</sub>" W x 16<sup>1</sup>/<sub>8</sub>" D

### FPR560R Monitor-Receiver

- "All-picture" cabinet fits the same space as many 13" TVs
- MTS stereo sound system
- 3<sup>1</sup>/<sub>2</sub>" oval speakers
- Other features same as FPR570R
- Ebony finish on plastic cabinet
- 19<sup>3</sup>/<sub>8</sub>" H x 20" W x 15<sup>7</sup>/<sub>8</sub>" D

### FPR555R

- Front-mounted 5" oval stereo speakers
- ColorTrak picture performance
- Walnut finish on plastic cabinet
- 18" W x 24<sup>5</sup>/<sub>8</sub>" W x 16<sup>1</sup>/<sub>8</sub>" D

## XL-100 20" DIAGONAL TABLE MODELS

### FPR518R with MTS Stereo

- Built-in MTS stereo
- ChannelLock 18-button remote control lets you change channels by digital pushbutton, scanning up or down, or previous channel recall. Also adjusts and mutes volume
- Square-corner Hi-Con screen
- 147-channel broadcast/cable tuning
- Two 3<sup>1</sup>/<sub>2</sub>" oval speakers
- Auto-programming
- Walnut finish on plastic cabinet
- 18<sup>1</sup>/<sub>4</sub>" H x 24<sup>7</sup>/<sub>8</sub>" W x 19<sup>1</sup>/<sub>4</sub>" D

### FPR515R

- 20" diagonal square-corner screen in a cabinet no wider than many 13" diagonal TVs
- 147-channel broadcast/cable tuning\*
- Two 3<sup>1</sup>/<sub>2</sub>" oval speakers
- Auto-programming
- Walnut finish on plastic cabinet
- 18<sup>5</sup>/<sub>8</sub>" H x 20<sup>1</sup>/<sub>8</sub>" W x 19" D

### FPR510R

- 18-button digital remote control
- Square-corner screen
- 147-channel broadcast/cable tuning
- Auto-programming
- 3" speaker
- Walnut finish on plastic cabinet
- 17" H x 23<sup>1</sup>/<sub>8</sub>" W x 19<sup>5</sup>/<sub>8</sub>" D

### FPR505

- Square-corner Hi-Con screen
- 147-channel broadcast/cable tuning\*
- ChannelLock digital keyboard tuning
- 3<sup>1</sup>/<sub>2</sub>" oval speaker
- Walnut finish on plastic cabinet
- 18<sup>5</sup>/<sub>8</sub>" H x 20<sup>1</sup>/<sub>8</sub>" W x 19" D

### FPR500

- Square-corner Hi-Con picture tube
- Solid-state tuning with separate knobs for UHF and VHF channels
- 3" speaker
- Walnut finish on plastic cabinet
- 17" H x 23<sup>1</sup>/<sub>8</sub>" W x 19<sup>5</sup>/<sub>8</sub>" D

\*With optional signal splitter, up to 122 channels without splitter. Check your cable company's compatibility requirements.



FPR518R



FPR505

# RED LINE RESEARCH LABORATORIES, INC.

4055 Guasti Rd., Ste. 110  
Ontario, CA 91761  
(714) 986-7600

# BATTERY BELTS/PACKS/ LIGHT/ACCESSORIES

## BATTERY BELTS

### M12B Pro Battery Belt

The M12B Pro is a 12V, 12AH battery belt with a running time of 55 minutes (with a 100W load). 4-pin Cannon connector. Built-in meter. Self-resetting circuit breaker. Dual harness construction. Padded Cordura nylon case. Quick release buckle. Comes with CH912 charger (can be fast charged with a CHF12). Waist size, 35"-52".

**M12B Pro** . . . . . \$299.95

### M20B Pro Battery Belt

The M20B Pro is a 12V, 20AH battery belt with a running time of 100 minutes (with a 100W load). 4-pin Cannon connector. Built-in meter. Self-resetting circuit breaker. Dual harness construction. Padded Cordura nylon case. Quick release buckle. Comes with CH912 charger (can be fast charged with a CHF12). Waist size, 30"-52".

**M20B Pro** . . . . . \$349.95

### M6E Pro Battery Pack

The M6E Pro is a 12V, 6.5AH battery pack with a running time of 25 minutes (with a 100W load). 4-pin Cannon connector. Built-in meter. Self-resetting circuit breaker. Padded Cordura nylon case. Quick-releasing and adjustable belt/shoulder strap. Comes with CH512 charger (can be fast charged with a CHF12). Waist size, 30"-48".

**M6E Pro** . . . . . \$164.95

### Maximizer Pro Battery Pack

The Maximizer Pro's 13.2V allows it to run longer, and run truer to 12V operation since voltage drops when the power goes on. 4.8AH with a running time of 30 minutes (with a 100W load). 4-pin Cannon connector. Short circuit protection. Dual harness construction. Padded Cordura nylon case. Quick release buckle. Comes with CH12 charger. Waist size, 30"-48".

**Maximizer Pro** . . . . . \$209.95

### 6E Pro Battery Pack

The 6E Pro is a 12V, 6.5AH battery pack with a running time of 25 minutes (with a 100W load). 4-pin Cannon connector. Self-resetting circuit breaker. Padded Cordura nylon case. Quick-releasing and adjustable belt/shoulder strap. Comes with CH512 charger (can be fast charged with a CHF12). Waist size, 30"-48".

**6E Pro** . . . . . \$134.95

### M1030B Pro Battery Belt

The M1030B Pro is a 30V, 10AH battery belt with a running time of 65 minutes (with a 250W load). 2-pin Amphenol connector. Built-in meter. Self-resetting circuit breaker. Dual harness construction. Padded Cordura nylon case. Quick release buckle. Comes with CH930 charger (can be fast charged with a CHF30). Waist size, 30"-52".

**M1030B Pro** . . . . . \$399.95

### M630B Pro Battery Belt

The M630B Pro is a 30V, 6AH battery belt with a running time of 35 minutes (with a 250W load). 2-pin Amphenol connector. Built-in meter. Self-resetting circuit breaker. Dual harness construction. Padded Cordura nylon case. Quick release buckle. Comes with CH530 charger (can be fast charged with a CHF30). Waist size, 30"-52".

**M630B Pro** . . . . . \$349.95

## FAST CHARGERS

**CHF12 Pro** 12V, 4A charger with 4-pin Cannon connector. . . . . \$199.95

**CHF30 Pro** 30V, 1.7A charger with 2-pin Amphenol connector . . . . . \$279.95

## MAINTENANCE CHARGERS

**CHMW12 Pro** 12V, 800mA charger with 4-pin Cannon connector. Wall plug-in unit . . . . . \$99.95

**CHM12 Pro** 12V, 2A charger with 4-pin Cannon connector. . . . . \$179.95

**CHM30 Pro** 30V, 700mA charger with 2-pin Amphenol connector . . . . . \$209.95

## OVERNIGHT CHARGERS

**CH512 Pro** 12V, 500mA charger with 4-pin Cannon connector. Accepts the M6E Pro and 6E Pro . . . . . \$24.95

**CH912 Pro** 12V, 900mA charger with 4-pin Cannon connector. Accepts the M12B Pro, M20B Pro and Maximizer Pro . . . . . \$29.95

**CH530 Pro** 30V, 500mA charger with 2-pin Amphenol connector. Accepts the M630B Pro . . . . . \$34.95

**CH930 Pro** 30V, 900mA charger with 2-pin Amphenol connector. Accepts the M1030B Pro . . . . . \$39.95

## LIGHTS AND ACCESSORIES

### RL100/150 Pro AC/DC Video Light

This ultra-lightweight AC/DC video light is designed for use with camcorders. Its lamp filament is computer positioned for the most uniform light distribution, then bonded in a 2" dichroic reflector. Adjustable barndoors, and a horizontal and vertical adjust allow correct lighting every time. Easily stowed, since it never gets hot. Includes: 150W AC lamp, 100W DC lamp, 4' cord, RL 4M/FAC adaptor (4-pin Cannon male to a female AC receptacle). . . . . \$174.95

### Belt WB48

48" adjustable nylon webbing belt for the Maximizer Pro, M6E or 6E . . . . . \$12.95

### Lamps

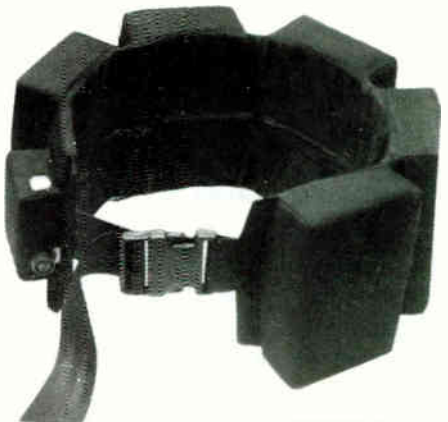
**RL100 DC**  
12V, 100W. For use with battery power only . . . . . \$24.95



M6E Pro



Maximizer Pro



M630B Pro

### RL150 AC

120V, 150W. For use with wall power only . . . . . \$24.95

### RLAC/DC

Both 12V/100W and 120V/150W . . . \$44.95

## ADAPTOR CORDS

### RL 4M/FAC

For any 12V with an AC plug receptacle to a 4-pin Cannon male. This is the same adaptor cord that comes with the AC/DC video light . . . . . \$19.95

### RL 4M/FCL

For any 12V with a cigarette lighter receptacle to a 4-pin Cannon male . . . . . \$19.95

# REMEE PRODUCTS CORP.

41 Bridge St.  
Florida, NY 10921  
(914) 651-4431 Telex: 64-6715  
(800) 431-3864

# COAXIAL CABLE

## Coaxial Cable 3

REMEE Products manufactures a broad spectrum of coaxial cables. Our cables range from 50 ohms to 100 ohms. In addition to the standard coaxial cables, REMEE provides twinaxial, and triaxial cables in a variety of shielding types. Each configuration offers different characteristics in terms of cost, electrical and physical requirements. Military or maximum coverage cables are 100% sweep tested.

### Application:

For use in MATV/CATV/CCTV and CB applications.

### Construction:

Conductor solid and stranded copper, and/or copper covered steel, (copperweld) insulation, solid polyethylene or cellular polyethylene; or semi-solid polyethylene; shielding and braided bare copper, or tinned copper, aluminum foil (Remfoil) with drain wires, or braided aluminum; jacket polyvinylchloride or polyethylene.

## 75 Ohm Types/RG 59/u Copper Braided



Catalog Number	RG Type	AWG Stranding	Dielectric D.D.	Shield	Nom. D.D.	Nom. Imp.	Vel. Prop.	Nom. † Cap./ft.	Nom. Atten.* MHz	Nom. Atten.** db/ft.
1550	59/U Type	22 (Solid) BCW	Poly 146	Bare Copper Comm Grade 80%	242	75	66%	21.1	50	2.7
					100	4.0				
					Jacket: Black vinyl				200	5.7
1500	59/U Type	22 (Solid) BCW	Foam 146	Bare Copper Comm Grade 80%	242	75	78%	16.4	50	2.2
					100	2.9				
					200	4.3				
					500	6.8				
					Jacket: Black vinyl				900	9.1
1510	59/U Type	20 (Solid) BCW	Foam 146	Bare Copper Comm Grade 80%	242	75	78%	17.3	50	1.8
					100	2.7				
					200	3.8				
					500	6.3				
										Jacket: Black vinyl

Catalog Number	RG Type	AWG Stranding Dia. in.	Dielectric D.D.	Shield	Nom. D.D.	Nom. Imp.	Vel. Prop.	Nom. † Cap./ft.	Nom. Atten.* MHz	Nom. Atten.** db/ft.	Ω
1520	59/U Mil C-17D	22 (Solid) BCW	Poly 146	Bare Copper Military Grade 95%	242	75	66%	21.0	54-60	2.4	1354
					82-88	3.5					
					Jacket: NCV—B/U				174-180	5.2	
					Jacket: Black vinyl				210-216	5.8	
1521*	59/U	22 (Solid) BCW	Foam 146	Bare Copper Military Grade 95%	242	80	78%	16.3	54-60	2.4	1354
					82-88	3.1					
					174-180	4.0					
					Jacket: Black vinyl				210-216	4.3	
1540	59/U	22 AWG 6 x 30 1 x 29 BC	Foam 146	Bare Copper Comm Grade 80%	242	75	78%	17.3	100	2.4	1354
					200	4.4					

## 75 Ohm Types/RG 59/u-RG6/u Foil Braid 100% Foil with Aluminum Braid



Catalog Number	RG Type	AWG Stranding	Dielectric	Shield	Nom. D.D.	Nom. Imp.	Vel. Prop.	Nom. † Cap./ft.	Nom. Atten.* MHz	Nom. Atten.** db/ft.
1570	59/U Type	22 (Solid) BCW	Foam .146	100% Foil & 40% AL Braid	242	82	78%	16.3	54-60	2.0
					82-88	2.4				
					Jacket: Black vinyl				174-180	3.4
					Jacket: Black vinyl				210-216	3.6
1572	59/U CAC 59	20 (Solid) BCW	Foam .146	100% Foil & 40% AL Braid	242	75	78%	17.3	54-60	1.8
					82-88	2.2				
					174-180	3.3				
					210-216	3.7				
1574	6/U CAC 6	18 (Solid) BC	Foam 180	100% Foil & 40% AL Braid	280	75	78%	17.3	54-60	1.5
					82-88	2.0				
					174-180	2.5				
					210-216	2.7				
					Jacket: Black vinyl				210-216	2.7
					Banded Remfoil					
1571	59/U Type	20 (Solid) BCW	Foam .144	100% Foil & 40% AL Braid	242	75	78%	17.3	50	1.8
					100	2.6				
					200	3.8				
					500	6.2				
					Jacket: Black vinyl					

† Nominal capacitance between one conductor to other conductor(s) connected to shield

\* Percent signal remaining

\*\* Loss per 100'

## 75 Ohm Types/RG 59/u-RG 6/u Foil Shield/4 Drain Wires



Catalog Number	RG Type	AWG Stranding	Dielectric O.D.	Shield	Nom. D.D.	Nom. Imp.	Vel. Prop.	Nom. † Cap./ft.	Nom. Atten.* MHz	Nom. Atten.** db/ft.
1560	59/U	22 (Solid) BCW	Foam .146	Foil 100% Coverage 4 Drain Wires	242	75	78%	16.5	54-60	2.3
					82-88	3.1				
					Jacket: Black vinyl				174-180	3.4
					Jacket: Black vinyl				210-216	3.7
1585	59 6/U	18 (Solid) Bare Copper (BC)	Foam 180	Foil 100% Coverage 4 Drain Wires	242	75	78%	17.3	54-60	1.7
					82-88	2.0				
					174-180	2.7				
					210-216	3.0				
1580	6/U Type	18 (Solid) Bare Copper	Foam .180	Foil 100% Coverage 4 Drain Wires	280	75	78%	17.3	50	1.5
					100	2.2				
					200	3.2				
					500	5.1				
										Jacket: Black vinyl

## Siamese Type Cable



Catalog Number	RG Type	AWG Stranding	Dielectric O.D.	Shield	Nom. D.D.	Nom. Imp.	Vel. Prop.	Nom. † Cap./ft.	Nom. Atten.* MHz	Nom. Atten.** db/ft.		
1511	Sound Cable & RG 59/U	2/C #18 16/30 Tinned Copper	PVC .068	Color Code Blk/White Braid Bare Copper 95%	242	x	.460	75	78%	17.3	50	1.7
											100	2.0
							Jacket: Black vinyl				200	3.7
							Jacket: Black vinyl				500	7.5
1526	Sound Cable & RG 59/U	2/C #18 Tinned Copper	PVC .068	Color Code Blk/White Braid Bare Copper 95%	242	x	.460	75	78%	17.3	50	1.9
											100	2.4
							Jacket: Black vinyl				200	4.0
							Jacket: Black vinyl				900	11.6
1527	2-59/U	22 (Solid) BCW	Foam .146	Bare Copper Braid 95%	242	x	.505	75	66%	20.5	100	3.5
											200	5.1
											400	7.5
											900	12.0

## Triaxial Cables



Catalog Number	Type	Insulation	Conductor	Nominal O.R.C.	Shield	Nom. Imp.	Nom. D.D.	Jacket
1597	59/U	Foam .020 Poly separator extruded between shields	20 (Solid) Bare Copper	10 1 ohms per/m	2 Bare Copper 95% coverage per shield	75	.315	Black vinyl
1598	11/U	Foam .020 Poly. separator extruded between shields	14 (Solid) Bare Copper	2 6 ohms per/m	2 Bare Copper 95% coverage per shield	75	.475	Black vinyl

## 75 Ohm Types/RG 11/u Braided Shield



Catalog Number	RG Type	AWG Stranding	Dielectric O.D.	Shield	Nom. D.D.	Nom. Imp.	Vel. Prop.	Nom. † Cap./ft.	Nom. Atten.* MHz	Nom. Atten.** db/ft.
1582	11/U Type	14 (Solid) Bare Copper	Foam .285	Braid Bare Copper 95%	.405	75	78%	17.3	50	1.0
									100	1.5
					Jacket: Black vinyl				200	2.2
					Jacket: Black vinyl				500	3.7
					Jacket: Black vinyl				900	5.2
1584	11/U Type	14 (Solid) Bare Copper	Foam .285	Braid Bare Copper 80%	.405	75	78%	17.3	50	.9
									100	1.4
									200	2.1
									500	3.5
					Jacket: Black vinyl				900	5.2
1586	11/U Type CAC 11	14 (Solid) Bare Copper	Foam .285	Foil 100% 40% AL Braid	.405	75	78%	17.3	50	.9
									100	1.4
									200	2.1
									500	3.5

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Prices and Specifications Subject to Change Without Notice.

V-935



# REMIN LAB

510 Manhattan Rd.  
Joliet, IL 60433  
(815) 723-1940

# ALL PURPOSE CARRIERS

## Kart-a-Bag®

### Comet-110

• All steel cart 7 x 8 platform • Extends to 39 1/2" • Collapses to 22 1/2" x 12 1/2" • 4" wheels • Permanently attached elastic cord • Weighs only 5 lbs. • Supports up to 100 lbs.

Comet-110 .....\$21.95

### TKT-900

• Personal computer transport cart • 2-4-6 wheels • Sturdy platform • Extends to 49" • Collapses to 20 1/8" • Weighs 28 lbs. • Supports up to 300 lbs. • Removable computer tray • Keyboard extension

TKT-900 .....\$200.00

### EK-Kart 150

• Economically priced • Sturdy, tubular steel construction • Easy opening and closing • Simple, patented locking device • Extended height 37", collapses to 22 1/4" x 12 1/2" for compact storage • 10" x 10" platform for large loads • Weighs 5 lbs., supports up to 100 lbs. • Permanently attached elastic cords to secure load • Your choice of 4" or 6" wheels with sturdy plastic core and solid rubber tires • No carrying case available

EK-Kart 150 .....\$28.50

### Continental 500

• Double telescopic back supports with self-locking rods • Patented "one-motion" opening and closing feature • Comfortable finger grip handle • Cart can be pushed or pulled when loaded • Vinyl carrying case with pocket and shoulder strap • Weighs 4 lbs., carries up to 100 lbs. • Elastic cords permanently attached • Extended height 40", collapses to 20 3/4" • High impact Cicolac® base (9 1/2" x 7 1/2") • High quality 3" rubber wheels • Sturdy, high impact Lexan® crossbars

Continental 500 .....\$49.50

### Concorde 555

• Zippered vinyl carrying case with pocket and shoulder strap • Double telescopic back supports with self locking rods • Patented "one-motion" closing and opening feature • Comfortable finger grip handle • Can be pushed or pulled when loaded • Carry-aboard feature • Weighs 4 1/2 lbs., can support 150 lbs. • Extended height 41", collapses to 18 5/8" • Steel platform base (9" x 7 1/2") • 4" rubber wheels with molded core • Elastic cords permanently attached

Concorde 555 .....\$52.50

### Concorde II

• Extended height 41", collapses to 18 5/8" • Large, strong steel platform base (11 1/2" x 9 1/2"). Ideal for soft luggage • Patented "one-motion" opening and closing feature • Double telescopic self-locking rods • Can be pushed or pulled when loaded • Carry-aboard feature • Weighs 4 1/2 lbs., supports up to 150 lbs. • High quality 4" rubber wheels • Wire wheel guards for added protection • Elastic cords permanently attached • Vinyl carrying case with pocket and shoulder strap

Concorde II .....\$57.00

### Concorde III

• Sturdy, double telescopic self-locking rods • Extended height 41 1/2", collapses to 19 1/2" • Large, strong steel platform base (11 1/4" x 9 1/2"). Ideal for soft luggage • Patented "one-motion" opening and closing feature • Loads can be pushed or pulled • "Step Slide" feature for easy access over stairs and curbs • Wheel and mud guards for added protection • Weighs 7 lbs., supports up to 175 lbs. • High quality 5" sleeve-bearing rubber rim wheels • Elastic cords permanently attached • Carry-aboard feature • Zippered vinyl carrying case with pocket and adjustable shoulder strap • Optional garment bag caddy available • Shipped in master carton of 4. Shipping weight 34 lbs.

Concorde III .....\$63.25



Ek-Kart 150

Concorde 555

Tri-Kart 800

### Commander 600

• Heavy-duty model for larger loads • Sturdy, double telescopic self-locking rods • Extended height 49", collapses to 20 1/8" • Large 12 1/2" x 16" steel base • Patented "one-motion" opening and closing feature • Load can be pushed or pulled • "Step-Slide" feature for easy access over stairs and curbs • Weighs only 11 lbs., supports up to 300 lbs. • 5" ballbearing wheels with solid rubber tires • Elastic cords permanently attached • Optional zippered, vinyl carrying case available

Commander 600 .....\$83.00

Tote .....10.00

### Super 600

• Heavy-duty model for larger loads • Sturdy, double telescopic self-locking rods • Extended height 49", collapses to 20 1/8" • Large 12 1/2" x 16" steel base • Patented "one-motion" opening and closing feature for easy access over stairs and curbs • Weighs only 11 lbs., supports up to 300 lbs. • 6" ball bearing wheels with solid rubber tires • Elastic cords permanently attached • Wheel and mud guards for added protection • Optional zippered vinyl carrying case available

Super 600 .....\$93.50

Tote .....12.00

### Tri-Kart 700™

• Can be used as a 2 or 4 wheel cart • Patented design back-support swivel-bearing caster wheels for added stability • Sturdy, double telescopic self-locking rods • Extended height 41 1/2" collapses to 19 1/2" • Large, strong steel platform base (11 1/4" x 9 1/2"). Ideal for soft luggage • Patented "one-motion" opening and closing feature • "Step-Slide" feature for easy access over stairs and curbs • Wheel and mud guards for added protection • Weighs only 9 lbs., supports up to 175 lbs. • Quality, 5" sleeve-bearing rubber rim front wheels; 2" auxiliary caster wheels easy to extend and close • Elastic cords permanently attached • Optional zippered carrying case available on request • Optional garment bag caddy available

Tri-Kart 700 .....\$89.00

Tote .....10.00

### Tri-Kart 800™

• All weight is on the wheels, no load on the arms...just push or pull • Can be used as a 2 or 4 wheel cart • Patented design back-support swivel-bearing caster wheels for added stability • Sturdy 6" pneumatic rubber rim front wheels; 3" auxiliary caster wheels easy to extend and close • Sturdy, double telescopic self-locking rods • Extended height 49", collapses to 20 1/8" • Large 12 1/2" x 16" steel base • Patented "one-motion" opening and closing feature • "Step-Slide" feature for easy access over stairs and curbs • Wheel and mud guards for added protection • Weighs only 17 lbs., supports up to 300 lbs. • Elastic cords permanently attached with adjustable clamp to secure load • Optional zippered carrying case available

Tri-Kart 800 .....\$120.00

Tote .....12.00

# ROSCO LABORATORIES, INC.

36 Brush Ave.  
Port Chester, NY 10573  
(914) 937-1300 (800) 431-2338  
Telex: 13-1472 FAX: (914) 937-5984

# COLOR MEDIA

## Roscolux

The most durable color filter. Available in 119 colors and diffusers. Sold under the trade name Supergel overseas.

	Sheets: 20" x 24"	\$ 4.50
	Rolls: 24" x 50'	116.00
880710	Swatchbook:	2.50
881510	Roscolux Designer Color Selector	12.95

01	Light Bastard Amber
02	Bastard Amber
03	Dark Bastard Amber
04	Medium Bastard Amber
05	Rose Tint
06	No Color Straw
07	Pale Yellow
08	Pale Gold
09	Pale Amber Gold
10	Medium Yellow
11	Light Straw
12	Straw
13	Straw Tint
14	Medium Straw
15	Deep Straw
16	Light Amber
17	Light Flame
18	Flame
19	Fire
20	Medium Amber
21	Golden Amber
22	Deep Amber
23	Orange
24	Scarlet
25	Orange Red
26	Light Red
27	Medium Red
30	Light Salmon Pink
31	Salmon Pink
32	Medium Salmon Pink
33	No Color Pink
34	Flesh Pink
35A	Light Pink
36A	Medium Pink
37	Pale Rose Pink
38	Light Rose
40	Light Salmon
41	Salmon
42	Deep Salmon
43	Deep Pink
44	Middle Rose
45	Rose
46	Magenta
47	Light Rose Purple
48	Rose Purple
49	Medium Purple
50A	Mauve
51	Surprise Pink
52	Light Lavender
53	Pale Lavender
54	Special Lavender
55	Lilac
56	Gypsy Lavender
57A	Lavender
58A	Deep Lavender
59	Indigo
60	No Color Blue
61	Mist Blue
62	Booster Blue

63	Pale Blue
64	Light Steel Blue
65	Daylight Blue
66	Cool Blue
67	Light Sky Blue
68	Sky Blue
69	Brilliant Blue
70	Nile Blue
71	Sea Blue
72	Azure Blue
73	Peacock Blue
74	Night Blue
75	Chrome Green
76	Light Green Blue
77	Green Blue
78	Trudy Blue
79	Bright Blue
80	Primary Blue
81	Urban Blue
82	Surprise Blue
83	Medium Blue
84	Zephyr Blue
85	Deep Blue
86A	Pea Green
87	Pale Yellow Green
88	Light Green
89	Moss Green
90	Dark Yellow Green
91	Primary Green
92	Turquoise
93	Blue Green
94	Kelly Green
95	Medium Blue Green
96	Lime
97	Light Gray
98	Medium Gray
99	Chocolate

## Roscolux Diffusion

A range of filters in the stable Roscolux base, designed to alter the shadow characteristics or the beam shape of light.

	Sheets: 20" x 24"	\$ 4.50
	Rolls: 24" x 50'	116.00

100	Frost
101	Lt. Frost
102	Lt. Tough Frost
103	Tough Frost
104	Tough Silk
105	Tough Spun
106	Lt. Tough Spun
107	Cool Frost
108	Daylight Frost
109	Cool Silk
111	Tough Rolux
113	Matte Silk
114	Hamburg Frost
150	Hamburg Rose
115	Light Rolux
116	Tough White Diffusion
117	Tough 1/2 White Diffusion
118	Tough 1/4 White Diffusion
120	Red Diffusion
121	Blue Diffusion
122	Green Diffusion
123	Amber Diffusion
124	Red Cyc Silk
125	Blue Cyc Silk
126	Green Cyc Silk
127	Amber Cyc Silk
128	Magenta Silk
129	Sky Blue Silk
130	Medium Blue Green Silk
131	Medium Amber Silk

Add 1 to product number for sheets. Add 2 for rolls.

## Roscolene

The most widely used color media in the world. Available in 62 colors.

	Sheets: 20" x 24"	\$ 3.75
	Rolls: 24" x 50'	108.00
880410	Swatchbook	2.50

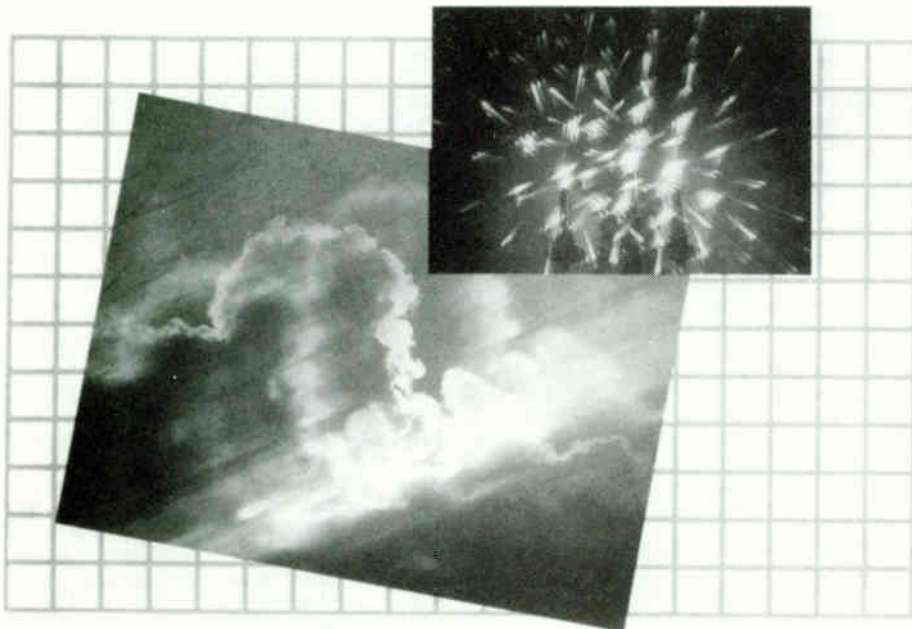
801	Frost
802	Bastard Amber
803	Pale Gold
804	No Color Straw
805	Light Straw
806	Medium Lemon
807	Dark Lemon
808	Medium Straw
809	Straw
810	No Color Amber
811	Flame
813	Light Amber
815	Golden Amber
817	Dark Amber
818	Orange
819	Orange Amber
821	Light Red
823	Medium Red
825	No Color Pink
826	Flesh Pink
827	Bright Pink
828	Follies Pink
829	Bright Rose
830	Medium Pink
832	Rose Pink
834	Salmon Pink
835	Medium Salmon Pink
836	Plush Pink
837	Medium Magenta
838	Dark Magenta
839	Rose Purple
840	Surprise Lavender
841	Surprise Pink
842	Special Lavender
843	Medium Lavender
844	Violet
846	Medium Purple
848	Water Blue
849	Pale Blue
850	No Color Blue
851	Daylight Blue
852	Smokey Blue
853	Middle Blue
854	Steel Blue
855	Azure Blue
856	Light Blue
857	Light Medium Blue
858	Light Green Blue
859	Green Blue (Moonlight)
860	Bright Blue
861	Surprise Blue
862	True Blue
863	Dark Medium Blue
866	Dark Urban Blue
869	Pale Yellow Green
871	Light Green
874	Medium Green
877	Medium Blue Green
878	Yellow Green
880	Light Gray
882	Light Chocolate
883	Medium Gray

For Lux and Lene sheets add 1 to product number. For rolls add 2.

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# COLOR MEDIA PRODUCTS



## Prism Filters

### Spot Light Prism Filters

Three different styles of holographically produced films that break light up into different prism effects. Each filter is 9" square and a rigid 10 mils thick.

- 750011 Grid . . . . . \$10.00
- 750111 Linear . . . . . 10.00
- 750211 Burst . . . . . 10.00

### Pin Beam Prism Filters

Two styles specially designed for use with pin beams (rain light). These filters are 6" square and are a rigid 10 mils thick. Each design allows a central beam of light with the prismatic effect radiating outward from its center.

- 750311 Linear . . . . . \$9.00
- 750511 Circle . . . . . 9.00

## ThermoGuard Film

This clear film has a proprietary multilayer coating which reflects most of the damaging infrared heat emitted by stage and architectural lighting fixtures. Positioned, with air spaces, between high output sources and the color frame, ThermoGuard will protect the Roscolux color filters from otherwise destructive heat conditions. Until now, such luminaires could only be used with expensive glass colors. ThermoGuard permits the use of the full range of Roscolux colors.

- 99510 ThermoGuard Film  
12" x 12" . . . . . \$ 40.00
- 99511 ThermoGuard Film  
20" x 24" . . . . . 120.00

## Marcplot

A fresh approach to teaching and creating lighting design. Basic kit includes 220 magnetized markers, a special marking pen and complete manual written by Marc B. Weiss.

- 845010 Marcplot kit . . . . . \$49.95
- 845110 Marcplot board 24" x 36" . . 49.95

## Safety Frames

The replacement for hazardous metal color frames. Special, heavyweight, flame retardant fiberboard will not transmit heat to the filter. Remains cool for safe handling.

- 862010 3 1/2" frame (4 1/4" x 4 1/4") . . \$ .80
- 862110 6" frame (7 1/2" x 7 1/2") . . . . . 1.50
- 862210 8" frame (10" x 10") . . . . . 1.90
- 862310 4 1/2" frame (mini-ellipse) . . . . . 95



Rosco's Safety Frames feature rounded edges, fiberboard construction and a handling tab that stays cool.



## Roscolux Designer Selector

Large size Roscolux Swatchbook

- 881510 Large size Roscolux Swatchbook. . . . . \$12.95

## Swatchbooks

Roscolux and Roscolene swatchbooks have been, for many years, the lighting designer's favorite tool for color filter selection. The swatchbooks contain samples of every color in the range. Roscolux swatchbooks include transmission curves for each filter. All Rosco swatchbooks are dated and users are advised to have an up-to-date swatchbook on hand.

- 880710 Roscolux Swatchbook . . . \$2.50
- 880410 Roscolene Swatchbook. . . . 2.50



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# COLOR OF LIGHT

## Color Of Light Videotape

### The Movie and Workbook

The "Color of Light" is an educational package for people who want to learn more about the art and science of color in stage lighting. It is designed for use in either a classroom situation or as a self-teaching tool. The package consists of four inter-related parts.

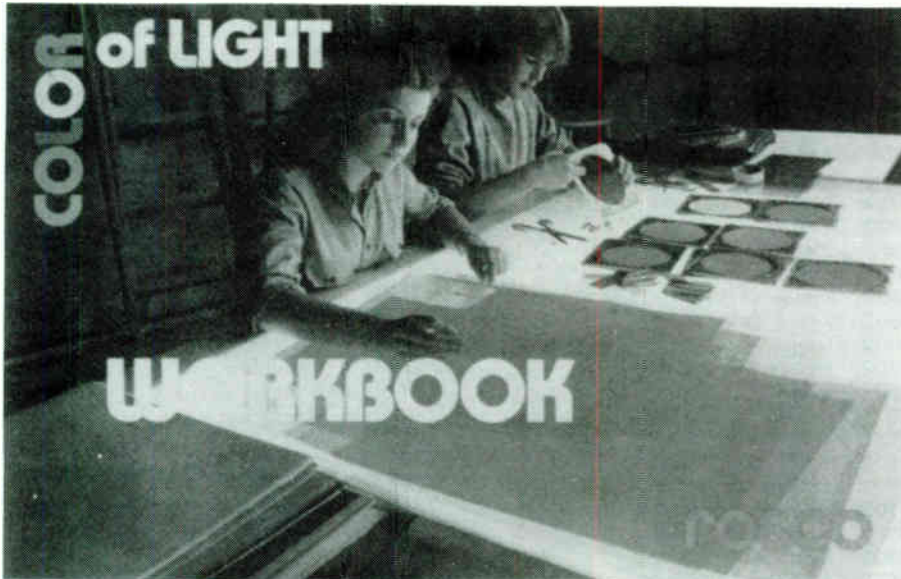
**The Movie.** A 20-minute film in handy videotape cassette form (VHS or Beta) takes the viewer into a light lab, a dance recital, a lighting class, a Shakespearean production and through the lighting process of a live band performance.

**The Workbook.** The real self-learning takes place in the pages of the Workbook. It includes brief chapters which describe how color works, and then a series of exercises so the student can apply what the text and the slides teach him.

**The Instructors' Guide.** Explains the system and gives the teacher an outline of how to use each of the components.

**The Slides.** There are eleven 35mm slides in each package, designed to help the teacher (or a student working alone) learn about color.

- 191010 "Color Of Light" package. Includes: videotape on VHS format, workbook, set of slides, instructors' guide and Roscolux swatchbook . . . . . \$39.95
- 191510 "Color Of Light" package, as above, but videotape in Beta format . . . . . 39.95
- 193010 "Color Of Light" workbooks, packages of 12 copies . . . . . 29.95



## Super Heat Shield

A protective transparent filter of extremely heat stable polymer, specially designed to deflect heat. This product should be placed between the bulb and the color filter, allowing space for the escape of heated air.

- 199111 2 mil 20" x 24" . . . . \$ 7.50
  - 199112 2 mil 24" x 50' . . . . . 191.50
- Add 1 to product number for sheet.  
Add 2 to product number for roll.

## Fluorescent Sleeves

For simple and economical control of fluorescent lighting. Clear carrier sleeve is supplied with one insert filter in any of the 62 Roscolene colors.

- 840110 48" Roscosleeve . . . . . \$9.50

## UV Filter

A virtually transparent filter, specially coated to absorb ultra-violet rays. The material allows less than 10% transmission below 390nm.

**Note:** A black light filter passes UV. Rosco's filter block UV.

- 311411 20" x 24" sheets . . . . \$ 4.50
- 311412 24" x 50' rolls . . . . . 116.00
- 311413 54" x 100 sq. ft. . . . . 112.00

## Teaching and Specifying Aids

**Designer Patterns — Technotes 9.** A guide to the technical and creative aspects of pattern projection. The text covers the history and use of patterns as well as providing valuable practical advice to the designer or technician.

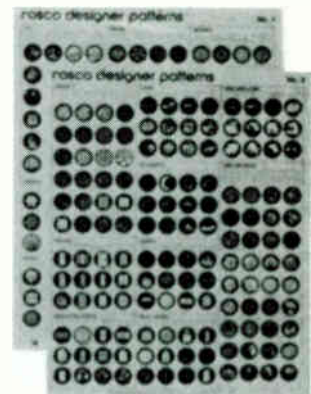
**Designer Pattern Posters.** A set of two posters (17" x 22" each) displaying the collection of 276 patterns including Rosco's unique pattern holder.

**Designer Pattern Catalog.** An essential for any technical library. The 276 patterns in the Rosco collection are displayed by category together with a numerical index. Technical data and designer biographies are included.

**Color Media Guide.** A comparison of all 112 Roscolux and 62 Roscolene colors by hue in a convenient chart form. The guide also contains recommendations for the use of each color.

**Technotes 2A.** A technical guide to the manufacturing of color filters and their use in entertainment lighting. The brochure outlines Rosco's unique manufacturing process and offers practical solutions for dealing with excessive heat, etc.

**Technotes 3A.** Rosco's light diffusion media guide. In addition to defining light diffusion and suggesting applications for each Rosco diffusion filter, the brochure contains actual photographs which illustrate the diffusing effect of each filter.



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## Designer Patterns

Rosco's patterns are precisely photoetched in a durable grade of stainless steel. They will fit the gates of the most commonly used ellipsoidal reflector spotlights. All patterns are circular. The outside diameter is 3.28". Price is \$8.95 per pattern, except for the Mesh-tone patterns (numbers ending with 92), which are \$15.00 each.

The standard pattern is "B" size. Most styles are available in "A" size, outside diameter is 3.9".

Illustrated Catalog Available On Request.

No.	Pattern Name
780302	Foliage (Small)
777902	Foliage (Medium)
780402	Foliage (Large)
773202	Realistic Leaves
773302	Dense Leaves
778002	Dense Leaves (Detail)
777402	Blossoms
710902	Blossoms (Detail)
778802	Web
773402	Pine Trees
710702	Pine Branches
711502	Dense Branches
711402	Tree 1
710002	Tree 2
732002	Tree 3
740402	Tree 4
710102	Tree 5
711002	Tree 6
773502	Bare Branches
777702	Bare Branches 2
777802	Bare Branches Reversed
778102	Bamboo
778202	Bamboo Leaves
783802	Palm Tree
710202	Abstract Leaves
710802	Wheat Pattern
711602	Rice Pattern
773102	Jungle Leaf
712602	Jungle Leaves
712702	Palm Leaf
784102	Forest
711702	Vine Leaves
712002	Holly
783992	Meshed Saplings
784092	Meshed Woodlands
761192	Meshed Oak
771102	Cloud 1
771202	Cloud 2
771302	Cloud 3
771402	Cloud 4
716302	Cloud 5
716402	Cloud 6
716502	Cloud 7
716602	Cloud 8
716702	Cloud 9
716802	Cloud 10
716902	Cloud 11
717002	Cloud 12
782792	Cirro-Stratus 1
782892	Cirro-Stratus 2
782992	Cirro-Stratus
760092	Alto-Cumulus

No.	Pattern Name
760192	Anvil Plume
760292	Nimbus
760392	Cumulo Nimbus 1
760492	Cumulo Nimbus 2
760592	Cumulo Nimbus 3
761092	Strato-Cumulus
783092	Cumulus
783192	Stratus
751402	Star Cluster
715402	Half Moon
784802	Moon Phases
717102	Rainbow A
717202	Rainbow B
717302	Rainbow C
784902	Galaxy
785002	Shooting Stars
785102	Realistic Stars
785202	Midnight Stars
785302	Midnight Sun
785402	Midnight Snow
717802	Lightning 1
717702	Lightning 2
777602	Lightning/Branch
717502	Flames 1
777502	Fire/Waves
717602	Flames 2
783302	Water 1
783402	Water 2
783502	Water 3
752702	Bricks
751902	Stonewall
778702	Cobblestones
777102	Snowflake
777202	Snowflakes
783702	Snowfall
715002	Quartz
715102	Diamond
715202	Snowberry
715302	Crystal
738602	Floral 1
724002	Floral 2
777302	Flowers
753302	Floral 4
721402	Floral 5
711902	Leaf Breakup (Small)
780502	Leaf Breakup (Medium)
780602	Leaf Breakup (Large)
780702	Dot Breakup (Small)
705302	Dot Breakup (Medium)
780802	Dot Breakup (Large)
780902	Sharp Breakup (Small)
778502	Sharp Breakup
781002	Sharp Breakup (Large)
781102	Soft Breakup
772102	Breakup (Small)
772202	Breakup (Large)
740102	Linear 1
740202	Linear 2
750102	Linear 3
750202	Linear 4
750302	Linear 5
750402	Linear 6
709002	Bars
750702	Strands
750802	Slats
735102	Streaks
753002	Threads
752402	Squares
713502	Regency
713702	Vernacular
770302	Double Hung Window

# DESIGNER PATTERNS

No.	Pattern Name
713902	Venetian
714002	Imperial
714102	Jacobean
714202	Georgian
714302	French Doors
770402	French Doors
770202	Venetian Blind
721502	Louvre
770102	Shutters
714802	Elizabethan
713602	Circular
723802	Statesman
735002	Tudor
751302	Elliptical
751102	Linear
712402	Lattice
733702	Eastern
733602	Renaissance
784502	Medieval
784602	Gothic Church
784702	Norman
714402	Clerestory
714502	Rose
714602	Perpendicular
714702	Belfry
770602	Tracery
770502	Church Windows
736112	Stained Glass Composite—Green
736122	Stained Glass Composite—Yellow
736132	Stained Glass Composite—Blue
736142	Stained Glass Composite—Red
736152	Stained Glass Composite—White
780202	Stained Glass Complete
750902	Neon 1
750952	Neon 2
730202	Skyline 1
730602	Skyline 2
730802	Broadway 1
730902	Broadway 2
782202	Nightlights 1
782302	Nightlights 2
782402	Nightlights 3
782502	Montage
778602	Citylights
782692	Meshed Cranes
730402	Arc de Triomphe
730702	Statue of Liberty
730502	Eiffel Tower
781502	Tower Bridge
781602	London
720302	New York
781792	Meshed Water Tower 1
781992	Meshed Water Tower 2
774102	Fire Escapes
781802	Fire Escapes
782002	Paris
782102	Istanbul
736212	Fountain A
736222	Fountain B
736232	Fountain C
736242	Fountain D
736312	Christmas Tree A
736322	Christmas Tree B
736332	Christmas Tree C
736342	Christmas Tree D
729002	Chandelier A
729102	Chandelier B
715602	Star A
715702	Star B
776602	Fireworks 1
776702	Fireworks 2

Mesh-tone patterns (numbers ending with 92) offer areas of varying light intensity.

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# DESIGNER PATTERNS

## Latest Patterns

No.	Pattern Name
773602	Butterfly Web
773702	Open Breakup
773802	Irregular Breakup
773902	Parallel Breakup
774002	Chinese Screen
774202	Split Four

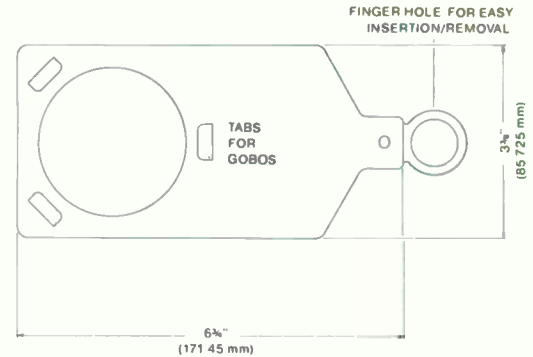
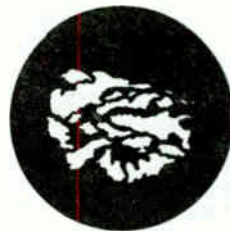
No.	Pattern Name
772902	Backstage
773002	Palm
772502	Aperture 1
772602	Aperture 2
772702	Aperture 3
772802	Aperture 4

No.	Pattern Name
736512	Fireworks 3A
736522	Fireworks 3B
736532	Fireworks 3C
736542	Fireworks 3D
780012	Fireworks 4A
780022	Fireworks 4B
780032	Fireworks 4C
780112	Fireworks 5A
780122	Fireworks 5B
780132	Fireworks 5C
711202	Stars 1
720202	Stars 2
731702	Stars 3
775202	Stars 4
738802	Stars 5
776802	Stars and Stripes
730302	Balloons
709302	Hearts
740002	Sun
717402	POW
781402	ZAP
721802	SPLAT
777002	Music
751692	Meshed Eagle
776502	Eagle
776902	Ritz
730002	Dance
730102	Jazz
721302	Fairy Castle
723402	Witch
761292	Meshed Angel Fish
712902	Negative Web
750002	Soft Web
713002	Half Web
776202	Concentric Rings
778402	Aztec Sun
778302	Antique Rosette
776102	Spiral
775102	Radial Lines
775302	Lashes
775402	Arabesque
752602	Allegro
752302	Sonata
752502	Solar Burst
722502	Solar Wheel
738702	Requiem
739102	Geometrics 1
739202	Geometrics 2
739302	Geometrics 3
738902	Geometrics 4
739502	Geometrics 5
752002	Geometrics 6
722602	Geometrics 7
752202	Geometrics 8
734702	Geometrics 9
739002	Geometrics 10
739402	Geometrics 11
739602	Geometrics 12
716202	Heraldics 1
713202	Heraldics 2
715902	Heraldics 3
712802	Heraldics 4
718002	Heraldics 5
720702	Heraldics 6
728002	Jaws
711392	Undulation
723102	Kaleidoscope
760792	Meshed Cove
760892	Meshed Windmill
760992	Meshed Palm
770682	Telephone Line
77071	Ellipse 1
77072	Ellipse 2
770701	Rain 1
770702	Rain 2
770703	Rain 3
77888	Line-up grid

## Glass Gobos

Custom-made patterns fabricated on specially treated, heat-resistant glass. Using technology developed for the microchip industry, the process permits transferring virtually any black and white image, including such halftone art as photographs, to a glass pattern. Glass Gobos are available in the square "B" size format, which will fit the pattern holders made for use in Altman, Strand, Colortran and other manufacturers' ellipsoidal reflector spotlights. Consult your dealer for your requirements in either round format or other sizes. A collection of standard designs in Glass Gobos will be available soon.

Tooling charge, including one Glass Gobo Pattern, B (or A) size, square format: \$140.00. Repeat patterns from same tooling: \$40.00 ea.



## Pattern Holder

The Pattern Holder is designed to fit the gates of the most widely used 6" ellipsoidal spotlights. It features a heat-resistant finger hold at the top to facilitate removal and replacement.

Most fixture manufacturers offer their own pattern holders and Rosco Designer Patterns will fit these holders. However, because of the wide variety of dimensions offered, the sides of the patterns may have to be trimmed with a scissors to fit some of the holders.

Rosco Designer Patterns will also fit the holders designed for most 3 1/2" spotlights, though the patterns have to be cut. Rosco, or your Rosco dealer, can offer guidance on which pattern designs are best suited for smaller spotlights.

799902	Standard Pattern Holder . . . . .	\$ 5.50
799905	Television Pattern Holder designed to fit 2000W ellipsoidal reflector instruments widely used for pattern projection in television . . . . .	20.00

## Custom-Made Patterns

Rosco can produce a custom-made pattern from camera ready artwork. Consult your dealer or Rosco office for technical details and the "How to Specify a Custom-Made Pattern" data sheet.

Tooling charge including one stencil pattern, B size: \$85.00

Repeat stencil pattern, B size: \$25.00

Tooling charge including one meshed pattern, B size: \$100.00

Repeat meshed pattern, B size: \$34.00

Other sizes are available on request.

## Donut

A low cost accessory to sharpen the definition of projected images. 7 1/2" x 7 1/2" fits most 6" ellipsoidal reflector spotlights.

798910 . . . . . \$3.95

## Tonal Mesh Patterns

This unique series of Tonal Mesh Patterns is fabricated with a special process that creates gray areas and varies the light intensity in portions of the projected image. They allow the designer to create an effect of heightened realism.



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# PAINT PRODUCTS

## Off-Broadway Scenic Paint

A complete range of theatrical colors that allows anyone to paint drops and sets with true scenic paint no matter how limited the budget. This versatile vinyl acrylic latex paint may be used on a variety of surfaces, and is ready for use right out of the bucket.

No.	Description	5 Gal.	1 Gal.	No.	Description	1 Gal.
53501	White	\$55.00	\$11.50	53631	Orange	\$19.00
53511	White-White	65.00	13.50	53641	Emerald Green	17.50
53521	Black	65.00	13.50	53651	Chrome Oxide Green	16.50
53531	Yellow Ochre		14.00	53661	Lemon Yellow	18.00
53541	Burnt Umber		14.00	53681	Purple	19.80
53551	Raw Sienna		14.00	53691	Magenta	19.80
53561	Burnt Sienna		14.00	53711	Pthalo Green	18.00
53571	Raw Umber		14.00	53721	Sky Blue	16.50
53591	Ultramarine Blue		16.50	53731	Pthalo Blue	17.50
53601	Fire Red		19.80	53841	Gold	29.50
53611	Deep Red		19.80	53851	Silver	24.00

Note: Product numbers refer to color only. Add 9 to the product number for 5 gallons. Add 7 to the product number for 1 gallon.

Test kit available.

## Iddings Deep Colors

The preferred scenic artist's casein/fresco paint system for more than 30 years. Wide range of deep colors in an economical protein base. Designed to be mixed with water without losing brilliance or color tone.

No.	Color	5 Gal.	1 Gal.	Qt.
55501	Priming White	\$ 75.00	(2 gal.) \$32.00	NA
55511	White	88.00	18.75	\$ 6.25
55521	Black	108.00	22.50	7.50
55531	Yellow Ochre	NA	20.50	7.50
55541	Burnt Umber	NA	20.50	7.50
55551	Raw Sienna	NA	20.50	7.50
55561	Burnt Sienna	NA	20.50	7.50
55571	Raw Umber	NA	20.50	7.50
55581	Van Dyke Brown	NA	24.00	8.00
55591	Ultramarine Blue	NA	28.00	10.00
55601	Red	NA	36.00	12.00
55611	Dark Red	NA	36.00	12.00
55621	Bright Red	NA	36.00	12.00
55631	Orange	NA	38.00	12.75
55641	Emerald Green	NA	32.50	11.50
55651	Chrome Oxide Green	NA	32.50	11.50
55661	Lemon Yellow	NA	36.00	12.00
55671	Golden Yellow	NA	36.00	12.00
55681	Purple	NA	38.00	12.75
55691	Magenta	NA	38.00	12.75
55701	Turquoise Blue	NA	36.00	12.00
55711	Dark Green	NA	36.00	12.00
55721	Cerulean Blue	NA	36.00	12.00
55731	Navy Blue	NA	36.00	12.00

Note: Product numbers refer to color only. When ordering add to the product number: 9 for 5 gallons, 7 for 1 gallon, 5 for quarts and 8 for 2-gallon.

Test kit available.

## Clear Gloss and Flat Acrylics

These clear acrylic mediums are designed to be diluted with water and applied as an overcoat to a painted surface or they can be mixed with the paints for additional binder strength. Rosco Clear Acrylics are compatible with all of Rosco's paint systems and most other water extendable paints. They also serve as a binder for Rosco Dry Pigments.

No.	Description	5 Gal.	1 Gal.
558011	Clear Gloss	\$95.00	\$20.00
55811	Clear Flat	95.00	20.00

Note: Add 9 to the product number for 5 gallons and 7 for 1 gallon.

## Super-Saturated Roscopaint

Brilliant, opaque colors formulated to be diluted with substantial quantities of water while retaining binder strength. Works on most scenic surfaces including muslin, plastic and metal. Dries to a completely matte, non-reflective finish. Color is sold in units comprised of two single quarts packaged in a shipping carton.

59801	Iron Red	\$17.50
59821	Yellow Ochre	17.50
59851	Burnt Umber	17.50
59861	Raw Umber	17.50
59871	Burnt Sienna	17.50
59651	Red	29.50
59691	Ultramarine Blue	29.50
59711	Chrome Green	29.50
59681	Green-Shade Blue	33.00
59731	Pthalo Green	33.00
59751	Magenta	33.00
59771	Spectrum Red	33.00
59811	Chrome Yellow	33.00
59841	Moly Orange	33.00

Note: Product numbers refer to color only. For 2 quart unit add 6 to number. For single quarts divide unit price by two, add 50¢ and add 5 to product number.

Test kit available.

## Concentrated Bases

No.	Color	2 Qt.	1 Gal.	5 Gal.
60001	Neutral	NA	\$18.75	\$ 91.00
60021	White	NA	18.75	91.00
60031	Velour Black	\$15.00	24.00	115.00

Note: Product number is for color only. When ordering add to product number: 6 for 2-quart, 7 for 1 gallon and 9 for 5 gallon.

## UV Inhibitor

UV Inhibitor is a unique formulation designed to combat the fading of dyes and pigments exposed to the sun. The sun's ultraviolet rays are the leading cause of fading and yellowing of scenic material used outdoors. UV inhibitor absorbs those rays to extend color life. UV inhibitor is formulated with an acrylic binder and each concentrated gallon of UV Inhibitor should be diluted with at least one part water before application. One diluted gallon will cover approximately 800 sq. ft.

795017	UV Inhibitor, Gloss	.gal./\$29.00
795117	UV Inhibitor, Flat	.gal./29.00

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Telex: 13-1472 FAX: (914) 937-5984

# PAINT PRODUCTS

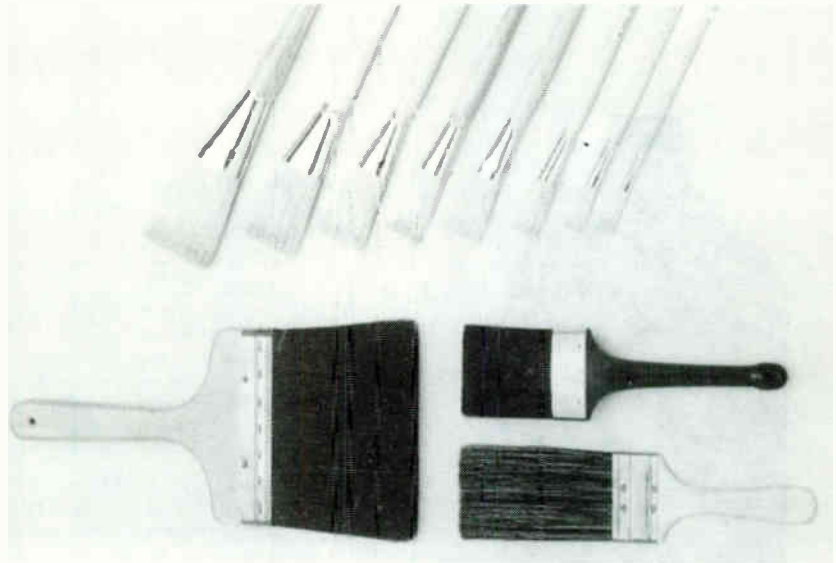
## Video Paints

### Ultimatte™

Ultimatte Paints are the approved Ultimatte Paint System. These paints were designed in conjunction with the Ultimatte technical staff to meet the requirements of their keying effects systems. These acrylic paints can be used on nearly any surface. Sold in one gallon and five gallon containers.

- 57201 Ultimatte Blue (1 gal.) . . . \$ 30.50  
(5 gal.) . . . 145.00  
57211 Ultimatte Green (1 gal.) . . . 39.50  
(5 gal.) . . . 189.00

For 1 gallon add 7 to product number. For 5 gallon add 9 to product number.



### Chroma Key

Chroma Key Paints have been specifically formulated to provide high luminance values and color saturation for keying effects. The acrylic colors provide high build, one-coat coverage for use on nearly any surface. Sold in 1 gallon and 5 gallon containers.

- 57101 Chroma Key Blue (1 gal.) \$ 30.50  
(5 gal.) . . 145.00  
57111 Chroma Key Green (1 gal.) . 30.50  
(5 gal.) . . 145.00

For 1 gallon add 7 to product number. For 5 gallon add 9 to product number.

### TV White and Black

Specially formulated for the sensitive contrast requirements of standard television systems, this versatile acrylic latex paint can be applied to nearly any surface and comes ready to use right out of the bucket. TV White and Black are complete intermixable and allow the user to achieve intermediate grays. Featuring one-coat coverage, this system dries to a matte, non-reflective finish and allows for easy touch-up. Available in gallons.

### TV White

A neutral gray that meets the specifications for 60% reflectance (maximum brightness intended for transmission).

- 573517 TV White (1 gal.) . . . . . \$18.00

### TV Black

A rich, matte black that meets the specifications for 3% reflectance (minimum brightness intended for transmission).

- 574017 TV Black (1 gal.) . . . . . \$18.00

### Roscoglo

A phosphorescent paint designed for use in total darkness for stage direction and visual orientation. Roscoglo appears, in the dark, as a distinctive yellow-green light—a 2" square is visible up to 30'. Ideal for marking hazardous areas or placing people or props in black-out situations. Sold in 1 ounce jars or in pint containers.

- 566510 Ounce . . . . . \$ 3.75  
566614 Pint . . . . . 39.95

### Iddings Paint Sprayers

#### Scenic Artist Sprayers

The superior tool for the professional scenic artist or the busy paint shop. These specially adapted sprayers feature in-line filters, a variety of spray nozzles for various scene painting techniques and, in the 3 and 4 gallon models, compression gauges. All tanks are stainless steel.

No.	Tank Capacity	Price
560010	4 gal.	\$225.00
560110	3 gal.	215.00
560210	1 1/3 gal.	175.00

#### Sprayer Accessories

- 560710 Service kit for 560210. . . \$10.00  
560910 Spray nozzle for Artist Sprayers . . . . . 3.50  
568010 24" curved extension . . . . 12.95

### Paint Mixing Pails

Sturdy, handsome plastic pails designed specially for mixing any of the Rosco paints. Lids are supplied for paint storage. Convenient tapered pail has a wide mouth for easy mixing, painting and stocking. A 7" priming brush fits easily into both the 1 gallon and 2 gallon size.

- 900117 Mixing pail (1 gal.) . . . . . \$2.00  
900118 Mixing pail (2 gal.) . . . . . 3.50

### Iddings Brushes

A group of fitches (liners) of professional quality, but priced within the budget of scene painting students.

No.	Bristle Length (in.)	Ferrule Width (in.)	Price
561010	1.5	.25	\$ 3.50
561110	1.75	.5	5.00
561210	2.0	.75	8.00
561310	2.25	1.0	11.00
561410	2.5	1.25	13.00
561510	2.75	1.5	16.50
561610	3.0	2.0	21.00
561710	Set of 7 brushes, one each of all of the above		69.50
561810	3" Foliage		34.75
561910	Set of 7 brushes plus 3" Foliage		99.50
565010	8" Lay-in		69.95
565210	2" Enamel		35.00
565310	3" Enamel		42.00

### Dutch Style Priming and Laying-In Brushes (Chinese White Bristle)

No.	Width	Price
562110	4"	\$25.50
562210	7"	40.50

### Ford Chalk Stick

This dual purpose tool is handcrafted from aluminum tubing. It is designed for cartooning as well as for attaching your favorite hand brush.

- 567210 For #17 Charcoal (1/4") . . . \$19.95  
567410 For #9 Charcoal (1/2") . . . 19.95

# ROSCO LABORATORIES, INC.

36 Bush Ave.  
 Port Chester, NY 10573  
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# PAINT PRODUCTS



## Roscoflamex Flame Retardants

A full range of flame retardants to serve virtually every flameproofing need. The range includes products for treating the full spectrum of theatrical materials from non-absorbent synthetics to wood and the traditional natural fabrics.

Each product can be easily applied with a roller, brush, sprayer or by immersion. Roscoflamex flame retardants leave no powdery residue. The standard unit is one gallon, but larger packing is available by special order.

### Roscoflamex C26

An improved version of Rosco's original flameproofing for cotton muslin and canvas. By adding 2 or 3 parts water, each gallon yields 3 to 4 gallons of economical flameproofing. The "C26" identifies the cotton formulation and should be specified when ordering.

### Roscoflamex S33

A formulation for treating synthetics including polyester, nylon, acrylic, rayon and a variety of blends. The liquid is premixed and ready for use. Specify "S33" when ordering.

### Roscoflamex W40

Flameproofing for hard to treat scenic materials including wood, silk, and some wool blends. The liquid is pre-mixed and ready for use. Specify "W40" when ordering.

No.	Description	Price/Gal.
792617	Roscoflamex C26 . . . . .	\$29.00
793317	Roscoflamex S33 . . . . .	36.00
794017	Roscoflamex W40 . . . . .	36.00

## Fluorescent Paints

Vivid colors that are visible and brighter in normal light, and fluorescent under ultraviolet light. Available in quart size.

No.	Color	Price/Qt.
57791	White (White) . . . . .	\$14.95
57801	Red (Fire Red) . . . . .	14.95
57811	Orange (Orange) . . . . .	14.95
57821	Yellow (Lemon Yellow) . . . . .	14.95
57831	Green (Emerald Green) . . . . .	14.95
57841	Blue (Sky Blue) . . . . .	14.95
57851	Invisible Blue . . . . .	14.95

**Note:** Product number is for color only. Add 5 to designate quart. Refer to Off-Broadway Color Card for close representation of color. White fluoresces a light blue under black light. Invisible Blue is clear under normal light and fluoresces light blue.

## Iddings Ice Colors

Iddings Ice Colors were selected for use by the 1980 Lake Placid Olympic Games and are extensively used by professional arenas and ice shows throughout the country. Designed to be mixed with water without losing brilliance or color tone. They are easier to apply and more economical than any other ice paint available.

No.	Color	5 Gal.	No.	Color	1 Gal.
580019	White . . . . .	\$98.00	579017	Black . . . . .	\$31.00
580119	TV Blue . . . . .	98.00	579117	Gold . . . . .	31.00
589919	Halfway Blue . . . . .	98.00	579217	Silver . . . . .	31.00
			579317	Yellow . . . . .	31.00
			579417	Orange . . . . .	31.00
			579517	Red . . . . .	31.00
			579917	Violet . . . . .	31.00
			579617	Blue . . . . .	31.00
			579717	Green . . . . .	31.00
			579817	Brown . . . . .	31.00

**Note:** Special colors may be ordered. Minimum quantity: 5 gallons.

## Colorine

Technicians have been coloring lamps and glass with Rosco's Colorine since 1910. This popular product is designed for low wattage bulbs, which include a wide range used in stagecraft and live entertainment. Colors are brilliant and long lasting.

	Pint	Gallon
Color	\$8.75	\$60.00
Thinner	5.95	34.50

No.	Color	No.	Color
76011	Cardinal Red (26)	76071	Emerald Green (90)
76021	Ruby Red (27)	76101	Golden Amber (41)
76031	Magenta (49)	76151	Canary Yellow (15)
76041	Moonlight Blue (80)	76171	Clear
76051	Urban Blue (82)	76801	Thinner

**Note:** Product number is for color only. When ordering add to product number: 4 for pint, 7 for gallon. Refer to Roscolux swatchbook for close representation of color.



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# SPECIAL EFFECTS, PROPS/ COSTUME PRODUCTS



## Breakaways

Reasonably priced bottles and glasses that shatter realistically and without danger. Special packaging assures guaranteed intact delivery. Price: \$88.00 per dozen. Minimum packing: one dozen. Add 1 to product number for Amber, 2 for Green, 3 for Clear.

80011	Beer Bottle
80021	Cola Bottle
80031	Whiskey Bottle
80051	Wine Bottle
80061	Water Glass

## Roscoblood

Non-toxic, non-staining stage blood. Roscoblood will dry more slowly than real blood. When dry, it has the same appearance as dried blood on both skin and fabrics. Roscoblood will "read" like blood on stage, film or video.

797511	2 oz. container. . . . .	\$ 2.50
797613	6 oz. container. . . . .	5.50
797714	16 oz. container. . . . .	11.50



## Roscobond

Safe, non-flammable, pressure sensitive adhesive for bonding non-porous materials to non-porous surfaces. Designed for use with plastic films. Also works on many porous materials.

820215	Quart . . . . .	\$ 7.50
820317	Gallon. . . . .	23.00
820419	5 Gallon . . . . .	85.00

## Storage Drawers

Heavy gauge 2" deep corrugated drawer and sleeve that accepts 20" x 24" sheets of Rosco color filters. Shipped completely assembled. Packed six to a case.

860110	Storage Drawers (set of 6) . . . . .	\$36.00
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## Fabric Colors

Specially developed water-based dyes for coloring silk, lightweight wool and some synthetic stretch fabrics. Colors can be intermixed, sprayed and stencilled and should be steam-set. 1/2 liter containers.

## Fabric Colors

692710	Brown. . . . .	\$15.00
692810	Bright Yellow . . . . .	15.00
693110	Orange . . . . .	15.00
693210	Flame Red . . . . .	15.00
693310	Peak Red. . . . .	15.00
693410	Flower Pink . . . . .	15.00
693510	Violet . . . . .	15.00
693610	Turquoise . . . . .	15.00
693710	Prussia Blue . . . . .	15.00
693810	Ultramarine . . . . .	15.00
693910	Light Green . . . . .	15.00
694010	Earth Green . . . . .	15.00
694210	Red Brown . . . . .	15.00
694310	Gray . . . . .	15.00
694410	Black . . . . .	15.00
694700	#120 Colorless . . . . .	18.00
694810	Thickener . . . . .	15.00
623100	Fabric Resist . . . . .	15.00

## Tutu Nets

Three styles of woven net materials widely used in the construction of tutus for ballet dancers. Available in bolts that are 43 yards long, 52" wide. Prices upon request.

520011	Ballet Tutu Soft	White
520031	Ballet Tutu Soft	Black
530011	Ballet Tutu Stiff	White
530031	Ballet Tutu Stiff	Black
540001	Ballet Soft Skin	Natural
540011	Ballet Soft Skin	White

## Paint Kits

### Rosco Paint Sampler

24-piece kit contains 1 ounce samples of Iddings Deep Colors, Super-Saturated Roscopaint, Rosco Off-Broadway Scenic Paint, Iddings Dry Pigments, Fluorescent Paint, Clear Gloss, Clear Flat, Roscoglo and Roscoflamex C26. Package includes data sheets, instruction booklets, color cards and a free Rosco Iddings brush.

599010 . . . . . \$29.95

### Deep Colors

24-piece kit contains 1 ounce samples of the entire range of Iddings Deep Colors. Package also includes a scene painting brochure, data sheets on other Rosco paint products and a color card.

558510 . . . . . \$14.95

### Off-Broadway

24-piece kit contains 1 ounce samples of each Off-Broadway color on information manual, data sheets and a color card.

537510 . . . . . \$14.95

### Super-Saturated Roscopaint

24-piece kit contains 1 ounce samples of the entire range of colors plus neutral base, Rosco Clear Gloss and Clear Flat, Roscoflamex, a brochure on scene painting, data sheets and a color card.

593510 . . . . . \$14.95

## Rosco Stages and Risers

Rosco offers stages and risers in units or as complete stages in specified configurations. These are among the safest, most widely used stages and risers in the world. Over 100,000 such units are in use in theaters, opera houses, multipurpose halls and exhibition halls. Also available are orchestra pit covers as well as a complete range of stage accessories such as mobile stairs, guard rails, ramps, etc.

6415	40" x 80" Stage Unit
6420	4' x 8' Stage Unit

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# CINEGEL PRODUCTS

## Daylight Conversion Filters

RoscoSun Daylight Conversion Filters are used when shooting in an interior at a 3200°K balance. They are required at windows or other openings to convert incident daylight to an approximation of 3200°K. Partial conversions are utilized where less than full correction (a cooler or bluer daylight appearance) is preferred. All roll materials are 100 sq. ft., 58" wide, and are optically clear.

3401	RoscoSun 85	Converts 5500°K daylight to a nominal 3200°K	\$112.00
3407	RoscoSun CTO	Converts 5500°K daylight to a nominal 2900°K	112.00
3408	RoscoSun 1/2 CTO	Converts 5500°K daylight to a nominal 3800°K	112.00
3409	RoscoSun 1/4 CTO	Converts 5500°K daylight to a nominal 4500°K	112.00
3410	RoscoSun 1/8 CTO	Converts 5500°K daylight to a nominal 4900°K	112.00
3761	Roscolex 85	Optically clear rigid acrylic. Panel, 51" x 100" Performs same function as RoscoSun 85	164.00

## Neutral Density Filters

RoscoSun Neutral Density Filters reduce the level of incident daylight. Two of the materials also convert daylight to a nominal 3200°K. Except for SilverScrim and BlackScrim (54" wide) all roll materials are 100 sq. ft., 58" wide and are optically clear.

3402	RoscoSun N3	Reduces light intensity one stop	\$112.00
3403	RoscoSun N6	Reduces light intensity two stops	112.00
3404	RoscoSun N9	Reduces light intensity three stops	112.00
3405	RoscoSun 85N3	Reduces light intensity one stop and converts daylight to nominal 3200°K	115.00
3406	RoscoSun 85N6	Reduces light intensity two stops and con- verts daylight to nominal 3200°K	115.00
3762	Roscolex N3	Optically clear rigid acrylic panel, 51" x 100", reduces light intensity one stop	164.00
3763	Roscolex N6	Optically clear rigid acrylic panel, 51" x 100", reduces light intensity two stops	164.00
3421	BlackScrim	Perforated material, 54" wide, black on both sides. Reduces light intensity two stops with no effect on Kelvin	112.00
3809	RoscoScrim	Similar to BlackScrim above. Dual purpose material, 54" wide. Black side functions as neutral density window scrim	112.00

## Tungsten Conversion Filters

Tungsten Conversion Filters convert incandescent 3200°K sources to nominal daylight. These filters offer a deep-dyed base for optical clarity and high heat stability. They are 54" wide, 100 sq. ft., and provide a palette to match varying daylight conditions.

3202	Full Blue (CTB)	Boosts 3200°K to nominal 5500°K daylight	\$112.00
3204	Half Blue (1/2 CTB)	Boosts 3200°K to nominal 4100°K daylight	112.00
3206	1/3 Blue (1/3 CTB)	Boosts 3200°K to nominal 3800°K daylight	112.00
3208	1/4 Blue (1/4 CTB)	Boosts 3200°K to nominal 3500°K daylight	112.00
3216	1/8 Blue (1/8 CTB)	Boosts 3200°K to nominal 3300°K daylight	112.00

## Cinegel Selector

880910	Large Size Cinegel Swatchbook	\$12.95
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For Cinegel rolls, add 13 to product number. For Cinegel sheets add 11 to product number.

## Diffusion Materials

The Cinegel System includes the broadest range of diffusion material available: 16 different products, plus four which combine diffusion and a blue tint to boost Kelvin temperature. All diffusers are 100 sq. ft. "Tough" designation indicates heat stable filter. "Soft" diffusion should be placed at a distance.

3002	Soft Frost	54"	65.00
3023	Wide Soft Frost	72"	85.00
3004	Half Density Soft Frost	54"	65.00
3014	Hilite	55"	115.00
3032	Light Grid Cloth	43"	85.00
3030	Grid Cloth	40"	85.00
3000	Tough Rolux	49"	85.00
3001	Light Tough Rolux	49"	85.00
3006	Tough Spun	54"	85.00
3007	Light Tough Spun	54"	85.00
3022	1/4 Tough Spun	54"	85.00
3008	Tough Frost	48"	85.00
3009	Light Tough Frost	48"	85.00
3010	Opal Tough Frost	48"	85.00
3011	Tough Silk	54"	85.00
3026	Tough White Diffusion	54"	85.00
3027	Tough 1/2 White Diffusion	54"	85.00
3028	Tough 1/4 White Diffusion	54"	85.00
3029	Silent Frost	54"	85.00

## Diffusion/Booster Materials

These filters offer the same diffusion properties as those described above, but contain a deep-dyed blue correction, integral to the material, which raises the Kelvin temperature of 3200°K sources. These materials are 54" wide, 100 sq. ft.

3012	Tough Booster Silk	Diffuses and increases 3200°K sources to 3500°K	\$90.00
3013	Tough Booster Frost	Diffuses and increases 3200°K to 3800°K	90.00
3017	Full Blue Frost	Diffuses and increases 3200°K sources to nominal daylight	90.00

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# CINEGEL PRODUCTS

## Fluorescent Light Filters

Standard cool white or daylight fluorescent tubes offer a reasonable approximation of photographic daylight except for their excessive green content. Two separate techniques are available to deal with this situation—balance all sources to the fluorescents or balance the fluorescents to the sources. Product 3304 is applied to windows or daylight sources and 3306 to 3200°K sources, respectively, to balance them to the fluorescent lights. Products 3308, 3313, 3314, 3310 and 3311 are applied to the fluorescent lights to convert them to either 3200°K or nominal daylight. All roll materials are 54" wide, 100 sq. ft., and are optically clear.

3304	Tough Plusgreen	Converts daylight to match fluorescents		\$ 112.00
3315	Tough 1/2 Plusgreen	Adds partial green to Daylight and 3200°K sources for balancing with fluorescents and discharge lamps. Equivalent to CC15 Green		112.00
3316	Tough 1/4 Plusgreen	Adds partial green to Daylight and 3200°K sources for balancing with fluorescents and discharge sources. Equivalent to CC075 Green		112.00
3306	Tough Plusgreen 50	Converts 3200°K sources to match cool white fluorescents		112.00
3308	Tough Minusgreen	Converts cool white fluorescents to nominal daylight by absorbing excess green output		112.00
3313	Tough 1/2 Minusgreen	Partial green absorbing filter equivalent to 0.15cc Magenta. Useful on some fluorescent types or discharge sources		112.00
3314	Tough 1/4 Minusgreen	Partial green absorbing filter equivalent to 0.075cc Magenta. Useful on some fluorescent types or discharge sources		112.00
3310	Fluorofilter	Converts cool white fluorescents to 3200°K		112.00
3311	Fluorofilter	Same as 331013 in 4' sleeves for covering lamps		9.50

## Arc Light Filters

The Cinegel System offers a wide range of filters for carbon arcs, HMI, CID and CSI lamps. They vary in the character and the amount of color correction provided to deal with the ages of the lamps in use and other operating conditions. All materials are 100 sq. ft., and are fabricated in a deep dyed base for optical and high heat stability.

3107	Tough Y1	A pale straw filter used in U.S. on HMI or white flame arcs to absorb UV and reduce Kelvin for daylight balance	54" W	\$ 112.00
3110	Tough WF Green	Because of generally higher ambient Kelvin preferred in Europe for the same purpose as Tough Y1	48" W	112.00
3106	Tough MTY	A single filter combining MT2 and Y1 for correction of 5500°K white flame arcs and HMI to 3200°K	54" W	112.00
3102	Tough MT2	When used in combination with Y1, converts white flame arcs to 3200°K. Also useful as an amber conversion filter on HMI and CID conversion	54" W	112.00
3115	Tough 1/2 MT2	A partial amber conversion for use on arcs and HMI	54" W	112.00
3116	Tough 1/4 MT2	Pale amber correction for arcs and HMI	54" W	112.00
3134	Tough MT54	A pale straw correction for white flame arcs or HMI	48" W	112.00
3114	Tough UV Filter	A clear slightly tinted filter that absorbs 90% of UV wavelengths below 390nm. For absorbing UV output of arc sources	54" W	112.00

## Reflection Media

Reflector materials offer a wide variety of choices for surfacing reflector boards or for use wherever reflected light is required. The product designation generally indicates the quality of the reflection. These materials are fabricated in a durable, washable plastic laminate. They are 100 sq. ft. and 54" wide (except for RoscoBounce W, which is 48" wide).

3801	Roscoflex M (mirror)	\$ 90.00
3802	Roscoflex H (hard)	90.00
3803	Roscoflex S (soft)	90.00
3804	Roscoflex SS (super-soft)	90.00
3805	Roscoflex G (gold tinted)	90.00
3806	Roscoflex C (cool blue tint)	90.00
3807	Roscoflex D (daylight blue/silver)	90.00
3808	Roscoflex F (featherweight)	90.00
3809	Roscoscrim (perforated silver/black)	112.00
3810	Roscoflex W (white/silver)	90.00
3821	RoscoBounce W (white)	45.00

## Roscobond

Pressure sensitive adhesive for bonding Roscoflex media to aluminum or other non-porous board surfaces.

820215	Roscobond Quart	\$ 7.50
820317	Roscobond Gallon	23.50
820419	Roscobond 5 Gallon	85.00

## Roscopaks

Roscopak materials are lightweight, yet strong and durable. These materials can be taped or tacked to virtually any wall, ceiling or panel and turn that area into an efficient reflector. Each Roscopak consists of 18 sq. ft. of material packaged in a handy pocket size pouch.

850210	Roscopak F (silver)	\$ 15.00
850310	Roscopak D (blue/silver)	15.00
850910	Roscopak G (gold/silver)	15.00
851010	Roscopak W (white/silver)	15.00



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## Cinecolor

Cinecolor range is a series of effects colors available in rolls that are a full 48" wide. This wide width color is designed to filter large fixtures or multiple sources with a single, seamless frame. The material is deep-dyed for stability on hot lights and superior color transmission. Rolls are 48" wide, 100 sq. ft., \$104.00 each.

602	Bastard Amber
603	Warm Rose
604	No Color Straw
605	Pale Gold
608	Warm Straw
609	Straw
610	Light Flame
611	Rose Amber
612	Golden Amber
613	Light Amber
614	Flame
615	Deep Straw
617	Peach
618	Orange
619	Fire
620	Deep Salmon
621	Light Red
622	Pink Tint
623	Light Pink
624	Pink
625	Pale Rose Pink
626	Flesh Pink
627	Rose Pink
631	Middle Rose
632	Salmon
638	Light Rose Purple
639	Lilac
641	Lavender
642	Surprise Pink
644	Deep Lilac
645	Indigo
647	Pale Blue
648	No Color Blue
649	Booster Blue
650	Light Blue
651	Light Steel Blue
652	Azure Blue
653	Zephyr Blue
654	Daylight Blue
655	Steel Blue
656	Slate Blue
657	Primary Blue
658	Medium Green Blue
659	Green Blue
661	Medium Blue
669	Pale Yellow Green
671	Light Green
672	Moss Green
673	Turquoise
674	Primary Green
675	Light Blue Green
676	Blue Green
677	Medium Blue Green
680	Light Gray
681	Medium Gray
682	Chocolate

All products available in sheets

# CINEGEL PRODUCTS

## VIDEO KITS

### Light Control, Color Corrective Materials for Video and Film Production

Based on experience with cinematographers and lighting directors around the world. Rosco has selected filters for a group of kits for film and video lighting. These low cost kits were developed to deal with the most frequently encountered lighting situations. They offer the filmmaker and video technician a set of tools to help achieve professional results in controlled lighting environments or on location.

### Daylight Correction Kit

There are three materials in this kit, which are packaged in a handy tube. Each of them is designed to be applied to windows. They are used when daylight and tungsten light appear in the same scene. Materials included are: RoscoSun 85, 8' long, 58" wide; RoscoSun N6, 8' long, 58" wide; Soft Frost, 8' long, 54" wide.

325110 Daylight Correction Kit \$59.95

### Diffusion Kit

Nineteen 10" x 12" Rosco diffusion materials are packaged in this kit. Diffusion materials help control the "character" of the lighting in each scene. Rosco's range is offered in closely graded steps so the cinematographer or videographer can select the exact material for each situation.

302010 Diffusion Kit \$24.95

### Creative Color Kit

The ten color filters in this kit are selected from the range of over 300 colors which Rosco produces for theater, film and television. Each of the sheets of color is 10" x 12" and deep-dyed on a heat resistant base. They are ideal for the lights used in most video productions.

852510 Creative Color Kit \$24.95

### Polarizing Filters

A neutral gray linear polarizing film for use in front of lights. Reduces the glare reflected by smooth surfaces such as glass, water, paper and certain metallic objects. Especially effective when used in conjunction with a polarizing filter at the lens ("cross-polarization"). Should be placed at slight distance from "hot" lights.

730011 19" x 20" sheet \$ 37.75  
730012 19" x 5' roll 112.00

### Tungsten Correction Kit

This kit contains ten 10" x 12" sheets of five different materials to raise the Kelvin temperature of tungsten light sources. Materials included are: Rosco's Tough Blue 50, Booster Blue, Half Booster Blue, Quarter Booster Blue and Tough Blue 50 Frost.

325010 Tungsten Correction Kit \$24.95

### Roscopak W and D

These kits each consist of a single sheet of lightweight reflector material that is 18 square feet. Both have a silver or "hard" reflector surface on one side. Roscopak W has a matte or "soft" reflector surface on the other side. Roscopak D has a blue surface on the other side from which tungsten light reflects as nominal daylight. Roscopak D is particularly useful when the basic source of light is daylight but tungsten light has to be reflected into an area for additional keylight or illumination.

851010 Roscopak W \$ 15.00  
850310 Roscopak D 15.00

### Cinefoils

Rosco's range of Cinefoils are specially fabricated aluminum materials designed to either mask or reflect light. Matte Black Cinefoil thoroughly absorbs light, and is ideal for masking light leaks and/or eliminating unwanted light reflections. Satin Silver Cinefoil will reflect light softly and evenly for applications where both masking and reflection may be required. Rosco Cinefoils may be molded to form barndoors or flag lights in other masking configurations. They are packaged in 50 sq. ft. (4.6 sq. m) rolls, 12" or 24" wide, in a handy dispenser box. Rolls are \$22.95 each.

100112 Matte black 24" x 25'  
100113 Matte black 12" x 50'  
100212 Satin silver 24" x 25'  
100213 Satin silver 12" x 50'

# ROSCO LABORATORIES, INC.

36 Bush Ave.  
 Port Chester, NY 10573  
 (914) 937-1300 (800) 431-2338  
 Telex: 13-1472 FAX: 914-937-5984

# FOG AND SMOKE SYSTEMS

## Fog and Smoke Systems

Fog and smoke systems are specially designed for applications in theater, film, television and live entertainment. They have been thoroughly tested for both safety and effectiveness. Two different machines are presently available and the fluid is sold in a variety of sizes and scents. The products listed here have been proven over thousands of hours of use throughout the entertainment industry.

### 1500

The 1500 Fog/Smoke Machine provides the opportunity for high reliability and continuous production of dry smoke at a low price.

The 1500 features an external tank, allowing fluid to be pumped from any container, ranging from the standard one-liter bottle to a huge drum. This, plus reliable components, permits non-stop operation without interruptions for re-cycling or re-filling.

Features of the 1500 include continuously variable smoke control, allowing you to design the smoke effect you need, from wispy cigarette smoke to billowing clouds.

The machine's heat exchanger (the component that atomizes liquid into smoke) as well as its electrically-operated internal pump and the associated electronics package, are all state-of-the-art devices. The 1500 comes equipped with a standard remote control module, 6' power cord, and instruction manual.

150010	1500 . . . . .	\$695.00
150050	Carrying case . . . . .	235.00
150060	Super remote control . . . . .	124.95
054197	Hose adaptor . . . . .	19.95
821760	Ducting hose 4" x 25' . . . . .	27.95
150085	50' Remote extension . . . . .	55.00
150086	100' Remote extension . . . . .	65.00

### Standard Fog/Smoke Fluid

Unlike the products used for this purpose previously, Rosco Fluid contains no petroleum. When vaporized, this formulation produces a dense, realistic smoke which is non-toxic and non-irritating. It has no unpleasant odor and leaves no slippery residue and will not irritate eyes, nose or throat. Gallons are packed two gallons per case.

820613	Fog fluid gallon . . . . .	\$ 49.00
820711	Fog fluid liter . . . . .	12.95
820712	Fog fluid 24 liter case . . . . .	310.80

### Scented Fog/Smoke Fluid

The range of scented fog fluids is designed for use with all Rosco Fog/Smoke machines. They are designed for special applications in live entertainment. These fluids have been carefully tested and may be used in the Rosco System without affecting machine warranties or function.

	Liter	Gallon	24 Liter Case
	\$12.95	\$49.00	\$310.80
Piña Colada	820745	820647	820749
Lemon	820755	820657	820759
Tropical	820765	820667	820769
Apple Blossom	820775	820677	820779
Strawberry	820785	820687	820789



1500



Pro-3000

### Stage and Studio Fog/Smoke Fluid

This formulation offers the same safety features as standard Fog/Smoke Fluid, but two additional benefits for users in theater and television. This special fluid, when used with either of Rosco's Fog/Smoke machines, will dissipate more quickly than the standard fluid. This is especially useful for theatrical or video applications where the effect must appear (and disappear) on cue. When properly chilled, the Stage and Studio Fog/Smoke Fluid generates an excellent theatrical fog which also dissipates quickly, without rising in the air. Consult your dealer for details on chilling the smoke.

900011	Liter . . . . .	\$ 12.95
900012	24 liter case . . . . .	310.80
900013	Gallon . . . . .	49.00

### Pro-3000

The Pro-3000 Smoke Generator is designed for applications where either dense smoke, or continuous smoke (or both) are required.

The Generator features an internal pump, eliminating the need for any external or internal source of air pressure. Because of its unique design, fluid can be poured into the internal tank while the machine is operating, or may be fed from an external tank. If an external tank is used, there is virtually no limit to the duration of the Generator's continuous smokemaking operation — six, eight or twelve hours are well within its capability.

The Pro-3000 uses Rosco's standard Fog Fluid, insuring the same safety features as when the fluid is used in Rosco's other Fog Machines.

821710	Pro-3000 Smoke generator . . . . .	\$1886.00
821720	Pro-3000 Carrying case . . . . .	325.00
821750	Hose adaptor . . . . .	35.00
821760	Ducting hose 4" x 25' . . . . .	27.95

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# COMPUTER SOFTWARE FOR THE PERFORMING ARTS

## Computer Software

Microcomputer programs written for performing arts companies by theatrical professionals. These programs are designed to save time and money and can make any production company or department efficient. Properly equipped microcomputers can provide both on-screen and hard copy printed reports. Manuals may be bought before program purchase to examine program operation and determine suitability. An order form for the program disks is included with each manual. Disks should be ordered only on this form.

## A.L.D./PRO

### Updated Version 2.0

An improved and expanded version of A.L.D. lighting paperwork software. Some additional features include:

- The capacity for up to 600 instruments
- Control channel numbers from 1-999 can be used in addition to dimmer numbers
- Data uses 30% less disk space
- Automatic channel assignments
- Automatic dimmer assignments
- Additional error checks
- Works with enhanced graphics adaptor
- Expanded import/export functions
- Greatly enhanced printer support
- Expanded global replacement function
- Separate accessory counting
- Customization of printouts are now possible including the use of ditto marks
- Additional shorthand commands to speed up program use by the experienced user
- Works with stock equipment inventory

266010	Manual including disk order form . . . . .	\$ 25.00
260014	Program disk (IBM). . . . .	425.00
260044	30 day, 75 instrument demo disk . . . . .	4.95

## Assistant Lighting Designer Paperwork

A blessing for the busy or novice lighting designer. A.L.D. displays and prints out virtually all of the paperwork required to light simple or complex productions. The program provides extensive error-checking capabilities as well as a variety of printed documents.

255010	Manual including disk order form . . . . .	\$ 25.00
255014	Program disk . . . . .	275.00

## Demo Disks

PACS A.L.D./Pro and Stagelights now have low cost demo disks available.

## Stagelights

This program examines and manipulates stage lighting instrument applications using both data and drawn-to-scale graphics. User selects a specific instrument and location, the computer calculates and displays distances, angles and intensities and then draws a side section of the resulting beam of light. Program includes an on-line library of manufacturer's photometric data.

250010	Manual including disk order form . . . . .	\$ 25.00
250014	Program disk . . . . .	275.00
250044	30 day non-editing demo disk . . . . .	4.95

## A.L.D./PRO

### Stagelights Designer's Pack

Both of Rosco's Stage Lighting Software Systems together create the complete lighting designer's Software Pack.

265010	Manuals including disk order forms . . . . .	\$ 45.00
265014	Program disks . . . . .	630.00

## Tickets

Custom printing of reserved seat or general admission tickets. Using multiple diskettes, an unlimited number of seating plans and ticket formats can be permanently stored.

205010	Manual including disk order form . . . . .	\$ 25.00
205014	Program disk . . . . .	250.00

## Ticket Stock (Tickets)

Each case contains 500 sheets. Custom printing of reverse side available.

Ticket Stock/Case . . . . .	\$200.00
290011 White	290015 Salmon
290012 Manila	290016 Pink
290013 Yellow	290017 Green
290014 Blue	

## Performing Arts

### Center System (PACS)

A comprehensive system of programs to direct the operations of the Box Office and Marketing Office in a performing arts center. PACS provides for graphic representations of up to 10 venues from which the user may sell tickets. Up to 16 ticket types (usable for various discount sales) and 7 seating sections are provided for as well as 9 methods of payment. Reservations and refunds can be accommodated. Reports may be produced based on the sales during a given day for all shows as well as the sales for a given show over all selling days. Graphic printouts of the status of the theater for any performance are possible. Patron lists and mailing labels may be produced based on patron buying habits or other patron information. On-site training and telephone help service is available. Requires IBM-PC-XT or equivalent.

207010	PACS . . . . .	\$5990.00
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### Ticket Stock (PACS)

80 lb. cardboard, continuous form ticket stock expressly designed for Rosco's PACS Box Office/Marketing Management software. Contains 2000 white tickets per case.

290111	Ticket Stock/Case . . .	\$150.00
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### Candlepower For the Macintosh®

Candlepower is a computer software template used in conjunction with Business FileVision® by Telos. It lets Macintosh users produce light plots and lighting paperwork in one easy-to-use package. Candlepower uses Business FileVision's ability to integrate the database management facilities needed for printed schedule production and the superior graphic capabilities of the Macintosh needed for plot generation. A symbol library included with the template (one of 3 methods of entering data), contains both graphics and data that can be utilized with the program. Because Candlepower works with Business FileVision, the user interface is familiar to many Macintosh users. Plotter interfacing is possible for production of 1/4" and 1/2" drawings.

Minimum hardware requirements: Macintosh 512K.

280018	Candlepower program disk and manual . . . . .	\$150.00
285018	Business FileVision including start-up disk, program disk and manual . . . . .	225.00



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# TEXTILES

## Textiles

A wide range of specialized fabrics for theater, film, and television applications. Textiles are normally sold by the bale. Please call for quotes on finished drops. Some Rosco textiles now available in cut yardage. Textile swatchbook: \$2.50 each.

### Wide Width Muslin

Muslin 14'5", 19'6", or 32'9" wide is manufactured on some of the newest looms in the world. Ideal for translucent style scenic effects. Bales are 65 yds. long. Available untreated natural or Flame Retardant in the following colors: Natural, Sky Blue, CBS Gray, and Bleached White.

### Dyed 102" Muslin

Bolt length approximately 100 yds.

No.	Color	No.	Color
150029	Light Gray	150049	Light Blue
150109	Dark Gray	150119	Dark Blue

### Bounce Cloth

Inherently Flame Retardant Bounce Cloth. True color bounce, no shifting of color.

260019 72"W White . . . . .yd./\$8.70  
in 60 yd. rolls

### Chroma Key Material

These Chroma Key materials are woven from Flame Retardant synthetic fibers. Color meets the standards set for most television applications. Material is 59"W, bolts are 65 yds. long. This product sold by the yard. Finished Chroma Key backdrops available, made to specification.

20004 Chroma Key Blue  
20005 Chroma Key Green

See Paint Section for matching Chroma Key Paints.

### Velvet Velour

A rich velvetlike deep, deep black velour. Available 54"W in a 21 oz. weight. Flame Retardant.

80003 Velvet Velour

### Duveltyne

88003 54" Duveltyne Black  
89003 54" Heavy Opaque Duveltyne

### Sharkscrim

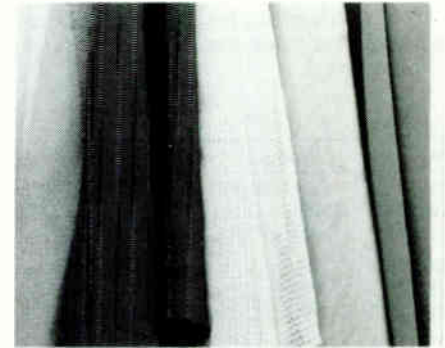
The traditional scrim in extra wide widths all Flame Retardant.

32'0" W 6 Pt.		31'0" W 8 Pt.	
No.	Color	No.	Color
350019	White	390019	White
350039	Black	390039	Black
350049	Blue	390049	Blue

35'0" W 6 Pt.  
380019 White  
380039 Black

36'0" W 8 Pt.  
360019 White  
360039 Black

Gray, Sky Blue on special order.



### Filled Scrim

31'9" W  
370019 White  
370029 Gray  
370049 Sky Blue

### Bobbinette

These open weave materials are available in two grades. The Bobbinette A is a strong, stable, twisted, double thread net sold in bales that are 26 yds. long. Bobbinette B is a more economical material, bales are 52 yds. long. Both materials are 39"W and Flame Retardant.

400009 Bobbinette A, Natural  
400019 Bobbinette A, White  
400039 Bobbinette A, Black  
410009 Bobbinette B, Natural  
410019 Bobbinette B, White  
410039 Bobbinette B, Black

### Opera Net

29'6" W  
440019 White  
440039 Black

### Cyc Cloth

23001 14'6" White Flame Retardant  
22001 14'6" White Untreated

### Shimmer Scrim

Self-extinguishing fabric (47"W) with a selvedge edge for easy sewing. It can be used for scrim effects and has a soft hand for easy draping. Available in 10 yd. rolls and 110 yd. bolts at \$13.00/yd. Cut yardage available at \$15.00/yd., 10 yd. minimum, 10 yd. increments.

10011 White—Gold/Iridescent  
10111 White—White/Iridescent  
20011 Black—Silver/Clear  
20111 Black—Black/Clear

Add 1 to product number for yardage.  
Add 6 to product number for 10 yard roll.  
Add 9 to product number for bolt.

### Glamé

An amazing scenic material that shimmers and sparkles under stage lights. Woven from durable, lightweight, self-extinguishing plastic, it is useful for draperies, costumes, and effects. Sold in 10 yd. rolls, 48"W.

No.	Product	Price/Roll
200016	Clear . . . . .	\$75.00
200316	White . . . . .	75.00
200616	Silver . . . . .	75.00
200916	Gold . . . . .	75.00
201216	Silver-Black . . . . .	75.00
204116	Razzle-Dazzle . . . . .	99.00
204516	Black . . . . .	75.00
205015	Heavy Clear (Heat Shrink) . . . . .	49.50 (5 yd. roll)
204816	Rainbow . . . . .	99.00

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# DESIGNER PRODUCTS

## Slit Drape

Rosco's version of a slash curtain picks up and bounces light in exciting new ways. Overlapping 1/8" wide layers of durable vinyl do the trick. Each style is available 36" wide in 8', 16', or 24' lengths, and custom sizes are available on special order.

## Cascade Curtains

Shimmering decorator curtains in 25 colors. Flame retardant and faceted 1/4" strips for spectacular reflection. Heading is the same material and color as curtain, with 3/4" spacing to hold curtain. Individually packed in clear plastic tube. Each curtain is 3' wide.

## Roscoscreen

### Rear Projection Screen

A range of four rear projection screen materials, each with special technical properties. The range includes a unique black surface. Specified by major opera houses and theaters throughout the world. Available by the yard or as custom made screens. 55" wide.

No.	Product	Price
260013	Black/Diffraction (8')	\$14.95
260315	Black/Diffraction (16')	32.50
261117	Black/Diffraction (24')	68.75
260613	White/Diffraction (8')	14.95
260715	White/Diffraction (16')	32.50
261217	White/Diffraction (24')	68.75
260113	Silver/Diffraction (8')	14.95
260415	Silver/Diffraction (16')	32.50
261417	Silver/Diffraction (24')	68.75
263013	Iridescent (8')	14.95
263015	Iridescent (16')	32.50
263017	Iridescent (24')	68.75
260213	Black/Gold (8')	13.95
260515	Black/Gold (16')	30.50
261317	Black/Gold (24')	59.50
260813	Black/Silver (8')	13.95
261715	Black/Silver (16')	30.50
261817	Black/Silver (24')	59.50
260913	Solid Silver (8')	11.65
261615	Solid Silver (16')	24.50
261517	Solid Silver (24')	49.00
261013	Solid Black (8')	9.25
262015	Solid Black (16')	19.95
262117	Solid Black (24')	32.75
262513	Solid Gold (8')	11.65
262615	Solid Gold (16')	24.50
262717	Solid Gold (24')	49.00

No.	Diffraction/Silver	Price
244013	Diffraction/Silver (8')	\$11.65
244015	Diffraction/Silver (16')	29.95
244017	Diffraction/Silver (24')	35.50

Length	Metallic	Luster/Pastel
2'	\$ 4.25	\$ 3.85
4'	6.70	5.85
8'	11.65	9.25
12'	29.50	27.50
16'	37.50	36.50
20'	49.50	43.50
24'	59.50	49.50

No.	Metallic	No.	Metallic
24501	Silver	24531	Blue
24511	Gold	24541	Red
24521	Cerise*	24551	Green*

No.	Luster/Pastel Colors
24561	Blue-Dark (Royal)
24571	Blue-Light (Columbia)
24581	Blue-Sky (Air Force)
24591	Brown*
24611	Fuschia (Lavender)*
24621	Green-Dark*
24631	Green-Grass (Kelly)*
24641	Green-Light*
24651	Orchid*
24661	Orange*
24671	Pink
24681	Pink-Shocking*
24691	Red
24701	Sand*
24711	Violet (Purple)*
24721	White
24731	Yellow (Gold)
24741	Black

\*Not available longer than 8'.

Numbers refer to color only. Add 7 for 24', 6 for 20', 5 for 16', 4 for 12', 3 for 8', 2 for 4', and 1 for 2'.

No.	Product	Price/Yard
210011	Gray	\$14.95
210611	Twin White	14.95
210711	Black	14.95
210811	Light Transparent	14.95

Double width-continuous rolls of two 55' sections welded together. One linear yard = 27 sq. ft. 110" wide, Minimum order 1 yard.

No.	Product	Price/Sq. Ft.
210512	Gray	\$3.40
210612	Twin White	3.40
210712	Black	3.40
210812	Light Transparent	3.40

(Special Order Only)

## Custom-Made Finished Screens

Durable, ultrasonically welded screen available for all normal stage configurations. Grommets and pipe pockets to specification.

Dimensions to outside of screen; priced to next largest foot.

100 sq. ft. minimum . . . . .sq. ft./\$3.95  
Screens under 100 sq. ft., prices on request.

## Transparent Screen Tape

For temporarily seaming rearscreen yardage for a production. Tape seams may spread within two months. 2" x 55 yds.

212010 Roscoscreen Tape . . . . .\$5.75

## Front Projection Screen

A Pearl White special high gain material designed for front projections in theatrical applications that offers wide viewing angle characteristics. It is fabricated with pearl-like reflective finish for applications where unwanted ambient light can be blacked out or masked.

101021 55"W . . . . .yd./\$14.95  
101022 110"W . . . . .sq. ft./3.40

## Roscomural

Advances in computer graphics technology now allow the production of slides, photographs or other artwork on cyc cloth, scrim, vinyl or other materials. Now widely used in such applications as backgrounds for TV news and talk shows, theatrical settings and display work, Roscomurals offer nearly incredible fidelity even in the huge sizes needed for interior design requirements. Finished Roscomurals are usually available within three to four weeks after receipt of artwork.

271010 Roscomural . . . . .sq. ft./\$22.50

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Rosco offers a swatchbook of the complete range of Designer Products.

## Mirrors

Rosco's two "shrink" mirrors (Silver Shrink and Shrink Mirror Scrim) are designed to be tacked to frames and then shrunk with heat for optical clarity. The other mirrors all offer excellent mirror surfaces in a metalized, self-extinguishing plastic format. All rolls: 54" x 30'.

No.	Product	Price/Roll
390602	Flexible Silver	\$60.00
390902	Silver Streak	88.00
392502	Thin Silver	27.00
392602	Shrink Mirror Scrim	88.00
392702	Thin Gold	27.00
393002	Rigid Gold	88.00
393102	Rigid Silver	88.00

## Flexmirrors

Flexmirrors are paper-backed. Roll size: 24" x 15'. Price per roll: \$50.00

No.	Product	No.	Product
	1/4" Vertical Rib		1/4" Grid
394012	Silver	394112	Silver
394212	Red	394312	Red
394412	Yellow	394512	Yellow
394612	Blue	394712	Blue
394812	Green	394912	Green

## Sparklene

Eighteen glitter laminate plastic film colors for exciting effects. These are pressure sensitive and available in standard rolls 24" x 15'.

No.	Color	Price/Roll
399012	Silver	\$40.00
399112	Blue	40.00
399212	Red	40.00
399312	Green	40.00
399412	Fuschia	40.00
399512	Gold	40.00
399612	Red/Green Iridescent	40.00
396012	Fluorescent Green	40.00
396112	Fluorescent Pink	40.00
396212	Fluorescent Yellow	40.00
396312	Prism Silver	40.00
396412	Blue/Green Iridescent	40.00
396512	Sky Blue	40.00
396612	Linear Gold	40.00
396712	Linear Red	40.00
396812	Linear Silver	40.00
396912	Red Dot Pattern	40.00
397012	Red Lenticular	40.00

## Diffractions

Six exciting silver metalized plastic films for extraordinary scenic effects. All the materials are self-extinguishing and are silver in color. Roll size: 24" x 15'

No.	Product	Price/Roll
295622	Exotic Circles	\$40.00
295722	Exotic Hex	40.00
295822	Star	40.00
296022	1/4" Mosaic	40.00
296122	Checkerboard	40.00
296222	Horizontal Stripes	40.00

## Transparents

Transparents are clear, self-extinguishing plastic rolls. They may be painted or slit for fire or other stage effects or used in stage windows or panels. All rolls: 54" x 30'.

393302	Thin Transparent	\$15.00
393502	Heavy Transparent	44.00
393602	Heavy Pearltext	85.00

## Metalix

Durable, metalized plastic scenic materials in a variety of colors and surfaces. The four most popular colors are available in a handy wide width: 54" x 30'.

390202	Silver Pebble	\$60.00
397102	Soft Silver	74.00
397202	Gold Pebble	60.00
397302	Silver Scrim	80.00

## Smooths

The smooth colors are paper-backed. Roll size: 24" x 30'.

397422	Bright Orange	\$28.00
397522	Gun Metal Gray	28.00
397622	Cherry Red	28.00
397722	Penny Copper	28.00
397822	Sky Blue	28.00
397922	Polished Brass	28.00
398022	Royal Blue	28.00
398122	Silver	28.00
398222	Emerald Green	28.00
398322	Pink Fizz	28.00
398522	Light Gold	28.00
398622	Smooth Iridescent	80.00
398722	Fluorescent Pink	28.00
398822	Fluorescent Green	28.00

# DESIGNER PRODUCTS

## Floortapes

No.	Product	Price
501410	Black Vinyl Tape 2" x 36 yds.	\$10.50
501510	White Vinyl Tape 2" x 36 yds.	10.50
501610	Gray Vinyl Tape 2" x 36 yds.	10.50
874010	Roscofloor Double Stick Tape 2" x 32 yds.	10.50
100120	Gray Polycloth Tape 2" x 32 yds.	6.50
100140	Gray Polycloth Tape 4" x 32 yds.	13.00
100220	Black Polycloth Tape 2" x 32 yds.	6.50
100240	Black Polycloth Tape 4" x 32 yds.	13.00

## Roscotiles

Roscotiles are 3' x 3' squares of 100% vinyl, designed specifically for use in television studios, or other applications where flooring needs to be smooth, even and durable. Roscotiles will withstand a static load of 125 lbs. per square inch. They will not break or crack under normal use, but if a sharp object is dropped and gouges a tile, only that tile needs to be replaced, rather than an entire floor or section. These 1/8" thick tiles will lie flat on a studio floor, though some professionals prefer to use a Rosco floor tape for extra security on the tile corners and edges.

No.	Color	Price/Tile
841510	White	\$30.00
842210	Black	30.00
843510	TV Gray	30.00

## Roscofloors

Roscofloor is a durable, non-skid surface in a matte non-reflective vinyl. All Roscofloors are two-sided. They may be used on either surface and can easily be rolled up and used again and again. Roscofloor will not crack, separate or fracture. Despite the floor's strength and durability, Roscofloor weighs less than 3 lbs. per linear foot.

875014	Black/Gray 63" x linear ft.	\$ 8.50
875114	Brown/Gray 63" x linear ft.	8.50
875314	Black/White 63" x linear foot	8.50
872019	Black/Gray 63" x 131.25' roll	roll/918.75
872119	Brown/Gray 63" x 131.25' roll	roll/918.75
872319	Black/White 63" x 131.25' roll	roll/918.75
875510	Dance Floor Bag 14" x 6'	125.00
871010	Performance Floor Cleanser—5 lb. bag. Granulated chemical developed to clean vinyl dance floor surfaces.	\$12.75



# ROSEBRAND

517 W. 35th St.  
New York, NY 10001  
(212) 594-7424 (800) 223-1624

## Display Fabrics

72"	Felt, flame retardant (assorted colors)
41"	Exhibition taffeta, flame retardant, (12 colors)
48"	Banjo cloth, flame retardant, (14 colors)
60"	Ripstop nylon, flame retardant, (8 colors)
54"	Show plastic, flame retardant, (11 colors)
54"	Patent vinyl, (assorted colors)

## Specialty Fabrics

*38"	Chincha standard (100 yd. bolts)
*48"	Chincha standard (100 yd. bolts)
50"	Monks cloth, natural
44"	Osnaburg, natural
72"	Nylon netting, (assorted colors) (40 yd. bolt only)
54"	Nylon tulle, (assorted colors) (40 yd. bolt only)
*45"	Tropical net, flame retardant, white
45"	Silk, inherently flame resistant, (assorted colors)
45"	Chiffon, (assorted colors) (50 yd. bolt only)

## Bullion Drapery Fringe

4"	White or gold
6"	White or gold

## Velour

50-55 yds. per roll. Less than full roll subject to 10% surcharge.

54"	Flame retardant, 21 oz. weight (23 colors available)
54"	Flame retardant, 25 oz. weight (23 colors available)
54"	Flame retardant, 16 oz. weight (8 colors available)

## Drapery Fabrics

*54"	Duvelyn, flame retardant, black
*54"	Commando cloth (extra heavy duvelyn), flame retardant, black
*54"	Commando cloth, flame retardant, gray, cranberry, blueberry, beige, white
54"	Nassau, Chevron Repp, flame retardant, black, gray, beige, dark blue
48"	Atlas oxford, flame retardant, black, gray or beige
54"	Lining denim, flame retardant, black or beige
48"	Vegas, extra heavy weight, inherently flame resistant
48"	Duval, extra heavy weight, inherently flame resistant opaque vinyl bonded

## Metallics

25 yd. minimum per color	
40"	Laminette (assorted colors)
40"	Tissue lame (assorted colors)
40"	Spongy lame (assorted colors)
40"	Eyelash (assorted colors)
48"	Glamé—10 yard roll only

## Muslin

40 to 60 yard bolts	
*45"	Light weight muslin—for costumes, lining, patterns
*40"	Medium weight muslin
*72"	Bleached white medium weight muslin
*76"	Medium weight muslin
*81"	Medium weight muslin
*77"	Medium/heavy weight muslin
*93"	Medium/heavy weight muslin
*54"	Heavy weight muslin
*63"	Heavy weight muslin
*72"	Heavy weight muslin
*81"	Heavy weight muslin
*90"	Heavy weight muslin
*108"	Heavy weight muslin

## Flame Retardant Scenery Muslin

50 to 60 yard rolls

Approx. Width

*72/73"	Flame retardant medium weight muslin
*79/80"	Flame retardant medium weight muslin
*68/69"	Flame retardant heavy weight muslin
*77/78"	Flame retardant heavy weight muslin
*104/106"	Flame retardant heavy weight muslin
*102/104"	Flame retardant sky blue muslin
*102/104"	Flame retardant dark blue muslin
*102/104"	Flame retardant light gray muslin
*102/104"	Flame retardant dark gray muslin
*102/104"	Flame retardant bleached white muslin

## Extra Wide Seamless

### Translucent Muslin

14'	Flame retardant muslin
14'	Flame retardant blue or gray muslin
19'	Flame retardant muslin
19'	Flame retardant blue or gray muslin
33'	Flame retardant muslin
33'	Flame retardant blue or gray muslin

## Scrims

Approx. width

*36"	Cotton scrim—100 yd. bolts
*58"	Cotton scrim—100 yd. bolts
30'	Sharkstooth scrim, flame retardant, white
30'	Sharkstooth scrim, flame retardant, black

# THEATRICAL FABRICS

30'	Sharkstooth scrim, flame retardant, sky blue
36'	Sharkstooth scrim, flame retardant, white
36'	Sharkstooth scrim, flame retardant, black
30'	Leno sharkstooth scrim, flame retardant, white
31'	Bobinette, flame retardant, white
31'	Bobinette, flame retardant, black
30'	Scenery netting, non-flame retardant, natural
26'	Scenery netting, non-flame retardant, black
72"	Theatrical gauze, flame retardant, natural

## Scenery Canvas

100 yard rolls

72"	7 oz. canvas
72"	12 oz. canvas
120"	12 oz. canvas
144"	12 oz. canvas

## Flame Retardant Scenery Canvas

100 yard rolls

68/69"	7 oz. flame retardant canvas
68/69"	8 oz. flame retardant canvas

## New Burlap

*48"	7 1/2 oz.
*72"	7 1/2 oz.
*48"	10 oz.
*72"	10 oz.
*48"	Jute gauze
48"	Erosion cloth (75 yd. roll)

## Colored Burlap

48"	35 yd. bolts (by bolt only)
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## Hampers

Heavy weight canvas hamper with plywood top, reinforced bottom and 5" swivel casters.  
16 Bushel  
20 Bushel

## Velcro

Black or white-25 yd. rolls

3/4"	Male hook or female loop
1"	Male hook or female loop
2"	Male hook or female loop

Add 20% for less than full roll.

\*Cutting charge for less than full bolt is \$5.00

Note: All pricing available on request.

Prices and Specifications Subject to Change Without Notice.

# ROSS VIDEO LTD.

500 John St., Box 220  
Iroquois, Ont., CN K0E 1K0  
(613) 652-4886  
FAX: (613) 652-4425

# PRODUCTION SWITCHERS

## RVS210A/RVS216A Video Production Switchers

### Features Common to Both Models:

- Three bus Multi-Level Effects (MLE) system permits manipulation of foregrounds, backgrounds and titles without ever locking up the switcher and the Transition Preview system enables you to see every effect or wipe before you take it, even with the switcher on the air
- Program/Presets permit simple flip/flop operation using the cut button. Transition controls include cut button, wipe or dissolve using fader handle or auto transition
- Three completely independent auto transition units, programmable from 1 to 999 frames
- Key bus permits source selection for chroma keys, video keys and matte keys
- MLE keyer features video or matte fill, internal, external or split-screen key, optional RGB chroma key, key invert, key mask using pattern generator
- Three independent matte generators for wipe borders, title matte and background
- Key input from key bus, an external source or a character generator; key fill from internal video, character generator or the independent DSK matte generator
- Key invert and key mask using pattern generator
- Downstream keyer transition can be tied to the effects system
- In normal operation, the MLE keyer and Downstream keyer "remember" key and softness levels, fill source, borders etc. for each source
- Independent frame rate auto transition for fade-to-black with preview system that shows next program output after fade-to-black is completed
- Linear keying for compatibility with anti-aliasing character generators
- Standard general purpose interface to each of the three auto transitions or a fourth line which permits selection of any one of the three
- Video Input: 1V p-p, composite, bridging
- Pulse Input: 1-8V p-p, 75 ohms, bridging; 1 sync, 1 blanking, 1 burst flag (PAL only)
- Video Outputs: 1V p-p, 75 ohms, 2 program, 2 preview, 1 black
- Frequency response:  $\pm 0.1$ dB to 5.5MHz; +0.1 to -1.0dB to 8MHz

## RVS210A Video Production Switcher

- Twelve wipe patterns with modifiers: hard or soft edges, hard or soft bordered edges, pattern aspect ratio, pattern reverse, rate-controlled pattern positioner
- Independent control of both wipe and split screen border widths and soft edge
- Cut or dissolve titles in or out manually or with independent frame rate auto transition
- Learn Key feature permits computerized editor to initiate wipe or dissolve to multiple keys
- Control panel measures 14.5" x 17.6" x 7" deep. Can be mounted on desk or in rack space using optional adaptors. Rackmounting requires 8 rack units. Rack frame requires 3 rack units 5 1/4" and is 18.25" deep
- Differential phase:  $\leq 0.7^\circ$  (10-90% APL)
- Differential gain:  $\leq 0.7\%$  (10-90% APL)

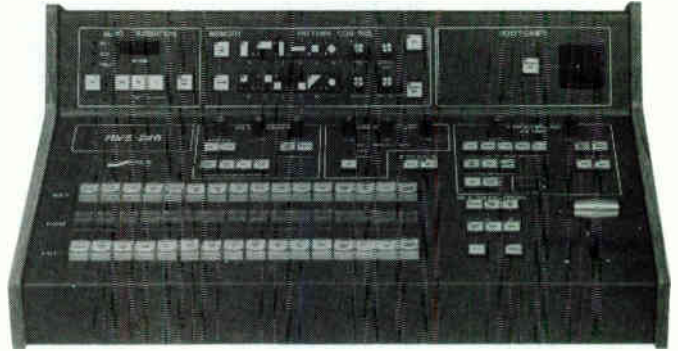
**210A-10** Video Production Switcher (10 inputs) including your choice of: 2 meter control cable (210A-302) or 10 meter control cable (210A-310). . . . . \$10,950.00

### Options

**210A-115** RGB chroma keyer . . . . . \$ 800.00  
**210A-135** Pulse regenerator . . . . . 1,000.00  
**210A-140** Enhanced digital key border generator . . . . . 1,500.00  
**210A-141** Analog key border generator . . . . . 2,500.00  
**210A-230** Twelve event memory system . . . . . 1,200.00  
**210A-231** Serial interface adaptor . . . . . 1,200.00

### 210A-136 Feature Package Number 1 Includes:

- **Function Button**—This feature brings a wide range of operational modes, additional production facilities and aids to easier operation
- 210A-136** . . . . . 1,200.00



RVS-216A

### 210A-137 Feature Package Number 2 Includes:

- 12 additional wipes
  - Two extra DSK border shadow modes
- 210A-137** . . . . . \$900.00  
**210A-250** Spares kit . . . . . 450.00  
**210A-330** Control cable, 30 meters. . . . . 175.00  
**210A-400** Rackmount adaptor for control panel . . . . . 100.00  
**210A-410** In-desk mounting adaptor for control panel . . . . . 150.00

**Note:** Feature package 2 may only be purchased in conjunction with feature package 1, building upon the items offered by package 1.

## RVS216A Video Production Switcher

- 24 wipe patterns with modifiers: hard or soft edges, hard or soft bordered edges, pattern aspect ratio, pattern reverse, rate-controlled pattern positioner. One of the patterns is user programmable
- Wipe limit determines maximum size of wipe pattern at full limit of fader movement
- Non-sync inhibit detects non-synchronous sources and inhibits keys, wipes or dissolves and substitutes a cut at the end of the transition. Non-sync LEDs indicate the presence of a non-synchronous source
- Pulse processor provides consistent color framing of synchronous signals by means of sync and burst reinsertion
- Cut, dissolve, or wipe titles in or out manually or with independent frame rate auto transition
- Linear keyer
- Function button allows the user to select many alternate modes of switcher operation, useful operator aids and diagnostic routines
- Control panel measures 14.5" x 22.25" x 7.5" deep
- Rack frame requires 3 rack units (5.25") and is 18.25" deep
- Differential phase:  $\leq 0.5^\circ$  (10-90% APL)
- Differential gain:  $\leq 0.5\%$  (10-90% APL)

**216A-16** Video production switcher (16 inputs) including your choice of: 2 meter control cable (216A-302) or 10 meter control cable (216A-310). . . . . \$15,450.00

### Options

**216A-115** RGB chroma keyer . . . . . \$ 800.00  
**216A-110** Encoded and RGB chroma keyer . . . . . 3,100.00  
**216A-140** Enhanced digital key border generator . . . . . 1,500.00  
**216A-141** Analog key border generator . . . . . 2,500.00  
**216A-135** Pulse regenerator . . . . . 1,000.00  
**216A-230** 12 event memory system . . . . . 1,200.00  
**216A-231** Serial interface adaptor . . . . . 1,200.00  
**216A-250** Spares kit . . . . . 450.00  
**216A-330** Control cable, 30 meters. . . . . 175.00  
**216A-410** In-desk mounting adaptor for control panel . . . . . 225.00

**Note:** Switcher price includes one each of operation and installation manual

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Iroquois, Ont., CN K0E 1K0  
(613) 652-4886  
FAX: (613) 652-4425

# PRODUCTION SWITCHERS

## RVS-504/505 Series Video Production Switchers

• Clean panel layout only 46" long • Most simple transitions are made between Background bus (B) and Background Preset bus (B PST) • B bus is always the On-Air Bus • When B PST source is transferred to the On-Air B Bus at the end of a transition, the B source is automatically transferred to the B PST bus • Foreground source is selected on the F bus and the processing mode is selected in the Foreground group of MLE controls • Mode selections include RGB and Encoded Chroma Keys, Non-Additive Mix, Split Screen, Spotlight, PST Key and Matte Key • Each MLE Title Keyer is a complete Downstream Keyer with 4 input sources. Three inputs can be wired from primary crosspoints...and tally is supplied • The Transition Control Group...Dissolve, Wipe and Take buttons are located adjacent to the Fader • HOLD buttons, conveniently located in the control group for each MLE level, allow directing a transition to any or all levels • Available with 16, 20 and 24 inputs, and in NTSC, PAL and PAL-M standards

504A-16	Video Production Switcher (16 inputs) . . . . .	\$36,850.00
504A-20	Video Production Switcher (20 inputs) . . . . .	\$38,505.00
	Extra control cable for basic switcher. . . . .per ft./	8.40
505A-16	Video Production Switcher (16 inputs). . . . .	\$40,719.00
505A-20	Video Production Switcher (20 inputs) . . . . .	\$42,790.00
505A-24	Video Production Switcher (24 inputs) . . . . .	\$45,054.00
	Extra control cable for basic switcher. . . . .per ft./	8.40

## Options

### Encore Memory System

504-220	Encore (freestanding) . . . . .	\$7,857.00
504-220A	Encore with extension tub to match switcher tub. . . . .	8,634.00
504-220B	Encore with cassette storage . . . . .	8,683.00
504-220C	Encore with cassette and extension tub . . . . .	9,550.00
504-224	Extra control cable for Encore . . . . .per ft./	1.40
505-220	Encore (free standing) . . . . .	7,857.00
505-220A	Encore with extension tub to match switcher tub. . . . .	8,634.00
505-220B	Encore with cassette storage . . . . .	8,683.00
505-220C	Encore with cassette and extension tub . . . . .	9,550.00
505-224	Extra control cable for Encore . . . . .per ft./	1.40

### Quad Split

• Quad Split does not tie up any switcher bus, and virtually gives you 4 extra buses free • Each quadrant has access to any 9 predetermined primary inputs • Includes diagonal, offset and conventional quad patterns • Has its own border color generator • Lets you preset the next source for each quadrant...then do a vertical internal take of the entire scene

505-160	Quad Split Screen . . . . .	\$3,596.00
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## RVS 514 Series Video Production Switchers

• Designed for any small studio, edit suite or van • Operational convenience of the PGM PST style of switcher offers added power to a fully integrated MLE system • Complex multilevel effects are immediately accessible via wipe, dissolve or cut transitions • See the next event on the preview monitor as you compose it • Logical controls allow any effect to be achieved easily • Patented Transition Preview System • Most simple transitions are made between the PGM bus and the PST bus • PGM bus is always the On-Air bus • When the PST source is transferred to the On-Air bus at the end of a transition, the PGM source is automatically transferred to the PST bus • Foreground source is selected on the F bus and the processing mode is selected in the Foreground group of MLE controls. Mode selections include RGB and Encoded Chroma Keys, Non-Additive Mix, Split Screen, Spotlight, PST Key and Matte Key • Complete Downstream Keyer with a 4-input source selector...the 5<sup>th</sup> bus of the switcher • The Transition Control Group...Dissolve, Wipe and Take buttons are located adjacent to the Fader • Conveniently located HOLD buttons allow directing a transition to any or all levels • One rack frame only 7" (4 RU's) also contains all optional accessories and 2 aux buses • Additional frame is required to accommodate 6 more aux buses • Switcher panel width is 28" (12



RVS-514

inputs or 34" (20 inputs) and 18" deep • Available with 12 or 20 inputs, and in NTSC, PAL and PAL-M standards

514A-12	Video production switcher (12 inputs) . . . . .	\$29,652.00
514A-20	Video production switcher (20 inputs) . . . . .	\$31,801.00
	Extra control cable for basic switcher (per ft.) . . . . .	8.40

## RVS 524 Series Switchers

• Designed for any small studio, editing suite or mobile van • Manipulate up to four video signals with just one fader handle • Permits changing the background picture either separately or in combination with the foreground and title sources...or dissolving or wiping behind a chroma key...all without locking up the switcher • Most simple transitions are made between the PGM bus and the PST bus, using the familiar flip/flop mode of operation • PGM bus is always the on-air bus. When the PST source is transferred to the on-air bus at the end of a transition, the former PGM source is automatically transferred to the PST bus.

• The foreground source is selected on the F bus and the processing mode is selected in the foreground group of MLE controls. Mode selections include RGB and encoded chroma key, split screen, PST key and matte key • MLE title keyer is a complete Downstream Keyer with a 4 input source selector...the 5<sup>th</sup> bus of the switcher • A variety of patterns and effects can be created with the 18 basic patterns (Inner Pattern Group), Pattern Modulation, Horizontal and Vertical Multipliers, Joystick positioner and optional Rotary and Spin wipes • Each pattern, chosen with the rotary selector, can have colored and soft edge borders • Push-pull switch on the aspect ratio control knob is used to round corners on the box wipe patterns • Horizontal and vertical multipliers multiply the pattern a number of times horizontally or vertically or both • Joystick can change the number of multiple patterns appearing on the screen, as well as positioning a pattern • Colored and soft edge borders are standard • One rack frame only 7" high (4 RU's) houses all electronics and optional equipment, plus two aux buses. An additional frame is required to accommodate six more aux buses • Switcher panel width is 22" (12 inputs) or 28" (20 inputs) and 16.65" deep

## Options

### Rotary/Spin Wipe

• Nine standard rotary wipe patterns are available with colorized and soft borders • Spin: A full excursion of the fader handle spins some patterns 360° and simultaneously reduces their size until they vanish • Spin Preset: The angular position of a pattern can be set manually

524B-12	Video production switcher, 12 inputs . . . . .	\$23,756.00
524B-20	Video production switcher, 20 inputs . . . . .	\$25,690.00
	Extra control cable for basic switcher. . . . .per ft./	8.40



# ROSS VIDEO LTD.

500 John St., Box 220  
 Iroquois, Ont., CN K0E 1K0  
 (613) 652-4886  
 FAX: (613) 652-4425

# PRODUCTION SWITCHERS

## RVS-508 Video Projection Switcher

- 20 or 24 inputs, as selected, includes Color Black and Color Background • 2 Multi-Level Effects (MLE) Systems, each with 3 buses (foreground, background and background preset), foreground keyer, title keyer, 31 pattern wipe generator, and patented transition preview system • Foreground keyer has 9 inputs, including self key, matte key, non-additive mix, external, split screen, spotlight, and preset/key bus, plus optional RGB/ultra key and encoded chroma keyers • Title keyer has 4 input source selector, including preset/key bus for self key, color outline/matte fill generator, and analog border generator. Borders may be white or black • Wipe pattern positioner can preset wipe location and modulate vertical edges with adjustable frequency and amplitude. Modulation can be used in the locked or free-run mode • Wipe aspect ratio is adjustable and box or corner wipes may have their corners rounded. Wipe patterns may be multiplied horizontally, vertically, or both • Program and preset buses • Master fade-to-black handle • Color generator for color background pushbuttons, MLE-1 Wipe/Border, and MLE-1 Matte Fill • Non-synchronous input inhibit automatically performs cut at end of fader travel when dissolves or wipes between non-sync inputs would cause unwanted picture disturbances • Choice of colored or white bus pushbuttons • Wipe limits are adjustable • Masking available on foreground keyer • 2 heavy-duty power supplies • 25' interconnect cables between control panel and electronics mainframe • Oak panels on ends and top • Extender board • Special tool kit • Spare parts kit • Technical manual

508B-20 Video production switcher (20 inputs) . . \$69,857.00  
 508B-24 Video production switcher (24 inputs) . . .73,465.00  
 Extra control cable for basic switcher (per ft.) . . 14.00

## RVS 517 Series Switchers

- 12 or 20 inputs • Designed for any post-production, van or studio installation • Wide range of optional equipment enables the 517 to meet most production requirements • Operational convenience of the PGM/PST style of switcher offers the added power of two fully integrated MLE systems • Logical controls allow any effect to be achieved easily with a minimum of confusion. For example: preset a title by the push of only a single button, then move the fader handle to put it on-air • Complicated transitions that include up to four sources can be seen on the preview monitor and adjusted without disturbing the on-air output of the effects system • After previewing a wipe or dissolve, switching off TRANS P/V automatically returns the monitor to the next scene preview mode, regardless of which limit the fader is at • Most simple transitions are made between the PGM bus and the PST bus. At the end of a transition, the PST source selection is transferred to the PGM bus and the PGM source is automatically transferred to the PST bus • MLE title keyer is a complete downstream keyer with a four-input source selector • The Transition Control Group—dissolve, wipe and take buttons are located adjacent to the fader handle • Conveniently located HOLD buttons permit directing a transition to any or all levels • The Preview (or next scene) monitor always shows what change will take place in the next transition • Adjusting key levels, effects, borders or colors is simplified and there are no surprises because the next



RVS508

scene is always in sight on the preview monitor • A wide variety of patterns and effects can be created with the 30 basic patterns, pattern modulation, horizontal and vertical multipliers, joystick positioner and optional rotary/spin wipes and matrix wipes • Equipped with two pattern generators which are independently controlled by an assignable pushbutton pattern selector • Selector has 30 pattern keys, an assign key and a shift key. The most commonly used patterns may be selected directly • When the SHIFT key is turned on, 30 different patterns may be selected, thereby providing a total of 60 patterns from the selector panel • 17 1/2" of rack space required for the 517 electronics package, including all options. Control panel 34" -38" wide and 26" high, depending on number of inputs

517A-12 Video production switcher (12 inputs) . . \$51,744.00  
 517A-20 Video production switcher (20 inputs) . . \$55,524.00  
 Extra control cable for basic switcher (per ft.) . . . . . 12.72

## Option

### Ultra Key

- Keying with any color • Superior hue discrimination • Production flexibility • Ease of operation • Continuous remote control of hue adjustment—you can key with any color • Completely integrated into the MLE system, meaning that you use it like an ordinary chroma key unit without the limitations and restrictions imposed by add-on units • Change foreground or background sources separately or in combination with each other or with titles • Permits the use of two or more chroma key cameras with selection right on the switcher control panel, including automatic key follow of the foreground bus video selection • Optional multi-camera selector is available • No distortion of colors in the keyed scene. That means you can make transitions to and from chroma key situations without the distracting hue shifts on the keyed-in subject • Separate "traveling matte" output may be recorded for subsequent post-production to eliminate problems of encoded keying • Two remote controlled adjustments—hue selection and null control. With the use of the null control, you can eliminate blue edging or blue tint

Ultra Key . . . . . \$3,780.00

# RUNCO INTERNATIONAL

1670 S. Amplett Blvd., Ste. 316  
San Mateo, CA 94402  
(415) 574-5800

# VIDEO PROJECTION MONITORS

## CINEMABEAM RGB AND CINEMABEAM A/V

### Features Common to Both Models:

- **Long Life**—7" projection tubes insure very high continuing brightness over thousands of hours of use. Proven solid-state circuits insure long term reliable performance
- **Wide Range of Picture Sizes**—Individual angle adjustments on the lens/tube assemblies allow any picture size from 5'W to either 20'W or 25'W. Electronic size controls allow variable screen to projector throw distances
- **Very Quick Setup**—Expanded convergence with simplified controls allow setup to different picture sizes in minutes. Separate corner convergence controls make final touch up a snap. Light weight and compact size allow easy positioning
- **Exceptionally Sharp Picture**—Built-in comb filter and either 5MHz or 10MHz video bandwidth, combine to insure that all of your signal is clearly reproduced on the screen. High resolution lenses insure extra sharpness



Cinemabeam RGB

### Cinemabeam RGB

Compact ceiling or table mount RGB/video projector. Picture sizes from 5'W to 20'W. Supplied with remote control unit and mounting hardware.

#### Specifications

**Picture Size:** 5'W to 20'W  
**Power Consumption:** 147W (max.)  
**Power Requirements:** 115V-60Hz  
**Projection Tubes:** 7" Matsushita high brightness CRT  
**Projection Lenses:** f/1.0 U.S. Precision Delta II D (Hi-Resolution)  
**Standards:** NTSC (3.58), RGB  
**Resolution (RGB):** 800 lines  
**Video Bandwidth (RGB):** 10MHz  
**Video Bandwidth (composite video):** 5MHz minimum  
**Resolution (composite video):** 400 lines  
**Video Input:** NTSC 1.0V p-p composite 75 ohm  
**Video Connectors:** BNC  
**RGB Input:** Automatic TTL or analog  
**RGB Connectors:** BNC  
**Sync:** Switchable: "On Green" or external

**Sync Connector:** BNC  
**Scan Rate NTSC and RGB:** 15.75kHz  
**Brightness:** Approx. 350 lumens  
**Dimensions:** 11"H x 25"W x 20"D  
**Weight:** 67 lbs. (w/o remote)  
**Shipping Weight:** 99 lbs.  
**Remote Dimensions:** 9" x 7" x 3 1/2" x 2"  
**Remote Functions:** 13 (Centering convergence and all Std. TV)  
**Remote Cable Length:** 15' (25-pin connector)  
**High Voltage (anode):** 29.5 ± 1.5kV  
**Remote Unit Weight:** 3 lbs.  
**Cinemabeam RGB . . . . . \$5695.00**



Cinemabeam A/V

### Cinemabeam A/V

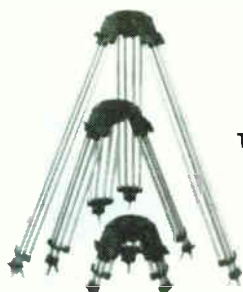
Compact ceiling or table mount video projector. Picture sizes from 5'W to 25'W. Supplied with remote control unit and mounting hardware.

#### Specifications

**Picture Size:** 5'W to 25'W  
**Power Consumption:** 147W (max.)  
**Power Requirements:** 115V-60Hz  
**Projection Tubes:** 7" Matsushita high brightness CRT's  
**Projection Lenses:** f/1.0 U.S. Precision Delta II M (Delta II D optional)  
**Standard:** NTSC (3.58)  
**Video Bandwidth (composite video):** 5MHz minimum  
**Resolution (composite video):** 400 lines  
**Video Input:** NTSC 1.0V p-p composite 75 ohms  
**High Voltage (anode):** 29.5 ± 1.5kV  
**Video Connector:** BNC  
**Scan Rate:** 15.75kHz  
**Brightness:** Approx. 350 lumens  
**Dimensions:** 11"H x 25"W x 20"D  
**Weight:** 67 lbs. (w/o remote)  
**Shipping Weight:** 99 lbs.  
**Remote Dimensions:** 9" x 7" x 3 1/2" x 2"  
**Remote Functions:** 14 (Centering convergence and all Std. TV)  
**Remote Cable Length:** 15' (25-pin connector)  
**Optional Remote Extensions:** 25', 50', 75', 100'  
**Remote Unit Weight:** 3 lbs.  
**Cinemabeam A/V . . . . . \$4995.00**

# SACHTLER CORP.

55 N. Main St.  
Freeport, NY 11520  
(516) 867-4900



Tripods

## Sachtler Tripods

- Extremely lightweight, robust and twist-free
- Ball-ring leg clamping devices with pre-set end pressure point
- Double claws for attaching triangle or rolling triangle—or stainless steel spikes for soft ground

	Panorama Specifications 100mm bowl	Horizon Studio and Standard Specifications 150mm bowl
<b>Tripod long</b>		
Height at 50cm spread	68-137cm	83-154cm
Length collapsed	82.5cm	92cm
Weight Duraluminum	2800g	4900g
Duraluminum h.d.	4150g	—
Inox	4750g	—
Carbonfiber	2300g	—
<b>Tripod medium long</b>		
Height at 50cm spread	—	68-137cms
Length collapsed	—	82.5cm
Weight Duraluminum	—	4550g
<b>Tripod medium</b>		
Height at 50cm spread	40-75cm	52-85cm
Length collapsed	50.5cm	57cm
Weight Duraluminum	2150g	3750g
Inox	2650g	—
<b>Tripod short</b>		
Height at 15cm spread	18.5cm	30cm
Length collapsed	21.5cm	32cm
Weight Duraluminum	1500g	3000g

### Tripods, 4" (100mm) Diameter Levelling Bowl for Panorama

Carbonfibre long, 33" (82.5cm)	\$985.00
Duraluminum heavy-duty long, 33" (82.5cm)	.815.00
Duraluminum long, 33" (82.5cm)	.620.00
Duraluminum medium, 20" (50.5cm)	.545.00
Duraluminum short, 8" (21.5cm)	.410.00
Inox (Stainless Steel) long, 33" (82.5cm)	.795.00
Inox (Stainless Steel) medium, 20" (50.5cm)	.660.00
Tripod-Extender 20" (50.0cm)	.250.00

### Tripods, 6" (150mm) Diameter Levelling Bowl For

Horizon 7 + 7/Studio 7 + 7/Standard 7 + 7	
Duraluminum long, 36" (92.0cm)	\$.895.00
Duraluminum medium-long, 33" (82.5cm)	.820.00
Duraluminum medium, 22" (57.0cm)	.815.00
Duraluminum short, 13" (32.0cm)	.630.00

### Transport Covers for Complete Units

Panorama (head, 100mm bowl tripod long, triangle)	\$.185.00
Panorama (head, heavy-duty tripod long, triangle)	.290.00
Horizon 7 + 7 (head, 150mm bowl tripod medium-long, triangle)	.365.00

### Transport Covers for Tripods

4" (100mm) bowl medium	\$.145.00
4" (100mm) bowl short	.105.00
6" (150mm) bowl long	.265.00
6" (150mm) bowl medium	.195.00
6" (150mm) bowl short	.180.00

# CAMERA SUPPORT EQUIPMENT



Hot Pod

## Hot Pod

- Locked when folded
- Central lock for easy set-up
- Self-locking lever for camera levelling
- Pneumatically supported center column for increased rise and height
- Handy grip provided

## For ENG Cameras:

The Sachtler Hot Pod with the Sachtler Panorama head.

Minimal height	940mm
(up to wedge plate)	
Legs fully extended	1432mm
Max. height	1892mm

## For Recording Cameras:

The Sachtler Hot Pod with the Sachtler Video 20.

Minimal height	957mm
(up to wedge plate)	
Legs fully extended	1449mm
Max. height	1909mm

## Volume, For Transport and Storage:

Hot Pod with Panorama	
Full length	1003mm, ø195mm
Hot Pod with Video 20	
Full length	1020mm, ø240mm

Hot Pod (5185/10) with Spring 22 lbs. (10kg) for use with Panorama 7 + 7 Fluid head for ENG cameras . . . . . \$1,065.00  
Hot Pod (5185/14) with Spring 31 lbs. (14kg) for use with VIDEO 20 Fluid head for recording cameras . . . . . \$1,065.00



Semi-Dolly



Triangle

## Sachtler Semi-Dolly

- Lightweight rolling triangle
- Independent brakes for rolling and spinning action of the wheels
- Height adjustable wheel cable guards
- Easy-transport handy grip

Sachtler Semi-Dolly . . . . . \$845.00

## Sachtler Triangle

- Rubber and polyamid parts for slippery or delicate floors
- Light, robust, unbreakable
- Rubber pull loop tripod attachments
- Folds inward for transporting ease

Sachtler Triangle—Lightweight . . . . . \$265.00  
Sachtler Triangle—Heavy-Duty . . . . . \$375.00



# SACHTLER CORP.

55 N. Main St.  
Freeport, NY 11520  
(516) 867-4900

# CAMERA SUPPORT EQUIPMENT

## Pedestal 14

- Pneumatically supported center column tripod
- Allows the camera movement to acquire a third dimension
- Air pressure in the inside of the center column can be exactly adjusted to the camera weight. The camera is thus floating on an air cushion
- Center column can be locked in any position. For safe transportation, even while the center column is under pressure, a safety catch is engaged
- Center column is running on ball bearings
- Using the extendable tripod the stroke range of the center column can be adapted to the shooting requirements
- Height range: Spreader 29.1" - 53.5", Dolly 34.1" - 58.7"
- Center column range: 15.7"
- Maximum load: up to 44 lbs.

4190 Pedestal 14 . . . . . \$1,085.00

## Video 14 II Fluid Head

- 3 step dial-in drag adjustment
- Damping can be set for 3 different drag levels but the drag can also be disengaged. A selected setting can be re-engaged at any time
- Temperature span from -40° to +60°C
- Free-wheeling for pan and tilt
- Sliding, quick-release wedge plate (1/4" and 3/8" screws) for center of gravity compensation
- Touch and go system quickly fastens the camera to the supporting mount
- 2 adjustable pan arms
- In order to counterbalance (while tilting the camera) two adjustable pull-back springs are used
- Built-in counter balance spring tilt ± 60°
- Tripod interface flat base for video 14 pedestal/75mm bowl tripod
- Vertically and horizontally working brakes which when applied do not transmit vibrations to the camera
- For horizontal levelling a precise circular waterlevel is built-in
- Maximum load: approx. 33 lbs.

1400 Video 14 II Fluid Head . . . . . \$1,175.00

## Dolly 14 Rolling Triangle

- For pedestal and 75mm bowl tripod
- Heavy-duty 3.15" diameter casters
- Built-in handle
- 9.7 lbs.
- Dimensions for transporting: 75" H X 7.9" W x 24.2" L
- Maximum load: 88 lbs.

7053 Dolly 14 . . . . . \$240.00

## Tripods 14

- Work with a height of 15cm off the ground up to a height of approx. 1.50 meters
- 75mm bowl leveling
- Black anodized aluminum construction
- Maximum load: 33 lbs.

### Tripod 14 Medium

- Height range: Spreader 14: 5.9" - 31.1"; Dolly 14: 16.1" - 33.5"

### Tripod 14 Long

- Height range: Spreader 14: 24.8" - 54.3"; Dolly 14: 32.8" - 59.4"

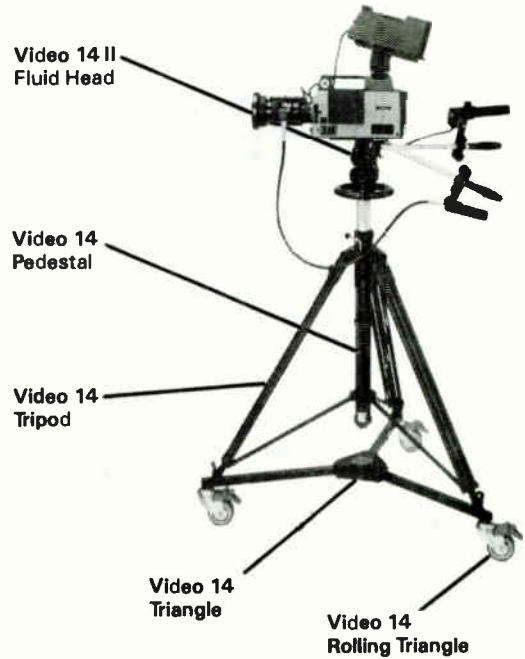
4151 Medium . . . . . \$260.00

4182 Long . . . . . \$280.00

## Spreader 14

- For 75mm bowl tripod
- Works on slippery or delicate floors
- Light, robust and unbreakable
- For transportation purposes the spreader is simply folded up and remains attached to the tripod
- Maximum load: 88 lbs.

7001 Spreader 14 . . . . . \$99.00



# SACHTLER CORP.

55 N. Main St.  
Freeport, NY 11520  
(516) 867-4900

# FLUID HEADS

## Video 20 II/Video 25 II/Video 30 II Fluid Heads

- Sliding camera platform  $\pm 50$ mm
- Drag individually adjustable in 7 steps for pan and tilt
- Touch and go quick-release system
- Counterbalancing momentum
- Temp. range:  $-40^{\circ}$  to  $+60^{\circ}$ C
- $\pm 60^{\circ}$  tilt range
- $360^{\circ}$  pan
- 18mm, extension 22mm pan arm  $\phi$
- Small touch and go wedge-plate-camera interface (Video 30 heavy-duty interface)
- Black enamel finish



Video 20  
Series II

## ENG/EFP Video 20 II Fluid Head

- Powerful counterbalancing spring
- Positive operational pan and tilt lock
- Safety lock
- 100mm bowl, Pro-Junior intermediate tripod interface
- 15kg capacity
- 5.5kg

A medium sized ENG/EFP fluid head for the ultimate in mobility. Lightweight but stable enough to accept ENG camera with EFP accessories.

- Video 16 II 1 step on/off drag control for pan + tilt . . . . \$1,995.00
- Video 17 II 3 step on/off drag control for pan + tilt . . . . \$2,550.00
- Video 18 II 7 step on/off drag control for pan + tilt . . . . \$2,975.00
- Video 20 II 7 step on/off drag control for pan + tilt . . . . \$3,950.00



Video 25  
Series II

## ENG/EFP Video 25 II Fluid Head

- Balancing momentum adjustable in 4 steps
- Positive operational pan and tilt lock
- Optional adjustable lens-support
- Safety lock
- 150mm bowl, Mitchell intermediate tripod interface
- 25kg capacity
- 6.5kg

A medium sized ENG/EFP fluid head optimized for on location shooting combining the stability and pan and tilt comfort previously offered only by significantly larger and heavier camera supporting systems.

- Video 25 II . . . . . \$4,875.00



Video 30  
Series II

## EFP Video 30 II Fluid Head

- Heavy-duty 7 position dynamic counterbalancing system
- Optional adjustable lens-support
- 2 EFP pan arms
- 150mm bowl, Mitchell intermediate-tripod interface
- 40kg capacity
- 9kg

For studio and field production using small studio or O.B. cameras.

- Video 30 II . . . . . \$6,150.00

## ENG Panorama 7 + 7 Fluid Head

- Touch and go quick-release system
- One adjustable pan arm
- 7 adjustable positions for pan and tilt
- $\pm 90^{\circ}$  tilt range
- 100mm bowl Pro-Junior intermediate tripod interface
- 14mm pan arm  $\phi$
- Touch and go system camera interface
- Black enamel finish
- 10kg capacity
- 2.8kg

A small, lightweight fluid head for real news gathering, with an integrated counterbalance spring adequate for today's ENG cameras.

- Panorama 7 + 7 . . . . . \$2,590.00
- Panorama 1 + 1 1 step on/off drag control for pan + tilt . . . \$1,545.00
- Panorama 3 + 3 3 step on/off drag control for pan + tilt . . . \$2,150.00
- Panorama to come with flat base in exchange for 100mm ball  
. . . . . add 100.00



Panorama 7 + 7

Prices and Specifications Subject to Change Without Notice.

# SACHTLER CORP.

55 N. Main St.  
Freeport, NY 11520  
(516) 867-4900

# CAMERA SUPPORT EQUIPMENT

## Video 80 Fluid Head

- OB/Studio applications
- Leakproof, zero-friction fluid head
- Fluid damping modules control very precisely camera/lens combinations weighing up to approx. 80kg
- Damping modules guarantee grades of drag which can be reproduced exactly at all temperatures at which cameras can still be operated
- Seven settings of drag for the horizontal and vertical position
- Locks for the horizontal and vertical direction are working independent of the damping and counterbalancing system. They bring the camera to a stop, wherever desired, without transmitting vibrations
- Maximum load: approx; 198 lbs.
- Drag can be completely turned off, if one has to make sudden movements with the camera
- Grades of drag: horizontally and vertically 7 each and 0
- V-shaped wedge plate is used to mount the camera to the sliding balance plate
- Tilt angle:  $\pm 60^\circ$



Video 80

## OB 2 Tripod/OB Dolly

- Developed especially for outside broadcasting
- Can be extended twice
- Crank operated elevation unit
- OB Dolly can have pneumatic tires of 8" diameter. As a special feature Sachtler offers an extender for the OB dolly. This extender, on the one side increases the size of the supporting base and on the other side it takes the weight off the wheels

8080 Video 80 . . . . . \$7,935.00  
Tripod OB 2 (optional: with elevation unit) . . . . . POR  
OB Dolly (optional: with base extender, pneumatic tires) . . . . . POR

## Combi Pedestal

- Studio and field operation
- Compact, modular set-up
- Long-time wheel alignment of casters based on overload protection at each wheel case and after half a cycle of the steering wheel, all casters are aligned again
- Double-wheeled casters with plained treads
- Center column is supported with a low pressure pneumatic spring. A hand pump which is attached to the pedestal can be used to make readjustments while on location
- Primary filling is made with a manual compressor
- Brake for the center column
- Make use of the pedestal's "on air" height adjustments without attaching the dolly
- On slippery or delicate surfaces clip-on rubber feet for the pedestal are taking effect
- Three-legged support construction
- Safety catch prevents the center column from raising. Transport-clips at the center column prevent the tripod from unfolding while being carried
- Precisely steerable dolly can be changed from a one-wheel to a 3-wheel steering mode (crab and steer)
- Big steering wheel and telescopic transmission
- Cable guards (height is adjustable)
- Overload protection within each wheel guard ensures that the casters continue to run parallel
- Transport and operation lock for the dolly arms
- Folding design for pedestal and dolly to ease transport, no tools required; built-in handles
- Twin wheels with a 4" diameter. Option: 6"
- Maximum load: 55kg
- Weight: 21kg



Combi Pedestal

5198 Combi Pedestal . . . . . \$ 6,995.00  
5198/1801 with Video 18 II Fluid head . . . . . 10,070.00  
5198/2021 with Video 20 II Fluid head . . . . . 11,095.00  
5198/2501 with Video 25 II Fluid head . . . . . 11,970.00  
5198/3001 with Video 30 II Fluid head . . . . . 13,245.00  
5196 Combi Pedestal/154 Dolly with twin wheels of 6" (154mm) diameter. . . . . 7,995.00



# SCHWEM TECHNOLOGY

3305 Vincent Road  
 Pleasant Hill, CA 94523  
 (415) 935-1226 (800) 255-1297 Except CA  
 TWX: 910-240-0269 FAX: (415) 934-0167

# CAMERA LENSES

## Gyrozoom 60/300™ Image Stabilizer Lens

- Automatic iris with momentary manual mode
- Lens attachment and power connector same as standard lenses
- Variable speed zoom control
- Power drain is 4 additional minutes per hour as referenced to a standard lens
- Low battery indicator light flashes at 10.6V (12V nominal)
- Computer designed optics insure ultra high resolution and contrast
- Anti-reflective multilayer coatings on all air-to-glass surfaces enhance light transmission

The Gyrozoom 60/300 Image Stabilizer Lens fits most 2/3" ENG cameras and eliminates virtually all image vibration. Smooth footage is obtained when shooting from any moving vehicle—helicopter, truck, boat, motorcycle—even on foot—whether the camera is handheld or on a tripod. The image is stabilized optically—not with braces or brackets.

Zoom from 60mm to 300mm. This lens enables you to shoot close-up from 1000' with a perfectly steady image.

The Gyrozoom weighs approximately 6 lbs. Power drain is only 4 additional minutes per hour.

### Specifications

<b>Stabilization:</b>	Designed to eliminate high frequency vibration
<b>Iris Aperture:</b>	6.2 to 32 (at all focal lengths)
<b>Focus Range:</b>	3.048m to infinity
<b>Pan and Tilt Rate:</b>	6° per second
<b>Image Format:</b>	2/3" camera (compatible to most cameras) (11mm diagonal Ø6.6 x 8.8)
<b>Flange Focus Range:</b>	± 1.5mm
<b>Field Angle (half diagonal):</b>	1.05° at 300mm, 5.24° at 60mm
<b>Filter Size:</b>	72mm diameter
<b>Power:</b>	12V, 150mA DC
<b>Ambient Temperature:</b>	-4°F to +122°F (-20°C to +50°C)
<b>Dimensions:</b>	47/16" H x 73/4" W x 13" L
Gyrozoom 60/300 with deluxe travel and storage case	\$12,500.00

## Gyrozoom FP-1 Image Stabilizer Lens

Same features as Gyrozoom 60/300 except:

- 30° pan/tilt rate per second
- 12V, 600mA DC
- Power drain is additional minutes per hour as referenced to a standard lens
- Weighs 7 lbs. 4 oz.

Gyrozoom FP-1 with one cable and deluxe carry case	\$16,250.00
Gyrozoom FP-1 Image Stabilizer Upgrade	4,000.00
Manual Focus Module	290.00
Nova II Night Vision Device	6,800.00
C-Mount Adaptor	210.00



Gyrozoom 60/300



Gyrozoom FP-1

### Accessories

#### Wide Angle Attachment

- Reduces the focal length by 5X (12mm to 60mm) (Note: When the wide angle is attached the 12mm to 60mm focal range is not stabilized)
  - Attaches quickly to the front of the Gyrozoom lens with a threaded mount
  - f/6.2 at all focal lengths
  - Minimum operating distance is 3"
  - Computer designed optics ensure ultra high resolution and contrast
  - Anti-reflective multilayer coatings on all air-to-glass surfaces for maximum light transmission
- Wide Angle Attachment (12mm to 60mm) . . . . . \$1,495.00

#### Remote Control System\*

- Provides remote control of focus, stabilization, iris and zoom functions
  - Operator can be positioned up to 150' from camera. (When powered by 115VAC)
  - The Gyrozoom 60/300 remote system is compatible with several pan and tilt mechanisms
  - Power requirements 115VAC or 28VDC
- Remote Control System . . . . . \$2,250.00  
 \*(Requires factory retrofit)

#### Soft Travel Bag

- Padded, soft travel bag assures convenient, safe transport of your Gyrozoom lens
  - Separate compartments are provided to hold the wide angle attachment and additional lens cables
  - Lightweight yet sturdy
- Soft Travel Bag . . . . . \$98.00

# SCITECH CORP.

1450 N.W. 78th Ave.  
Miami, FL 33126  
(305) 591-1620

## SEG-11—Special Effects Generator

- Requires one camera with built-in genlock or SciTech camera upgrade and N-2 GenClock • Stereo Hi-Fi and Audio-Follow-Video standard
- Light and portable; weighs only 1.8 lbs., measures only 8" x 4<sup>3</sup>/<sub>8</sub>" x 2"
- Power requirement: 12V, 0.35A • Professional soft-touch buttons
- Accepts all SciTech accessories, including EU-3 expansion board
- Built-in cuts and dissolves • Accepts 20 optional plug-in modules
- Rugged and reliable

SEG-11 .....\$524.00

## SEG-21—Special Effects Generator Genlock Combination

- Built-in genlock, cuts and dissolves • Requires one Magnavox VR8282BK, VR8283BK or JVC GN-X80U camera or one SciTech camera upgrade on one of your own cameras • Stereo Hi-Fi and Audio-Follow-Video standards
- Light and portable: only 1.8 lbs., measures 8" x 4<sup>3</sup>/<sub>8</sub>" x 2"
- Power requirement: 12V, 0.35A • Professional soft-touch buttons
- Accepts all SciTech accessories, including EU-3 expansion board
- Accepts 20 optional plug-in special effect modules
- Includes PS-3R power supply and one 1-HPUH horizontal wipe cartridge

SEG-21 .....\$824.00

## SEG-31—Special Effects Generator

- Requires one camera with built-in genlock or SciTech camera upgrade and N-2 GenClock on one of your cameras • Stereo Hi-Fi and Audio-Follow-Video standard
- Professional soft-touch buttons
- Accepts complete line of SciTech accessories including EU-3 expansion board
- Light and portable. Only 2.2 lbs., measures 8" x 4.6" x 2"
- Power requirements 12V, 0.35A • Preview output of special effect video
- Intercom amplifier, headset jack and volume control built-in
- Speed auto-wipe and fade to black
- Complete portable studio for two or more color cameras
- Includes built-in cuts, dissolves horizontal, vertical and corner wipes

SEG-31 .....\$974.00

SEG-41C Special Effects Generator .....TBA

# SPECIAL EFFECTS GENERATORS/ MOBILE STUDIO SYSTEMS



SEG-11

## Accessories

Camera B Upgrade: Adds a genlock connector to most cameras .....\$ 99.00

N2 GenClock: Adds full genlock to most cameras. Requires camera B upgrade for use ..... 499.00

MD-4 Quad monitor driver for SEG-11 or SEG-21 ..... 164.00

VIS-4 Vertical Interval Switcher for SEG-11 or SEG-21. . 147.00

DA-1 Preview Amplifier for SEG-31 ..... 66.00

## Wipe Cartridges for all SciTech SEGs:

Type 1—xxxx Cartridges .....\$ 74.00

Type 2—xxxx Cartridges ..... 96.00

Type 3—xxxx Cartridges ..... 119.00

Type 3—xxxx Cartridges ..... 141.00

EU-3 Holds three (3) cartridges. For all SEGs. .... 219.00

PS-3R 13.8V, 3A, U.L. listed power supply ..... 67.00

ADUPS AC/DC uninterruptible power supply ..... 268.00

CAI-50 Camera A ext. cable, intercom-wired, 50' ..... 102.00

CAI-100 Camera A ext. cable, intercom-wired, 100' ..... 141.00

CBI-50 Camera B ext. cable, intercom-GenClock wired, 50' ..... 148.00

IH-11 Intercom headset, 9V. Battery powered ..... 164.00

BCA-21 Camera breakout cable for SEG-11 or SEG-21 ..... 59.00

BVC-21 VCR breakout cable for SEG-11 or SEG-21 ..... 69.00

BVC-31 VCR breakout cable for SEG-31 ..... 79.00

BVC-31-10 Camera 10 to 14-pin adaptor ..... 79.00

CLA-21 Cigarette lighter adaptor for SEG-11 or SEG-21 ..... 25.00

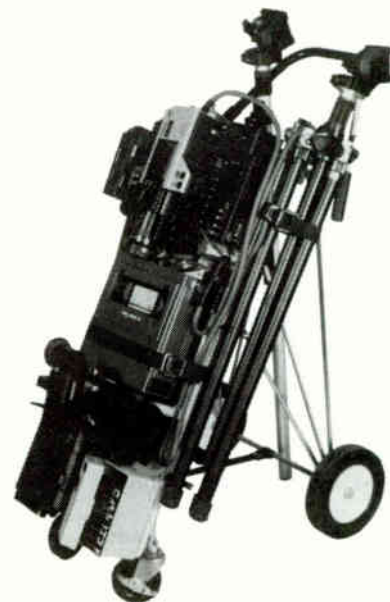
CBC-21 Color bar chart. .... 25.00

## Portable Mobile Studio Systems

All VC-SEG mobile systems handle two color video cameras. The ADUPS AC/DC Uninterruptible Power Supply gives you the freedom of complete mobility.

The rugged aluminum folding cart allows you to operate equally at ease indoors or outdoors, on a studio or anywhere else. It folds neatly and securely with all equipment connected. Folded, it will fit in the trunk of most cars, even compacts.

Component	EQUIPMENT AND CONFIGURATION						
	Model VC	SEG-11		SEG-21		SEG-31	
		1	3	1	3	1	3
Special Effect Generator	SEG-11			SEG-21		SEG-31	
Genlock	N-2			N/A		N-2	
ADUPS Uninterrupted Power Supply and rechargeable battery		1	1	1	1	1	1
1-HPUH Horizontal Wipe Cartridge		1	1	1	1	—	—
VIS-4 4-channel Monitor Drive		1	—	1	—	—	—
MD-4 Four Monitor Driver		—	1	—	1	—	—
DA-1 Preview monitor 75 ohm Adaptor		—	—	—	—	1	1
VSC-1 Cart Assembly, including brackets, cleats and wiring		1	1	1	1	1	1
CAI-50 Camera "A" Extension Cable, intercom-wired, coiled on cleats		1	1	1	1	1	1
CBI-50 Camera "B" Extension cable, intercom-wired, coiled on cleats		1	1	1	1	1	1
IH-11 Intercom Set		2	3	2	3	2	3
CPTCC Cart Mounted Monopod Column		1	1	1	1	1	1
CPT Tripod with Cart Holders for transportation		1	1	1	1	1	1
TV Camera Fluid Effect Head (Mounted on tripod and monopod)		2	2	2	2	2	2
JVC TM-P3U, 2.7 Dual Input Color Monitor and DC Cable Adaptor		1	3	1	3	1	3



VC-SEG-11-1 Based on SEG-11, single color monitor included. ....\$2980.00

VC-SEG-11-3 Based on SEG-11, three color monitors included ..... 4327.00

VC-SEG-21-1 Based on SEG-21, single color monitor included ..... 3206.00

VC-SEG-21-3 Based on SEG-21, three color monitors included ..... 4553.00

VC-SEG-31-1 Based on SEG-31, single color monitor included ..... 3457.00

VC-SEG-31-3 Based on SEG-31, three color monitors included ..... 4805.00

# SCITECH CORP.

1450 N.W. 78th Ave.  
Miami, FL 33126  
(305) 591-1620

# TIME BASE EQUALIZER/CORRECTOR/ EDITING CONTROLLER

## 142 TIBEC—Time Base Equalizer/Corrector

- Allows use of special effects generators with two VCRs in playback
- Replaces two conventional time base correctors for A/B roll editing
- Performs all functions of one conventional TBC
- Locks VCRs to non-interlaced computers, laser disks and other sources
- Genlockable reference timing generator with gray burst output
- Built-in slave video process amplifier. Optional for master video
- Compatible with 3/4", 1/2" VHS and Beta, M, Betacam and 8mm VCRs
- Operates with one VCR with ext. sync or ext. sync and ext. SC inputs

The 142 is the first TBC capable to correct the time base of a VCR playback video to a stable reference or to equalize it (make it equal) to the time base of another VCR. It can also change the timing of a VCR to progressive sync sources such as computers and other interlaced or not, stable or unstable video sources. Dissolves, wipes and other special effects among these sources can be easily performed with a single 142 TIBEC.

The 142 TIBEC is also a TBC and can be used as such in all applications where conventional TBC's are used: VCR Time Base Correction to house or internal sync for broadcast or cablecast, satellite transmission, jitter-free duplication, etc. The 142 TIBEC is compatible with all VCR formats, including 3/4", 1/2" VHS or Beta and 8mm.

The Slave VCR used with the 142 must have an External Sync input, as many industrial 1/2" and 3/4" VCRs are. The 142 can also drive an External Subcarrier input if the VCR has one, as many 3/4" VCRs do.

Special Effects Generators used with the 142 TIBEC operated in TBE mode must be capable to handle unstable and incoherent video signals. All SEG's built by SciTech (SEG-11, SEG-21, SEG-31, Comprehensive MS-2000, Magnavox AR9160 and others) can do so, as can some industrial SEG's from Panasonic and other manufacturers. Other SEGs may or may not operate properly under these demanding conditions, depending on its internal design. Other video equipment used downstream of the 142 used in TBE Mode such as character generators, keys, etc., must be capable to operate with the sync of the video source used as the 142 Master Input.

142 TIBEC ..... \$3995.00



142 TIBEC

## ABREC—A/B Roll Editing Controller

The combination of TIBEC and ABREC technologies allows the creation of consistent second-generation tapes, edited with special effects and repeatable at any time. With these two SciTech products, low cost video post production is an affordable reality.

The ABREC interfaces a customer supplied Personal Computer (PC) with three (3) VCRs and one (1) SciTech SEG-41C Special Effects Generator (SEG).

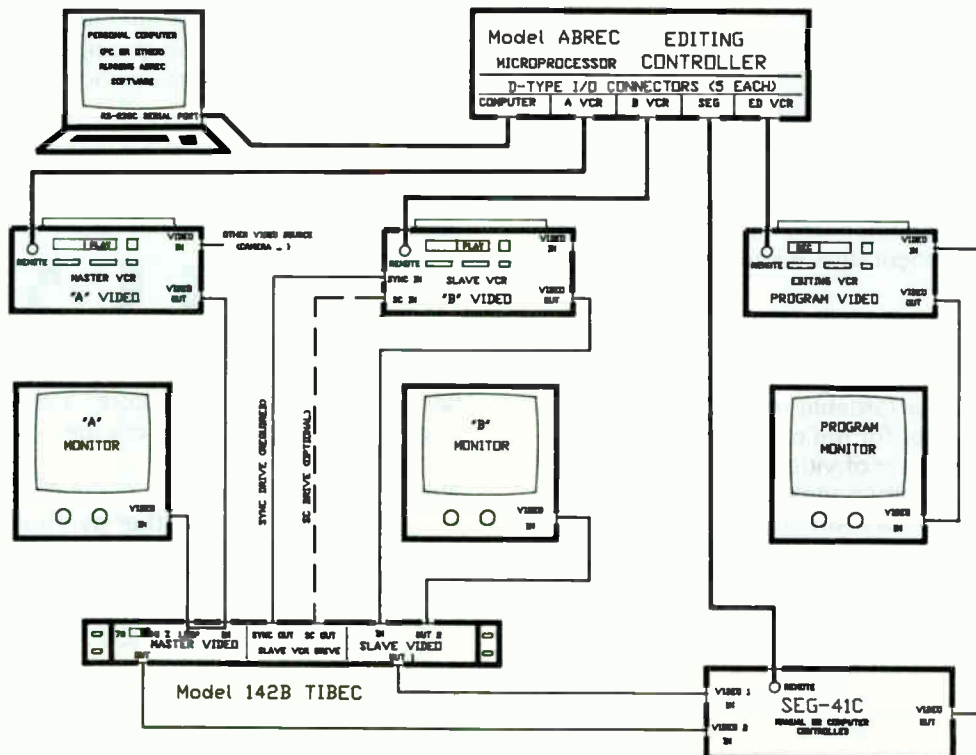
Using the ABREC software, tape logs (or list of contents of a cassette) and Edit Decision Lists (intended contents of the tape to be edited) can be prepared, modified, printed and saved in the computer. Once an Edit Decision List is complete, the video editing is controlled by the computer, connected to the three VCRs and the Computer Controlled SEG-41C through Model ABREC.

The PC used to work with ABREC can be any make/model, such as IBM PC/XT/AT, Apple II, Commodore AMIGA, 64/128, Atari, etc., as long as it is equipped with an RS-232C Serial Interface. Software for many of these popular computers will be available for ABREC. Software and connection cables for the IBM Personal Computers PC/XT/AT (and most "look-alikes") are initially offered.

At this time, ABREC-VHS-1 is supplied with hardware and software drivers compatible with Matsushita-built VCRs equipped with a 5-pin Remote Connector, including, among others, the following models:

Panasonic — NV-8420, AG-6400, PV-8110, PV-9600, PV-8600, PV-8500, PV-5850 and the AG-1950. This last model is recommended as Editor. Canon — VR-20A GE 1CVP5022, 1CVP5024, 1CVP5025, 1CVP5028, 1CVP5030. Magnavox — VR8570SL, VR8572SL, VR858BK, VR8590SL, VR8592SL. Sylvania — VC4527SL, VC4546SL. Quasar — VP5450YQ, VP5750YE.

ABREC ..... .POR



Prices and Specifications Subject to Change Without Notice.

V-965



# SCRIPTOVISION, INC.

7419 Lajeunesse  
Montreal, Quebec, Canada H2R 2J1  
(514) 271-2265

# COLOR VIDEO TITLER

## Super Micro Script Color Video Titler

- **Genlock:** Synchronizes Super Micro Script to an external color video signal (i.e.: VCR in the playback mode, etc.)
- **Crawl:** Displays one moving line of information from right to left horizontally at the bottom of the screen (speed is selectable); crawls may be superimposed
- **Page Cycling:** Allows variable series of entire pages with information to be displayed sequentially at selectable rates of speed. These displays may also be superimposed
- **Video Fader:** Controls the intensity level of superimposed white text and/or graphics
- **Battery Back-Up:** Provides memory retention
- **Set Up Page:** A menu of commands that permit the user to choose the crawl speed; the number of pages to be cycled as well as their cycling speed; plus color bar display
- **RF Modulator Connector:** An FCC approved RF modulator is available as an option
- **Video Input/Output Connectors:** Allows the insertion of titles, graphics or crawls during live video productions; or during tape to tape transfers
- **Eight (8) vibrant colors for large characters and graphics:** Green, yellow, blue, red, pearl, cyan, magenta, orange
- **Seven (7) full pages of memory capacity**
- **Output Signal:** NTSC-type Composite Video (1V p-p)
- **Internal negative sync generator on-board**
- **May be used as a sync source with most video switches and genlockable cameras for superimposing information**
- **Can accommodate an RF modulator**
- **9VDC at 600mA (on board voltage regulator) with supplied step down transformer (110VAC to 9VDC)**
- **40 Keys on a membrane-type keyboard in a 5 x 8 matrix. It controls all functions and cursor direction commands**
- **PC Board:** Glass-Epoxy type (same quality as that used by the major computer companies); housed in a rugged all-metal chassis with decorative wood side panels for long life and durability
- **Weight:** 2<sup>3</sup>/<sub>8</sub> lbs. approximately. 3<sup>1</sup>/<sub>4</sub>" H x 7<sup>3</sup>/<sub>4</sub>" W x 8<sup>3</sup>/<sub>4</sub>" L

Super Micro Script is an affordable portable character, graphics and title generator for the consumer, industrial and institutional or cable user of video. It can create letters, numbers, and/or graphic images (computer-like pictures) in eight (8) brilliant colors: Green, yellow, blue, red, pearl, cyan, magenta and orange. Up to seven (7) full pages of information can be stored in its memory. No computer language or programming is necessary to operate this unit.



## Fonts

### Small Characters:

32 characters per line x 16 lines per page. These will appear as white characters on a red background

### Large Characters:

4 lines of 10 characters per line on a black raster. Large characters can be shown in any of the following colors: Red, blue, green, yellow, magenta, pearl, cyan, or orange. The operator may select each character's color individually; or use the same color for the entire text being displayed

### Color Bars:

8 vertical bars of color appear on screen in this order: Green, yellow, blue, red, pearl, cyan, magenta, orange. Practical for adjusting your video display on a TV set or monitor

## Graphics

Super Micro Script can produce graphic symbols in seven (7) different block configurations:



These may be combined together to form an infinite variety of computer-like images. The graphic elements may be generated in eight (8) colors: Green, yellow, blue, red, pearl, cyan, magenta, and orange.

**Note:** The entire alphabet, digits 0 through 9, punctuation marks, plus other symbols and color blocks can be generated with Super Micro Script. Both font sizes as well as graphics may be mixed simultaneously on the same display page.

**Super Micro Script . . . . . \$495.00**

# SEIKOSHA AMERICA INC.

1111 Macarthur Blvd.  
Mahwah, NJ 07430  
(201) 529-4655 FAX: (201) 529-8388

# VIDEO PRINTERS

## VP-115/95II/45 Video Printers

### Common Features:

- The line-head system offers a pixel density of up to 300 dots/inch (VP-115) producing a very highly detailed image
- The output of brilliant hard copy takes as little as 10 seconds (VP-95II). If you want to stop the printing process, just hit "Print" key again
- The line-head construction with a minimum of moving parts and built-in self-testing (including input signal diagnosis) assure you of reliability and peak performance for years of maintenance free operation
- Paper loading takes no time at all. A simple connection from your system to the video input of the printer—just press "Print" key
- Various kinds of control signal (TTL level) are featured so that remote printing and other printing modes are available
- The incorporated video interface is compatible with composite or separate video signal by the switch selection
- Some images look better when the Posi/nega status is reversed. Video Printer allows you to do this at the flip of a switch
- Video Printer is ready to go with no warm-up time
- With Video Printer you are not "locked in." A wide range of horizontal scan rates and vertical refresh rates can be accommodated

### VP-115

- True 64 shades of gray printing
- Full image control (brightness, contrast, etc.)
- High resolution (300 dots/inch)
- Large printing size (8.5" width paper)

### Applications

- Image processing (computer enhanced)
- Image data base system
- Scanning electron microscopes
- Semiconductor wafer inspection
- Astronomy
- Satellite weather mapping
- Laser video disc filing
- Wire services (Transmission of photographs and text over long distance communications links)
- Industrial X-ray, process control, security, quality assurance, production control, medical X-ray CT, ultrasonic CT, NMR CT

VP-115 . . . . . \$5900.00

### VP-95II

- Ideally suited to wide range of thermal for CAD/CAM and similar applications that require excellent quality and high-speed printout
- 1280 x 1280 pixels compatible (up to 80MHz)
- High-speed printing (10 second/copy)
- High-resolution (152.4 dots/inch)
- Large printing size (8.5" width paper)
- RGB input available

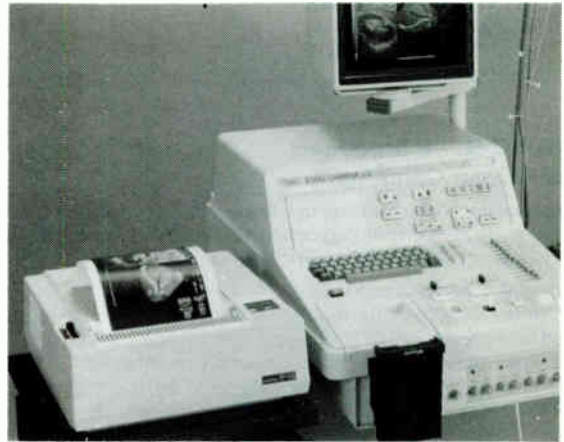
### Applications

- Workstations
  - CAD/CAM Systems
  - Computer Terminals
  - Graphics Terminals
- Video monitors
- Test and measurement instruments

VP-95II . . . . . \$4200.00

### VP-45

- A handy, compact thermal printer that lets you record directly from a CRT screen
- Compact size (5" width paper)
- High-speed printing (15.3 second/copy)
- High-resolution (150 dots/inch)



VP-115



VP-95II

### Applications

- Test and measurement instruments
  - Logic Analyzer
  - Protocol Analyzer
  - Spectrum Analyzer
  - FFT Analyzer
- Personal computer terminals
- Video monitors

VP-45 . . . . . \$1900.00

### VP-3500 Video Printer

- Resolution up to 1280 x 1250
- 64-tone gray scale printing
- 300 dots/inch resolution
- Built-in 1280 x 1280 x 6-bit frame buffer
- Accommodates 8.5" paper
- Programmable front panel with 16-character by 2-line LCD readout
- Switch-selectable reverse printing
- Display parameters retained in memory for future use
- Optional front panel adaptor for rackmounting

### Applications

- Satellite weather mapping and surveillance
- Electron microscopy
- Medical X-ray, ultrasonic, and NMR CT
- Process/production control
- Quality assurance, including industrial X-ray and semiconductor wafer inspection
- CAD/CAM
- Security systems
- Laser video disc (CD ROM) filing
- Wire services transmission of photos and text

VP-3500 . . . . . \$6700.00

# SHARP ELECTRONICS CORP.

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# COLOR CAMERAS

## XC-B10/XC-B20P Broadcast ENG/EFP Color Cameras

Broadcast-caliber picture quality starts with three  $\frac{2}{3}$ " Diode Gun LOC/MS Saticon\* (XC-B10) or Plumbicon\* (XC-B20P) tubes coupled with a high-transparency glass f/1.4 prism beam splitter.

### The Standard Automatics:

- **Auto-White**—The high performance Auto-White circuit is supplemented by a preset 3200°K setting
- **Auto-Black**—Black balance is continuously maintained by high-gain DC clamp circuitry and precisely calibrated by the microcomputer Digital Auto-Black Balance. This combination totally eliminates black balance adjustment when switching from 0 to 18dB gain
- **Auto-Centering**—The Automatic Centering circuit allows centering to be automatically adjusted using computer control. A preset switch position is also available
- **Automatic Beam Optimization Adjustment (A.B.O.)** Built-in automatic beam optimization circuitry can handle incident light intensity up to 8 times higher than normal. This feature eliminates "comet tailing" and "blooming" phenomena caused by bright pin-point light sources.

### The Exceptional Automatics:

- **Auto Iris**—With NAM (non-additive mix) of R, G and B plus center screen weighting, achieves performance that rarely needs manual intervention
- **Auto Contrast**—The Auto-Contrast circuit automatically adjusts the camera when shooting in low contrast conditions. Manual Master Black adjustment is also available for shots where special effects are desired.
- **Auto-Knee**—The Auto-Knee circuit widens the dynamic range of the camera. Soft compression of the whites is automatically adjusted to capture the maximum information in high contrast outdoor or back-lighted scenes
- **The Standard Displays:**  
Zebra with Level Adj and ON/OFF, Video Low, A/W, A/B, A/C Status, Genlock, Gain Position, Lo-Battery, Tally
- **The Exceptional Displays:**  
Audio VU meter to get that perfect recording, Tape Remaining, Camera Number, Iris f-Stop, Filter Wheel Position, Lens Zoom Position, Auto Contrast...and more

The camera display is placed off-center so as not to disturb shooting. Display erases automatically, leaving only critical information on permanent display

### Component VCR Compatibility

The XC-B10 and XC-B20P are compatible with Betacam and MII format component recorders. It is also compatible with the 26-pin SMPTE camera-to-VCR standard.

### Choice of Viewfinders

1.5" Viewfinder with underscan can swivel 180° and can slide right or left. Additional features include a built-in peaking circuit, oversize optics for non-critical eye position and adjustable diopter.

5" High Resolution Viewfinder (over 500 TV lines) with underscan and precision low-profile pan/tilt mechanism.

### Specifications

<b>Optical System:</b>	Prism beam splitter (f/1.4) with bias light injection
<b>Lens Mount:</b>	Bayonet
<b>Pick-Up Tubes:</b>	Three $\frac{2}{3}$ " Diode Gun LOC MS Saticons (XC-B10) or Plumbicons (XC-B20P)
<b>Scanning System:</b>	525 lines; 2:1 interlace 30 frames/second
<b>Synchronization</b>	
a. <b>Internal Synchronization:</b>	Built-in sync generator (meets SC-H Phase requirements of RS-170A)
b. <b>External Synchronization:</b>	Locks to composite video or black burst
<b>Timing for External Synchronization:</b>	H-sync adjustable from 2 $\mu$ s delay to 4 $\mu$ s advance with respect to genlock input signal. Subcarrier phase adjustable 360° with respect to gen-lock input signal
c. <b>Blanking Width:</b>	H-Blanking adjustable from 10.0 $\mu$ s to 11.5 $\mu$ s V-Blanking selectable—1B, 19 or 20 lines



XC-B20P

<b>Color Encoder System:</b>	NTSC (I, Q System)
<b>Sensitivity:</b>	
<b>Standard Illumination:</b>	2000 lux B9.9% Refl. 3200°K f/4
<b>Horizontal Resolution:</b>	XC-B10—750 lines—center G-ch. 600 lines encoded XC-B20P—660 lines—center G-ch. 600 lines encoded
<b>S/N Ratio:</b>	57dB measured without Gamma and without image enhancement
<b>Geometric Distortion:</b>	Less than 1.5% of picture height
<b>Color Temperature</b>	Built-in optical filter turret, 3200°K, 5600°K, 5600°K + 12%
<b>Compensation:</b>	ND, cap and built-in auto-white balance circuit with memory produce total range from 2000°K to 10,000°K
<b>Gain Boost:</b>	+9dB (+6dB) or +18dB (+12dB)
<b>Detail Correction:</b>	2 line including level dependence, noise coring and comb filtering
<b>Character Display:</b>	VF character display of camera status. Optional status display on main video
<b>Zebra Indication:</b>	Adjustable zebra with ON/OFF switch
<b>Color Bar:</b>	Split field 100% saturated, 75% amplitude in accordance with EIA RS-189A (with camera identification) Compensated for individual channels
<b>Flare Compensation:</b>	
<b>Input Signals:</b>	
a. <b>Genlock Signal:</b>	1V, composite video or 0.43V, black burst (75 ohm) 2 inputs—BNC connector, Remote/VCR connector
b. <b>Return Video:</b>	1V (75 ohm) composite video synchronous or non-synchronous 1 input—Remote/VCR connector
c. <b>Mike:</b>	1 input—XLR connector
d. <b>Tally:</b>	1 input—Remote/VCR connector, BNC connector
<b>Output Signals:</b>	
a. <b>Encoded Video:</b>	1V (75 ohm) composite video 2 outputs—Remote/VCR connector, BNC connector
b. <b>R,G,B Video:</b>	0.7V (75 ohm) non-composite or 1V p-p with Sync internally selectable 1 output for each signal at Remote/VCR connector
c. <b>Monitor Video:</b>	1V (75 ohm). R,G,B individual video, encoded video, R-G, B-G. Registration video
d. <b>Mike Audio:</b>	Microphone Direct 1 output—Remote/VCR connector
<b>Power Requirements:</b>	+11V to +17.4VDC, approx. 21W regardless of input voltage approx. 24W with 1.5" viewfinder
<b>Ambient Operating Conditions:</b>	14°F to 104°F (-10°C to +40°C)
<b>Weight:</b>	Camera head approx. 9.2 lbs. (4.2kg) Viewfinder approx. 1.32 lbs. (0.6kg)
<b>Dimensions:</b>	Height: Approx. 10 $\frac{5}{16}$ " including legs Width: Approx. 16 $\frac{3}{8}$ " including 1.5" viewfinder Depth: Approx. 7 $\frac{13}{16}$ " including 1.5" viewfinder (without mike holder)
<b>XC-B10 <math>\frac{2}{3}</math>" diode gun Saticon tubes, ENG configuration, less lens . . .</b>	<b>\$8,995.00</b>
<b>XC-B20P <math>\frac{2}{3}</math>" diode gun Plumbicon tubes, ENG configuration, less lens . . .</b>	<b>*14,995.00</b>
<b>*LOC (Low Capacitance) M.S. (Magnetic focus-static deflection)</b>	
<b>Saticon is a registered trademark of NHK.</b>	
<b>Plumbicon is a trademark of N.V. Philips</b>	



# SHARP ELECTRONICS CORP.

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# COLOR CAMERA



## XC-A1 Professional ENG/EFP Color Video Camera

### 2/3" Diode Gun Saticon® Tubes with Prism Optics

Broadcast-caliber picture quality starts with the three 2/3" Diode Gun LOC/MS Saticon tubes coupled with a high-transparency glass f/1.4 prism beam splitter. The result is high sensitivity, enhanced resolution (750 lines), excellent S/N ratio (57dB), truer colorimetry, plus reduced image retention and comet tailing. Bias lighting further reduces lag, especially for those critical low-light scenes.

### Automatic Functions Offer Increased Ease-of-Use

- **Auto-White**—The Auto-White circuit is supplemented by a preset 3200°K setting. This allows shooting to begin immediately if the action requires a quick change of scene
- **Auto-Black**—Black balance is continuously maintained by high-gain DC clamp circuitry and precisely calibrated by the microcomputer Digital Auto-Black Balance. This combination totally

eliminates black balance adjustment when switching from 0 to 18 dB gain, and reduces routine maintenance requirements.

- **Auto-Centering** — The Automatic Centering circuit allows centering to be automatically adjusted using computer control. A preset switch position is also available

### +9/+18dB High Gain Switch

Sensitivity can be increased 3X or 8X for low-light level scenes using the +9dB and +18dB settings. Minimum required illumination is an amazingly low 30 lux (2.8fc) at f/1.4.

### Compact, Lightweight Diecast Body

Sharp has precision-machined the diecast camera body to create a durable, solid unit that assures optical alignment under the roughest ENG applications.

### Automatic Beam Optimization Adjustment (A.B.O.)

Built-in automatic beam optimization circuitry can handle incident light intensity up to 8 times higher than normal. This feature eliminates "comet tailing" and "blooming" phenomena caused by bright pin-point light sources.

### Color Temperature Filter System

A 4-position rotating filter system allows selecting the optimum color temperature filter for indoors, normal outdoor light, bright sunlit outdoors, and cloudy/dim outdoor light levels.

### Power Conserving Standby Switch

Switching to standby mode further extends running time with battery operation by reducing power consumption to a minimum while the operator is waiting for the action to begin.

### Information-Packed 1.5" Viewfinder

The 1.5" underscanned electronic viewfinder can swivel a complete 180° and can slide right and left. Additional features include a built-in peaking circuit and a zebra pattern video level indicator with adjustable threshold.

### Multi-Standard Intercom System

The intercom provides communication with virtually all major 2-wire intercoms presently in use.

**XC-A1U (ENG configuration, less lens) ..... \$7450.00**

## SPECIFICATIONS

<b>Optical System:</b>	Prism beam splitter (f/1.4) with bias light injection
<b>Lens Mount:</b>	Bayonet
<b>Pick-Up Tubes:</b>	Three 2/3" Diode Gun LOC MS Saticons®
<b>Scanning System:</b>	525 lines; 2:1 interlace 30 frames/second
<b>Synchronization:</b>	
a. Internal Synchronization:	Built-in sync generator (meets SC-H Phase requirements of RS-170A)
b. External Synchronization:	Locks to composite video or black burst
Timing for External Synchronization:	H-sync adjustable from 2 sec. delay to 4 μ sec. advance with respect to gen-lock input signal. Subcarrier phase adjustable 360° with respect to gen-lock input signal
c. Blanking Width:	H-Blanking adjustable from 10.0 μ sec. V-Blanking selectable—18, 19 or 20 lines NTSC (I, Q System)
<b>Color Encoder System:</b>	
<b>Sensitivity:</b>	
<b>Standard Illumination:</b>	2000 lux 89.9% Refl. 3200°K f4
<b>Resolution:</b>	Horizontal—750 lines—center G-ch. (typ.)
<b>S/N Ratio:</b>	57 dB measured without Gamma and without image enhancement
<b>Registration Error:</b>	
a. Zone 1 (within a circle of diameter equal to 80% of picture height):	Less than 0.1% of picture height
b. Zone 2 (within a circle of diameter equal to picture width):	Less than 0.2% of picture height
c. Zone 3 (outside of Zone 2):	Less than 0.5% of picture height
<b>Geometric Distortion:</b>	Less than 1.5% of picture height
<b>Color Temperature Compensation:</b>	Built-in optical filter turret, 3200°K, 5600°K, 5800°K, +12% ND, cap and built-in auto-white balance circuit with memory produce total range from 2000°K to 10,000°K +9 dB (+6 dB) or +18 dB (+12 dB)
<b>Gain Boost:</b>	+9 dB (+6 dB) or +18 dB (+12 dB)
<b>Detail Correction:</b>	2 line type including level dependence, noise coring and comb filtering
<b>Automatics:</b>	Auto-White, Auto-Black, Auto-Centering with memory and presets
<b>Character Display:</b>	VF character display of camera status. Optional status display on main video

<b>ABO:</b>	Automatic Beam Optimization stabilizes highlights up to 8 times normal
<b>Auto Iris:</b>	Uses NAM (non-additive mix) of RGB plus center screen weighting
<b>Zebra Indication:</b>	Adjustable zebra with On/Off switch
<b>Color Bar:</b>	Split field 100% saturated, 75% amplitude in accordance with EIA RS-189A (with camera identification)
<b>Flare Compensation:</b>	Compensated for individual channels
<b>Input Signals:</b>	
a. Gen-Lock Signal:	1V, composite video or 0.43V, black burst (75 ohm) 2 inputs—BNC connector, Remote/VTR connector
b. Return Video:	1V (75 ohm) composite video synchronous or non-synchronous. 1 input — Remote/VTR connector
c. Mic:	0 dB or +50 dB Gain (internally selectable) 1 input — XLR connector
d. Tally:	
<b>Output Signals:</b>	
a. Encoded Video:	1V (75 ohm) composite video 2 outputs—Remote/VTR connector, BNC connector
b. RGB Video:	0.714V (75 ohm) non-composite 1 output for each signal at Remote/VTR connector (GRN with sync available)
c. Monitor Video:	1V (75 ohm). RGB individual video, encoded video, R-G, B-G. Registration video
d. Mic Audio:	-20 dBm or -70 dBm 600 ohm unbalanced 1 output—Remote/VTR connector
<b>Power Requirements:</b>	+10V to +17.4V DC, approx. 22W regardless of input voltage
<b>Ambient Operating Conditions:</b>	-10°C to +40°C (14°F to 104°F) less than 90% humidity
<b>Weight:</b>	Camera head approx. 8.58 lbs. (3.9kg) Viewfinder approx. 1.32 lbs. (0.6kg)
<b>Dimensions:</b>	Height: Approx. 10-15/16" including legs Width: Approx. 15-7/8" including 1.5" viewfinder Depth: Approx. 7-13/16" including 1.5" viewfinder (without mic. holder)

\*Note: LOC (Low Capacitance) MS (Magnetic focus-Static deflection) Saticon is a registered trademark of NHK.

Prices and Specifications Subject to Change Without Notice.

V-969

# SHARP ELECTRONICS CORP.

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# COLOR TELEVISIONS/ MONITOR/RECEIVERS



13MM17P

### 13MM17P 13" Portable Television

- Sigma 9000™ Chassis • Exclusive Linytron Plus One-Gun In-Line picture tube • Long life VHF tuner • 70-Detent UHF channel dialing • AFT (Automatic Fine Tuning) • ACS (Automatic Color System) • Detachable VHF dipole and UHF bowtie antennas • SAW (Surface Acoustic Wave) filter • Patented SCR Switching Power Regulator • Rapid-on picture and sound

13MM17P .....\$289.95  
13MM57P With remote .....399.95



9MS37P

### 9MS37P 9" Color Television

- Linytron plus picture tube • Sigma 9200 Chassis • 68-Channel continuous electronic tuning • On-screen bar channel display • ACS • AFT • AC/Car battery 2-way power source • Includes car battery cord for connecting to cigarette lighter jack • Video/Audio input jacks • Mini headphone jack • Top mounted carrying handle • Black, silver or red • 17.6 lbs.

9MS37P .....\$369.95



19MP17P

### 19MP17P 19" Color Television

- Sigma 9000 Chassis • Exclusive Linytron Plus One-Gun In-Line picture tube • Long life VHF tuner • 70-Detent UHF channel dialing • ACS • AFT • Detachable VHF dipole and UHF bowtie antennas • SAW filter • Patented SCR Switching Power Regulator • Rapid-on picture and sound

19MP17P .....\$379.95  
19MP37P 19" TV with  
pushbutton controls .....459.95  
19MP57P 19" TV with pushbutton  
controls and remote control .....509.95



20MV97P

### 20MV97P 20" Monitor/Receiver with S-VHS Input

- S-VHS input provides over 400 lines resolution • Flat, square, tinted Linytron Plus picture tube • Built-in MTS decoder • 2-way 2-speaker sound system • 140 channel PLL tuner • 26 function wireless remote control • Additional audio/video input plus stereo line out terminals

20MV97P .....\$599.95

### 25MT17P 25" Color Television

- Sigma 9000 Chassis • ACS • Long life VHS tuner • AFT • 70-Detent UHF channel dialing • SAW filter • SCR Switching Power Regulator • Rapid-on picture and sound

25MT17P .....\$549.95

### 25MT57P 25" Color Television with Infrared Remote Control

- 16-key infrared remote control • 105 channel cable-compatible tuner • Phase locked loop synthesized electronic varactor tuning • AFT • CATV jack • ACS • Sigma 9000 Chassis • Tinted high contrast Linytron Plus picture tube • One button picture balance control • Supplied 75/300 ohm VHF antenna adaptor • SAW filter

25MT57P .....\$669.95

### 35LD56P 35" Giant Screen Direct View Color Television

- Square cornered, data grade, tinted, Linytron high-contrast picture tube • Multiple audio/video input-output terminals • Sigma 9100 Chassis • 25-function infrared remote control unit • On-screen color code by mode display • 140-channel HRC/IRC cable-compatible tuner • PLL Quartz synthesized electronic tuning system • Built-in multi-channel TV sound decoder • Built-in automatic color system

35LD56P .....\$3995.00



40KD55P

### 40KD55P 40" Rear Projection Monitor/Receiver

- Built-in multi-channel TV sound decoder • Sigma 9000 Chassis • Phase locked loop synthesized electronic tuning system • 20-key random access infrared wireless remote control • 140-channel cable-compatible tuner • Channel flashback • Sharpness control • In-line 3-tube 3-lens projection system

40KD55P .....\$2595.00  
40LD76P 9100 Chassis .....2795.00

Screen sizes measured diagonally. A converter may be necessary to view CATV channels.

# SHARP ELECTRONICS CORP.

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## VIDEOCASSETTE RECORDERS/ COLOR MONITOR

### Professional Series Videocassette Recorders

#### XA-200 VCR with Auto Play and VHS-HQ

- Direct drive motors
- Grounded (3-wire) AC power cord
- VHS-HQ (High Quality) picture enhancement plus double comb filter
- Full auto play
- Wireless remote control with special effects
- Cable compatible 14 day/4 event programmable tuner/timer
- Counter memory
- 3-speed record/playback
- Front load design
- Fine editing system

XA-200 ..... \$475.00



XA-200

#### XA-205 4-Head VCR with VHS HQ

- 4-head video system
- Noiseless still frame and field frame advance
- Variable slow motion
- Two speed video search
- Simple record timer
- Plus all of the features of the XA-200

XA-205 ..... \$550.00



XA-205

#### XA-110 4-Head Industrial VCR with VHS-HQ

- Advanced double azimuth 4-head video system for noiseless special effects
- Industrial 8-pin and BNC connectors
- Continuous auto repeat
- Simple record timer
- Slow motion
- Camera remote pause jack
- 3-way source selector switch
- Plus all of the advanced features of the XA-200

XA-110 ..... \$650.00



XA-110

#### XA-120 Stereo/Bilingual 4-Head VCR with VHS-HQ

- Stereo and bilingual record/playback
- Full 2-channel audio dub capability
- Left and right channel microphone inputs
- Headphone jack with level control
- Hi-cut audio equalization
- Variable slow motion (noiseless)
- Plus all of the advanced features of the XA-110

XA-120 ..... \$795.00



XA-120

### XM-1300 13" High Resolution

#### Professional Color Monitor

- 0.31mm dot pitch
- Over 600 lines resolution
- Standard U.S. controlled phosphors
- Comb filter is provided for maximum resolution and to minimize cross color interference
- Front panel switch allows for selection of either the comb filter or a notch filter
- Two video inputs
- Direct RGB inputs
- H-delay and V-delay functions
- Fast (0.5msec) or slow (7.0msec) AFC time constants can be selected
- Normal and underscanned picture modes
- Hue, chroma, contrast, brightness and aperture are individually adjustable
- White balance, black balance, individual gun switches located behind a separate hinged door on the front panel
- Automatic/manual degauss circuit neutralizes the XM-1300 from the effects of magnetic fields
- Low power consumption
- Diecast aluminum front mask

XM-1300 ..... \$3500.00

XM-13RMK (Rackmount kit) ..... 165.00



XM-1300



# SHIBASOKU CORP. OF AMERICA

12509 Beatrice St.  
Los Angeles, CA 90066  
(213) 827-7144  
FAX: (213) 306-1382

# COLOR MONITORS

## 11 and 7 Series Color Monitors

- Ideal as a master monitor or studio monitor at broadcasting stations, for supervising video quality at field pick-up stations, as a VTR monitor or for installation in field van
- There are two series of color monitors to meet with every monitoring need. Whether you choose from the model CMM20-11/CMM14-11 having high-resolution shadow mask CRT's or model CMM20-7/CMM14-7 adopting the in-line black stripe system, you'll find all your specific requirements in a color monitor have been fully realized
- Fully unitized construction and systematic plug-in unit design assures complete unit interchangeability in respective series

### 11 Series Color Monitors

These CMM20-11 and CMM14-11 high-performance color monitors are designed to supervise color video signals, and have high-resolution shadow-mask CRT's. As they maintain excellent performance, they can be used for various purposes: such as master monitors at broadcasting stations, studio monitors, video-quality surveillance at field pick-up stations, VTR's and picture monitors.

They feature compact, lightweight design and the use of IC's makes them shock resistant to make installation possible even in field vans. The CMM20-11 and CMM14-11 are available in series to meet specific requirements.

Adoption of a CRT of high fineness has greatly upgraded resolution; with up to 600 lines at the center of the picture and up to 550 lines around its center, clear pictures are reproduced without moire patterns.

Also, the black-matrix (BM) system is incorporated for maximum control in bright locations.

In addition to the NTSC system, two other (PAL or SECAM) systems or all three of these can be built into the CMM20-11 series. Using a separate device these system changes are also possible on the CMM14-11 series models. As a result, all of these models are ideal for signal source surveillance.

### 7 Series Color Monitors

The compact CMM20-7 and CMM14-7 high-performance color monitors are designed to supervise color video signals. With a low price, they maintain the excellent performance of conventional color monitors. And they serve a variety of purposes: including master monitors at broadcasting stations, laboratories and TV production lines for supervising video quality. Due to their low power consumption, they are ideal for installation in field vans as VTR's.

Choose from the ordinary or high-resolution CRT (HR type). With the HR-type you'll find resolution has been upgraded; with up to 600 lines at the center of the picture and up to 550 lines around its center, crystal clear pictures reproduced without moire patterns.

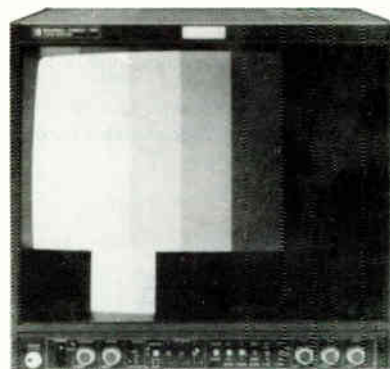
Also, the in-line black stripe system is incorporated for maximum contrast control in bright locations.

Normal CRT and high-resolution CRT (HR type) are available. The HR type CRT has a built-in comb filter which greatly upgrades resolutions with a clear picture reproduced without moire patterns.

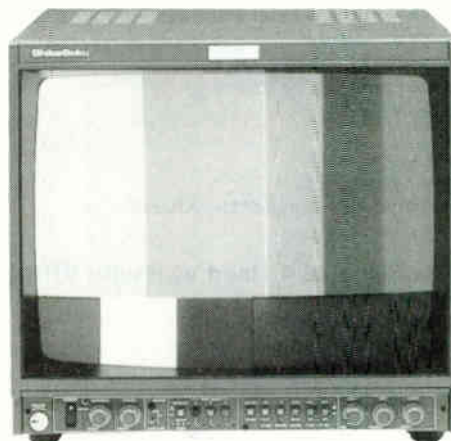
The comb filter is optionally available for models with a normal CRT. And due to the adoption of the in-line black stripe tube, high-quality picture contrast can be obtained even in bright locations.

### NTSC

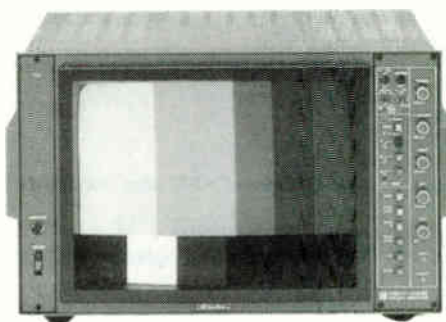
CMM 20-11 20" Delta/Shadow	
Mask CRT .....	\$6995.00
CMM 14-11 HR 14" Delta/Shadow	
Mask CRT .....	6800.00
CMM 20-7 HR Dot Matrix	
In Line CRT .....	4950.00
CMM 14-7 Dot Matrix	
In Line CRT .....	4750.00
CMM 26-7 HR In Line CRT .....	5995.00
CMM 99A HR 9" Dot Matrix CRT .....	2995.00
Rackmount Kits .....	195.00



CMM20-11



CMM20-7 HR (U)



CMM14-7 HR (U)

# SHINTRON CO., INC.

144 Rogers St.  
 Cambridge, MA 02142  
 (617) 491-8700 (800) 358-6872  
 Telex: 92-1497 FAX: (617) 491-8278

# INTERMATRIX CONVERTER/ DIGITAL EFFECTS/SWITCHERS

## MC-1 Component

### Intermatrix Converter

- Three BNC connectors for either YIQ, RGB, Y, Y-B and B-Y external genlock input
- Stand alone unit, one rackunit high
- Used as an integral part of editing and post production set-ups
- Genlocks to studio colorback
- Outputs are six BNC connectors for two sets of the selected format
- Bandwidth is better than 20MHz
- Equipped with one conversion matrix
- Basic proc amp is built-in

MC-1 . . . . . \$2000.00



MC-1

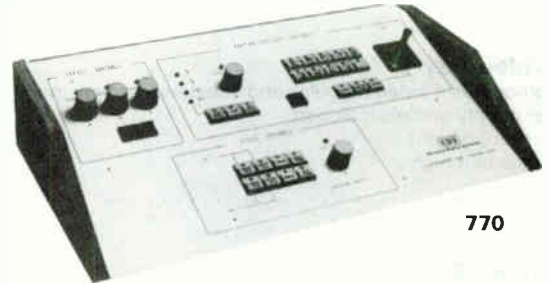
## Chromafex 770

### Digital Video Effects Framesync

- Combines three functions into one package: special effects, full frame store and infinite window time base correction
- Designed to enhance your on-air performance, and simultaneously simplify and speed up your day-to-day production work
- Equipped with a full frame synchronizer/framestore and can perform strobe, posterize, mosaic, falsecolor image, picture compression (1/2, 1/4, 1/9), picture positioning and many other features

770 . . . . . \$9900.00

Extender Card Set 770X . . . . . 450.00



770

## 12X Routing Switcher Series

- 12 inputs of either composite video (V), three channel component video (C), or three channel audio (A)
- Control three separate video channels for RGB, YIQ, Y, R-Y, B-Y formats
- Can receive commands from any 12X remote control unit
- Engineered for the highest possible electrical performance and system transparency

### 12X-C4

"12X" high-isolation routing Switcher for component video 12 inputs and 4 outputs with 3 channels per output. 30MHz bandwidth. RS422 (SMPTE) remote controller with status indicators . . . . . \$6990.00

### 12X-V4

"12X" high-isolation video routing switcher, 12 inputs, 4 output buses. Remote controllable . . . . \$3300.00

### 12X-S1

12 x 1 stereo audio switcher . . . . . \$1500.00



12X

## 260 AFV Routing Switcher

- Provides passive switching of both video and up to 2 associated audio signals from 12 inputs to one output
- Can be used for stereo or a combination of audio and time code channel
- Audio circuits consist of two identical balanced pairs
- Equipped with a mechanical indicator switch
- Audio override capability built-in

260 . . . . . \$510.00



260

# SHINTRON CO., INC.

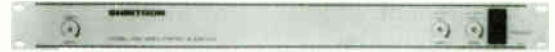
144 Rogers St.  
 Cambridge, MA 02142  
 (617) 491-8700 (800) 358-6872  
 Telex: 92-1497 FAX: (617) 491-8278

# DISTRIBUTION AMPLIFIERS/ TRAYS

## 332 Duplication Video-Stereo Audio Distribution Amplifier

- Output capacity is 12
- Unit contains its own power supply
- One rack unit high enclosure
- Video, via BNC, audio via RCA
- Wideband low-noise
- For use in electromagnetically noisy environments
- Designed for duplication facilities

332 ..... \$700.00



332

## 336 Video Distribution Amplifier

- One input with loopthrough and termination switch
- Video gain screwdriver adjustment on front panel
- Six outputs
- All-silicon solid-state for multiple fan-out, high grade distribution systems

336 ..... \$300.00



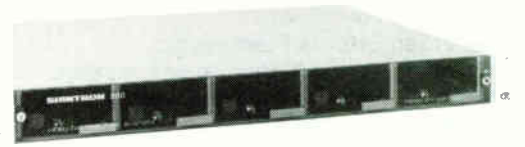
336



## 211 Video Tray

- Accommodates 4 video modules and one power supply module
- Power supply module included
- Loopthrough input
- One rack unit high

211 ..... \$570.00

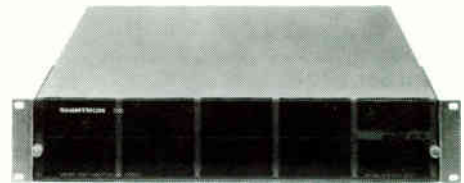


211

## 212 Video Tray

- Accommodates 8 video modules and two power supply modules for redundancy
- 1 power supply module included
- Loopthrough inputs
- Two rack units high

212 ..... \$750.00



212

## 213 Audio DA Tray

- Accommodates 4 audio modules and one power supply
- Power supply included
- Rear panel connection via terminal strips

213 ..... \$630.00

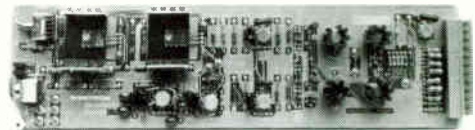


213

## 220 Super-Wideband Audio DA Module

- Designed for signal distribution in broadcast installations
- Exceeds broadcast specs in all crucial areas

220 ..... \$250.00



220

## 250 Video Distribution Amplifier Module

- Built-in 500' adjustable cable comp
- Broadcast specs
- 1 loopthrough, 6 out
- Trims are front accessible

250 ..... \$160.00



250

## 252 Video Distribution Amplifier Module

- 250 VDA with 12dB boost at 4MHz
- Cable compatible (non-broadcast)
- Crisp character display
- Designed for flight information display systems at airports

252 ..... \$200.00



# SHINTRON CO., INC.

144 Rogers St.  
 Cambridge, MA 02142  
 (617) 491-8700 (800) 358-6872  
 Telex: 92-1497 FAX: (617) 491-8278

## 690 ET (Everything Time Code)

### Reader/Generator

- Independent readers and generators handle time code and user bits in either Vertical Interval Time Code (VITC) or Longitudinal Time Code tracks
- Translate between VITC and Longitudinal Time Code
- Character generator for data display and user interface/menu purposes
- Interface based on the RS-422 Orange Bus protocol
- Microprocessor controlled
- Adjustable hysteresis levels from -15 to -25dB
- Ten internal memories
- All setups are stored in non-volatile memory
- In the longitudinal mode, reads at speeds from 1/60 to 80 times normal play speed in either forward or reverse
- One frame is automatically added when reading in the forward direction or is subtracted when reading in the reverse direction
- Jam-sync to other Time Code Generators in either Longitudinal or VITC mode

- 690 ET . . . . . \$4500.00  
 690-TD 690 with time/date option and built-in time/date calendar generator . . . . . 4800.00  
 650 Combination SMPTE/EBU TC/Userbits Generator/Reader identical to 690 except it does not include VITC capability . . . . . 3000.00  
 Time Clock/Date Calendar Option . . . . . 300.00

### 647 SMPTE/EBU Edit Code Generator

- Capable of generating SMPTE/EBU code either independently or in synchronism with incoming video
- 6 digit, 1/2" LCD with back light
- Dropframe or non-dropframe
- Freely resettable time data
- Userbits are set by thumbwheels on the front panel

647 . . . . . \$1500.00

### 646 Edit Code Reader/Raster Display

- Reads either SMPTE or EBU code
- Front panel 8 digit LED numerics of 1/2" height
- Readable tape speed range from 1/8" to 40X
- Capable of keying in the data on video raster in either black letter on white background or the reverse

646 . . . . . \$1500.00

### 640/641 Portable SMPTE Time Code Generators

- Places time code on tapes to identify segments, takes and frames for later editing
- Battery-operated 3 "AA" cells
- Can be attached to portable VTRs such as Sony BVU series and JVC
- Displays both time code and userbits on liquid crystal digits and is able to generate userbits as well

640 SMPTE for ENG/EFP, dropframe . . . . . \$ 900.00  
 641 SMPTE or EBU, dropframe or nondropframe . . . . . 1500.00

### CB100-EN NTSC/PAL Encoder

- Encodes RGB to NTSC or PAL
- Produces correct ScH relationship
- Genlocks to colorback
- 1 set of RGB input and 2 NTSC outputs
- Subcarrier phase adjustable

CB100-EN . . . . . \$990.00

### CB100-SY NTSC Sync Generator

- Genlocks to helical video
- Correct ScH relationship
- Produces color ID pulse
- Colorblack, sync, blank and subcarrier outputs
- H and Sc phases are adjustable
- 2 independent selectable inputs
- Genlocks to incoming video or internal crystal

CB100-SY . . . . . \$1500.00

# SIGNAL PROCESSING EQUIPMENT



690 ET



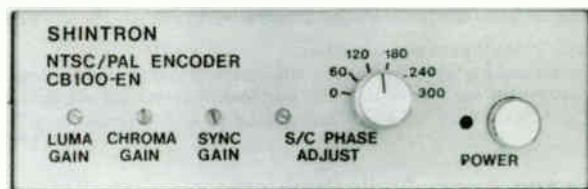
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647



641



CB100-EN

### CB100-PT Protocol Translator

- Translates Grass Valley Switcher protocol and Shintron Orange Bus Language
- No external adjustment
- Automatic operations

CB100-PT . . . . . \$2000.00

### CB100-LC IBM-PC

#### To Video Level Converter

- Detects CGA or EGA card automatically
- Converts IBM-PC's RGBI to video RGB
- Produces proper waveform acceptable to video equipment
- Converts impedance to 75 ohm for long lines
- TTL inputs and buffered outputs
- Jumper selection of color/monochrome and sync level
- Adjustable horizontal blanking interval

CB100-LC . . . . . \$500.00

### CB100-VA Dual

#### Video Distribution Amplifier

- 2 (1 loopthrough/5 out) or 2 (1 terminated in/6 out) or 1 (1 in/2 out)
- 15MHz bandwidth
- Self contained power supply
- Adjustable cable compensation of 500' is built in
- Gain adjustable +6dB to -10dB

CB100-VA . . . . . \$300.00

# SIGMA ELECTRONICS, INC.

1184 Enterprise Road, P.O. Box 448  
 East Petersburg, PA 17520-0448  
 (717) 569-2681

# SYNC AND DISTRIBUTION EQUIPMENT

## Color System Timing and Testing Products

### TSG-375 Test Signal and Sync Generator

Stable and accurate test signal generator, with 24 different patterns, a complete sync generator with 3 blackburst outputs, several production-aid outputs including source ID and countdown generator . . . . . \$2995.00

### SCH-385 Subcarrier/Horizontal Phase Meter

A display indicates relative sync and subcarrier of two different inputs, absolute SC/H phase of either input, and the associated "Color-Incidence" light provides a green light for proper color-framed edits or special effects . . . . . 1650.00

### CSG-450 Color Sync Generator

Master RS-170A Sync Generator with all standard sync outputs, C.F.I.D., and 3 blackburst signals. . . . . 1200.00

### CSG-455 Color Sync Generator

Same as CSG-450 with additional outputs of selectable test signals of SMPTE Bars, Crosshatch, Red Field, and Safe Areas, plus Audio Tone. . . . . 1600.00

### CSG-460 Color Sync Generator

Master or genlockable RS-170A sync generator, with all standard sync outputs, C.F.I.D., and 3 blackburst signals . . . . . 1500.00

### CSG-465 Color Sync Generator

Same as CSG-460 with the addition of selectable test signals of SMPTE Bars, Crosshatch, Red Field, and Safe Areas, plus Audio Tone . . . 1900.00

### BTS-414 Blackburst Timing System

Genlocks to either composite video or blackburst, and provides 4 independently adjustable blackbursts out. Providing advance or delay of horizontal sync and 360° of continuous burst phase adjustment . . . . . 1750.00

### VPA-380 Video Processing Amplifier

Built-in genlocking sync generator, adjustable blanking width controls to allow saving the various vertical test and identification signals; and a dual mode genlock circuit to allow acceptance of either stable or VTR signals . . . . . 1750.00

## Video and Stereo-Audio Products

### VSS-120 Switcher

12 x 1 video with stereo-audio-follow passive switcher. Useful in stereo TV or 2nd language channel operations. Green legend indicates selected input, all others remain terminated in their characteristic impedance . . . \$265.00

### VAS-120 Switcher

12 x 1 video with single audio channel. . . . . 240.00

### SVX-210 Video Only Switcher

Provides vertical interval switching of 10 inputs to a dual output line. Output clamping is standard, with DC restoration optional . . . . . 695.00

### SAV-210 Audio/Video Switcher

Provides vertical interval switching of Audio-Follow-Video, Audio only, and Video only. A "dwell-timed" control function allows one handed selection of either audio or video breakaway. After dwell time has elapsed, the control function reverts to audio-follow-video operation. An audio input/output interface option provides for easy audio wiring . . . . . 875.00

### SSV-210 Stereo-Audio/Video Switcher

Functions in the same manner as the SAV-210, with an additional audio channel. Either channel is suitable for use with SMPTE time code. . 995.00

### VSD-200 Video/Stereo Audio Distribution Amplifier

1 x 6 video with stereo-audio distribution amplifier. Optimum pricing and packaging for stereo television and duplication facilities . . . . . 900.00

### VAD-200 Video/Audio Distribution Amplifier

1 x 6 video with single channel audio DA . . . . . 650.00

### ADA-110 Audio Distribution Amplifier

High performance Audio DA. One input and ten outputs; low noise, flat response, adjustable gain -8 to +23.5dB. Can be used for SMPTE Code . . . . . 405.00



TSG-375



SCH-385



ADA-110

### ADA-210 Audio Distribution Amplifier

Same high performance DA as the 110 except dual configuration. Can be either dual 1 x 10 or a single 1 x 20. Ideal for SMPTE Code . . . . \$610.00

## Self-Contained Sync and Distribution Equipment

### VDA-115 Video Equalizing Amplifier

The VDA-115 is an extremely versatile unit. In its most simple configuration, it is a 1 x 6 Video DA. More importantly, it is a cable equalizing amplifier that can serve as a "line-driver" or "line-receiver" to compensate for up to 1100' of coaxial cable. It features a differential input that can eliminate as much as 10VAC of hum . . . . . \$360.00

### VDA-100A Video Distribution Amplifier

6 output DA frequency response 0.2dB to 10MHz, looping input, DC coupled, ± 6dB gain adjustable, 110/220VAC. Desk or rackmount . . . . 310.00

### ADA-106 Audio Distribution Amplifier

1 x 6, high performance amplifier, with a frequency response of ± 0.1dB to 30kHz, can be used for SMPTE Code. Screw capturing terminals. 110/220VAC. Desk or rackmount . . . . . 310.00

### PDA-100A Pulse Distribution Amplifier

1 x 6 pulse regenerative DA with looping input. 110/220VAC. Desk or rackmount . . . . . 310.00

### SDA-110 Subcarrier Distribution Amplifier

Regenerative subcarrier amplifier, 2 independently adjustable outputs. 110/220VAC. Desk or rackmount . . . . . 390.00

### PDA-110 Pulse Delay Amplifier

Ideal aid in system timing. Four independently delayable outputs, range of 0.2 to 2µsec. 110/220VAC. Desk or rackmount . . . . . 415.00

### CSG-160 Color Sync Generator

Provides all the standard synchronizing outputs including blackburst. RS-170 standard. Desk or rackmount . . . . . 800.00

### AFV-100 Passive Audio Follow Video Switcher

6 inputs to one output RCA jacks for audio . . . . . 185.00

### VS6-100 Passive Video Switcher

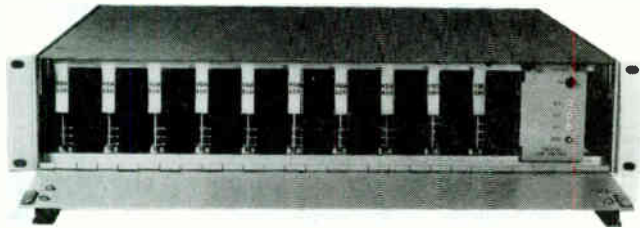
For switching six video inputs to one input. Desk or rackmount . . . . 115.00

# SIGMA ELECTRONICS, INC.

1184 Enterprise Road, P.O. Box 448  
 East Petersburg, PA 17520-0448  
 (717) 569-2681

# SIGNAL PROCESSING EQUIPMENT

## MODULAR DISTRIBUTION EQUIPMENT



System 500

### System 500 Modular Distribution System

- Flexible
- Hinged front door
- 10 modules and 1 power supply capacity
- Space efficient
- EX-505 is required to service any of the distribution modules in the frame
- Frame is supplied with rear mounting blank panels
- Accepts a second PS-501A for redundant power supply operation

For any signal distribution equipment, the FR-500 Module Mounting Frame provides maximum flexibility in a very efficient package. Intended for use in broadcast, cable, industrial, duplication and similar installations.

Flexibility and versatility. An internal motherboard allows both modules and rear frame adaptors to be conveniently installed or reorganized, to meet any system requirement. Up to ten modules plus a power supply can reside in the frame, and any combination of existing or future System 500 modules can simultaneously be installed in the frame.

### FR-500 Module Mounting Frame

Holds up to ten of any combination of modules plus a power supply. Internal "motherboard" allows for easy additional modules . . . \$400.00

EX-505 Module Extender . . . . . 30.00

### PS-501A Power Supply Module

Provides necessary power for a fully loaded frame of modules. 110/220VAC operation. . . . . 150.00

### VDA-510 Video Distribution Amplifier

1 input/6 outputs, DC coupled, frequency response  $\pm 0.2$ dB to 10MHz, diff. phase 0.2°, diff. gain 0.2%,  $\pm 3$ dB gain adjustment . . . . . 240.00

### VDA-515 Video Equalizing Amplifier

Capable of compensating up to 1100 ft. of coaxial cable . . . . . 280.00

### ADA-526 Audio Distribution Amplifier

1 input/6 outputs, an extremely flat frequency response (0.1dB to 30kHz). Can operate bal. or unbal. . . . . 280.00

### PDA-530 Pulse Distribution Amplifier

Regenerative Pulse Amplifier 1 input/6 outputs. Input level 2-6V p-p, output level 4V p-p . . . . . 240.00

### PDA-535 Pulse Delay Amplifier

Two sections of two independently adjustable stages . . . . . 360.00

### SDA-540 Subcarrier Distribution Amplifier

1 input/3 outputs. Each output is independently adjustable . . . 320.00

### BTM-551 Blackburst Timing Module

Provides horizontal and burst phase adjustment of its blackburst output. Requires a BSG-100A for reference timing signals . . . . . 375.00

### CBG-565 Color Bar Module

Provides dual outputs of selectable outputs of SMPTE Bars, Cross-hatch, Red Field and Safe Areas. This unit requires timing signals from BSG-550 . . . . . 600.00

### BSG-550 Black Signal Generator

Provides two RS-170A blackburst outputs, plus synchronizing signals for other System 500 modules . . . . . 400.00

### CGM-560 Color Genlock Module

Used to genlock other System 500 modules, such as CBG-565 or BTM-551 to an external reference. . . . . 500.00

## SMALL STUDIO AND EDIT SUITE EQUIPMENT



BSG-100A



CBG-100A



BTM-100A

### BSG-100A Black Signal Generator

Provides two RS-170A blackburst outputs, plus control driving signals for other Series 100 modules . . . . . \$495.00

### CBG-100A Color Bar Generator

Provides dual outputs of selectable SMPTE Bars, Crosshatch, Red Field, and Safe Areas. This unit requires a BSG-100A for timing reference . . . . . 495.00

### BTM-100A Blackburst Timing Module

Provides horizontal and burst phase adjustment of its blackburst output. Requires a BSG-100A for timing reference . . . . . \$495.00

### CGM-100A Color Genlock Module

Used to genlock CBG-100A and BTM-100A to an external reference . . . . . 495.00

### FR3-100 Rackmount Frame

For any 3 small box modules. . . . . 70.00



# SKOTEL CORP.

1445 Provencher  
 Brossard, Quebec  
 CN J4W 1Z3  
 (514) 465-8990 (800) 361-4999  
 Telex: 05-267493

# TIME CODE GENERATORS/ READERS

## TCR-111 Time Code Reader

- Versatile desktop or rackmounting • Compact half rack wide package • Wide range of reading speeds (1/40 to 80X) • Large green LEDS for increased visual comfort • Dual standard SMPTE/EBU • True "on time" display • Reshaped code output • Microprocessor control • Simple operation • Low power enhances reliability

TCR-111 .....\$ 1100.00



TCR-111

TCR-112

## TCR-112 Time Code Reader

- Simultaneously displays both Time and User bits • Time and User Bit displays are independently controllable • Selectable character heights 16/32/64/128 lines • Positionable over entire video raster • True "on time" display • Power fail memory backup • Reshaped code output • White or black characters in contrasting window • Window may be turned off • High legibility character font

The TCR-112 has all the features of model TCR-111 (except the Green LED display) and also includes the above features.

TCR-112 .....\$ 1350.00

RMK-1L Rackmounting kit for one unit on left .....75.00

RMK-2 Rackmounting kit for two units .....75.00

## TCR-80 SMPTE Time Code Wide Band Reader

- LED display with contrast enhancing filter • Low power consumption • Small size • Display of time and user data • Reads code from less than 1/20X to greater than 40X play speed • Digital decoding techniques • Retains and displays last code read when machine is stopped • Self-contained video character generator • Display of drop frame mode • Wide dynamic range AGC • Error detection and bypass • Dub output of reshaped LTC code input

TCR-80 SMPTE/EBU LTC Reader .....\$ 1365.00

TCR-80V SMPTE/EBU LTC & VITC Reader .....1965.00

### TCR Options

- 011 Parallel data input-001/output-011 .....\$450.00
- 012 Byte serial data input-002/output-012 for jam slave . .115.00
- 114 Video character inserter .....600.00
- 214 Same as 114—includes remote control with 2 meter cable .....750.00
- 018 VITC input .....600.00



TCR-80V

## TCG-80N SMPTE Time Code Production Generator

- Internal LTC reader for jam slave of time and/or user bits • LED display with contrast enhancing filter • Thumbwheel switches to set time and user data • Full user data facilities • Low power • Small size • Drop frame or non-dropframe are mode front panel selectable • High level output capable of feeding multiple machines • Self-contained video character generator • Unaffected by momentary power dropout • Color field identification defined by internal measurement or external field one pulse

TCG-80N SMPTE LTC Generator .....\$ 1755.00

TCG-80P EBU LTC Generator (PAL) .....1875.00

TCG-80N-005 SMPTE LTC Generator with film  
 techometer interface .....2155.00

### TCG Options

- 001 Parallel data input-001/output-011 .....\$450.00
- 002 Byte serial data input-002/output-012 for jam  
 slave .....115.00



TCG-80N

004 Video character insert .....600.00

006 VITC reader for jam slave .....450.00

008 VITC output .....600.00

# SMITH-VICTOR CORP.

301 N. Colfax  
Griffith, IN 46319  
(219) 924-6136 (800) 348-9862  
FAX: 219-924-6137

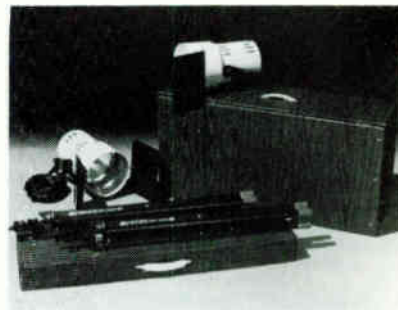
# QUARTZ LIGHTING KITS



**K2R-A**



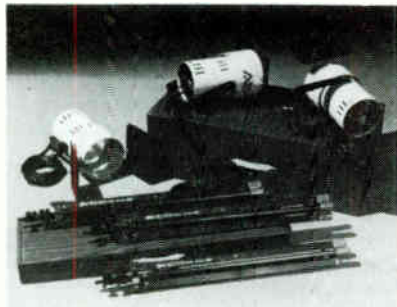
**K50**



**K62-A**



**K33-A**



**K63-A**



**K22U-A**

## K2R-A 1800W Quartz Location Kit

A complete location lighting kit in an attache case. The most compact 3 light kit on the market with a price to match.

3	700-SG	401110	600W quartz units
3	DYH	401928	600W 3200°K quartz lamps
3	S6R	401242	6' Steel Stands
1	634L	402202	Carrying Case

Size: 18" x 12" x 6" Weight: 15 lbs.

**K2R-A** ..... \$295.00

### K2R-A Accessories:

701	401301	Barn doors for 700 quartz unit	\$39.95
G5	401264	Gaffer Grip—portable light mount	16.50

## K33-A 1800W Quartz Location Kit

A complete lighting system at a popular price; contains everything needed for professional results.

3	700-SG	401110	600W quartz units
3	DYH	401928	600W 3200°K quartz lamps
3	701	401301	Barn doors for 700 quartz units
3	SA28	401233	8' aluminum stands
1	650	402208	Carrying Case

Size: 24 1/2" x 14 1/2" x 6 3/4" Weight: 17 lbs.

**K33-A** ..... \$599.95

### K33-A Accessories

G5	401264	Gaffer grip portable light mount	\$16.50
----	--------	----------------------------------	---------

## K50 1800W Quartz Location Kit

Excellent versatility with professional results is offered in this 3 light kit featuring a 600W key and 2 600W broad fill lights.

1	760	401112	600W quartz key unit
2	770	401113	600W quartz broad units
3	DYH	401928	600W 3200°K quartz lamps
3	771	401325	Barn doors
2	712	401312	Single scrims
3	SA28	401233	8' aluminum stands
1	650	402208	Carrying Case

Size: 24 1/2" x 14 1/2" x 6 3/4" Weight: 22 lbs.

**K50** ..... \$769.95

### K50 Accessories:

G5	401264	Gaffer grip—portable light mount	\$16.50
712	401312	Single scrim	14.95

## K63-A 1800W Quartz Location Kit

3 light kit offers excellent portability and versatility for basic photographic and video applications.

3	Q60-SG	401131	600W quartz units
3	DYS/DYV	401970	600W 3200°K quartz lamps
3	S9	401240	6' 4-legged steel stands
1		105664	Light case
1		300779	Stand case

Size: Stand case 29 1/4" x 8 1/2" x 2 3/4" Weight: 23 lbs., 10 oz.  
Light case 29 1/2" x 13 3/4" x 8 1/2"

**K63-A** ..... \$399.95

## K62-A 1200W Quartz Location Kit

Basic 2 light quartz kit permits professional results in photographic and video applications, offers room for additional light and stand to be added at a later date.

2	Q60-SG	401131	600W quartz units
2	DYS/DYV	401970	600W 3200°K quartz lamps
2	S9	401240	6' 4-legged steel stands
1		105664	Light case
1		300779	Stand case

Size: Stand case 29 1/4" x 8 1/2" x 2 3/4" Weight: 17 lbs., 1 oz.  
Light case 29 1/2" x 13 3/4" x 8 1/2"

**K62-A** ..... \$279.95

## K22U-A 1200W Quartz Location Kit

An excellent starter for the serious amateur photographer or videographer offers room for additional accessories.

2	700-SG	401110	600W quartz lamps
2	DYH	401928	600W 3200°K quartz lamps
2		670002	38" white umbrellas
2		670033	Combination light and umbrella mounts
2	S7	401239	6' steel stands
1	650	402208	Carrying case

Size: 24 1/2" x 14 1/2" x 6 3/4" Weight: 15 lbs., 10 oz.

**K22U-A** ..... \$379.95

### K22U-A Accessories

701	401301	Barn doors for 700 quartz unit	\$39.95
G3	401263	Gaffer grip—3/8" portable light mount	16.50

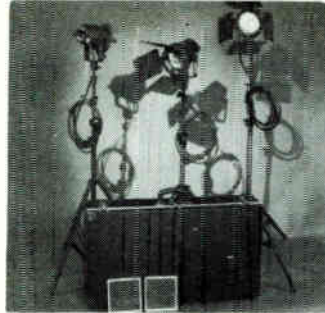
Prices and Specifications Subject to Change Without Notice.

V-979

# SMITH-VICTOR CORP.

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# QUARTZ LIGHTING KITS



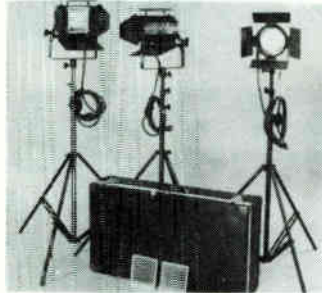
K71-A



K73-A



K74-A



K75-A



K76-A

## K71-A 1800W Professional Focusing Quartz Location Kit

This professional quartz lighting kit features the flexibility of three focusing units which allow smooth transition from spot to flood.

3	710-SG	401102	600W focusing quartz lamps	
3	DYH	401928	600W 3200°K quartz lamps	
2	711	401307	Barndoors	
2	712	401312	Single scrims	
3	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K71-A 29" x 18" x 8" — 28 lbs.....				<b>\$.955.00</b>
711	401307	Barndoors		<b>\$.39.95</b>
712	401312	Single scrim		<b>\$.14.95</b>
G5	401264	Gaffer grip—portable light mount		<b>\$.16.50</b>
SE30	401260	30" stand extension		<b>\$.12.95</b>

## K74-A 3000W Professional Quartz Location Kit

Our most powerful 3 unit lighting kit offers the versatility and flexibility of two 1000W broad units and a 1000W focusing unit.

2	750-SG	401105	1000W quartz broad units	
2	FHM	620380	1000W 3200°K quartz lamps	
2	752	401322	Single scrims	
1	720-SG	401103	1000W focusing quartz unit	
1	FBY	620140	1000W 3200°K quartz lamp	
1	721	401308	Barndoors	
3	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K74-A 29" x 18" x 8" — 34 lbs.....				<b>\$.1055.00</b>
722	401316	Single scrim		<b>\$.17.95</b>
G5	401264	Gaffer grip—portable light mount		<b>\$.16.50</b>
SE30	401260	30" stand extension		<b>\$.12.95</b>

## K72-A 1900W Professional Quartz Location Kit

This professional kit features a 600W focusing unit and two 650W broad units.

2	740-SG	401104	650W quartz broad units	
2	FBX	620050	650W 3200°K quartz lamp	
2	742	401319	Single scrims	
1	710-SG	401102	600W focusing quartz unit	
1	DYH	401928	600W 3200°K quartz lamp	
1	711	401307	Barndoors	
3	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K72-A 29" x 18" x 8" — 30 lbs.....				<b>\$.980.00</b>
712	401312	Single scrim		<b>\$.14.95</b>
G5	401264	Gaffer grip—portable light mount		<b>\$.16.50</b>
SE30	401260	30" stand extension		<b>\$.12.95</b>

## K75-A 2500W Professional Quartz Location Kit

Two each focusing and broad units provide excellent lighting for both studio and location use in photographic and video applications.

2	740-SG	401104	650W quartz broad units	
3	FBX	620050	650W 3200°K quartz lamps	
2	742	401319	Single scrims	
2	710-SG	401102	600W focusing quartz unit	
3	DYH	401928	600W 3200°K quartz lamps	
2	721	401308	Barndoors	
4	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K75-A 29" x 18" x 8" — 35 lbs.....				<b>\$.1295.00</b>
712	401312	Single scrim		<b>\$.14.95</b>
G5	401264	Gaffer grip—portable light mount		<b>\$.16.50</b>
SE30	401260	30" stand extension		<b>\$.12.95</b>

## K73-A 3000W Professional Focusing Quartz Location Kit

Extra coverage and reach are provided in this kit featuring three 1000W focusing units.

3	720-SG	401103	1000W focusing quartz units	
3	FBY	620140	1000W 3200°K quartz lamps	
2	721	401308	Barndoors	
2	722	401316	Single scrims	
3	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K73-A 29" x 18" x 8" — 32 lbs.....				<b>\$.1155.00</b>
721	401308	Barndoors		<b>\$.49.95</b>
G5	401264	Gaffer grip—portable light mount		<b>\$.16.50</b>
SE30	401260	30" stand extension		<b>\$.12.95</b>

## K76-A 4000W Professional Quartz Location Kit

The pairing of two 1000W focusing and two 1000W broad units make this our most versatile and powerful kit.

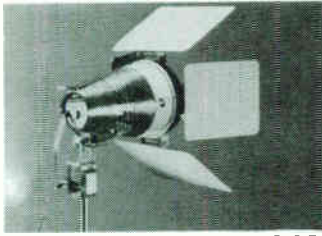
2	750-SG	401105	1000W quartz units	
3	FHM	620380	1000W 3200°K quartz lamps	
2	752	401322	Single scrims	
2	720-SG	401103	1000W focusing quartz units	
3	FBY	620140	1000W 3200°K quartz lamps	
2	721	401308	Barndoors	
2	722	401316	Single scrims	
4	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K76-A 29" x 18" x 8" — 41 lbs.....				<b>\$.1455.00</b>
G5	401264	Gaffer grip—portable light mount		<b>\$.16.50</b>
SE30	401260	30" stand extension		<b>\$.12.95</b>



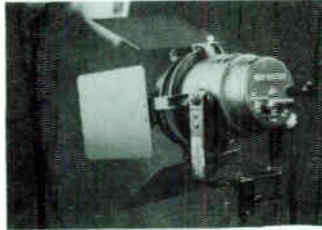
# SMITH-VICTOR CORP.

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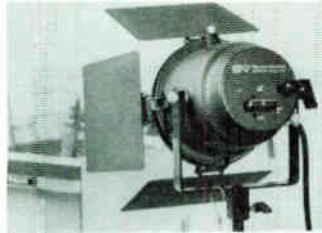
# QUARTZ LIGHTING



700-SG



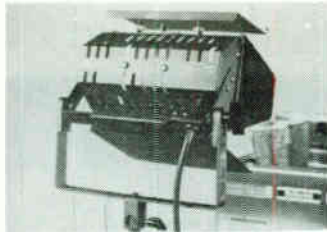
710-SG



720-SG



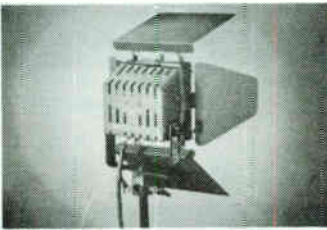
740-SG



750-SG



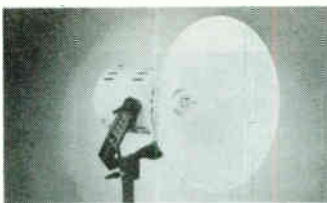
760



770



Q60-SG



Q120

## Quartz Units

### 700-SG

• Low cost, compact 600W flood featuring a broad, even beam pattern • Supplied with a 600W 75 hr. DYH lamp rated at 3200°K • With safety glass  
Unit shown with optional 701-401301 4-leaf barndoors.

Rating: 120V—5.4A at 600W. Socket: Miniature 2-pin (G5.3). Switch: Unit-mounted. Cable: 10', 2-wire grounded. Construction: Phenolic resin. Mounting: Universal— $\frac{3}{8}$ " to  $\frac{5}{8}$ ". Reflector: Etched aluminum

700-SG	401110	600W Quartz Light with DYH Lamp	..... \$80.00
DYH	401928	600W Lamp, 3200°K, 120V, Clear	..... 26.00
701	401301	Barndoor for 700-SG	..... 39.95

### 710-SG

• Professional 600W focusing quartz unit • Well suited for key, fill and backlighting applications • Rear-mounted focusing lever allows easy flood to spot control • Ideal for photographic and video applications • Complete with safety cable and safety glass

Rating: 120V—5.4A at 600W. Socket: Miniature 2-pin (G5.3). Switch: In-line. Cable: 10', 3-wire grounded. Construction: Double-wall vented aluminum. Mounting: Universal— $\frac{3}{8}$ " to  $\frac{5}{8}$ ". Reflector: Pebble-finish spun aluminum

710-SG	401108	600W Focusing Light	..... \$140.00
DYH	401928	600W Lamp, 3200°K, 120V, Clear	..... 26.00
711	401307	Barndoor for 710-SG	..... 39.95
712	401312	Single Scrim for 710-SG	..... 14.95

### 720-SG

• Similar in design to the 710-SG • Delivers up to 1000W output for more demanding applications • Complete with safety wire and safety glass

Rating: 120V—8.4A at 1000W. Socket: Recessed single contact (R7S). Switch: In-line. Cable: 10' 3-wire grounded. Construction: Vented aluminum. Mounting: Universal— $\frac{3}{8}$ " to  $\frac{5}{8}$ ". Reflector: Soft-grained spun aluminum

720-SG	401109	1000W Focusing Light	..... \$160.00
721	401308	Barndoor for 720-SG	..... 49.95
722	401316	Single Scrim for 720-SG	..... 17.95

### 740-SG

• 650W quartz broad light provides rectangular, flat, even fill illumination over large areas • Permanently attached 4-leaf barndoors provide positive light control with sharp, even cut-off • Large insulated handle for easy adjustment • Perfect for photographic and video applications • Also ideal as a copy light • Complete with safety wire and safety glass

Rating: 120V—5.5A at 650W. Socket: Recessed single contact (R7S). Switch: In-line. Cable: 10', 3-wire grounded. Construction: Vented steel. Mounting: Universal— $\frac{3}{8}$ " to  $\frac{5}{8}$ ". Reflector: Embossed, soft-etched aluminum

740-SG	401106	650W Broad Light, incl. Barndoors	..... \$165.00
FBX	401987	650W Lamp, 3200°K, 120V, Frosted	..... 34.15
742	401319	Single Scrim for 740-SG	..... 14.95

### 750-SG

• Similar in design to the 740-SG • Provides 1000W of fill illumination over large areas • Permanently attached 4-leaf barndoors provide sharp, even cut-off • Ideal for photographic, video, and graphic arts applications • Complete with safety wire and safety glass

Rating: 120V—8.4A at 1000W. Socket: Recessed single contact (R7S). Switch: In-line. Cable: 10' 3-wire grounded. Construction: Vented steel. Mounting: Universal— $\frac{3}{8}$ " to  $\frac{5}{8}$ ". Reflector: Embossed, soft-etched aluminum

750-SG	401107	1000W Broad Light, incl. Barndoors	..... \$175.00
FHM	401989	1000W Lamp, 3200°K, 120V, Frosted	..... 37.14
752	401322	Single Scrim for 750-SG	..... 15.95

### 760

• Fixed focus general purpose 600W quartz fill light for photographic and video applications • High efficiency pebble-finished aluminum reflector provides even coverage over entire lighted area • Safety wire provided

Rating: 120V—5.4A at 600W. Socket: Miniature 2-pin (G5.3). Switch: In-line. Cable: 10', 3-wire grounded. Construction: Double-wall vented aluminum. Mounting: Universal— $\frac{3}{8}$ " to  $\frac{5}{8}$ ". Reflector: Pebble-finish spun aluminum

760	401112	600W Fill Light	..... \$109.95
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### 770

• Economical, compact 600W quartz broad unit • Provides rectangular, flat even illumination over large areas • All aluminum construction provides for cool operation • For photographic, video, and graphic arts applications • Safety wire provided

Rating: 120V—5.4A at 600W. Socket: Miniature 2-pin (G5.3). Switch: In-line. Cable: 10', 3-wire grounded. Construction: Vented aluminum. Mounting: Universal— $\frac{3}{8}$ " to  $\frac{5}{8}$ ". Reflector: Embossed, soft-etched aluminum

770	401113	600W Broad Light	..... \$99.95
DYH	401928	600W Lamp, 3200°K, 120V, Clear	..... 26.00
771	401325	Barndoor for 760 and 770	..... 49.95
712	401312	Single Scrim for 760 and 770	..... 14.95

### Q60-SG

• Contemporary-style, general purpose 600W quartz unit for basic photographic and video applications • Baffled and vented construction for cool operation • Supplied with permanently attached 2-leaf barndoors and safety glass

Rating: 120V—5.4A at 600W. Socket: 2-pin prefocus (GZ9.5). Switch: Unit-mounted. Cable: 10', 3-wire grounded. Construction: Vented and baffled aluminum. Mounting: Universal— $\frac{3}{8}$ " to  $\frac{5}{8}$ ". Reflector: Pebble-finish spun aluminum

Q60-SG	401131	600W Fill Light, incl. Barndoors	..... \$90.00
DYS/DYV/BHC	401908	600W Lamp, 3200°K, Clear	..... 21.00

### Q120

• General purpose 600W 12" quartz reflector • Provides a soft, diffused beam pattern for photographic and video fill applications • Vented and baffled construction permits cool operation • Swivel yoke allows for easy positioning at any angle

Rating: 120V—5.4A at 600W. Socket: 2-pin prefocus (GZ9.5). Switch: Unit-mounted. Cable: 10', 3-wire grounded. Construction: Vented and baffled aluminum. Mounting: Universal— $\frac{3}{8}$ " to  $\frac{5}{8}$ ". Reflector: Etched, spun aluminum

Q120	401116	600W 12" Reflector	..... \$85.00
DYS/DYV/BHC	401908	600W Lamp, 3200°K, 120V, Clear	..... 21.00
8D120	401344	Barndoor and Filter Holder for Q120	..... 47.95

# SMITH-VICTOR CORP.

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# STUDIO LIGHTS

## Standard Adapta-Lites

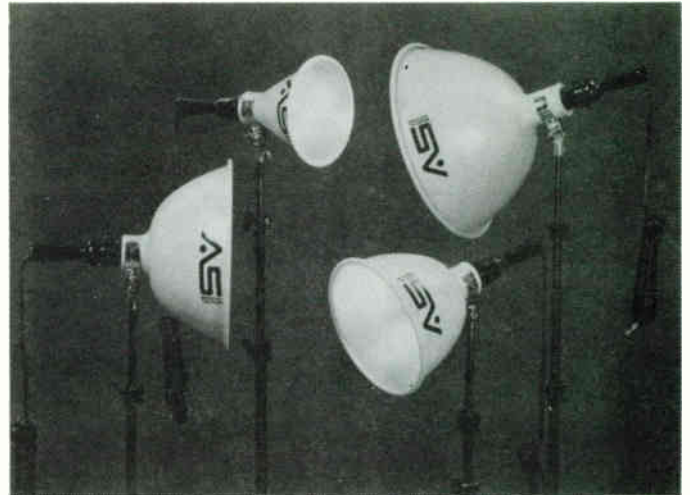
- All units are equipped with 660W phenolic sockets with 10', 2-wire cords
- Insulated heat-free handles • 3/8" stand mounting hardware
- Finished in hard, baked-on enamel • Available in sizes from 5" to 12"

**A5 (401001)** 5" reflector, when equipped with a 250W lamp, yields a 60° beam. Excellent for background lighting and special effects . . . . . **\$27.95**

**A8UL (401002)** 8" reflector, when equipped with a 500W lamp, yields a broad, flat 100° beam. Ideal for background lighting and copy work. U.L. . . . . **\$29.95**

**A10UL (401003)** 10" reflector, when used with 250W lamp emits a 50° beam. Ideally suited for key and fill applications. U.L. . . . . **\$29.95**

**A12UL (401004)** 12" reflector, utilizing a 500W lamp, yields a 60° beam. Perfect for key and fill applications. U.L. . . . . **\$39.95**



Standard Adapta-Lites

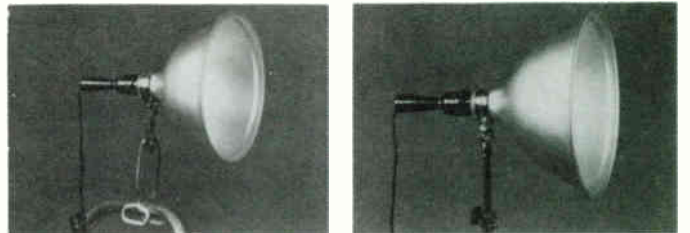
## Economy Adapta-Lites

The same quality that goes into every Smith-Victor product makes these economically priced units a good dollar value.

**90UL (401008)** 10 1/2" general purpose reflector provides an even light pattern with either a 250W or 500W lamp. Equipped with a 600W phenolic socket, 10', 2-wire cord, and insulated heat-free handle. Complete with Model C-1 clamp for mounting versatility. U.L. . . . . **\$29.95**

**100UL (401011)** Inexpensive socket, handle and cord set with C-1 mounting clamp accepts any medium screw base reflector-type lamp up to 500W. Compactness makes this unit an ideal supplementary light source for location work. U.L. . . . . **\$18.95**

**910UL (401015)** Identical to the 90UL Economy Adapta-Lite but with hardware to attach to any 3/8" stand. U.L. . . . . **\$28.95**



Economy Adapta-Lites

## PL Studio Lights

- Reflectors are spun from aluminum alloy • Provides 55% greater light output
- Extruded aluminum power base • Computer-calculated heat sinks
- Power base is mounted on a positive position swivel yoke with handle
- Universal mount fits light stands from 3/8" to 5/8" in diameter
- Heavy-duty 10', 3-wire grounded power cord • Heavy-duty porcelain lamp socket
- On-off rocker switch

**PL12 (401044)** 12" reflector, utilizes up to 500W photo lamp, emits 60° beam. White housing. U.L. CSA . . . . . **\$79.95**

**PL10 (401043)** 10" reflector, utilizes up to 250W photo lamp, emits 50° beam. Blue housing. U.L. CSA . . . . . **\$69.95**

**PL8 (401042)** 8" reflector, utilizes up to 500W photo lamp, emits 100° beam. Red housing. U.L. CSA . . . . . **\$69.95**



Ultra Cool Studio Lights

## Ultra Cool Studio Lights

- Revolutionary design allows performance at much lower operating temperatures than conventional units
- Integral baffles and vents
- Porcelain socket and 10', 3-wire grounded safety cord
- Universal 3/8" to 5/8" swivel mount
- Lamp data is permanently applied on mount
- Convenient, heavy-duty can-mounted on/off switch
- Baked-on enamel color

**A50 (401016)** 5" reflector, when equipped with a 250W lamp yields a 60° beam. Excellent for background lighting and special effects. U.L. . . . . **\$54.95**

**A80 (401017)** 8" reflector, when equipped with a 500W lamp yields a broad, flat 100° beam. Great for background lighting and copy work. U.L. . . . . **\$54.95**

**A100 (401018)** 10" reflector, when used with a 250W lamp, emits a 50° beam. Perfectly suited for key and fill applications. U.L. . . . . **\$54.95**

**A120 (401019)** 12" reflector, when used with a 500W lamp yields a 60° beam. Ideal for key and fill applications. U.L. . . . . **\$69.95**

**A160 (401030)** Professional 16" reflector accepts mogul-base lamps up to 1000W. 60° beam offers soft, diffused lighting. For portrait work or wherever soft light is desired. U.L. . . . . **\$140.00**



# SMITH-VICTOR CORP.

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# VIDEO CAMERA LIGHTS/ LIGHT PACK

## Q250-SG Video Camera Light

Designed to mount on any video camera shoe, the Q250-SG is a compact 250W flood unit featuring a broad, even beam pattern. Lightweight and equipped with an extra long 15' cord, the light can be adjusted to a variety of angles to fill a host of camera situations. The Q250-SG will enhance colors and eliminate undesirable shadows. Complete with 250W 3200°K, 50 hour quartz lamp, shoe mount bracket and safety glass.

Q250 (401138) . . . . . \$74.95

### Accessory

QL250 (401906) Replacement 250W, 120V, 3200°K quartz lamp for SV Q250. May also be used in SV models 700-SG, 710-SG, 760 and 770. . . . . \$22.50



Q250-SG

## BL 110/Q 150 Soft-Look Video Camera Lights

Brighten your picture taking and give depth and definition to indoor and group shots with one of two light units specially designed for low light video and 35mm cameras. The BL 110 and the Q150 are compact, with a built-in glass safety shield. Their special plastic and metal housing also makes for cooler operation and longer bulb life.

The BL 110 operates on 12V and offers 100W of light. The BL 110 comes equipped with a retractable coil cord and will operate on battery pack.

The Q150 offers 150W of light from standard house current of 115V and is shipped with a 12' cord.

A special screw-type shoe lock keeps the video lights securely attached to your camera, while the holder is also easily adjustable for bounce lighting. An adaptor is available for mounting on stands, tripods and gaffer grips.

BL 110 (631801) . . . . . \$79.95  
Q150 (631101) . . . . . \$89.95



BL 110

## MP100A Micro Light Pack

Eliminate unwanted shadows and enrich colors with the MP100A Light Pack. Complete with 100W 3200°K lamp, the lighting unit is designed for safety with vented spun aluminum housing and reflector, with integral tempered safety glass. Camera shoe and microphone mount make the light unit especially convenient to use with any video camera. Comes complete with light unit, battery, charger and its own handsome soft carrying case.

MP100A (401478) . . . . . \$149.95

### Components/Accessories

Micro 100  
(401142) Micro Light head only with FCR lamp and coil cord . . . . . \$59.95  
BP3  
(401195) 12V battery belt pack with charger . . . . . \$65.90  
BP1C  
(401194) Soft case, 12V battery with charger . . . . . \$94.50



MP100A



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# STANDS/ ACCESSORIES

## Aluminum Stands

Strength and stability need not be sacrificed in a lighter weight stand. Aluminum stands offer compactness and portability and are the ideal answer for the photographer on the go.

<b>ALS36</b>	<b>401272</b>	3/8" Mount—Ht. 6'	.....	<b>\$34.95</b>
<b>ALS37</b>	<b>401274</b>	5/8" Mount—Ht. 7'	.....	<b>\$37.95</b>
<b>ALS38</b>	<b>401273</b>	5/8" Mount—Ht. 8'	.....	<b>\$39.95</b>
<b>SA24</b>	<b>401231</b>	3/8" Mount—Ht. 46"	.....	<b>\$39.95</b>
<b>SA28</b>	<b>401233</b>	3/8" Mount—Ht. 8'	.....	<b>\$54.95</b>

## Steel Stands

Steel stands offer strength, stability, and years of dependable, trouble-free service at the most economical price. Ideal for studio applications, these general purpose stands are available in heights from 6' to 10'.

<b>S2</b>	<b>401228</b>	6 1/2' 2-section stand folds to 42", 3/8" mount. ....		<b>\$21.95</b>
<b>S3</b>	<b>401229</b>	8' heavy-duty 3-section stand folds to 36", 3/8" mount. ....		<b>\$34.95</b>
<b>S4</b>	<b>401230</b>	10' heavy-duty 4-section stand folds to 37", 3/8" mount. ....		<b>\$39.95</b>
<b>S6R</b>	<b>401242</b>	6' 4-section stand disassembles for easy storage and portability, 3/8" mount. ....		<b>\$34.95</b>
<b>S7</b>	<b>401239</b>	Compact 6' model folds to 22", 3/8" mount. ....		<b>\$34.95</b>
<b>S9</b>	<b>401240</b>	6' stand is designed to give extra stability with the addition of a 4 <sup>th</sup> leg, 3/8" mount, folds to 27". ....		<b>\$37.95</b>
<b>S84</b>	<b>401241</b>	8', 5/8" mount version of S9 folds to 37". ....		<b>\$39.95</b>

## BR10 Roller Base Stand

This professional 4-legged roller base stand is equipped with a 10', 5/8" mount upright. Solid steel legs feature 4 locking ball-bearing casters to prevent creeping or rolling on uneven surfaces

**BR10 401250** ..... **\$170.00**

## BP4 Light Boom

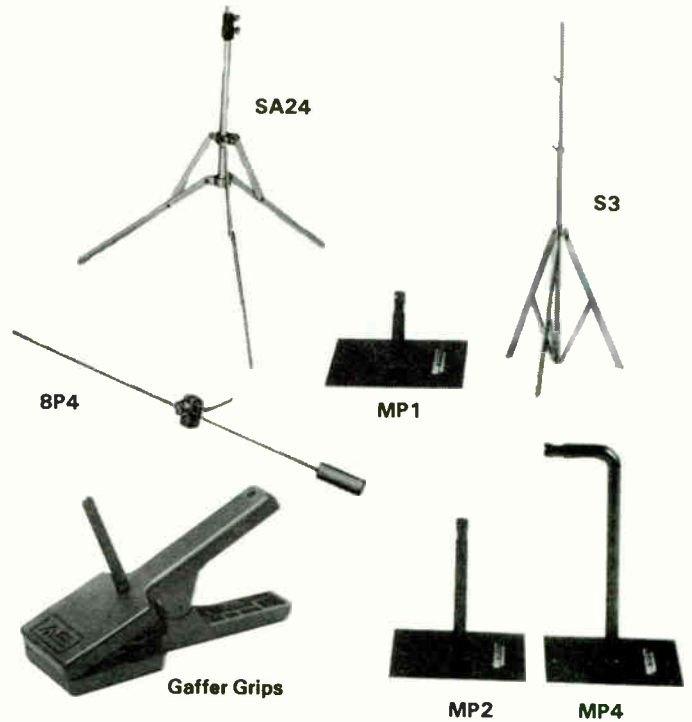
This versatile light boom incorporates a 2 lb. counterweight mounted on a 51" steel shaft. An adjustable locking swivel allows for unlimited positioning. Fits all 3/8" mount stands. Also doubles as a microphone boom.

**BP4 401224** ..... **\$59.95**

## Stand Extension

Add up to 30" to any 3/8"-5/8" mount light stand. May also be used as a crossarm to mount 2 light units on a single stand.

**401260 Stand Extension 5/8" mount**  
(adds 30") ..... **\$12.95**



## 85 Mini Boom

A winning combination—a boom arm and light in one. Using either spot or flood reflector lamps, the mini-boom provides the solution to many lighting problems. 44" aluminum boom with counterweight features a 660W swivel socket easily adjusted to any position by means of attached control handle. Unit comes with 12' cord and fits any 3/8" mount stand.

**85 401012** ..... **\$29.95**

## Mounts

Smith-Victor offers 3 wall mount brackets with various stud lengths to fit a variety of applications. Base plates on all models measure 4" x 6". Wall mounts are ideally suited for permanent installations when a grid system is not feasible. They may also be gaffer-taped to walls for location shooting.

**MP1 401217** 3" long, 5/8" dia. stud ..... **\$22.95**

**MP2 401218** 6" long, 5/8" dia. stud ..... **\$22.95**

**MP4 401220** 9" long, 5/8" dia. stud with  
90° bend ..... **\$24.95**

## C7 C-Clamp

For heavy-duty applications, this professional 5/8" mount, C-clamp is ideal for grid-type applications. Can be clamped to any pipe up to 2" O.D.

**C7 401216** ..... **\$26.95**

## G3-G5 Gaffer Grips

Spring-loaded Lexan® casting takes over where the C1 clamp leaves off. Equipped with a 3" long stud, the gaffer grip clamps to any surface up to 2 1/2" wide. Rubber cleats prevent marring. Pre-drilled to accept an extra stud allowing you to mount 2 lights. Extra studs are available.

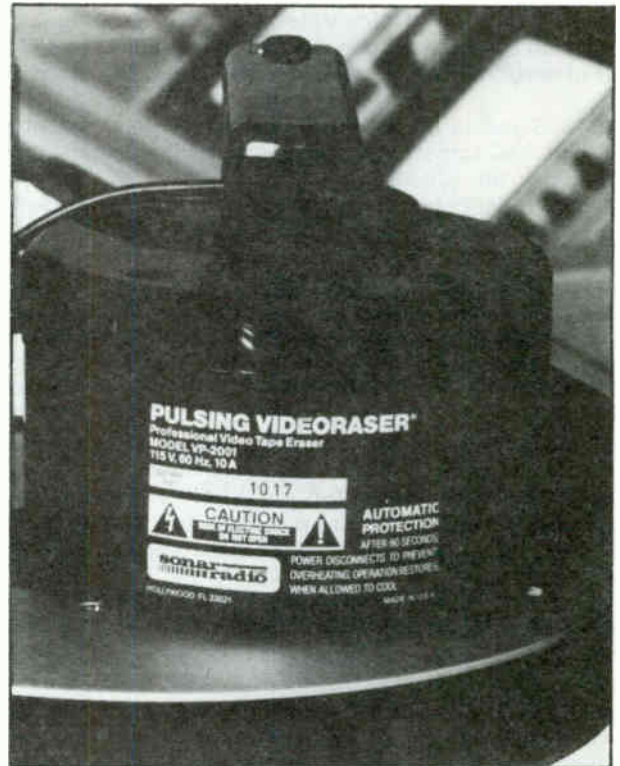
**G3 401263** 3/8" mount ..... **\$16.50**

**G5 401264** 5/8" mount ..... **\$16.50**

# SONAR RADIO CORP.

3000 Stirling Rd.  
 Hollywood, FL 33021-2099  
 (305) 981-8800 (800) 327-3815  
 Telex: 51-4736

# TAPE ERASERS



## VX-1401/1601 Videoraser®

### Erases High Grade Videocassettes

The Videoraser VX-1601 erases VHS and Beta videocassettes in seconds for better, cleaner recordings. Reduces wear on expensive video recording heads. Erases regular, High Grade, and Extra High Grade tape. U.L. listed with thermal cutoff switch. 4 lbs. No home video system is complete without it.

- VX-1401 Videoraser . . . . . \$59.00
- VX-1601 Videoraser . . . . . 69.00

## VP-2001 Pulsing Videoraser

The VP-2001 offers 3 power levels, addressing the data processing, consumer video, and professional video markets.

Industrial and broadcast video tapes are the hardest to erase. The VP-2001's powerful pulsing action removes all traces of video and audio signals, and even time codes from all grades of 3/4" U-Matic and 1" and 2" video tape. Handheld, weighs just 4 lbs. With thermal cutoff switch.

- VP-2001 Videoraser . . . . . \$179.00

VIDEORASER SPECIFICATIONS			
	CONSUMER VIDEO For Regular Tape	CONSUMER VIDEO For High Coercivity Tape	PROFESSIONAL VIDEO
	VX-1401	VX-1601	VP-2001
VOLTAGE	115V	115V	115V
CYCLES	60Hz	60Hz	60Hz
CURRENT	8A	12A	10A
DIAMETER (In.)	4 3/4	4 3/4	4 3/4
HEIGHT (In.)	4 1/2	4 1/2	4 1/2
WEIGHT (lbs.)	4.0	4.0	4.0
MAGNETIC FLUX (open field gauss @ 1/4")	1400	1600	2000
AUTO-CUTOFF	No	Yes	Yes
PULSING FEATURE	No	No	Yes
UL LISTED	No	Yes	No

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# COLOR CAMERA

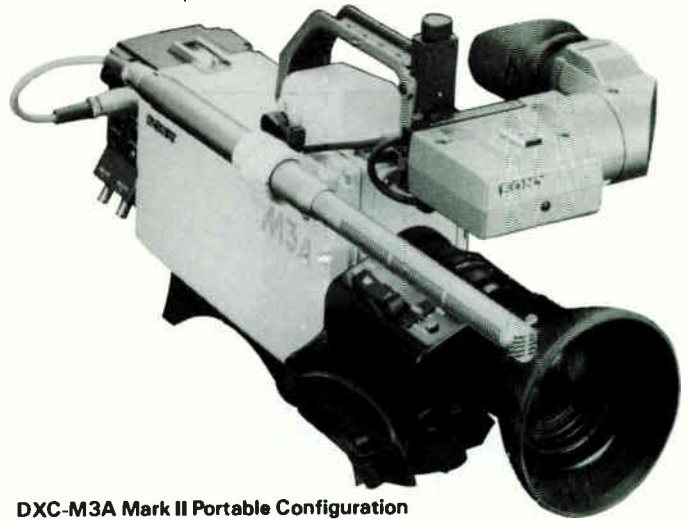
## DXC-M3A Mark II

### 3-Tube MF Saticon™ Color Video Camera

- Diode Gun LOC MF Saticon pickup tubes produce over 750 lines of horizontal resolution with improved depth of modulation
- 58.5dB Signal-to-Noise Ratio (luminance) with low noise FET, and LOC targets, 40 lux minimum illumination (f/1.6, + 18dB gain up, 100 IRE)
- Mixed Field (MF) system: electromagnetic focus and electrostatic deflection for precise focusing, superior linearity of the beam
- Fast f/1.4 prism optics
- Three-position VTR selector handles One-Inch Type C, U-Matic®, and even consumer half-inch VTRs without adaptors
- Choice of lenses with bayonet mount; standard lens for DXC-M3A Mark II is Canon J15X9.5B 15:1 Zoom with macro function
- Choice of three optional electronic viewfinders: standard viewfinder is DXF-M3A 1.5" high resolution monochrome finder which adjusts for left-eye, right-eye and tripod viewing. Diopter adjustment is also provided
- Flexible configurations: studio, portable, medical/scientific, and teleconference
- Split-Field Color Bars conforming to EIA RS-189A for convenient monitor adjustment
- EIA RS-170A Sync Signal Generator for SC-H phase compatibility
- Variable two-line image enhancer with comb filter for crisper images
- Microcomputer Automatic Centering virtually eliminates registration problems; digital memory saves settings even when power is off
- Microcomputer Automatic White and Black Balance with digital memory for stable accurate color and tone rendition
- Character Generator for status displays, warnings, and superimposition of shooting information on the video output
- "Automatic Iris Close" when power is off, during Preheat, during Color Bars, during Black Balance protects tubes from accidental image retention or "Burn"
- Zebra pattern video level indicator in viewfinder for convenient and accurate manual video level adjustment
- Adjustable Master Pedestal with viewfinder indication for operator control of dark contrast and noise
- Auto-iris override level with viewfinder indication for unusual lighting situations

## DXC-M3A Mark II Camera System

DXC-M3A Mark II . . .	Camera Head
DC-8 . . . . .	Battery Adaptor
LC-M3A . . . . .	Carrying Case
VCT-M3 . . . . .	Tripod Adaptor
CCQ-2AR . . . . .	Camera Cable for Portable VTR Interface
DXF-M3A . . . . .	1.5" Electronic Viewfinder—detachable
DXC-M3AK Mark II Camera System . . . . .	\$8,500.00



DXC-M3A Mark II Portable Configuration

## DXC-M3AH Mark II Camera System

DXC-M3A Mark II . . .	Camera Head
VCT-M3 . . . . .	Tripod Adaptor
CCQ-2AR . . . . .	Camera Cable for Portable VTR Interface
DXC-M3AH Mark II Camera System . . . . .	\$7,777.00

## DXC-M3AK Mark II Camera System

DXC-M3A Mark II . . .	Camera Head
DC-8 . . . . .	Battery Adaptor
LC-M3A . . . . .	Carrying Case
VCT-M3 . . . . .	Tripod Adaptor
CCQ-2AR . . . . .	Camera Cable for Portable VTR Interface
DXF-M3A . . . . .	1.5" Electronic Viewfinder—detachable
J15X9.5B . . . . .	15X Zoom Lens f/1.8, 9.5-143mm
DXC-M3AK Mark II Camera System . . . . .	\$9,640.00

## PAC-M3A/12E Mark II Camera System

DXC-M3A Mark II . . .	Camera Head
DC-8 . . . . .	Battery Adaptor
LC-M3 . . . . .	Carrying Case
VCT-M3A . . . . .	Tripod Adaptor
CCQ-2AR . . . . .	Camera Cable for Portable VTR Interface
DXF-M3A . . . . .	1.5" Electronic Viewfinder—detachable
A12X9BERM-88 . . . . .	12X Zoom Lens with 2X extender, f/1.7, 9-108mm
PAC-M3A/12E Mark II Camera System . . . . .	\$11,250.00

## PAC-M3A/16 Mark II Camera System

DXC-M3A Mark II . . .	Camera Head
DC-8 . . . . .	Battery Adaptor
LC-M3A . . . . .	Carrying Case
VCT-M3 . . . . .	Tripod Adaptor
CCQ-2AR . . . . .	Camera Cable for Portable VTR Interface
DXF-M3A . . . . .	1.5" Electronic Viewfinder—detachable
A16X9.5BRM . . . . .	16X Fujinon Zoom lens
PAC-M3A/16 Mark II Camera System . . . . .	\$10,180.00



# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# COLOR CCD CAMERA

## DXC-3000/1 CCD Color Video Camera

- Three Interline Transfer CCD Chips: each  $\frac{2}{3}$ " chip has over 250,000 picture sensing elements for over 520 lines of horizontal resolution
- 56dB Signal-to-Noise Ratio: thanks to on-chip preamplifier and Cor-related Double Sampling (CDS) circuit
- Excellent sensitivity in low light: 25 lux minimum illumination (F1.7, + 18dB gain up)
- Fast F1.4 prism optics
- Built-in microphone plus XLR connector for external mike
- Four-position VTR selector handles 1" Type C, U-Matic, and even consumer  $\frac{1}{2}$ " VTRs without adaptors
- Choice of more than 10 lenses with bayonet mount; standard lens for DXC-3000K/1 is VCL-1012BY 12:1 Zoom
- Choice of three optional electronic viewfinders: standard viewfinder is DXF-3000 1.5" high-resolution monochrome finder which adjusts for left-eye, right-eye and tripod viewing
- Flexible configurations: studio, portable and medical
- Built-in Color Bar generator for convenient monitor and system adjustment
- Sync Signal Generator
- Two-line image enhancer with comb filter for crisper images
- Microcomputer Controlled Automatic White Balance with viewfinder status displays and digital memory to store settings up to 12 hours
- Microcomputer Controlled Automatic Black Balance with digital memory
- Character Generator for status displays, warnings, and superimposing shooting information on the video output
- Automatic Iris Close when power is off, during Preheat, during Color Bars, during Black Balance
- Zebra pattern video level indicator in viewfinder for convenient manual video level adjustment
- Adjustable master pedestal with viewfinder indication
- Adjustable auto-iris level with viewfinder indication

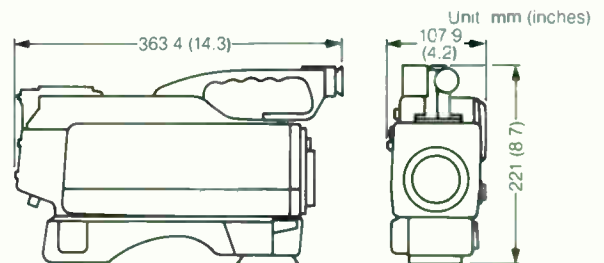
### Specifications DXC-3000H Camera Head

<b>Image Device:</b>	Interline-transfer CCD, 3-chip
<b>Optics:</b>	f/1.4 medium index prism system
<b>Picture Elements:</b>	510H x 492V
<b>Sensing Area:</b>	8.8mm x 6.6mm (equivalent to a $\frac{2}{3}$ " pickup tube)
<b>Built-in Filters:</b>	1: 3200°K 2: 5600°K + $\frac{1}{8}$ ND 3: 5600°K
<b>Lens Mount:</b>	Bayonet mount
<b>Signal System:</b>	EIA standards. NTSC color system
<b>Scanning System:</b>	525 lines, 2:1 interlace, 30 frames/sec.
<b>Horizontal Frequency:</b>	15.734kHz
<b>Vertical Frequency:</b>	59.94Hz
<b>Sync System:</b>	Internal or External with the BS or VBS signal supplied to the genlock input connector, or the reference signal input to the VTR/CCU/CMA connector from the genlock connector of the CCU-M3
<b>Horizontal Resolution:</b>	520 lines (Y channel at the center)
<b>Minimum Illumination:</b>	25 lux with f/1.7, + 18dB (16 lux with f/1.4, + 18dB)
<b>Sensitivity:</b>	2,000 lux (200fc) with f/5.6, at 3200°K 3200°K
<b>Gain Selection:</b>	0dB, 9dB or 18dB
<b>Video Output:</b>	1.0Vp-p, sync negative, 75 ohms, unbalanced
<b>Signal-To-Noise Ratio:</b>	56dB
<b>Registration (A Type):</b>	0.05% for Zone I 0.05% for Zone II 0.05% for Zone III
<b>Geometric Distortion:</b>	All areas 0%



DXC-3000/1

<b>Inputs/Outputs:</b>	VTR/CCU/CMA connector*: Sony Q-type, 14-pin MIC IN: XLR-type, 3-pin GENLOCK: BNC-type VIDEO OUT: BNC-type LENS: 6-pin VF: 8-pin EARPHONE: mini jack INTERCOM: mini intercom *Video output, microphone output, power input, recording and playback picture, etc.
<b>Power Requirements:</b>	12VDC
<b>Power Consumption:</b>	9W (for camera only)
<b>Operating Temperature:</b>	23°F to 113°F (-5°C to 45°C)
<b>Storage Temperature:</b>	-4°F to 140°F (-20°C to 60°C)
<b>Weight:</b>	7 lbs. 4 oz. (3.3kg)



<b>DXC-3000/1</b>	3-chip CCD Camera Package. Includes: Camera head, DXF-3000 1.5" viewfinder, CCQ-2ARS 6' camera cable, LC-3001 carrying case, VCT-12 tripod adaptor . . . . . \$6025.00
<b>DXC-3000H</b>	3-chip CCD Camera head only . . . . . \$550.00
<b>DXC-3000K/1</b>	3-chip CCD Camera Package. Includes: Camera head, DXF-3000 1.5" viewfinder, CCQ-2ARS 6' camera cable, LC-3001 carrying case, VCL-1012BY 12X Zoom lens (Fujinon), VCT-12 tripod adaptor . . . . . \$7135.00

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# COLOR CAMERA



## DXC-1850HBS Trinicon® Color Camera

- 2/3" HBST (High Band Saticon Trinicon) pickup tube for the best possible picture from a single-tube color video camera
- HBST pickup tube assures high resolution, good color fidelity and uniformity, low image lag and retention
- Lightweight camera head (less than 1 lb. 9 oz.) for precision interface with optical equipment: microscopes used in medicine, biology, metallurgy
- Full range of automatic controls for very simple, very safe operation
- Ideal for surveillance and teleconferencing, especially when lighting and installation space is limited
- 3-Mode white balance: automatic, manual and halogen lamp
- Red Hue Expander, Red Detail Control for enhancing and delineating red color nuances
- Provision for handle on control unit, which is 19" EIA Standard for rackmounting
- Safety conscious features include an exterior finish highly resistant to alcohol and disinfectants, electrical leakage of less than 10 micro Amps and solid housings not prone to damage from accidental spills
- On-screen illumination indicating lines simplify illumination adjustments
- Uniformity control ensures optimum color quality with wide variety of optical instruments by compensating for color hue distortions
- Built-in two line type Vertical Image Enhancer
- Automatic Beam Optimizer—ABO
- VBS Genlock capability
- Automatic and manual gain/iris control
- Chroma level control

The DXC-1850 with HBST pickup tube delivers the best possible picture in a single-tube camera. The camera head, by virtue of its compact design and extremely light weight, is ideally suited for use with specialized fiber optics and a wide range of other optical instruments in fields ranging from medicine to metallurgy.

## Specifications

<b>Pickup tube:</b>	2/3" HBST tube
<b>Scanning system:</b>	525 Lines 30 frames NTSC 2:1 interlace
<b>Sync system:</b>	Internal or external
<b>Horizontal resolution:</b>	400 lines
<b>Sensitivity:</b>	2000 lux f/.4
<b>Automatic gain control range:</b>	120-2000 lux (with f/2.5 lens)
<b>Output:</b>	1.0 Vp-p, sync negative 75 ohms unbalanced x3
<b>Video signal-to-noise ratio:</b>	53dB
<b>Lens mount:</b>	C-mount
<b>Power requirement:</b>	AC 120V, 60Hz +11 to +16 VDC
<b>Power consumption:</b>	AC 26W DC 18W
<b>Operating temperatures:</b>	0°C to +40°C
<b>Weight:</b>	CHU: 1 lb. 9 oz. (0.71kg) CCU: 17 lb. 10 oz. (8.2kg)
<b>Dimensions:</b>	CHU: 2-1/4" x 2-3/8" x 7-3/4" HWD (55mm x 59mm x 196mm HWD); CCU: 3-1/2" x 16-3/4" x 13-3/8" HWD (88mm x 424mm x 340mm HWD)

DXC-1850 ..... \$9350.00

## Supplied Accessories

- Camera cable (10m) • 75 ohm coaxial cable with BNC connector (10m) • AC power cord • Camera head bracket • Bracket set for 19" rackmounting • Filter set (ND4, W14 and replacement tool) • Battery (Eveready M542)

## Optional Accessories

- VCL-1106YB 6:1 auto iris power zoom lens • VCL-08S Wide angle lens • CCJ-10 10m camera cable • CCJ-25 25m camera cable • CCJ-50 50m camera cable • MVA-11 Microscope adaptor • MVA-102 Endoscope adaptor for Olympus • MVA-102R Endoscope adaptor for C. Storz.

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

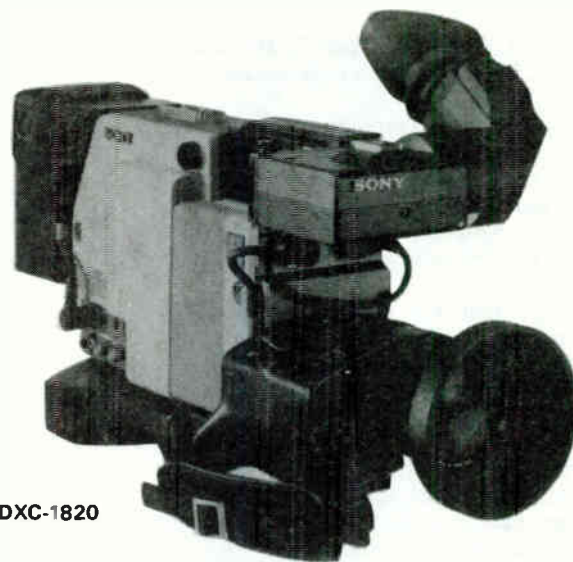
# COLOR CAMERA

## DXC-1820/1821 SMF Trinicon® Color Video Camera

- Flexible configurations: studio, portable and special purpose/scientific
- Choice of lenses: S-Mount (DXC-1820); choice of C-Mount lenses (DXC-1821); standard lens for DXC-1820KA is VCL-1012SY 12:1 Zoom
- Choice of four optional electronic viewfinders: standard viewfinder is DXF-1820 1.5" high-resolution monochrome finder with warning indicators for VTR/tape problem, low battery, low light, and low video output
- Microcomputer automatic white balance with digital memory even when power is off; 3200°K Preset position for quick start-ups without white balancing
- Excellent low-light sensitivity with switchable gain; shooting down to 4 fc (40 lux) with gain at +18dB
- VTR selector handles four kinds of VTRs without adaptors
- Variable fade-in/fade-out from 0 to 5 seconds
- Negative/Positive switch for shooting photographic negatives
- Color Bar Generator for easy system set-up
- Built-in electret condenser microphone
- Intercom headset jack on camera head
- Diode Gun SMF Trinicon® sophisticated single-tube system
- Mixed field (MF) system: electromagnetic focus and electrostatic deflection for precise focusing, superior linearity
- Saticon® pickup for minimum lag excellent low-light sensitivity
- Trinicon color separation system for remarkable color purity
- Automatic Beam Optimizer (ABO) handles intense light and highlights without comet tails or blooming

### Specifications

- Signal-to-Noise Ratio:** 53dB in luminance channel  
**Minimum Illumination:** 4.0 fc (40 lux) at f/1.6, +18dB gain up  
**Sensitivity:** 186fc (2000 lux) f/4 at 3200°K, 89.9% reflectance
- Horizontal Resolution:** 300 lines  
**Pickup Tube:** 2/3" diode gun SMF Trinicon with built-in bias light, CT-2232
- Lens Mount:** DXC-1820: S mount, DXC-1821: C mount  
**Optical Filter:** 3200°K, 4800°K, 5800°K, white fluorescent lamp
- Signal System:** EIA standard, NTSC color  
**Sync System:** Internal sync, or genlock  
**Video Output:** BNC (1.0V p-p, 75 ohms)  
**VTR/CCU:** Sony Q type 14-pin (automatic detection)  
**Mike Input:** Mini jack (-60dB, 600 ohms)  
**Genlock:** BNC (composite or black burst, 75 ohms)  
**Gain Switch:** Auto (0 to +12dB), 0, +6, +12, +18dB  
**Vertical Enhancer:** 1H  
**Power Consumption:** 12W (camera head only); 14W (with 1.5" viewfinder)
- Operating Temperature:** 32° to 104°F (0° to 40°C)  
**Weight:** 6 lbs., 6 oz. (camera head only); 11 lbs. 11 oz. (camera + 12X zoom lens + 1.5" viewfinder + shoulder pad)
- Dimensions:** 3 5/8" H x 7 1/8" W x 12 7/8" D
- Configurations**  
**DXC-1820KA Portable Kit:** DXC-1820 camera head; DXF-1820 1.5" viewfinder; DC-6 battery adaptor; LC-1820 carrying case; VCL-1012SY lens; CCQ-2AR cable . . . . . \$3650.00  
**DXC-1820 Portable Kit:** Same as above, without lens . . . . . \$3100.00  
**PAC 1820/Portable Kit:** Same as above, with VCL-914SY (14X) lens . . . . . \$3900.00  
**Studio 1820A:** DXC-1820 camera head; DXF-40 and DXF-1820 viewfinders; DC-6 battery adaptor; LC-1820 carrying case; VCL-1012SY lens; CCQ-2AR cable; CCU-1820 control unit; RMM-1800 rackmount adaptor; CMA-8AC adaptor; VCT-12 tripod adaptor; LO-25 lens . . . . . \$6510.00



DXC-1820

**DXC-1821H:** DXC-1821 camera head with C-type lens mount; CCQ-2AR cable . . . . . \$2895.00

**Studio 1821A:** DXC-1821 camera head, DXF-40 viewfinder; VCL-1110YA zoom lens; CCQ-2AR cable; CCU-1820 control unit; RMM-1800 rackmount adaptor; CMA-8AC adaptor; LO-21 lens kit . . . . . \$5850.00

### Lenses and Lens Accessories

- VCL-1206A** 6:1 zoom 12.5-75mm f/1.8, C mount . . . . . \$ 380.00  
**VCL-08S** Wide angle lens 8mm f/1.4, C mount . . . . . \$350.00  
**VCL-1110YA** 10:1 zoom, 11-110mm f/1.8, 2 speed power zoom, auto iris, macrofocus . . . . . \$725.00  
**VCL-914SY** 14:1 zoom lens, 9-126mm, f/1.6, S lens mount . . . \$1450.00  
**LO-21** Flexible cable drive for tripod control of zoom and focus of VCL-1110Y lens . . . . . \$620.00  
**LO-24ZS** Lens conversion kit (for zoom) for VCL-1010SY or VCL-914SY . . . . . \$700.00  
**LO-24F** Lens conversion kit (for focus) for VCL-1010SY or VCL-914SY . . . . . \$480.00  
**LO-25** Lens conversion kit for VCL-1012SY lens . . . . . \$1130.00

### Camera Accessories

- CCU-1820** Camera control unit for DXC-1820, DXC-1821H . . \$1140.00  
**DXF-40** Detachable 4" viewfinder for DXC-1820, DXC-1821H. Also can be used as rackmountable monitor with RMM-1800 . . . . . \$600.00  
**DXF-50** Detachable 5" electronic high resolution viewfinder for DXC-1820, DXC-1821H . . . . . \$1000.00  
**DXF-1820** 1.5" viewfinder for DXC-1820, DXC-1821H . . . \$630.00  
**LC-2003** Carrying case for RMM-1800, CCU-1820, CMA-8, DXF-40 . . . . . \$310.00  
**MVA-12** Microscope attachment for DXC-1821H, DXC-1850 . . . . . \$660.00  
**MVA-102** Endoscope (Olympus) adaptor for DXC-1821H, DXC-1850 . . . . . \$3300.00  
**MVA-102R** Endoscope (Storz) adaptor for DXC-1821H, DXC-1850 . . . . . \$3500.00  
**RMM-1800** 19" rackmount for CCU-1820, CMA-8, DXF-40 . . \$150.00  
**VCT-12** Tripod adaptor for DXC-1820 only . . . . . \$110.00  
**8P-60** Battery DXC-1800, DXC-1820, DXC-1821H, VO-4800, SLO-340 and SEG-2000A . . . . . \$90.00  
**8P-65AN** NiCad battery for DXC-1800, DXC-1820, DXC-1821H . . . . . \$530.00  
**CMA-8** AC adaptor for VO-6800, DXC-1820, DXC-1821H . \$500.00



# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# CCD CAMERAS

## DXC-101/102 CCD Color Video Cameras

- CCD Semiconductor image sensor
- No image burning
- Excellent picture reproduction due to zero geometric distortion
- Long life and high reliability
- Low lag
- Free from magnetic field interference
- High sensitivity in minimum illumination of 30 lux with f/1.4 lens
- High resistance to vibration and shock
- Shooting start-up only 0.5 seconds
- 320 TV lines of horizontal resolution
- Accepts all types of C-mount lenses with auto-close functions
- DXC-102 offers cable extension up to 300m, DXC-101 up to 100m
- Better than 48dB signal-to-noise ratio
- Power consumption DXC-101: 4.2W and DXC-102: 6.0W
- DXC-102 genlock capacity
- DXC-101: 2.6 x 2.4 x 6.1"
- DXC-102: 2.6 x 2.4 x 8.0"
- DXC-101: 1 lb., 3 oz. DXC 102: 1 lb., 12 oz.

DXC-101 . . . . . \$1465.00  
DXC-102 . . . . . 1720.00

### Supplied Accessories

- Lens mount cap
- Connecting cable CCDC-10



DXC-102



DXC-101

### Optional Accessories

VCL-16Y	Auto iris lens with C-mount f/1.4, 16mm . . .	\$360.00
VCL-08Y	Auto iris lens with C-mount f/1.4, 8mm . . .	430.00
CMA-10	AC adaptor with remote control capability for DXC-102 . . . . .	410.00
CMA-D1	AC adaptor for 2 DXC-101's . . . . .	270.00

## SSC-D5 Monochrome CCD Camera

- 2/3" CCD image sensor with interline transfer technology for high-resolution, long life, and high resistance to shock and vibration
- High sensitivity in low light (min. illum. 1.5 lux with f/1.4 lens, without infrared cutoff filter; 3.0 lux with infrared cutoff filter)
- 380 lines horizontal resolution
- 50dB S/N ratio
- 2.5W power consumption
- Multiplexed power/video input through single coaxial cable (with CMA-D5 power adaptor)
- Accepts C-mount standard auto-iris lenses (4-pin connector)
- Adjustable back focus length
- Gamma switchable
- AGC on/off selectable
- H (Horizontal) phase adjustable
- Genlock capability (internal or external sync) (VBS, VS or BS)
- Top and bottom 1/4" — 20 mounting receptacles
- Built-in detachable infrared ray cutoff filter
- 1 15/16" H x 1 5/16" W x 4 11/16" D
- 10.2 oz.

### CMA-D5 Power Adaptor

- 120VAC, 60Hz
- BNC connectors
- AC power cord supplied
- 16W
- 2 5/8" H x 6 3/4" W x 5 1/8" D
- 3 lbs.



SSC-D5

The CMA-D5 is the AC adaptor designed for the SSC-D5. It features phantom power capability. The SSC-D5 can also be used with the CMA-D1.

SSC-D5	CCD Camera . . . . .	\$899.95
CMA-D5	AC Adaptor . . . . .	219.00
CMA-D1	Camera Adaptor . . . . .	270.00
VCL-08Y	Auto Iris Lens, 8mm . . . . .	430.00
VCL-16Y	Auto Iris Lens, 16mm . . . . .	360.00
CCDC-10	DC Power Cable 32' . . . . .	50.00
CCDC-25	DC Power Cable 82' . . . . .	80.00
CCDC-50	DC Power Cable 165' . . . . .	140.00
CCDC-100	DC Power Cable 333' . . . . .	275.00

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# CAMERA ACCESSORIES

## Fujinon Lenses

A7X78RM 7:1 Zoom lens, 7-50mm, f/1.7	\$5500.00
A10X10BRM8 10X Servo zoom lens, 10-100mm	1325.00
A12X9BERM-88 12:1 Zoom lens, 9-108mm, f/1.7 with 2X extender	2750.00
A16X9.5BRMG 16:1 Zoom lens, 9.5-152mm f/1.8	1680.00
A14X9BERM 14:1 Zoom lens, 9-126mm, f/1.7 with 2X extender	5800.00
A18X8.5BERM 18:1 Zoom lens, 8.5-153mm, f/1.7	9300.00
A3.5X6.5BRM-8 3.5 Wide angle servo zoom lens	4400.00
VCL-1012BY 12:1 Zoom lens, 10-120mm, f/1.7	1150.00

## Fujinon Lenses for Teleconferencing

A10X10BMD-D8 10:1 Zoom lens 10-100mm f/1.6	\$1875.00
A16X9.5BMD-D8 16:1 Zoom lens 9.5-152mm f/1.8	2225.00

## Fujinon Close-up Lenses

ECL-8072 Close up lens for A10X10BMD-DB	\$175.00
ECL-8077 Close up lens for A16X9.5BMD-DB	150.00

## Tamron Lens

H14X9B1 14:1 Zoom lens, 9-126mm, f/1.6	\$1225.00
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## Canon Lenses

J8X68 B:1 wide angle zoom lens, 6-48mm, f/1.7	\$7650.00
J8X68IE B:1 wide angle zoom lens, 6-48mm, f/1.7 with 2X extender	9800.00
J13X9BIE2 13:1 Zoom lens, 9-117mm, f/1.6 with 2X extender	5750.00
J15X9.5B 15:1 Zoom lens, 9.5-143mm, f/1.8	1650.00
J18X8.5B 18:1 Zoom lens, 9-162mm, f/1.7 with 2X extender	9300.00

## Other Color Camera Lenses

J6X11R 6:1 Zoom lens, 11-70mm, f/1.4, C-mount, requires CC-BT	\$ 740.00
J6X11REA 6:1 Zoom lens, 11-70mm, f/1.4, C-mount, requires CC-7T	750.00
J10X11R 10:1 Zoom lens, 11-110mm, f/1.6, C-mount requires CC-BT	1100.00
J10X11REA 10:1 Zoom lens, 11-110mm, f/1.6, C-mount, requires CC-7T	1375.00
H6AMD3B 6:1 Zoom lens, 12.5-75mm, f/1.2, C-mount, requires CRD-1B	920.00
H6SND43B 6:1 Zoom lens, 12.5-75mm, f/1.2, C-mount, with built-in ND, requires CRD-1B	970.00
VCL-08D1 Wide angle lens, 8mm, f/1.6, Mini bayonet	470.00
VCL-08S Wide angle lens 8mm f/1.4, C-mount	350.00
VCL-08Y Wide angle lens, 8mm, f/1.4, C-mount	430.00
VCL-16Y Fixed angle lens, 16mm, f/1.4, C-mount	360.00
VCL-914SY 14:1 Zoom lens, 9-126mm, f/1.6, (S lens mount)	1450.00
VCL-1110YA 10:1 Zoom lens, 11-110mm f/1.8, 2 speed power zoom, Auto iris, macrofocus, C-mount	725.00
VCL-1206A 6:1 Zoom lens 12.5-75mm f/1.8, C-mount	380.00

## Remote Controls for Fujinon Lenses

FMM-6A Focus module for A12X9BERM-88, A14X9BERM, A16X9.5BRMG, and A18X8.5BERM when used with RM-S5A	\$ 170.00
FMM-7 Focus module for A7X78RM lens when used with RM-S5A	170.00
LO-1011 Studio remote control kit for Fujinon Lenses: A12X9BERM-88, A16X9.5BRM, A14X9BERM, A18X8.5BERM, VCL-1012BY (A12X10BRM)	1095.00
RMD-2 Remote control box for A10X10BMD-D8, A16X9.5BMD-D8. Controls zoom, focus, and iris	825.00
RM-S5A EFP/Studio rear control kit. Includes: CFH-1 focus handle, SRD-52 zoom grip handle, CFC-990 drive cable, ECC-1000 extension cable, MCA-1 (2 sets) handle clamps. Kit requires optional focus module (FMM-7 or FMM-6A)	1325.00

## Extension Cables for Fujinon Lenses

ECM-025F Extension cable between A10X10BMD-DB, A16X9.5BMD-D8 and RMD-2/25'	\$350.00
ECM-050F Extension cable between A10X10BMD-DB, A16X9.5BMD-D8 and RMD-2/50'	425.00
ECM-100F Extension cable between A10X10BMD-DB, A16X9.5BMD-M8 and RMD-2/100'	725.00

## Remote Controls for Canon Lenses

LO-1309 Studio remote control kit for J15X9.5B, J13X9BIE2 and J18X8.5B	\$1170.00
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## Remote Controls for Tamron Lenses

LO-24F Lens conversion kit (for focus) for VCL-1010SY or VCL-914SY	\$480.00
LO-24ZS Lens conversion kit (for zoom) for VCL-1010SY or VCL-914SY	700.00

## Remote Controls for Other Color Camera Lenses

CC-7T Remote control unit	\$ 440.00
CC-8T Remote control unit	320.00
CRD-18 Remote control unit	490.00
LO-21 Flexible cable drive for tripod control of zoom and focus of VCL-1110YA lens	620.00
LO-25 Studio remote control for VCL-1012SY lens for zoom and focus	1130.00

## Viewfinders

DXF-1820 1.5" viewfinder for the DXC-1B20/1B21H	\$ 630.00
DXF-3000 1.5" viewfinder with diopter adjustment for DXC-3000	525.00
DXF-M3A 1.5" viewfinder for DXC-M3A, Mark II	820.00
DXF-40 4" viewfinder, can be used as a rackmountable monitor with RMM-1800	600.00
DXF-50 5" high resolution viewfinder	1000.00

## Camera Control Units and Related Accessories

CCU-M3 Camera control unit for DXC-3000/M3/M3A Mark II, requires CMA-B AC adaptor	\$1500.00
CCU-1820 Camera control unit for DXC-1B20/1B21H. Requires: CMA-B AC adaptor	1140.00
CA-M3 CCU cable extension adaptor for 1000' control for DXC-3000/M3/M3A Mark II requires CMA-9 AC adaptor and CCZ-M10/M100 cable	2200.00

## Camera Accessories

BC-20 Dual battery charger for BP-20/A and BP-60	\$ 195.00
BC-1WA Battery charger for four NP-1A	405.00
BC-65AN Battery charger for BP-65AN	85.00
BC-1000 Battery charger for six BP-20A and BP-60	575.00
BP-60 Battery for DXC-1B20, DXC-1B21H and CCU-1B00/M3	90.00
DC-8G Battery adaptor for Two NP-1A	400.00
CAC-2 Battery attachment for DXC-M3A for DC-8G	54.00
CAC-21 Battery attachment for DXC-3000 for DC-BG	65.00
DC-65AN Battery attachment for BP-65AN, used with DXC-1B20	172.00
DC-309AN Battery attachment for BP-65AN used with DXC-M3A	85.00
BP-65AN 4AH NiCad battery for DXC-M3A series, DXC-3000 series and DXC-1B20 series	530.00
NP-1A NiCad battery, 1.7AH	80.00
CMA-8 AC adaptor for VO-6B00, DXC-1B20, DXC-1B21H, DXC-3000, DXC-M3A Mark II	500.00
CMA-9 AC adaptor for CA-M3	1000.00
CMA-10 AC adaptor with remote control capability for DXC-102	410.00
CMA-D1 AC adaptor for DXC-102	270.00
CMA-D5 AC adaptor for SSC-D5 phantom power (single wire video/DC) with 75 ohm coax	219.00
C-74 Shotgun type microphone	860.00
CAC-1 Microphone holder for DXC-M3A Mark II	46.00
CAC-11A Microphone holder for DXC-3000	110.00
ECM-672 Shotgun type microphone	475.00
DR-10A Headset for intercommunication	90.00
DR-100 Lightweight headset for intercommunication	120.00
CAC-3 Chest rest for DXC-M3A	110.00
LC-2003 Carrying case for RMM-1800, CCU-1B20, CMA-8, DXF-40	310.00
LC-3001 Carrying case for DXC-3000	185.00
LC-M3A Carrying case for DXC-M3A	500.00
EB-3000 Extension board for DXC-3000	130.00
EB-M3 Extension board for DXC/M3/M3A Mark II	130.00
MVA-12 Microscope attachment with C mount	660.00
MVA-31 Microscope adaptor with bayonet mount	940.00
MVA-32 Microscope adaptor with variable light control with bayonet mount	TBA
MVA-102 Endoscope (Olympus) adaptor with C mount	3300.00
MVA-102R Endoscope (Storz) adaptor with C mount	3500.00
MVA-302 Endoscope adaptor for Olympus with bayonet mount	3500.00
RMM-1800 19" metal rackmount for CCU-1B20, CCU-M3, CMA-8, DXF-40	150.00
VCT-12 Tripod adaptor for DXC-3000 series and DXC-1B20	110.00
VCT-20A Tripod	130.00
VCT-M3 Tripod adaptor for DXC/M3A Mark II	160.00

## Cables

CCDC-10 DC power cable for DXC-101, 32'	\$ 50.00
CCDC-25 DC power cable for DXC-101, 82'	80.00
CCDC-50 DC power cable for and DXC-101, 165'	140.00
CCDC-100 DC power cable for DXC-101, 333'	275.00
CCDD-2.5 Tally cable 2.5m, 4-pin	13.00
CCDQ-06 14-pin to 4-pin cable, 2'. DC power cord for CCU-M3 or CCU-1B20 from CMA-8	28.00
CCF-5 6-pin extension cable 16' for WEX-SEG	28.00
CCF-10 6-pin extension cable 32' for WEX-SEG	37.00
CCJ-1 10-pin extension cable 5'	62.00
CCJ-5 10-pin extension cable 16'	85.00
CCJ-10 10-pin extension cable 32'	110.00
CCJ-25 10-pin extension cable 82'	185.00
CCJ-50 10-pin extension cable 165'	325.00
CCQ-2AR 14-pin camera cable for VO-6B00, DXC-1B20, DXC-1B21H or DXC/CMA-8, 6'	100.00
CCQ-2ARS 14-pin camera cable for DXC-3000 series to CMA-B or VO-6800, 6'	100.00
CCQ-5AR 14-pin camera cable for VO-6800, DXC-1B20, DXC-1B21H or DXC/CMA-8, 16'	130.00
CCQ-10AR 14-pin camera cable for VO-6800, DXC-1B20, DXC-1B21H or DXC/CMA-B, or DXC-1B20, DXC-1B21H/CCU-1B20, 33'	185.00
CCQ-25AR 14-pin camera cable for DXC/CMA-B or DXC-1B20, DXC-1B21H/CCU-1B20, 82'	350.00
CCQ-50AR 14-pin camera cable for DXC-1B20, DXC-1B21H/CCU-1B20, 165'	650.00
CCQ-10AM 14-pin CCU cable, 33'	185.00
CCQ-25AM 14-pin CCU cable, 82'	350.00
CCQ-50AM 14-pin CCU cable, 165'	650.00
CCQ-100AM 14-pin CCU cable, 333'	1300.00
CCJQ-0.5 10-pin to 14-pin cable, 1.6'	67.00
CCQJ-2 14-pin to 10-pin 6'	62.00
CCQK-2 Cameras to SL-2000 camera cable	84.00
CCQQ-1 CCQ-2AR cable extension connector	50.00
CCZ-M10 26-pin CCU cable, 33' for CA-M3	500.00
CCZ-M100 26-pin CCU cable, 333' for CA-M3	2300.00
CCZZ-18 Bulk head connector for wall mount for CCZ-M10 and CCZ-M100	78.00
CCZZ-1E Extension connector for CCZ-M10 and CCZ-M100	78.00
EC-0.5C2 Microphone cable, 1.6'	40.00
TG-31P/N Interface adaptor for DXC cameras and EVO-210	220.00

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# U-MATIC RECORDERS/PLAYERS

## VP-5020 U-Matic Videocassette Player

- Large and user friendly function buttons • Programmed operation
- Simple remote control • Picture search • Noiseless still picture
- Long pause • Digital tape time counter • Timer operation • Auto rewind mode • RF modulator • Horizontal resolution: Color 240 lines
- 50-15,000Hz frequency response • 53W power consumption • 8 x 5 forward and reverse search • 7.6" H x 16.7" W x 19.30" D • 16kg

VP-5020 .....\$1595.00



VP-5020

## VP-7000 U-Matic Videocassette Player

- Highly reliable U-matic format • Address and frame codes for accurate random access and external computer control • User friendly
- System versatility • External sync • RS-232C interface capability
- 33-pin parallel remote control interface • Real time counter • Timer operation • Programmed operation • RF modulator • 4-unit height/rackmountable
- Still picture • Quick start • Self-diagnostic functions • 7.6" H x 16.7" W x 19.3" D • 35.3 lbs.

VP-7000 .....\$2225.00

## VO-5600 U-Matic Videocassette Recorder/Player

- Front loading tape transport • Aluminum diecast chassis • Direct drive for both drum and capstan • Digital servo LSI with "Phi Square Servo"
- DC motor reel servo • x5 Forward and reverse search
- Noiseless still—Fine still picture • 19" rackmountable • High picture quality
- Tilt-out control panel • Switching regulator power supply provides wide range of voltage and frequency, with low power consumption—55W
- Exclusive connector for RX-303 and RX-353
- Random access/interactive capability • Microcomputer based logic control • External sync lock capability • 9<sup>3</sup>/<sub>8</sub>" H x 17<sup>5</sup>/<sub>8</sub>" W x 20<sup>3</sup>/<sub>8</sub>" D
- 50 lbs., 9 oz.

VO-5600 .....\$2950.00



VO-5600

## VO-5630 U-Matic Videocassette Recorder/Player

- High efficiency power supply permits operation on 110 to 120V, 50/60Hz
- Front-loading tape transport • Tilt-out control panel • Aluminum diecast chassis
- Direct drive drum and capstan, and digital servo IC
- High speed search at 5 times normal speed in forward/reverse
- Still frame capability • Long pause with automatic tape protection
- Built-in "programmed operation" function allows automatic tape segment repeat
- End-of-tape automatic rewind • Optional RF modulator allows playback on ordinary TV receiver
- Optional timer allows unattended automatic playback stop and start
- Random access/interactive capability
- Exclusive data in/out connector for RX-303CE/RX-353CE automatic search controls
- External sync input capability
- PAL/SECAM color recording/playback • NTSC color playback
- Dub-in/dub-out connectors • Audio dubbing capability • Audio limiter function • 9<sup>3</sup>/<sub>8</sub>" H x 17<sup>5</sup>/<sub>8</sub>" W x 20<sup>3</sup>/<sub>8</sub>" D • 51 lbs., 7 oz.

VO-5630 .....\$3850.00



VO-5630

## VP-5040 U-Matic Videocassette Player

- Player version only of VO-5630 • PAL/SECAM color recording/playback • NTSC color playback

VP-5040 .....\$2375.00

## VO-5800H High Resolution B/W Videocassette Recorder/Player

- Same features as VO-5800 plus horizontal resolution monochrome more than 408 lines
- U-scan high speed picture search (with RM-580 and KCS tape)
- Exclusive connector for RX-353 or RX-303 • 2 audio tracks
- Remote control of record start and stop for continuous time lapse recording
- Automatic video gain control • 9<sup>3</sup>/<sub>8</sub>" H x 17<sup>5</sup>/<sub>8</sub>" W x 20<sup>1</sup>/<sub>2</sub>" D • 53 lbs.

VO-5800H .....\$7975.00



VO-5800H



# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# U-MATIC RECORDER/PLAYER

## VO-6800 U-Matic Portable Recorder/Player

- Real time tape counter
- Logic control system
- Backspace editing capability
- Picture search
- Soft eject
- Rain and dust proof
- Remote control capability

A Video Confidence Head makes it possible to monitor just-recorded images simultaneously when the VO-6800 is in the Rec mode. These images can be seen in the camera viewfinder when the return video button on the camera is pressed. This function allows the operator to make sure that what he is shooting is actually being recorded on the tape.

Two NiCad Batteries (NP-1A) can be installed for long-time battery operation (approximately two hours for VTR recording or one hour with the Sony DXC-M3A Mark II.) Since the unit can also be powered by a single battery, continuous recording or playback is possible if two batteries are used in tandem. Pop-up battery compartments are adopted for easy battery replacement.

The Tape Remaining Time can be seen in the camera viewfinder when the return video button is pressed. Eight different indications can be displayed, 15 min, 10 min, 5 min, 4 min, 3 min, 2 min, 1 min and Tape Before End. (Accuracy is  $\pm 7$  sec. when using Sony's KCS-10K/20K Series). This function conveniently lets the operator know just how much shooting time he has left.

A Complete Warning System notifies the operator of recording conditions in three different ways.

- 1.) LED indicators on the control panel of VTR.
- 2.) Warning sound (1kHz) output to the earphone of the VTR.
- 3.) Blinking warning lamp in the camera viewfinder.

This threefold warning system makes sure the operator knows in advance of any malfunctions so that the recording will come out perfect from the first time.

A sendust head and XLR connector (balanced) bring the signal-to-noise ratio to 50dB and widen the frequency response range from 50 to 15,000Hz. Wow and flutter is reduced to a mere 0.2%, thanks to a highly accurate capstan motor.

Using the optional RFK-634 RF modulator, you can play back tapes on a conventional TV receiver.

Using the optional RM-680 remote control unit, you can control Rec, Play, F. Fwd, Rew, Pause, and Stop operations. (The cable can be extended up to 50 meters).



VO-6800

## Specifications

<b>Video</b>	
<b>Video Recording System:</b>	Helical scanning FM recording
<b>Video Heads:</b>	Rotary 4-head (R/P x 2, Confi. x 2)
<b>Video Signal System:</b>	EIA standard, NTSC color
<b>Input:</b>	Composite, sync, negative 1.0 + 1.0/ -0.5V p-p, 75 ohms, unbalanced
<b>Output:</b>	Composite, sync, negative 1.0 $\pm$ 0.2V p-p, unbalanced
<b>Horizontal Resolution:</b>	260 TV lines
<b>Signal-to-Noise Ratio:</b>	> 45dB (color)
<b>Audio</b>	
<b>Input:</b>	Mike: -60dB, > 3K ohms, balanced, Camera Mike: -20dB/-60dB switchable, > 3K ohms balanced, Line: (CH-1/L/ Dub, CH-2/R): + 4dB, > 10K ohms balanced
<b>Output:</b>	Line: (CH-1/L/Mono, CH-2/R): + 4dBm (at 600 ohm load) balanced, Earphone: -20 to -33dB (at 8 ohm load) adjustable > 50dB
<b>Signal-to-Noise Ratio:</b>	> 50dB
<b>Frequency Response:</b>	50 to 15,000Hz
<b>Dimensions:</b>	4 <sup>5</sup> / <sub>8</sub> " H x 10 <sup>1</sup> / <sub>8</sub> " W x 13 <sup>3</sup> / <sub>8</sub> " D Not including projecting parts and controls
<b>Weight:</b>	12 lbs., 12 oz.
<b>VO-6800</b>	<b>\$4400.00</b>

## Accessories

<b>CMA-8</b>	Camera Adaptor/AC Adaptor	\$500.00
<b>8C-1WA</b>	Battery Charger for NP-1A (for 4 NP-1As)	405.00
<b>AH-6800</b>	Carrying Handle (hard)	85.00
<b>NP-1A</b>	Rechargeable Battery	80.00
<b>RFK-634</b>	RF Modulator	130.00
<b>RM-690</b>	Remote Control Unit	145.00

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# VTR CONTROLLERS/ ACCESSORIES

## RM-440 Automatic Editing Control Unit

- Interfaces with both U-matic Editing Recorder/Players and Betamax Editing Recorder/Players, allowing U-matic to U-matic, Beta to Beta or Beta to U-matic editing
- Edit point memory system memorizes the edit-in points for a player and a recorder and 1 edit-out point for either machine
- Insert and assemble editing capabilities
- Preview function allows rehearsal before actual edit is made
- Review function allows instant edit review
- Return/jump function: in preview mode, tapes return to edit-in point; in review, tape fast forwards to a point 5 seconds before the cutout point, then returns to normal speed to review edit-out section
- Butt edit and trim edit functions
- Cue-Out connector provides cue signal for camera recording and computer generated graphic insertion
- Automatic safety pause release
- Weight: 4 lbs. 14 oz.
- Dimensions: 3<sup>1</sup>/<sub>8</sub>" H x 15<sup>3</sup>/<sub>8</sub>" W x 8<sup>3</sup>/<sub>4</sub>" D

RM-440 .....\$2205.00

## RX-353 Programmable Auto Search Control

- Handheld remote keyboard
- Memorizes locations of up to 63 programs and commands automatic playback of any 8 segments in any sequence
- Compatible with most Betamax and U-matic units
- Functions include automatic repeat plus skip and return
- Segment data recording capability for automatic playback retrieval
- Timer-activated programmable operating capability with Betamax and U-matic units
- Weight: 1 lb. 5 oz.
- Dimensions: 1<sup>1</sup>/<sub>2</sub>" H x 3<sup>5</sup>/<sub>8</sub>" W x 7<sup>1</sup>/<sub>8</sub>" D

RX-353 .....\$550.00



RM-440



RX-353



RX-303

## RX-303 Programmable Auto Search Control

- Handheld remote keyboard
- Memorizes locations of up to 63 programs and commands automatic playback of any 8 segments in any sequence
- Compatible with most Betamax and U-matic units
- Functions include automatic repeat plus skip and return
- Weight: 1 lb. 2 oz.
- Dimensions: 1<sup>1</sup>/<sub>2</sub>" H x 3<sup>5</sup>/<sub>8</sub>" W x 7<sup>1</sup>/<sub>8</sub>" D

RX-303 .....\$460.00

## Type 5 Accessories

### RM-500 Remote Control Unit

- Basic function remote control
- Functions: Stop, FF, Play, Rew, Pause, Rec, Dub, X5 Search Forward, X5 Search Reverse
- DC operation (power supplied from VTR)
- Cable length: 10' (3m) can be extended to 60' (18m)

RM-500 .....\$255.00

### RM-555 Multi-Unit Remote Controller

- Simultaneous control with RM-500 or RM-580: Up to 5 VTRs controlled simultaneously; Up to 4 RM-555s can be connected in series for control of up to 20 VTRs
- Sequential record/playback with DA-500 or VCS-500: Up to 5 VTRs can be controlled to record or play back in one sequence or in continuous sequences; Timer operation capability enables unattended operation
- Individual control with VCS-500 and RM-V5: Any 1 of up to 5 VTRs can be selected with the RM-V5 for control by an RM-500, RM-580 or RM-440. VCS-500 will select appropriate video and audio outputs. RM-300 or RX-303/RX-353 can be used for random access multi-VTR operation

RM-555 .....\$2255.00

### RM-580 Remote Control Unit

- Full function remote control with Bidirex search dial
- Functions: Stop, FF, Play, Rew, Pause, Search (Bidirex Dial), Rec, Edit, Pre-Roll
- LED tape timer, includes frame counts
- DC operation (power supplied from VTR)
- Pre-roll start jack for remote start
- Cable length 10' (3m) can be extended to 60' (18m)

RM-580 .....\$820.00

### RM-690 Remote Control Unit

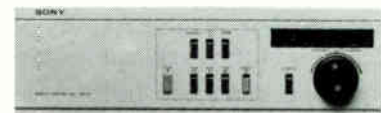
- For VO-6800, VP-5020/VP-5040, BVU-150
- Compact size and light weight
- Handheld
- Search function
- Easy operation with flexible wire
- FF, REW, REC, Play, Pause, Stop and Search

RM-690 .....\$145.00

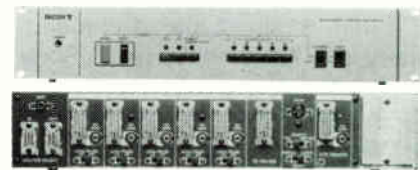
### RM-V5 VTR Selector

- Up to 5 VTRs can be selected with RM-555
- 1 out of 5 selection with VCS-500
- Selection can be expanded to 1 out of 1-4 or 1 out of 5-9 using VCS-500 group selector switch
- Remote cable length 10' (3m) with 20 pin connector can be extended up to 160' (50m)

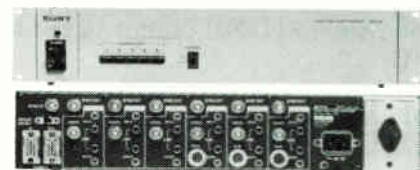
RM-V5 .....\$285.00



RM-580



RM-555



VCS-500

## DA-500 Video and Audio Distribution Amplifier

- 1 video input (BNC), 2 channel audio input RCA and 1 dub input (7 pin)
- 5 outputs of each input
- Individual direct outputs of each input permit branching to additional distributors
- Single input can be expanded to a maximum of 20 outputs with up to 4 DA-500s
- Power requirements: 120VAC ± 10%, 20W

DA-500 .....\$890.00

## VCS-500 Video and Audio Switcher

- 5 video inputs (BNC), 2 channel audio (RCA) and 2 dub-in inputs (7 pin)
- 1 video output (BNC), 2 channel audio output (RCA) and dub-out (7 pin)
- 1 sync input (BNC) and 5 sync outputs (BNC) for external sync-lock operation
- Vertical interval switching
- Interface with RM-V5 or RM-555
- Dual VCS-500s can be used for control of up to 9 inputs
- Power consumption: 20W

VCS-500 .....\$1525.00

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# FRAME CODE SYSTEM



FCG-700

## FCG-700 Frame Code Generator

### 6 Digit Frame Code

The FCG-700 Frame Code Generator generates a 6 digit numeral for each frame which is inserted into the seventeenth and eighteenth lines of the vertical blanking intervals of the video signals to be recorded onto videocassettes. Since the FCG-700 generates frame codes sequentially from 000000 to 299999, it is capable of generating frame numbers for 2 hours and 46 minutes for NTSC and 3 hours and 20 minutes for PAL. The starting point can be set anywhere between 000000 to 299999, and after 299999, it goes back to 000000 automatically and continues sequential generation.

### Start Trigger Setting

To assure precise and proper start-up of Frame code generation, the FCG-700 is capable of selecting three start triggers by setting the start trigger switch on the front panel.

### External Pulse

The FCG-700 can accept an external pulse trigger through the External Pulse In connector on the rear panel.

### Cue Tone

As soon as the FCG-700 detects a 1kHz cue tone, it starts generating the Frame Code.

### Manual Mode

Generating starts by simply pressing the start button on the front panel.

In the External Pulse and Cue Tone modes, a preroll time can be set between 0 and 9999 frames so that the user can set the beginning of the Frame Code exactly at the desired position. The default set time is 150 frames for NTSC and 125 frames for PAL.

### Character Display

The Frame Code and the status of the Frame Code Generator can be superimposed on the picture output from the VIDEO OUT-2 connector while recording. By setting the superimpose switch, the Frame Code and the status, only the Frame code, or no indications can be superimposed on the screen.

### Specifications

<b>Power Requirements:</b>	120VAC, 50/60Hz (NTSC) 220VAC ~ 240VAC, 50/60Hz (PAL)
<b>Power Consumption:</b>	10W (120V) 12W (220 ~ 240V)
<b>Dimensions:</b>	Approx. 1.9" H x 16.7" W x 10.1" D (49 x 424 x 256mm)
<b>Weight:</b>	Approx. 7.3 lbs (3.3kg)
<b>Video In:</b>	BNC, 1.0Vp-p (75 ohms on/off selectable)
<b>Video Out 1:</b>	BNC, 1.0Vp-p (at 75 ohm load)
<b>Video Out 2:</b>	BNC, 1.0Vp-p (at 75 ohm load)
<b>Audio In:</b>	XLR, +4dBs phono, -5dBs
<b>Audio Out:</b>	XLR, +4dBs phono, -5dBs
<b>External Pulse In:</b>	BNC, TTL level
<b>Supplied Accessories:</b>	Rackmount brackets, Operation manual, AC cord
<b>FCG-700</b> .....	<b>\$3550.00</b>

## BKU-701 Computer Interface Board

The BKU-701 reads the Frame Codes that have been recorded on the videocassette's tape when it is installed in a VTR. The BKU-701 provides an RS-232C interface and allows the VTRs to be controlled from an external computer or the RX-707. VIDEO/AUDIO signals can be output or muted by setting the dip switches on the BKU-701 on or off. These switches also allow the baud rate of the BKU-701 to be selected from 1200, 2400, 4800, or 9600 bits per second (bps).

### Specifications

<b>Signal:</b>	RS-232C
<b>Connector:</b>	D-sub, 25-pin
<b>Dimensions:</b>	Approx. 2" H x 4.9" W x 8.8" D (52 x 125 x 223mm)
<b>Weight:</b>	Approx. 0.6 lb. (260g)
<b>Usable VTRs:</b>	VO-9600, VP-9000, VP-7000
<b>Supplied Accessory:</b>	Operation manual
<b>BKU-701</b> .....	<b>\$410.00</b>



BKU-701

## RX-707 Auto Search Control Unit

The RX-707 Auto Search Control Unit enables simple search and program operation.

### Simple Search

By setting a Frame Code number with the ten-key on the control unit, the desired picture can be retrieved easily. The simplified search procedure saves time and is more efficient.

### Program Operation

The RX-707 can memorize up to 15 program (PGM) segments. The playback of each segment can be set at one to nine times, or can be set to repeat continuously.

Sequential playback of all of the program segments can also be set at one to nine times or for continuous repeat.

### Specifications

<b>Dimensions:</b>	Approx. 0.7" H x 2.4" W x 8.5" D (18 x 62 x 215mm)
<b>Weight:</b>	Approx. 0.9 lb. (400g)
<b>Cable Length:</b>	5m
<b>Supplied Accessory:</b>	Operation manual
<b>RX-707</b> .....	<b>\$475.00</b>



RX-707

Prices and Specifications Subject to Change Without Notice.

V-995



# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# MODULAR VIDEO CONSOLE SYSTEM



SU-501



SU-502



SU-511/512/513/514

## SU-501 Video Console

A special console ideally suited for use in offices, showrooms or reception areas. The upper section of the unit contains a slide-out equipment shelf with a locking door that disappears into the console when open. The lower section is a roomy, locking drawer that can be used to store tapes or accessories . . . . . **\$525.00**

## SU-502 Video Console

A companion unit to the SU-501 console that has exactly the same features plus an elevated pedestal large enough to accommodate up to 19" monitors . . . . . **\$650.00**

## SU-511/512/513/514 Video Consoles

An incredibly versatile system of custom designed video consoles for users of Sony Type 5 U-matic and other video equipment. The completely modular EIA standard system can be assembled in countless different configurations to suit individual requirements. It's a K-D (knockdown) design that assembles easily in minutes and can easily be expanded via convenient add-on options.

## Modular Console Components

### SU-511 Basic Single Bay Console

Basic console: 2 side panels with vents (dark gray), 1 back panel with vents and handgrips (black), 1 top panel (light gray), 2 feet (black), 3 structural members, 1 blank panel 3 1/2" x 19" (dark gray), 1 blank panel 10 1/2" x 19" (dark gray) . . . . . **\$570.00**

### SU-512 Single Bay Table

Single Table: 2 slide supports (dark gray), 1 padded front piece, 19" wide, with simulated leather covering (dark brown) . . . . . **\$160.00**

### SU-513 Single Bay Add-On Module

Add-On Module: 1 center panel (light gray), 1 back panel with vents and handgrips (black), 1 top panel (light gray), 1 foot (black), 1 blank panel 3 1/2" x 19" (dark gray), 1 blank panel 10 1/2" x 19" (dark gray) . . . . . **\$435.00**

### SU-514 Single Bay Add-On Table

Add-on table: 1 center support (dark gray), 1 padded front piece 19" wide, with simulated leather covering (dark brown) . . . . . **\$145.00**

### SU-515 Twin Bay Table

2 side supports (dark gray), 1 padded front piece 38" wide, with simulated leather covering (dark brown), 38" wide table panel with cut out for RM-440 (light gray), mounting hardware included . . . . . **\$265.00**

## RMM-501 Type 5 Mounting Kit

Hardware kit for mounting Type 5 U-matic units. Kit includes: Pair of 3-section ball bearing steel chassis slides; chassis slide mounting hardware; chassis slide mounting adaptors for non-Sony Consoles; pair of rack handle brackets; filler strip; necessary screws. . . . . **\$275.00**

## RMM-502 Panel for RM-500/RM-V5

2 unit mounting panel with cut-out for either RM-500 or RM-V5; screws included . . . . . **\$65.00**

## RMM-503 Mounting Brackets for RM-580

Pair of brackets to rackmount RM-580; screws included . . . . . **\$50.00**

## RMM-504 Panel for RM-440

4 unit mounting panel with cut-out for RM-440; screws included . . . . . **\$70.00**

## RMM-505 Mounting Brackets for RM-550 and RM-V5

Brackets for side-by-side rackmounting of RM-555 and RM-V5 . . . . . **\$45.00**

## RMM-507

Rackmount kit for VP-5020/5040, VP-5000, VP-9000, VO-9600, and BVE-900 . . . . . **\$300.00**

## BLP-501 1 Unit Blank Panel

1 3/4" x 19" light gray filler panel with predrilled mounting holes . . . . . **\$27.00**

## BLP-502 2 Unit Blank Panel

3 1/2" x 19" light gray filler panel with predrilled mounting holes . . . . . **\$30.00**

## BLP-503 3 Unit Blank Panel

5 1/4" x 19" light gray filler panel with predrilled mounting holes . . . . . **\$30.00**

## BLP-504 1 Unit Padded Panel

1 3/4" x 19" foam padded panel with simulated leather PVC covering and predrilled mounting holes . . . . . **\$55.00**

## BLP-505 2 Unit Padded Panel

3 1/2" x 19" foam padded panel with simulated leather PVC covering and predrilled mounting holes . . . . . **\$55.00**

## BLP-506 Mounting Conversion Kit

Special hardware to modify standard 5 unit height upper console section to accept 6 unit height equipment . . . . . **\$55.00**

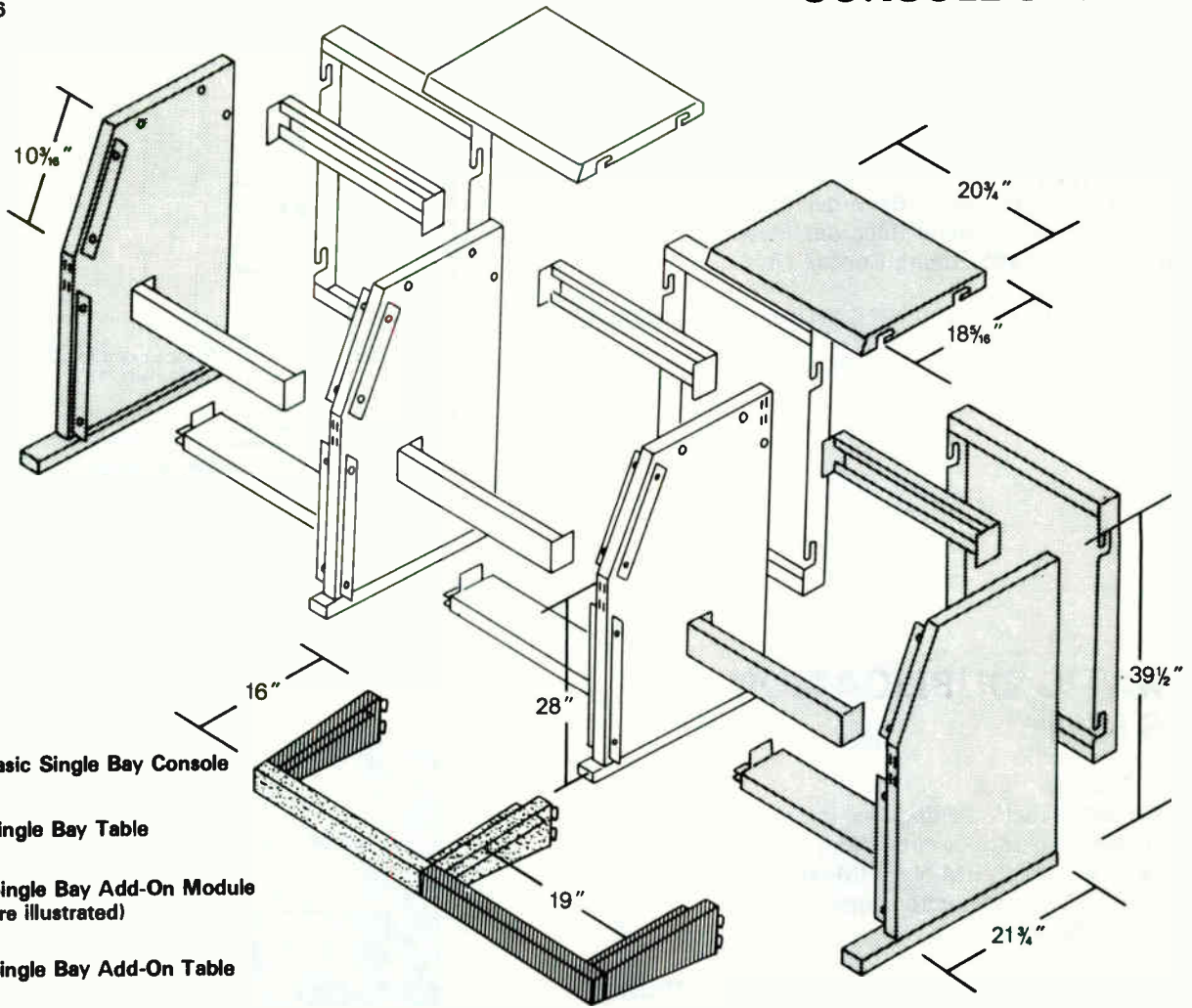
## BLP-507 Mounting Conversion Kit

Special hardware to modify 5 unit height upper console section to 6 unit for use without table . . . . . **\$55.00**  
CT-501 Casters . . . . . **25.00**





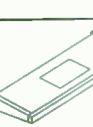
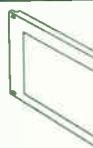
# SONY CORP. OF AMERICA



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(201) 833-5200

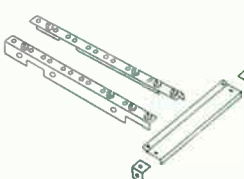
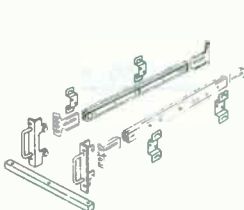


# MODULAR VIDEO CONSOLE SYSTEM



-  **SU-511 Basic Single Bay Console**
-  **SU-512 Single Bay Table**
-  **SU-513 Single Bay Add-On Module (2 units are illustrated)**
-  **SU-514 Single Bay Add-On Table**

	<b>SU-511 Basic Single Bay Console</b> Basic console: 2 side panels with vents (dark grey), 1 back panel with vents and handgrips (black), 1 top panel (light grey), 2 feet (black), 3 structural members, 1 blank panel 3 1/2" x 19" (dark grey), 1 blank panel 10 1/2" x 19" (dark grey)
	<b>SU-512 Single Bay Table</b> Single Table: 2 side supports (dark grey), 1 padded front piece, 19" wide, with simulated leather covering (dark brown)
	<b>SU-513 Single Bay Add-On Module</b> Add-On Module: 1 center panel (light grey), 1 back panel with vents and handgrips (black), 1 top panel (light grey), 1 foot (black), 1 blank panel 3 1/2" x 19" (dark grey), 1 blank panel 10 1/2" x 19" (dark grey)
	<b>SU-514 Single Bay Add-On Table</b> Add-on-table: 1 center support (dark grey), 1 padded front piece, 19" wide, with simulated leather covering (dark brown)
	<b>SU-515 Twin Bay Table</b> 2 side supports (dark grey), 1 padded front piece 38" wide, with simulated leather covering (dark brown), 38" wide table panel with cut out for RM-440 (light grey), mounting hardware included
	<b>RMM-504 Panel for RM-440</b> 4 unit mounting panel with cut-out for RM-440; screws included

	<b>RMM-506 Mounting Brackets for RM-550 &amp; RM-V5</b> Brackets for side-by-side rack mounting of RM-550 and RM-V5
	<b>BLP-501 1 Unit Blank Panel</b> 1 1/2" x 19" Light grey filler panel with predrilled mounting holes
	<b>BLP-502 2 Unit Blank Panel</b> 3 1/2" x 19" Light grey filler panel with predrilled mounting holes
	<b>BLP-503 3 Unit Blank Panel</b> 5 1/2" x 19" Light grey filler panel with predrilled mounting holes
	<b>BLP-504 1 Unit Padded Panel</b> 1 1/2" x 19" foam padded panel with simulated leather PVC covering and predrilled mounting holes
	<b>BLP-505 2 Unit Padded Panel</b> 3 1/2" x 19" foam padded panel with simulated leather PVC covering and predrilled mounting holes

	<b>BLP-506 Mounting Conversion Kit</b> Special hardware to modify standard 5 unit height upper console section to accept 6 unit height equipment
	<b>RMM-501 Type 5 Mounting Kit</b> Hardware kit for mounting Type 5 U-matic units. Kit includes: Pair of 3-section ball bearing steel chassis slides; chassis slide mounting hardware; chassis slide mounting adaptors for non-Sony Consoles; pair of rack handle brackets; filler strip; necessary screws
	<b>RM-502 Panel for RM-500/RM-V5</b> 2 unit mounting panel with cut-out for either RM-500 or RM-V5; screws included
	<b>RMM-503 Mounting Brackets for RM-580</b> Pair of brackets to rack mount RM-580; screws included

Prices and Specifications Subject to Change Without Notice.

V-997





# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# SUPERBETA VIDEO SYSTEM

## SuperBeta™ System

The SuperBeta system is designed around a recording technique that shifts the video carrier signal frequency higher by 800kHz, creating a wider luminance bandwidth. The resulting picture is sharper and has finer detail and texture than conventional Betamax® VCR. This system with higher horizontal resolution and superior dubbing picture quality is ideal for program origination as well as multi-generation editing.

The SuperBeta system includes the one-piece GCS-1 Betamovie® color camera/recorder unit, the GCS-50 Betamax editing videocassette recorder and the SLO-1800 duplicator.

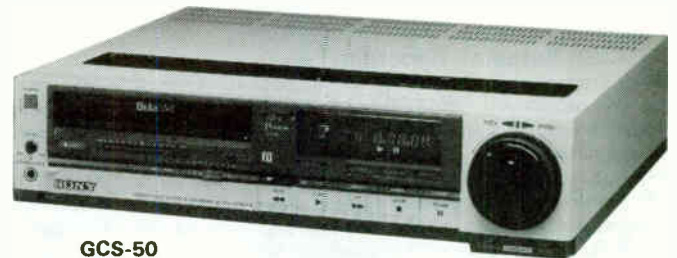


GCS-1

## GCS-1 SuperBetamovie® Camera/Recorder

- Advanced CCD image sensor
- Monochrome electronic viewfinder
- Sensitivity selector provides 0dB, AGC and 6dB switching
- Iris lock
- Data display system
- Time or date can be recorded directly on tape
- Capability to record index signals directly on video tape
- 3 hours of recording time
- Hi-band recording system
- 300 TV lines horizontal resolution
- X6 power zoom lens with macro, 12mm to 72mm, f/1.4
- Rotary two-head helical scanning system
- Built-in electret condenser microphone
- 5.9" H x 15.2" W x 7.3" D
- 5 lbs. 11 oz.

GCS-1 . . . . . \$1995.00



GCS-50

## GCS-50 Betamax Editing Videocassette Recorder

- Advanced SuperBeta recording system
- Less deterioration in dubbing mode
- High band recording technology
- DA Pro 4 head
- Rotary erase heads
- High quality Beta hi-fi sound
- Built-in insert editing function
- Jog/shuttle dial
- Index capability
- Full automatic editing function with RM-E50
- Automatic rewind function
- 19" rackmountable
- 270 TV lines horizontal resolution
- 20Hz to 20kHz frequency response
- 41°F to 104°F operating temperature
- 4 3/4" H x 17" W x 17 3/4" D
- 26 lbs. 7 oz.

GCS-50 . . . . . \$2730.00



SLO-1800

## SLO-1800 Super Beta Duplicator with Beta Hi-Fi®

- Direct drive mechanism
- Electric tension servo
- Check terminal
- Hours meter
- Separate input for hi-fi and conventional audio
- Simultaneous control of up to 150 SLO-1800's with RM-S18
- 33-pin parallel remote control
- Detachable control knobs
- Index function
- 19" EIA rackmount
- Recording in B-II and PB in B-I, II, III

SLO-1800 . . . . . \$1875.00

## Accessories for GCS-1

- RM-81 BetaMovie remote commander® . . . . . \$ 10.00
- SAD-100 External microphone shoe . . . . . 25.00
- TPD-8 Tripod dolly . . . . . 85.00
- VCT-40 Lightweight tripod . . . . . 110.00
- VCT-150K Heavy-duty tripod . . . . . 199.95
- VCL-0758A Wide conversion lens . . . . . 174.00
- VCL-0758WA Wide attachment lens . . . . . 55.00

- VCL-1558A Teleconversion lens . . . . . \$130.00
- VCT-130CB Video camera brace . . . . . 40.00
- XB-200W Video light bulb . . . . . 18.00

## Accessories for GCS-50

- AC-M110 AC power adaptor . . . . . \$130.00
- BC-300V Multi battery charger . . . . . 112.00
- BP-400 Battery belt . . . . . 280.00
- DCC-2600 Car battery cord . . . . . 40.00
- ECM-K 120 Unidirectional external microphone . . . . . 80.00
- HVL-200W Video light (200W, AC power) . . . . . 109.95
- HVR-200 Pan tilter . . . . . 290.00
- LC-770 Carrying case . . . . . 140.00
- NP-11 Rechargeable battery pack . . . . . 59.00
- RM-E50 Automatic editing control unit for GCS-50.  
Up to 64 programmable memory, two job/shuttle  
dials, insert/assemble edit, preview/trim/go-to  
functions . . . . . 1425.00
- RMM-50 Mounting bracket for GCS-50 . . . . . 245.00

## VTR Cables

- UGC-5 BNC-UHF coaxial cable. 16' . . . . . \$13.00

Prices and Specifications Subject to Change Without Notice.

v-999

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# BETAMAX RECORDERS/PLAYERS

## SLP-305 Betamax® Player

- Beta I, II and III playback capability with automatic mode selection and LED mode indication • 2 head system • Variable speed playback in all Beta modes, Beta I: Still, continuous slow, variable speed play up to X2 and auto frame advance, Beta II: Still, continuous slow, variable speed play up to X4, Beta III: Still, continuous slow, variable speed play up to X6 • BetaScan high speed search in all modes • Repeat/Auto Stop function • Exclusive connector for RX data • 33-pin remote control connector enhances random access and interactive applications • Logic controlled tape transport design allows direct switching between tape travel modes • End-of-tape automatic rewind • Dual audio tracks for playback of stereo or bilingual recording • Direct head drum and capstan drives • Switchable RF modulator • Soft eject cassette mechanism • Weight: 23 lbs. 13 oz. • Dimensions: 5<sup>7</sup>/<sub>8</sub>" H x 15<sup>1</sup>/<sub>2</sub>" W x 13<sup>7</sup>/<sub>8</sub>" D



SLP-305

SLP-305 . . . . . \$1425.00  
SLP-305/RX-303 with automatic search controller . . . . . 1800.00  
SLP-305/RX-353 with programmable automatic search controller . . . . . 1850.00

## SLO-325 Betamax Recorder/Player

- Beta I recording and Beta I, II and III playback capability with automatic mode selection and LED mode indication • Advanced four head system • Variable speed playback in all Beta modes, Beta I: Still, continuous slow, variable speed play up to X2 and auto frame advance, Beta II: Still, continuous slow, variable speed play up to X4, Beta III: Still, continuous slow, variable speed play up to X6 • BetaScan high speed search in Beta I mode • Repeat/Auto Stop function • Exclusive connector for RX data • 33-pin remote control connector enhances random access and interactive applications • Logic controlled tape transport design allows direct switching between tape travel modes • End-of-tape automatic rewind • Dual audio tracks permit stereo or bilingual recording • Direct head drum and capstan drives • Switchable RF modulator • Soft eject cassette mechanism • Weight: 27 lbs. 2 oz. • Dimensions: 5<sup>7</sup>/<sub>8</sub>" H x 15<sup>1</sup>/<sub>2</sub>" W x 13<sup>7</sup>/<sub>8</sub>" D



SLO-325

SLO-325 . . . . . \$1950.00  
SLO-325/RX-303 with automatic search controller . . . . . 2275.00  
SLO-325/RX-353 with programmable automatic search controller . . . . . 2325.00

## SLO-340 Betamax Portable Videocassette Recorder/Player

- Will record in either color or black and white for up to 90 minutes on its internal lightweight battery pack • Offers all the basic Betamax advantages • Quality recording on smaller, less expensive videocassettes • Simple one-button operation and interchangeability of cassettes • Weighs less than 20 lbs.

SLO-340 . . . . . \$1750.00



SLO-420

## SLO-420 Betamax Videocassette Recorder/Player

- Super-compact size 3<sup>1</sup>/<sub>8</sub>" H x 17" W • Front-loading and front-panel control • Beta II and III recording capability plus Beta I, II and III playback • SwingSearch™ continuous search in forward/reverse at normal speed, 2 times normal speed, 1/5<sup>th</sup> and 1/10<sup>th</sup> normal speed, plus slow-motion, frame-by-frame advance and still frame • BetaScan II™ search in forward/reverse at 9 times (Beta II) and 15 times (Beta III) normal speed • Linear time counter shows exact tape position in hours, minutes, seconds • Optional Wireless Remote Commander® RMT-312 with recording and speed control functions • Double azimuth head eliminates frame jitter and delivers noise-free slow motion • Micro Timing Phase Circuitry maintains precise transitions at record/pause and on/off • Tab Marker™ electronic indexing system • Two channel audio • External sync lock capability • Weight: 20 lbs. 12 oz. • Dimensions: 3<sup>1</sup>/<sub>8</sub>" H x 17" W x 13<sup>3</sup>/<sub>8</sub>" D



SLO-340

SLO-420 . . . . . \$1765.00

Sony, Betamax, Beta Hi-Fi, BetaScan, BetaSkipScan, Express Tuning and Remote Commander are registered trademarks of Sony Corp. of America



# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

## 8mm VIDEO EQUIPMENT

### EVM-8010R Color Monitor/8mm Deck System

- Monitor: NTSC system • 8" microblack™ Trinitron® • 230 lines resolution • Audio/Video/DC inputs • Audio/Video/Headphone outputs • 8mm deck: NTSC system • Rotary two head video recording • Helical scanning FM system • Rotary head audio recording • FM system • Recording in SP mode and playback in SP/LP mode • Optional RM-749 remote control

EVM-8010R .....\$1250.00



EVM-8010R

### EVO-110 Mini 8™ Camera Recorder

- 250,000 pixel CCD image sensor • 3 position zone focus • Pre-set white balance • Recording in SP mode • Backspace edit with flying erase head • Includes: NP-22, ACP-88, BCA-80

EVO-110 .....\$1250.00



EVO-110

### EVO-210 Video 8™ Portable Recorder/Player

- 3-way power operation up to 150 minutes • Playback on a single NP-22 battery • Automatic track following • Edit switch for better dubbing • Built-in insert editing with flying erase head • Recording in SP mode and playback in SP/LP mode • Includes RFU-80

EVO-210 .....\$600.00



EVO-210

### EVO-410 Video 8 Recorder/Player

- Tuner timer • 148 channel cable ready, 7 day/3 event programmable timer • Wireless remote function • Auto play • Power-off-eject • Auto rewind • One key recording • Special playback functions: clean still, frame by frame search, noiseless slow motion

EVO-410 .....\$620.00



EVO-410

### EVO-510 Video 8 Recorder/Player

- Simultaneous control of up to 150 EVO-510 units for duplication by using optional RM-S18 • Still frame advance • Tape return • Wireless remote control both record and playback in SP/LP mode

EVO-510 .....\$750.00



EVO-510

### EVO-511 Video 8 Recorder/Player

- Simultaneous control of up to 150 EVO-511 units for duplication by using optional RM-S18 • Compact size and simple operation • High picture quality in SP mode • Auto repeat • Auto rewind • Tape return • Front loading

EVO-511 .....\$820.00

### EVO-1000U Video 8 Duplicator

- Simultaneous control of up to 150 EVO-1000U units by using optional RM-S18 • PCM stereo audio with optional PCM-EV1000U processor • RF signals (CH1, CH2) • Switching pulse outputs for check • Hour meter • Record and playback in SP mode only

EVO-1000U .....\$1200.00



EVO-1000U

### PCM-EV1000V Video 8 PCM Stereo Processor

- PCM digital audio recording on PCM track • Separate REC level controls for mono AFM/PCM CH-1/PCM CH-2 • Peak level meter • 2-line in/out • Power on/off from EVO-1000U • Headphone jack • Compact and lightweight

PCM-EV1000V .....\$360.00



# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# STILL VIDEO SYSTEM

## ProMavica™ Still Video System

### MVR-5500 Still Video Recorder/Player

The MVR-5500 is an ideal tool for still video picture presentation systems. It records a still video picture with a simple press of the recording button. Its video in/out and RGB in/out connectors allow connections with various video equipment and microcomputers. It can be directly connected with Betacam equipment through the optional VDC-62 cable to allow high quality duplication. It is also provided with manual control of the video input level, external time base corrector connector, etc. to meet the demands of high quality business/industrial applications.

### MVP-2500 Still Video Player

As a player-only deck, the MVP-2500 is a cost effective way to display presentations that are created with the MVR-5500. An affordable and efficient editing system can be created with the MVP-2500, MVR-5500, and RM-E5500.

### High Picture Quality

The ProMavica series produces high quality pictures with 360 lines of horizontal resolution and a 46dB S/N ratio. It is capable of providing clear information due to its vivid still picture imaging system.

### Quick Random Access

Quick random access to any desired picture is achieved between 30ms (to the next track) and 1.5 seconds (from the first track to the fiftieth track) when the MVR-5500 is operated from the RM-E5500, or when the MVP-2500 is controlled from the RM-E5500 or RM-2500.

### Simple Remote Control

Playback operations of the MVR-5500/MVP-2500 can be controlled from an optional simple remote controller, the RM-52. With the combination of the RM-E5500 and the RM-52, forward or backward execution of the program can be controlled remotely.

### External Control

The MVR-5500/MVP-2500 can be controlled by an external microcomputer through the RS-232C connector to allow even more advanced applications than are possible by simply using the remote controllers. Cue tone control is possible through the TC sync connector because the picture of the next track is played back when the MVR-5500/MVP-2500 detects a 1kHz tone signal.

### ID Number Display

The ID Number is displayed when the ID button is pressed. Six digit ID numbers, such as dates of recording or product numbers, can be recorded with the desired pictures when the MVR-5500 is connected with the optional RM-E5500 Editing Controller.

### Track Number Display

The current track number appears on the upper right corner of the screen when the Track button is pressed.

### Track Number Information Display

The Track Number Information Display shows recording information. It indicates which tracks have been recorded and whether they are field-recorded or frame-recorded, and which tracks are vacant. The information will be automatically updated every time recording or erasure takes place.

### Frame/Field Information

The MVR-5500/MVP-2500 automatically detects field and frame recorded pictures and plays back field/frame pictures accordingly. The Field Only button allows field playback of frame recorded pictures. It is very useful when playing back a frame recording of a fast moving object.

### Review/Continuous Function

The recorded pictures can be reviewed immediately after recording when the Review button has been pressed, or the recording on the next track will be set for recording when the Cont. (continuous) button has been pressed. (MVR-5500 only).

**MVR-5500** Still video recorder/player . . . . . \$3,750.00  
**MVP-2500** Still video player . . . . . 2,550.00



MVR-5500



MVC-A7AF

**MVR-5500 PAC** Pro Mavica Recorder/Editing Package Includes: 2 MVR-5500s, 1 MVP-2500, 1 RM-E5500, 1 VDC-52, 1 RM-52. . . . . \$8,590.00

**MVP-2500 PAC** Pro Mavica Player/Editing Package Includes: 1 MVR-5500, 1 MVP-2500, 1 RM-E5500, 1 VDC-52, 1 RM-52. . . . . 7,430.00

### Accessories

**RM-52** Remote control . . . . . \$ 158.00  
**RM-2500** Program editing control unit for MVP-2500. . . . . 695.00  
**RM-E5500** Program editing control unit for MVR-5500/MVP-2500 . . . . . 1,200.00  
**10 MP-50** Video floppy disc (10 discs). . . . . 100.00  
**PAC-4020** Video copy stand with DXC-3000H camera . . 11,085.00  
**RMM-57K** Rackmount kit . . . . . 470.00  
**VDC-52** Dubbing cable . . . . . 158.00  
**VDC-62** Dubbing cable for Betacam . . . . . 250.00  
**VID-4020** Copy stand/lighting . . . . . 1,950.00  
**SMF-2003** Connector cable (SMC-2000) to Mavica. . . . . 187.00  
**SMF-2031** RS-232C cable, 2m . . . . . 104.00

### MVR-A770 Portable Still Video Recorder

• Provides a high horizontal resolution of 360 TV lines • Frame/field mode recording selectable • Time compressed audio recording/playback (9.6 sec./track) • Playback detection system for 5 sec./track, 10 sec./track, and 20 sec./track is provided • Smooth and quick track dial operations • RS-232C interface provided • Analog RGB output (25-pin) • AC/DC power sources available

**MVR-A770** . . . . . \$2,990.00

### MVC-A7AF Still Video Camera/Recorder

• Fully automatic single lens reflex video camera • Automatic or manual focus selectable • Programmable automatic exposure • Self-adjusting automatic white balance • Audio recording capability (9.6 sec./track) • Sound can be added to the still video • CCD with 380,000 picture elements • Frame/field mode recording selectable • Zoom lens (6X, macro) provides 12mm (f/1.4) — 72mm (f/1.7) (Approximately equal to using a 48mm — 288mm lens on a 35mm camera)

**MVC-A7AF** . . . . . \$3,995.00

**MVC-A7AF PAC** Pro Mavica Camera/Portable Package Includes: 1 MVC-A7AF, 1 MVR-A770, 1 ACP-150, 1 MFL-30, 1 box 10 MP-50. . . . . 7,550.00

### Accessories

**MFL-30** Electronic flash . . . . . \$395.00  
**RMS-7** Remote control . . . . . 99.00  
**VCL-1552B** Teleconversion lens (1.5X) . . . . . 130.00  
**ACP-150** AC and battery charger . . . . . 295.00  
**NP-1A** NiCad battery, 1AH . . . . . 80.00  
**BC-1WA** Battery charger for four NP-1As . . . . . 405.00  
**FED-0002** RGB and audio 25-pin connector cable . . . . . 110.00

# SONY CORP. OF AMERICA

Sony Drive  
Park Ridge, NJ 07656  
(201) 930-1000

# VIDEODISC PLAYERS



LDP-2000

## LDP-2000 Series Videodisc Players

The LDP-2000 Series of fast, internally expandable videodisc players combines random access video, analog and digitally compressed audio and external computer control for unprecedented multimedia and communications capabilities. The players are capable of accessing any frame in 1.5 seconds or less. With the LDP-2000 Series, Sony has introduced the concept of planned internal expandability for videodisc players.

To enable users to select the level of player capability best suited to their needs, the LDP-2000 players are available in 5 different configurations. Upgrading from one configuration to another is achieved by the simple addition of boards making additional wiring or add-ons unnecessary.

### LDP-2000/1

In its most basic form, the LDP-2000 is a linear (Level 1) player controlled by an external computer. It features built-in, industry standard RS-232C computer interface port and switchable baud rates of 9600, 4800, 2400 and 1200.

LDP-2000/1 . . . . . \$2099.00

### LDP-2000/2

#### LDP-2000/1 + Control Expansion Board (DB-2010)

The addition of DB-2010 board permits the playback of (Level II) videodiscs with audio track control programs, including those designed for Sony LDP-1000 and LDP-1000A disc players. In this configuration, the player reads the command codes on the disc and stores them in the expansion board's random access memory (RAM).

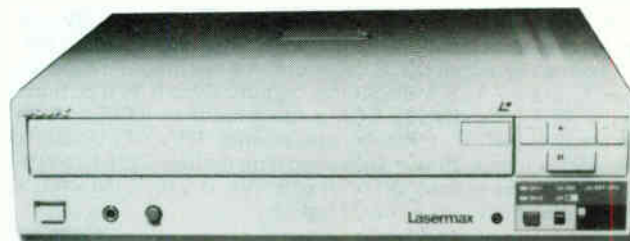
LDP-2000/2 . . . . . \$2435.00

### LDP-2000/3

#### LDP-2000/2 + Parallel Interface Board (DB-2020)

The LDP-2000/3 is designed for applications that require the basic features of the LDP-2000/2 with a parallel interface. The DB-2020 is the IEEE-488 standard interface board for fast data communication between the player and an external computer. The IEEE-488 bus also permits computer control of up to 15 videodisc players via just one IEEE-488 port on an external computer.

LDP-2000/3 . . . . . \$2553.00



LDP-1500

## LDP-1500 Videodisc Player

The LDP-1500 player provides random access in 2.5 seconds or less to any video frame on a CAV disc. It also incorporates an RS-232C interface port for excellent software control over the player through a wide range of commands, automatic feedback codes and queries.

### LDP-2000/4

#### LDP-2000/2 + Computer Data/SFA Board (DB-2040)

The LDP-2000/4 expands the capabilities of LDP-2000/2 with the added dimension of Still Frame Audio (SFA). SFA is an audio signal digitally compressed to take up considerably less space on the videodisc, enabling the extension of audio playback while still pictures are displayed on the monitor. The SFA data are recorded in blocks. One block consists of 2 to 32 frames or 2 to 40 seconds of audio. In conventional systems, 300 frames are required to record 10 seconds of audio, and only 30 minutes of playback is possible on one side of a disc. With the DB-2040 SFA board, however, only 15 frames are needed for 10 seconds of audio. This permits 15 hours of audio playback. In this configuration, SFA can be used either in a standalone mode or controlled by an external computer via the RS-232C port.

LDP-2000/4 . . . . . \$3762.00

IF-100 Chapter Selector . . . . . 700.00

### LDP-2000/5

#### LDP-2000/2 + DB-2010 + DB-2020 + DB-2040

The fully configured LDP-2000/5 allows an external computer to read computer data recorded on a videodisc with the same reliability as a micro floppydisc. Digital data access is achieved via the DB-2010 and DB-2040 boards. The DB-2020/IEEE-488 bus permits high speed transfer of digital data.

LDP-2000/5 . . . . . \$3860.00

All of the LDP-2000 configurations utilize a semiconductor laser. In contrast to the conventional helium-neon gas laser, the new optical block with the diode laser is both smaller and designed for higher reliability. An automatic optical block locking mechanism, which is activated when the power is turned off, obviates the need for manual lockdown screws during transportation. The motor-driven, front-load videodisc tray on the players is activated manually, by external computer. The players also incorporate CX™ noise reduction system for improved signal-to-noise ratio.

## Accessories

RM-2001	Remote control unit . . . . .	\$ 86.00
RMM-201A	Rails & handles for rackmounting . . . . .	260.00
LDM-2000	Interface manual . . . . .	37.00
DB-2010	Control expansion board for LDP-2000, level II, audio control capabilities . . . . .	336.00
DB-2020	IEEE-4888 parallel interface bus for LDP-2000 . . . . .	98.00
DB-2040	Computer data and still frame audio . . . . .	1327.00
DB-2050	Sync generator board to synchronize up to 33 LDP-2000 units . . . . .	385.00
DB-2060	Used with DB-2050 board to loop through the reference signal . . . . .	210.00

CX™ is a trademark of CBS, INC.

The LDP-1500 contains a semiconductor laser and features automatic locking of the optical block assembly when power is turned off. This feature minimizes the possibility of damage in shipping and obviates the need for manual lock down screws.

The front loading videodisc tray is motor-driven for ease of use, with functions controllable manually or by external computer.

LDP-1500 . . . . . \$1195.00

## Accessories

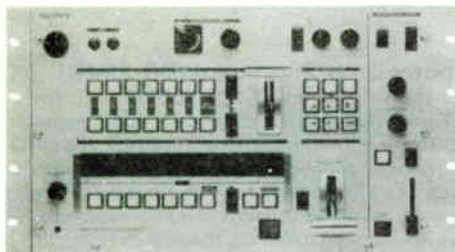
RM-2001	Remote control unit . . . . .	\$ 86.00
RMM-201B	Rails and handles for rackmounting . . . . .	300.00
DB-1550	External sync board . . . . .	300.00
LDM-1500	Interface manual . . . . .	35.00



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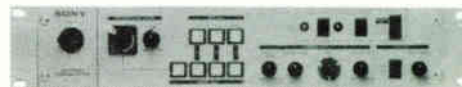
# SWITCHER SYSTEM



SEG-2000A



WEX-2000



CRK-2000

## DIRECTOR 2000 SWITCHER SYSTEM

The Director 2000 Switcher System is made up of three beautifully matched, professional quality components that, as a trio, provide an incredibly diverse range of production possibilities coupled with outstanding control and broad flexibility. The impressive capabilities of the SEG-2000A, the central system component, are enhanced and extended through interaction with the WEX-2000 Wipe Pattern Extender and the CRK-2000 Chroma Keyer and create a system that is capable of very sophisticated and artistic special effects.

The SEG-2000A, by virtue of its ability to operate on either AC or DC power can be used for both studio and field production. The unit mounts in standard 19" racks for optimum studio convenience, yet is light enough at 21 lbs to be eminently portable at the same time. It is equipped with connections for up to six color cameras, one playback VTR, a camera for an external keyer and one camera for downstream keying using the built-in downstream keyer. A full complement of professional controls provide professional results with cut, mix, external key, downstream key and wipe functions. Output connections are extensive with three program outputs, two preset outputs, seven video outputs, four black burst outputs, a V drive output and four tally intercom connectors.

The WEX-2000 extends the wipe pattern selection of the SEG-2000A to 84 different patterns and provides easy-to-use keyboard actuation of the desired pattern with memorization of up to 3 patterns for enhanced convenience. There are auto wipe, servo wipe and trim wipe functions with variable wipe speeds.

The CRK-2000 has dual inputs for composite video signals as well as a separate RGB input. Another unique feature is the natural chroma key facility which creates natural shadow and softness on the compound key camera's picture. It also has a built-in effect amplifier, a background color generator and a sync generator which coupled with its external key input and SC/H phase indicator allow it to be used not only as a chroma keyer but also as a switcher. In operation with the SEG-2000A and WEX-2000, this unit enables the user to create a diverse range of artistic and creative special effects.

**System Price** ..... \$11,200.00

### SEG-2000A Special Effects Generator

• Color System: NTSC color • Switching System: Vertical blanking switcher • Effects: MIX: Dissolve by special effects control lever and PGM/PST mix lever. WIPE: 6 selectable wipe patterns, continuously variable wipe edge softness, border line with continuously variable hue, chroma, luminance, width and amplitude. EXT KEY: 0.7V p-p (VB) or 1.0V p-p (VBS) input signal, 75 ohms unbalanced, BNC connector. DOWNSTREAM KEYER: Genlock with PGM bus line signal, 6 pin B & W camera connector. Output Signal: Horizontal Drive, Vertical Drive, VD 4V p-p, 75 ohms, unbalanced. Input Signal: Video 0.7V p-p, 75 ohms, unbalanced. Shadow: Wide and Narrow, Selectable. BACKGROUND COLOR: Chroma: 0-650mV p-p (variable according to the hue level). Hue: 0° to 360°. Luminance (Y): 0-450mV continuously variable

SEG-2000A ..... \$5660.00

### Optional Accessories

- Sony CVM and PVM Series Color Video Monitors • Sony DXC Series Color Video Cameras • Sony B & W Series Black and White Video Cameras • Sony CCDD, CCF Connecting Cables • BP-60 Rechargeable Battery Pack • LC-2003 Carrying Case for Camera Control Unit and Monitor • LC-2006 SEG 2000A Carrying Case • BC-20 Battery Charger

### WEX-2000 Wipe Pattern Extender

- Color System: NTSC color • Genlock Input: Sync 0.3V p-p, Burst 0.3V p-p • Wipe patterns: 84 kinds • Wipe outputs: OUT 1: 6 pin for SEG-2000A (via CCF-5 cable). OUT 2: BNC connector for SEG-2000A or CRK-2000, 1.0V p-p, 75 ohms • Wipe speed: Approximately 0.5 to 9 seconds • Pairing wipe: Every other line • Pattern modulation: Wave length and frequency are continuously variable • Power requirements: 120V AC, 50/60 Hz; 11-15V DC, external DC • Power consumption: 19 W AC, 14 W DC • Operating temperature: 32°F to 140°F (0°C to 40°C) • Dimensions: 3-1/2"H x 19"W x 11-7/8"D (88 x 482 x 300 mm) • Weight: 15 lbs. 7 oz. (7 kg)

WEX-2000 ..... \$2850.00

### Supplied Accessory

- AC power cord

### Optional Accessory

- CCF-5 interface cable with the SEG-2000A

### CRK-2000 Chroma Keyer

- Color system: NTSC color • Video inputs: VBS 1.0V p-p, 75 ohms • RGB inputs: 1.0V p-p, 75 ohms • External key: VIDEO INPUT: 1.0V p-p or 0.7V p-p, 75 ohms. HD/VD OUTPUT: 3.8V p-p • Gen lock input: Sync 0.3V p-p, Burst 0.3V p-p • Video outputs: VBS 1.0V p-p, 75 ohms • Video output channel crosstalk: Better than 40 dB • Video output DP: 1.5% • Video output DG: 1.5% • Video output frequency response: 5MHz +/-1 dB • Chroma key outputs: VBS 1.0V p-p • Chroma key output crosstalk: 32dB (fsc) • Chroma key output DP: 2.5% • Chroma key output DG: 2.5% • Chroma key output frequency response: 5MHz +/-1 dB • Black burst outputs: Sync 0.3V p-p, Burst 0.3V p-p • Keying bandwidth: RGB mode more than 2.0MHz, Line mode more than 0.8MHz • Power requirements: 120V AC, 50/60 Hz • Power consumption: 29 W • Operating temperature: 32°F to 140°F (0°C to 40°C) • Dimensions: 3-1/2"H x 19"W x 11-7/8"D (88 x 482 x 300 mm) • Weight: 15 lbs. 7 oz. (7 kg)

CRK-2000 ..... \$2890.00

### Supplied Accessories

- AC power cord • Chroma key cloth (Blue) • Instruction tape (U-matic® format)

SEG-WEX PAC Contains SEG-2000A, WEX-2000, CCF-5 extension cable ..... \$400.00



# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# COLOR MONITORS

## PVM-1220

### Super Fine Pitch 12" Trinitron Color Video Monitor

- High resolution—more than 550 lines • Comb filter • Three sets of video inputs (Channel A/B and TEST) enhance studio flexibility
- Normal/underscan selection • Interval check or horizontal and vertical separately and horizontal plus vertical (cross pulse) in delayed scanning mode • Accepts external sync • Auto/color/monochrome selection • White-balance control inside quick-access slide-out drawer
- Aperture control adjusts frequency response • Front panel tally lamp
- Loop-through connectors for both video and sync allow multiple bridging • EIA standard 19" rackmountable • Weight: 55 lbs., 2 oz.
- Dimensions: 11<sup>1</sup>/<sub>4</sub>"H x 19"W x 20<sup>1</sup>/<sub>4</sub>"D

PVM-1220 .....\$2460.00

## PVM-1271Q

### Super Fine Pitch 12" Trinitron Color Video Monitor

- High resolution—550 lines with video input and 600 lines with RGB inputs • PAL/SECAM/NTSC/NTSC 4.43 reproduction capability with automatic sensing of each color standard • 80-character, 25-line (2000 characters) computer display capacity • RGB inputs capable of accepting both digital and analog signals • Normal/underscan selection • AFC slow/fast switch • Switchable int./ext. sync • Switchable color temperature 6500°/9300°K • Comb filter • Video/sync/audio loop-through capability for multiple connections • Built-in speaker for audio monitoring • Rackmountable with optional MB-502 Rack Attachment plus optional SLR-102 Slide Rail • Weight: 32 lbs., 2 oz.
- Dimensions: 13<sup>13</sup>/<sub>16</sub>"H x 13<sup>1</sup>/<sub>2</sub>"W x 15<sup>3</sup>/<sub>16</sub>"D • IBM PC compatible

PVM-1271Q .....\$995.00

## PVM-1380

### Trinitron 13" Color Video Monitor

- Picture tube: black face Trinitron 14", visible picture size 13" measured diagonally • Horizontal resolution: 250 TV lines at center
- Weight: Approx. 25 lbs., 6 oz. • Dimensions: Approx. 14.4"H x 14.0"W x 16.1"D

PVM-1380 .....\$480.00

## PVM-1910

### 19" Trinitron Color Video Monitor

- Line A (Tuner)/Line B/VTR/RGB/CMPTR • Built-in interface for IBM-PC • Accepts analog/digital RGB • RGB loop-through • RGB/NTSC superimposition • Display center adjustment for convenient adjustment of left side of display margin • Color TV tuner (optional) can be connected by a single connecting cable • Comb Filter Select Switch (COMB/TRAP) • AFC switch (Fast/Slow) • Built-in speaker • Removable screen frame/shield • Weight: 63 lbs., 15 oz. • Dimensions: 18<sup>1</sup>/<sub>4</sub>"H x 19<sup>1</sup>/<sub>4</sub>"W x 21<sup>1</sup>/<sub>4</sub>"D

PVM-1910 .....\$905.00

## PVM-1910Q

### 19" Trinitron Color Video Monitor

- PAL/SECAM/NTSC/NTSC 4.43 switches automatically • Line A (Tuner)/Line B/VTR/RGB/CMPTR • Built-in interface for IBM-PC • Accepts analog/digital RGB • RGB loop-through • RGB/NTSC superimposition • Display center adjustment for convenient adjustment of left side of display margin • Color TV tuner (optional) can be connected by a single connecting cable • Comb Filter Select Switch (COMB/TRAP) • Automatic Frequency Control (AFC) switch (Fast/Slow) • Built-in speaker • Removable screen frame/shield • Weight: 63 lbs., 15 oz. • Dimensions: 18<sup>1</sup>/<sub>4</sub>"H x 19<sup>1</sup>/<sub>4</sub>"W x 21<sup>1</sup>/<sub>4</sub>"D

PVM-1910Q .....\$1225.00

PVM-1220



PVM-1271Q

PVM-2530/BS



SSM-2010

## PVM-2030/B (20")/PVM-2530/BS (25") Cubic Color Video Monitors

- 560 lines resolution • Prismatic cube shape, can be stacked both horizontally and vertically with minimal space between adjacent tubes
- Monitor function controls replaced by a hidden front touch panel embedded under the monitor's thin frame • Sharp 2,000 character display with RGB input • Delay line aperture control uses comb filter with notch switch • Dynamic Focus™ circuitry with electro magnetic quadrupole lens • Velocity Modulation™ scanning system continually adjusts the speed of the electron beam • Auto white balance • 3 video inputs, BNC loopthrough, 8-pin VTR input and a 25-pin connector for RGB • 15W built-in stereo amplifiers (PVM-2530/BS); 5W (PVM-2030/B) • Unswitched AC input allows other monitors or video equipment to be directly connected

PVM-2030/B .....\$1125.00

PVM-2530/BS .....1425.00

## SSM-2010 20" Trinitron Color Video Monitor

- Patented Trinitron color system • Microblack™ high-contrast screen • 20" picture, measured diagonally • Suitable for wherever you need a presentation monitor • 400 lines horizontal resolution • Audio/video inputs, audio/video outputs • Sleek styling fits in anywhere • Sub-panel controls

SSM-2010 .....\$549.95

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# COLOR/MONOCROME MONITORS

## PVM-411 Quadruple 4" Monochrome Monitor

- Four independently controlled 4" screens (measured diagonally)
- Fits EIA standard 19" rack
- Individual unit shielding
- Spot-killer circuitry
- Loopthrough capability
- Individual front-mounted contrast, brightness
- V-hold and H-hold controls
- 35 lbs., 4 oz.
- 5 1/4" H x 19" W x 12 1/2" D

PVM-411 .....\$1350.00



PVM-411

## PVM-91 9" Monochrome Video Monitor

- Black and white monitor
- Ideal for computer display
- CCTV applications or studio control room monitor
- 800 lines of horizontal resolution at center
- Selectable scanning systems: Normal/Underscan
- DC clamp switch provides a stable reference for the black level
- Accepts an external sync
- Loopthrough BNC connectors for video and sync
- Can be installed/rackmounted as a dual video with the MB-504 optional mounting bracket monitor
- Can be installed with a waveform monitor or a vectorscope by using an MB-501 optional mounting bracket
- 12 lbs., 12 oz.
- 8 3/4" H x 9" W x 10" D

PVM-91 .....\$375.00



PVM-91

## PVM-122 12" Monochrome Video Monitor

- 1000 lines of horizontal resolution at center
- Selectable scanning systems: Normal/Underscan
- DC clamp switch provides a stable reference for black level
- External sync input
- Selectable A/B line inputs with front switch
- Loopthrough BNC connectors for line, A/B and sync
- Built-in speaker for audio monitoring
- Tally lamp
- 21 lbs., 11 oz.
- 12 3/16" H x 12" W x 12 3/16" D

PVM-122 .....\$545.00



PVM-5300

## PVM-5300 Trinitron® Triple 5" Color Video Monitor

- Fits 19" EIA standard rack
- External sync input terminals
- Loopthrough receptacles for both video and sync
- Setup switch for easy adjustment of white balance and horizontal static convergence
- 52 lbs., 7 oz.
- 7" H x 19" W x 16 1/2" D

PVM-5300 .....\$2625.00



PVM-8020



PVM-8221

## PVM-8020 Portable 8" Color Video Monitor

- Microblack Trinitron tube
- 3-way AC/DC operation
- Built-in stand
- Supplied hood
- Push-to-lock controls
- 2 video input/output
- 6-pin DIN connector for optional TU-1110 TV tuner
- Blue-only, normal/underscan and HV-delay

PVM-8020 .....\$695.00

## PVM-8220 Trinitron 8" Color Video Monitor

- Can be mounted in a 19" EIA standard rack together with a second PVM-8220 for use as a dual monitor by using the optional mounting bracket (MB-504)
- Underscan, HV-delay, blue only mode select switches
- Accepts an external sync
- Two video inputs can be selected; Video A or Video B
- Microblack Trinitron tube
- Horizontal resolution: 250 TV lines at center
- 16 lbs., 9 oz.
- 8.6" H x 8.5" W x 12.6" D

PVM-8220 .....\$645.00



IDX-5000

## PVM-8221 Trinitron "Super Fine Pitch" 8" Color Video Monitor

- Microblack Trinitron tube
- High resolution of 400 TV lines at center
- The PVM-8221 can be mounted in a 19" EIA standard rack together with a second PVM-8221 for use as a dual monitor by using the optional mounting bracket (MB-504)
- Underscan, HV-delay, blue only mode select switches
- Accepts an external sync
- Two video inputs can be selected; Video A or Video B
- 16 lbs., 9 oz.
- 8.6" H x 8.5" W x 12.6" D

PVM-8221 .....\$920.00

## IDX-5000 Indextron™ 5" Color Video Monitor

- Ten times brighter than conventional 5" sets: 1,800fL
- Bright enough for daylight viewing without a hood
- Innovative Sony Indextron tube with 5" diagonal screen
- Zero misconvergence, excellent geometric linearity
- One beam electronically indexed to carry all three color signals, as opposed to the usual separate beams for red, green, and blue
- Extra-large cathode gun for high brightness; because one gun occupies the space of three
- No shadow mask, so more electrons reach the screen; conventional color tubes require Shadow Mask to divide the three beams
- Unaffected by the earth's magnetic field
- 220 lines resolution
- Liquid cooling to keep the Indextron tube operating at optimum brightness, to improve tube life
- Splash resistant design for use in all types of field locations
- Compact, portable design is suitable for hand-carrying; built-in handle

IDX-5000 .....\$2955.00

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# COLOR RECEIVERS/MONITORS

## CVM-3000 30" Color TV Receiver/Monitor

- Line/VTR/TV selection
- VHF/UHF synthesizer tuner with automatic station memory that holds up to 14 channels
- Velocity modulation system and comb filter for improved resolution
- Audio power output for external speaker (10W)
- Front panel controls including CRT adjustment and manual degauss
- Remote commander (RM-503) controls power on/off, channel selection, sound level and sound muting
- Loophrough capability for multiple monitor connection
- 275 lbs., 9 oz.
- 29<sup>3</sup>/<sub>8</sub>" H x 33<sup>7</sup>/<sub>8</sub>" W x 22<sup>7</sup>/<sub>8</sub>" D

CVM-3000 . . . . . \$8720.00



CVM-3000

## CVM-1271 Super Fine Pitch 12" Trinitron Color TV Receiver/Monitor

- High resolution — more than 500 lines with video input
- 10 key VHF/UHF Express Tuning™ plus sequential up/down channel selector and LED channel indicator
- Line/VTR/TV input selector
- Monitor/Line/TV video outputs
- AFC slow/fast switch
- Comb filter improves picture quality — no color spill or noise distortion
- Up/down volume plus sub-volume control for presetting initial sound level
- Rackmountable with optional MB-502 rack attachment plus optional SLR-102 Slide Rail
- Color temperature selector
- 32 lbs., 2 oz.
- 13<sup>13</sup>/<sub>16</sub>" H x 13<sup>1</sup>/<sub>2</sub>" W x 15<sup>3</sup>/<sub>16</sub>" D

CVM-1271 . . . . . \$860.00

MB-502 Rackmount bracket . . . . . 150.00

SLR-102 Slide Rail . . . . . 140.00



CVM-1271

## KV-1967 19" Trinitron Color Television

- Trinitron picture tube with Mirrorblack™ screen
- Cable-compatible Express Tuning® system
- Color Pure Filter™ (comb filter) for sharp detail
- LED indicator: channel
- Silver finish
- 10-key channel tuning, channel up/down, sliding volume control, power on/off
- Accurate quartz-locked frequency synthesis tuning
- Tunes in up to 125 cable/181 total channels with no presetting required
- 18<sup>1</sup>/<sub>2</sub>" H x 24<sup>1</sup>/<sub>2</sub>" W x 18<sup>1</sup>/<sub>2</sub>" D
- 48 lbs., 8 oz.

KV-1967 . . . . . \$499.95



KV-1967



# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# COLOR DATA/ VIDEO PROJECTORS

## VPH-1040Q Super Bright Color Video Projector

- Light output of more than 600 lumens
- Accommodates screen sizes from 60" to 250", measured diagonally
- Flexible placement: Can be mounted on a desk, suspended from the ceiling, or placed on an optional low-rise pedestal (Sony SU-722)
- Total screen flexibility: Projects onto any flat screen, high-gain curved screen (optional Sony VPS-100HG1), translucent rear screen or even directly onto a white wall
- Convenient scan reversal for ceiling mount and rear projection, via reversible connectors and switches
- Four video signal standards: Automatic sensing and selection of PAL, SECAM, NTSC, and NTSC 4.43
- Analog RGB inputs
- Transportable with optional VLC-1030 carrying case
- Simplified set-up requires no special training; internal test pattern for quick alignment
- Built-in audio eliminates the need for bulky external PA equipment
- Ultra-high horizontal resolution: 520 lines via video inputs; 900 lines (center) via RGB input
- Special Blue Mode selects blue background to enhance legibility of computer images
- Three powerful 5.5" coolant-sealed picture tubes for high brightness; large-diameter guns for high resolution; liquid color filtering for exceptional color purity
- Bright f/1.0/130mm lenses use glass/acrylic hybrid design for superior resolution and contrast
- Dual-focus lens with separate internal adjustments for center focus and corner focus; maintains clarity across the face of the screen
- Optional VPR-722 Remote Control maintains full flexibility in permanent installations

VPH-1040Q ..... \$6,200.00

## VPH-1030Q1/VPH-2030Q1

### Multi-Scan Data/Video Projectors

- Full automatic locking for computer signals (H:15-36kHz, V: 50-100Hz)
- High resolution (RGB: 900 lines, Video: 520 lines)
- Displays 4000 characters
- High brightness of 300 lumens
- PAL/SECAM/NTSC/NTSC 4.43
- Auto sense for TV standard
- RGB/video superimpose
- 2 RGB inputs
- Built-in speaker

VPH-1030Q1 Factory adjusted for 100" flat screen  
60"-110" adjustable ..... \$ 9,999.00

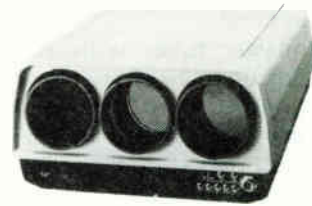
VPH-2030Q1 Factory adjusted for 200" flat screen  
150"-250" adjustable ..... 11,100.00

## VPH-600Q High Resolution Color Video Projector

- Factory adjusted for 60" flat screen
  - High resolution (RGB: 900 lines, Video: 520 lines)
  - High brightness of 300 lumens
  - Displays 2000 characters
  - PAL/SECAM/NTSC/NTSC 4.43
  - Auto sense for TV standard
  - Built-in speakers
- VPH-600Q ..... \$3,995.00

### Accessories

PSS-10 Projector suspension support for all VPH projectors ..... \$ 520.00  
PSS-722 Projector suspension support for ceiling mount for all VPH projectors. .... 200.00  
SU-722 Stand for floor mount for all VPH projectors ..... 554.00



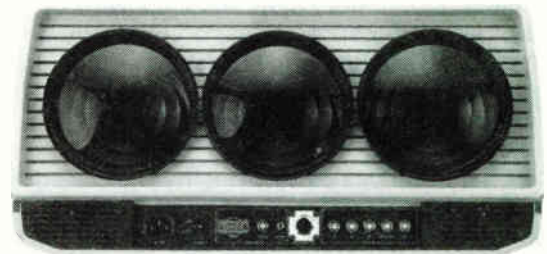
VPH-1040Q



VPH-2030Q1



VPH-1030Q1



VPH-600Q

VLC-21 Heavy-duty shipping case for VPH-600Q, VPH-722Q1HR, VPH-1020Q1HR, and VPH-2020Q1HR . . . \$ 610.00  
VLC-722 Carrying case for VPH-600Q, VPH-722Q1HR, VPH-1020Q1HR, and VPH-2020Q1HR . . . . . 571.00  
VLC-1030 Carrying case for VPH-1030Q1, VPH-2030Q1, and VPH-1040Q . . . . . 600.00  
VLC-60S Carrying bag for VPS-60/VSS-60 . . . . . 250.00  
VPR-722 Remote control for all VPH series projectors. . . . . 504.00  
VPF-720 Ornamental frame for 72" screen (VPS-72HG1) . . . 549.00  
VPS-60 Portable 55" diagonal high gain screen. Gain = 19. . . 300.00  
VPS-72HG1 High gain concave screen for VPH-1040Q, VPH-1030Q1, and VPH-HR series. Gain = 13 . . . . . 890.00  
VPS-100HG1 High gain concave screen for all VPH series projectors (100" diagonal) includes ornamental frame. Gain = 13. . . . . 3,450.00  
VPS-100F1 Flat screen (100" diagonal) for all VPH series projectors, includes winding mechanism and stopper. Gain = 2.5 . . . . . 627.00  
VSS-60 Screen stand for VPS-60, quick set-up with adjustable screen height/angle mechanism . . . . . 300.00

Extension Cables  
CCQ-2AR 6' . . . . . \$ 100.00  
CCQ-5AR 16' . . . . . 130.00  
CCQ-10AR 33' . . . . . 185.00  
CCQ-25AR 82' . . . . . 350.00  
CCQ-50AR 165' . . . . . 650.00

# SONY CORP. OF AMERICA

Sony Drive  
Park Ridge, NJ 07656  
(201) 930-1000

# INTERACTIVE VIDEO SYSTEMS

## VIW-3015/VIW-3020 Interactive Video Systems

At the heart of each VIEW System is the SMC-3000V Microcomputer and either the LDP-2000 Series or LDP-1500 Videodisc Player. These components can easily be internally configured and mated to a variety of options to suit a broad range of interactive video applications.

### VIW-3015 VIEW System

The VIW-3015 VIEW System provides fully integrated, advanced interactive video performance through the use of the SMC-3000V Microcomputer. The computer is mated with the LDP-1500, a basic videodisc player that has all the features considered essential in an industrial-grade system. The VIW-3015 thus represents a high-quality, lower-cost alternative to users who do not require the expandability of the LDP-2000 Series Videodisc Player.

- Integrated single package simplifies installation and transportation, reduces space requirement, and ensures trouble-free operation
- Runs commercially available VIEW courseware and authoring software
- Intel 80286 microprocessor in SMC-3000V runs at 8MHz for fast performance and operates under MS-DOS for IBM PC/AT compatibility
- AT-standard 16-bit bus with 5 open slots permits expansion and customization of system using plug-in boards readily available from many sources
- Advanced graphics capability, including IBM CGA-compatible and VIEW System HG graphics; up to 672 x 496 resolution; multi-page memory for faster graphics displays updates; RGB Superimposer for combined video/graphics

### LDP-1500 Videodisc Player

- **Quick Random Access** — Any video frame on a CAV disc can be accessed in 2.5 seconds or less
- **External Computer Interface** — RS-232C protocol provides a high degree of software control over player's functions through a wide range of commands, automatic feedback codes, and status queries
- **Automatic Optical Block Lock-down** — protects critical optical assembly from potential damage during transportation and eliminates need for manual lock-down screws
- **Automatic Front Loading** — Motor-driven disc tray can be operated manually or by external computer

VIW-3015 .....\$7580.00



VIW-3020

VIW-3015

### VIW-3020 VIEW System

The VIW-3020 VIEW System comprises the SMC-3000V Microcomputer and the LDP-2000 Series Videodisc Player, a combination which must be considered the state-of-the-art in interactive video.

It delivers all the hardware, software, graphics, and compatibility features of the VIW-3015 VIEW System. The integration of the LDP-2000 Videodisc Player, however, gives the VIW-3020 the added dimension of easy system expandability.

### LDP-2000 Series Videodisc Player

The key to the LDP-2000's expandability is its modular design, which makes it possible to configure the player through simple board additions. Because you can choose only those functional capabilities you truly need, you won't have to pay for unnecessary features. And you can upgrade your system at a later date without external add-ons and messy wiring or, worse, replacing the entire player.

In addition to all of the features found on the LDP-1500, plus an even faster random access (any CAV disc video frame can be accessed in 1.5 seconds or less), the LDP-2000 provides the following optional capabilities:

- **Still Frame Audio Option** — Allows you to play videodiscs with still frame audio, which permits compressed digital audio to be stored in each video frame, thus greatly enhancing the audio capabilities of the VIEW System.
- **Videodisc Computer Data Option** — Allows the external computer to read data from a videodisc as reliably as from magnetic media (e.g., floppy disks)
- **IEEE-488 Interface Option** — Permits player control via a parallel interface and provides faster transmission rates when transferring digital data from videodisc to external computer

VIW-3020 .....\$8495.00

# SONY CORP. OF AMERICA

Sony Drive  
Park Ridge, NJ 07656  
(201) 930-1000



## V1-K Series 1" Video Tape

• Offers smooth transport in all modes and on all C-format VTRs • For professionals with the most demanding requirements

**Cartons**—V1-K-18B, V1-K-34B, V1-K-66B, V1-K-96B

**Shipper Case**—V1-K-18SP, V1-K-34SP, V1-K-66SP, V1-K-96SP, V1-K-126SP, V1-K-156SP, V1-K-188SP

## V-16 Series 1" Video Tape

• High sensitivity for mastering durability to withstand stress of editing and repeated play • Minimal dropouts 3 per minute.

**Cartons**—V-16-18B, V-16-34B, V-16-66B, V-16-96B, V-16-126, V-16-188  
**Shipper Case**—V-16-18SP, V-16-66SP, V-16-34SP, V-16-96SP

## HD-1 Series High Definition 1" Video Tape

High density VIVAX™ magnetic particle rendering high quality picture and sound reproduction required for HDVS.

**Shipper Case**—HD-1-33SP, HD-1-48SP, HD-1-63SP



## XBR Series U-Matic Videocassettes

• The ultimate broadcast master • Offers improved video and audio characteristics, greater durability, reliability and low dropout rate

**KCA XBR Videocassettes (for standard size U-Matic machines)**

KCA-10XBR, KCA-20XBR, KCA-30XBR, KCA-60XBR

**KCS XBR Mini Videocassettes (for portable, in-field use)**

KCS-10XBR, KCS-20XBR

## BRS Series U-Matic Videocassettes

• Broadcast standard videocassette • Carbon Mirror™ backcoating and anti-static shell

**KCA BRS Videocassettes (for standard size U-Matic machines)**

KCA-10BRS, KCA-20BRS, KCA-30BRS, KCA-60BRS.

**KCS BRS Mini Videocassettes (for portable, in-field use)**

KCS-10BRS, KCS-20BRS.

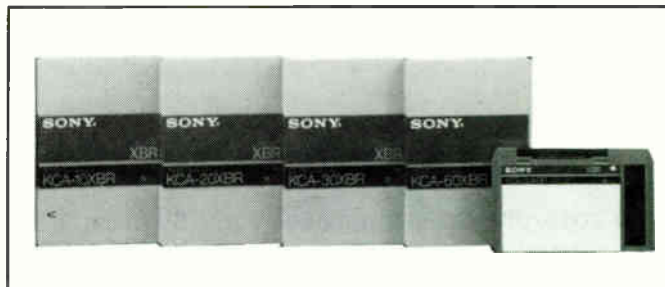
## KSP Series U-Matic Videocassettes

• Designed especially for use with Sony Pro Plus VCRs • Super Vivax magnetic particles allows tape to handle higher FM carrier frequency of the U-matic SP system

KSP 10, 20, 30, 60

KSPS Mini S10, S20

# VIDEO/AUDIO TAPE



## BCT Series Betacam Videocassettes

• Designed to meet the producers' needs for reliable, durable, broadcast quality cassettes.

BCT-5K, BCT-10K, BCT-20K, BCT-30K

BCT-60L, BCT-90L (to be used only with Betacam SP VTRs capable of loading large cassettes)

## BCT Metal Series Betacam SP Videocassettes

• Ultra-fine metal particle for greatly enhanced video and audio characteristics

BCT-5M, BCT-10M, BCT-20M, BCT-30M (small metal cassettes)

BCT-5ML, BCT-10ML, BCT-20ML, BCT-30ML, BCT-60ML, BCT-90ML (large metal cassettes)

## 4:2:2 Component Digital Video Master Cassettes

• Super Vivax magnetic particles • High Polymer binder system ensures uniform, high density particle distribution

DCM-600, DCL-1300

## 1/2" PRO X Series Videocassettes

• Designed for professional quality • Ultra fine super precision Vivax • High density • Beta S/N improved by 1dB, color S/N by .5dB • VHS S/N by 1.5dB compared to ESX Hi-Fi • Perfect for recording video master tapes, editing and dubbing, PCM digital audio recording

**BETA**

L-250, L-500

**VHS**

T-120

## 1/2" Dynamicron-Series Videocassettes

Economical high value performance for general purpose recording

**BETA**

L-125, L-250, L-500,  
L-750, L-830

**VHS**

T-60, T-90, T-120, T-160

## MP Series Metal Particle 8mm Videocassette

• Cosmiclute Ultra-fine magnetic particle ensuring high output and low noise. Unique UST (Ultra Surface Treatment) virtually eliminates dropouts.

**Packages**—P6-30MP, P6-60MP, P6-90MP, P6-120MP

**Bulk**—P6-30PH, P6-60PH, P6-90PH, P6-120PH

## D-1/4, D-1/2 Series Open Reel Digital Audio Tape

• High coercivity magnetic particles and precise surface technology provide excellent resolution and high output, especially in the high frequencies

1/4" — D-1/4-730, D-1/4-1460, D-1/4-2190

1/2" — D-1/2-1460, D-1/2-2920

## 3/4" Digital Audio Master Cassette

• Extremely low dropout rate • High precision cassette shell for reliable tape transport

KCA-60BRK-PCM, D-3/475U

## Tape Accessories

CL-25—U-Matic tape case; CL-1-SPS—1" Tape shipper case (9" dia.);

CL-1-SPM—1" Tape Shipper Case (10.5" dia.); CL-16SPL—1" Tape

shipper case (14" dia.); KCS-1CL—U-Matic cleaning cassette; BCT-

5CL—Betacam cleaning cassette; L-25CL—Betamax cleaning cas-

sette; V-25CL—VHS cleaning cassette; RI-9V—1" Empty reel (9");

RI-10V—1" Empty reel (10.5"); RI-11V—1" Empty reel (11.75");

RI-14V—1" Empty reel (14")



# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) B33-5200

# U-MATIC VIDEOCASSETTE RECORDERS

## BVU-110 Portable U-Matic Videocassette Recorder

- Lightweight and rugged construction
- Low power consumption (13W)
- Back-space editing
- Recording/playback of SMPTE/EBU time code
- Real time counter
- Picture search function
- Warning indicators
- Built-in color replay
- AGC or manual audio recording
- Framing servo
- TBC connection facility
- 9.53cm/sec tape speed
- 260 lines horizontal resolution
- 50Hz-15kHz frequency response

### Supplied Accessories

Carrying case  
Shoulder strap  
Carrying strap  
Camera cable CCJQ (10-pin, 14-pin) 0.5m  
Operation and maintenance manual

### Optional Accessory

BK-112 Plug-in time code generator



BVU-110

### Specifications

Dimensions: 5.3" H x 13.2" W x 15.5" D

Weight: 20 lb. 1 oz.  
(w/battery & cassette): 24 lb. 15 oz.  
Power Requirements: DC 12<sup>1/2</sup>V  
Power Consumption: 13W (12V, 1.08A)  
Operating Temp.: 32°F to 104°F  
Storage Temp.: -4°F to 140°F  
F FWD, REW TIME: < 3 min.  
Tape Speed: 9.53cm/sec.  
Wow/flutter: 0.2% RMS

BVU-110 . . . . . \$5,460.00

## BVU-150 Portable U-Matic Videocassette Recorder

- Two modes of record/replay: SP U-matic mode and conventional U-matic mode
- Compact, lightweight, and rugged design
- Improved picture quality employing Y/C separator, chroma enhancer, and noise canceller, etc.
- SP tape activates SP mode for the highest possible video and audio quality
- Integral time code generator, BKU-150
- Video confidence playback
- Back space editing capability
- External time base corrector facility
- Dolby C noise reduction system
- Audio mixing for recording and playback
- Status and malfunction indicators

### Supplied Accessories

Carrying case  
Shoulder strap  
Carrying handle  
Carrying strap  
Level control knob  
Operation and maintenance manual

### Specifications

Dimensions: 5.5" H x 10.3" W x 14.0" D  
Weight: 15 lbs.  
Power Requirements: 11.0 to 14.0VDC (NiCad battery pack BP-90 used)  
AC operation with AC adaptor AC-500 (optional)  
Power Consumption: < 23W  
Operating Temp.: 32°F to 104°F  
Storage Temp.: -4°F to 140°F



BVU-150

Fast Forward Time: (with Sony KSP-S20/KCS-20B RK/KCS-20K) < 3 min.  
Rewind Time: (with Sony KSP-S20/KCS-20B RK/KCS-20K) < 3 min.  
Search Speed: Approx. 10 times normal speed in forward and reverse directions  
Tape Speed: 3<sup>3/4</sup> ips (9.53cm)  
Wow and Flutter: < 0.2% RMS

BVU-150 . . . . . \$6,855.00

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# U-MATIC VIDEOCASSETTE RECORDERS/ REMOTE CONTROLS/TBC

## BVU-850/870 SP Broadcast Studio U-Matic® Videocassette Recorder/Players

- Wide range dynamic tracking™ (BVU-870)
- Two modes of record/replay: SP U-matic mode and conventional U-matic mode, and all equivalent BVU-800 functions
- Improved picture quality resulting from the Y/C separator, chroma enhancer, and noise canceller
- Comprehensive built-in editing facility
- High speed picture search function: bidirex search at 1/30, 1/10, 1/5, 1/2, 1, 2, 5, or 10 times normal speed
- Jog mode provides field by field tape movement
- Plug-in time code generator/reader
- Interfaces with RS-422 serial interface and 36-pin parallel interface
- 19" rackmountable with 6 units of space
- Audio mixing for recording and playback
- S/N ratio better than 52dB (Dolby off)
- Tape speed: 9.53cm/sec
- Horizontal resolution: SP Mode: 340 lines NTSC
- Frequency response: 50Hz to 15kHz ± 3dB (SP mode)

**BVU-850** . . . . . \$15,225.00  
**BVU-870** . . . . . 21,000.00



**BVU-850**



**BVU-950**

## BVU 950 SP U-Matic Videocassette Recorder

- Sendust heads
  - 340 TV lines
  - Type-C Dolby NR
  - 15kHz ± 3dB
  - 52dB S/N with Dolby NR off
  - 72dB with Dolby NR on
  - Dolby NR auto detection system
  - Accurate audio insert editing
  - BKU-901 plug-in time base corrector, optional
  - BKU-905 plug-in time code generator/reader, optional
  - Dial operation concept
  - Built-in editing facility
  - Speeds of still to 10 times high speed picture search
  - RS-422 Serial interface (remote 1, 9-pin)
  - TBC remote connector
  - 24-pin parallel interface (remote 2, amphenol)
  - External TBC connection
  - Video/out-1/-2 two monitor output connectors
  - REF Video in and out connectors
  - Self diagnostics
  - Digital hour meter
  - Anti-clog facility
  - 19" EIA rackmountable
  - Hinged and detachable front panel
- BVU-950** . . . . . \$12,500.00



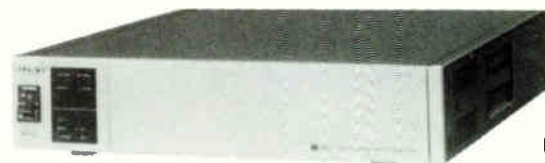
**BVR-800**



**BVR-820**

## BVR-800 Remote Control Unit

- Fluorescent tube display — CTL/Time code, VTR operation mode, Cue points
  - Up to 500m remote control capability with RS-422 interface
  - Various remote control functions — Record, Playback, Fast Forward, Rewind, Stop, Stand-by, Eject, Preroll, Search
  - Adjustable preroll time — up to 9 seconds 29 frames (NTSC, PAL-M)
  - External command input and status output
- BVR-800** . . . . . \$1,300.00



**BVT-810**

## BVR-820 Remote Control Unit

- Cue-point memory up to 3 points for cue up, preroll, stunt play
  - Adjustable preroll time — up to 9 seconds 29 frames (NTSC, PAL-M)
  - Dynamic tracking playback between two cue points
  - Capability of memory expansion up to 256 points
  - Fluorescent tube display — CTL/Time code, VTR operation mode
  - Up to 500m remote control capability with RS-422 interface
  - Various remote control functions — Record, Playback, Fast Forward, Rewind, Stop, Stand-by, Eject, Preroll, Search
  - External command input and status output
- BVR-820** . . . . . \$2,400.00

## BVT-810 Digital Time Base Corrector

- TBC for capstan servo color under VTRs
  - Compact and lightweight
  - 15H p-p window correction
  - 8 bits, 3X fsc sampling
  - Built-in process mode
  - Recognizable B/W picture up to ± 40 times normal speed
  - Built-in digital DOC; 1H (NTSC)
  - Remote control capability
  - Selectable V-blanking
  - Chroma noise reduction
- BVT-810** . . . . . \$11,550.00

# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# EDITING CONTROL UNITS/ SPECIAL EFFECTS GENERATOR

## BVE-800 Editing Control Unit

- Time code/CTL editing • 3 machine control • Quick access to edit point • 10-key input/scratchpad register • 128 event memory • Auto search function • First edit function • Split editing • Cue-tone recording/playback

### Supplied Accessories

- AC power cord • Extension cord • Dust cover • Operation and maintenance manual

### Specifications

**Power Requirements:** 100VAC to 240VAC, 50/60Hz  
**Power Consumption:** 75W max.  
**Weight:** 13.3kg  
14.5kg with BK board mounted  
**Operating Temperature:** 5°C to 40°C  
**Storage Temperature:** -20°C to 60°C  
**Dimensions:** 7.5" H x 16.6" W x 21.7" D  
**BVE-800** .....\$6,000.00



BVE-800

## BVE-900 Automatic Editing Control Unit

- Four VTR control • Switcher control for full effects • Audio mixer control • 2 auxiliary sources—both can be assigned to access • Multiple source selection • Longitudinal, vertical internal time code, control track • Battery backup—protects edit decision list events in case of power failure • Non-volatile memory • Color framing • Cue tone record/playback option • Advanced graphic effect mode display • Full synchronization accuracy selection • Dynamic motion control—-1 to +3 times normal speed synchronization • Crosspoint selection • Matched frame edit • Automatic time tracking

**BVE-900** .....\$ 7,875.00  
**BVE-900 Pro Pac** (includes BVE-900, CPD-121, 2 BKE-904's) .....10,350.00

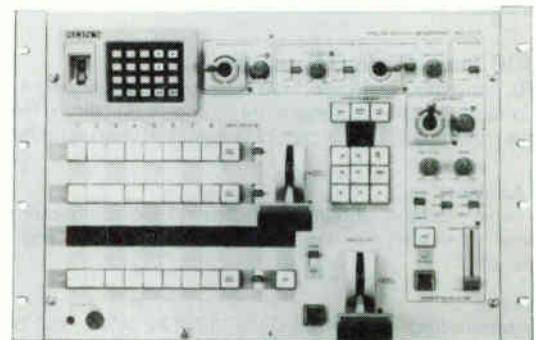


BVE-900

## SEG-2550 Color Special Effects Generator

- 8 video inputs and 4 bus • Preset/program bus • External key • Versatile wipe patterns and control • Shadow and edge adjustment • Downstream keyer (DSK) accepts key source from a black and white camera and SMC-70G microcomputer • Independent color generation for the DSK • Interfaces with the BVE-900 Edit Controller • Interfaces with an external computer via RS-232C communication port • Fully integrated E-file system • Integral sync generator • Tally and intercom facility • 19" rackmountable • Torque adjustable • SC/H Phase adjustment • Interface capability with CRK-2000 which provides a chroma keyer input • Crosstalk: >-50dB • Frequency response: 8MHz ± 0.5dB • Signal-to-noise ratio: <-60dB • 14.5kg

**SEG-2550** .....\$9,800.00



SEG-2550



# SONY CORP. OF AMERICA

1600 Queen Anne Rd.  
Teaneck, NJ 07666  
(201) 833-5200

# TIME CODE GENERATORS/READER

## BVG-100 Portable Time Code Generator

- LTC and VITC generator for portable 1-inch and portable U-Matic recorders • Normal speed LTC reader function • Slave/extrapolation capability • Color frame lock • Error concealment capability • Hold/remote hold function • User's bit

### Supplied Accessories

- 6-pin cable plug for remote control • Reference labels (hexadecimal number and tens frame digit notation) • Operation and maintenance manual

### Optional Accessories for BVG-100

#### BK-101 Interface Kit for BVU-500a Series

- 14-pin — 14-pin multi-cable (connecting to VTR, 0.4m) • 6-pin — XLR 3-pin cable (time code output cable, 0.36m) • XLR 3-pin — 24-pin cable (time code input cable, 0.23m) • Mounting plate

#### BK-102 Interface Kit for BVU-50 Series

- 14-pin — 14-pin multi-cable (connecting to VTR, 0.4m) • 6-pin — DIN 5-pin cable (time code output cable, 0.23m) • Mounting adaptor • Mounting plate

#### BK-103 Interface Kit for BVU-100 Series

- 14-pin — 10-pin/XLR 3-pin cable (connecting to VTR, 0.4m) • 6-pin — DIN 5-pin cable (time code output cable, 0.23m) • Mounting adaptor • Mounting plate

### Specifications

**Dimensions:** 2" H x 4.5" W x 6" D  
(including projecting parts and controls)

**Weight:** 1 lb. 9 oz. including battery



BVG-100

**Operating Temperature:** 32°F to 104°F  
**Storage Temperature:** -4°F to 140°F  
**Power Requirements:** 9VDC to 18VDC, supplied from VTR or battery (6F22)  
**Power Consumption:** 10mA max.  
 When power is off: 0.4mA max.  
 When light is on: 70mA max.

BVG-100 ..... \$2035.00

## BVG-1500 Time Code Reader

- Readout capability of LTC/VITC and user bits • Built-in character generator • 8-digit LED display/display hold • Waveform processing function (LTC) • Various mode indication • Frame suppress function • Compact and lightweight • TTY interface capability with BKG-1501 (optional)

### Supplied Accessories

- 50-pin ribbon connector • 6-pin connector • Rackmount metal kit • Labels for remote indicator • Operation and maintenance manual

### Specifications

**Power Requirements:** 100VAC to 120/240VAC to 240VAC  
± 10%, 50/60Hz

**Power Consumption:** < 20W

**Operating Temperature:** 32°F to 104°F

**Storage Temperature:** -4°F to 140°F



BVG-1500

**Dimensions:** 1.7" H x 16.7" W x 13" D

**Weight:** Approx. 8 lbs. 13 oz.

BVG-1500 ..... \$4000.00

## BVG-1600 Time Code Generator

- LTC/VITC generator • Hexadecimal user bits data setting • Normal speed LTC reader function • Slave/extrapolation capability • Time code color frame lock capability • 8-digit LED display • Various mode indications

### Supplied Accessories

- 50-pin cable • 50-pin ribbon connector • 6-pin connector • Rackmount metal kit • Labels for remote indicator • Operation and maintenance manual

### Specifications

**Power Requirements:** 100VAC to 120/220VAC to 240VAC  
± 10%, 50/60Hz

**Power Consumption:** < 20W

**Operating Temperature:** 32°F to 104°F

**Storage Temperature:** -4°F to 140°F



BVG-1600

**Dimensions:** 1.7" H x 16.7" W x 13" D

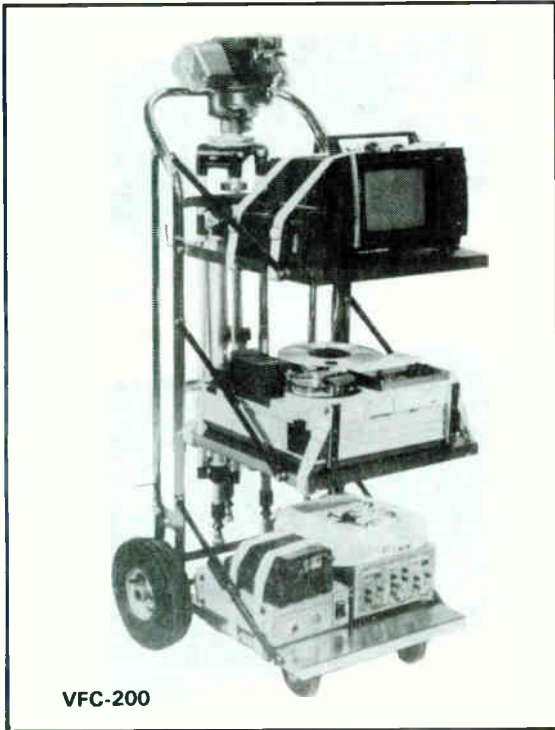
**Weight:** Approx. 9 lbs. 15 oz.

BVG-1600 ..... \$5200.00

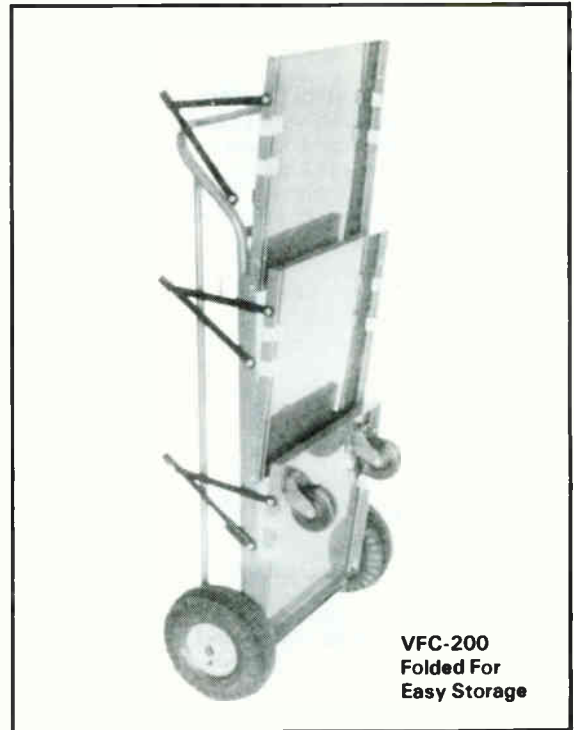
# SPALLA PRODUCTION PRODUCTS

1622 N.Gower St.  
Hollywood, CA 90028  
(213) 469-7307

## CARTS



VFC-200



VFC-200  
Folded For  
Easy Storage

### VFC-200 Folding Video Cart

Professionals know the convenience of having a high quality, versatile, electronic equipment cart. Available now is the VFC-200, a smooth rolling, all metal constructed vehicle designed to carry the necessary video equipment required for quality field, news gathering, and broadcast production.

- Folds to 11" for storage convenience
- Three heavy-duty, independently folding, equipment trays
- Three heavy-duty cable hooks
- Heavy-duty tripod/cable hook
- 300 lbs. load capacity
- 1" 16 gauge steel tubing frame
- Heavy-duty, all terrain, 10" locking pneumatic wheels
- Two, 4" locking, swivel casters
- 2 1/4" ground clearance
- High quality chrome plated finish, or industrial gray enamel (VFC-221)



VFC-221

Model No.	Description	Finish	Height	Wheel Base	Wheels	Tray Dimensions	Weight	Price
VFC-200	Folding Video Cart	Chrome	48"	25"	10" Pneumatic	17 3/4" x 18"	60 lbs.	\$460.00
VFC-221	Folding Video Cart	Painted	48"	25"	10" Pneumatic	17 3/4" x 18"	60 lbs.	420.00

Prices and Specifications Subject to Change Without Notice.

V-1015

## DZN-1/QEP Lighting Control System

The DZN-1/QEP Lighting Control System provides low cost control and power distribution to incandescent lighting instruments. The system's expandability enables the user to increase the capacity and control as needed. QEP's may be "daisy chained" to increase power capability, and DZN's may be linked in series or parallel to provide increased channels or two scene capabilities.

### DZN Control Modules

- Dual masters for each channel
- Push buttons to flash
- Master blackout
- A/B submaster switches
- Control voltage: 12VDC
- 19" rackmount
- Size: 2 1/2" H x 19" W x 8 3/4" D
- Weight: 6 lbs.

DZN-1 12-channel single scene expandable control for QEP . . \$440.00  
DZN-2 12-channel single scene expandable control for OX-12 . . 440.00

### DZN-2C Control Modules

- X/Y split crossfaders with pile-on capability
- X/Y scene masters
- Master/slave selector for expansion
- Master/slave master selectors for each channel
- Independent master
- Grand master
- Bump buttons
- Pushbutton blackout
- Control voltage: 2-10VDC
- 19" rackmount
- Size: 12 1/4" H x 19" W x 5" D
- Weight: 6.5 lbs.

DZN-2C-1 12-channel, two scene expandable control for QEP . . \$627.00  
DZN-2C-2 12-channel, two scene expandable control for OX-12 . . 627.00

### QEP Power Modules

- Rig mountable for easy economical set-up and reliable performance
- Powered from a wall outlet, eliminating direct hook-up
- Each channel is individually fused with an AGC 5 or 10A fuse, depending on operation parameters
- Each QEP carries its own power supply and timing signal, eliminating any phase problems
- Size: 11 1/2" H x 7 1/2" W x 3 1/4" D
- Weight: 5 lbs.

QEP-15 4-channel power module—NEMA 5-15 power input . . \$301.40  
QEP-20 4-channel power module—NEMA 5-20 power input . . 301.40

### EFC Foot Operated Controller

- Dipless crossfade or pile on
- Channel chase on/off
- Scene sequence on/off
- Fade out
- Black out
- Foot adjustable fade/sequence and chase rates
- Programmable chase matrix
- Size: 19" H x 4" W x 11" D
- Weight: 12 lbs.

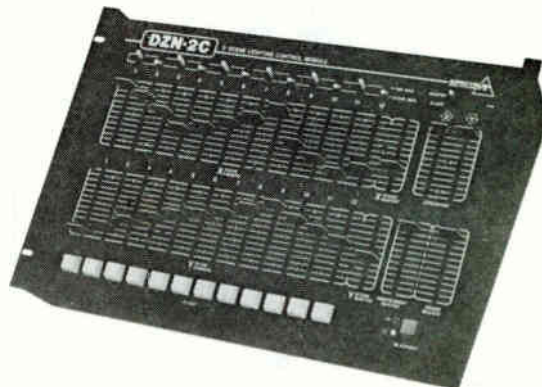
EFC 8-channel, four scene for QEP . . . . . \$650.00

### Control Cables and Accessories

QECC10	10' QEP control cable . . . . .	\$21.30
QECC25	25' QEP control cable . . . . .	29.28
QECC50	50' QEP control cable . . . . .	42.59
QECC100	100' QEP control cable . . . . .	69.21
QEYP	20" QEP Y-cord for "daisy-chaining" . . . . .	25.29
DZNX	Master/slave expander cord for DZN series . . . . .	15.85
DZNX Y	Master/slave expander Y-cord for DZN series . . . . .	21.30
DZNY	Control cable Y-cord for DZN-1 . . . . .	17.42
DOY	Control cable Y-cord for DZN-2 2' lengths . . . . .	36.30
DZN2CX	Master/slave expander cord for DZN-2C series . . . . .	17.42



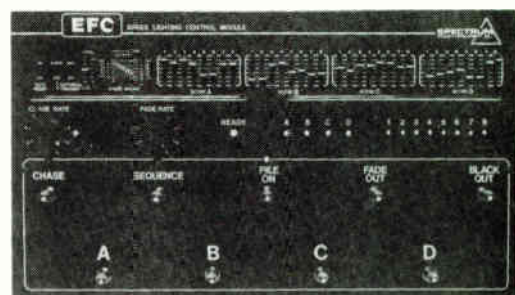
DZN



DZN-2C



QEP



EFC



## OX-12 Series Dimmer Modules

### 6-channel, 1.2kW per channel

OX-12CA11 Basic OX-12 dimmer module . . . . . \$732.60

#### Output Connector Options

OX-12Axxx "U" ground NEMA 5-15R (2 per channel) . . \$ 29.23  
OX-12Bxxx Pin connector (1 per channel) . . . . . 82.59  
OX-12Cxxx Terminal block . . . . . N/C

#### Circuit Protection Options

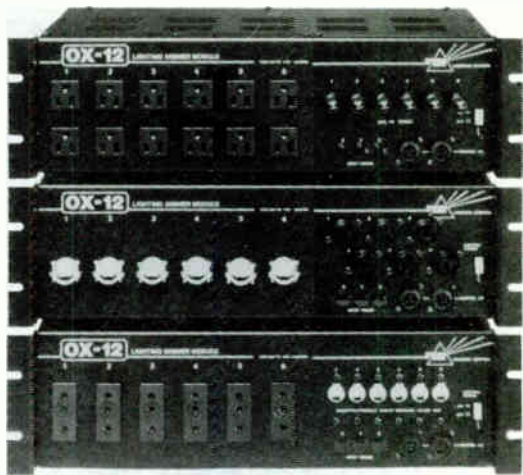
OX-12Axx AGC 10A fuse . . . . . N/C  
OX-12Bxx Magnetic hydraulic circuit breakers . . . . . \$101.64  
OX-12Cxx SC-10A fuse . . . . . 88.94  
OX-12Dxx KAA-10A fuse . . . . . 114.35

#### Electrical Input Options

OX-12-xx1x 120VAC, 50/60Hz, 1 phase 60A or 120/240VAC, 1 phase 30A . . . . . N/C  
OX-12-xx2x Same, plus 120/208VAC 3 phase 20A . . . . . \$50.82  
OX-12-xx3x Same, plus 2 legs of a 120/208VAC 3 phase 30A . . . . . 31.77

#### Power Input Connectors

OX-12-xxx1 Terminal block . . . . . N/C  
OX-12-xxx2 NEMA L14-30P 30A 120/240V 1 phase . . . \$50.82



OX-12

## OX-24 Series Dimmer Modules

### 6-channel, 2.4kW per channel

Basic OX-24 — Dimmer Module . . . . . \$1025.64

#### Output Connector Options

A...Parallel Blade U-ground, 2 per channel . . . . . \$ 41.90  
B...Theater Pin 2GF-FS recep, 1 per channel . . . . . 115.63  
C...Terminal block output . . . . . N/C  
D...Theater Pin 2GF-FS recep, 2 per channel . . . . . 191.82

#### Circuit Protection Options

.A.. AGC 20A fuses . . . . . N/C  
.B.. Magnetic/Hydraulic circuit breakers . . . . . \$142.30  
.C.. SC 20A fuses . . . . . 124.52

#### Electrical Input Options

--1. 120VAC 1 phase 120A 120/240VAC 1 phase 60A . . . . . N/C  
--2. Same as --1. plus 120/208VAC 3 phase 40A . . . . . \$50.82  
--3. Same as --1. plus 2 legs 120/208 3 phase 60A . . . . . 31.87

#### Power Input Connectors

1 Terminal block input . . . . . N/C



OX-24

## Control Cables

OX-25 25' OX control cable, 8 conductor . . . . . \$36.30  
OX-50 50' OX control cable, 8 conductor . . . . . 48.40  
OX-100 100' OX control cable, 8 conductor . . . . . 72.60  
OX-1 1' OX control stacking cable . . . . . 24.68

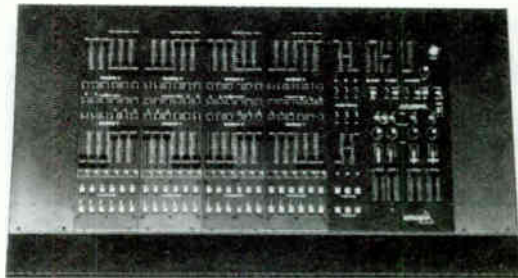
## EVO Series Modular Controller

The EVO Series Modular Controller represents a versatile design approach in lighting control. The EVO's mainframe design permits maximum system flexibility and enables the user to streamline the system to suit specific applications. The system will readily adapt to future requirements and has literally, unlimited expansion capabilities.

"Specialty" modules, designed for specific applications may be incorporated into existing systems when desired. These specialty modules will ensure EVO's suitability to far more applications than any other controller.

The Autofade Master Module (M1) provides the central mastering functions, and is the foundation from which your EVO system will grow. The desired number of six channel dimmer control modules (DC1) are then added to provide the individual channel functions. More DC1's may be added as your system requirements increase.

EVO-M1 Master Module . . . . . \$900.00  
EVO-DC1 6 channel, 2 scene dimmer control module . . . . . 550.00  
EVO-B5 Blank panel 5" wide (same as EVO-DC1) . . . . . 70.00  
EVO-B6 Blank panel 6" wide (same as EVO-DC1) . . . . . 70.00  
EVO-GX Gooseneck w/XLR connector . . . . . 70.00



EVO-M1

EVO-SB Set of sideboards (2) . . . . . \$100.00  
EVO-MXC1 Matrix submaster module . . . . . 300.00  
EVO-MXS1 Matrix switch module . . . . . 240.00  
EVO-MB16 Blank filler panel . . . . . 10.00  
EVO-MXR Minibay rails . . . . . N/C

# STANDARD

A DIVISION OF THE AUDISCAN PRODUCTS CO.

P.O. Box 1456  
 1410 130<sup>th</sup> Ave. NE  
 Bellevue, WA 98009  
 (206) 454-0694 (800) 426-0852

# VIDEO PRESENTATION SYSTEM



VM-55

## VM-55 VHS Video Presentation System

- 5 1/4" color monitor
- Full size 1/2" VHS format
- 4-head deck
- 22 lbs.
- Fits under an airplane seat

The VM-55 is geared for the sales, marketing or training professional. It can be operated with both AC and DC (using an accessory battery pack), has a built-in battery charger, retains a 10-pin connector for easy camera hook-up and boasts rotary 4-head helical scan, azimuth recording for superior playback, pause and slow motion (with the use of remote control).

The unit utilizes full size 1/2" VHS cassettes, has top-mounted loading and function controls, has a fold down arm which acts as both a carrying handle and an elevation device and comes equipped to accept a full range of accessories. The VM-55 is constructed to withstand rugged use, and comes in a matte industrial black finish to complement its business-like design.

### Specifications

<b>Format:</b>	1/2" VHS Portable Recorder/Player with monitor built-in. Rotary 4-head Helical Scan, Azimuth Recording
<b>Speed:</b>	SP, LP and EP (Records and Plays up to 8 hours)
<b>Monitor:</b>	5" Diagonal. Tint, Color, Contrast and Brightness Control Knobs
<b>Speaker:</b>	0.5W, 8 ohms
<b>Loading:</b>	Top Loading (Cassette)

### Features:

(Front Panel or Top) Play, Stop, Record, Cassette Ejection, Pause, Counter, Rewind/Fast Forward (high speed and viewable), Counter Reset, Audio Volume, Power Switch, After Recording, Insert, Tracking, Sensor for Wireless Remote Control and Auto-Rewind. (Slow motion available with use of Remote Control only).

### Indicator Lamp:

Play, Stop, Pause, Record, After Recording, Battery Warning, Dew Light

### Earphone Jack:

Included (Disengages internal speaker when in use)

### Video In/Out:

Included

### Video Input:

0.5-2.0V p-p (75 ohm RCA Connector).

### Video Output:

1.0V p-p (75 ohm RCA Connector).

### Video S/N:

45dB Over

### 10-Pin

#### Connector:

Included

### Audio Output:

Microphone: -67dB (mini jack)

Line: -20dB (RCA Connector)

Line: -6dB (RCA Connector)

### Audio Output:

70Hz-8kHz Audio Output: Line (Standard)

### Audio Hertz:

Over 240 Lines (Standard)

### Resolution:

5.5" H x 15" W x 16" D

### Dimensions:

22 lbs.

### Weight:

117VAC, 12VDC (Battery Pack Extra Option).

VM-55 ..... \$675.00

### Accessories

930-1004-001	RF Modulator	\$ 65.00
930-1001-001	Battery Pack	.67.00
930-1000-001	Wireless Remote Control	.84.00
930-1002-001	Soft Carrying Case	.78.00
930-1003-001	Presentation Case	120.00
930-1005-001	Heavy-Duty Shipping Case	180.00

**STANTRON**  
 UNIT OF ZERO CORP.  
 P.O. Box 9158VC  
 6900-6918 Beck Ave.  
 No. Hollywood, CA 91605  
 (213) 875-0800 (800) 821-0019 TWX 910-499-2177

# FLAT DESK CONSOLES



"CUSTOM" SIZES AVAILABLE

PATENTS PENDING

INCHES		mm		CATALOG NUMBER	APPROX. WEIGHT	*W/MONITOR BRIDGE APPROX. WEIGHT
A	B	A	B			
30"	45½"	762	1156	VCFD3045.*	88 lb.	138 lb.
30"	67¾"	762	1721	VCFD3067.*	117 lb.	192 lb.
42"	45½"	1067	1156	VCFD4245.*	100 lb.	150 lb.
42"	67¾"	1067	1721	VCFD4267.*	140 lb.	215 lb.
48"	45½"	1219	1156	VCFD4845.*	116 lb.	166 lb.
48"	67¾"	1219	1721	VCFD4867.*	155 lb.	230 lb.

\*IF MONITOR BRIDGE IS DESIRED, ADD -MB. I.E. VCFD3045-MB

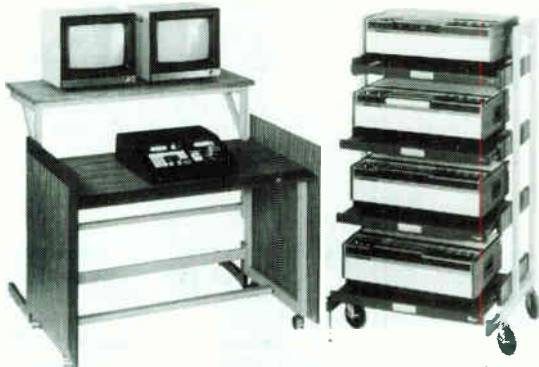
HEIGHT		WITH	CATALOG NO.
INCHES	mm		
31"	800	2" CASTER	VCC2
29½"	749	LEVELER	VCH158



(A) VCAS5000



(C) VCAS5002



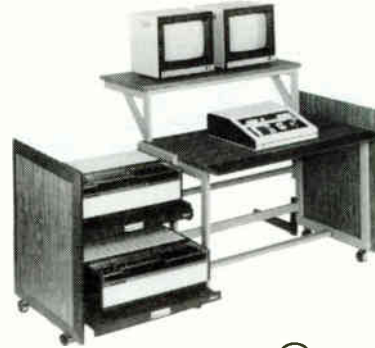
(B) VCAS5001

- A. Monitor Bridge may be mounted to the rear or front; If Monitor Bridge is mounted to the rear, the "Anti-Tip" extension must be attached to the bottom rear. A pair of "Anti-Tip" extensions are included with each desk.
- B. Monitor Bridge height is adjustable in one inch increments.
- C. Finish: Frames: Tan Textured #VC7T  
Accessories: Brown Textured #VC16T
- D. Laminate Top: Pecan pattern.
- E. Positive-latching device on all sliding shelves used in VTR/VCR racks.

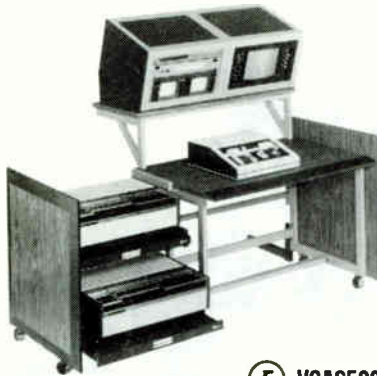




Ⓓ VCAS5003



Ⓔ VCAS5004



Ⓕ VCAS5005

The VIDEO CENTER PRODUCTS illustrated are representative of what can be designed using the STANTRON BASIC modules.

You can design your own console by selecting the BASIC modules and accessories that fit your requirements.

Ⓐ

**VCAS5000**

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCFD3045-MB	DESK W/BRIDGE
1 Set	VCC2	2" CASTERS

APPROXIMATE WEIGHT: 138 lb.

Ⓑ

**VCAS5001**

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCFD3045-MB	DESK W/BRIDGE
1	VCRK5131	RACK
1 Pr.	VCSP30	SIDE PANELS
1 Set	VCC5	5" CASTERS
1 Set	VCC2	2" CASTERS
4	VCSS31-11	SLIDING SHELVES

APPROXIMATE WEIGHT: 331 lb.

Ⓒ

**VCAS5002**

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCFD3045-MB	DESK W/BRIDGE
1	VCRK2731	RACK
2 Set	VCC2	CASTERS
2	VCSS31-11	SLIDING SHELVES
1 Pr.	VCSP30	SIDE PANELS
2	VCSB240022	SLOPING BASE
2	VCAS241022	CABINET ASSEMBLY

APPROXIMATE WEIGHT: 334 lb.

Ⓓ

**VCAS5003**

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCFD3045-MB	DESK W/BRIDGE
1	VCRK2731	RACK
2 Set	VCC2	2" CASTERS
2	VCSS31-11	SLIDING SHELVES
2	VCSB240018	SLOPING BASE
2	VCAS241018	CABINET ASSEMBLY

APPROXIMATE WEIGHT: 284 lb.

Ⓔ

**VCAS5004**

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCFD3045-MB	DESK W/BRIDGE
1	VCRK2731	RACK
2 Set	VCC2	2" CASTERS
2	VCSS31-11	SLIDING PANELS
1 Pr.	VCSP30	SIDE PANELS

APPROXIMATE WEIGHT: 270 lb.

Ⓕ

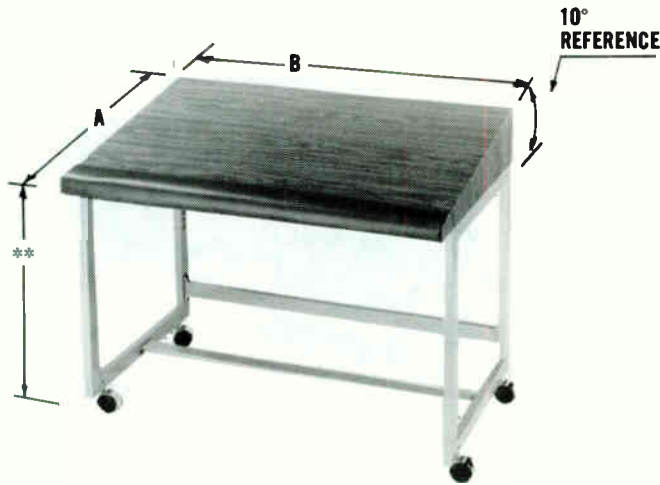
**VCAS5005**

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCFD3045-MB	DESK W/BRIDGE
1	VCRK2731	RACK
2 Set	VCC2	2" CASTERS
2	VCSS31-11	SLIDING SHELVES
1 Pr.	VCSP30	SIDE PANELS
2	VCSB240022	SLOPING BASE
2	VCAS241022	CABINET ASSEMBLY

APPROXIMATE WEIGHT: 334 lb.

**STANTRON**  
 UNIT OF ZERO CORP.  
 P.O. Box 9158VC  
 6900-6918 Beck Ave.  
 No. Hollywood, CA 91605  
 (213) 875-0800 (800) 821-0019 TWX 910-499-2177

# SLOPING DESK CONSOLES



"CUSTOM" SIZES AVAILABLE

INCHES		mm		CATALOG NUMBER	APPROX. WEIGHT	*W/MONITOR BRIDGE APPROX. WEIGHT
A	B	A	B			
30"	45½"	762	1156	VCSD3045-*	88 lb.	138 lb.
30"	67¾"	762	1721	VCSD3067-*	114 lb.	189 lb.
42"	45½"	1067	1156	VCSD4245-*	106 lb.	156 lb.
42"	67¾"	1067	1721	VCSD4267-*	141 lb.	216 lb.
48"	45½"	1219	1156	VCSD4845-*	116 lb.	166 lb.
48"	67¾"	1219	1721	VCSD4867-*	154 lb.	229 lb.

\*IF MONITOR BRIDGE IS DESIRED, ADD -MB I.E. VCFD3045-MB

HEIGHT		WITH	CATALOG NO.
INCHES	mm		
31"	800	2" CASTER	VCC2
29½"	749	LEVELER	VCH158

PATENTS PENDING



Ⓐ VCAS5006



Ⓑ VCAS5007



Ⓒ VCAS5008

- A. Monitor Bridge may be mounted to the rear or front; If Monitor Bridge is mounted to the rear, the "Anti-Tip" extension must be attached to the bottom rear. A pair of "Anti-Tip" extensions are included with each desk.
- B. Monitor Bridge height is adjustable in one inch increments.
- C. Finish: Frames: Tan Textured #VC7T  
Accessories: Brown Textured #VC16T
- D. Laminate Top: Pecan pattern.
- E. Positive-latching device on all sliding shelves used in VTR/VCR racks.

# STANTRON

UNIT OF ZERO CORP.

P.O. Box 9158VC

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No. Hollywood, CA 91605

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# SLOPING DESK CONSOLES



Ⓓ VCAS5009



Ⓔ VCAS5010



Ⓕ VCAS5011

The VIDEO CENTER PRODUCTS illustrated are representative of what can be designed using the STANTRON BASIC modules.

You can design your own console by selecting the BASIC modules and accessories that fit your requirements.

## VCAS5006

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCSD3045-MB	DESK W/BRIDGE
1 Set	VCC2	2" CASTERS

APPROXIMATE WEIGHT: 138 lb.

## VCAS5007

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCSD3045-MB	DESK W/BRIDGE
1	VCRK5131	RACK
1 Set	VCC5	5" CASTERS
4	VCSS31-11	SLIDING SHELVES
1 Pr.	VCSP30	SIDE PANELS
1 Set	VCC2	2" CASTERS

APPROXIMATE WEIGHT: 335 lb.

## VCAS5008

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCSD3045-MB	DESK W/BRIDGE
1	VCRK2731	RACK
2 Set	VCC2	2" CASTERS
2	VCSS31-11	SLIDING SHELVES
1 Pr.	VCSP30	SIDE PANELS
2	VCSB240022	SLOPING BASE
2	VCAS241022	CABINET ASSEMBLY

APPROXIMATE WEIGHT: 336 lb.

## VCAS5009

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCSD3045-MB	DESK W/BRIDGE
1	VCRK2731	RACK
2 Set	VCC2	2" CASTERS
2	VCSS31-11	SLIDING SHELVES
2	VCSB240022	SLOPING BASE
2	VCAS241022	CABINET ASSEMBLY

APPROXIMATE WEIGHT: 284 lb.

## VCAS5010

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCSD3045-MB	DESK W/BRIDGE
1	VCRK2731	RACK
2 Set	VCC2	2" CASTERS
2	VCSS31-11	SLIDING SHELVES
1 Pr.	VCSP30	SIDE PANELS

APPROXIMATE WEIGHT: 270 lb.

## VCAS5011

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCSD3045-MB	DESK W/BRIDGE
1	VCRK2731	RACK
2 Set	VCC2	2" CASTERS
2	VCSS31-11	SLIDING SHELVES
2	VCSB240022	SLOPING BASE
2	VCAS241022	CABINET ASSEMBLY

APPROXIMATE WEIGHT: 284 lb.

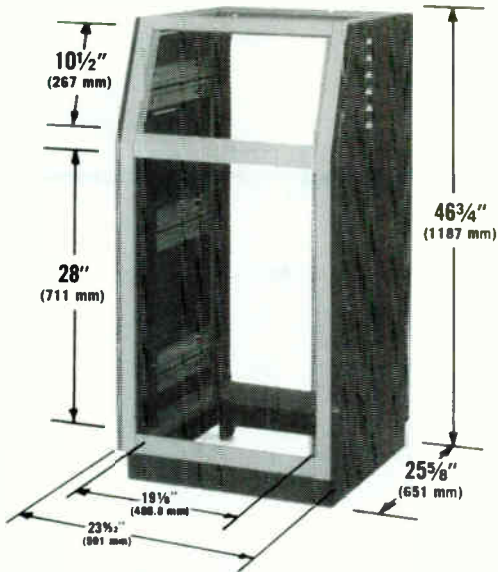
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Prices and Specifications Subject to Change Without Notice.



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 UNIT OF ZERO CORP.  
 P.O. BOX 9158VC  
 6900-6918 Beck Ave.  
 No. Hollywood, CA 91605  
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## SLOPING FRONT CABINETS



ITEM	CATALOG NUMBER	WEIGHT APPROX.
CONSOLE	VCSF30025	108 lb.
SIDES	VCSS30025L	29 lb.
REAR PANEL	VCP31L	13 lb.
BOTTOM PANEL	VCP21	9 lb.
TOP PANEL	VCP17	8 lb.

— FINISH: CHOICE OF STANTRON COLORS.

— LAMINATE: PECAN



**A** VCAS5019



**B** VCAS5020



**C** VCAS5021

### INFORMATION REGARDING SLOPING FRONT CONSOLES

**A. Material:**

1. Cabinet-corner post: 14 ga. steel
2. Mouldings and braces: 16 ga. steel
3. Panel mounting angles: 12 ga. steel

**B. Manufacturing/assembly procedure:**

1. "Butt-welding" and seam welding
2. Electronically-controlled spot-welding

**C. 19" wide panel space (for standard 19" formed or flat panels) available at front, rear, and top.**

**D. Panel mounting hole spacing: EIA and WE.**

**E. Panel mounting holes TAPPED 10-32 thread.**

**F. May be bolted together in any quantity for multiple installation or developing console assemblies.**

**G. Panel mounting angles:**

1. Two pair provided, one pair at front, one pair at rear.
2. May be positioned to any depth from front to back or back to front by loosening the bolt that holds them to the STANTRON "UNICHANNEL."

**H. Pontoon base features:**

1. Bolted to cabinet bottom.
2. Will accept casters (catalog VCC3, load capacity 800 lbs. per set of four; casters are recessed. Casters add 1" to height.)
3. Has provisions for bolting to floor. (By reversing)

**I. Other accessories, such as drawers, work/writing surfaces, etc., are available**





**(D) VCAS5022**



**(F) VCAS5024**



**(E) VCAS5023**

The Video Center Products illustrated are representative of what can be designed using the Stantron Basic modules.

You can design your own console by selecting the Basic modules and accessories that fit your requirements. A broad selection of accessories are shown and described.

**(A) VCAS5019**

QUANTITY	CATALOG NO.	DESCRIPTION
3	VCSF30025	CABINET
2	VCSS30025	SIDE PANEL LOUVRED
3	VCP31L	REAR PANEL LOUVRED
3	VCP21	BOTTOM PANEL
3	VCP21	FRONT PANEL
1	VCEDF3	EDITOR DESK FLAT
3	VCSB240022	SLOPING BASE
3	VCAS241022	CABINET ASSEMBLY
3 Sets	VCC3	3" CASTER

APPROXIMATE WEIGHT: 709 lb.

**(B) VCAS5020**

QUANTITY	CATALOG NO.	DESCRIPTION
3	VCSF30025	CABINET
2	VCSS30025L	SIDE PANEL LOUVRED
3	VCP31L	REAR PANEL LOUVRED
3	VCP21	BOTTOM PANEL
3	VCP21	FRONT PANEL
1	VCSD44	SLOPING DESK
1	VCSWD22	SWITCHER DESK
3	VCSB240022	SLOPING BASE
3	VCAS241022	CABINET ASSEMBLY
3 Sets	VCC3	3" CASTER

APPROXIMATE WEIGHT: 715 lb.

**(C) VCAS5021**

QUANTITY	CATALOG NO.	DESCRIPTION
3	VCSF30025	CABINET
2	VCSS30025L	SIDE PANEL LOUVRED
3	VCP31L	REAR PANEL LOUVRED
3	VCP21	BOTTOM PANEL
3	VCP21	FRONT PANEL
1	VCSD44	SLOPING DESK
1	VCSWD22	SWITCHER DESK
3	VCAS241022	CABINET ASSEMBLY
3 Sets	VCC3	3" CASTER

APPROXIMATE WEIGHT: 720 lb.

**(D) VCAS5022**

QUANTITY	CATALOG NO.	DESCRIPTION
2	VCSF30025	CABINET
2	VCSS30025L	SIDE PANEL LOUVRED
2	VCP31L	REAR PANEL LOUVRED
2	VCP21	BOTTOM PANEL
2	VCP21	FRONT PANEL
1	VCEDF2	EDITOR DESK FLAT
2 Sets	VCC3	3" CASTER
1	VCLT2	LAMINATE TOP

APPROXIMATE WEIGHT: 419 lb.

**(E) VCAS5023**

QUANTITY	CATALOG NO.	DESCRIPTION
2	VCSF30025	CABINETS
2	VCSS30025L	SIDE PANEL LOUVRED
2	VCP31L	REAR PANEL LOUVRED
2	VCP21	BOTTOM PANEL
2	VCP21	FRONT PANEL
1	VCEDF2	EDITOR DESK FLAT
2	VCSB240022	SLOPING BASE
2	VCAS241022	CABINET ASSEMBLY
2 Sets	VCC3	3" CASTER

APPROXIMATE WEIGHT: 543 lb.

**(F) VCAS5024**

QUANTITY	CATALOG NO.	DESCRIPTION
2	VCSF30025	CABINETS
2	VCSS30025L	SIDE PANEL LOUVRED
2	VCP31L	REAR PANEL LOUVRED
2	VCP21	BOTTOM PANEL
2	VCP21	FRONT PANEL
1	VCSD44	SLOPING DESK
2	VCSB240022	SLOPING BASE
4	VCAS241022	CABINET ASSEMBLY
1	VCAT44	ANTI-TIP BASE

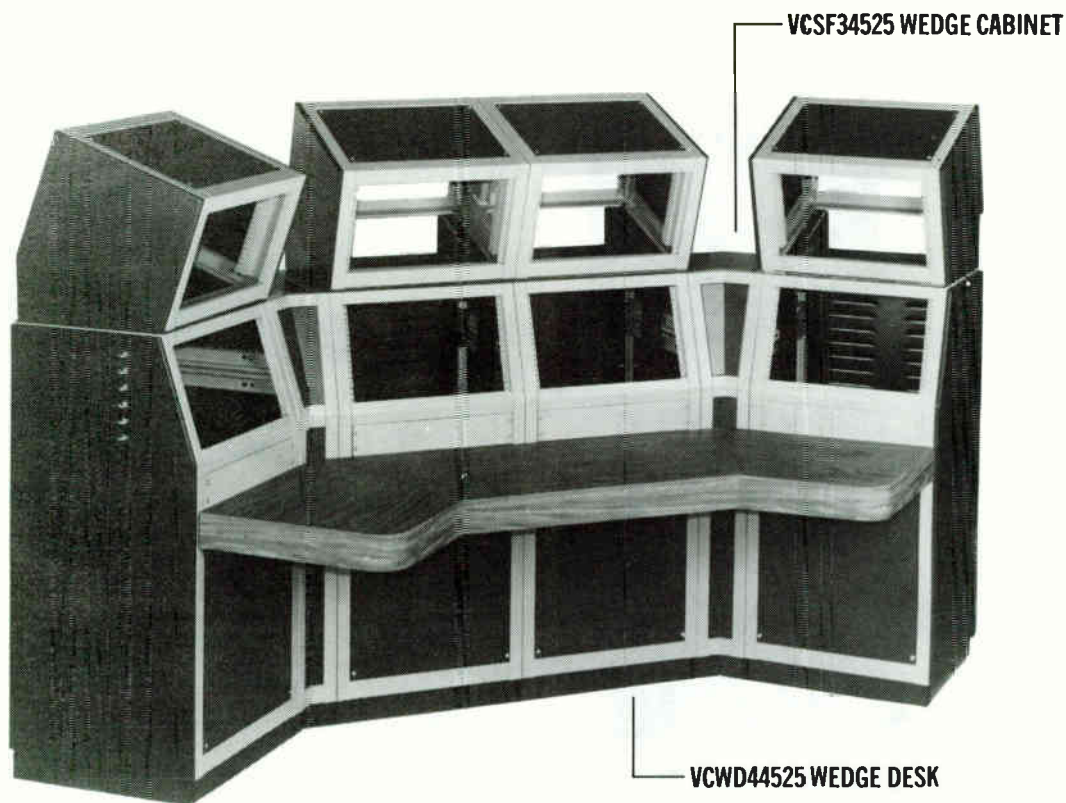
APPROXIMATE WEIGHT: 629 lb.



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**WEDGE ORGAN STYLE CONSOLE**



**VCAS5025**

**VCAS5025**

QUANTITY	CATALOG NO.	DESCRIPTION
4	VCSF30025	CABINET
2	VCSF34525	WEDGE CABINET
2	VCSS30025L	SIDE PANEL LOUVRED
4	VCP31L	REAR PANEL LOUVRED
4	VCP21	BOTTOM PANEL
4	VCP21	FRONT PANEL
4	VCP3	FRONT PANEL
1	VCWD44525	WEDGE DESK
4	VCSB240022	SLOPING BASE
4	VCAS241022	CABINET ASSEMBLY
4 Sets	VCC3	3" CASTER

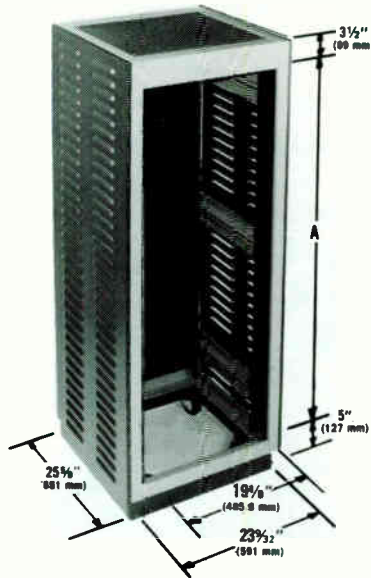
APPROXIMATE WEIGHT: 1315 lb.

**INFORMATION REGARDING  
 WEDGE/ORGAN-STYLE CONSOLES**

The above console is only one of many configurations that can be designed, using our Wedge Cabinet—part #VCSF34525 and Sloping Front Cabinet—part #VCSF30025.

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# VERTICAL FRONT CABINETS



QUANTITY OF DAYS WIDE	CATALOG NUMBER	INCHES A	mm A	APPROX. WEIGHT
ONE	VCAS21-1	21"	533	149 lb.
TWO	VCAS21-2	21"	533	252 lb.
THREE	VCAS21-3	21"	533	378 lb.
ONE	VCAS28-1	28"	711	160 lb.
TWO	VCAS28-2	28"	711	280 lb.
THREE	VCAS28-3	28"	711	420 lb.
ONE	VCAS35-1	35"	889	205 lb.
TWO	VCAS35-2	35"	889	358 lb.
THREE	VCAS35-3	35"	889	511 lb.
ONE	VCAS43-1	43 3/4"	1111	205 lb.
TWO	VCAS43-2	43 3/4"	1111	409 lb.
THREE	VCAS43-3	43 3/4"	1111	585 lb.
ONE	VCAS52-1	52 1/2"	1334	263 lb.
TWO	VCAS52-2	52 1/2"	1334	455 lb.
THREE	VCAS52-3	52 1/2"	1334	648 lb.
ONE	VCAS61-1	61 1/4"	1556	287 lb.
TWO	VCAS61-2	61 1/4"	1556	497 lb.
THREE	VCAS61-3	61 1/4"	1556	798 lb.
ONE	VCAS70-1	70"	1778	322 lb.
TWO	VCAS70-2	70"	1778	557 lb.
THREE	VCAS70-3	70"	1778	793 lb.
ONE	VCAS78-1	78 3/4"	2000	349 lb.
TWO	VCAS78-2	78 3/4"	2000	599 lb.
THREE	VCAS78-3	78 3/4"	2000	850 lb.

**DESCRIPTION:**

- A. Each cabinet includes: One cabinet frame. One rear louvred door. One rear connector panel. One top perforated panel. One set of 3" dia. casters.
- B. Each assembly includes one pair of side panels louvred.
- C. Finish: Choice of colors.
- D. Vertical mounting angles front and rear have 10-32 thread tapped holes



**A VCAS5028**



**B VCAS5029**

**VCAS5028**

QUANTITY	DESCRIPTION	CATALOG NO.
1	VCAS52-1	CABINET ASSEMBLY
1	VCP21	FRONT VERTICAL PANEL
1	VCSWD22	SWITCHER DESK
1	VCAT22	ANTI-TIP BASE
1 Set	VCC5	5" CASTER

APPROXIMATE WEIGHT: 323 lb.

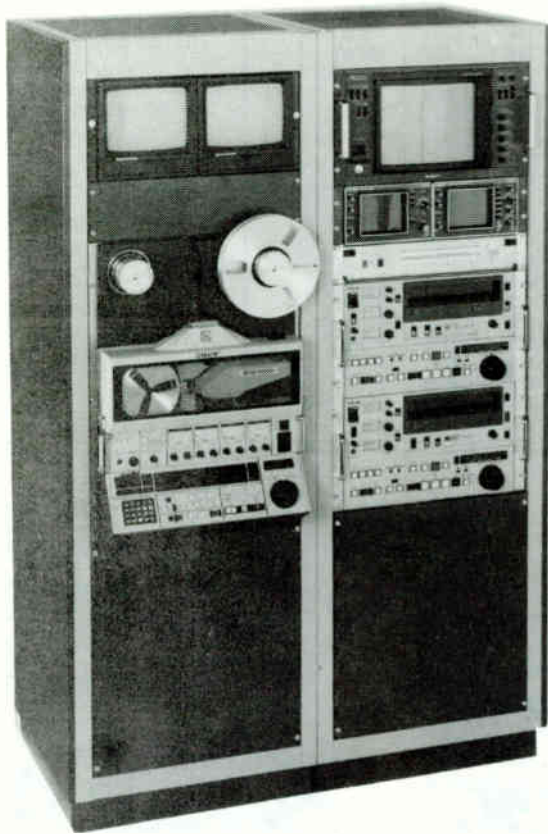
**VCAS5029**

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCAS61-2	CABINET ASSEMBLY
2	VCP21	FRONT VERTICAL PANEL
2	VCP5	FRONT FILLER PANEL
1	VCCD21	CABINET
1 Set	VCC3LK	3" CASTER
1	VCP25T	LAMINATE TOP
1	VCP14P	PERFORATED PANEL REAR
1	VCPW19	POWER PANEL
1	VCP12	FRONT VERTICAL PANEL
1	VCP3	FRONT VERTICAL PANEL
1	VCPS19	POWER STRIP
1	VCSD44	SLOPING DESK

APPROXIMATE WEIGHT: 623 lb.

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# WELDED VERTICAL CABINETS



**(A) VCAS5030**



**(B) VCAS5031**

**VCAS5030**

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCAS61-2	CABINET ASSEMBLY
2	VCP21	FRONT VERTICAL PANEL
1	VCP5	FRONT VERTICAL PANEL
2 Sets	VCC3	CASTERS

APPROXIMATE WEIGHT: 518 lb.

**VCAS5031**

QUANTITY	CATALOG NO.	DESCRIPTION
1	VCAS61-2	CABINET ASSEMBLY
2	VCP21	FRONT VERTICAL PANEL
2	VCP5	FRONT FILLER PANEL
1	VCSD44	SLOPING DESK
2 Sets	VCC3	CASTERS

APPROXIMATE WEIGHT: 520 lb.

The VIDEO CENTER PRODUCTS illustrated are representative of what can be designed using the STANTRON BASIC modules.

You can design your own console by selecting the BASIC modules and accessories that fit your requirements.



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# KNOCK DOWN VERTICAL CABINETS

**23 $\frac{3}{32}$ "**  
(591 mm)

**A**

**30 $\frac{3}{8}$ "**  
(784 mm)

- EASY TO ASSEMBLE
- WILL ACCOMMODATE ALL STANTRON ACCESSORIES
- ECONOMICAL
- REDUCES FREIGHT COST SHIPPED FLAT
- AVAILABLE IN
- ▼
- SINGLE BAY ASSEMBLIES
- DOUBLE BAY ASSEMBLIES
- TRIPLE BAY ASSEMBLIES
- 
- 19 $\frac{1}{8}$ " WIDE PANEL SPACE  
(485.9 mm)
- 
- FINISH:  
 Frame — STANTRON = VC16T OAK BROWN  
 Door & Panels — STANTRON = VC6T
- 
- O.D. HEIGHT: Add 8 $\frac{1}{2}$ " to VPS  
(215 mm)

## GENERAL INFORMATION

- ➡ **EACH SINGLE BAY CABINET ASSEMBLY INCLUDES:**
  - One Cabinet Frame
  - One Rear Door Louvred
  - One Top Panel Louvred
  - One Rear Connector Panel
  - Two Side Panels
  - Mounting Hardware
- ➡ **EACH DOUBLE BAY CABINET ASSEMBLY INCLUDES:**
  - Two Cabinet Frames
  - Two Rear Doors Louvred
  - Two Top Panels Louvred
  - Two Rear Connector Panels
  - Two Side Panels
  - Mounting Hardware
- ➡ **EACH TRIPLE BAY CABINET ASSEMBLY INCLUDES:**
  - Three Cabinet Frames
  - Three Rear Doors Louvred
  - Three Top Panels Louvred
  - Three Rear Connector Panels
  - Two Side Panels
  - Mounting Hardware

## ORDERING INFORMATION

CATALOG NUMBER	INCHES A	mm A
VCK021-*	21"	533
VCK035-*	35"	889
VCK043-*	43 $\frac{3}{4}$ "	1111
VCK052-*	52 $\frac{1}{2}$ "	1334
VCK061-*	61 $\frac{1}{4}$ "	1556
VCK070-*	70"	1778
VCK078-*	78 $\frac{3}{4}$ "	2000

\*Indicates number of bays wide  
 Example: VCK035-1 (Single Bay)

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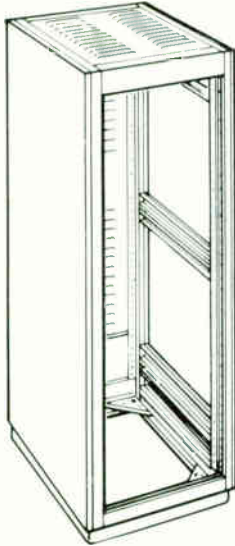
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V-1029

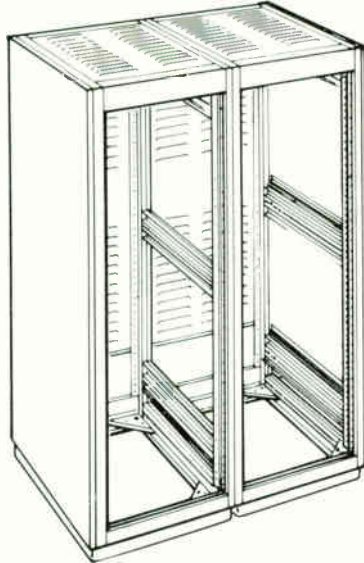
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# KNOCK DOWN VERTICAL CABINETS

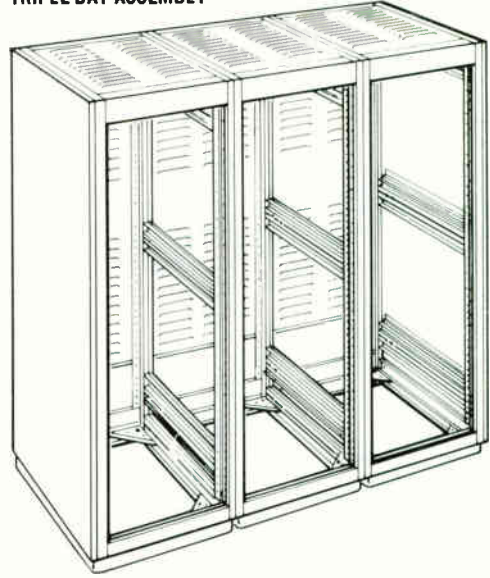
**SINGLE BAY ASSEMBLY**



**DOUBLE BAY ASSEMBLY**



**TRIPLE BAY ASSEMBLY**



## ASSEMBLY NUMBERS AND PRICES

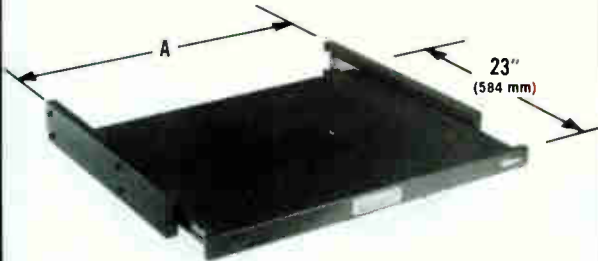
SINGLE BAY ASSEMBLY NUMBER	APPROXIMATE SHIPPING WEIGHT
VCKD21-1	184 Lbs.
VCKD35-1	253 Lb.
VCKD43-1	285 Lbs.
VCKD52-1	314 Lbs.
VCKD61-1	328 Lbs.
VCKD70-1	383 Lbs.
VCKD78-1	419 Lbs.

DOUBLE BAY ASSEMBLY NUMBER	APPROXIMATE SHIPPING WEIGHT	TRIPLE BAY ASSEMBLY NUMBER	APPROXIMATE SHIPPING WEIGHT
VCKD21-2	390 Lbs.	VCKD21-3	434 Lbs.
VCKD35-2	470 Lbs.	VCKD35-3	739 Lbs.
VCKD43-2	496 Lbs.	VCKD43-3	757 Lbs.
VCKD52-2	550 Lbs.	VCKD52-3	781 Lbs.
VCKD61-2	604 Lbs.	VCKD61-3	853 Lbs.
VCKD70-2	672 Lbs.	VCKD70-3	956 Lbs.
VCKD78-2	726 Lbs.	VCKD78-3	1029 Lbs.

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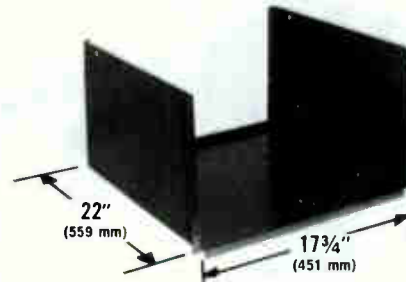
**SLIDING SHELF**



- Positive-latch feature
- Used with VTR/VCR Racks
- Ball bearing slides
- 100 lb. capacity
- Finish Brown #VC16T

A	CATALOG NUMBER	APPROX. WEIGHT
For 23" RACK	VCSS23-11	21 lb.
For 31" RACK	VCSS31-11	24 lb.

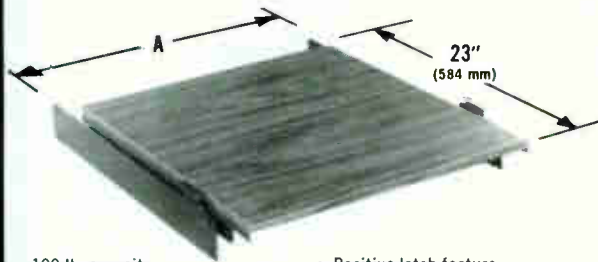
**SUPPORTING SHELF**  
 USED ON SLOPING FRONT CONSOLE



- Supports rack mounted and non-rack mounted VTR/VCR in the sloping panel space of the Sloping Front Cabinet.

CATALOG NUMBER	APPROX. WEIGHT
VCSS30025	14 lb.

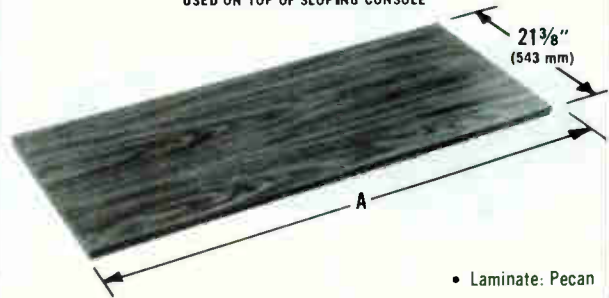
**SLIDING SHELF**



- 100 lb. capacity.
- Finish: Brown #VC16T
- Laminate: Pecan
- Positive-latch feature.
- Used with VTR/VCR Racks.
- Ball Bearing Slides.

A	CATALOG NUMBER	APPROX. WEIGHT
For 23" RACK	VCSS23-2	18 lb.
For 31" RACK	VCSS31-2	20 lb.

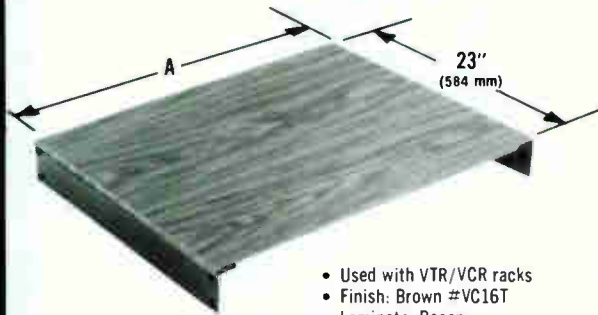
**LAMINATE TOP**  
 USED ON TOP OF SLOPING CONSOLE



- Laminate: Pecan

A QUANTITY CABINETS	CATALOG NUMBER	APPROX. WEIGHT
1	VCLT1	15 lb.
2	VCLT2	30 lb.
3	VCLT3	45 lb.

**FIXED SHELF**



- Used with VTR/VCR racks
- Finish: Brown #VC16T
- Laminate: Pecan

A	CATALOG NUMBER	APPROX. WEIGHT
For 23" RACK	VCFS23	14 lb.
For 31" RACK	VCFS31	18 lb.

**LEVELERS**



- Leveling screw.
- Provides bearing surface on uneven floors.

CATALOG NUMBER
VCH158



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# ACCESSORIES

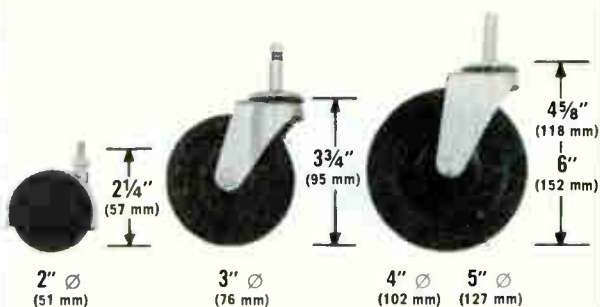
## FIXED SHELF WITH EXTENSION SHELF



- Used with VTR/VCR racks
- Extension shelf allows for additional work area
- Laminate: Pecan

A	CATALOG NUMBER	APPROX. WEIGHT
For 23" RACK	VCX23	16 lb.
For 31" RACK	VCX31	19 lb.

## CASTERS



## SELECTION CHART

* KEY	ITEM
A	FLAT and SLOPING DESK CONSOLE
B	VTR/VCR RACKS
C	SLOPING FRONT CABINET
D	VERTICAL FRONT CABINET
E	DUBBING RACKS
F	"K-D" CABINETS
G	ANTI-TIP TUBULAR STEEL BASE

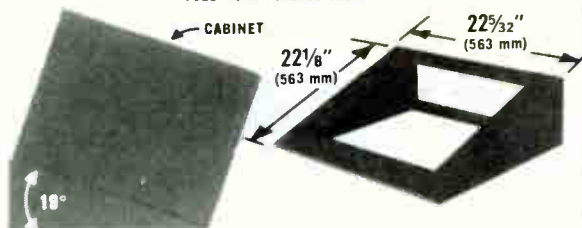
## ORDERING CHART

WHEEL DIAMETER	CAPACITY SET of 4	CATALOG NUMBER	* MAY BE USED WITH	WITH BRAKES	APPROX. WEIGHT
2" 51 mm	300 lb.	VCC2	A B E G	YES	4 lb.
3" 76 mm	900 lb.	VCC3	C D F	** NO	8 lb.
4" 102 mm	460 lb.	VCC4	B E G	YES	10 lb.
5" 127 mm	500 lb.	VCC5	B E G	YES	11 lb.

\*\* EXCEPTION: VTR Monitor Bridge Cabinet will include 2 casters with brake.

## SLOPING BASE

USED WITH VCF2400 CABINET

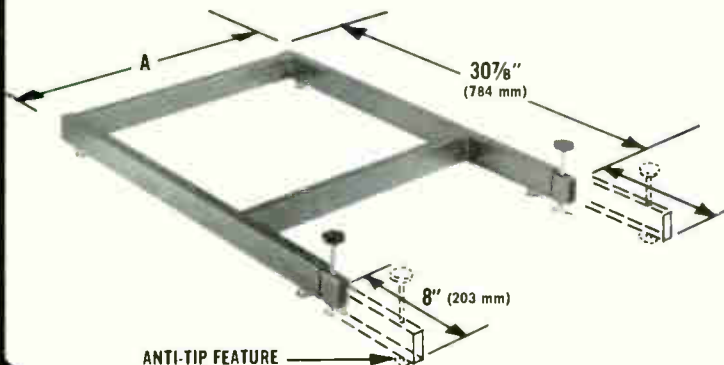


- Used with Monitor-Desk Cabinet.
- 19° slope allows for better viewing.
- Material: Heavy Ga. Steel.
- Attaching hardware included.

CATALOG NUMBER	APPROX. WEIGHT
VCSB240022	12 lb.

## ANTI-TIP TUBULAR STEEL BASE

SUGGESTED USAGE: WHEN USING SLIDING COMPONENTS PULLED OUT TO FRONT



\* USED WITH:

- 1 Sloping Front Cabinets
- 2 Dubbing Rack (23" or 31" width)
- 3 Vertical Video Cabinets/All-Welded
- 4 Vertical Video Cabinets/"K-D"

• LEVELERS INCLUDED

• See choice of casters on this page.

• Finish: Choice of Colors

INCHES A	mm A	* USE WITH	NUMBER OF BAYS	CATALOG NUMBER	APPROX. WEIGHT
22 1/2"	563	1 3 4	ONE	VCAT22	20 lb.
44 1/8"	1126	1 3 4	TWO	VCAT44	30 lb.
66 1/4"	1688	1 3 4	THREE	VCAT66	38 lb.
23"	584	2	ONE	VCAT23	21 lb.
46"	1168	2	TWO	VCAT46	31 lb.
69"	1753	2	THREE	VCAT69	39 lb.
31"	787	2	ONE	VCAT31	24 lb.
62"	1575	2	TWO	VCAT62	29 lb.
93"	2362	2	THREE	VCAT93	42 lb.

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**"SWITCHER" DESK**

- Heavy-duty laminate construction
- Canti-levered installation
- Laminate: Pecan
- Padded edge

A		B		CATALOG NUMBER	APPROX. WEIGHT
INCHES	mm	INCHES	mm		
19 1/8"	486 mm	14 1/16"	357 mm	VCSWD22	18 lb.

**SLOPING DESK**

- Heavy-duty laminate construction
- Canti-levered installation
- Laminate: Pecan
- Padded edge

NUMBER OF BAYS WIDE	A		CATALOG NUMBER	APPROX. WEIGHT
	INCHES	mm		
ONE	22 5/32"	563	VCS2D22	18 lb.
TWO	44 1/16"	1126	VCS2D44	34 lb.
THREE	66 1/32"	1688	VCS2D66	50 lb.

**"EDITOR" DESK/SLOPING – or – "SWITCHER" DESK**  
 (May be used for a controller or switcher)

CATALOG NUMBER	APPROXIMATE WEIGHT
VCEDS22	13 lb.
*VCEDS22-PE	13 lb.

\*With padded edge

**"EDITOR" DESK/FLAT**

- Heavy-duty laminate construction
- Canti-levered installation
- Laminate: Pecan

NUMBER OF BAYS WIDE	A		CATALOG NUMBER	APPROX. WEIGHT
	INCHES	mm		
ONE	22 5/32"	563	VCEDF-1	61 lb.
TWO	44 1/16"	1126	VCEDF-2	90 lb.
THREE	66 1/32"	1688	VCEDF-3	114 lb.

**REAR/BACK/MODESTY PANEL**

USED WITH	CATALOG NUMBER	APPROX. WEIGHT
VCRK2723	VCRP2723	9 lb.
VCRK2731	VCRP2731	12 lb.
VCRK5123	VCRP5123	19 lb.
VCRK5131	VCRP5131	22 lb.
VCRK6323	VCRP6323	23 lb.
VCRK6331	VCRP6331	26 lb.
VCRK7523	VCRP7523	27 lb.
VCRK7531	VCRP7531	30 lb.
VCDR23	VCRP23	27 lb.
VCDR31	VCRP31	30 lb.
DESK WIDTH: 45 1/2"	VCRP45	17 lb.
DESK WIDTH: 67 3/4"	VCRP67	25 lb.

- Removable
- Conceals cords/cables
- Finish: Brown #VC7T

**SIDE PANEL FOR DESK ASSEMBLIES**

- Laminate design
- Color: Center: Pecan, Border: Brown
- Easily assembled

IN.	mm	CATALOG NUMBER	APPROX. WEIGHT
30"	762	VCSP30	25 lb.
42"	1067	VCSP42	35 lb.
48"	1219	VCSP48	40 lb.

**EDITOR – SLIDING WRITING SHELF**



VCSS25 or VCSS30

**EDITOR – SLIDING WRITING SHELF WITH DRAWER**



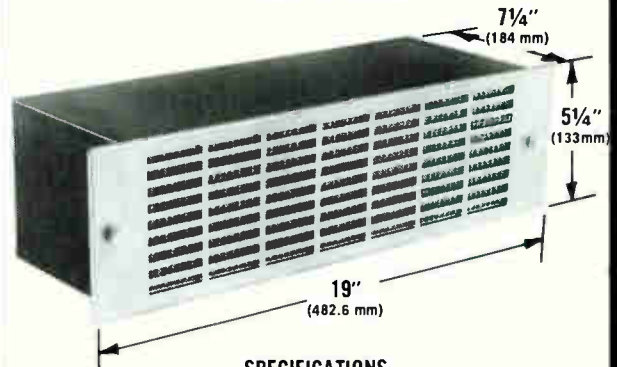
VCLTD25 or VCLTD30

**INFORMATION REGARDING ABOVE ITEMS**

- Used with:
  - Sloping front cabinets
  - Vertical front cabinets
  - "K-D" cabinets
- Recessed flush into cabinets
- Pulls out on slides
- Laminate: Pecan

CATALOG NUMBER	MAY BE USED WITH	APPROX. WEIGHT
VCSS25	SLOPING AND VERTICAL CABINETS	37 lb.
VCLTD25	SLOPING CABINETS VERTICAL CABINETS	31 lb.
VCSS30	"K-D" CABINET	38 lb.
VCLTD30	"K-D" CABINET	35 lb.

**PACKAGED BLOWERS**



**SPECIFICATIONS**

- A. Motors:**
1. Double-shielded precision ball bearing.
  2. Bearings meet Fed. Spec. =FF-B-171A.
  3. Lubricant used has range from -29°C. to +148°C., providing protection exceeding Mil-G-3278 requirements under severe high temperature conditions.
  4. 115 volt, 50/60 cycle current is standard.
  5. 1.6 AMPS, 122 WATTS.
  6. All standard motors meet specifications #CC-M-636A
  7. MOTOR SPEED: 3050 RPM
- B. Filter:**
1. Permanent
  2. Washable and reusable
  3. Easily removable
- C. Front Grille:**
1. Chrome plated
  2. Easily removed
  3. 19" wide
- D. Blower case painted zinc chromate primer plus grey enamel.**
- E. Rotating parts neoprene shock-mounted and isolated from enclosure.**
- F. Minimum of 36" type SJ 3-wire cord, internally grounded, securely locked to case by strain-relief bushing.**

CATALOG NUMBER	APPROXIMATE WEIGHT
VCPB300A	18 lb.

**PANEL SCREWS**



- 10-32 thread
- Phillips head
- Bright nickle plated
- "Pressed-on" nylon washer protects panel finish

CATALOG NUMBER	USE WITH	LENGTH		APPROX. WEIGHT PER 100
		INCHES	mm	
VCH99	5/8" DEEP FORMED PANEL	1 1/8"	28.6	1/2 lb.
VCH100	1/8" THICK FLAT PANEL	5/8"	15.9	1/2 lb.

**VENTILATION GRILLE**



- Material: aluminum extrusion
- Decorative brushed finish
- Filter included
- Used with:
  - Sloping front cabinet
  - Vertical front cabinet
  - "K-D" cabinet

A		CATALOG NUMBER	APPROXIMATE WEIGHT
INCHES	mm		
3 1/2"	89	VCVGR3	3 lb.
5 1/4"	133	VCVGR5	3 1/2 lb.
7"	178	VCVGR7	4 lb.
8 3/4"	222	VCVGR8	4 1/2 lb.
10 1/2"	267	VCVGR10	5 lb.
12 1/4"	311	VCVGR12	6 lb.



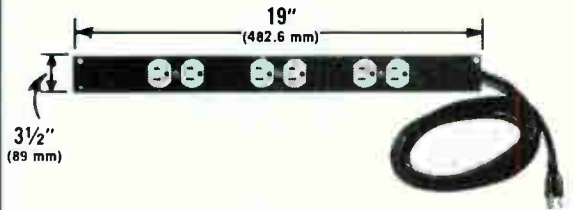
**POWER PANEL**



- Combined power panel and outlet strip.
- Rack mountable.
- On/off switch.
- 15 amp circuit breaker.
- Rear has duplex outlet.
- 3-wire 15 ft. line cord.
- May be used in conjunction with other power strips.

USED WITH	CATALOG NUMBER	APPROX. WEIGHT
19" WIDE PANEL SPACE	VCPW19	3 lb.
23" WIDE RACK	VCPW23	3 1/2 lb.
31" WIDE RACK	VCPW31	4 lb.

**POWER STRIP**



- Rack mountable.
- 6 "U" ground outlets.
- 15' 3-wire line cord.
- 15A, 125VAC, 60 HZ, 1875 watts rated

USED WITH	CATALOG NUMBER	APPROX. WEIGHT
19" WIDE PANEL SPACE	VCPS19	3 lb.
23" WIDE RACK	VCPS21	3 1/2 lb.
31" WIDE RACK	VCPS31	4 lb.



**TOUCH-UP PAINT  
 IN AEROSOL CANS**

WEIGHT:  
 16 OZ. CAN

CATALOG NUMBER	COLOR	CATALOG NUMBER	COLOR
VCTU4	Light blue	VCTU14	Dark grey
VCTU6	Light tan	VCTU15	Medium blue
VCTU7	Medium tan	VCTU16	Dark brown
VCTU8	Black	VCTU17	Fire red
VCTU9	White	VCTU18	Autumn gold
VCTU10	Orange	VCTU19	Bamboo
VCTU11	Medium green	VCTU20	Caramel
VCTU12	Light green	VCTU21	Royal blue
VCTU13	Light grey		

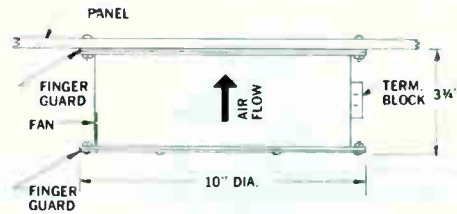
**EXHAUST or INTAKE FAN ASSEMBLIES**



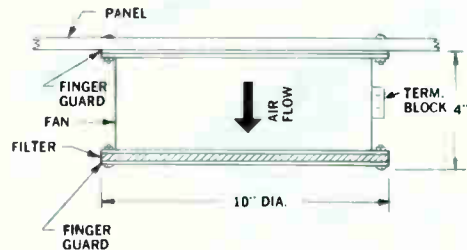
**MODEL NO. VCTA530**

- STANTRON TUBE AXIAL FAN has been designed for flushing and cooling VIDEO CENTER cabinets. The FAN can be used for both exhaust or intake since air flow direction is established by mounting position.
- Two finger guards, one on each side, are provided with each FAN and unit cost includes installation.
- When ordering, specify VCTA530-EX for exhausting air or VCTA530-IN for intake of air.
- IMPORTANT: When ordering, specify where fan is to be installed. If installed in door, indicate top or bottom.

**DIMENSIONAL DATA**



**NO. VCTA530-EX EXHAUST FAN ASSEMBLY**



**NO. VCTA530-IN INTAKE FAN ASSEMBLY**

CATALOG NUMBER	APPROXIMATE WEIGHT
VCTA530-EX	5 lb.
VCTA530-IN	5 lb.

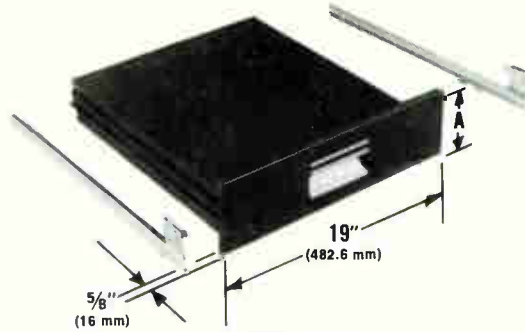
**VIDEO EQUIPMENT SHELF**



- Bolts directly to mounting angles
- Support equipment within cabinet
- Finish: Black only

CATALOG NUMBER	MAY BE USED WITH	APPROX. WEIGHT
VCES22	MONITOR-DESK CABINET	7 lb.
VCES25	SLOPING/VERTICAL CABINETS	12 lb.
VCES30	"K-D" CABINET	15 lb.

**VIDEO EQUIPMENT STORAGE DRAWER**



- Ideal for Storing:
  - Tapes
  - Spare parts
  - Video equipment
  - Instruction manuals
  - Roller bearing slides
  - Attractive flush pull handle
  - Finish: Choice of colors

**VIDEO EQUIPMENT SLIDING SHELF**



- Sliding shelf supports equipment within cabinet
- Moves in and out on slides
- Finish: Black only.

CATALOG NUMBER	MAY BE USED WITH	APPROX. WEIGHT
VCSL22	MONITOR-DESK CABINET	10 lb.
VCSL25	SLOPING/VERTICAL CABINETS	16 lb.
VCSL30	"K-D" CABINET	18 lb.

**USE WITH SLOPING FRONT and VERTICAL FRONT CABINETS**

CATALOG NUMBER	A		APPROX. WEIGHT
	INCHES	mm	
VCED325	3½"	89	20 lb.
VCED525	5¼"	113	22 lb.
VCED725	7"	179	23 lb.
VCED825	8¾"	222	25 lb.
VCED1025	10½"	260	27 lb.
VCED1225	12½"	311	28 lb.
VCED1425	14"	356	30 lb.

**VIDEO EQUIPMENT SUPPORTING ANGLE**



- Supports equipment within cabinet
- Bolts directly to mounting angles
- Cad plate finish

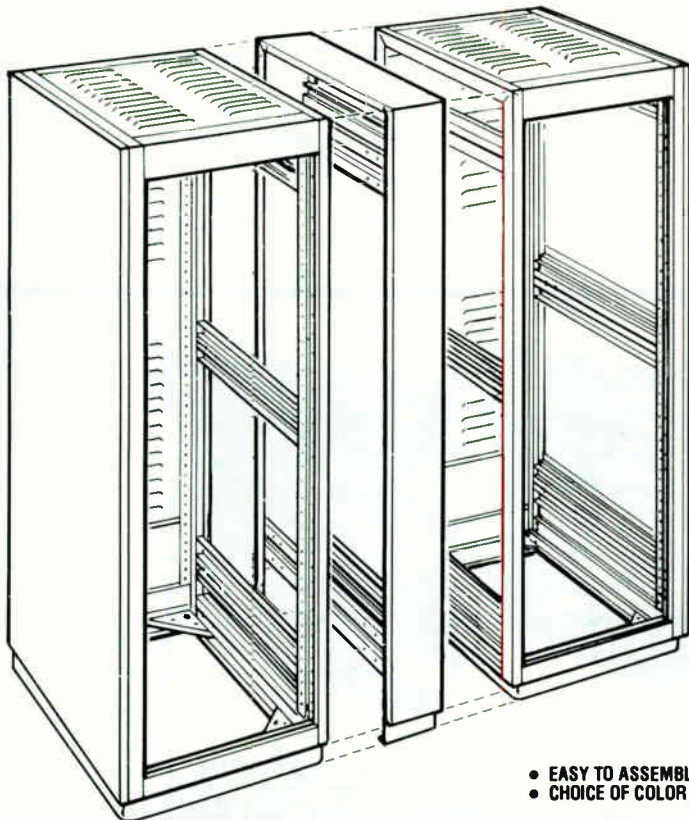
CATALOG NUMBER	MAY BE USED WITH	APPROX. WEIGHT
VCSA22	MONITOR-DESK CABINET	5 lb.
VCSA25	SLOPING/VERTICAL CABINETS	6 lb.
VCSA30	"K-D" CABINET	7 lb.

**USE WITH "KNOCK-DOWN" CABINETS**

CATALOG NUMBER	A		APPROX. WEIGHT
	INCHES	mm	
VCED330	3½"	89	21 lb.
VCED530	5¼"	113	22 lb.
VCED730	7"	179	24 lb.
VCED830	8¾"	222	26 lb.
VCED1030	10½"	260	28 lb.
VCED1230	12¼"	311	31 lb.
VCED1430	14"	356	33 lb.

**SPACER FRAME**

THE STANTRON SPACER FRAME ALLOWS YOU TO MOUNT TWO OR MORE 1" VTR's SIDE BY SIDE WITHOUT INTERFERENCE, AND CAN ALSO BE USED TO STORE CABLES BETWEEN CABINETS.

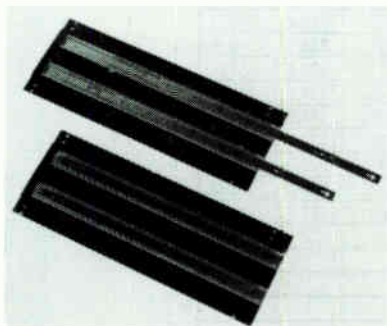


- EASY TO ASSEMBLE
- CHOICE OF COLOR

**ORDERING INFORMATION**

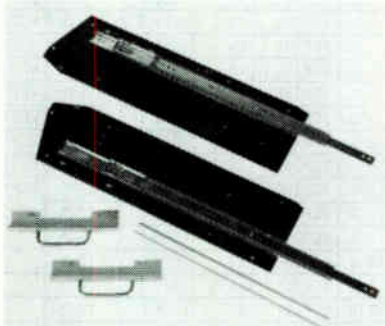
CATALOG NUMBER			VERTICAL PANEL SPACE	DEPTH
3" WIDE	5" WIDE	7" WIDE		
VCSSF32122	VCSSF52122	VCSSF72122	21 <sup>1</sup> / <sub>16</sub> "	22 <sup>1</sup> / <sub>8</sub> "
VCSSF32125	VCSSF52125	VCSSF72125	21 <sup>1</sup> / <sub>16</sub> "	25 <sup>5</sup> / <sub>8</sub> "
VCSSF32130	VCSSF52130	VCSSF72130	21 <sup>1</sup> / <sub>16</sub> "	30 <sup>7</sup> / <sub>8</sub> "
VCSSF32822	VCSSF52822	VCSSF72822	28 <sup>1</sup> / <sub>16</sub> "	22 <sup>1</sup> / <sub>8</sub> "
VCSSF32825	VCSSF52825	VCSSF72825	28 <sup>1</sup> / <sub>16</sub> "	25 <sup>5</sup> / <sub>8</sub> "
VCSSF32830	VCSSF52830	VCSSF72830	28 <sup>1</sup> / <sub>16</sub> "	30 <sup>7</sup> / <sub>8</sub> "
VCSSF33522	VCSSF53522	VCSSF73522	35 <sup>1</sup> / <sub>16</sub> "	22 <sup>1</sup> / <sub>8</sub> "
VCSSF33525	VCSSF53525	VCSSF73525	35 <sup>1</sup> / <sub>16</sub> "	25 <sup>5</sup> / <sub>8</sub> "
VCSSF33530	VCSSF53530	VCSSF73530	35 <sup>1</sup> / <sub>16</sub> "	30 <sup>7</sup> / <sub>8</sub> "
VCSSF34322	VCSSF54322	VCSSF74322	43 <sup>13</sup> / <sub>16</sub> "	22 <sup>1</sup> / <sub>8</sub> "
VCSSF34325	VCSSF54325	VCSSF74325	43 <sup>13</sup> / <sub>16</sub> "	25 <sup>5</sup> / <sub>8</sub> "
VCSSF34330	VCSSF54330	VCSSF74330	43 <sup>13</sup> / <sub>16</sub> "	30 <sup>7</sup> / <sub>8</sub> "
VCSSF35222	VCSSF55222	VCSSF75222	52 <sup>9</sup> / <sub>16</sub> "	22 <sup>1</sup> / <sub>8</sub> "
VCSSF35225	VCSSF55225	VCSSF75225	52 <sup>9</sup> / <sub>16</sub> "	25 <sup>5</sup> / <sub>8</sub> "
VCSSF35230	VCSSF55230	VCSSF75230	52 <sup>9</sup> / <sub>16</sub> "	30 <sup>7</sup> / <sub>8</sub> "
VCSSF36122	VCSSF56122	VCSSF76122	61 <sup>5</sup> / <sub>16</sub> "	22 <sup>1</sup> / <sub>8</sub> "
VCSSF36125	VCSSF56125	VCSSF76125	61 <sup>5</sup> / <sub>16</sub> "	25 <sup>5</sup> / <sub>8</sub> "
VCSSF36130	VCSSF56130	VCSSF76130	61 <sup>5</sup> / <sub>16</sub> "	30 <sup>7</sup> / <sub>8</sub> "
VCSSF37022	VCSSF57022	VCSSF77022	70 <sup>1</sup> / <sub>16</sub> "	22 <sup>1</sup> / <sub>8</sub> "
VCSSF37025	VCSSF57025	VCSSF77025	70 <sup>1</sup> / <sub>16</sub> "	25 <sup>5</sup> / <sub>8</sub> "
VCSSF37030	VCSSF57030	VCSSF77030	70 <sup>1</sup> / <sub>16</sub> "	30 <sup>7</sup> / <sub>8</sub> "
VCSSF37822	VCSSF57822	VCSSF77822	78 <sup>13</sup> / <sub>16</sub> "	22 <sup>1</sup> / <sub>8</sub> "
VCSSF37825	VCSSF57825	VCSSF77825	78 <sup>13</sup> / <sub>16</sub> "	25 <sup>5</sup> / <sub>8</sub> "
VCSSF37830	VCSSF57830	VCSSF77830	78 <sup>13</sup> / <sub>16</sub> "	30 <sup>7</sup> / <sub>8</sub> "

**RACK SLIDE KITS**



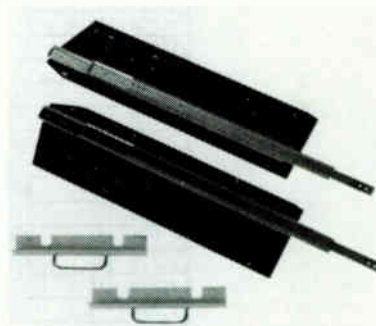
**MODEL VCSSK2700**

RACK SLIDE KIT FOR SONY BVH-2000 AND BVH-2500 VTR's WHEN INSTALLED IN STANTRON 25<sup>5</sup>/<sub>8</sub>" DEEP CABINETS.  
 APPROX. WT. 16 LBS.



**MODEL VCSSK2705**

RACK SLIDE KIT FOR SONY'S TYPE 5 VTR's WHEN INSTALLED IN STANTRON 25<sup>5</sup>/<sub>8</sub>" DEEP CABINETS.  
 APPROX. WT. 12 LBS.



**MODEL VCSSK2708**

RACK SLIDE KIT FOR SONY'S TYPE 8 VTR's WHEN INSTALLED IN STANTRON 25<sup>5</sup>/<sub>8</sub>" DEEP CABINETS.  
 APPROX. WT. 12 LBS.



**19" WIDE FOR FRONT, REAR, TOP AND BOTTOM OPENINGS ON STANTRON CABINETS**

**DESCRIPTION**

**A. Material:**

1. Plain panels: 16 ga. steel
2. Louvered panels: 16 ga. steel
3. Perforated panels: 16 ga. steel
4. Finish: See Page #31

**B. Design-features:**

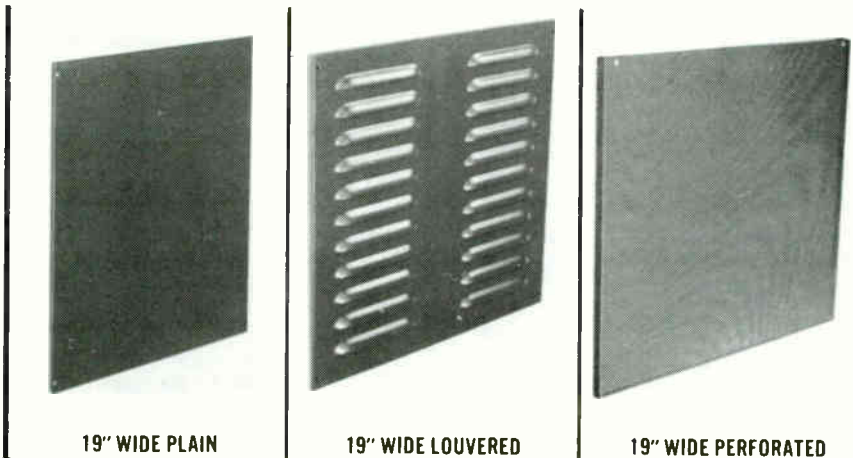
1. Plain:
  - (a) 5/8" flange all four sides
  - (b) Fits into 5/8" recessed opening on all STANTRON cabinets to create "flush appearance"

**2. Louvered:**

- (a) Same features as plain panel
- (b) Double-row of louvers
- (c) Louvers are 6" long
- (d) Louvers are 3/4" high
- (e) 1" between louvers
- (f) Approximately 1 3/4" square inches of ventilation per louver

**3. Perforated:**

- (a) Same features as plain panel
- (b) 1/16" dia. holes on 1/8" centers — staggered rows
- (c) 26% open area



19" WIDE PLAIN			19" WIDE LOUVERED			19" WIDE PERFORATED					
CATALOG NUMBER	PANEL HEIGHT INCHES	PANEL HEIGHT mm	APPROX. WEIGHT	CATALOG NUMBER	PANEL HEIGHT INCHES	PANEL HEIGHT mm	APPROX. WEIGHT	CATALOG NUMBER	PANEL HEIGHT INCHES	PANEL HEIGHT mm	APPROX. WEIGHT
VCP1	1 3/4"	44.5	1 1/4 lb.								
VCP3	3 1/2"	88.9	1 3/4 lb.					VCP3P	3 1/2"	88.9	1 3/4 lb.
VCP5	5 1/4"	133.4	2 1/2 lb.	VCP5L	5 1/4"	133.4	2 1/2 lb.	VCP5P	5 1/4"	133.4	2 1/2 lb.
VCP7	7"	177.8	4 lb.	VCP7L	7"	177.8	4 lb.	VCP7P	7"	177.8	4 lb.
VCP8	8 3/4"	222.3	4 1/2 lb.	VCP8L	8 3/4"	222.3	4 1/2 lb.	VCP8P	8 3/4"	222.3	4 1/2 lb.
VCP10	10 1/2"	266.7	5 lb.	VCP10L	10 1/2"	266.7	5 lb.	VCP10P	10 1/2"	266.7	5 lb.
VCP12	12 1/4"	311.2	5 1/2 lb.	VCP12L	12 1/4"	311.2	5 1/2 lb.	VCP12P	12 1/4"	311.2	5 1/2 lb.
VCP14	14"	355.6	6 lb.	VCP14L	14"	355.6	6 lb.	VCP14P	14"	355.6	6 lb.
VCP15	15 3/4"	400.1	6 1/2 lb.	VCP15L	15 3/4"	400.1	6 1/2 lb.	VCP15P	15 3/4"	400.1	6 1/2 lb.
VCP17	17 1/2"	444.5	7 1/2 lb.	VCP17L	17 1/2"	444.5	7 1/2 lb.	VCP17P	17 1/2"	444.5	7 1/2 lb.
VCP19	19 1/4"	488.9	8 lb.	VCP19L	19 1/4"	488.9	8 lb.	VCP19P	19 1/4"	488.9	8 lb.
VCP21	21"	533.4	9 lb.	VCP21L	21"	533.4	9 lb.	VCP21P	21"	533.4	9 lb.
VCP24	24 1/2"	622.3	10 lb.	VCP24L	24 1/2"	622.3	10 lb.	VCP24P	24 1/2"	622.3	10 lb.
VCP26	26 1/4"	666.8	11 lb.	VCP26L	26 1/4"	666.8	11 lb.	VCP26P	26 1/4"	666.8	11 lb.
VCP28	28"	711.2	12 lb.	VCP28L	28"	711.2	12 lb.	VCP28P	28"	711.2	12 lb.
VCP31	31 1/2"	800.1	13 lb.	VCP31L	31 1/2"	800.1	13 lb.				
VCP35	35"	889.0	14 lb.	VCP35L	35"	889.0	14 lb.				
VCP38	38 1/2"	977.9	16 lb.	VCP38L	38 1/2"	977.9	16 lb.				
VCP42	42"	1066.8	18 lb.	VCP42L	42"	1066.8	18 lb.				
VCP43	43 3/4"	1111.3	19 lb.	VCP43L	43 3/4"	1111.3	19 lb.				
VCP49	49"	1244.6	20 lb.	VCP49L	49"	1244.6	20 lb.				
VCP52	52 1/2"	1333.5	22 lb.	VCP52L	52 1/2"	1333.5	22 lb.				
VCP61	61 1/4"	1555.8	27 lb.	VCP61L	61 1/4"	1555.8	27 lb.				
VCP70	70"	1778.0	30 lb.	VCP70L	70"	1778.0	30 lb.				
VCP78	78 3/4"	2000.3	33 lb.	VCP78L	78 3/4"	2000.3	33 lb.				

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## CASES

If it's Audio, Video, Computerized, or anything that is valuable and must travel safely, Star Case has probably built a case for it during the past decade. Star Case offers 3 completely different lines of fiberglass cases (ATA Star/Super Star/Ultra Star) that conform to and exceed all ATA specifications, plus a lightweight (Carry Star) case line designed for surface transportation. Custom cases can be built to your requirements or you can use one of the 50,000 predesigned models from the Star Case library.



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- 1/8" plywood with tough shock resistant fiberglass
- Exterior surface-mount hardware
- Lightweight, yet rugged
- Perfect for local travel
- Choice of 4 colors

### ATA Star Flight Cases

- 1/4" plywood with tough shock resistant fiberglass
- Recessed step-down hardware
- Exceeds Air Transport Association Spec 300 Category I and Military Spec 810 D
- Choice of 11 colors

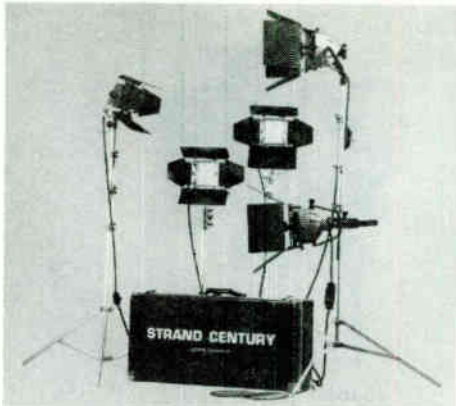
### Super Star and Ultra Star Premium Flight Cases

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- 1/2" plywood (Ultra Star) with tough shock resistant fiberglass
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- Recessed step-down hardware
- Exceeds Air Transport Association Spec 300 Category I and Military Spec 810 D
- Choice of 11 colors



# STRAND LIGHTING

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Rancho Dominguez, CA 90224  
(213) 637-7500  
Telex: 66-4741



KIT V

## Pulsar 600W

A light, compact, open faced floodlight, it is ideally suited for remote and location work. Stand camera-mounted or handheld, the Pulsar's fiberglass "cool touch" housing is a great asset. It gives a soft edged beam with variable spread, has a rapid-turn fast focus knob and an integral heat dissipator — and slips into compact storage. Operates both 120V and 240V lamps.

## lanebeam 650W

lanebeam floodlights have basic features in all sizes: They are open faced, lightweight, compact, durable and ideally suited for work in film, television and still photography. They provide a soft edged beam with variable spread and fast focus. The 650W model accepts a variety of tungsten-halogen lamps for both 120V and 240V operation.

## lanebeam 1000W

The 650W and 1000W lanebeam floodlights feature molded fiberglass housing for "cool touch" operation permitting faster pack-up after shooting as well as comfortable handling. The 1000W accepts a

# PORTABLE LIGHTING KITS



KIT VII

variety of tungsten-halogen lamps and like all lanebeams has available a wide variety of accessories and both yokes for stand mounting as well as gaffer grips.

## lanebeam 2000W

The largest lanebeam offered as a kit component is the 2000W which features a lightweight aluminum housing, will operate on 120V and provides a soft edged beam with variable output. It has rapid-turn fast focus knob, is equipped with yoke and stand mounting bracket and a complete range of mounting and grip equipment and accessories. Will also operate on 240V.

## iadi 1000W

This unit provides high output fill light for portable and remote applications in television, film and still photography and features a one piece reflector for a wide field and smooth light distribution. The compact housing with folding, springloaded integral 4-way barn doors is ventilated for cooling and efficient operation on a wide range of tungsten-halogen lamps for both 120V and 240V operation.

## Century Kit I (1051)

Includes:			
3-4515MP	Pulsar	1-1228	Half Single Scrim
3-1310	4-leaf Barndoor	3-DYS	600W, 75 hrs., 3200°K
1-1225	Full Double Scrim	3-1529	Stand
1-1226	Full Single Scrim	1-1977	Case
1-1227	Half Double Scrim		\$1120.00

## Century Kit II (1052)

Includes:			
2-4501MP	lanebeam 650	1-1217	Single Scrim
2-1230	Accessory Holder	2-1529	Stand
2-1324	4-leaf Barndoor	1-1978	Case
1-1216	Double Scrim		\$811.00

## Century Kit III (1053)

Includes:			
3-4501MP	lanebeam 650	1-1217	Single Scrim
2-1230	Accessory Holder	3-1529	Stand
2-1324	4-leaf Barndoor	1-1977	Case
1-1216	Double Scrim		\$1028.00

## Century Kit IV (1054)

Includes:			
2-4501MP	lanebeam 650	1-1217	Single Scrim
2-1230	Accessory Holder	2-4522	iadi Fill
2-1324	4-leaf Barndoor	4-1530	Stand
1-1216	Double Scrim	1-1978	Case
			\$1339.00

## Century Kit V (1055)

Includes:			
2-4503MP	lanebeam 1000	3-4522	iadi Fill
2-1230	Accessory Holder	1-1963	Gaffer Grip with
2-1324	4-leaf Barndoor		5/8" (16mm) stud
1-1216	Double Scrim	4-1535	Stand
1-1217	Single Scrim	1-1978	Case
			\$1589.00

## Century Kit VI (1056)

Includes:			
4-4501MP	lanebeam 650	2-1217	Single Scrim
4-1230	Accessory Holder	4-1535	Stand
4-1324	4-leaf Barndoor	1-1978	Case
2-1216	Double Scrim		\$1494.00

## Century Kit VII (1057)

Includes:			
4-4503MP	lanebeam 1000	2-1217	Single Scrim
4-1230	Accessory Holder	4-1535	Stand
4-1324	4-leaf Barndoor	1-1978	Case
2-1216	Double Scrim		\$1494.00

## Century Kit VIII (1058)

Includes:			
3-4503MP	lanebeam 1000	1-1217	Single Scrim
2-1230	Accessory Holder	3-1529	Stand
2-1324	4-leaf Barndoor	1-1978	Case
1-1216	Double Scrim		\$1028.00

## Century Kit IX (1059)

Includes:			
2-4505MP	lanebeam 1000	1-1217	Single Scrim
2-1230	Accessory Holder	2-1530	Stand
2-1324	4-leaf Barndoor	1-1979	Case
1-1216	Double Scrim		\$811.00

## Century Kit XI (1061)

Includes:			
2-4505MP	lanebeam 2000	1-1223	Half Double Scrim
2-1325	4-leaf Barndoor	1-1224	Half Single Scrim
1-1221	Full Double Scrim	2-1535	Stand
1-1222	Full Single Scrim	1-1973	Case
			\$1311.00

# STRAND LIGHTING

18111 S. Santa Fe Ave.  
P.O. Box 9004  
Rancho Dominguez, CA 90224  
(213) 637-7500  
Telex: 66-4741

# PORTABLE LIGHTING UNITS

## QUARTZCOLOR PORTABLE LIGHTING UNITS

### Pulsar 600

**4515MP** 600W Pulsar, fiberglass variable focus spotlight, with integral accessory holder, switch and 12' cable. . . . . \$227.00



4515MP

#### Accessories

1133	Color or diffuser frame . . . . .	\$15.00
1141	Outrigger color/diffuser frame . . . . .	.96.00
1183	Variable cone. . . . .	.62.00
1225	Full double scrim . . . . .	.12.00
1226	Full single scrim . . . . .	.12.00
1227	Half double scrim . . . . .	.12.00
1228	Half single scrim. . . . .	.12.00
1278	Safety glass (clear). . . . .	.53.00
1281	Dichroic filter . . . . .	.92.00
1310	4-way barn door . . . . .	.41.00
1529	Stand for Pulsar . . . . .	.68.00
1960	Handle . . . . .	.45.00
1963	Gaffer grip with 5/8" stud . . . . .	.34.00

#### Lamps

DYS	600W 75 hrs., 3200°K . . . . .	†
DYG	250W 20 hrs., 3200°K, 30V . . . . .	†
DYR	650W 75 hrs., 3200°K, 220/240V . . . . .	†
EYL	100W 50 hrs., 3300°K, 12V . . . . .	†

### lanebeam 650

4501MP	650W lanebeam, fiberglass variable focus spotlight . . . . .	\$150.00
4502MP	800W lanebeam, fiberglass variable focus spotlight, 220/240V . . . . .	180.00

### lanebeam 1000 (120V Only)

**4503MP** 1000W lanebeam, fiberglass variable focus spotlight . . . . . \$162.00

#### Accessories for lanebeam 650 and 1000

1230	Accessory holder (required for all accessories) . . . . .	\$45.00
1324	4-way barn door . . . . .	34.00
1135	Outrigger extended color/diffuser frame . . . . .	.96.00
1282	Dichroic filter . . . . .	129.00
1279	Safety glass (clear). . . . .	53.00
1216	Full double scrim . . . . .	13.00
1217	Full single scrim . . . . .	13.00
1218	Half double scrim . . . . .	13.00
1219	Half single scrim. . . . .	13.00
1530	Small kit stand aluminum, folds to 21", extends to 6'5", 5/8" stud, 2.3 lbs. . . . .	75.00
1535	Reg. kit stand aluminum, folds to 30", extends to 8'6", 5/8" stud, 2.9 lbs. . . . .	88.00

#### Lamps for lanebeam 650

FDA	400W 250 hrs., 3200°K . . . . .	†
FAD	650W 100 hrs., 3200°K . . . . .	†
FBX	650W 100 hrs., 3200°K, frosted . . . . .	†
DXX	800W 50 hrs., 3200°K, 220/240V . . . . .	†

#### Lamps for lanebeam 1000

FCB	600W 75 hrs., 3200°K . . . . .	†
DXW	1000W 150 hrs., 3200°K . . . . .	†
FBY	1000W 150 hrs., 3200°K, frosted . . . . .	†



4503MP



4505MP

### lanebeam 2000

4505MP	2000W lanebeam, variable focus spotlight with integral accessory holder . . . . .	\$356.00
4506MP	2000W lanebeam, variable focus spotlight with integral accessory holder, 220/240V . . . . .	356.00

#### Accessories

1325	4-way barn door . . . . .	\$ 63.00
1283	Dichroic filter . . . . .	264.00
1221	Full double scrim . . . . .	15.00
1222	Full single scrim . . . . .	15.00
1223	Half double scrim . . . . .	15.00
1224	Half single scrim. . . . .	15.00
1519	Trojan stand . . . . .	134.00

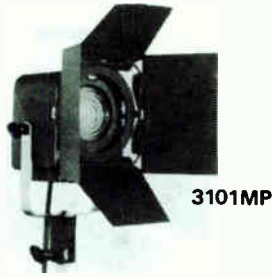
#### Lamps

FER	1000W 500 hrs., 3200°K . . . . .	†
DVV	1500W 300 hrs., 3200°K, 220/240V . . . . .	†
FEY	2000W 300 hrs., 3200°K . . . . .	†
FEX	2000W 300 hrs., 3200°K, 220/240V . . . . .	†

†Call for current lamp prices.

# STRAND LIGHTING

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3101MP



3301TV



3501TV



3601TV

## Strand Lighting/Quartzcolor Fresnels

Efficient, soft edged beam with excellent barndooring characteristics for high performance situations.

### 3" (76mm) "Mizar"

3101TV	3" (76mm), 200W Fresnel, hanging	\$268.00
3101MP	3" (76mm), 200W Fresnel, stand mount	280.00
3102TV	3" (76mm), 500W Fresnel, hanging	308.00
3102MP	3" (76mm), 500W Fresnel, stand mount	322.00

### Accessories

1310	4-way barndoor	\$41.00
1133	Color or diffuser frame	15.00
1225	Full double scrim	12.00
1226	Full single scrim	12.00
1227	Half double scrim	12.00
1228	Half single scrim	12.00
1183	Variable cone	62.00
1500	Safety cable for hanging	9.00
1560	Table stand with 5/8" (16mm) stud	33.00

### Lamps

FEV	200W, 50 hrs.	†
CP81	300W, 150 hrs.	†
CP82	500W, 150 hrs.	†

### 6" (152mm) 1000W "Polaris"

3301TV	6" (152mm) 1000W Fresnel, hanging	\$392.00
3301PO	6" (152mm) 1000W Fresnel, pole-op	611.00
3301MP	6" (152mm) 1000W Fresnel, stand mount	404.00

### Accessories

1300	8-way rotatable barndoor	\$ 56.00
1144	Color or diffuser frame	13.00
1201	Full double scrim	12.00
1202	Full single scrim	12.00
1203	Half double scrim	12.00
1204	Half single scrim	12.00
1123	Wireguard	15.00
1170	2 1/4" (57mm) cone	45.00
1171	3" (76mm) cone	45.00
1172	4 1/4" (108mm) cone	45.00
1941	Operating Pole 6' (1.8m), 2.1 lb. (0.95kg)	107.00
1942	Operating Pole 9'3" (2.8m), 2.8 lb. (1.3kg)	112.00
1943	Operating Pole 12'7" (3.8m), 3.5 lb. (1.6kg)	118.00
1944	Operating Pole 15'10" (4.8m), 4.2 lb. (1.9kg)	124.00

### Lamps

EGR	500W, 100 hrs.	†
EGR	750W, 200 hrs.	†
EGT	1000W, 200 hrs.	†
CP39	650W, 100 hrs., 220/240V	†
CP40	1000W, 200 hrs., 220/240V	†

### 10" (254mm) 2000W "Castor"

3501TV	10" (254mm), 2000W Fresnel, hanging	\$675.00
3501PO	10" (254mm), 2000W Fresnel, pole-op	861.00
3501MP	10" (254mm), 2000W Fresnel, stand mount	807.00

### Accessories

1301	8-way rotatable barndoor	\$79.00
1145	Color or diffuser frame	25.00
1208	Full double scrim	16.00
1209	Full single scrim	16.00
1210	Half double scrim	16.00

# FRESNELS

1211	Half single scrim	\$16.00
1125	Wireguard	19.00
1173	4 3/8" (111mm) cone	96.00
1174	6" (152mm) cone	96.00
1175	7 3/4" (197mm) cone	96.00
1500	Safety cable for hanging	9.00

### Lamps

CYV	1000W, 200 hrs.	†
CXZ	1500W, 325 hrs.	†
CYX	2000W, 250 hrs.	†
CP41	2000W, 400 hrs., 220/240V	†

### 12" (305mm) 5000W "Pollux"

3601TV	12" (305mm), 5000W Fresnel, hanging	\$1022.00
3601PO	12" (305mm), 5000W Fresnel, pole-op	1239.00
3601MP	12" (305mm), 5000W Fresnel, stand mount	1128.00

### Accessories

1302	8-way rotatable barndoor	\$118.00
1146	Color or diffuser frame	31.00
1147	Outrigger color/diffuser frame	236.00
1212	Full double scrim	34.00
1213	Full single scrim	34.00
1214	Half double scrim	34.00
1215	Half single scrim	34.00
1126	Wireguard	23.00
1176	6 1/4" (159mm) cone	124.00
1177	9" (229mm) cone	124.00
1178	11" (279mm) cone	124.00

### Lamps

DPY	5000W, 500 hrs.	†
CP29	5000W, 500 hrs., 220/240V	†

Note: Units include wireguard

## Fresnel Performance Data

Cat. No.	Distance	Spot Focus		Flood Focus		Lamp
		Footcandles (Lux)	1/2 Peak Diameter	Footcandles (Lux)	1/2 Peak Diameter	
3101	10' (3m)	234 (2600)	1.4' (4m)	31 (350)	8.3' (2.5m)	FEV
3301	15' (4.5m)	560 (6222)	1.7' (5m)	48 (533)	16.5' (5m)	EGT
3501	25' (7.5m)	423 (4708)	5' (1.5m)	63 (702)	25' (7.5m)	CYX
3601	35' (10.5m)	449 (4989)	8' (2.4m)	81 (907)	39.6' (11.9m)	DPY

### Notes:

- Fixtures are provided with 3' (.9m) leads, connectors and C-Clamp for hanging unless otherwise specified
- To specify grounded connector type, add suffix to catalog number:  
GP—Three Pin  
GTL—Twistlock  
GR—Parallel Blade U-Ground  
HGP—Harj-lock Pin Connector
- To specify fixture type add suffix for catalog number:  
MP—For stand mounting, with 23' (7m) cable and in-line switch  
PO—For Pole Operation  
TV—With C-Clamp for hanging
- Lamps and color frames not included unless otherwise noted
- Lamps listed are 3200°K unless otherwise noted. Lamps and fixtures are 120V unless otherwise noted
- For international applications, designate 100, 120, 220 or 240V operation

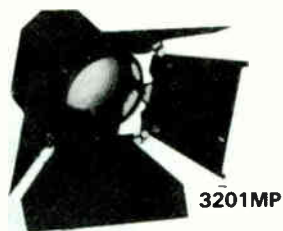
† Call for current lamp prices



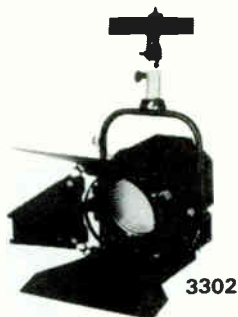
# STRAND LIGHTING

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(213) 637-7500 Telex: 66-4741

# FRESNELS



3201MP



3302



3505



3701

## 5" (127mm) 1000W Bambino

- 3201TV 5" (127mm) 1000W Fresnel, hanging . . . . . \$443.00  
3201MP 5" (127mm) 1000W Fresnel, stand mount . . . . . 449.00

### Accessories

- 1306 8-way rotatable barndoor . . . . . \$97.00  
1143 Color or diffuser frame . . . . . 13.00  
1200 Full double scrim . . . . . 12.00  
1205 Full single scrim . . . . . 12.00  
1206 Half double scrim . . . . . 12.00  
1207 Half single scrim . . . . . 12.00

### Lamps

- ERN 500W 100 hrs. . . . . †  
EGR 750W 200 hrs. . . . . †  
EGT 1000W 200 hrs. . . . . †  
CP39 650W 100 hrs., 220/240V . . . . . †  
CP40 1000W 200 hrs., 220/240V . . . . . †

## 6" (152mm) 2000W Bambino

- 3302TV 6" (152mm) 2000W Fresnel, hanging . . . . . \$661.00  
3302PO 6" (152mm) 2000W Fresnel, pole-op. . . . . 896.00  
3302MP 6" (152mm) 2000W Fresnel, stand mount . . . . . 667.00

### Accessories

- 1300 8-way rotatable barndoor . . . . . \$56.00  
1144 Color or diffuser frame . . . . . 13.00  
1201 Full double scrim . . . . . 12.00  
1202 Full single scrim . . . . . 12.00  
1203 Half double scrim . . . . . 12.00  
1204 Half single scrim . . . . . 12.00  
1123 Additional wireguard . . . . . 15.00  
1170 2 1/4" (57mm) . . . . . 45.00  
1171 3" (76mm) . . . . . 45.00  
1172 4 1/4" (108mm) . . . . . 45.00

### Lamps

- CYV 1000W 200 hrs. . . . . †  
CXZ 1500W 325 hrs. . . . . †  
CYX 2000W 250 hrs. . . . . †  
CP41 2000W 400 hrs., 220/240V . . . . . †

## 10" (254mm) 5000W Bambino

- 3505TV 10" (254mm) 5000W Fresnel, hanging . . . . . \$1016.00  
3505PO 10" (254mm) 5000W Fresnel, pole-op. . . . . 1265.00  
3505MP 10" (254mm) 5000W Fresnel, stand mount . . . . . 1045.00

### Accessories

- 1301 8-way rotatable barndoor . . . . . \$79.00  
1145 Color or diffuser frame . . . . . 25.00  
1208 Full double scrim . . . . . 16.00  
1209 Full single scrim . . . . . 16.00  
1210 Half double scrim . . . . . 16.00  
1211 Half single scrim . . . . . 16.00  
1125 Additional wireguard . . . . . 19.00  
1173 4 3/8" (111mm) cone . . . . . 96.00  
1174 6" (152mm) cone . . . . . 96.00  
1175 7 1/4" (197mm) cone . . . . . 96.00

### Lamps

- DPY 5000W 500 hrs. . . . . †  
CP29 5000W 500 hrs., 220/240V . . . . . †

## 14" (356mm) 10,000W Bambino

- 3701TV 14" (356mm) 10,000W Fresnel, hanging . . . . . \$2099.00  
3701PO 14" (356mm) 10,000W Fresnel, pole-op . . . . . 2372.00  
3701MP 14" (356mm) 10,000W Fresnel, stand mount . . . 2194.00

### Accessories

- 1302 8-way rotatable barndoor . . . . . \$118.00  
1146 Color or diffuser frame . . . . . 31.00  
1147 Outrigger color frame . . . . . 236.00  
1212 Full double scrim . . . . . 34.00  
1213 Full single scrim . . . . . 34.00  
1214 Half double scrim . . . . . 34.00  
1215 Half single scrim . . . . . 34.00  
1126 Additional wireguard . . . . . 28.00  
1176 6 1/4" (159mm) cone . . . . . 124.00  
1177 9" (229mm) cone . . . . . 124.00  
1178 11" (279mm) cone . . . . . 124.00

### Lamps

- DTY 10,000W 300 hrs. . . . . †  
CP83 10,000W 500 hrs., 220/240V . . . . . †

## Operating Poles

- 1941 Operating pole 6' (1.8m), 2.1 lb. (0.95kg) . . . . . \$107.00  
1942 Operating pole 9'3" (2.8m), 2.8 lb. (1.3kg) . . . . . 112.00  
1943 Operating pole 12'7" (3.8m), 3.5 lb. (1.6kg) . . . . . 118.00  
1944 Operating pole 15'10" (4.8m), 4.2 lb. (1.9kg) . . . . . 124.00

## Bambino Performance Data

Catalog Number	Distance	Spot Focus		Flood Focus		Lamp
		Footcandles (Lux)	1/10 Peak Diameter	Footcandles (Lux)	1/10 Peak Diameter	
3201	15' (4.5m)	675 (7500)	4.2' (1.26m)	63 (700)	20.2' (6.1m)	EGT
3302	20' (6m)	385 (4305)	7' (2.1m)	52 (580)	29' (8.7m)	CYX
3505	35' (10.5m)	448 (4985)	11.5' (3.5m)	65 (725)	41.6' (12.6m)	DPY
3701	50' (15m)	328 (3645)	22.5' (6.8m)	60 (665)	61.6' (18.5m)	DTY

### Notes

- Fixtures are provided with 3' (.9m) leads, connectors and C-Clamp for hanging unless otherwise specified
- To specify grounded connector type, add suffix to catalog number:  
GP—Three Pin  
GTL—Twistlock  
GR—Parallel Blade U-Ground  
HGP—Harj-lock Pin Connector
- To specify fixture type add suffix to catalog number:  
MP—For stand mounting, with 23' (7m) cable and in-line switch  
PO—For pole operation
- TV—with C-Clamp for hanging
- Lamps and color frames not included unless otherwise noted
- Lamps listed are 3200°K unless otherwise noted. Lamps and fixtures are 120V unless otherwise noted
- For international applications, designate 100, 120, 220 or 240V operation

†Call for current lamp prices.

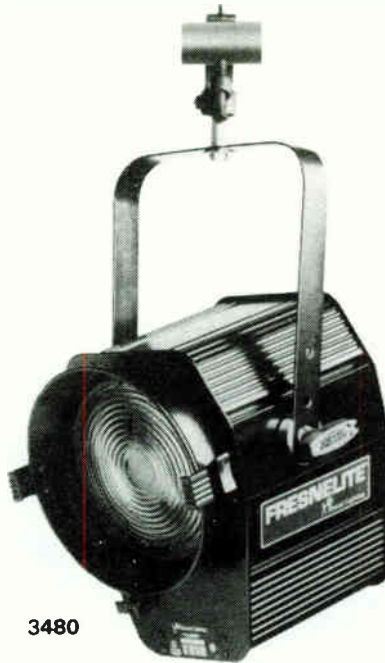
# STRAND LIGHTING

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# FRESNELS



3380



3480



4757

## Strand Lighting Fresnels

3380	6" (152mm) 500/1000W; 10.5 lb. (4.8kg)	\$205.00
3480	8" (203mm) 1000/2000W; 17 lb. (7.7kg)	325.00

### Accessories for 3380

1108	Color or Diffuser Frame	\$ 5.00
1332	High Hat	18.00
1350	Accessory Safety Clip Assembly	8.50
1406	8-Way Barndoor	66.00
1500	Safety Cable for hanging	9.00

### Accessories for 3480

1110	Color or Diffuser Frame	\$ 7.00
1333	High Hat	18.00
1358	Accessory Safety Clip Assembly	8.50
1408	8-Way Barndoor	100.00
1500	Safety Cable for hanging	9.00

### Lamps for 3380

BTM	500W; 100 hrs., 3200°K	†
BTL	500W; 500 hrs., 3050°K	†
BTP	750W; 200 hrs., 3200°K	†
BTN	750W; 500 hrs., 3050°K	†
BTR	1000W; 200 hrs., 3200°K	†
T14	1000W; 750 hrs., 3050°K, 220/240V	†
CP51	650W; 100 hrs., 3200°K, 220/240V	†
T13	650W; 750 hrs., 3050°K, 220/240V	†
CP52	1000W; 200 hrs., 3200°K, 220/240V	†

### Lamps for 3480

BVV	1000W; 200 hrs., 3200°K	†
BVT	1000W; 500 hrs., 3050°K	†
CWZ	1500W; 325 hrs., 3200°K	†
BVV	2000W; 250 hrs., 3200°K	†

## Par Holders

4750	Par 64 Holder—Aluminum with color frame, no connector	\$62.00
4757	Par 64 Holder—Steel with color frame, no connector, black finish, 8.8 lb. (4kg)	49.00
4758	Par 64 Holder—Steel with color frame, no connector, white finish, 8.8 lb. (4kg)	70.00

### Accessories

1110	Color/Diffuser Frame	\$ 7.00
1408	8-Way Barndoor	95.00
1333	High Hat	18.00

### Lamps

FFN	1000W; 400 hrs., 3200°K, very narrow spot	†
FFP	1000W; 400 hrs., 3200°K, narrow spot	†
FFR	1000W; 400 hrs., 3200°K, medium flood	†
FFS	1000W; 400 hrs., 3200°K, wide flood	†
EXC	1000W; 300 hrs., 3200°K, narrow spot, 220/240V	†
EXD	1000W; 300 hrs., 3200°K, medium spot, 220/240V	†
EXE	1000W; 300 hrs., 3200°K, wide flood, 220/240V	†

### Notes

- Fixtures are provided with 3' (.9m) leads, connectors and C-clamp for hanging unless otherwise specified
- To specify grounded connector type, add suffix to catalog number  
GP—Three Pin  
GTL—Twistlock  
GR—Parallel Blade U-Ground  
HGP—Harj-lock Pin Connector
- Lamps and color frames not included unless otherwise noted
- Lamps listed are 3200°K unless otherwise noted. Lamps and fixtures are 120V unless otherwise noted
- For international applications, designate 100, 120, 220 or 240V operation

† Call for current lamp prices.

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# HMI SYSTEMS

## Quartzcolor HMI Fresnels

HMI Systems are available for 120V or 240V and either 50Hz or 60Hz.

<b>3360MP</b>	575W system complete with: 6" (152mm) 575W Sirio Mark 2 HMI fresnel, color frame, barndoor, wire guard and ballast . . . . .	<b>\$ 2,790.00</b>
<b>3570MP</b>	1200W system complete with: 10" (254mm) 1200W Sirio Mark 2 HMI fresnel, color frame, barndoor, wire guard and ballast . . . . .	<b>3,785.00</b>
<b>3680MP</b>	2500W system complete with: 12" (305mm) 2500W Sirio Mark 2 HMI fresnel, color frame, barndoor, wire guard and ballast . . . . .	<b>5,245.00</b>
<b>3790MP</b>	4000W system complete with: 14" (356mm) 4000W Sirio Mark 2 HMI fresnel, color frame, barndoor, wire guard and ballast . . . . .	<b>7,370.00</b>
<b>3796MP</b>	6000W system (220V only) complete with: 14" (356mm) 6000W Sirio Mark 2 HMI fresnel, color frame, barndoor, wire guard and ballast. . . . .	<b>11,900.00</b>
<b>3890MP</b>	12000W system (220V or 220/380V only) complete with: 20" (508mm) 12000W Sirio Mark 2 HMI fresnel, color frame, barndoor, wire guard and ballast. . . . .	<b>22,222.00</b>

## Color Frames

<b>1144</b>	For 575 HMI . . . . .	<b>\$ 13.00</b>
<b>1145</b>	For 1200 HMI . . . . .	<b>25.00</b>
<b>1146</b>	For 2500 HMI, 4000 HMI, 6000 HMI . . . . .	<b>31.00</b>
<b>1147</b>	Outrigger for 2500 HMI, 4000 HMI, 6000 HMI . . . . .	<b>236.00</b>
<b>1158</b>	For 12000 HMI. . . . .	<b>137.00</b>

## Scrims

<b>1201</b>	Full double for 575 HMI . . . . .	<b>\$ 12.00</b>
<b>1202</b>	Full single for 575 HMI . . . . .	<b>12.00</b>
<b>1203</b>	Half double for 575 HMI . . . . .	<b>12.00</b>
<b>1204</b>	Half single for 575 HMI . . . . .	<b>12.00</b>
<b>1208</b>	Full double for 1200 HMI. . . . .	<b>16.00</b>
<b>1209</b>	Full single for 1200 HMI . . . . .	<b>16.00</b>
<b>1210</b>	Half double for 1200 HMI . . . . .	<b>16.00</b>
<b>1211</b>	Half single for 1200 HMI . . . . .	<b>16.00</b>

<b>1212</b>	Full double for 2500 HMI, 4000 HMI, 6000 HMI . . . . .	<b>\$34.00</b>
<b>1213</b>	Full single for 2500 HMI, 4000 HMI, 6000 HMI . . . . .	<b>34.00</b>
<b>1214</b>	Half double for 2500 HMI, 4000 HMI, 6000 HMI . . . . .	<b>34.00</b>
<b>1215</b>	Half single for 2500 HMI, 4000 HMI, 6000 HMI . . . . .	<b>34.00</b>
<b>1240</b>	Full double for 12000 HMI. . . . .	<b>195.00</b>
<b>1241</b>	Full single for 12000 HMI . . . . .	<b>195.00</b>
<b>1242</b>	Half double for 12000 HMI . . . . .	<b>195.00</b>
<b>1243</b>	Half single for 12000 HMI . . . . .	<b>195.00</b>



## Barndoors (Portable)

<b>1300</b>	8-way for 575 HMI . . . . .	<b>\$ 56.00</b>
<b>1301</b>	8-way for 1200 HMI. . . . .	<b>79.00</b>
<b>1302</b>	8-way for 2500 HMI, 4000 HMI, 6000 HMI . . . . .	<b>118.00</b>
<b>1348</b>	8-way for 12000 HMI . . . . .	<b>TBA</b>

## Cases

<b>3363</b>	Fixture case for 575W HMI head . . . . .	<b>\$504.00</b>
<b>3366</b>	Ballast case for 575W HMI ballast . . . . .	<b>790.00</b>
<b>3573</b>	Fixture case for 1200W HMI head . . . . .	<b>728.00</b>
<b>3576</b>	Ballast case for 1200W HMI ballast . . . . .	<b>896.00</b>
<b>3683</b>	Fixture case for 2500W HMI head . . . . .	<b>830.00</b>
<b>3686</b>	Ballast case castered for 2500W HMI ballast . . . . .	<b>952.00</b>
<b>3786</b>	Ballast case castered for 4000W HMI ballast . . . . .	<b>986.00</b>
<b>3793</b>	Fixture case for 4000W HMI head . . . . .	<b>964.00</b>

## Extension Cables (Ballast to Fixture)

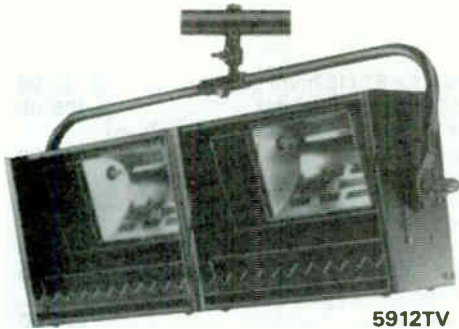
<b>3362</b>	26' (8m) for 3360MP . . . . .	<b>\$ 267.00</b>
<b>3364</b>	49' (15m) for 3360MP . . . . .	<b>330.00</b>
<b>3572</b>	26' (8m) for 3570MP . . . . .	<b>267.00</b>
<b>3574</b>	49' (15m) for 3570MP . . . . .	<b>331.00</b>
<b>3682</b>	26' (8m) for 3680MP . . . . .	<b>341.00</b>
<b>3684</b>	49' (15m) for 3680MP . . . . .	<b>426.00</b>
<b>3792</b>	26' (8m) for 3790MP . . . . .	<b>342.00</b>
<b>3794</b>	49' (15m) for 3790MP . . . . .	<b>426.00</b>
<b>3797</b>	26' (8m) for 3796MP . . . . .	<b>622.00</b>
<b>3799</b>	49' (15m) for 3796MP . . . . .	<b>847.00</b>
<b>3882</b>	26' (8m) for 3880MP . . . . .	<b>695.00</b>
<b>3884</b>	49' (15m) for 3880MP . . . . .	<b>1,005.00</b>



# STRAND LIGHTING

18111 S. Santa Fe Ave.  
P.O. Box 9004  
Rancho Dominguez, CA 90224  
(213) 637-7500 Telex: 66-4741

# FILL LIGHTING



5912TV



4271



5915

## Scoops

4271	14" (356mm) 1000W fixed focus . . . . .	\$230.00
4271MP	14" (356mm) 1000W fixed focus, stand mounting . . . . .	.265.00
4291	14" (356mm) 1000W focusing (screw feed) . . . . .	.265.00
4291MP	14" (356mm) 1000W focusing (screw feed), stand mounting . . . . .	.285.00

## Accessories

1116	Color or Diffuser Frame . . . . .	\$40.00
1500	Safety Cable for hanging . . . . .	.9.00

## Lamps

EGD	500W 150 hrs., 3200°K . . . . .	†
EGE	500W 2000 hrs., 3000°K . . . . .	†
EGF	750W 250 hrs., 3200°K . . . . .	†
EGG	750W 2000 hrs., 3000°K . . . . .	†
EGJ	1000W 400 hrs., 3200°K . . . . .	†
EGK	1000W 400 hrs., 3200°K frosted . . . . .	†
EWE	1000W 250 hrs., 3200°K, 220/240V . . . . .	†

4273A	18" (457mm) 2000W fixed focus . . . . .	.270.00
4273A/MP	18" (457mm) 2000W fixed focus, with stud adaptor, for stand mounting . . . . .	.290.00

## Accessories

1119A	Color or diffuser frame 0.8 lb. (0.36kg) . . . . .	\$58.00
1500	Safety cable for hanging lamps . . . . .	.9.00

## Lamps

DSE	1000W 750 hrs., 3050°K frosted . . . . .	†
DSF	1500W 1000 hrs., 3150°K frosted . . . . .	†
Q2000/4/95	750 hrs., 3200°K . . . . .	†

## Broad Location Floodlights

4520TV	1000/1500W for hanging . . . . .	\$231.00
4520MP	1000/1500W stand mounting . . . . .	.231.00
4521TV	1000/1500W for hanging, 220/240V . . . . .	.262.00
4521MP	1000/2500W stand mounting, 220/240V . . . . .	.262.00

## Accessories

1344	4-way barndoor . . . . .	\$68.00
1155	Outrigger extended color/diffuser frame . . . . .	.79.00

## Lamps

FFT	1000W 400 hrs., 3200°K . . . . .	†
FDB	1500W 400 hrs., 3200°K . . . . .	†
P2/7	1000W 200 hrs., 3200°K, 220/240V . . . . .	†
P2/12	1250W 200 hrs., 3200°K, 220/240V . . . . .	†

## "Iris" Overhead Quartzcolor Cyclorama Lighting

### Color frames are included

5911TV	One light, one circuit, for hanging . . . . .	\$311.00
5911PO	One light, one circuit, pole operated . . . . .	.519.00
5901TV	One light, one circuit, for hanging, 220/240V . . . . .	.415.00
5901PO	One light, one circuit, pole operated, 220/240V . . . . .	.607.00
5912TV	Two lights, two circuits, for hanging . . . . .	.611.00

5912PO	Two lights, two circuits, pole operated . . . . .	\$ 789.00
5902TV	Two lights, two circuits, for hanging, 220/240V . . . . .	.764.00
5902PO	Two lights, two circuits, pole operated, 220/240V . . . . .	.914.00
5913TV	Three lights, three circuits, for hanging . . . . .	.862.00
5913PO	Three lights, three circuits, pole operated . . . . .	.1022.00
5903TV	Three lights, three circuits, for hanging, 220/240V . . . . .	.1015.00
5903PO	Three lights, three circuits, pole operated, 220/240V . . . . .	.1163.00
5914TV	Four lights, four circuits, for hanging . . . . .	.1087.00
5914PO	Four lights, four circuits, pole operated . . . . .	.1246.00
5904TV	Four lights, four circuits, for hanging, 220/240V . . . . .	.1233.00
5904PO	Four lights, four circuits, pole operated, 220/240V . . . . .	.1393.00

### "Mini Iris" (Color frames not included)

5915TV	One light, for hanging . . . . .	\$231.00
5915MP	One light, stand mounting . . . . .	.231.00
5905TV	One light, for hanging, 220/240V . . . . .	.295.00
5905MP	One light, stand mounting, 220/240V . . . . .	.317.00

## Accessories

1151	Additional color frame for iris cyc lights . . . . .	\$30.00
1238	Wire guard for iris cyc lights . . . . .	.15.00
1155	Outrigger color frame for mini iris . . . . .	.79.00

## Lamps

FFT	1000W 400 hrs., 3200°K . . . . .	†
FDB	1500W 400 hrs., 3200°K . . . . .	†
FGT	1500W 400 hrs., 3200°K, frosted . . . . .	†
P2/10	625W 200 hrs., 3200°K, 220/240V . . . . .	†
P2/7	1000W 200 hrs., 3200°K, 220/240V . . . . .	†
P2/12	1250W 200 hrs., 3200°K, 220/240V . . . . .	†

## Quartzcolor Cyclorama Lighting Groundrow

Color frames and wire guards are included.

5940	Orion—one light, one circuit (can be joined to form rigid or curved unit), 9.5 lbs. (4.3kg) . . . . .	\$350.00
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## Accessories

1150	Additional curved color frame for Pallas cyc lights, 0.9 lb. (0.4kg) . . . . .	\$31.00
1239	Additional wire guard . . . . .	.14.00

## Lamps

FDN	500W 400 hrs., 3200°K, frosted . . . . .	†
EJG	750W 400 hrs., 3200°K, frosted . . . . .	†
FHM	1000W 500 hrs., 3200°K, frosted . . . . .	†
EMF	800W 250 hrs., 3200°K, frosted, 220V . . . . .	†

## Pallas Groundrow . . . . .

P.O.A.

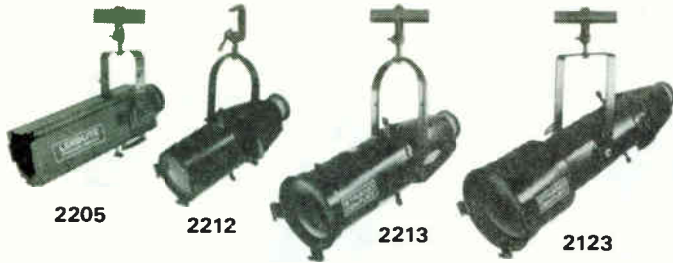
Available on special order only.

†Call for current lamp prices.

# STRAND LIGHTING

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# SPOTLIGHTS



## Lekolite® Spotlights

All Lekolites include 4 shutters and template slot. Lekolites with iris kit also include shutters and template slot. All units with plano convex lenses.

**2205** 4 1/2" (114mm). Measurement: 8" x 8" x 20"  
(203 x 203 x 508mm) 150/500W Variable Focus  
Ellipsoidal 15 lbs. (6.8kg) .....\$225.00

### Accessories

**1105** Color frame .....\$ 5.50  
**1331** High hat .....18.00  
**1345** Pattern holder .....16.00  
**1352** Set of 6 patterns .....21.00  
**1355** Iris kit .....105.00  
**1500** Safety cable .....9.00

### Lamps

**150Q/CL** 150W, 2000 hrs., 2900°K ..... †  
**EHT** 250W, 2000 hrs., 2900°K ..... †  
**Q400CL/MC** 400W, 2000 hrs., 2900°K ..... †  
**EVR** 500W, 2000 hrs., 2900°K ..... †  
**JD500** 500W, 300 hrs., 3000°K (220/240V) ..... †

### 500/750/1000W Units

**2204** 4 1/2" (114mm) 500/1000W Lekolite 44° Spread,  
15 lbs. (6.8kg) .....\$345.00  
**2206** 6" (152mm) 1kW Zoom Lekolite 15° to 40° 24  
lbs. (10.9kg) .....385.00  
**2209** 6" (152mm) 500/1000W Lekolite 31° Spread,  
17 lbs. (7.7kg) .....345.00  
**2212** 6" (152mm) 500/1000W Lekolite 25° Spread,  
16 lbs. (7.3kg) .....345.00  
**2213** 6" (152mm) 500/1000W Lekolite 25° Spread,  
with Iris, 17 lbs. (7.7kg) .....450.00  
**2216** 6" (152mm) 500/1000W Lekolite 17° Spread,  
16 lbs. (7.3kg) .....345.00  
**2217** 6" (152mm) 500/1000W Lekolite 12" x 12"  
x 24" (305 x 305 x 610mm) 17° Spread, with Iris,  
17 lbs. (7.7kg) .....450.00  
**2112** 6" (152mm) 500/1000W Lekolite 14° Spread,  
15 lbs. (6.8kg) .....345.00  
**2111** 6" (152mm) 500/1000W Lekolite 14" x 14"  
x 39" (356 x 356 x 991mm) 14° Spread, with Iris,  
16 lbs. (7.3kg) .....450.00  
**2113** 8" (203mm) 1000W Lekolite 12° Spread,  
21 lbs. (9.5kg) .....485.00  
**2114** 8" (203mm) 1000W Lekolite 14" x 15" x 33"  
(356 x 381 x 838mm) 12° Spread, with Iris,  
21 lbs. (9.5kg) .....560.00  
**2123** 10" (254mm) 1000W Lekolite 9° Spread,  
25 lbs. (11.3kg) .....685.00  
**2124** 10" (254mm) 1000W Lekolite 14" x 15" x 37"  
(356 x 381 x 940mm) 9° Spread, with Iris,  
26 lbs. (11.8kg) .....720.00

### Accessories

**1346** Pattern holder for 6" (152mm) Lekolites .....\$ 16.00  
**1356** Iris kit for 6" (152mm) Lekolites .....105.00  
**1108** Color frame for 4 1/2" (114mm) and 6" (152mm)  
Lekolites 0.2 lbs. (0.1kg) .....5.00  
**1332** High hat for 4 1/2" (114mm) and 6" (152mm)  
Lekolites, 2.0 lbs. (0.9kg) .....18.00  
**1110** Color frame for 8" (203mm) Lekolite, 0.3 lbs.  
(0.14kg) .....7.00  
**1333** High hat for 8" (203mm) Lekolite, 4 lbs. (1.8kg) ..18.00  
**1112** Color frame for 10" (254mm) Lekolite,  
0.5 lbs. (0.2kg) .....9.00  
**1336** High hat for 10" (254mm) Lekolite,  
5 lbs. (2.3kg) .....23.00  
**1342** Pattern holder, 0.1 lbs. (0.05kg) .....11.00  
**1352** Set of 6 patterns, 0.1 lbs. (0.05kg) .....21.00  
**1354** Iris kit (for customer installation), 0.5 lbs.  
(0.2kg) .....105.00

### Lamps

**EHC/EHB** 500W, 200 hrs., 3200°K ..... †  
**EHD** 500W, 2000 hrs., 3000°K ..... †  
**EHF** 750W, 300 hrs., 3200°K ..... †  
**EHG** 750W, 2000 hrs., 3000°K ..... †  
**FEL** 1000W, 300 hrs., 3200°K ..... †  
**FKR** 650W, 300 hrs., 3100°K (220/240V) ..... †  
**CP77** 1000W, 300 hrs., 3200°K (220/240V) ..... †

Performance Data				
Catalog Number	Distance	Footcandles (Lux)	1/10 Peak Diameter	Lamp
2204	20' (6m)	206 (2285)	16.2' (4.8m)	FEL
2209	30' (9m)	165 (1870)	16.5' (4.9m)	FEL
2212/13	40' (12m)	169 (1880)	17.6' (5.3m)	FEL
2216/17	50' (15m)	124 (1395)	14.9' (4.5m)	FEL
2112/11	60' (18m)	84 (935)	14.4' (4.3m)	FEL
2113/14	80' (24m)	91 (1010)	14.7' (4.4m)	FEL
2123/24	100' (30m)	88 (975)	16' (4.8m)	FEL

### Retrofit Kits

(For old diecast Lekolites)

**2000** 1000W kit for 6" x 9" (152 x 229mm) and 6"  
x 12" (152 x 305mm), includes complete rear-end  
assembly and front barrel, 11 lbs. (5kg) .....\$190.00  
**2016** 1000W kit for 6" x 16" (152 x 406mm),  
includes complete rear-end and front barrel,  
11 lbs. (5kg) .....190.00  
**2750** 500/750W kit for all 6" (152mm) units, includes  
complete rear-end assembly, 6 lbs. (2.7kg) .....150.00

### Notes

- Fixtures are provided with 3' (.9m) leads, connectors and C-clamp for hanging unless otherwise specified
- To specify grounded connector type, add suffix to catalog number  
GP—Three Pin  
GTL—Twistlock  
GR—Parallel Blade U-Ground  
HGP—Harj-lock Pin Connector
- Lamps and color frames not included unless otherwise noted
- Lamps listed are 3200°K unless otherwise noted. Lamps and fixtures are 120V unless otherwise noted
- For international applications, designate 100, 120, 220 or 240V operation

†Call for current lamp prices.

# STRAND LIGHTING

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# LIGHTING CONTROL

## Mantrix™ 2S Control Console

- A complete two scene preset console with up to 56 manual overlapping submasters • Operates as a standard four scene preset Mantrix 2 at the flip of a switch • Electronic matrix patch (optional) with displays allows assignment of dimmers to control channels at proportional levels • Controls up to 288 dimmers on 12 to 48 channels • Split crossfader with tracking LED display • Fade rate control for times from 1 second to 4 minutes with manual takeover • Grand Master • Blackout switch • Multiplexed control signal for control of up to 96 2.4kW dimmers on 4 wires, or 97 to 288 dimmers on 8 wires • Controls any combination of 2.4kW, 6kW and 12kW CD80 dimmers • Ideal for use as manual back-up or stage manager's panel with Light Palette® or MiniLight Palette®

### Single Tier Consoles

8110	12 channels, without patch	\$2,070.00
8111	12 channels with patch	3,150.00
8112	24 channels, without patch	2,700.00
8113	24 channels with patch	3,780.00
8108	36 channels, without patch	3,420.00
8114	36 channels with patch	4,500.00
8109	48 channels, without patch	4,050.00
8115	48 channels with patch	5,130.00

### Double Tier Consoles

8116	36 channels with patch	\$4,950.00
8117	48 channels with patch	5,580.00
8118	60 channels with patch	6,300.00
8119	72 channels with patch	6,930.00
8120	84 channels with patch	7,560.00

## Mantrix 2S With Memory

(All prices include 25' control cable)

### Single Tier Consoles

8181	12 channels	\$8,186.00
8182	24 channels	8,822.00
8183	24 channels with video module	9,550.00
8184	36 channels	9,458.00

### Double Tier Consoles (all with video modules)

8186	36 channels	\$10,641.00
8187	48 channels	11,278.00
8188	60 channels	11,914.00
8189	72 channels	12,550.00

## Light Palette Control Console

- Programs and executes six-part fades • Six timed or manual faders, two of which are split • Electronic proportional patching • Programmable fade profiles • Integral memory backup system • Multiplexed output • Special effects package

Light Palette . . . . .POR

## Mini Light Palette Control Console

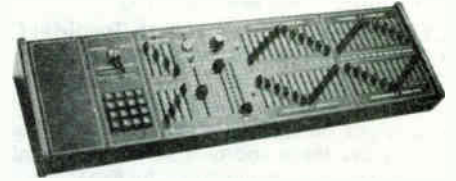
- Two 9" high resolution CRT displays with all operational information
- Proportional patch for assigning dimmers and levels to channels • 7 overlapping pile-on submasters, 3 inhibitive submasters • Executes up to 3-part cues • 3 crossfaders, 1 of which is split • 200 control channels for up to 384 dimmers • Special effects package • Electronic back-up • Disk for library storage • Interfaces to any dimmer • Diagnostics program

### Options

- Designer's remote console • Remote control unit • Printer • Remote monitor • Full system back-up • Mantrix manual console • Non-dim and auxiliary controls

Mini Light Palette . . . . .POR

Mantrix 2S



Mini Light Palette



Light Palette



Lightboard M



## MLP/2 Mini Light Palette Two Control Console

- Two full-color, high resolution CRT displays are integral • Ability to respond to ambient lighting conditions: dark control booth or bright work lights, MLP/2 adjusts the CRT intensity automatically • Up to 100 unique lighting groups can be loaded onto 10 fully overlapping submasters for ease of operation • Lighting information on all 10 submasters may be assigned and replaced quickly and easily providing random access to 10 banks of manual presets—it's like having a 10-scene preset and memory console in one • Bump buttons are included for even greater effect

MLP/2 . . . . .POR

## Lightboard M Control Console

- Multiplex control signal to drive 384 dimmers, with optional expansion to 768 • Up to 96 channels can be addressed digitally or manually • Up to 48 overlapping submasters • 200 memories • 2 internal special effects generators • 8 remote field-programmable function keys for automated systems • 3 1/4" disk drive standard • Video output standard • Optional remote focus module and printer • Bump buttons on channels and submasters with level control • Recorded or manual rate control

Lightboard M . . . . .POR



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# LIGHTING CONTROL

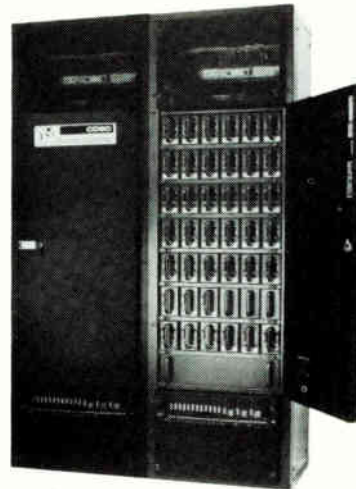
## CD80 Dimmer Packs With Toroidal Chokes

• Compact design: Twelve 2.4kW, six 6kW or six 12kW dimmers in a 8 1/2" H x 23 1/2" W x 20 1/2" D (21.6 x 59.7 x 53.2cm) package • Toroidal chokes • Terminal block phase changer in 2.4 and 6kW packs • All electronics on a single, easily accessible card • Failure indicators for power, overtemp and over voltage • Multiplexed control wiring and "daisy-chained" connections for expandability

8124	120V with 12 2.4kW dimmers, two 20A GTL receptacles per dimmer, 65 lb. (29.5kg) . . . . .	\$4035.00
8125	120V with 12 2.4kW dimmers, two 20A GP receptacles per dimmer, 65 lb. (29.5kg) . . . . .	4035.00
8126	120V with 12 2.4kW dimmers, two 20A GR receptacles per dimmer, 65 lb. (29.5kg) . . . . .	4035.00
8127	120V with 12 2.4kW dimmers, terminal strips for hard wiring, 65 lb. (29.5kg) . . . . .	4035.00
8066	120V with six 6kW dimmers, one 50A GTL receptacle per dimmer, one 50A test outlet, 65 lb. (29.5kg) . . . . .	4625.00
8067	120V with six 6kW dimmers, one 60A GP receptacle per dimmer, one 60A test outlet, 65 lb. (29.5kg) . . . . .	4625.00
8068	120V with six 6kW dimmers, terminal strip for hard wiring, 65 lb. (29.5kg) . . . . .	4625.00
8063	120V with six 12kW dimmers, one 100A GP receptacle per dimmer, one 100A test outlet, camlock plugs, 85 lb. (38.6kg) . . . . .	5510.00
8064	120V with six 12kW dimmers, terminal strip for hard wiring, 85 lb. (38.6kg) . . . . .	5310.00
8124SA	220/240V with 12 2.2kW dimmers, two 10A GTL receptacles per dimmer, 65 lb. (29.5kg) . . . . .	4230.00
8125SA	220/240V with 12 2.2kW dimmers, two 10A GP receptacles per dimmer, 65 lb. (29.5kg) . . . . .	4230.00
8127SA	220/240V with 12 2.2kW dimmers, terminal strips for hard wiring, 65 lb. (29.5kg) . . . . .	4085.00
8066SA	220/240V with six 6.6kW dimmers, one 30A GTL receptacle per dimmer, one 30A test outlet, 65 lb. (29.5kg) . . . . .	4895.00
8067SA	220/240V with six 6.6kW dimmers, one 30A GP receptacle per dimmer, one 30A test outlet, 65 lb. (29.5kg) . . . . .	4895.00
8068SA	220/240V with six 6.6kW dimmers, terminal strip for hard wiring, 65 lb. (29.5kg) . . . . .	4895.00



CD80 Pack



CD80 Dimmer Bank



CD80 Dimmer Module

## CD80 Dimmer Banks and Modules

• Compact, high density dimmer banks • Dual 2.4kW, single 6kW or 12kW dimmer modules • Designed for all theatrical and television applications

### Dimmer Banks

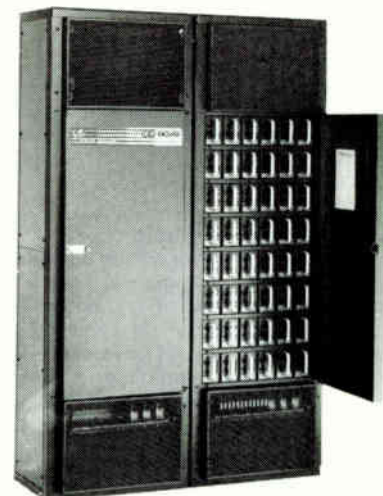
• Extremely shallow—only 17 3/4" (.45m) deep • Up to 96 plug-in 2.4kW dimmers in 24 1/2" (6.2m) width • Ideal for dimmer per circuit applications • Equipped with quiet fans to maintain proper operating temperatures • Designed to reduce installation costs • Full length guides and self aligning dimmer connectors for positive dimmer module alignment

### Dimmer Modules

• Heavy gauge aluminum chassis • Heavy-duty, self aligning power and control plug • Toroidal chokes • Plug-in non dim modules available

## CD80/8 Dimmer Banks

• High performance, increased filtering chokes that address the requirements of rise time and harmonic distortion in applications where electrical noise and lamp sing is a concern • Racks allow control from more than one console and have the provision of "status quo memory" operation • Compatible with all control consoles in the Strand family • Available with 2.4kW and single 6.0kW modules • No loss in density—48 modules per rack • Compact size—only 17 3/4" (0.45m) deep x 24 1/2" wide • Easy to install; simple to maintain • Quiet fans to maintain operating temperatures • Optional split rack control • Optional "status quo" memory



CD80/8 Dimmer Bank

# STRAND LIGHTING

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Rancho Dominguez, CA 90224  
(213) 637-7500 Telex: 66-4741

# LIGHTING ACCESSORIES



## Grip and Mounting Equipment

1500	Safety cable for fixtures up to 100 lbs. (45kg) . . . . .	\$ 9.00
1502	Scenery guard 18" (457mm) diameter, 2 lbs. (0.9kg) . . . . .	68.00
1504	Pipe stiffener, 6 lbs. (2.7kg) . . . . .	80.00
1509	Bambino adaptor for 5/8" (16mm) stud or 1 1/8" (29mm) spigot for conversion to MP type units . . . . .	24.00
1536	Trunions, 1 pair single horizontal, for Jules Fisher Mini-Strip . . . . .	48.50
1537	Trunions, 1 pair double horizontal, for Jules Fisher Mini-Strip . . . . .	44.00
1538	Trunions, 1 pair double vertical, for Jules Fisher Mini-Strip . . . . .	47.00
1540	15" (381mm) sidearm with 2" (51mm) C-Clamp and sliding tee. 5 lbs. (2.3kg) . . . . .	56.00
1543	Clamp hanger with swing joint. 5 lbs. (2.3kg) . . . . .	67.00
1550	Cable clamp, 3 lbs. (1.4kg) . . . . .	26.00
1551	Support cradle for 1 3/4" (45mm) cable. 14 lbs. (6.4kg) . . . . .	83.00
1552	Kellem's grip, specify cable size when ordering . . . . .	70.00
1553	Pipe C-Clamp adaptor, 1 1/8" (29mm) spigot . . . . .	55.00
1555	2" (51mm) C-Clamp with stud. 2 lbs. (0.9kg) . . . . .	11.00
1558	Standard pipe C-Clamp, 5/8" (16mm) stud. 3 lbs. (1.4kg) . . . . .	34.00
1559	Standard double pipe C-Clamp, 5 lbs. (2.3kg) . . . . .	18.00
1580	Clancy Sure-Clamp, 3 lbs. (1.4kg) . . . . .	38.00
1584	Swivel crossbar for Coda/3 . . . . .	20.00
1585	Swivel crossbar for Coda/4 . . . . .	28.00
1586	Safety cable for Coda . . . . .	8.00
1963	Gaffer grip, 5/8" (16mm) stud. 0.9 lbs. (0.4kg) . . . . .	34.00
1964	Heavy-duty gaffer grip, supports up to 25 lbs. (11.4kg) 2 lbs. (0.9kg) . . . . .	73.00
1965	Gaffer grip (small) with 5/8" (16mm) socket . . . . .	41.00
1966	Gaffer grip (large) with 5/8" (16mm) socket . . . . .	92.00

## Bases

1560	Table stand with 5/8" (16mm) stud. 4 lbs. (1.8kg) . . . . .	\$33.00
1561	3" (76mm) diameter base, 1 lb. (0.45kg) . . . . .	38.00
1562	6" (152mm) diameter base, 3 lbs. (1.4kg) . . . . .	40.00

## Tormentors and Ladders

1570	1 1/2" (38mm) Tormentor boom, 20' (6.1m) long, 6" (152mm) base and tie-off 65 lbs. (29.5kg) . . . . .	\$237.00
1571	1 1/2" (38mm) Tormentor pipe, 12' (3.7m) long, wall mounted, 44 lbs. (20kg) . . . . .	160.00
1572	Three-rung ladder with four 18" (457mm) 20A pigtails and two 12' (3.7m) 20A feed cables. 60 lbs. (27.2kg) . . . . .	696.00
1573	Three-rung ladder, same as 1572, unwired. 50 lbs. (22.7kg) . . . . .	370.00

## Stands

1513	4'-7' (1.2m-2.1m) stand with 14" (356mm) diameter. 20 lbs. (9.1kg) base . . . . .	\$113.00
1514	5'-8' (1.5m-2.4m) stand with 18" (457mm) diameter. 25 lbs. (11.3kg) base . . . . .	165.00
1519	"Trojan" folding stand for lanebeam 2000 . . . . .	134.00
1520	3'-5' (0.9m-1.5m) stand, castered 30 lbs. (13.6kg) legs . . . . .	196.00

1521	5'-8' (1.5m-2.4m) stand, castered 40 lbs. (18.1kg) legs . . . . .	\$ 200.00
1522	Stand, heavy-duty aluminum castered, extends from 4' (1.22m) to 8'6" (2.6m) 18.5 lbs. (8.4kg) . . . . .	353.00
1529	Stand for 4500MP Pulsar . . . . .	68.00
1530	Small kit stand, aluminum, folds to 21" (533mm) extends to 8'6" (2.6m), 5/8" (16mm) stud. 2.3 lbs. (1.04kg) . . . . .	75.00
1531	Wind-up stand, extends to 8'6" (2.6m) . . . . .	495.00
1535	Regular kit stand, aluminum, folds to 30" (762mm), extends to 8'6" (2.6m), 5/8" (16mm) stud. 2.9 lbs. (1.3kg) . . . . .	88.00
1631	Gladiator stand for 12,000 HMI . . . . .	5725.00

## Operating Poles

1941	Operating pole, 6' (1.8m) 2.1 lbs. (0.95kg) . . . . .	\$107.00
1942	Operating pole, 9'3" (2.8m). 2.8 lbs. (1.3kg) . . . . .	112.00
1943	Operating pole, 12'7" (3.8m) 3.5 lbs. (1.6kg) . . . . .	118.00
1944	Operating pole, 15'10" (4.8m) 4.2 lbs. (1.9kg) . . . . .	124.00

## Lite Lifts and Hangers

1980	Pantograph lite lift, supports 12 lbs. (5.4kg), extends 10' (3m) 13.5 lbs. (6.1kg) . . . . .	\$428.00
1981	Pantograph lite lift, supports 25 lbs. (11.3kg), extends 10' (3m) 13.5 lbs. (6.1kg) . . . . .	450.00
1983	Pantograph lite lift, supports 35 lbs. (15.9kg), extends 10' (3m) 15.5 lbs. (7kg) . . . . .	571.00
1984	Telescopic hanger, 10-20 lbs. (4.5-9.1kg), extends 12'3" (3.7m) 16.5 lbs. (7.5kg) . . . . .	320.00
1985	Telescopic hanger, 10-20 lbs. (4.5-9.1kg), extends 7'4" (2.2m) 12.5 lbs. (5.7kg) . . . . .	279.00
1986	Telescopic hanger, 20-40 lbs. (9.1-18.1kg), extends 12'3" (3.7m) 14.5 lbs. (6.6kg) . . . . .	376.00
1987	Telescopic hanger, 20-40 lbs. (9.1-18.1kg), extends 7'4" (2.2m) 15 lbs. (6.8kg) . . . . .	320.00

## Extension Cables

6410	10' (3m) 3-wire grounded pin connectors 20A, 2.6 lbs. (1.2kg) . . . . .	\$52.00
6411	10' (3m) 3-wire grounded twistlock connectors 20A, 2.6 lbs. (1.2kg) . . . . .	57.00

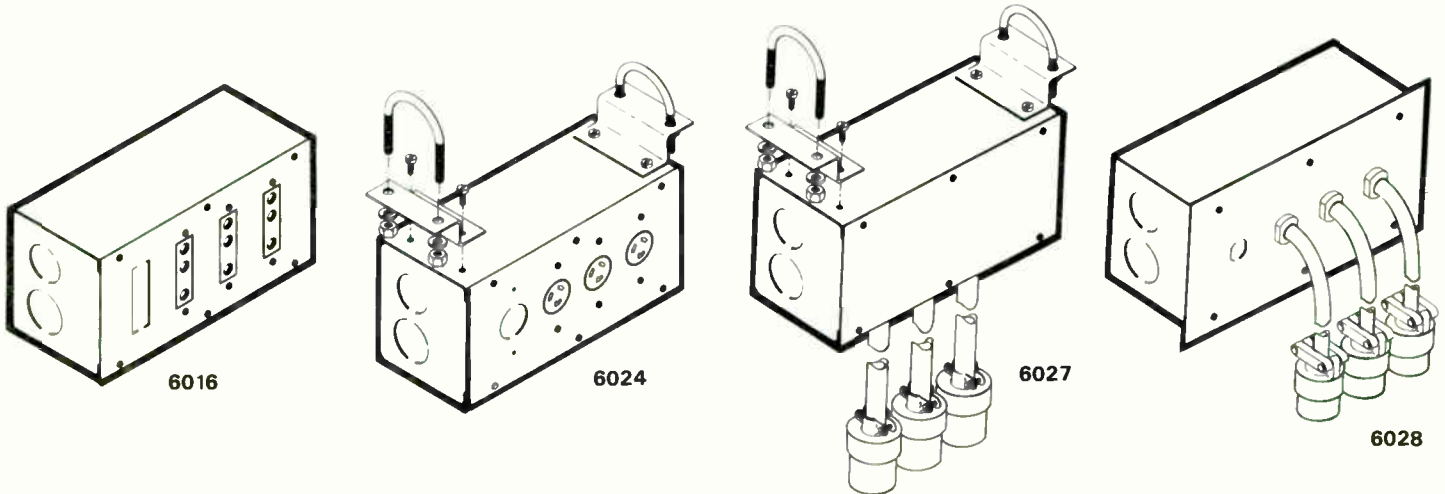
## Cases

1977	Carrying case for Century Kit I (1051) . . . . .	\$271.00
1978	Carrying case for Century Kits II (1052), III (1053), IV (1054), V (1055), VI (1056), VII (1057), VIII (1058) and IX (1059) . . . . .	311.00
1979	Carrying case for Century Kit XI (1061) . . . . .	311.00
3363	Fixture case for 575W HMI head, 25 lbs. (11.3kg) . . . . .	504.00
3366	Ballast case for 575W HMI ballast, 34 lbs. (15.4kg) . . . . .	790.00
3573	Fixture case for 1200W HMI ballast, 39 lbs. (17.7kg) . . . . .	728.00
3576	Ballast case for 1200W HMI ballast, 39 lbs. (17.7kg) . . . . .	896.00
3683	Fixture case for 2500W HMI head, 43 lbs. (19.5kg) . . . . .	830.00
3686	Ballast case, castered for 2500W HMI ballast, 45 lbs. (20.4kg) . . . . .	952.00
3786	Ballast case, castered for 4000W HMI ballast, 52 lbs. (23.6kg) . . . . .	986.00
3793	Fixture case for 4000W HMI head, 49 lbs. (22.2kg) . . . . .	964.00

# STRAND LIGHTING

18111 S. Santa Fe Ave.  
P.O. Box 9004  
Rancho Dominguez, CA 90224  
(213) 637-7500 Telex: 66-4741

# PLUG-IN BOXES



	A	B	C	D	E	F	G
2-Gang, 20A Twistlock	(6066) \$ 77.00	(6069) \$ 77.00	(6064) \$ 93.00	(6067) \$ 93.00	N/A	N/A	(6061) \$ 145.00
2-Gang, 20A Pin Connector	(6076) 77.00	(6079) 88.00	(6074) 93.00	(6077) 103.00	N/A	N/A	(6071) 145.00
3-Gang, 20A Twistlock	(6026) 103.00	(6029) 103.00	(6024) 120.00	(6027) 120.00	(6025) \$ 109.00	(6028) \$ 109.00	(6021) 171.00
3-Gang, 20A Pin Connector	(6016) 103.00	(6019) 120.00	(6014) 120.00	(6017) 136.00	(6015) 109.00	(6018) 125.00	(6011) 171.00
3-Gang, 50A Twistlock	(6126) 217.00	(6129) 281.00	(6124) 250.00	(6127) 364.00	(6125) 237.00	(6128) 281.00	(6121) 315.00
3-Gang, 50A Pin Connector	(6116) 185.00	(6119) 217.00	(6114) 201.00	(6117) 233.00	(6115) 191.00	(6118) 223.00	(6111) 254.00
3-Gang, Two 20A, One 50A Twistlock	(6152) 141.00	(6158) 173.00	(6154) 158.00	(6156) 190.00	N/A	N/A	N/A
3-Gang, Two 20A, One 60A Pin Connector	(6153) 131.00	(6159) 141.00	(6155) 148.00	(6157) 158.00	N/A	N/A	N/A
4-Gang, 20A Twistlock	(6046) 131.00	(6049) 131.00	(6044) 147.00	(6047) 147.00	(6045) 136.00	(6048) 136.00	(6041) 201.00
4-Gang, 20A Pin Connector	(6036) 131.00	(6039) 141.00	(6034) 147.00	(6037) 158.00	(6035) 136.00	(6038) 147.00	(6031) 201.00
4-Gang, 50A Twistlock	(6146) 282.00	(6149) 368.00	(6144) 299.00	(6147) 380.00	(6145) 287.00	(6148) 368.00	(6141) 376.00
4-Gang, 60A Pin Connector	(6136) 185.00	(6139) 282.00	(6134) 201.00	(6137) 299.00	(6135) 190.00	(6138) 287.00	(6131) 308.00
6-Gang, 20A Twistlock	(6086) 185.00	(6089) 185.00	(6084) 201.00	(6087) 201.00	(6085) 191.00	(6088) 191.00	(6081) 255.00
6-Gang, 20A Pin Connector	(6096) 185.00	(6099) 217.00	(6094) 201.00	(6097) 233.00	(6095) 191.00	(6098) 223.00	(6091) 255.00

**Column A** Surface-mounted wall box, flush receptacles  
**Column B** Surface-mounted wall box, 18" (457mm) pigtails  
**Column C** Pipe-mounted box, flush receptacles  
**Column D** Pipe-mounted box, 18" (457mm) pigtails

**Column E** Recessed wall box, flush receptacles  
**Column F** Recessed wall box, 18" (457mm) pigtails  
**Column G** Floor pockets

Catalog numbers are in parentheses.



# STRONG INTERNATIONAL

DIV. OF BALLANTYNE OF OMAHA

1712 Jackson Street  
Omaha, NE 68102  
(402) 342-4444 Telex: 48-4481  
FAX: (402) 342-6899

# FOLLOWSPOTS

## Trouper—Follow Spotlight

- "Cold" metal reflector • Six color boomerang filters • Ultra-Violet filter available • Horizontal masking control • Nichrome steel iris
- Spot focus adjusting knob • Dimming control • Controls for adjusting spotlight height, vertical and horizontal movement • Warranted for 1500 hours • Operating time—continuous • Color temperature 5700°K • Maximum downward tilt 45° • Maximum upward tilt 25°
- Horizontal sweep 360°

48050 700W Xenon	.....\$6,975.00
41050 1200W Metal Halide	.....6,500.00
41103 1200W Replacement Halide bulb	.....435.00

## Xenon Super Trouper—Follow Spotlight

- "Cold" metal reflector • Six color boomerang filters • Ultra-Violet filter available • Horizontal masking control • Nichrome steel iris
- Spot focus adjusting knob • Dimming control • Controls for adjusting spotlight height, vertical and horizontal movement • Operating time—continuous • Color temperature 5900°K • Maximum downward tilt 45° • Maximum upward tilt 25° • Horizontal sweep 360°
- Gross weight approx. 700 lbs.

83051 1000W Xenon	.....\$8,675.00
83050 1600W Xenon	.....8,975.00
83060 1600W Short Throw Xenon	.....8,675.00
83070 2000W Xenon	.....9,350.00
83080 2000W Short Throw Xenon	.....9,100.00

## Xenon Gladiator II and III—Follow Spotlights

- "Cold" metal reflector • Six color boomerang filters • Ultra-Violet filter • Horizontal masking control • Nichrome steel iris • Spot focus adjusting knob • Dimming control • Controls for adjusting spotlight height, vertical and horizontal movement • 2500W Xenon bulb • Operating time—continuous • Color temperature (approx.) 5600°K • Maximum downward tilt 45° • Maximum upward tilt 25°
- Horizontal sweep 360° • Gross weight 930 lbs.

47050 2500W Xenon (Gladiator II)	.....\$11,995.00
47061 3000W Xenon (Gladiator III)	.....13,430.00

## Trouperette III—Quartz-Halogen Spotlight

- 1000W Quartz-Halogen lamp, 250 hour life • Draws only 8.5 to 9.5A • Exclusive single lever controlled two element variable focal length lens system • Horizontal masking control with 45¼ angle adjustment • Nichrome heavy-duty iris • Simple to operate built-in six color boomerang • Quick relamp design • 115VAC operation
- Equipped with 25' 3 wire cable • Maximum downward tilt 36° • Maximum upward tilt 32° • Horizontal sweep 360° • Gross weight 90 lbs.

45003 1000W Halogen	.....\$1,110.00
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## Super Trouperette—Metal Halide Spotlight

- 400W HTI light source • Self-cancelling six color boomerang • High-efficiency optical system • HTI lamp module provides 250 hours of performance • Self-contained power supply operates on 115 or 220VAC • Slightly larger than Trouperette III with 204% more light output

45050 400W Metal Halide	.....\$2,795.00
45901 Lamp Module	.....360.00

## 575—Metal Halide Spotlight

- "Cold" metal reflector • Six color boomerang color filters • Horizontal masking control • Nichrome steel iris • Spot focus adjusting knob • Dimming control • Controls for adjusting spotlight • Height, vertical and horizontal movement • 575W Metal Halide bulb • Life expectancy—750 hrs. • Operating time—continuous • Color temperature 5600°K • Maximum downward tilt 45° • Maximum upward tilt 30° • Horizontal sweep 360° • Gross weight approx. 266 lbs.

41000 575W Metal Halide	.....\$4,875.00
41102 575W Replacement Halide bulb	.....290.00

## Trouper and Super Trouper Accessories

51850 Color boomerang—Quiet, fast acting	.....\$550.00
51829 Ultraviolet filter and holder for above boomerang	.....150.00



48050/41050



45003



47050



83050/83051/83070

51919 Ultraviolet filter and holder for old style (magnet catch) boomerang	.....\$ 92.50
51826A Lobsterscope, motor driven (for type 19601)	.....550.00
51821A Lobsterscope, motor driven (for type 19602, short throw)	.....550.00
83767 Lobsterscope, motor driven (for types 83050, 83051, 83070 Xenon Super Trouper)	.....550.00
65843 Upgrade Conversion Kit, 1600 to 2000W (for types 83050/83060) includes bulb	.....1,250.00
65501 Shock Mount Kit for 83050/83060 (1600W)	.....70.00
83747 Shock Mount Kit for 83070/83080 (2000W)	.....126.00
83900 f/900 liquid crystal filter/flasher	.....1,150.00

### Trouperette Accessories

45907 Self-cancelling color boomerang	.....\$460.00
45103 Bulb, Trouperette (45000) 1000W, 50 hr.	.....78.00
45230 Bulb, Trouperette II (45002) 600W, 75 hr.	.....45.00
45243 Bulb, Trouperette II (45002) 650W, 25 hr.	.....48.00
45246 Bulb, Trouperette III (45003) 1000W, 250 hr.	.....85.00

Add 5% of list for export packing of above accessories.

### Xenon Bulbs

994CO-010 700W, Xenon Trouper (48050)	.....\$ 600.00
993CO-010 1000W, Xenon Super Trouper (83051/19871)	.....650.00
992CO-020 1600W, Xenon Super Trouper (83050/19818)	.....800.00
995CO-010 2500W, Xenon Gladiator II (47050)	.....1,050.00
L5228-000 3000W, Xenon Gladiator III (47060/47061)	.....1,100.00

Prices and Specifications Subject to Change Without Notice.

V-1053

# SYLVANIA/GTE PRODUCTS CORP.

LIGHTING CENTER

100 Endicott St.

Danvers, MA 01923

(617) 777-1900 FAX: (617) 750-2152

## Professional Sun Gun Movie Light Lamps

EKT	\$35.66
FAV	39.94
FBT	43.53
FBV	47.32
FBW	51.45

## Miniature Tungsten Halogen

### 2-Pin Base Lamps

BHC/DYS/DYV	\$24.36
DYV	30.00
DYH	29.21
EKD	31.38
FBD/FBG	34.40

## Minican Base Single Ended

### Tungsten Halogen Lamps

EHT (250Q/CL)	\$23.60
EHV (325Q/CL)	32.55

## Mogul Prefocus Lamps for

### Follow-Spotlights

DTA	\$94.23
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## 2-Pin Tungsten Halogen Lamps

EHC/EHB (Q500/5CL)	\$52.72
EHD (Q500CL/TP)	52.72
EHP (300T4Q/CL)	40.19
EHG (Q750/CL/TP)	58.30
FCV	65.38
FEL (Q1000/4CL)	54.19
FEP	61.06

## Double Ended Tungsten

### Halogen Lamps 5<sup>9</sup>/<sub>16</sub>" MOL

DWT	\$ 86.89
FER (Q1000T6/4CL)	63.62
FEX	112.74
FEY (Q2000T8/4CL)	106.89

## Double Ended Tungsten

### Halogen Lamps 6<sup>9</sup>/<sub>16</sub>" MOL

FDB	\$60.96
FFT (Q1000T3/1CL)	56.26
FFW (2000T4Q/4CL)	67.66

## Double Ended Tungsten

### Halogen Lamps 4<sup>3</sup>/<sub>8</sub>" MOL

DYA	\$50.21
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## Double Ended Tungsten

### Halogen Lamps 3<sup>3</sup>/<sub>4</sub>" MOL

DXN	\$45.21
DXW	42.72
FBY	45.99
FBZ	46.11
FCB	28.43

## Mogul Bipost Lamps with 5" LCL

### for Fresnel Lens Spotlights

BWA (Q2000/4CL/BP)	\$125.15
CXZ	114.55
CYV	89.83

CYX (Q2000T10/4CL)	\$123.55
DPY (Q5000T20/4CL)	541.02

## Intermediate Wattage Double Ended

### Tungsten Halogen Lamps 3<sup>1</sup>/<sub>8</sub>" MOL

DWY	\$31.91
DXX	28.77
EHP (300T4Q/CL)	42.21
FAD	24.55
FBX	32.15
FCA	30.02
FDA	32.83

## Universal T-3 Double Ended Tungsten

### Halogen 4<sup>1</sup>/<sub>16</sub>" MOL

EHM (300T2 <sup>1</sup> / <sub>2</sub> Q/CL)	\$24.57
EHZ (300T2 <sup>1</sup> / <sub>2</sub> Q)	52.00
EJG (750T3Q/4CL)	41.53
FCL (500T3Q/CL/U)	14.62
FCM (1000T3Q/4CL)	32.38
FCZ (500T3Q)	39.11
FDL (500T3Q/4CL)	32.38
FDN (5002 <sup>1</sup> / <sub>2</sub> Q) (Q500T <sup>3</sup> / <sub>4</sub> )	31.23
FHM (1000T3Q/4) (Q1000T <sup>3</sup> / <sub>4</sub> )	35.94

## Par Reflector Lamps

DWE	\$52.49
DXK	53.46
FAY	79.04
FCX	51.66
FFN (Q1000PAR64/1)	79.13
FFP (Q1000PAR64/2)	79.13
FFS (Q1000PAR64/6)	79.13

## R Type Reflector Lamps and Movie Lights

BAH	\$ 4.47
BBA	3.51
BCA	3.87
BEP	9.89
BFJ	15.91
DAN	11.94
DWC	6.40
DWD	10.60
DXC	11.96
DXH (R-32)	11.26
DXR/DXS (No. 4)	19.17
DXT (No. B-4)	24.45
EAL	15.21
EBR	14.28
EBV (No. 2)	3.62
EBW (No. B-2)	4.94
ECT	4.11

## Screw Base Lamps for Scoop Fixtures

DSE	\$52.43
DSF	60.98

## Screw Base Spotlight Lamps

BWF (Q2000/4CL)	\$135.49
BWG (Q2000/4)	143.15

## High Wattage Lamps for Fresnel Lens

### Spotlights and Sky Pans

DTY (10MQ/4CL)	\$1049.06
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## Low Wattage Lamps for

### Miniature Spotlights

BEJ	\$15.57
BVR	9.26
CAW/CAX	7.55
CBJ/CBC	14.66
CBX/CBS	13.30
CCM/CHD	19.02
CEM/BFB	10.15
CEW/CFC	13.77
CHK	9.72
CLS/CLG	14.70
CLX/CMB	16.72
CMV/CMT	23.98
FEV	28.91

## Medium Bipost Lamps 4" LCL for

### Ellipsoidal Spotlights

BSC (750T5)	\$81.21
BSD (750T5)	76.40
DZD	55.40
EFX	71.74

## Medium Prefocus lamps with 3<sup>1</sup>/<sub>2</sub>" LCL

### for Ellipsoidal Spotlights

DEB (500T12/8)	\$57.11
DNS/FMC (500T6)	51.26
DNT/FMD (750T7)	54.00
DNV/FME (1MT7)	56.83
EGC/EGD (Q500/5CL/P)	58.30
EGE (Q500CL/P)	58.30
EGF (Q750/4CL/P)	65.38
EGG (Q750/CL/P)	65.38
EGJ (Q1000/4CL/P)	68.64
EGK (FRST Q1000/4P)	70.94

## Medium Prefocus Lamps with 2<sup>3</sup>/<sub>16</sub>"

### LCL for Fresnel Lens Spotlights

BFK/BFL (750T20/SP)	\$39.79
DGH	48.45
DMX	25.32
DNW (500T20/64)	55.34
DRC/DRB	33.72
DRS	28.87
BTL (500T20/64)	45.26
BTM	45.26
BTN (750T20/SP)	45.04
BTP	45.66
BTR (1MT20P/SP)	51.26
EEX	44.32

## Medium Bipost Lamps with 2<sup>1</sup>/<sub>2</sub>" LCL

### for Fresnel Lens Spotlights

EGN	\$55.09
EGR	71.47
EGT	77.83

## Mogul Prefocus Lamps with 3<sup>15</sup>/<sub>16</sub>"

### LCL for Fresnel Lens Spotlights

BVT (1M/G40/23)	\$70.64
BVV	70.64
BVW (2MG48/5)	87.47
CWZ (1500G40/21)	101.55

# TABER MFG. & ENGINEERING CO.

1880 Embarcadero Rd.  
Palo Alto, CA 94303  
(415) 493-3811

# TAPE ERASERS

## 409 TABERASER

### Method Of Operation

Tape is placed on the spindle and rotated manually several times at slow speed. Erasure is accomplished by exposing tape to a strong magnetic field. To avoid high-energy pops and thumps being recorded on the tape due to turn-off transients, the field is gradually reduced automatically. Tapes over one inch wide should be turned over and the above process repeated.

### Types Of Tape

Taberaser completely erases all audio, video, instrumentation tapes and magnetic films (widths over one inch must be turned over). Audio and video cartridges, as well as tapes on reels or in boxes, can be efficiently degaussed. Reel sizes up to 16 inches can be accommodated.

### Erasure

30Hz to 15kHz the depth of erasure is 76dB below saturation (from reference control tape).

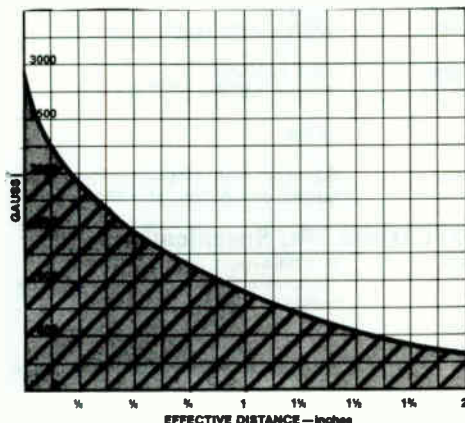
### Thermal Protection

At 150° to 170°F coil surface temperature, the automatic heat overload circuit activates internal blower circuit indicated by front panel red light.

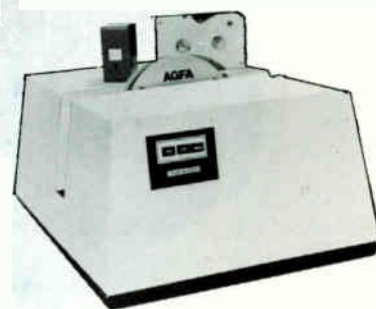
## SPECIFICATIONS

<b>Cycle Time To Erase:</b>	20 seconds
<b>Power:</b>	95-135 VAC, 60Hz, 1 phase 210-230 VAC, 50Hz, 1 phase (both 3 wire)
<b>Maximum Current:</b>	Up to 10 amps
<b>Nominal Current:</b>	2-1/2 amps
<b>Size:</b>	5"H x 10"W x 13-1/2"D
<b>Weight:</b>	409110-60: 46-1/2 lbs. (21kg) 409220-50: 49-1/2 lbs. (22-1/2kg)

409-117V 60Hz .....	\$ 1295.00
409-117V 50Hz .....	1480.00
409-220V 60Hz .....	1360.00
409-220V 50Hz .....	1480.00



409



1500H

## 1500H AUTOMATIC TAPE DEGAUSSER

### Precision Controlled Erasure

Eraser automatically erases all tapes by moving the tape through a strong field while electronically diminishing the field over a precisely controlled decay of the erase field.

### Easy Operation

Operation is accomplished by inserting reels of tape or film stock in the top, or U-Matic; VHS; RCA video cassettes or audio cassettes in the side. The tape control mechanism either rotates the reels or conveys cassettes through the field while the electronics decay the field, thus providing the smoothest and deepest erasure yet accomplished in the state-of-the-art.

### Degaussing Efficiency

Tape with coercivity from 150 oersteds to 1500 oersteds (contact dealer or factory for details) will be erased to a depth of 80dB or greater (as measured from a reference control tape).

### Reel Size

Up to a 19 inch reel of 2 inch video tape, audio tape, 1 inch instrumentation tape, or film stock.

### Cassette Video or Audio

Erases any size video cassette, VHS, U-Matic, 2 inch quad cartridge, audio cartridge or cassette.

### Erase Time

20 to 45 seconds depending on tape format and power configuration.

### Thermal Overload

At 150° to 170°F coil surface temperature, the automatic heat overload circuit activates internal blower circuit indicated by front panel red light.

## SPECIFICATIONS

<b>Power Requirements:</b>	AC Voltage 115 VAC, 60Hz, +/-10% at 20 Amps. Optional 115 VAC, 50Hz, +/-10% at 20 Amps.
<b>Size:</b>	25-1/2"W x 30-1/2"L x 15"H
<b>Weight:</b>	320 lbs.
<b>1500H .....</b>	<b>\$6495.00</b>



24 Valley Road  
Port Washington, NY 11050  
(516) 883-8800 Fax: 516-883-8343



**X01-100  
FOTOVIX**

## FOTOVIX/FOTOVIX PRO™ Film Video Processors

The FOTOVIX lets you take the film you shot with your 35mm camera, whether slides or film strips, and put it on a TV screen. The resulting image on the screen has the same high resolution as the photographic image and the FOTOVIX will not change or alter the quality of the film in any way.

You can see an instant enlargement of your negatives without a print to check for focusing and color. Slides or positive film can be seen on a large screen which makes it easy to select the right one or check the image.

The FOTOVIX also has creative controls which let you enhance the image on the screen as you wish. Use the vertical/horizontal conversion control to convert film shot with a vertical composition into a full-sized horizontal image.

### Crop Your Picture the Way You Want Utilizing the 6X Zoom and the Easy Positioning Controls

A single control allows you to zoom in on specific areas of the image or to increase magnification to show detail. You can enlarge up to 6X (or 36X in terms of area comparison).

Images enlarged to fill the TV screen may lead to unexpected and exciting discoveries of detail on small photographs. The easy to use positioning controls let you move the image up or down, and left or right. Use the two controls together and trimming is a cinch.

### Simple To Use

The FOTOVIX is loaded with the most technologically advanced features, but is so simple to operate, you can learn to use it from the first day of purchase. Just a flick of a switch and a turn of a knob is all it takes to operate the FOTOVIX.

A touch of a button is all it takes to automatically adjust the white balance for beautiful, clear color reproduction of negative films. The FOTOVIX also has brightness and contrast controls that allow you to change the light intensity and color saturation in your picture. Completely portable, the unit weighs only 13 lbs. and can be used anywhere a TV set or monitor is available.

### Produce Enhanced Color Tones, Achieve Clear Color Reproduction, and Control Brightness and Contrast with Simple Adjustments

The FOTOVIX lets you reproduce the clear color of your film with startling brilliance on your TV screen or be creative and bring out specific colors. The color balance adjustment control lets you enhance the color tone of the picture even if the original negative or positive film is of poor quality. This simple control lets you create special and unusual color effects with a quick adjustment.

### Images Can Be Moved Vertically or Horizontally Just by Using the Easy Positioning Controls

An image is easily moved vertically or horizontally by rotating the vertical or horizontal movement control. The horizontal movement control also acts to advance the film. These functions allow you to create images with different compositions by cutting out unwanted parts and by moving and enlarging the desired part of an image. If you want a close-up of an image in a large area, just move that part to the center of the screen and enlarge it. This handy function will enable you to specify any areas you may want trimmed when you have the picture printed.

### High Quality Video Album Editing

By connecting FOTOVIX with a video cassette deck, you can record on video tape, the photographic images you projected on the TV screen. Make a high quality production with the special features of the FOTOVIX. The electronic fader control lets you fade in or out easily or cut in or out. Even the time in and out can be adjusted. You can add narration or background music to your video album by using the audio dubbing function on the video deck for a professional finished product.

### Connects to a Personal Computer

If you connect an RGB-NTSC encoder or other peripheral device to your personal computer, you can combine the photographic images on your TV screen with computer graphics.

**X01-100 FOTOVIX . . . . . \$2369.00**  
**X02-100 FOTOVIX PRO (Genlock, external sync) . . . . . \$3069.00**

## X01-100 FOTOVIX Specifications

<b>Film Used:</b>	35mm negative or positive film (color or monochrome); 16mm with accessory carrier
<b>Pick-Up Device:</b>	CCD solid-state pick-up device
<b>Max. Enlargement:</b>	6X (36X area comparison)
<b>Cropping</b>	
<b>Function:</b>	Vertical and horizontal control of entire film plane possible
<b>Vert./Horiz.</b>	
<b>Image Rotation:</b>	180° vert./horiz. conversion using image rotation control
<b>Auto White</b>	
<b>Bel. Adjust.:</b>	Auto white balance by one-touch button to negative films
<b>Color Bal.:</b>	Color correction using joystick
<b>Focusing:</b>	Fine focusing possible
<b>Electronic Fader</b>	
<b>Mechanism:</b>	Can be used to adjust fade-out, fade-in, cut-in and cut-out times
<b>Video Signal:</b>	NTSC composite video signal
<b>Resolution:</b>	> 320 TV lines
<b>S/N Ratio:</b>	45dB (luminance)
<b>Output</b>	
<b>Connectors:</b>	1. Composite video output: One each for color and B/W preview (RCA pin jack) 2. RF modulator output: 5-pin DIN connector

<b>Power</b>	
<b>Requirements:</b>	120VAC, 50/60Hz
<b>Power Consumption:</b>	125W
<b>Lighting Source:</b>	100W tungsten bulb (household)
<b>Operating</b>	
<b>Temp. Range:</b>	32°F to 100°F
<b>Dimensions:</b>	9.1" H x 7.5" W x 13.7" D
<b>Main Unit</b>	
<b>Weight:</b>	13 lbs.
<b>Standard</b>	
<b>Accessories:</b>	Supplied with film-carriers, a pair of film-carrier guides, connection cable and a carrying case

## X02-100 FOTOVIX PRO Specifications

<b>Sync System:</b>	Internal sync or genlock
<b>Genlock:</b>	Composite video signal (1.0V p-p, 75 ohm) or black burst signal (0.43V p-p, 75 ohm)
<b>Subcarrier and Horiz. Phase</b>	
<b>Controls:</b>	Adjustable through a hole positioned on the top panel
<b>Output</b>	
<b>Connectors:</b>	One each for color and B/W preview (BNC type)
<b>Input</b>	
<b>Connector:</b>	Black burst (BNC type)

# TAPE CARE DATA SECURITY, INC.

2801 N. 27th St.  
Lincoln, NE 68521  
(402) 464-5858 (800) 225-7554

## Type II Bulk Tape Degausser

750 Oe instrumentation tape cannot be considered desensitized until it has been degaussed by  $> -90\text{dB}$ . While a conventional degausser erases a 1600Hz signal at 30 ips to  $-70\text{dB}$  (18.75 mil wavelength), the Type II erases that signal by  $> -95\text{dB}$ . The Type II is also qualified to desensitize 520 Oe computer tape, such as IBM's 3480 tape cartridge.

1500 Oe metal particle video tape, when saturated with a square wave signal of 25kHz at 30ips (1.2 mil wavelength), presents another challenge to degaussing equipment. Tape manufacturers specify a minimum erasure level of  $-60\text{dB}$  for rerecording integrity. A conventional degausser erases to  $-41\text{dB}$ . The Type II erases the signal  $> -80\text{dB}$ .

### Performance

Erasure:  $-90\text{dB}$  minimum; Cycle Time: 45 seconds; Degaussing Safeguards: Continuous monitoring of field currents with latching audible alarm and visible reset indicator, interlocking turn table cover, temperature protection safely limits duty cycle during operation under abusive environmental conditions.

### Media Size

Open reels to 1" wide x 14" diameter, with NAB hubs and optional  $\frac{5}{16}$ " and computer hub adaptors.

### Operational Duty Cycle

Designed for continuous duty with two minute cycles, 45 seconds degaussing time, and 115 seconds idle time, (enabling operator to properly package and unpackage tapes) at  $80^{\circ}\text{F}$  ( $27^{\circ}\text{C}$ ) ambient temperature.

# BULK TAPE DEGAUSSERS



Type II

### Controls and Indicators

Illuminated circuit breaker/power switch, operate pushbutton with erase and reset indicators, cover open indicator, over temperature indicator, lamp test function at power on.

### Power Requirements

16A at 208V 60Hz, consult factory for 240V 60Hz, and 200-250V 50Hz versions

### Dimensions

Standard: Bench Mount  $11\frac{7}{8}$ " H x  $23\frac{1}{4}$ " W x  $34\frac{5}{8}$ " L; Weight: 180 lbs.

## TC-14 Bulk Tape Degausser

In a 15 second cycle, this machine will completely erase long wave audio and control tracks, along with short wave video tracks on conventional 700 Oe magnetic video tape. It accommodates reels up to 14", and requires no adaptor changes.

Once the TC-14 has erased a typical video signal to  $-90\text{dB}$ , there is very little difference between new tape and the tape just erased.

Also, the conveyor belt media transport for this bulk eraser enables you to fully automate your degaussing stations. This transport system provides you with a variety of tape applications, including general maintenance.

### Performance

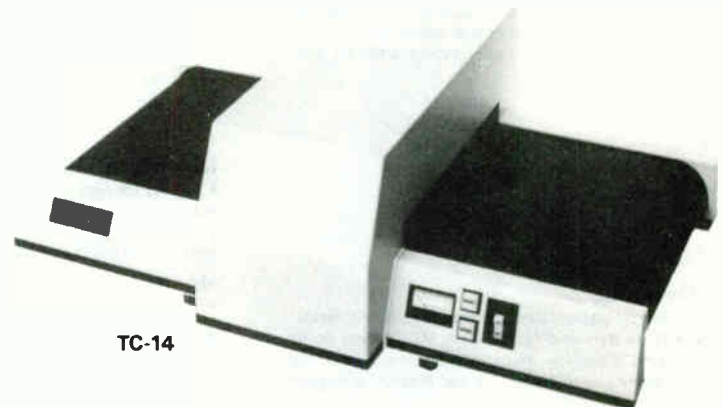
Erasure:  $-90\text{dB}$  typical; Cycle Time: 15 seconds; Degaussing Safeguards: Continuous monitoring of field currents. Temperature protection safely limits duty cycle during continuous operation.

### Media Size

Transport: Conveyor belt, needs no adaptors. Open reels to 1" wide x 14" in diameter, cassette and cartridges through large D-1 size.

### Controls and Indicators

Illuminated circuit breaker powers up with fan on. Erase pushbutton to engage belt and erase fields. Reset pushbutton to disengage belt and erase fields and allow maximum cool down before turning circuit breaker off. Amp meter monitors erase field currents.



TC-14

### Power Requirements

9A at 208/240VAC. (Selectable by internal tap), consult factory for 200-250V 50Hz.

### Dimensions

Standard: Bench mount 11" H x  $23\frac{3}{4}$ " W x  $33\frac{1}{2}$ " L; Weight: 160 lbs.

# TDK ELECTRONICS CORP.

12 Harbor Park Dr.  
Port Washington, NY 11050  
(516) 625-0100 (800) 835-8273  
FAX: (516) 625-0653

# VIDEO/AUDIO TAPE

## VIDEOCASSETTES

### HD-XPro High Definition-Extra

- 7 layer tape construction for improved picture clarity and tape transportability
- Dropout frequency for 5 and 15µs disturbances is superior to virtually all other 1/2" videocassettes
- SQ precision cassette mechanism for optimum tape transport, tracking and alignment

VHS	Beta
T-120 HD-XPro	L-750 HD-XPro
VHS-C	
TC-20 HD-XPro	

### HD High Definition

- HDD binder system and USF (Ultra-Smooth and Flat) film base with a 1µm back coating provide HD with a mirror-smooth finish on the active face and optimum frictional coefficients on its rear surface
- Luminance and chrominance signal-to-noise ratios have been improved +3.0dB and +2.5dB respectively
- SQ (Super Quality) precision cassette mechanism for optimum tape transport, tracking and alignment

VHS	Beta
T-120 HD	L-750 HD

### E-HG Extra High Grade

- Finest video and audio characteristics of any 1/2" video tape in its class
- Packaged to maintain original performance characteristics

VHS	Beta
T-60 E-HG	L-500 E-HG
T-120 E-HG	L-750 E-HG
VHS-C	
TC-20 E-HG	

### HS High Standard

- Ultra-refined Super Avilyn particles with a BET value of 25m<sup>2</sup>/g
- HDD binder system significantly reduces oxide shedding on video heads thereby extending tape life and reducing dropout levels
- Special static-resistant DP leader tape maintains high level performance

VHS	Beta
T-30 HS	L-500 HS
T-60 HS	L-750 HS
T-120 HS	
T-160 HS	

## AUDIO CASSETTES

### D Dynamic

- Excellent high frequency response with low distortion
- Wide dynamic range, high MOL
- Low noise
- Precision cassette mechanism
- Touch and tell marks allow you to identify A and B sides with your fingertip

D30	D90
D46	D120
D60	

### AD Acoustic Dynamic

- Ideal for car cassette playback, home decks, and portables
- Delivers wide dynamic range, extra high MOL with low bias noise

AD-60	AD-90
-------	-------

### AD-S Acoustic Dynamic Special

- "C-Thru" shell construction
- Rigid, weighted transparent plastic shell provides resonance control in the frequency area
- ST (smooth transparent) liner sheets provide optimum travel conditions
- Dual spring pressure pad promotes direct tape-to-head contact
- Touch and tell marks

AD-S90

### AD-X Acoustic Dynamic-Extra

- High sensitivity and superior MOL compared to other Type I (normal bias) cassettes
- Extended frequency response, low bias noise level

AD-X60	AD-X90
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### HX-S Metal Particle High-Bias

- Four times more magnetic storage ability than other Type II formulations
- Extended high frequency response assures excellent transient performance
- Particularly suitable for recording the high energy output of digital sources

HX-S60	HX-S90
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### SA Super Avilyn

- Superior frequency response and recording headroom
- Improved Laboratory Standard cassette mechanism
- Outstanding sensitivity across the entire frequency range

SA60	SA90
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### SA-X Super Avilyn-Extra

- "DLM" cassette mechanism for reduced modulation noise
- Dual coated Super Avilyn formulation provides low bias noise for less tape hiss and extends dynamic range
- Extra-high sensitivity and MOL

SA-X60	SA-X90
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### SA-XG Super Avilyn-Extra

- Low bias noise yields less tape hiss and extends dynamic range
- Extra-high sensitivity and MOL
- RS-II mechanism virtually eliminates sympathetic vibration

SA-XG60	SA-XG90
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### MA Metal Alloy

- Allows for high level recording without distortion, resulting in increased dynamic range and reduced tape noise
- Offers superior MOL characteristics over Type II tapes
- Super Finavinx formulation

MA-60	MA-90
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### MA-X Metal Alloy-Extra

- "DLM" cassette mechanism for reduced modulation noise
- Super Finavinx particles provide a high packing density
- Increased MOL handles transient peaks without distortion
- Accepts high input levels without saturation
- Reduced bias noise

MA-X60	MA-X90
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### MA-XG Metal Alloy-Extra Grade

- Optimum recording from all music sources
- Accepts high input levels without saturation
- RS-II shell mechanism virtually eliminates vibration and provides uniform performance between Side A and Side B

MA-XG60	MA-XG90
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E-HG



HD



HD-X



# TEATRONICS, INC.

3100 McMillan Rd.  
San Luis Obispo, CA 93401  
(805) 544-3555

# LIGHTING CONTROL

## Genesis Series Dimmers

**Genesis 660-6 6000W Channels**

**Genesis 1224-12 2400W Channels**

- Front removable electronics drawer
- Immune to miswiring of the input power
- 10,000A thermal/magnetic breakers
- Dim/non-dim switchable
- Simultaneous analog and multiplex control
- 24" rackmountable
- Override switches on each channel
- LED control signal tracking on each channel
- Input power, single or three phase switchable
- U.L. listed

The Genesis Series Dimmers are very rugged, heavy-duty 50A (660) or 20A (1224) per channel dimmers. They use special SCR-pair modules for dimming and will carry 6000W or 2400W per channel. Hot patching, overloading, or miswiring of the power feeds should cause no functional damage. The units can be wired for single or three phase input power at 50 or 60Hz, and can be used on 120 or 240V power grids. Input power phase changing is extremely simple, and the unit may be rackmounted in a standard 24" equipment rack if desired.

Typical uses for the Genesis dimmers are locations where ruggedness is important and downtime is unacceptable. Any use where the personnel using the products are inexperienced and where load and power input connections could be miswired calls for Genesis dimmers. Broadcast Television, Cable Studios, Theaters, Schools, Night Clubs, and heavy Touring Companies should all use these heavy-duty dimmers, any critical application where the best is called for.

Genesis is equipped with many standard deluxe features to make life easier for the user. Each channel has an on/off override switch with an LED control present indicator housed inside, and a thermal magnetic circuit breaker with a 10,000A interrupting capacity. Four input power phase present indicators are also prominent on the front removable electronics drawer. Each channel is selectable dim/non-dim on an individual basis. In the unlikely event of a failure, all electronics are easily removed for replacement through the front removable electronics drawer. The unit is cooled for longer life by a quiet low-speed fan.

Equipped with heavy-duty locking metal connectors, the Genesis uses either our standard 12 channel analog control cables, or our AMX 192, 192 channel analog multiplex control cable. Either of these control methods may be used individually or you may use both simultaneously (one for a back up system). The analog control voltage is 0-10VDC, which is supplied typically by the control console.

Genesis dimmers are ruggedly built of steel and aluminum, finished in a brushed black anodize with white nomenclature. All necessary servicing of the unit can be achieved without soldering using only a philips screwdriver and pliers. A high degree of noise filtering is provided by a toroidal-core filter choke on each channel.



Genesis 660



Genesis 1224

### Accessories

- Foam-lined road case
- Operating touring case
- Remote cables

### Genesis 660

Weight: 70 lbs.

Dimensions: 5.25" H x 22" W x 22" D

### Options

Output panels:

50A Stage Pin outlets (1/channel)

Terminal Block back panel

**Genesis 660** . . . . . \$3695.00

### Genesis 1224

Weight: 55 lbs.

Dimensions: 5.25" H x 22" W x 22" D

### Options

Output panels:

20A U-Ground outlets (2/channel)

20A Stage Pin outlets (2/channel)

20A Twistlock outlets (1/channel)

Terminal Block back panel

**Genesis 1224** . . . . . \$3595.00

# TEATRONICS, INC.

3100 McMillan Rd.  
San Luis Obispo, CA 93401  
(805) 544-3555

# LIGHTING CONTROL

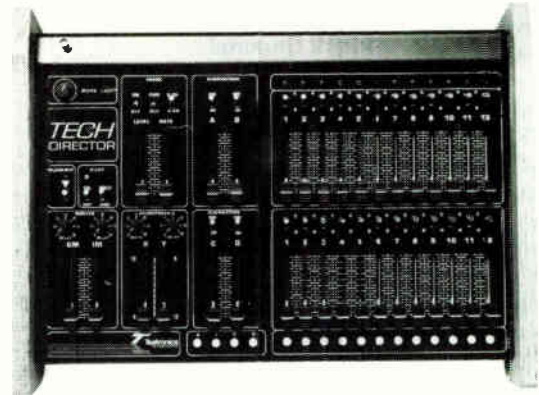
## Tech Director Remote Control Consoles

• Work light controls • Black out switch with LED • Bump on/off switch with LED • Add/solo selector • Grand master with timer • Independent Master with timer • Split/dipless cross fader with two timers and LED bargraph • 4 or 8-channel chase with: Rate control, intensity control, forward/reverse switch and chase on/off switch • Two submasters per scene with bump buttons • A/B submaster switches for each channel in scene • Bump/solo buttons on each channel • 12-channel output cable • Built of aluminum and steel • Available in configurations up to 60 channels

<b>TD 212</b>	12-channels	.....\$	<b>995.00</b>
<b>TD 224</b>	24-channels	.....	<b>1495.00</b>
<b>TD 236</b>	36-channels	.....	<b>1945.00</b>
<b>TD 248</b>	48-channels	.....	<b>2395.00</b>
<b>TD 260</b>	60-channels	.....	<b>2845.00</b>

### Options:

Keyswitch	.....	<b>\$79.00</b>
Gooseneck Light (12")	.....	<b>39.00</b>



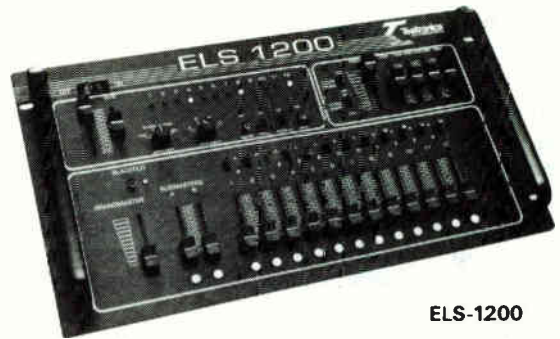
Tech Director

## ELS-1200 Dynamic Lighting Control Console

• 4 SRC output connectors • Chase output • Color organ output • One scene output • Mixed output • Sensitivity control • Line level audio input 1/4" • Phone jack • 1/2A fuses • Grandmaster • A/B submasters • Blackout switch with LED • Channel control 1-12 • Bump buttons • 4, 6, 8 or 12-channel chase • 4-channel color organ • Weight: 14 lbs. • Dimensions: 5" H x 19" W x 11 1/4" D

The ELS-1200 is a dynamic lighting control console designed to create the popular lighting control effects necessary in today's sophisticated entertainment lighting market. With its many features and its "total lighting console" design concept, we think you will agree that the ELS-1200 replaces the hodge podge of small controllers usually found creating today's lighting effects.

<b>ELS 1200</b>	12-channels	.....	<b>\$1395.00</b>
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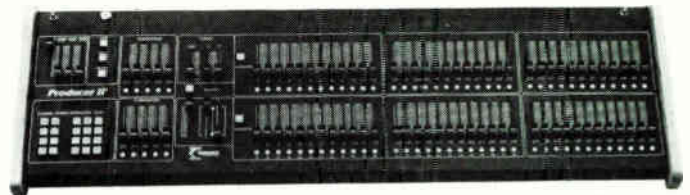
ELS-1200

## Producer II Computer-Assisted Lighting Control Console

• 24, 36 or 48-channel 2-scene configurations • 10 pile-on submasters (all consoles) • 24 crossfading submasters (all consoles) • Battery backup memory with five year life • 10 pages of up to 192 steps of chase • Any step of any chase can be either a dimmer, control channel, or submaster • 192 dimmer proportional patch (USITT Std. AMX 192) • Timers on X/Y crossfaders and grandmaster • Progress bargraphs for each timed fader • Alter functions: Allowing preset levels to be altered up or down manually through the key pad alter function • Dual gooseneck lights with electronic dimmer • Blackout switch with flashing LED • Key switch record lockout • Channel/submasters selection switch with LED in each scene • Bump buttons on all channel and submaster sliders (both scenes)

The Producer II is a computer-assisted lighting console that operates similarly to a conventional manual console, but includes many more capabilities. In its standard configuration, the Producer II is ideal for theater, television, film or live entertainment performance lighting.

Though your console may be a two scene 24 or 36-channel unit, all Producer II's have a 1-scene 48-channel mode. In this mode, you could, for instance, record your 34 submasters with 48 channels in each, and then change back to a 2-scene 24 or 36-channel unit for playback. Your crossfading and pile-on submasters would each contain 48 channels.



Producer II

Producer II 224—24 and 48 channels	.....	<b>\$3995.00</b>
Producer II 236—36 and 48 channels	.....	<b>4495.00</b>
Producer II 248—48 channels	.....	<b>4995.00</b>
Demultiplex Main Frame—19" rackmount	.....	<b>995.00</b>
48-Channel Demultiplex Card (0-5 to 0-24 and 2-7.6)	.....	<b>795.00</b>
Cost per 48-Channel Demultiplex Card to mount in Producer	.....	<b>250.00</b>
4 Show Option	.....	<b>495.00</b>
8 Show Option	.....	<b>995.00</b>

# TECH ELECTRONICS, INC.

6699 Peachtree Industrial Blvd. Ste. D  
Norcross, GA 30092  
(404) 446-1416

# VIDEO EQUIPMENT

## AVP-1 Automatic Video Programmer

• Battery back-up maintains clock and programmed memory in case of power failure • LED digital display • Power: 120VAC, 60Hz, 7W • 2 1/2" H x 6" W x 6 1/2" D • 3 lbs.

The AVP-1 is designed to control the playback or recording function of any industrial video cassette deck with remote control capability. By means of a controlled AC receptacle and a remote control cable the AVP-1 will automatically turn power on, place deck into play (or record) for a specified time, then place deck into stop and turn power off at the end of the specified time period. Functions can be repeated every 24 hours.



AVP-1 .....	\$260.00
Control Cable: (Specify VTR make and model)	
Sony or Panasonic* (3/4, 1/2 or Beta) 10' length .....	40.00
JVC (3/4 or 1/2) 10' length .....	70.00
*Panasonic NV-1310 or AG-2200 10' length .....	70.00

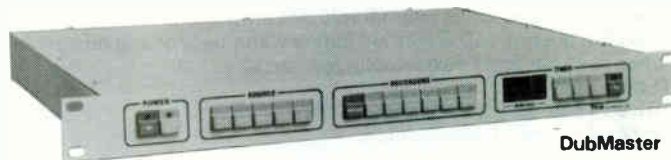
## DubMaster™ Remote Control

• Built-in serial port for use with the JVC BR-7000UR and Panasonic AG-6810 • Timer feature eliminates the need to manually stop the VCRs when recording is completed • Can be programmed to power down the system • Lockout feature • Master power switch has a safety feature • Power requirements: 115V, 60Hz—5W • 1 3/4" H x 19" W x 14 1/2" D

The DubMaster is an easy and cost effective way to control VCRs in a video duplication system. The DubMaster can control a master playback deck and as many recorders as desired. Any remote controllable VCR can be used with the DubMaster.

The DubMaster allows freedom of design. VCRs of various makes and formats may be mixed. The system can easily be expanded in groups of six or twelve recorders with additional rack control boxes.

The DubMaster has a built-in serial port for use with the JVC BR-



7000UR and Panasonic AG-6810 with serial control option. In this case the control cables and rack boxes are not needed.

DubMaster .....	\$1195.00
*Rack Box — RB-6 (controls 6 VCRs) .....	395.00
*Rack Box — RB-12 (controls 12 VCRs) .....	495.00
*Control Cable (one for each VCR—including source) .....	75.00
*Not needed when using JVC BR-7000UR or Panasonic AG-6810 with serial control port.	

## PVC-5 Programmable Video Controller

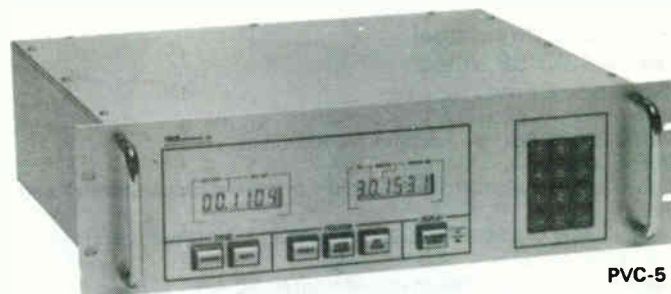
• Expandable memory • Battery back-up for clock and memory • Cassette players are easy to replace • Fewer moving parts require less maintenance • Individual machine failure does not cancel entire program cycle • Intermix video tape formats (3/4", 1/2" VHS or Beta) • Switched AC for on/off control of video tape players • Preview capabilities of all input sources • Easy review of program memory • Single or dual operation • Power requirements: 115V-60Hz—30W • 5 1/4" H x 19" W x 14 1/4" D • 12 lbs.

The PVC-5 is compatible with most remote controllable VTRs, and when combined with existing VTRs it provides a cost effective playback system without the large initial expenditure necessary with other similar systems. The PVC-5 will automatically control up to 8 different VTRs following your pre-programmed schedule. The PVC-5 will control and can intermix different industrial tape formats such as 3/4", Beta and VHS. The PVC-5 provides maximum flexibility. An entire day of programming can be entered in a few minutes. Up to 64 separate commands can be programmed into memory for daily operation of power, play, stop or rewind functions—automatically switching video and audio sources at the prescribed time.

The PVC can be wired for two separate independent channel outputs utilizing four input positions per output channel. Programming and control of the two channels can be simultaneous.

An additional memory section can be added to the PVC, increasing its memory an additional 64 positions, to a total of 128.

PVC-5 Programmable Video Controller .....	\$4850.00
Expanded Memory Option .....	668.00



Control Cables: to interface PVC-5 with VCR (12' Length)	
Sony (all models) .....	\$36.00
Panasonic (with 34-pin Remote Connector) .....	36.00
Panasonic (NV-1310, AG-2100, AG-2200) .....	66.00
Panasonic (All Wireless Remote Control Models*) .....	75.00
JVC (With 34-pin or 45-pin Remote Connectors) .....	36.00
JVC (BP-5100, BR-7110, CP-5000, CP-5200) .....	66.00
JVC (All Wireless Remote Control Models*) .....	75.00
Other VCRs (custom cables made upon request) .....	75.00
Accessories	
Video Cable - 12' Length (BNC Connectors) .....	\$14.00
Audio Cable - 12' Length (RCA Connectors) .....	6.00
Power Outlet Strip - 6 Outlets .....	35.00
Programming and Operation Video Cassette (specify format) ..	30.00

\*User must furnish wireless handheld controller for interface

## CSS-1 Computer Select Switcher

• Designed for applications where operation of multiple computers sharing a common monitor is desired • 3 by 1 buffered TTL switcher • Momentary pushbutton with LED indicators • Both input and output connectors are standard DB-9 jacks • Works equally well with mono, color or enhanced color computers • Comes complete with a self-contained plug-in power transformer • Tabletop design is attractive, compact and color coordinated for use with the IBM-PC • Control switches are conveniently located for easy access and the LEDs provide instant recognition of source.

CSS-1 .....	\$275.00
-------------	----------

## TDA-1 TTL Distribution Amplifier

• Designed for applications where operation of multiple image output (such as monitors and projectors) share a common computer • One input, three output TTL buffered • Buffered signal provides enough strength to allow the signal to be run a longer distance • Both input and output connectors are standard DB-9 jacks • Comes complete with a self-contained plug-in power transformer • Tabletop design is attractive, compact, and color-coordinated for use with IBM-PC

TDA-1 .....	\$250.00
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# TECHNOV INDUSTRIES, LTD.

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New York, NY 10019

(212) 586-3690 (800) 223-0622

(800) 431-6004 Telex: 29-1249 MPCS

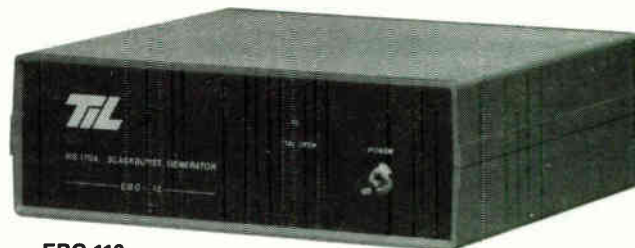
FAX: (212) 586-5282

# BLACKBURST GENERATOR/ FREQUENCY CONVERTER/PANELS

## EBG-110 RS170A Video

### Blackburst Generator

- Four composite RS 170A blackburst outputs
- Oven controlled 14.31818MHz crystal oscillator
- Front panel oven temperature indicator
- Perfect for "blacking tapes," external reference
- Output Pedestal: 7.5 IRE
- Environmental: 0°C-60°C
- Power LED: lights when internal voltages are present
- Xtal LED: bi-state LED will be red during warm-up time and turn green when oven has reached operating temperature
- Output Impedance: 75 ohm
- Power: 120VAC ± 20% 50/60Hz, 20W
- Television signal standard: NTSC
- ABS plastic enclosure
- Connectors: BNC
- Output comp sync-40 IRE, rise and fall time 140ns ± 20ns
- Output burst: ± 20 IRE, 9 cycles, frequency 3.579545MHz
- 2.5" H x 8.125" W x 7" D
- Weight: 3 lbs.



EBG-110

The EBG-110 is a stand-alone RS170A blackburst generator which is packaged in small cabinet and provides four oven controlled crystal derived 75 ohm blackburst outputs.

A bi-state status LED on the front panel indicates the oven condition of the unit.

Typical applications include: genlocking source for other equipment, control track writer for video tapes and as an external TBC reference signal.

EBG-110 . . . . . \$600.00

## VFC-150 Bi-Directional

### 3.58-4.43-3.58 Video

### Frequency Converter

- Bi-directional video frequency converter
- Provided with BNC connections for in and out
- Simple to use
- Converts "modified NTSC 4.43MHz" to "real NTSC 3.58MHz" and vice versa
- Allows Sony VO-5630 PAL-SECAM NTSC 4.43 U-matic VTR to record NTSC in color
- Allows NTSC 3.58 VTRs to record from NTSC 4.43 VTRs
- Allows NTSC 4.43 VTRs to play on NTSC 3.58 monitors or projection systems
- Color lock front panel control
- Lightweight
- Available in 110 or 220VAC 50/60 cycles power supply



VFC-150

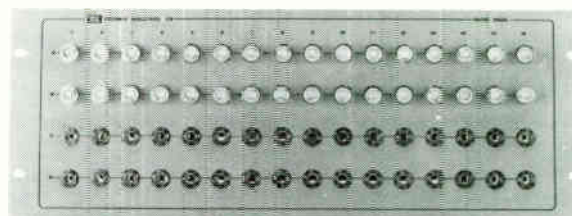
The VFC-150 is a high quality composite video color frequency converter which can change NTSC 3.58 (real NTSC) to NTSC 4.43 (modified NTSC) or vice versa. This device is designed to interface standard multi-standard video equipment with standard NTSC equipment.

VFC-150 . . . . . \$650.00

## Audio-Video Patchfield Panels

- Custom built as required
- Combination systems audio or video
- Uses .25" phone or RCA phono jacks for audio
- Delivered with self-adhesive labeling kit
- Screened with alphanumeric location guides
- Uses BNC bulkhead connectors for video
- EIA 19" rack space width
- Stamped on 1/8" thick aluminum panels

These custom designed audio/video patch panels are economical yet extremely versatile. Each row holds 16 connectors with a 2 row minimum per panel. Please specify the connectors needed with order.



AV Patchfield Panel

BNC Video . . . . . per patch point \$8.32  
 RCA Audio . . . . . per patch point 3.50  
 1/4" Phone Mono . . . . . per patch point 4.10  
 1/4" Phone Stereo . . . . . per patch point 5.30

Prices vary with each system and include panel

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# DISTRIBUTION AMPLIFIER/ SWITCHING SYSTEM

## MDA-310 Video and Hi-Fi Audio Distribution Amplifier

- 1 x 20 video distribution amplifier
- 1 x 20 Hi-Fi stereo distribution amplifier
- Bridging video and audio inputs
- Front panel amplitude adjustments
- Front Panel test outputs
- Two EIA rack spaces in height (3.5")
- Solid-state modular design
- Can be used for PAL/NTSC/SECAM
- Enclosed in a 3.5" high 19" rackmount cabinet

The MDA-310 is a broadcast quality 20 output video Hi-Fi audio distribution amplifier. Perfectly suited for the Hi-Fi stereo video duplication facilities of today, the MDA-310 sports many innovative and practical features.

Looping inputs for both video and audio allow the connection of other MDA-310s for any mass duplication requirements. Front panel controls allow the user to adjust video and audio gain. Buffered test outputs are front panel mounted for calibration or monitoring equipment hook-ups. Internal adjustments are provided for cable compensation once the unit has been installed.



MDA-310

High quality integrated circuit design with individual on-board regulated power supplies per input channel, provide ultra clean signals and reliable system performance. Printed circuit boards are modular in design, making the MDA-310 easy to repair in minutes by simple board replacement.

With a video operating bandwidth of 10MHz, the MDA-310 can be used for PAL/SECAM and NTSC-4.43 video signals.

**MDA-310 . . . . . \$690.00**

## CSS20-AVPS, 20 x 1 Stereo Audio Follow Video Switching System

- 20 x 1 video switcher
- 20 x 1 Hi-Fi audio follow switcher
- Allows control room diagnostic and program monitoring
- Remote controllable
- Solid-state active switching
- Unlimited expansion capabilities
- Rackmountable (3 1/2" high)
- Front panel LED status indicators displays input "on line"

The unique preview switcher system allows the user to minimize cabling, manpower and equipment while increasing cost effectiveness and quality. The 20 input audio follow video switcher comes complete with remote which enables the operator to control the switcher from up to 300'.

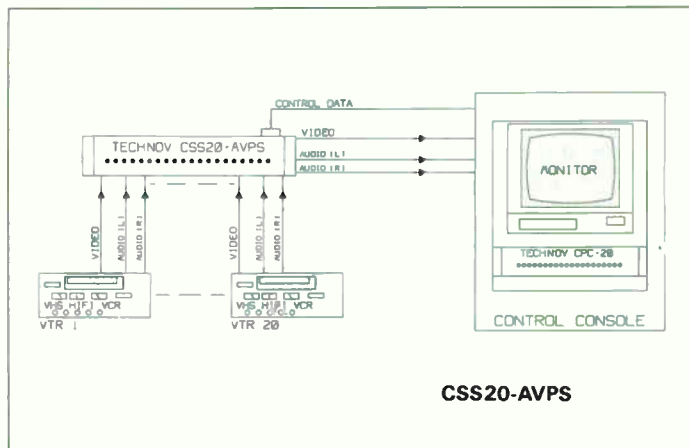
For duplication facilities, the unit is mounted above the VTR dupe racks. The output from each CSS20-AVPS is then fed back to the main console for audio and video monitoring.

This unit is also ideal for diagnostic use in the control room and monitoring the various inputs.

Comes complete with 50' interface cable between control panel and switcher (cable uses standard 25 pin subminiature "D" connectors).

**CSS20-AVPS . . . . . \$995.00**

**CPC-20 Remote control . . . . . 495.00**



CSS20-AVPS

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# SYNC GENERATORS

## CSG-300/RS170A Sync Pulse and Colorbar Generator

- 14.31818MHz oven controlled crystal oscillator
- Video: colorbars (2 outputs) blackburst (4 outputs)
- Pulse: sync, blanking, HD, VD, BFP 2 outputs each
- Subcarrier: 2 outputs • Buffered front panel BNC testpoints provided for colorbars, blackburst and genlock video input signals • SC/H phasing during genlock mode • 120VAC  $\pm$  20%, 50/60Hz, 20W fuse— .50A • EIA 19" rackmount metal cabinet 1.75"H x 19"W x 9"D • 7 lbs., less shipping carton

The CSG-300 is a broadcast quality RS170A sync pulse and colorbar generator. The unit is designed to be used as a master "house sync" generator or it can be genlocked to composite video for timing into other sync systems.

The core of the CSG-300 is the 14.31818MHz oven controlled crystal. The pulse train generated from this type oscillator is ultra stable and extremely accurate. The CSG-300 delivers six standard NTSC pulse drives: Sync, Blanking, Horizontal, Vertical, Burst Flag and Subcarrier.



CSG-300

NTSC split-field RS170A colorbars are provided for system reference and calibration. Four RS170A composite blackburst outputs are also provided for timing other systems requiring a genlock signal.

The CSG-300 provides high quality video system sync and reference signals at a low cost and in a single EIA rack space cabinet.

**CSG-300 . . . . . \$1295.00**

## CSG-110 RS170A

### Color Sync and Blackburst Generator

- Six standard sync drive outputs • Two RS170A composite video blackburst outputs • Oven controlled 14.31818MHz crystal oscillator • Front panel oven temperature indicator • Small compact size • Impedance: 75 ohm • Subcarrier amplitude: 2V p-p sine wave • Subcarrier frequency: 3.579545Hz • 2.5"H x 8.125"W x 7"D • Weight: 3 lbs.

The CSG-110 is a high quality RS170A stand-alone color sync and blackburst generator. This small package unit is designed for those applications where a stable crystal based sync generator is required without a major investment. Edit systems, character generators, remote and ENG systems and service centers are just a few of the typical applications for the CSG-110.

All six standard sync pulse drives as well as two composite blackburst outputs are derived from an oven controlled 14.31818MHz crystal. RS170A phasing as well as blanking interval widths are automatically maintained at broadcast specifications.



CSG-110

A bi-state status LED on the front panel indicates the stable oven condition of the unit.

The CSG-110 is an economical and practical answer to your sync generator applications.

**CSG-110 . . . . . \$630.00**



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# INTERFACE TRIGGER BOX/ EDIT EXPANDER MODULE

## IFI-400P General Purpose Interface Trigger Box

- Works exclusively with Sony RM-440 edit controllers
- Delivers trigger pulse to SEGs, DVEs, keyers
- Trigger delays adjustable by seconds up to 999 seconds
- Output trigger pulse high or low simultaneously
- Output pulse may be used to drive relays up to 250mA
- Automatically triggers the Pyxis or other GPI special effects generators

IFI-400P.....\$295.00



IFI-400P

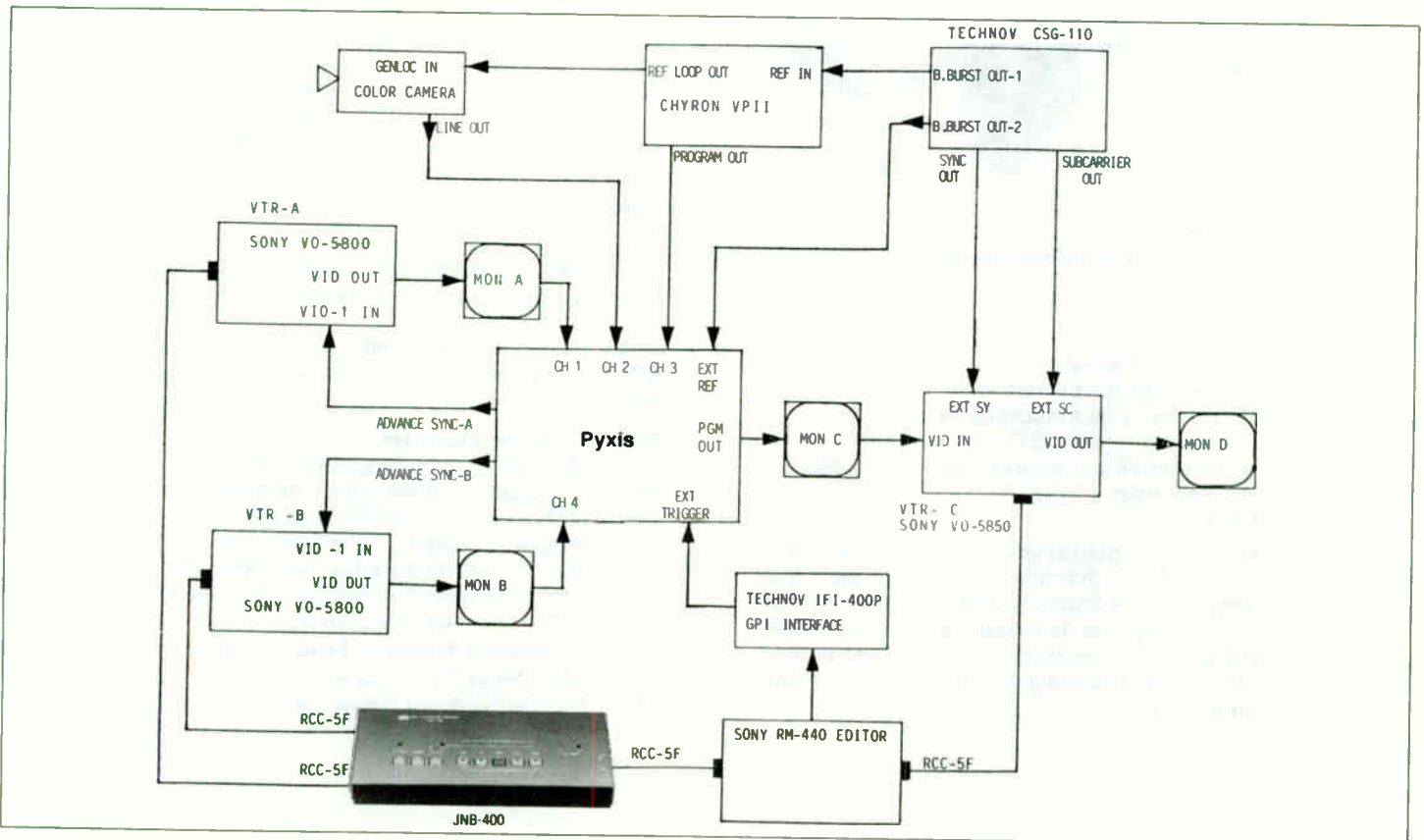
## JNB-400 Edit Expander Module

- Expands existing two VTR RM-440 and type 5 U-matic editing to three VTR simple A/B roll system
- No equipment modifications when used with RM-440, 5800s, 5850s
- Requires no external power
- Solid-state circuitry design
- A or B source with LED confirm
- Enable control switches
- Built-in video-audio-time code switcher for use with ECS-90s
- As easy to use as the RM-440
- Capable of combining with any TBC and special effects generator
- FF, Rew, Play, Stop, Pause, with LED confirm
- 3.3" H x 14" W x 7" D
- 6.5 lbs.

JNB-400.....\$1250.00



JNB-400



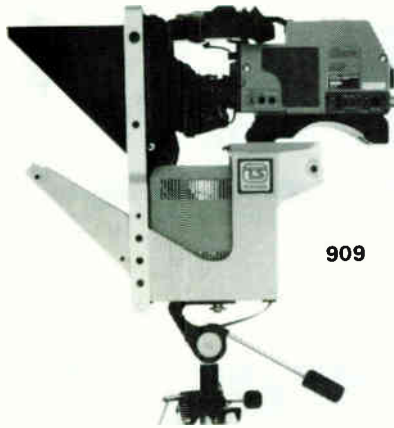
\* You may also use 2 separate TBCs and an SEG.

Prices and Specifications Subject to Change Without Notice.

# TEKSKIL INDUSTRIES, INC.

#108-15290 103A Ave.  
 Surrey, British Columbia CN V3R 7A2  
 (604) 589-1100 Telex: 04-352848  
 FAX: (604) 987-2513

# PROMPTER SYSTEM



909



909T

## 909 Prompter System

- Uses a variety of material for on-camera prompts
- State-of-the-art controls
- Compact, rugged design
- Aluminum casting
- Uses script paper in any format
- Lets your talent see what the camera sees
- Pans and tilts as smoothly as a studio camera
- Provides individually-buffered NTSC video outputs
- Switches between normal and reverse video text displays
- Adjustable video enhancer
- Suited to EFP and ENG

The 909 is a prompter designed specifically to work with your portable video camera. Other prompting systems, designed for heavy studio cameras, have front-mounted imaging monitors that must be counterweighted. The result is a clumsy system that doesn't lend itself to smooth camera work and is time-consuming to set up. The 909 eliminates these problems with a totally different design.

## Full-function display control

The 909T provides for two NTSC inputs: One for the text camera and one for your portable camera, with instant switching between cameras. Script feed stops when the talent or operator switches to the auxiliary video feed. When the script is recalled, it continues where it left off, at the exact speed it was moving before the switch.

## State-of-the-art microcircuitry controls

The 909T uses a pulse frequency modulation circuit to give you precise one-touch control of script speed forward and backward. A bar-graph display indicates scroll-ready status, direction of movement, and speed. Once your script assistant has established the best speed for the talent, that precise speed can be used every time. Scrolling speed and video-input switching can also be controlled by means of a plug-in remote controller.

## Pan and tilt your portable as smoothly as a studio camera

The 909V Camera Viewing Unit mounts on any standard-mount field or studio tripod and accepts any portable camera. It holds the prompting monitor below the camera, so that both are balanced over the tripod head. Tekskil uses folded optics—a surface-reflectance mirror and a 70/30 beamsplitter—to bring the prompts up in front of the lens.

## Specifications

<b>Power</b>	120VAC, .2 amp, 60Hz; or (optional) 240VAC, .1 amp, 50Hz
<b>909V Viewing Unit</b>	
<b>Weight</b>	(without monitor) 11.0 lbs. (5.0kg)
<b>Imaging Monitor</b>	9" industrial monitor, Panasonic TR-930 or equivalent
<b>Dimensions</b>	18" H x 12 1/2" W x 19 7/8" D (45.8 x 31.7 x 50.5cm)
<b>909T Script Transport</b>	
<b>Weight</b>	(without camera) 17.0 lbs. (7.7kg)
<b>Inputs</b>	Two, 1V p-p, negative sync video, BNC connector standard
<b>Outputs</b>	Three individually buffered NTSC outputs
<b>Text Camera</b>	Panasonic WV1410, c/w 16mm lens
<b>Dimensions</b>	15 3/8" H x 17 1/8" W x 17 1/16" D (39.0 x 43.5 x 44.9cm)

**909 Prompter System** - Includes 909T (script transport), 909V (Camera viewing unit), Remote control and cables

.....\$4250.00

**909V\*** Camera viewing unit .....1340.00

**909T\*** Script transport includes remote control and cables .....2910.00

## 909C Computer Prompter

The 909C lets you compose, edit and play back scripts anywhere in a case small enough to fit under an airplane seat. It has a 128K memory, a display, a keyboard and its own micro-processing system built in. The 909C comes with its own 12V power source, and takes a live feed from the camera or any output from the switcher and lets you see it on the prompt monitor. The talent can also use it via remote control.

**\*909C Computer Prompter** Includes carrying case, text file cartridge, 2 handheld remote control units .....\$5495.00

\*Note: Prices above do not include camera or monitor

# TEKTRONIX, INC.

P.O. Box 500  
Beaverton, OR 97077  
(503) 627-7111 Telex: 15-1754  
TWX: 910-467-8708

# VIDEO MEASUREMENT SET

## VM700 VIDEO MEASUREMENT SET

The VM700 is a complete video monitoring and measuring instrument which can be used for automatic measurements and monitoring, as well as for manual measurements. The user can select a display of numeric values to confirm the quality of the signal path, or may select graphic displays for more detailed analysis.

### Automatic Video Measurement Set

The VM700 makes standard television measurements automatically, including those specified in RS-250B/EIA-250C, NTC-7, and RS-170A. These measurements can be compared with user-defined limits and an alarm message generated when these limits are violated.

New graphic displays are provided for measurements such as signal-to-noise ratio and group delay, enabling the user to better understand (and improve) the transmission path.

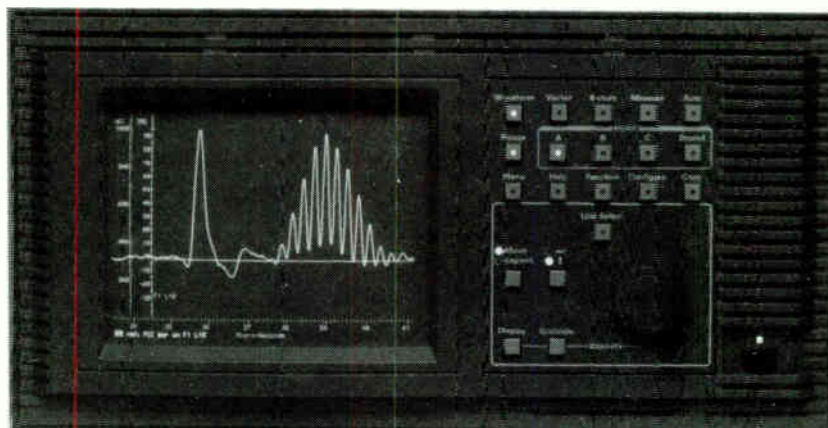
### User-Programmable Functions

Any sequence of operations may be identified with a user-defined function. For example, the measurements to be made on a transmitter demodulator output could be identified with a function labeled DEMOD. A technician would simply select this function to make all measurements, and provide a printout.

### Digital Waveform Monitor/Vectorcope

For a more detailed analysis of the waveform, the actual signal may be displayed and additional measurements made manually.

In waveform mode, cursors are available to aid in measuring time, frequency and amplitude. These cursors allow a very quick and precise location of the 10%, 50%, or 90% points on any transition.



VM700

The Waveform display can be expanded around any point both vertically and horizontally. Because the data is digitized, the display remains bright at all expansion factors. The axes automatically expand with the waveform, so all units are correct as displayed.

The vector mode provides the normal vectorscope display. The vectors may be rotated or expanded, with the rotation angle and gain values displayed numerically on the screen.

Line select can be used to quickly specify any line for display, or automatic measurement (when a test signal is used).

### Hardcopy

All information on the screen may be printed on printers supporting Postscript® or 24-pin Epson® graphics via the standard RS-232C interface. Automatic measurement results can be printed on most ASCII printers using the same interface.

### Picture Mode

The signal source can be quickly verified using the picture display, and any line may be selected on the picture for viewing in the waveform or vector displays.

### Power Requirements

#### Mains Voltage

Range: 87VAC to 132VAC or 174VAC to 250VAC

#### Mains

Frequency: 47Hz to 63Hz

#### Power

Consumption: 250W

#### Environmental:

Operating temperature range 0°C to +50°C ambient

VM700 . . . . . \$14,000.00  
01 Option . . . . . 2,500.00  
C1 Option . . . . . 300.00

Epson is a trademark of EPSON CORP.  
Postscript is a trademark of ADOBE SYSTEMS, INC.



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# NTSC TELEVISION GENERATOR



## TSG-170A NTSC Television Generator

- Simple, Effective Test Signal Complement
- RS-170A Sync Pulse Generator with Digital Genlock
- Separate Timing Controls for Sync and Test Signals
- Separate SMPTE Bars Output with Programmable ID (option 01)
- Audio Tone Output (option 01)
- Tape Leader Countdown

The Tektronix TSG-170A NTSC Television Generator offers you the test signals you need plus the advantages of master and genlock sync capability. It provides true 10 bit digital signal accuracy with a full complement of test signals and a stable RS-170A sync generator.

The rugged, compact TSG-170A is designed to support both operational and maintenance requirements. The TSG-170A Option 01 provides even more versatility by adding a separate SMPTE bar generator, programmable identification, and audio tone output.

## RS-170A Sync Generator with Digital Genlock

The TSG-170A sync generator's stable color standard and unique digital genlock make it ideal for either master generator or slave operation. All outputs are correctly SC-H phased, even if the TSG-170A is locked to an improperly SC-H phased reference input. The digital genlock calculates sync timing and subcarrier phase to properly identify color framing of the input reference signal. The TSG-170A automatically senses composite video or 3.58 MHz subcarrier reference inputs. It switches to an internal oscillator in the absence of a reference input signal. This high stability crystal oscillator, with its constant temperature oven, ensures long term frequency stability.

## Flexible Timing Controls

Horizontal and subcarrier phasing control settings are stored in nonvolatile RAM for digital control of genlock timing. In addition, a separate set of timing controls is provided for sync outputs to simplify system timing. A front panel lockout feature prevents inadvertent changes to the front panel system timing controls.

## SMPTE Bars with Programmable ID and Audio Tone (Option 01)

Option 01 adds a separate SMPTE bar output for routine studio needs, such as tape leaders, freeing the front panel selected test signals for engineering and maintenance.

An ID of up to 12 alphanumeric characters may be inserted in the SMPTE bar output. This front panel programmable ID is ideal for identifying satellite feeds, and videotapes.

Option 01 also provides a 400 Hz audio tone output, useful for checking program line continuity and adjusting audio levels. The tone can be adjusted over a 0 dBm to +8 dBm range into 150  $\Omega$  or 600  $\Omega$ .

## Remote Control

Remote operation of test signal selection and timing functions is available by simple ground closure control through a rear panel connector.

## TEST SIGNAL GENERATOR

Luminance Amplitude Accuracy	$\pm 1\%$
Chrominance-to-Luminance Gain	$\pm 1\%$
Output Impedance	75 ohm
Return Loss	36 dB to 4.2 MHz
TEST SIGNALS COLOR BARS	SMPTE Bars with 10.6 $\mu$ s blanking
CONVERGENCE	14 lines per field 17 lines per horizontal
PULSE & BAR WITH WINDOW	
2T Pulse HAD	250 ns $\pm 25$ ns
White Bar Amplitude	100 IRE
Field Tilt	0.5%
Line Tilt	0.5%
MULTIBURST	
White Reference Bar Amplitude	428.6 mV (60 IRE)
Packet Amplitude	428.6 mV (60 IRE) p.p
Burst Frequencies	0.5 1.0 2.0 3.0 3.58 and 4.2 MHz
5-STEP STAIRCASE	714.3 mV (100 IRE)
LUMINANCE RAMP	0 to 714.3 mV (100 IRE)
MODULATED RAMP	
Chrominance Amplitude	285.7 mV (40 IRE)
Diff Gain	0.6%
Diff Phase	0.3°
APL	10% and 90%
AC BOUNCE	
Bounce Rate	1 second high 1 second low
FLAT FIELDS	10 IRE 100 IRE
RED FIELD	
Luminance Amplitude	202.2 mV (28.3 IRE)
MULTIBARS	Color bars and multiburst
NTCT COMPOSITE	80 IRE 5 step modulated staircase and pulse & bar
LINE SWEEP	714.3 mV p.p. Linear sweep from 500 kHz to 5 MHz
MULTIPULSE	
Amplitude	714.3 mV
Frequencies	0.5 1.0 2.0 3.0 3.58 and 4.2 MHz

SYSTEM TEST MATRIX	Multibars and NTC7
MONITOR SETUP MATRIX	Convergence 1WOB convergence color bars reverse bars and convergence
DAC TEST	500 kHz and 3.58 MHz
OPTION 01 COLOR BARS	SMPTE bars
IDENTIFICATION	12 characters 7x9 matrix
AUDIO TONE	450 Hz (locked to vertical) distortion less than 0.01% 0 to +8 dBu into 150 $\Omega$ 600 $\Omega$ or high impedance. Click ID adjustable 0.2 to 4 Hz

## SYNC GENERATOR

SUBCARRIER STABILITY	3579545 MHz $\pm 1$ Hz over temperature typically less than 1 Hz drift over a year after initial aging
BLACK BURST OUTPUT	
Setup	7.5 IRE
Blanking	Less than 10.6 $\mu$ s
PULSE OUTPUTS (GENERAL CHARACTERISTICS)	
Amplitude	4.0 $\pm 0.1$ V
Impedance	75 ohm
Return Loss	30 dB to 4.2 MHz
Rise Time	140 ns $\pm 20$ ns
PULSE OUTPUTS (SIGNALS) COMPOSITE SYNC	
BLANKING	
Horizontal Blanking Duration	107 $\mu$ s $\pm 0.1$ $\mu$ s jumper selectable for 10.2 $\mu$ s or 10.9 $\mu$ s
Vertical Blanking Duration	20 lines jumper selectable for 19 or 20 lines
BURST FLAG	
HORIZONTAL DRIVE	
VERTICAL DRIVE	
COLOR FRAME PULSE	Field 1 Line 11
SUBCARRIER OUTPUT	
Amplitude	2 V p.p. $\pm 0.2$ V
PULSE AND SUB-CARRIER OUTPUTS	
Timing Range	4 $\mu$ s advance 4 $\mu$ s delay relative to the test signal and black burst outputs

## GENLOCK

GENLOCK SOURCE (COMP VIDEO)	
Input Configuration	75 ohm loop through
Return Loss	At least 40 dB to 4.2 MHz
Burst Amplitude	286 mV $\pm 1$ dB to 6 dB
Sync Amplitude	286 mV $\pm 3$ dB to 6 dB
GENLOCK PERFORMANCE	
Horizontal Timing Range	8 $\mu$ s advance 8 $\mu$ s delay
Vertical Timing Range	0.1 or 2 lines advance or 1 line delay jumper selectable
Burst Lock Range	3579545 MHz $\pm 20$ Hz
Jitter	0.5°

## PHYSICAL CHARACTERISTICS

Dimensions	mm	in
Width	483	19.0
Rackmount Height	44	1.734
Length	561	22.1

TSG-170A NTSC Television Generator . . . . . \$4995.00  
TSG-170A Option 1 Adds separate SMPTE Bars output with 12 character ID, audio tone output and tape leader countdown . . . . . 1000.00

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# SYNC GENERATOR



SPG-170A

## SPG-170A Sync Generator

- Digitally generated RS-170A black burst
- Digital genlock
- High stability subcarrier
- Flexible pulse outputs
- Pulse timing independent of black
- Remote control timing presets
- Remote control ID presets
- Optional SMPTE bars, ID, and audio tone

The SPG-170A sync generator offers all the features expected in a sync generator, plus the advantages of digital accuracy and system flexibility. Ideal for either master or slave generator operation, the SPG-170A features stable RS-170A performance and a rugged 1<sup>3</sup>/<sub>4</sub>" package. The SPG-170A Option 1 provides even more versatility by adding SMPTE bars with programmable identification and audio tone.

### Digital Accuracy

All SPG-170A signals are digitally generated to provide excellent SCH and timing accuracy. The SPG-170A also has a digital genlock to ensure consistent color framing and to eliminate timing drift inherent in other genlock systems. This microprocessor-based system calculates genlock input burst phase and sync timing to control output timing and color framing. All outputs are correctly SCH phased, even if the SPG-170A is locked to an improperly SCH phased input. When no input signal is present, it switches to an internal oscillator. This high stability crystal oscillator, enclosed in a constant temperature oven, ensures long term frequency accuracy.

### System Flexibility

The flexibility of the SPG-170A's pulse outputs allows you to configure it to your specific system needs. The SPG-170A has eight sync generator outputs: Sync, Subcarrier, Blanking, Black Burst, and four selectable outputs. The selectable outputs can be used for Burst Flag, H Drive, V Drive, and Color Frame Pulse, or they can be used to provide an additional set of outputs for the pulses most commonly used in modern television facilities. Horizontal blanking can be set to 10.5, 10.7, or 10.9  $\mu$ s and vertical blanking can be set to either 19 or 20 lines.

The SPG-170A sync timing controls allow you to advance or delay subcarrier and pulse outputs relative to the black burst output, eliminating the need for separate delay lines. Microprocessor control enables both genlock and sync timing settings to be stored in nonvolatile memory in case of power failure. To prevent inadvertent changes to critical timing settings, the front panel timing controls can be locked out by an internal jumper. Up to eight timing presets are selectable through the remote control to simplify timing of shared equipment.

### SMPTE Bars with ID and Audio Tone (Option 1)

By specifying Option 1, basic video and audio test capabilities are added to the SPG-170A. Option 1 includes SMPTE bars and audio tone generators for setting program levels. Also, a preset ID of up to 12 characters can be added over the SMPTE bar output. This ID is stored in nonvolatile memory from the front panel, and up to four preset IDs can be recalled through the remote control. Additionally, the remote control allows the ID to be replaced by a countdown, providing a tape leader function. The vertically locked 450Hz audio tone provides a unique method for checking audio edit quality. The audio tone can be combined with a variable rate click to distinguish various audio sources.

### Total System Solution

The SPG-170A NTSC sync generator is ideal in a master sync system with the ECO-170A synchronous changeover and TSG-170A NTSC television generator.

SPG-170A NTSC sync generator . . . . . \$3300.00  
SPG-170A Option 1 SMPTE bars with ID and audio tone . . . . \$4300.00

## Physical Characteristics

<b>DIMENSIONS</b>	
Rackmount Height	1.734 inches (4.4 mm)
Width	19.0 inches (48.3 mm)
Length	22.1 inches (56.1 mm)
<b>NET WEIGHT</b>	
	6.14 kilograms, 13.5 pounds
<b>SHIPPING WEIGHT</b>	
	10.4 kilograms, 22.88 pounds
<b>POWER</b>	
	90-132 VAC or 180-250 VAC, 60 W max.
<b>TEMPERATURE</b>	
	Operating 0° to 50°C, Storage -40° to +65°C

## Test Signal and Black Burst Generator

Luminance Amplitude Accuracy	$\pm 1\%$
Chrominance-to-Luminance Gain	$\pm 1\%$
Output Impedance	75 ohm
Return Loss	36 dB to 4.2 MHz
<b>OPTION 01</b>	
COLOR BARS	SMPTE bars
IDENTIFICATION	12 characters, 7 x 9 matrix
AUDIO TONE	450 Hz (locked to vertical), distortion less than 0.01%, 0 to +8 dBu into 150 $\Omega$ , 600 $\Omega$ , or high impedance. Click ID adjustable 0.2 to 4 Hz.

## Sync Generator

<b>SUBCARRIER STABILITY</b>	
	3 579545 MHz $\pm 1$ Hz over temperature. Long term stability typically less than 1Hz drift per year.
<b>BLACK BURST OUTPUT</b>	
Setup	7.5 IRE
Blanking	10.7 $\mu$ s
<b>PULSE OUTPUTS (GENERAL CHARACTERISTICS)</b>	
Amplitude	4.0 $\pm 0.2$ V
Impedance	75 ohm
Return Loss	30 dB to 4.2 MHz
Rise Time	140 ns $\pm 20$ ns
<b>PULSE OUTPUTS (SIGNALS)</b>	
<b>COMPOSITE SYNC</b>	
BLANKING	10.7 $\mu$ s $\pm 0.1$ $\mu$ s, jumper selectable for 10.5 $\mu$ s or 10.9 $\mu$ s
Horizontal Blanking Duration	
Vertical Blanking Duration	20 lines, jumper selectable for 19 or 20 lines
<b>BURST FLAG</b>	
<b>HORIZONTAL DRIVE</b>	
<b>VERTICAL DRIVE</b>	
COLOR FRAME PULSE	Field 1, line 11 load
<b>SUBCARRIER OUTPUT</b>	
Amplitude	2 V <sub>p-p</sub> $\pm 0.2$ V
<b>SYNC TIMING RANGE</b>	
	4 $\mu$ s advance, 4 $\mu$ s delay

## Genlock

<b>GENLOCK SOURCE (COMP VIDEO)</b>	
Input Configuration	75 ohm loop-through
Return Loss	At least 40 dB to 4.2 MHz
Burst Amplitude	286 mV +3 to -6 dB
Sync Amplitude	286 mV +3 to -6 dB
<b>GENLOCK PERFORMANCE</b>	
Horizontal Timing Range	8 $\mu$ s advance, 8 $\mu$ s delay
Vertical Timing Range	0, 1, or 2 lines advance or 1 line delay, jumper selectable
Burst Lock Range	3.579545 MHz $\pm 20$ Hz
Jitter	0.5° maximum

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# SYNCHRONOUS CHANGEOVER



ECO-170A

## ECO-170A

### Synchronous Changeover

- Automatic sync changeover
- Clean electronic switching
- Unique fault detection system
- 8 channels
- Manual override
- Remote control with fault indicators

The ECO-170A Synchronous Changeover provides transparent, automatic selection of sync sources. Front panel controls allow simple access to changeover functions. A two level front panel lockout protects these controls in critical master sync systems.

### Transparent Switching

The ECO-170A employs electronic sync transfer to ensure uninterrupted sync for critical production and on-air operations. Unlike other sync changeovers, the ECO-170A uses relay switching only for bypass in case of power failure. This gives optimum sync system performance while ensuring maximum system reliability. Manual sync source selection provides a means for periodic verification of changeover and backup sync generator operation.

### Fault Detection

By testing both pulse amplitude and pulse timing, the ECO-170A provides two methods of error checking for your sync system. Conventional amplitude detection finds missing pulses quickly, while the ECO-170A's additional timing detection identifies errors that would otherwise be undetected. When the ECO-170A detects a fault, it automatically switches to the backup generator, unless the backup generator also has a fault. Separate indi-

cators on both the front panel and remote control display faults for each generator. These indicators remain on until cleared by an operator.

### System Configuration

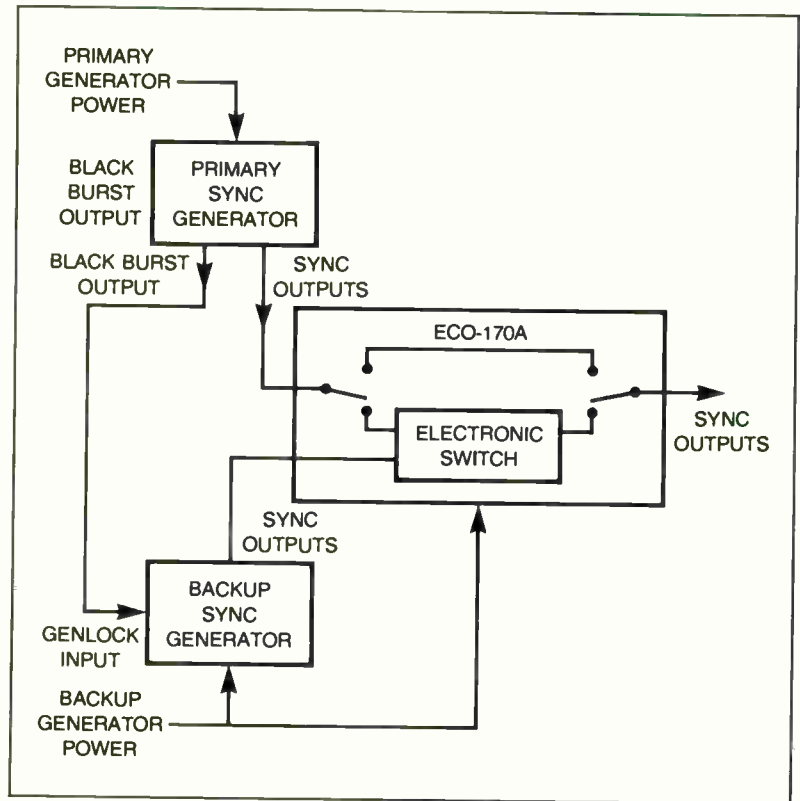
The flexibility of the ECO-170A lets you configure it to your specific system needs. The ECO-170A has eight inputs for each sync generator: Sync, Subcarrier, Blanking, Composite Video, and four selectable outputs. The selectable outputs can be used for Burst Flag, H Drive, V Drive and Color Frame Pulse, or they

can be used to provide an additional set of outputs for the pulses most commonly used in modern television facilities. The composite video channels may be black burst or color bars.

### Reliable Sync

With its clean switching and two level fault detection, the ECO-170A teams with your sync generators to provide a reliable master sync system.

**ECO-170A . . . . . \$2000.00**

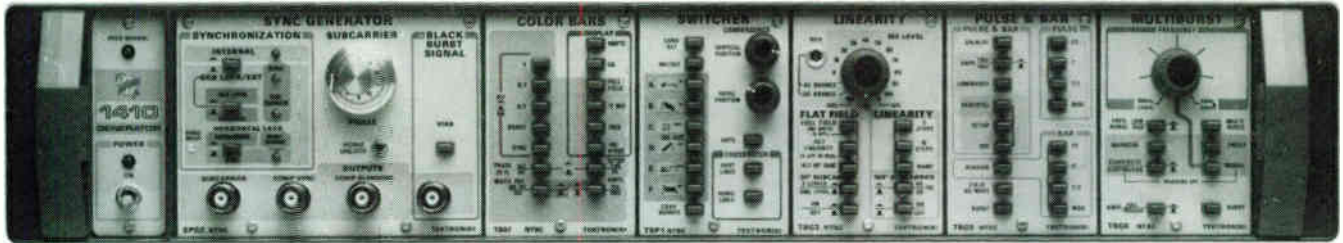


A Master Sync System using the ECO-170A

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Prices and Specifications Subject to Change Without Notice.





1410R

**1410R/1411R/1412R  
 SYNC/TEST GENERATORS**

- Five Test Signal Generators and One Switcher
- Conforms to EIA Standard RS-170A (1410R)
- Sync to Subcarrier Phasing Maintained or Corrected
- Color Frame Reference Output
- Genlock to Composite Video
- Lock to External References
- Adjustable Blanking Widths
- Adjustable Sync Delays (H and V)
- Parallel Test Signal Outputs

The 1410R Series Sync and Test Signal Generators are precision generators for use in studios, remote vans, maintenance facilities and anywhere high quality sync or test signals are required.

**1410R Series Products**

Description	Color Standard		
	NTSC	PAL	PAL-M
Mainframe	1410R	1411R	1412R
Sync Pulse Generator	SPG2A	SPG12	SPG22
Color Bars Generator	TSG7	TSG11	TSG21
Convergence Generator	TSG2	TSG12	
Linearity Generator	TSG3	TSG13	TSG23
Pulse/Bar Generator	TSG5	TSG15	TSG25
Multiburst Generator	TSG6	TSG16	TSG26
Signal Switcher	TSP1	TSP11	TSP21

**SPG2A/SPG12/SPG22  
 SYNC PULSE GENERATORS**

The SPG2A, SPG12 and SPG22 are high quality sync generators designed for use in systems where accuracy, stable SCH (Sync-to-Subcarrier) phasing capability, and lockup mode versatility are of prime importance.

Two external synchronization modes, external reference and genlock, are available. In the genlock mode, line field, subcarrier and PAL pulse (SPG12, SPG22) timing are derived from the incoming composite video signal.

In the external reference mode, line, field, subcarrier, and PAL pulse timing is derived from individual reference signals applied to the generator.

The SCH phasing of the generator outputs can be set for zero error or offset to match the SCH phase of the incoming genlock signal.

A slow genlock mode is provided for those applications where fast-lock may upset the system. The slow-lock selector is located on the generator card sets.

Internal adjustments permit some variation of burst and blanking widths on the burst flag, comp blanking, and black burst outputs.

**CHARACTERISTICS**

**Sync Pulse Generators**

1410R Subcarrier—Frequency ( $F_{sc}$ ): 3.579545MHz  $\pm$  1Hz. Pull-in Range:  $F_{sc} \pm$  20Hz.

1411R Subcarrier—Frequency  $F_{sc}$ : 4.43361875MHz  $\pm$  1Hz. Drift  $\leq$  1 part in  $10^7$  per week. Pull-in Range:  $F_{sc} \pm$  20Hz

1412R Subcarrier—Frequency  $F_{sc}$ : 3.57561149MHz  $\pm$  1Hz. Drift  $\leq$  1 part in  $10^7$  per week. Pull-in Range:  $F_{sc} \pm$  20Hz.

**PULSE OUTPUTS**

Output Level (Into 75 ohms)—4V (1410R), 1V, 2V, or 4V (selectable, 1411R and 1412R)  $\pm$  2V.

Return Loss —  $\geq$  30dB to 5MHz

Risetime and Falltime—10% to 90% (Linear Ramp). 140ns, (1410R, 1412R). 250ns (1411R—Other values internally selectable).

Jitter—Linlock:  $\leq$  10ns. Subcarrier Lock:  $\leq$  4ns.

Outputs—Comp sync, comp blanking, burst flag, H drive, V drive, Field reference, 1411R/1412R only: PAL pulse, V/2, V/4, and 64H.

**SUBCARRIER OUTPUT**

Amplitude—2V p-p into 75 ohm. Return Loss:  $\geq$  30dB to 5MHz.

**BLACK BURST OUTPUT**

Amplitudes—Sync: 286mV  $\pm$  3.57mV (1410R); 300mV  $\pm$  3mV (1411R, 1412R) from blanking. Burst: 286mV  $\pm$  2.86mV (1410R). Absolute: 300mV  $\pm$  9mV. Setup: 53.57mV  $\pm$  3.57mV (1410R), 0% (1411R), 50mV  $\pm$  2.5mV (1412R).

VIR Signal—(1410R Only) Chrominance Amplitude (40 IRE); phase within 0.5° of burst; envelope risetime  $\text{Sin}^2$  shaped 1 $\mu$ s  $\pm$  150ns. Luminance: Setup level (7.5 IRE  $\pm$  0.5 IRE); gray level (50 IRE  $\pm$  0.5 IRE); chroma pedestal (70 IRE  $\pm$  0.7 IRE); risetime and falltime  $\text{Sin}^2$  shaped. 250 ns.  $\pm$  39 ns.

**GENLOCK**

Input Configuration—75 ohm Loopthrough with Return Loss:  $\geq$  -46dB to 5MHz (1410R);  $\geq$  40dB to 7MHz (1411R);  $\geq$  40dB to 5MHz (1412R).

Input Requirements—1V nominal composite video or black burst, sync negative. Sync Amplitude: Nominal  $\pm$  6dB. Burst Amplitude: Nominal  $\pm$  12dB. Burst Sync Ratio: Within 6dB.

Subcarrier Phase Range—360° via front panel goniometer.

Line Sync Delay Range—Adjustable to advance output sync  $\geq$  10 $\mu$ s or delay  $\geq$  4 $\mu$ s (internal adjustment). A front panel screwdriver adjustment provides a delay/advance range of  $\pm$  0.5 $\mu$ s.

Stability (Over Ambient Temperature Range 0°C to  $\pm$  50°C)—Line Lock: Within 70ns. Subcarrier Lock: Within 35ns.

Field/Frame Sync—Fast Lock: Direct-acting in one field. Slow Lock: One line/field slew.

Loss of Lock—Indicated by front panel LEDs (automatic switching to full or partial internal).

1410R NTSC Mainframe and SPG2A . . . \$4200.00  
 Includes: Extender board (670-4441-02); 1.5 A fuse (159-0016-00); 0.75 A fuse (159-0042-00); rack-mount hardware; instruction manual.

**OPTIONS**

Option 03\*\*—NTSC Package Installed and Tested Together . . . . . \$3460.00

Option 04\*\*—NTSC Package Installed and Tested Together . . . . . \$280.00

Option 1B—Adds TSG7 Installed . . . . . 1B70.00

Option 1S—Adds TSP1 Installed . . . . . 1645.00

Option 2C—Adds TSG2 Installed . . . . . 530.00

Option 3L—Adds TSG3 Installed . . . . . 1315.00

Option 4M—Adds TSG6 Installed . . . . . 2380.00

Option 4P—Adds TSG5 Installed . . . . . 1710.00

1411R PAL Mainframe and SPG12 . . . . . 4200.00

**OPTIONS**

Option 03\*\*—PAL Package Installed and Tested Together . . . . . \$3000.00

Option 04\*\*—PAL Package Installed and Tested Together . . . . . 7500.00

Option 1B—Adds TSG11 Installed . . . . . 1500.00

Option 1S—Adds TSP11 Installed . . . . . 1535.00

Option 2C—Adds TSG12 Installed . . . . . 495.00

Option 3L—Adds TSG13 Installed . . . . . 1225.00

Option 4M—Adds TSG16 Installed . . . . . 2220.00

Option 4P—Adds TSG15 Installed . . . . . 1595.00

\*\* Cannot be combined with any other option.

**1412R PAL-M PACKAGES**

1412R PAL-M Mainframe and SPG22, TSG21 . . . . . \$7415.00

Option 05—Adds TSG23/TSG25/TSG26/TSP21 Installed . . . . . 8795.00

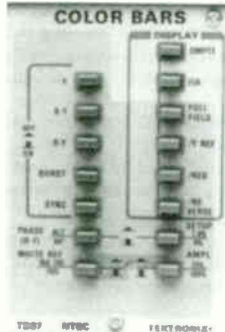
**OPTIONAL ACCESSORIES**

(For All Configurations)  
 Single-Width Blank Panel—Order 333-2171-00

Conversion Kit for SMPTE Bars—For TSG1 Module. Order 040-1010-00

Rackmount to Cabinet Conversion Kit—Order 040-1152-00

## 1410 R Series (Cont'd)



### TSG7/TSG11/TSG21 Color Bars Generators

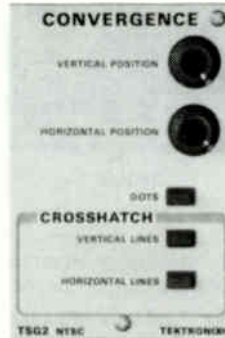
- Color Bars Signals
- SMPTE Color Bars (TSG7)
- EIA (TSG7)
- Fixed Full Field (TSG11/TSG21)
- Full Field with Switchable Components
- 75% or 100% Amplitude
- Split Field/Y Reference
- Split Field/Red
- Split Field Bars/Bars Reversed

The TSG7, TSG11 and TSG21 provide high-quality full field and split field color bars for the 1410R series signal generators. Fixed configuration signals are available for operational environments such as post production. For lab and maintenance facilities, front panel control of luminance and chrominance signal components provides the flexibility to meet most engineering and testing requirements. The split field bars/Y reference signal provides a convenient means for simultaneous checking of picture monitor color performance and gray scale tracking.

The split field bars/red field signal is useful in detection of VTR noise and moire.

The SMPTE Bars signal provides an easy way to adjust picture monitor chroma, hue, and brightness.

TSG7 (NTSC) . . . . .	\$ 1965.00
TSG11 (PAL) . . . . .	1575.00
TSG21 (PAL-M) . . . . .	.POR



### TSG2/TSG12 Convergence Test Signal Generators

- Dots and Crosshatch
- Dots Only
- Vertical Lines Only
- Horizontal Lines Only
- Vertical and Horizontal Lines
- Position Controls

The TSG2 and TSG12 provide high-quality convergence test signals for the 1410R Series signal generators. You can use them to determine picture monitor or camera scanning linearity, aspect ratio, and geometric distortion. Signals for the TSG2 conform to IEEE Standard 202.

Provision is made for on/off switching of the dots, vertical lines, and/or horizontal lines and for positioning vertical and horizontal lines.

TSG2 (NTSC) . . . . .	\$560.00
TSG12 (PAL) . . . . .	520.00

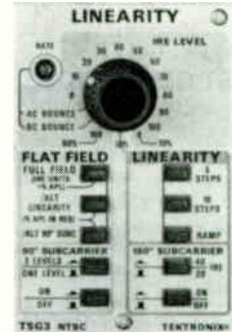
### TSG5/TSG15/TSG25 Pulse and Bar Generators

- Pulse and Bar Overlay
- Full and Half Amplitude Pulse and Bar
- Field Squarewave and Window
- Modulated Pulse and Modulated Bar
- Front Panel Selection of 2T, T, and T/2 Pulse Width and Bar Risetime

The TSG5, TSG15, and TSG25 are sin<sup>2</sup> pulse and bar television test signal generators designed for use with the 1410R Series signal generators.

The pulse and bar test signal consists of a sin<sup>2</sup> modulated pulse, a sin<sup>2</sup> pulse, and luminance bar. The pulse and bar overlay mode lets you conveniently compare pulse to bar ratio without manipulating waveform monitor controls.

TSG5 (NTSC) . . . . .	\$ 1800.00
TSG15 (PAL) . . . . .	1680.00
TSG25 (PAL-M) . . . . .	.POR



### TSG3/TSG13/TSG23 Linearity and Modulated Pedestal Test Generators

- 5 Step and 10 Step Staircase Signal
- Ramp Signal
- 2 Modulation Amplitudes
- One or Three Level Modulated Pedestal
- Flat Field with 11 Fixed Levels
- AC and DC Bounce
- Variable APL

The TSG3, TSG13 and TSG23 provide high-quality linearity and modulated pedestal test signals for the 1410R Series signal generators.

You can select the 5 step and 10 step staircase signals and the ramp signal with or without 180° subcarrier modulation for NTSC, or U subcarrier modulation for PAL and PAL-M. Applications include measuring differential phase and gain, dynamic gain, luminance linearity, and burst phase errors.

On the ac Bounce signal, the active portion of each line (excluding sync) changes APL levels at a rate determined by the rate control (1 second to 30 second intervals). Blanking level remains fixed at 0 V. To check ac coupled circuitry use ac bounce.

On the dc bounce signal, ac bounce occurs as described above. In addition, the entire signal changes dc level in the opposite direction at the same rate resulting in no change in average dc level. Clamp circuits may be checked using dc bounce.

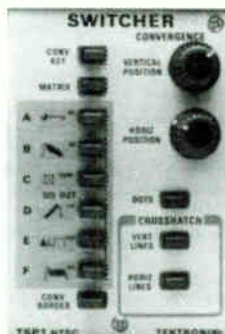
TSG3 (NTSC) . . . . .	\$ 1375.00
TSG13 (PAL) . . . . .	1285.00
TSG23 (PAL-M) . . . . .	.POR

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# SYNC & TEST SIGNAL GENERATORS

## 1410 R Series (Cont'd)



### TSP1/TSP11/TSP21 Switchers and Convergence Generators

- Single Switchable Output for Two to Six Generated Signals
- Blanking, Sync and Burst Insertion for External Sync
- Matrixing—Eight Programmed Display Formats to up to Six Sequential Signals
- Convergence Border
- Convergence Key
- Crosshatch or Dots
- Combined Crosshatch and Dots

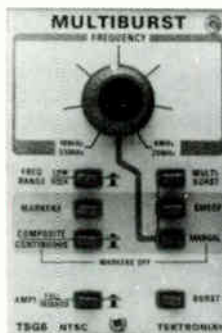
The TSP1, TSP11, and TSP21 combine the capabilities of a test signal switcher and convergence signal generator in a single unit. They simplify and expand the uses of the 1410R Series signal generators.

From a single, electronically switched output, you have access to all the test signals generated by the card sets in the mainframe. Meanwhile, you may continue to use the individual generator card sets' parallel outputs, so no restrictions are imposed on an established system. As an added feature, one of the input signals can be external (composite or non-composite). All of the switcher inputs are provided with clamp circuitry.

Eight different matrixes are stored in the PROM. This signal matrixing capability, combined with the full-field mode of the TSP1 presents several combinations of signals sharing the full field display.

Most of TSP1 switching functions can be remotely controlled through the mainframe's Remote connector.

TSP1 (NTSC) .....	\$1725.00
TSP11 (PAL) .....	1610.00
TSP21 (PAL-M) .....	POR



### TSG6/TSG16/TSG26

- Multiburst Signal Generators
- Multiburst Signal
- Controlled Risetime Burst Packets
- Last Burst Frequency Variable
- Manual and Field Swept Frequency Signals to 20MHz
- Markers for Both Frequency and Amplitude Reference
- Full and Reduced Amplitude on all Signals

The TSG6, TSG16 and TSG26 are television multiburst and video sweep test signal generators designed for the 1410R Series signal generators.

Performance advances include reduction in harmonic content of sinewave signals and skirt energy associated with gating burst packets. Phase modulation of the burst packets aids ease of measurement by filling in shape of packets. Two ranges of multiburst frequencies are available: the 500 kHz to 4.1 MHz (TSG6) range aids in testing television transmitters and common carrier links, while the 1.25 MHz to 12 MHz range is used in testing television studio equipment and cabling.

Use these generators where nonlinearities make reduced amplitude test signals desirable. The reduced amplitude multiburst signal allows accurate testing of video tape record/playback systems, since it is not subject to the false distortion of the full amplitude multiburst that often occurs in such applications.

High and low frequency bands are provided for both the multiburst and sweep signals. Amplitude and frequency markers may be added to the sweep signal.

Color burst and the horizontal and field sync signals may be removed when non-composite signals are required.

TSGG (NTSC) .....	\$2495.00
TSG16 (PAL) .....	.2330.00
TSG26 (PAL-M) .....	POR

## Specifications:

### SYNC PULSE GENERATORS

**1410R Subcarrier** — Frequency ( $F_{SC}$ ): 3.579545 MHz  $\pm$  1 Hz. Pull-in Range:  $F_{SC} \pm 20$  Hz.

**1411R Subcarrier** — Frequency  $F_{SC}$ : 4.43361875 MHz  $\pm$  1 Hz. Drift  $\leq$  1 part in  $10^7$  per week. Pull-in Range:  $F_{SC} \pm 20$  Hz.

**1412R Subcarrier** — Frequency  $F_{SC}$ : 3.57561149 MHz  $\pm$  1 Hz. Drift  $\leq$  1 part in  $10^7$  per week. Pull-in Range:  $F_{SC} \pm 20$  Hz.

### PULSE OUTPUTS

**Output Level (into 75  $\Omega$ )** — 4 V (1410R), 1 V, 2 V, or 4 V (selectable, 1411R and 1412R)  $\pm$  2 V.

**Return Loss** —  $\geq$  30 dB to 5 MHz.

**Risetime and Faltime** — 10% to 90% (Linear Ramp). 140 ns, (1410R, 1412R). 250 ns (1411R — Other values internally selectable).

**Jitter** — Linelock:  $\leq$  10 ns. Subcarrier Lock:  $\leq$  4 ns.

**Outputs** — Comp sync, comp blanking, burst flag, H drive, V drive, Field reference, 1411R/1412R only: PAL pulse, V/2, V/4, and 64H.

### SUBCARRIER OUTPUT

**Amplitude** — 2 V p-p into 75  $\Omega$ . Return Loss:  $\geq$  30 dB to 5 MHz.

### BLACK BURST OUTPUT

**Amplitudes** — Sync: 286 mV  $\pm$  3.57 mV (1410R); -300 mV  $\pm$  3 mV (1411R, 1412R) from blanking. Burst: 286 mV  $\pm$  2.86 mV (1410R). Absolute: 300 mV  $\pm$  9 mV. Setup: 53.57 mV  $\pm$  3.57 mV (1410R), 0% (1411R), 50 mV  $\pm$  2.5 mV (1412R).

**VIR Signal** — (1410R Only) Chrominance Amplitude (40 IRE); phase within 0.5° of burst; envelope risetime Sin<sup>2</sup> shaped 1  $\mu$ s  $\pm$  150 ns. Luminance: Setup level (7.5 IRE  $\pm$  0.5 IRE); gray level (50 IRE  $\pm$  0.5 IRE); chroma pedestal (70 IRE  $\pm$  0.7 IRE); risetime and faltime Sin<sup>2</sup> shaped, 250 ns  $\pm$  39 ns.

### GENLOCK

**Input Configuration** — 75  $\Omega$  Loop-Through With Return Loss:  $\geq$  -46 dB to 5 MHz (1410R);  $\geq$  40 dB to 7 MHz (1411R);  $\geq$  40 dB to 5 MHz (1412R).

**Input Requirements** — 1 V nominal composite video or black burst, sync negative. Sync Amplitude: Nominal  $\pm$  6 dB. Burst Amplitude: Nominal  $\pm$  12 dB. Burst Sync Ratio: Within 6 dB.

**Subcarrier Phase Range** — 360° via front panel goniometer.

**Line Sync Delay Range** — Adjustable to advance output sync  $\geq$  10  $\mu$ s or delay  $\geq$  4  $\mu$ s (internal adjustment). A front panel screwdriver adjustment provides a delay/advance range of  $\pm$  0.5  $\mu$ s.

**Stability (Over Ambient Temperature Range 0°C to  $\pm$ 50°C)** — Lin<sup>c</sup> Lock: Within 70 ns. Subcarrier Lock: Within 25 ns.

**Field/Frame Sync** — Fast Lock: Direct-acting in one field. Slow Lock: One line/field slew.

**Loss of Lock** — Indicated by front panel LED's (automatic switching to full or partial internal).



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1910 DIGITAL GENERATOR

## 1910 Digital Generator

- Four External VITS Inputs for Insertion of Teletext, Closed Captioning, Source ID, etc.
- Nonvolatile Memory to Maintain Selected VITS and Full Field Signal Configuration after Power Interruption
- Signal Stored in Replaceable PROMs so Your 1910 won't Become Obsolete
- The Accuracy and Stability of an all-Digital 10-Bit Sync and Signal Generation (RS-170A)
- User Friendly RS-232C Control Port for Added Versatility
- New Signals (Eye Test Pattern, Special Multipulse, Color Multipulse), New Functions (VITS Sequence, Field Sequence and More)

The 1910 Digital Generator is a state-of-the-art test signal generator designed for performance testing of NTSC video systems and equipment. The 1910 is especially suited where high accuracy and stability are required. It is also a VITS inserter (internal and external) with a full complement of signals that allow testing in studio, transmitter, production or research environments. Four external VITS inputs permit insertion of signals such as teletext, closed captioning, source ID, and other similar sources. These four inputs may be converted to four pulse outputs for use in a production environment.

External interfacing of the 1910 is controlled by an internal microprocessor and its nonvolatile memory. Test signals are stored as 10-bit digital words and converted to analog form by a 10-bit precision DAC (with deglitching to reduce differential gain and differential phase) to ensure signal accuracy as well as long term stability and repeatability.

Since all signals are stored in replaceable EPROMs, changing needs and industry standards will not cause obsolescence.

Control and versatility of the 1910 are greatly enhanced by the use of its RS-232 control port. Most functions of the 1910 can be controlled, reconfigured and saved. This includes VITS and full field signal selection, matrix signal creation, sequences and other features.

### Remote Control

Remote control via a ground closure interface allows the user to control the full field signals, VITS insertion on lines 14 through 21 (VITS changes are saved in nonvolatile memory), VIR mode, bypass/operate, genlock source, control mode and reset to preprogrammed condition.

The matrix feature of the 1910 divides the field into 16 blocks of lines consisting of approximately 16 lines each. Through the RS-232 control port the user can program any full field signal to appear in any of the 16-line blocks. Any signal can be repeated in as many blocks as necessary. There are three matrix signals in the 1910 that are factory set, but can be user-redefined and saved in a nonvolatile memory.

Some of the applications of this feature include user-defined tape headers or monitor or monitor test patterns. The matrixed signal can serve several users simultaneously, reducing the need for multiple signal outputs. By using the 15-line feature of the Tektronix 1480-Series Waveform Monitors, particular signals in the matrix can be viewed by the users.

V-1074

## Programmability and RS-232 Control Port Features

The 1910 has a friendly command language that allows the user to program its features to meet specific applications. The user does not need to be a programming expert as the 1910 has a language that allows him to concentrate on the applications and not on programming.

The 1910 can be programmed and controlled using an RS-232 terminal. It can also be controlled or run under program control using an RS-232 host computer, including some handheld models or personal computers. The host computer could also be the Tektronix 1980 Automatic Measurement Set which would use the 1910 as a programmable signal source to stimulate and measure television equipment or a transmission link.

The 1910 can also be controlled over telephone lines. An auto-answer modem connected to the 1910 will allow the user to take control of the 1910, observe or modify its status and subsequently release control. The control and reconfiguration can also be accomplished automatically by a host computer.

Some of the capabilities offered by the RS-232 port include the ability to redefine the signal selection on the front panels (1910 and remote control unit) to better meet particular user needs, such as placing frequently used signals in a preferred position or in a convenient sequence for calibration; production testing or other special uses.

### Pulse Out Feature

This included feature of the 1910 allows the user to change the four external VITS inputs to four pulse outputs for limited camera drive. The outputs available are H Drive, V Drive, Composite Blanking, and Burst Flag. Applications for pulse outputs are remote vans or standby sync generators. Composite sync and subcarrier outputs are always available.

The 1910 can also be used as a stand-alone signal source that will remain SCH phased and locked to an internal oven-controlled reference.

### SYNC AND SUBCARRIER OUTPUT

All pulse outputs have negative going output levels of 4 V  $\pm$  10% into 75  $\Omega$  and have a risetime and falltime of 140 ns  $\pm$  20 ns.

**Composite Sync Timing**—EIA RS-170A Specifications.

**Subcarrier Output**—Frequency: See Genlock. Amplitude: 2 V p-p  $\pm$  10%.

The following optional outputs replace the external VITS input function of the 1910.

**Composite Blanking**—Horizontal Blanking Width: 10.7  $\mu$ s  $\pm$  100 ns. Field Blanking: Field 1 = 21 lines, Field 2 = 21 lines.

### SIGNAL MATRIXING

# DIGITAL GENERATOR

**Horizontal Drive Timing**—Start of line blanking to end of line sync,  $\pm$ 100 ns.

**Vertical Drive Timing**—Coincident with start of field. Duration: 9 lines.

**Burst Flag**—Duration: 2.5  $\mu$ s  $\pm$  100 ns. Delay from Line Sync: 5.3  $\mu$ s  $\pm$  100 ns.

### RS-232C INTERFACE

Supports EIA Standard RS-232C format to the extent shown below.

**Baud**—300 bit/s, 1200 bit/s, 2400 bit/s or 4800 bit/s.

**Input/Output**—ASCII, serial, asynchronous data. Full duplex input and output.

**Character Length**—Eleven bits/character, including a start and two stop bits.

**Parity**—Input: No parity required and, if present, is ignored. Output: No parity sent.

### DIGITAL DATA INTERFACE

Parallel, 12 balanced, signal pairs consisting of 10 bits/sample, a clock, a timing reference signal.

**Sampling Frequency**—Four times color subcarrier. Nominally 14.3 MHz.

**Sampling Phase Angle**—Referenced to I axis and Q axis.

**Dynamic Range**—Ten bits/sample. Blanking level (0 IRE) is at digital word 240. Reference white (100 IRE) is at digital word 800 (5.6 LSB/IRE).

**Input Logic Levels Terminated in 100  $\Omega$** —10 k ECL compatible.

**Output Logic Levels**—10 k ECL compatible.

**Digital Input Timing**—Setup and hold times are 10 ns before and after the 50% point of the negative transition of the clock.

**Output Clock Timing**—The 50% point of the leading edge of the clock pulse precedes the data by 5 ns  $\pm$  5 ns.

### POWER SUPPLY

**Line Voltage Range**—90 V ac to 132 V ac. 180 V ac to 250 V ac.

**Maximum Power Consumption**—130 W.

**Line Frequency**—47 Hz to 63 Hz.

### PHYSICAL CHARACTERISTICS

Dim.	Cabinet		Rackmount	
	mm	in	mm	in
Width	442	17.4	486	19.1
Height	96	3.8	88	3.5
Depth	525	20.6	525	20.6
<b>Weight</b>	<b>kg</b>	<b>lb</b>	<b>kg</b>	<b>lb</b>
Net	11.6	25.5	12.2	27.0
Shipping	16.7	37.0	16.7	37.0

### ENVIRONMENTAL CHARACTERISTICS

**Temperature**—Operating: 0°C to +50°C. Non-operating: -40°C to +65°C.

**Altitude**—Operating: To 4572 m (15,000 ft.) Nonoperating: To 15 240 m (50,000 ft.)

\*1 Vertical interval color reference

### INCLUDED ACCESSORIES

Pair of rack slides (351-0636-00); Pulse out board (670-8007-00); cabinet hardware; rack hardware; operator manual; service manual.

1910 Digital Generator . . . . . \$9990.00  
Option 03—CBC Test Signals . . . . . NC

### OPTIONAL ACCESSORIES

**Remote Control Unit**  
Order 015-0374-00 . . . . . POR  
**Interconnecting Cable (6 ft.)**  
Order 012-0108-00 . . . . . POR  
**Interconnecting Cable (22 ft.)**  
Order 012-0251-00 . . . . . POR

Prices and Specifications Subject to Change Without Notice.

## 110-S Video Synchronizer

- True 10-Bit Accuracy and Resolution
- Tracks Signals into the Noise
- Optional Four-Field Memory for the Highest Picture Quality
- Adaptive Decoding—Minimizes Picture Shifts while Preserving Horizontal and Vertical Detail, Provides Exceptionally High Quality Picture Freeze
- Adaptive Clamping—Minimizes Streaking on Noisy Signals
- Digitally Precise RS-170A Sync and Burst Insertion
- Heterodyne Color Processing
- Auto VTR Signal Recognition
- Infinite Window Correction Range
- Processing Amplifier
- Passes the Vertical Interval
- Precalibrated Boards in Modular Design

The 110-S Video Synchronizer is a high quality 10-bit, 4X Fsc video synchronizer. The 10-bit architecture, adaptive decoding, and adaptive clamping combine to provide a synchronizer that performs well on noisy signals, minimizes horizontal picture shifts, and is virtually transparent to the processed signal.

### 10-Bit Precision

A Tektronix-designed 10-bit digitizer and a sampling rate of four times the subcarrier frequency result in negligible quantizing errors, low differential gain and phase, and a flat frequency response. Compared to 8-bit synchronizers, the 110-S has four times the accuracy and resolution. The resulting transparency to the video signal allows cascading of 110-S synchronizers in the signal path with minimum signal degradation.

### Tracking Into Noise

When noise from a fading ENG microwave feed or static interference degrades the S/N ratio, the 110-S will continue to track the signal. If the original sync and burst are clean, they may be passed with the original signal. Noisy sync and burst are replaced with precise, digitally-generated RS-170A sync and burst. The 110-S can be configured to track into the noise, freeze field, or go to black upon loss of the incoming signal. As noise increases, the adaptive clamp slows down to prevent horizontal streaking while still responding quickly to hot switches.

### Adaptive Signal Decoding

Correct color framing on the standard, two-field memory 110-S is maintained with an adaptive comb/notch decoder. Vertical correlation of the picture information (for example a flag pole) allows chrominance/luminance separation to be done by a 3-line comb



110-S

filter, thus preserving the fine detail in the picture. Absence of vertical correlation in the picture causes the notch decoder to be activated, thus preserving vertical chroma resolution.

### Processing Amplifier with Remote Control

The 110-S processing amplifier provides adjustment of video gain, setup, chroma gain, and hue. Adjustment may be made with internal controls or via a rear panel remote control connector with externally supplied control voltages. The processing amplifier controls are located in the output circuitry and are active in both normal and freeze frame operation. The proc amp controls are included on the 110-RC Remote Control Unit.

### Digital Test Ports

A Digital Test input port allows use of a digital signal from any of the Tektronix 1900 Series test signal generators to test the decoder and digital-to-analog converter. A Digital Output port enables analysis of the input video signal after it has been digitized by the analog-to-digital converter and processed through memory. This data can drive the DAC in a 1900 Series generator.

### Reliable Operation

110-S reliability is assured by using high quality components, preconditioned IC's and two-piece connectors. Dual adaptive cooling fans provide overheating protection. The infrequent task of trouble shooting becomes fast and simple with modular, front-panel loaded circuitry designed so that the 110-S can be repaired without removing it from the rack. Factory precalibration of boards allows them to be replaced without disturbing the calibration of the synchronizer. Built-in diagnostics and input signal condition monitors continually check system status indicating possible problems. Memory error concealment allows in-service compensation of a memory fault, with remaining accuracy and resolution still better than 8-bit synchronizers. The 110-S automatically bypasses the signal when line power is lost.

### Audio Delay

An Audio Delay control port allows automatic audio-video delay correction when used with a Tektronix 118-AS Audio Synchronizer.

### Quantizing Error Included in Specifications

The industry has neglected the effects of quantizing error on synchronizer product specifications. The following 110-S specifications, however, include quantizing error for a modulated ramp with 40 IRE subcarrier.

### Specifications:

**Digital Sampling** — 10 bits at 14.3 MHz (1024 levels at four-times NTSC Subcarrier).

#### ELECTRICAL PROGRAM CHANNEL

**Gain** — Program Output: Unity  $\pm 1\%$ .

**Frequency Response** —  $\pm 1\%$  to 4.2 MHz.

**Signal to Noise Ratio** —  $> 60$  dB unweighted.

**Chrominance/Luminance Gain Error** —  $< 1\%$ .

**Chrominance/Luminance Delay Error** —  $< 10$  ns.

**Differential Gain** —  $< 1\%$ .

**Differential Phase** —  $< 1^\circ$ .

**2T Pulse K Factor** — 0.5%.

**2T Pulse to Bar Ratio Error** —  $< 1\%$ .

**Short Time Distortion** —  $< 1\%$ .

**Line Time Distortion** —  $< 0.5\%$ .

**Field Time Distortion** —  $< 0.5\%$ .

#### CHROMINANCE DECODER

**Video Signal Filtering Modes** — Pass: Signal unaltered. Comb: Chrominance inverted using 3-line comb filter. Burst is comb decoded. Notch: Chrominance inverted using 9-point transversal notch filter. VITS are notch decoded. Adaptive: Chrominance inverted using combination of notch and comb filters.

110-S Video Synchronizer . . . . \$14,975.00

Includes: Power cord (161-0066-00); remote plug 36-pin unwired connector with shell (131-0293-00); one set of rack slides (351-0636-00); circuit board extender (670-7754-00); operator manual, service manual.

#### Options

Option 10—Four-Field Memory Adaptive Decoder . . . . . \$1,500.00

Option 20—Adds time base correction for heterodyne color VTFs . . . . . 2,000.00

110-RC Remote Control Unit . . . . . 500.00

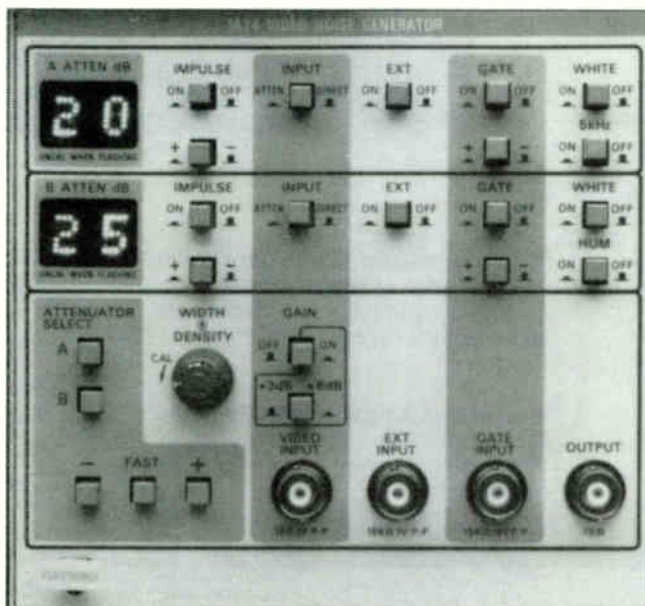
#### Optional Accessory

Spare Parts Kit—Order 020-0990-00 . . . . . POR

# TEKTRONIX, INC.

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# VIDEO NOISE GENERATOR



1434

## 1434 Video Noise Generator

- Calibrated Noise Levels
- White Noise
- Impulse Noise with Selectable Polarity, and Variable Width and Density
- Hum — 50 or 60Hz
- 5KHz Sine Wave
- Noise Gating
- Calibrated Video Attenuation
- Works with NTSC, PAL, PAL-M, and SECAM

Video equipment must often deal with noisy input signals and until now there has been no easy way to evaluate equipment noise susceptibility. Tek's new 1434 Video Noise Generator provides an easy means for adding a known quantity of noise to a video signal. Noise types available in the 1434 include white, impulse, hum, and 5 KHz. White noise bandwidth is internally selectable.

In addition to its calibrated noise levels, the 1434 includes provisions for attenuating or

boosting the gain of the input video signal, making it possible to obtain a wide range of signal to noise ratios with input signal amplitudes from -60 to +6 dB.

Noise gating is also provided in the 1434. This feature is useful when testing one parameter of a device without disturbing other circuitry. For example, gating noise onto just the video signal back porch would permit clamp testing without having the test affected by the device sync separator.

The 1434 also provides an external input for adding a user-created disturbance to the input video signal. If desired, the external input signal may be combined with the noise signals generated by the 1434.

Typical applications of the 1434 are clamp and sync separator testing in video equipment.

### CHARACTERISTICS

**Attenuator** — Range: 0 to -60 dB. Resolution: 1 dB. Absolute accuracy:  $\pm 0.5$  dB. Relative Step matching:  $\pm 0.25$  dB.

**Noise Sources** — White Noise: Amplitude 700 mV RMS=0 dB. Bandwidth: Narrow: -6 dB @ 5 MHz. Wide: -6 dB @ 8 MHz.

Impulse: Amplitude 700 mV P-P=0 dB. Accuracy:  $\pm 1$  dB. Width: Variable 0.5  $\mu$ s to 200  $\mu$ s typical. Density: Variable 10  $\mu$ s to 10 ms typical. Polarity: Positive or Negative.

Hum: Amplitude 700 mV P-P=0 dB. Accuracy:  $\pm 1$  dB.

Waveform: Sine wave at 50/60 Hz (Same as power line input).

5 KHz: Amplitude 700 mV P-P=0 dB. Accuracy:  $\pm 1$  dB. Waveform: 5 kHz sine wave.

**External Input** — Input Range:  $\pm 1$  V max. Input Impedance: 15 K $\Omega$ . Frequency Response: 5 MHz  $\pm 0.5$  dB.

**Gating Input** — Input Range: 7.5 V P-P max. Input Impedance: 15 K $\Omega$ . Frequency: from 1 Hz to at least 250 KHz.

**Video Input** — Input Amplitude:  $\pm 1$  V Peak. Input Impedance: 75  $\Omega$ , 40 dB Return Loss. Gain: +3 dB, +6 dB, or 0 to -60 dB. Frequency Response: Direct mode (attenuator bypassed)  $\pm 0.1$  dB to 5 MHz; -3 dB @ 18 MHz (typical). Atten mode (through attenuator)  $\pm 0.5$  dB to 5 MHz; -3 dB @ 14 MHz (typical).

**Outputs** — Adds Video Input, External In, and Noise. Impedance: 75  $\Omega$ , 30 dB Return Loss.

**Packaging** — Dual Width TM 500 Module (Compatible with TM 500 and TM 5000 Series Mainframes).

1434 Video Noise Generator . . . \$5500.00



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# RANDOM NOISE MEASUREMENT SET



1430

## 1430 Random Noise Measurement Set

- Conforms to CCIR Recommendation 568
- In-Service Testing
- Program Material Protected by Fail-Safe Provisions
- 525/60 or 625/50 Standards

The 1430 provides random noise measurement capabilities on an in-service basis using the spatially adjacent noise matching technique with a waveform monitor. A program channel allows deletion of VITS and/or noise on selected lines in the vertical blanking interval and a monitor channel is provided for making measurements in conjunction with a waveform monitor.

The 1430 has two sections. One section, permanently mounted in the rack, contains inputs and outputs and program protecting material. The second section, containing circuitry and controls, may be easily removed without cable disconnection.

### Monitor Channel

The monitor channel has an output independent from program for waveform comparison of the noise on the incoming signal and noise from the internal noise generator. Front-panel controls determine monitor channel parameters with three operating modes: VITS, Full Field, and Out of Service.

In the VITS mode, any line between 10 and 21 in either or both fields may be selected for insertion of the reference noise. The Full Field mode provides insertion on all active lines.

The Out of Service mode is provided for measurements on sources that do not have composite sync. In particular, these include transmission circuits not carrying signals at the time testing is conducted. Horizontal sync is added for waveform monitor synchronization.

In all modes the insertion width is internally set at 26  $\mu$ s. Delay between insertion and sync is controlled by the Delay adjustment. A switch and a potentiometer covering a range of 0 IRE to 100 IRE controls the insertion pedestal level.

Monitor channel gain control, with a  $\pm 3$  dB range, allows normalizing the signal for a 1 V peak-to-peak signal so that noise measurement relative to 1 V may be made. The internal noise weighting filter may be switched in or out from the front panel for evaluation of the spectral content of the incoming noise. This filter is the monitor channel only and does not affect the program output.

The 1430 may be used on both 625/50 and 525/60 systems but is shipped equipped for 525/60. The 1430 Option 01 is equipped for 625/50. Both mod-

els use the unified weighting filter per CCIR Recommendation 568. Insertion loss characteristics are as follows:

Insertion Loss	
1 MHz	5.9 dB
2 MHz	10.2 dB
3 MHz	12.0 dB
4 MHz	13.0 dB
5 MHz	13.6 dB

### Program Channel

The Program Channel has a 75  $\Omega$  input impedance and unity gain and output impedance of 75  $\Omega$ . No program impairment is introduced. A relay provides program signal continuity if the 1430 loses power. Internal programming, readily changeable, controls all deletion parameters. Up to three lines between 10 and 21 in either or both fields may be deleted. The deletion may be varied between the first half, second half, or full active portion of the video line. A pedestal may be inserted in the deleted portion of a line at 10 IRE, 50 IRE, or 100 IRE levels.

## CHARACTERISTICS

### PROGRAM CHANNEL

- Signal Input Level — 1 V nominal.
- Input Impedance — 75  $\Omega$  nominal.
- Input Return Loss — Power On:  $\geq 46$  dB to 5 MHz. Power Off or Bypass:  $> 40$  dB to 5 MHz.
- Output Impedance (Operating) — 75  $\Omega$  nominal.
- Output Return Loss (All) —  $\geq 30$  dB to 5 MHz.
- Output Blanking, Dc Level — 0 V within 50 mV, for blanking pulses.
- Inserted Pedestal Level — Adjustable to 100 IRE, 50 IRE, 10 IRE, or 0 IRE.
- 2T Pulse to Bar Amplitude — Within 0.25%.
- Mod Sin<sup>2</sup> Pulse (Chrominance and Luminance) — 100% within 0.5%.
- Waveform, Tilt — Field Rate Squarewave  $\leq 0.5\%$ , 26  $\mu$ s Bar,  $\leq 0.5\%$ .
- Differential Phase (10% to 90% APL, Standard Input) — Program Output:  $\leq 0.15^\circ$ .
- Differential Gain (10% to 90% APL, Standard Input) — Program Output:  $\leq 0.2\%$ .
- Line Time Amplitude Nonlinearity (10% to 90% APL, Standard Input) —  $\leq 0.5\%$ .
- Random Noise — Program Output:  $\geq 75$  dB (RMS) down (using weighting and low pass filters, 5 MHz).
- Hum or Transients on Noninserted Lines —  $\geq 60$  dB down, (using weighted and low pass filters, 5 MHz).
- Spurious Signals During Blanking Lines —  $\geq 40$  dB down, low pass (5 MHz).
- Signal Attenuation in Delete Mode — 2T Pulse:  $\geq 70$  dB down. Subcarrier (Color Bars):  $\geq 60$  dB down. Insertion pedestal: 10 IRE, 50 IRE, and 100 IRE, first half, second half, or entire line (up to 3: 10 to 21) or full field.
- Unwanted Pedestal at Time of VITS Insertion —  $\leq 0.7$  IRE.
- Time Jitter —  $\leq 5$  ns.

## NOISE

- Pedestal Level — Pedestal Amplitude: 10 IRE, 50 IRE, and 100 IRE.
- Pedestal Position (Insertion Mode Only) — Delay: 10  $\mu$ s to 50  $\mu$ s.
- Noise Amplitude — 20 dB to -59.5 dB (0 dB = 700 mV RMS).
- Noise Attenuators — Absolute Amplitude: Within 1 dB.
- Noise Spectrum — Energy/Unit Bandwidth: Flat within 6 dB, 15 kHz to 5 MHz.
- Output Impedance — 75  $\Omega$  nominal.
- Output Return Loss —  $\geq 30$  dB.
- Noise Weighting and Low Pass Filter — Per CCIR recommendation 421-2.

## AC POWER

- Line Voltage Range — 115 V ac: 90 V to 132 V. 230 V ac: 180 V to 264 V. Standard 1430: Factory set at 115 V ac. 1430 Option 01: Factory set at 230 V ac.
- Maximum Line Current — 0.25 A.
- Maximum Power Consumption — 30 W.
- Line Frequency Range — 48 Hz to 66 Hz.

## PHYSICAL CHARACTERISTICS

Dimensions	mm	in
Width	483	19.0
Height	44	1.7
Depth	429	16.9
Weights	kg	lb
Net	4.5	10.0
Shipping	7.2	16.0

## INCLUDED ACCESSORIES

One pair slide guide (351-0331-03); cover program front panel (200-1481-00); manual.

**1430 Random Noise Measuring Set (525/60)**  
..... **\$4,115**

Option 01 — Random Noise Measuring Set (625/50) .. +\$85

The 1430 and 1430 Option 01 are provided with the 5.0 MHz low pass filter and unified weighting filter per CCIR Recommendation 568.

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# VIDEO CORRECTOR



1440



REMOTE CONTROL UNIT



REMOTE MONITOR UNIT

## 1440 Automatic Video Corrector

- Reduces Operating Costs
- Extends Transmitter Tube Life and Reduces Maintenance Costs
- Maintains Consistent High Quality Color Pictures
- Automates Transmitter Modulation Level Control
- Maintains Correct Sync-To-Video Ratios During Line Voltage Fluctuations
- Automatic VIRS Referenced Correction of:
  - Overall Video Signal Amplitude
  - Chrominance to Luminance Gain Ratio
  - Black Level
  - Chrominance Phase
  - Burst Gain
  - Sync Gain
- Optional Closed Loop Capabilities for Greater Efficiency and Economy in Transmitter and VTR Operations

The 1440 VIRS Automatic Video Corrector gives fully automatic correction of video gain, chrominance to luminance gain ratio, black level (set up), chroma phase, burst amplitude, and sync amplitude errors. With this corrector in your facility, the quality of the program signal is rigidly maintained. Ordinary changes and even many severe distortions are automatically corrected.

Video gain correction is referenced to the 50 IRE level of the VIRS. Chrominance to luminance gain ratio and burst phase corrections are referenced to the amplitude and phase of the VIRS chrominance respectively. Set up level correction is referenced to the 7.5 IRE level of the VIRS. Sync and burst gain corrections are controlled respective to their standard amplitudes.

## Auxiliary Units

In most applications, the usefulness of an automatic correction is enhanced by a Tektronix Remote Control Unit. You can conveniently select corrector modes and manually correct six signal parameters with this unit. The remote unit allows easy adjustment of the parameter's preset values for operation in the absence of a reference signal. Automatic correction value adjustments are also provided.

The Tektronix Remote Monitoring Unit provides meter indications of the amount of correction applied to the signal.

## CHARACTERISTICS

Input Impedance—75  $\Omega$  nominal.

Video Display—145 ns.

Output Impedance—75  $\Omega$ .

Linear Waveform Distortions (Maximum)—Field Time: 0.5%, Line Time: 0.5%. Short Time: T Pulse/Bar: 2%. 2T Pulse/Bar: 1%.

Nonlinear Waveform Distortions—Differential Gain (10% to 90% APL): 0.5% Differential Phase (10% to 90% APL): 0.5%. Dynamic Gain (10% to 90% APL): Picture 0.5%, sync 0.5%. Chrominance/Luminance Intermodulation: 0.5%. Line Time Nonlinearity: 0.5%.

Unweighted Video Signal to Random Noise Ratio— $\geq 60$  dB to 5 MHz.

Spurious Subcarrier— $-60$  dB.

Field Time Tilt Correction—25% Tilt on Input Signal: Will be reduced to  $\leq 1\%$ .

Clamping Characteristics—10% to 90% APL or 90% to 10% APL. Recovery within one line to within five IRE without overshoot. Slow clamp option provided to reduce keyboarding when used with noisy signals. Hum Reduction: 1 V hum on input signal can be reduced to  $\leq 25$  mV.

Maximum Correction Ranges—Video Level at Input:  $\pm 6$  dB. Sync Level at Input:  $\pm 3$  dB. Chrominance/Luminance Gain:  $\pm 3$  dB. Burst Level:  $\pm 6$  dB. Burst/Chrominance Phase:  $\pm 25^\circ$ . Black Level Set Up:  $\pm 10$  IRE.

Reduced Correction Ranges—Video Level:  $\pm 2$  dB. Sync Level:  $\pm 3$  dB. Chrominance/Luminance Gain:  $\pm 3$  dB. Burst/Chrominance Phase:  $\pm 25^\circ$ . Black Level Set Up:  $\pm 5$  IRE.

Dc Error-Signal Output—Source Impedance: 10 k $\Omega$ . Open Circuit Voltage: 10 V for remote metering and telemetry. Six Outputs: Video gain, sync gain, burst gain, relative chroma gain, burst phase, and set up.

Chroma/Luminance Gain Correction ( $-3$  dB to  $-3$  dB)—2T Pulse/Bar Ratio—110% maximum and 92% minimum. T Pulse/Bar Ratio: 125% maximum and 85% minimum. 2T Pulse Preshoot: 5% maximum. T Step Overshoot: 5% maximum. T Step Risettime: 95 ns minimum and 155 ns maximum. Chrominance/Luminance Delay: 10 ns minimum and 10 ns maximum. VIR Signal Correction Rate: 0.35 s (90% correction without overshoot).

## POWER SUPPLY

Line Voltage Range—115 V ac  $\pm 10\%$  and 230 V ac  $\pm 10\%$ .

Maximum Power Consumption—35 W

Line Frequency Range—48 Hz to 66 Hz.

## PHYSICAL CHARACTERISTICS

Dimensions	mm	in
Width	483	19.0
Height	881	3.5
Depth	412	16.2
Weights	kg	lb
Net	7.6	16.7
Domestic Shipping	11.0	24.1
Export Shipping	16.8	37.0

## 1440 NTSC Automatic Video Corrector

..... \$6,325.00

## OPTIONAL ACCESSORIES

Remote Control Unit for 1440—(Includes two connectors). Order 015-0240-00..... \$1,020.00

Remote Monitor Unit for 1440—(Includes one connector). Order 015-0239-00..... \$1,080.00

Six Foot Extender Cable—With connectors for use between the 1440 and Remote Control Unit or Remote Monitor Unit. Order 012-0131-00..... \$405.00

Three Foot Extender Cable—With connectors, for use between the 1440 chassis and the rear rackmounting section. Order 012-0637-00..... \$410.00

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# PAL AND PAL-M INSERTION TEST SIGNAL GENERATORS

## R148/R148M Test Signal Generators

- Insertion Test Signals (Per EBU, CCIR Recommendation 473-2, Annex 1)
- Full-Field Test Signals (Per CCIR Recommendation 567)
- Easily Reprogrammable
- Safe In-Service ITS Insertion (Per EBU Specifications)
- Noise Measurement
- APL Bounce Signal
- Source Identification Code
- Operates with Sound In Sync
- Locks with Mixed Sync (Per EBU Homologation Specifications for ITS Generators) Subcarrier, PAL Pulse, Burst Flag, Comp Sync

The Tektronix R148 (PAL) and R148-M (PAL-M) Insertion Test Signal (ITS) Generators provide all the test signals you need to test and measure PAL (or PAL-M) video transmission systems. Test signals are available as both full-field composite video and ITS inserted into the incoming program signal's vertical blanking interval. All timing information for ITS insertion is derived from the incoming composite video signal.

### VERTICAL INTERVAL INSERTION/ DELETION AND PROGRAM CONTROL

The R148 and R148-M insert ITS only when genlocked to an incoming composite video signal. Since ITS insertion/deletion involves active circuit elements in the program line, program line fail safe operation is provided in the event of instrument malfunction, loss of sync, or power failure. You also have access to local and remote control manual override capability.

A preview monitor output permits observation of the ITS deletion/insertion program before anything is actually done to the program signal. Preview/program operation can be locally or remotely controlled.

Provisions are made for adding an externally generated ITS to the program line.

### INSERTION SIGNAL CONTROL FEATURES Free Running Operation

A warning light indicates absence of incoming synchronizing information and ITS deletion and insertion is automatically discontinued.

### Program Level

A front panel switch lets you select a preset gain, normally adjusted for unity gain between program input and program output. Or, you can use a front panel level adjustment to normalize the incoming program signal to provide 1 volt at the program output.

### Local-Remote Control of Program and Preview

You can shift control of program or preview modes from the front panel (local) to a position remote from the generator. When operating under either local or remote control, front panel

lights indicate program line status, since the front panel program status switch position may not correspond to the operating mode selected.

### Auxiliary

A noncomposite video signal (such as a sweep generator) applied to the auxiliary input appears at the preview monitor output connector with composite blanking and sync added. A pedestal control provides a dc offset so the auxiliary signal excursion may be positioned between the black and white limits of the resulting composite video signal. Remote control is not available.

### ITS Subcarrier Phase

A recessed front-panel control adjusts phase of color subcarrier on internally generated signals to be correct in relation to the phase of incoming burst.

### Insertion Delay

A recessed front-panel control provides a fine horizontal timing adjustment for inserted signals.

### FULL-FIELD OPERATION

The Tektronix R148 and R148-M provide full-field test signals separate from program. These signals are generated with or without external synchronizing information and will be locked to the external synchronizing signal when a program signal or external synchronizing signals are present.

### FLAT-FIELD SIGNAL

The flat-field signal with VITS inserted is used primarily for system testing at discrete average picture levels.

The flat-field signal is a composite video signal that, during the active portion of each field, has a constant luminance level. The luminance level is selectable in eleven increments from 0% to 100% of white. An alternate selection provides automatic change between black and white with a period variable from 1 s to 10 s.

When operating the R148 in the flat field mode, you may select a white level preset between 85% and 100% and a black level preset between 0% and 15%. Automatic change between white and black is available and occurs at a period adjustable from 1.0 s to 10.0 s.

### FIELD SQUAREWAVE SIGNAL

The field squarewave signal is used to measure field time distortions. In this mode, the Tektronix R148 provides a composite video signal with 205 active lines at 700 mV, approximating a 50 Hz squarewave. The R148-M provides a composite video signal with 132 active lines at 700 mV, approximating a 60 Hz squarewave.

Use this signal to detect low frequency phase and gain distortions, even those passing through clamper amplifiers.

## CHARACTERISTICS

### PROGRAM CHANNEL

Input Level — Adjusted to unity gain.

Variable Input Level —  $\pm 30\%$ .

Inserted Signal Level — Within  $\pm 1\%$  of nominal.

Output Dc Level —  $< 50$  mV (no signal).

Frequency Response, Program, and Preview Channels —  $\pm 1\%$ , 50 kHz to 5 MHz.

Field Time Tilt —  $< 0.5\%$ .

Line Time Tilt —  $< 0.25\%$ .

Differential Phase Standard Input — Program Output:  $< 0.15^\circ$ . Preview Output:  $< 0.3^\circ$ .

Differential Gain Standard Input — Program Output:  $< 0.2\%$ . Preview Output:  $< 0.4\%$ .

Random Noise Output Program Channel —  $< -75$  dB RMS.

Hum, Transients on Noninserted Lines —  $-60$  dB down.

Spurious Signals During Blanking Time — Inactive line time  $\geq 40$  dB down. Active ITS lines  $\geq 60$  dB.

Signal Attenuation in "Delete" Mode — 2T Pulse:  $> -70$  dB. Subcarrier (Color Bars):  $> -60$  dB.

Crosstalk into Program Channel from Internal Signals — 2T Pulse:  $< -70$  dB. Subcarrier (Color Bars):  $< -60$  dB.

Unwanted Pedestal at Time of ITS Insertion — Program and Preview Channel:  $< 5$  mV.

Insert Delay Adjustment Range —  $\pm 0.5$   $\mu$ s front panel.

### SOURCE IDENTIFICATION CODE (R148 ONLY)

The Tektronix R148 is a source identification code generator with up to 25 pulses available in any combination on line 16 or line 329.

Pulse Width — 1  $\mu$ s.

One Level — 630 to 700 mV above blanking.

Zero Level — Within 25 mV of blanking.

### OTHER CHARACTERISTICS

Power Requirements — 90 V ac to 136 V ac or 180 V ac to 272 V ac; 48 Hz to 66 Hz, 55 W maximum at 115 V ac and 60 Hz. Factory set at 230 V ac (R148) or 115 V ac (R148-M).

Ambient Temperature — Performance characteristics are valid over an ambient temperature range of 0°C to +50°C.

### PHYSICAL CHARACTERISTICS

Dimensions	mm	in
Width	483	19.0
Height	88	3.5
Depth	499	19.7
Weights	kg	lb
Net	9.1	20.0
Shipping $\approx$	16.3	36.0

### INCLUDED ACCESSORIES

75  $\Omega$  BNC termination (011-0103-02); two each BNC-T adapters (103-0030-00); rackmounting hardware (351-0195-01); manual.

**R148 PAL Test Signal Generator ..... \$5,540**

**R148M PAL-M Test Signal Generator . \$8,700**

### OPTIONAL ACCESSORIES

Noise Measurement Filters — External filters are required with the 148 Generator when making noise measurements.

Low Pass 6.0 MHz 625/50 — Order 015-0220-00 . . . \$130.00

Noise Weighting 5.0 MHz 625/50 — Order 015-0215-00 100.00

Low Pass 4.2 MHz 525/60 — Order 015-0212-00 . . . . 155.00

Noise Weighting 4.2 MHz 525/60 — Order 015-0214-00 100.00

CCIR recommendation 568 provides for measuring signal-to-weighted random noise on all international transmissions (both 525/60 and 625/50) with a 5.0 MHz low pass filter and a unified noise weighting filter.

Low Pass 5.0 MHz — Order 015-0213-00 . . . . . \$150.00

Unified Noise Weighting Network — Order 015-0283-00 . . . . . 85.00

Rackmount to Cabinet Conversion Kit — Order 040-0573-00 . . . . . POR



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# TELEVISION GENERATOR



## Digital Genlock

The TSG-300's unique digital genlock and stable internal oscillator make it suitable for either slave or stand-alone operation. After the incoming signal is digitized, a processor analyzes timing to control the TSG-300's system clock. The digital genlock works with component video or composite NTSC, PAL, or SECAM sources operating in either 525/60 or 625/50 systems. The TSG-300 automatically switches to its internal oscillator in the absence of a reference input signal. This high stability crystal oscillator, with its constant temperature oven, ensures long term frequency stability.

## Remote Control

Remote operation of test signal selection, system timing, and line and field rate selection is available by simple ground closure control through a rear panel connector.

## TSG-300 Specifications

Signal Formats	Y, B-Y, R-Y (SMPTE; Y,Pb,Pr; EBU) GBR Betacam (3 wire) MII (3 wire) Y-CTDM (Betacam 2 wire) YCTCM (MII 2 wire)
Systems	525/60 and 625/50 by jumper selection or remote control
Signal Generation	10 bit digital 13.5 MS/s Direct generation (no transcoders)
Outputs	Channel 1: 2 outputs Channel 2: 2 outputs Channel 3: 2 outputs Sync 13.5 MHz Reference Space for Betacam or MII Dub
Inputs	Genlock loop-through
Test Signals	(Unless otherwise specified) 700 mV for 100% luminance
Luminance Amplitude	± 350 mV for 100% color difference
Color Difference	
Sync Amplitude	- 300 mV on luminance channel
Blanking level	0 ± 50 mV
Amplitude Accuracy	1%
Channel Amplitude Match	0.5%
Channel Timing Match	5 ns
Frequency Response	1% to 5 MHz 2% to 5.5 MHz
Pulse Response	1% ringing on 2T pulse T = 100 ns
Line Tilt	0.5%
Field Tilt	0.5%
Output Impedance	75 Ohm
Return Loss	36 dB to 5 MHz
Y, B-Y, R-Y (Y,Pb,Pr; SMPTE; EBU) 100/0/100/0	700 mV luminance ± 350 mV color difference
100/0/75/0	700 mV luminance ± 262.5 mV color difference
GBR Bars 100/0/100/0 75/0/75/0	700 mV all channels 525 mV all channels
Betacam Bars 100/7.5/75/7.5	714 mV luminance in 525/60 53.6 mV setup ± 14.3 mV pluge ± 350 mV color difference Obtainable by applying the TSG-300 boost function (1.33 gain on color difference channels) to 75% SMPTE/EBU bars
100/0/75/0	
Y,CTDM 100/7.5/75/7.5 100/0/75/0	714 mV luminance in 525/60 700 mV luminance in 625/50 ± 350 mV color difference

## TSG-300

## TSG-300 Specifications (Continued)

MII Bars 100/7.5/75/7.5	700 mV luminance for 525/60 52.5 mV setup ± 243 mV color difference Same as SMPTE/EBU bars
100/0/75/0	
Y,CTCM 525/60 100/7.5/75/7.5	700 mV luminance ± 350 R-Y ± 250 B-Y
Y,CTCM 625/50 100/0/75/0	700 mV luminance ± 262.5 mV color difference
Luminance Reference with pluge	0, 175, 350, 525, and 700 mV Gray scale references with - 70 and + 770 mV clipping indicators ± 14 mV pluge
5 Step Staircase	700 mV luminance ± 350 mV color difference
120% Ramp	- 70 mV to + 770 mV
Valid Ramp	700 mV p-p
Shallow Ramp	± 350 mV from Pedestal 0 to 700 mV Pedestal luminance ± 350 mV pedestal color difference in 5.5 mV increments
Pulse and Bar	2T Pulse and 2T Bar luminance 3T or 5T Pulse and Bar color difference Includes 3 step or 5 step staircase to indicate pulse HAD
Pulse and Bar with 20T Pulse	2T pulse and 2T Bar luminance 20T pulse on all channels codes to modulated pulse in composite signal
Window	Pulse and Bar signal gated on during lines 72-202 in 525/60 and lines 78-234 in 625/50
Field Square Wave	700 mV luminance 350 mV color difference Vertical timing same as window
Multipulse	420 mV 60% amplitude selectable 1, 2, 3, 4, and 5 MHz luminance 350 to + 70 mV color difference 0.5, 1, 1.5, 2, and 2.5 MHz color difference
Wideband Multiburst	420 mV p-p 60% on 350 mV pedestal for luminance 1, 2, 3, 4, and 5 MHz all channels
Narrowband Multiburst	420 mV p-p 60% 1, 2, 3, 4, and 5 MHz luminance 0.5, 1, 1.5, 2, and 2.5 MHz color difference
Wideband 100% Line Sweep	700 mV p-p 200 kHz to 5.5 MHz all channels
Narrowband Sweeps	420 mV p-p and 250 mV p-p 200 kHz to 5.5 MHz luminance 100 kHz to 2.75 MHz color difference
Bowtie	500 kHz luminance 502 kHz color difference ± 100 ns delay range with markers every 20 ns
Convergence	525 mV (75%) 14 horizontal lines; 15 vertical lines
Coring	70 mV p-p 0 to 700 mV pedestal luminance ± 350 mV pedestal color difference 1, 2, 3, 4, and 5 MHz luminance 0.5, 1, 1.5, 2, and 2.5 MHz color difference
Flat Field	0 to 700 mV variable luminance ± 350 mV variable color difference
Genlock	Loop-through input Return loss 40 dB to 5.5 MHz Locks to NTSC, PAL, SECAM, or Component luminance
Genlock Timing	± 8 µs delay range

TSG-300 ..... \$8850.00

## TSG-300

### Component Television Generator

- Multiple Formats and Standards
- Y, B-Y, R-Y (Y,Pb,Pr; SMPTE/EBU)
- GBR
- Betacam®
- MII
- 525/60 and 625/50
- 10 Bit Digital Signal Generation
- New Test Signals for Component Video
- Bowtie
- Coring
- Valid Ramp
- Shallow Ramp
- User Configurable Controls
- Digital Genlock

### Digital Genlock

From news gathering to post-production, component television is providing new levels of image quality and operational flexibility. While component television solves many problems inherent in composite NTSC and PAL, it brings with it a new set of concerns. The TSG-300 Component Television Generator provides innovative solutions to the measurement problems encountered in component television systems.

### Multiple Formats and Standards

While the EBU and SMPTE are setting standards for component video, there is already a large base of installed component equipment using many different operating levels. The TSG-300 bridges this gap between formal and de-facto standards, providing signals in SMPTE/EBU standard formats as well as previously existing component formats. Signal formats supported by the TSG-300, using color bars as an example (Figure 1), are Y, B-Y, R-Y (Y,Pb,Pr; SMPTE/EBU), GBR, Betacam, and MII. The TSG-300 also supports both 525/60 and 625/50 systems by either internal jumper selection or remote control.

### Digital Signal Generation

Precision digital signal generation insures the accuracy and stability of the TSG-300 test signals. 10 bit digital to analog conversion at 13.5 MS/s, even in the color difference channels, allows full bandwidth testing of GBR systems. Digital generation of each individual format eliminates transcoding artifacts.

### New Test Signals for Component Video

The TSG-300 provides unique solutions to component measurement problems with signals such as Bowtie, Coring, Valid Ramp, and Shallow Ramp, as well as a wide range of more conventional signals

### User Configurable Controls

Operation of the TSG-300 is simplified by its user configurable controls. Many of the test signal controls access a variety of similar signals. These signals are accessed by pressing the switch repeatedly. By simply specifying which signal you want to appear first, the problem of searching for a commonly used signal is eliminated.

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# TEKTRONIX, INC.

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## WFM-300 Component Television Waveform Monitor

- Electronic graticule
- Lightning display
- Waveform display parade and overlay
- Vector display
- Bowtie timing display
- Color gamut limit indication
- Linearity measurements
- Input selectable between Y, B-Y, R-Y, R, G, B, Y, Q, I
- 625/50 and 525/60 configurations
- RGB picture monitor output

The versatile WFM-300 Component Television Waveform Monitor provides a comprehensive set of signal monitoring capabilities designed specifically for the component television environment.

The component based television equipment produces signals quite different from the composite television signals, and the WFM-300 provides new monitoring capabilities to meet this challenge. An innovative Lightning display provides amplitude and timing information for all three channels simultaneously, allowing the operator to set up equipment accurately and efficiently.

The traditional parade display of three signals provides side-by-side comparison of all signals. In addition, any combination of the three signals can be overlaid for accurate comparisons. Both horizontal and vertical magnification can be applied for detailed inspection of the signal being observed.

A vector display of the color difference signals provides the traditional color bar vector display. The new bowtie display uses the special bowtie timing test signal from the TSG-300 component television test signal generator, allowing precise timing of three wire component television systems.

The 3-channel input signals can be Y, B-Y, R-Y or R, G, B, or Y, Q, I with internal accommodation for each signal type. All of these signal types are converted to R, G, B for a dedicated picture monitor output. The valid RGB gamut limit is monitored to ensure the operator is warned if a combination of signals is not valid. The WFM-300 can be configured for both 525/60 and 625/50 signal standards.

## Specifications

**Vertical Deflection System** — Frequency Response: 1 V Full Scale; 50 kHz to 6 MHz within 2% of response at 50 kHz. X5 Gain; 50 kHz to 5 MHz within 2% of response at 50 kHz. Dif'd Step; Equal to greater than -20 dB at 14 kHz and 2 MHz. Transient Response: 1 V Full Scale; Pulse-to-bar 0.99:1.00 to 1.01:1.00. Ringing and Overshoot; 2% or less. Tilt: 1% or less; Variable Gain Range: 1 V Full Scale; Input signals between 0.7 V and 2 V can be adjusted to 1 V display. Deflection Accuracy: Within 2%.

**DC Restoration** — Attenuation of 50 Hz on Input Signal: Less than or equal to 20%. Blanking Level Shift with 10% to 90% APL Change: Less than or equal to 1%.

**Inputs** — CH 1, CH 2, CH 3, & External Reference: Return Loss (75 ohms) at least 40 dB from 50 kHz to 6 MHz. Cross Talk Between Channels: Greater than 46 dB isolation between channels. Loop-Through Isolation: Greater than 60 dB isolation between channels. Maximum Input Level for Normal Operation (CH 1, CH 2, CH 3)  $\pm 2$  V (dc + peak ac). External Reference: +2 to -4 V peak ac (compatible with comp sync).

**Horizontal Deflection System** — (Waveform and Parade Mode) Sweep will occur in all sweep rate settings with or without a reference signal. Synchronization: Sweep will synchronize to sync amplitude of 0.3 V p-p  $\pm 6$  dB. 2 FLD Sweep Repetition Rate: Equal to frame rate of selected reference. 2 FLD MAG (Magnification): Approximately X20. 1 LINE Sweep Repetition Rate: Equal to line rate of selected reference. 2 LINE Sweep Repetition Rate: Equal to half line rate of selected reference. Timing Accuracies: 1  $\mu$ s/Div; within 2%. 0.2  $\mu$ s/Div; within 2%. Linearity (1  $\mu$ s/Div and 0.2  $\mu$ s/Div): within 2%.

**Parade Mode** — Sweep Repetition Rate: Field or line rate of selected reference.

**Vector Mode** — Vertical Bandwidth: 900 kHz  $\pm 100$  kHz. Horizontal to Vertical Bandwidth Matching: No eye opening at 500 kHz or 2 MHz. Vertical Gain Accuracy:  $\pm 1\%$ . Horizontal Gain Accuracy:  $\pm 1\%$ . Electronic Graticule Accuracy:  $\pm 1\%$ .

**Bowtie Mode** — Common Mode Rejection Ratio: Greater than 40 dB.

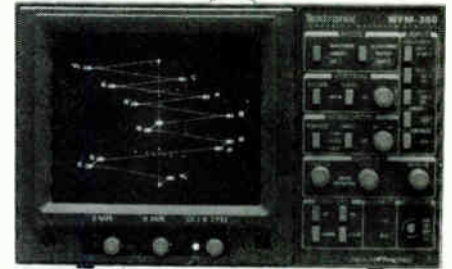
**Calibration** — Calibrator accuracy within 1%.

**Transcoder** — Accuracy: Within 1%. GBR Outputs: Impedance 75 ohms nominal. Back porch clamped to 0 V. Gamut Limit: Preset threshold settings are nominally +735 mV and -35 mV within  $\pm 5$  mV.

**CRT Display** — CRT Viewing Area: 80 x 100 mm. Horizontal = 12.5 div. Accelerating Potential: Nominally 13.75 kV. Trace Rotation Range: Greater than  $\pm 1$  degree from horizontal.

**Power Source** — Mains Voltage Ranges: 110 V (88-132 V); 220 V (198-242 V). Mains Frequency Range: 48 Hz to 66 Hz. Power Consumption: 35 Watts maximum.

# WAVEFORM MONITOR



WFM-300

## Physical Characteristics

Dimensions: 5.25" H x 8.424" W x 16.875" L

Weight: Approximately 9 lbs.

## Included Accessories

Instruction manual; spare fuse; remote control mating connector; power cable assembly

## WFM-300 Component Television Waveform

Monitor . . . . . \$4900.00

### Option 01

For 625/50 operation . . . . . NC

### Option 10

For Betacam® transcoder . . . 5020.00

### Option 12

For YQI transcoder . . . . . 5020.00

### Option 14

For MII transcoder . . . . . 5020.00

Only one color difference transcoder (SMPT E, Option 10, Option 12 or Option 14) can be installed in a single WFM-300. RGB operation is selectable from the front panel on all instrument/option combinations. Option 01 can be combined with all other options.

## Optional Accessories

### Cameras

Regular order C5

(Option 2). . . . . \$465.00

### Automatic Order C7

(Option 3) . . . . . 465.00

### Cabinets—Plain:

Order 1700F00 . . . . . \$ 60.00

### Cabinets—Portable:

Order 1700F02 . . . . . 85.00

### Rack Adaptor

Order 1700F05 . . . . . 180.00

### Blank Panel

Order 1700F06 . . . . . 60.00

### Viewing Hood

Order 016-0475-00 . . . . . POR

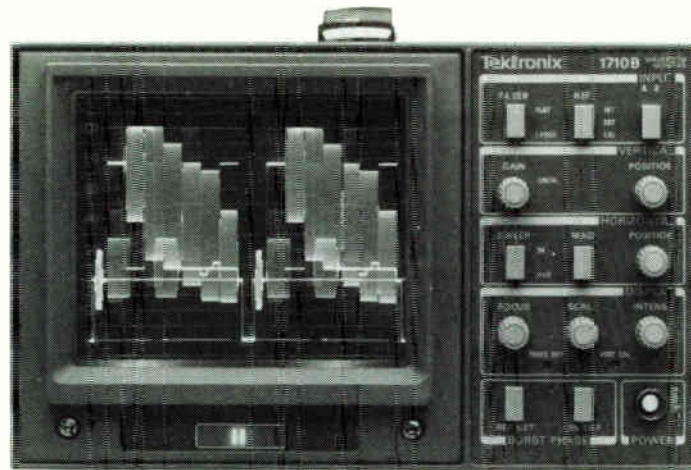
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# WAVEFORM MONITORS



1710B

## 1710B SERIES WAVEFORM MONITORS

- Burst Phase Indicator
- Dual Filter Display
- Half Rack Width
- Bright CRT Display
- Internal Graticule
- DC Operation
- Available in NTSC and PAL Standards

The 1710B Series Waveform Monitors provide all of the commonly used display modes. In addition, the 1710B Series adds relative burst phase indication and dual filter display. All of this in a cost effective package for the user who wants high quality at a low price. These new monitors are mechanically compatible and retrofit into an existing system that uses half rack width, 5¼" waveform monitors.

Because of its extreme light weight, low power consumption, and DC operation (field installable kit) the 1710B Series is ideal for field production, mobile operations, and any other application where space, power consumption and/or portability are prime considerations.

**Easy Operation.** This monitor was also designed with the user in mind. Controls have clear nomenclature and are laid out in a logical order. This makes the operation of this powerful tool easier than one might expect.

**Burst Phase Indication.** The relative burst phase between inputs is displayed on the LED bar graph. The center green LEDs indicate the two signals are phase matched. The yellow ones warn the phase is slipping out of an acceptable range. Finally, the red LEDs flag an unacceptable amount of phasing error. This feature allows one instrument to do the complete job of timing and phasing in a basic television system.

**Dual Filter Display.** The dual filter display allows the user to view both the complete video signal and the luminance information at the same time using just one instrument. This eliminates the need for switching back and forth between filters and makes the instrument easier to operate. Ideal for camera setup.

**Bright CRT Display.** The bright CRT display permits use of the 1710B Series in high ambient light conditions. Brightness remains high in the magnified sweep modes enhancing the 1710B's use in system timing applications. The internal graticule is parallax-free to reduce errors and improve its monitoring and measuring capabilities.

## ELECTRICAL SPECIFICATIONS

### VERTICAL DEFLECTION SYSTEM

#### Frequency Response:

FLAT: Within 5% of the response at 50kHz from 50kHz to 6MHz. The response at Fsc is within 2% of the response at 50kHz.

L PASS: At least 97% attenuation at Fsc.

#### Transient Response:

Pulse to Bar Ratio: 0.99:1.00 to 1.01:1.00

Ringing: 2% or Less

Overshoot: 2% or Less

Tilt (Field Rate Square Wave, Vertical Window, or 25  $\mu$ S Bar): 1% or Less

#### Gain Range:

Input signals between 0.25V and 2.0V can be adjusted to 140 IRE (NTSC) or 1V (PAL) display.

#### Maximum Absolute Input Level:

+2V (dc + peak ac)

#### Deflection Accuracy:

1710B: 1V input for 140 IRE display within 2%.

1711B: 1V input displays 1V within 2%.

#### DC Restoration:

DC Restorer Clamp Time: Back Porch

Low Frequency Response at 50Hz: Attenuation of 50Hz on Input Signal 20% or less.

Blanking Level Shift with 10% to 90% APL Change: 1710B: APL changes from 50% to either 10% or 90% will cause blanking level shift of 1 IRE unit (7 mV) or less.

1711B: APL changes from 50% to either 10% or 90% will cause blanking level shift of 0.7 mV or less.

Blanking Level Shift Due to Presence or Absence of Burst: 1% or less of 100% video

### HORIZONTAL DEFLECTION SYSTEM

#### Sweep:

Sweep will occur in all Horizontal mode settings with or without synchronization.

#### Synchronization:

Sweep will synchronize to composite video 0.5V p-p to 2.0V p-p or to composite sync 143mV p-p to 8V p-p.

#### 2FLD Sweep Repetition Rate:

Equal to frame rate of applied video or external sync.

#### 2H Sweep Repetition Rate:

Equal to half line-rate of applied video or external sync.

#### Timing Accuracy:

1  $\mu$ S/div Sweep within 2%.

#### Linearity (1 $\mu$ S/div):

Within 2%

#### Differential Linearity (1 $\mu$ S/div):

Within 3% 0.1 div (0.5 minor div) or less compression or expansion of a center screen 4 div signal, when positioned anywhere horizontally.

#### POWER SOURCE

##### Mains Voltage Ranges:

115V (90-132V)

230V (200-250V)

##### Mains Frequency Range:

48Hz to 66Hz.

##### Power Consumption:

25 Watts (85.25 BTU/hour) maximum.

#### CALIBRATION SIGNAL

##### Frequency:

100kHz + 1kHz.

##### Amplitude:

1V within 1%.

## PHYSICAL CHARACTERISTICS

#### Dimensions:

5.25"H x 8.424"W x 16.875"L

(13.3 x 21.4 x 42.9cm)

Weight: Approx. 8 lbs. (3.6kg).

## INCLUDED ACCESSORIES

Instruction Manual 1710B Series: 070-5522-00

Power Cable Assembly: 161-0066-00

#### 1710B Waveform Monitor

(NTSC system applications) . . . . \$1,745.00

#### 1711B Waveform Monitor

(PAL system applications) . . . . .1,745.00

## OPTIONAL ACCESSORIES

Cabinet—Plain. Order 1700F00 . . . . . \$ 60.00

Cabinet—Portable. Order 1700F02 . . . . . 85.00

Side-By-Side Rackmount—For mounting two

half racks (1750, 1730, etc.), in a standard

19" rack. Order 1700F05 . . . . .180.00

Blank Panel Adaptor—For the side-by-side

rackmount. Order 1700F06 . . . . . 60.00

Snap-On Front Cover—High impact plastic.

Order 200-1566-00. . . . . 22.00

Viewing Hood—For high ambient light

environments. Order 016-0475-00. . . . . 10.00

DC Operation Kit—12VDC. Order 1700F10. .200.00

Camera—C-5C Option 02 (Regular). C7

Option 03 (Automatic) . . . . .465.00

C7 . . . . .565.00

Battery Pack—Requires 1700F03 case to

mount the BP1 to the 1710B or 1711B.

Order BP1 . . . . .600.00

Snap Lock Power Cord Kit—North America.

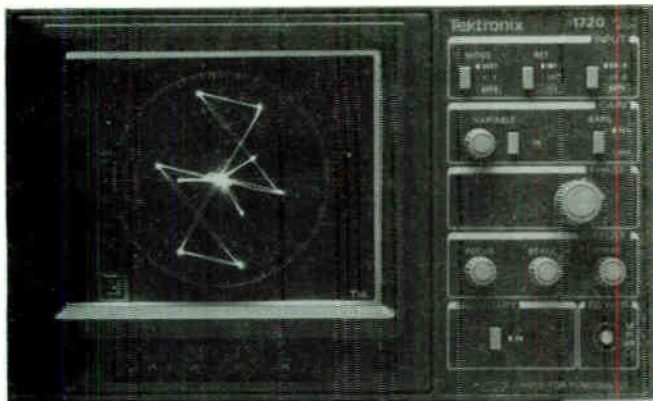
Order 040-1185-00 . . . . .POR



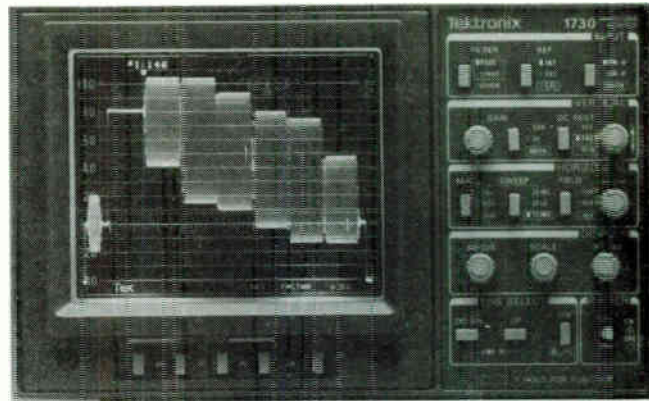
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# VECTORSCOPIES/ WAVEFORM MONITORS



1720



1730

## 1720 SERIES VECTORSCOPIES 1730 SERIES WAVEFORM MONITORS

- Performance and economy
- Complete line select
- Simultaneous Channel A & B display
- Dual filter display
- One-button front panel recall
- Differential phase and gain measurement
- Stereo audio phase measurement
- RGB/YRGB display capability
- Vector center dot clamping
- Parallax-free internal graticules
- Portable DC power and battery available
- Remote control capability
- Available in NTSC and PAL standards

The Tektronix 1730 Series Waveform Monitors and 1720 Series Vectorscopes provide a new dimension in television signal monitoring for both NTSC and PAL applications. These versatile instruments are lightweight, half-rack width, and have bright CRTs for comprehensive video signal monitoring. Both instruments exceed normal monitoring capabilities. Their unique features make them even more powerful when operated in tandem. Each monitor has its own advanced feature set and the proven 1700 Series family performance to provide more monitor for the money.

### Portable DC power

In addition to being ideal for camera control units and video tape recorders, these instruments can be equipped with cabinet and field upgrades allowing them to operate from a 12VDC source for portable operation. They can be used with the Tektronix BP1 or other 12V supply. Coupling this DC operation with their lightweight (about 9 lbs., including cabinet), low power consumption, and compact size make these instruments well suited for use on a portable production cart.

### Remote control

Internal front panel presets, RGB/YRGB enable, along with front panel recall/setup can be accessed through the Waveform Monitor Remote Connector.

### Available in NTSC and PAL

Both the 1730 Series and the 1720 Series are available in either NTSC or PAL versions.

### 1720/1730 SPECIFICATIONS

<b>CRT Viewing Area:</b>	80 x 100mm
<b>Trace Rotation:</b>	8° range, typical
<b>Graticule:</b>	Internal scale with variable illumination
<b>Power Source</b>	
<b>Mains Voltage Ranges:</b>	115V, 90-132V 230V, 200-250V
<b>Mains Frequency</b>	
<b>Range:</b>	48Hz to 66Hz
<b>Power Consumption:</b>	25W (85 BTU/HR) max.
<b>Battery Operation:</b>	12VDC (when 1700F10 is field installed)

### Environmental Characteristics

<b>Temperature</b>	
<b>Non-operating:</b>	-55°C to +75°C
<b>Operating:</b>	0°C to +50°C
<b>Altitude</b>	
<b>Non-operating:</b>	To 18,000M (50,000 ft.)
<b>Operating:</b>	To 5,500M (15,000 ft.)
<b>Shock</b>	
<b>Non-operating:</b>	30g's, 1/2 sine, 11ms duration, 3 shocks per surface (18 total)
<b>Transportation:</b>	Qualified under NTSC Test Procedure 1A, Category II (30' drop)
Meets Tektronix Standard 062-2847-00	
<b>Humidity:</b>	
Meets Tektronix Standard 062-2847-00	
<b>Certification</b>	
<b>Safety:</b>	U.L. 1244 Factory Mutual 3820 CSA Bulletin 556B IEC 348
<b>EMI Compatibility:</b>	FCC Rules, Part 15, Subpart J, Class A, VDE 0871.5 (Class B)

### Physical Characteristics

<b>Dimensions:</b>	Height: 5.25" (133.4mm) Width: 8.5" (215.9mm) Length: 18.125" (460.4mm) Weight: Approximately 8.5 lbs. (3.8kg)
<b>Included Accessories:</b>	Instruction manual Power cable assembly Spare fuse Remote control mating connector Auxiliary control cable (1720 series only)

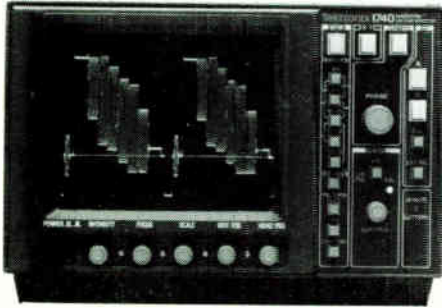
### OPTIONAL ACCESSORIES

<b>Cabinets</b>		
Plain	1700F00	\$ 60.00
(Painted silver gray)		
Portable	1700F02	85.00
(Including handle & feet, painted silver gray)		
Side-by-side rack adaptor	1700F05	180.00
Blank half-rack width panel	1700F06	60.00
DC power converter (kit)	1700F10	200.00
Battery pack	BP1	600.00
Cameras	C5C Opt. 02	465.00
	C7 Opt. 03	565.00
Viewing hood	016-0475-00	10.00
Snap-on Front Cover	200-1566-00	22.00

1720 Vectorscope (For NTSC System Applications)	\$2250.00
1721 Vectorscope (For PAL Systems)	2250.00
1730 Waveform Monitor (For NTSC System Applications)	2250.00
1731 Waveform Monitor (For PAL Systems)	2250.00

# TEKTRONIX, INC.

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1740 SERIES

## 1740 SERIES

- Two Instruments in One
- Optional Dc Power Capability
- Bright CRT Display
- R-Y (V-Axis) Mode
- VITS Monitoring
- RGB/YRGB Display Capability
- Remote Control Capability
- Available in NTSC, PAL, and PAL-M

Similar to the 528A and 1420 Series products, the 1740 Series provides all the basic waveform monitoring and vectorscope functions, but in a single, compact package. In addition, the 1740 Series adds dc power operation (optionally), single line vertical interval display which is internally preset, an R-Y/sweep mode for differential phase measurements, and remote control of waveform/vector mode and most of the front panel sweep and vertical amplifier response functions.

The 1740's half-rack width package allows easy installation where space and power requirements are important considerations. The 1740 is mechanically compatible with the 528A, 602, 1420 and 1750 Series instruments.

Typical applications include video signal monitoring in VTR bridges, camera control units, production switcher consoles, and in mobile vans and field productions.

### EXTERNAL REFERENCES INPUT

Dc Input Impedance— $>15\text{ k}\Omega$ .  
Return Loss—At least 40 dB from 50 kHz to 6 MHz.

### RGB/YRGB MODE

Will display either a 3-step or 4-step RGB/YRGB display.

Staircase Amplitude—A 10 V input will result in a horizontal display of 9 divisions  $\pm 1.4$  major divisions.

Maximum Operating Staircase Signal Voltage—12 V p-p ac component. Signal voltage not to exceed  $\pm 12\text{ V}$  dc + peak ac.

### VECTOR MODE

#### Chrominance Bandwidth

Upper: -3 dB point Fsc +500 kHz  $\pm 100\text{ kHz}$ .  
Lower: -3 dB point Fsc -500 kHz  $\pm 100\text{ kHz}$ .

Vector Phase Accuracy—Within 1.25 degrees.

Vector Gain Accuracy—1740: Within 1.25 IRE.  
1741/1742: Within 1.25%.

Quadrature Phasing—Within 0.5 degrees.

### SUBCARRIER REGENERATOR

Pull-In Range—1740: Within 50 Hz of Fsc.  
1741/1742: Within 10 Hz of Fsc.

Phase Shift with Subcarrier Frequency Change—  
1740: Within 0.5 degrees from Fsc to (Fsc +50 Hz), or  
Fsc to (Fsc -50 Hz).

1741/1742: Within 0.5 degrees from Fsc to (Fsc +10  
Hz), of Fsc to (Fsc -10 Hz).

Phase Shift with Burst Amplitude Change—Within 2  
degrees from nominal burst amplitude to  $\pm 6\text{ dB}$ .

Phase Shift with Reference Switched Between  
Internal and External References—Within 0.5  
degrees.

Phase Shift with Input Channel Change—Within 0.5  
degrees.

Phase Shift with X5 Gain—Within 2 degrees.

Phase Shift with Variable Gain—Within 1 degree as  
gain is varied from +3 dB to -6 dB.

Phase Control Range—360 degrees continuous  
rotation.

### DISPLAY CHARACTERISTICS

Differential Phase—Within 1 degree.

Differential Gain—Within 1%.

Variable Gain Range—1740: Input subcarrier signals  
between 28 IRE and 140 IRE can be adjusted to normal  
burst vector length.

1741/1742: Input carrier signals between 210 mV and  
1.0 V can be adjusted to normal burst vector length.

### CRT DISPLAY

CRT Viewing Area—80 mm x 100 mm.

Accelerating Potential—Nominally 15 kV.

### GRATICULE

Waveform—Internal, variable illumination.

Vector—External, variable illumination. Illuminated  
with VECTOR or R-Y mode selected.

### POWER SOURCE

Mains Voltage Ranges—100 V (90 V to 100 V); 120 V  
(108 V to 132 V); 220 V (200 V to 242 V); 240 V (218 V to  
250 V).

Mains Frequency Range—48 Hz to 66 Hz.

Power Consumption—50 W maximum in ac. 30 W  
nominal in dc.

### DC BATTERY OPERATION (OPTION 07)

Voltage Input Range—11 V to 16 V.

Over Voltage and Polarity Reversal Protection—Fuse  
blows if  $>20\text{ V}$  dc or opposite polarity is applied to the dc  
INPUT.

Under Voltage Protection—Instrument shuts down  
when battery voltage (under load) is below 9 V.

Battery Current—3.5 A or less at 12 V.

### ENVIRONMENTAL CHARACTERISTICS

Temperature—Operating:  $0^\circ\text{C}$  to  $+50^\circ\text{C}$ . Non-  
operating:  $-55^\circ\text{C}$  to  $+75^\circ\text{C}$ .

Altitude—Operating: 4500 m (15,000 ft). Nonoperat-  
ing: 15,000 m (50,000 ft).

# WAVEFORM/VECTOR MONITORS

### CERTIFICATION

Safety/EMC—UL 1244.

### PHYSICAL CHARACTERISTICS

Dimensions	mm	in
Width	216	8.5
Height	133	5.3
Depth	460	18.1
Weights	kg	lb
Net	8.2	18.8
Battery Pack	13.6	30.0

### INCLUDED ACCESSORIES

0.3 A fuse (159-0029-00); 0.6 A fuse (159-0043-00);  
Power cord assembly (161-0066-00); clear filter (378-  
0219-00); female remote connector, 25 pin (131-0569-  
00); remote connector housing; 25 pin (200-1667-00);  
strain relief, 25 pin (358-0314-00); instruction manual  
(070-4473-00).

These instruments are configured for rack-mounting and are shipped without cases or covers. Order appropriate options or optional accessories to configure for bench or portable use.

1740 Option 01 Waveform/Vector Monitor (For NTSC applications) . . . . . \$3,970.00

1741 Option 01 Waveform/Vector Monitor (For PAL applications) . . . . . 3,970.00

1742 Option 01 Waveform/Vector Monitor (For PAL-M applications) . . . . . 4,370.00

Option 06—(Composite internal graticule, waveform and vector) . . . . . 30.00

Option 07—(Adds DC power operation capability, must be installed during manufacture) . . . . . 60.00

Option 11—(Portable carrying case, DC power operation, and a BP1 Battery Pack) . . . . . 650.00

### OPTIONAL ACCESSORIES

Battery Pack—Requires 1700F03 case to mount the BP1 to the 1740 or 1741. Order BP1 . . . . . 600.00

Cabinet—Aluminum, no handle or feet. Order 1700F00 . . . . . 60.00

Cabinet—Painted, with handle and feet. Order 1700F02 . . . . . 85.00

Side-By-Side Rackmount—For mounting two half racks (1750, 1730, etc.) in a standard 19" rack. Order 1700F05 . . . . . 180.00

Blank Panel—For one half of the side-by-side rackmount. Order 1700F06 . . . . . 60.00

Snap-On Front Cover—High impact plastic. Order 200-1566-00 . . . . . 22.00

Viewing Hood—For high ambient light environments. Order 016-0475-00 . . . . . 10.00

Camera—Use C-30 Option 01 with adaptor 016-0269-03, or C-5C Option 02 or 04, or standard C-4 . . . . . POR

MAINTENANCE ACCESSORIES

Extender Board—64 pin. Order 670-7980-00 . . . . . POR

Extender Cable—Order 670-0709-00 . . . . . POR

Deflection Leads Extender Cables—(Order four each) Order 196-0939-00 . . . . . POR



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1750 SERIES

## 1750 SERIES WAVEFORM/VECTOR MONITORS

- Two Instruments in One
- SCH Phase and Color Framing
- R-Y (V-Axis) Mode
- RGB/YR GB Mode
- Remote Control Capability

The 1750 Series offers comprehensive monitoring and measurement of television signals, including SCH phase and color framing, in one compact unit. While similar in appearance to the 1740 instruments, the 1750 has enhanced performance in each of its operating modes.

The unique SCH phase display presents horizontal sync timing relative to reference subcarrier (burst) for verification of signal format and color framing. This mode enables easy analysis and monitoring of these important characteristics of the television signal, a task which previously required complex techniques, highly skilled operators and/or additional instrumentation. The 1750's SCH phase and color frame displays are derived from the standard composite signals. No extra pulses or added signal details are required.

The 1750's SCH capability makes it particularly valuable in production and editing environments where maintenance of SCH phase and color frame are critical considerations. Applications include VTR bridges, camera control units, switcher consoles, master control, mobile and field production units, and in maintenance operations supporting any of these areas.

The 1750's half-rack package allows easy installation in environments where space and power requirements are important considerations. The 1750 is mechanically compatible with 528A, 602, 1420, and 1740 Series instruments.

### Waveform Mode

The waveform mode vertical response is controlled by selectable flat, chroma, and luminance (IRE) filters. A backporch slow clamp is controllable from the front panel. An internal jumper reprograms the clamp timing for sync tip operation.

The 1750 has pushbutton selection of H, 2H, V, and 2 V horizontal sweeps. A magnifier provides calibrated sweep speeds of 1  $\mu$ s/div, 0.5  $\mu$ s/div, and 0.2  $\mu$ s/div at the line display rates, and about 20X magnification of the vertical rate display. The faster sweep speeds are useful for determination of horizontal blanking, pulse widths, risetimes, and other timing details of the signal, while the magnified vertical sweep allows viewing of the vertical blanking interval.

The internal calibrator signal in the 1750 is useful for verification of both video amplitude and sweep timing calibration. Crystal control of the calibrator waveform provides an accurate 1V p-p squarewave and 10  $\mu$ s timing interval.

The sweeps may be locked to the selected signal (A or B input), or to a separate external reference input. The horizontal rate sweeps may be triggered by the selected source (which presents a stable display in the presence of sync jitter) or may be AFC controlled (which displays sync jitter for analysis). Use of the AFC sweep control can also reposition the H sweep for more convenient timing measurements.

The 1750 Series has front panel line and field selection, and LED readout of the selected line number, and a video output with a strobe pulse on the displayed line. The 1750 (NTSC) will display line 8 thru 23 of either monochrome field (color fields 1, 3 or fields 2, 4). The 1751 (PAL) will display lines 6 thru 21 or 319 thru 334. The line selection range may be extended to any line of the frame by the use of rear panel remote control input in conjunction with the front panel controls.

The line selection function is operational in waveform, R-Y, and vector modes. These features provide convenient in-service monitoring or measurement of field blanking interval test or data signals.

### R-Y (V-Axis) Mode

In this mode the display is similar to a waveform display with the demodulated chrominance signal on the vertical axis and the selected sweep on the horizontal axis. Any demodulation axis may be set with the phase control; properly setting the display of burst in the vector mode will ensure R-Y axis decoding when the R-Y mode is selected.

There are differential phase markings on the graticule for use in this mode. Resolution of differential phase error is about twice that of

# WAVEFORM/VECTOR MONITORS

vector measurement techniques, and the displayed errors may be correlated with time and luminance amplitude by using modulated staircase or modulated ramp test signals.

### SCH Phase Mode

This display is a combination of the burst vectors of the vector display and a bright dot on the outer degree circle of the vector graticule. The position of this "sync dot" around the circle represents the timing (phase) of the horizontal sync edges relative to the reference subcarrier. An individual signal may be analyzed for proper format (for proper SCH phase) without any additional reference.

Since it is possible for two signals to be properly formatted but not properly timed to each other (i.e., a color framing error exists), the 1750 has provision for using an external reference input for its subcarrier phase reference. When the external reference mode is used, the display shows the burst phase and sync timing of the selected signal relative to the burst of the reference signal, simultaneously indicating the SCH phase of the selected input signal and its color frame relative to the external reference signal.

### INCLUDED ACCESSORIES

Power cord assembly (161-0066-00); clear filter (378-0219-00); contrasting filter (378-0221-00); female remote connector, 25 pin (131-0569-00); 9 pin (131-1006-00); remote connector housing, 25 pin (200-1667-00); 9 pin (200-1170-00); strain relief, 25 pin (358-0314-00); 1.0 A fuse (159-0022-00); 0.5 A fuse (159-0032-00); instruction manual (070-4472-00).

1750 Waveform/Vector Monitor (for NTSC Applications) . . . . . \$6050.00  
1751 Waveform/Vector Monitor (for PAL Applications) . . . . . 6050.00

### OPTIONAL ACCESSORIES

Cabinet—Aluminum, no handle or feet. Order 1700F00 . . . . . \$60.00  
Cabinet—Painted, with handle and feet. Order 1700F02 . . . . . 85.00  
Side-By-Side Rackmount—For mounting two half racks (1750, 528A, etc.) in a standard 19" rack. Order 1700F05 . . . . . 180.00  
Blank Panel—For the side-by-side rackmount. Order 1700F06 . . . . . 60.00  
Viewing Hood—For high ambient light environments. Order 016-0475-00 . . . . . 10.00  
Camera—Use C-30 Option 01 with adaptor 016-0269-03, or C-5C Option 02 or 04, or standard C-4 . . . . . POR

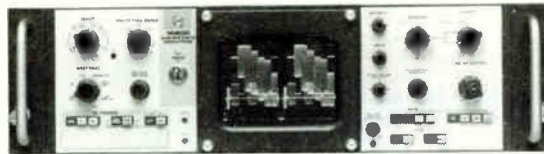
### MAINTENANCE ACCESSORIES

Extender Board—64 pin. Order 670-7980-00 . . . . . POR  
Extender Board—32 pin. Order 670-7981-00 . . . . . POR  
Extender Cable—Order 067-0709-00 . . . . . POR  
Deflection Leads Extender Cables—(Four each) Order 196-0939-00 . . . . . POR



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**1485R Option 01 PAL/NTSC  
Dual Standard Waveform Monitor  
(Rackmount)**

**1480 SERIES**

## 1480 SERIES WAVEFORM MONITORS

- Bright CRT Especially Suitable for Vertical Interval Testing
- Advanced Measurement Modes
- Amplitude Measurement Accuracy Approaching 0.2%
- Digital Selection of Line and Field
- Probe Input Option
- 15-Line Display for VTR Applications

The 1480 Series waveform monitors have excellent amplitude measuring accuracy and many unique operating modes that enable you to work more precisely and accurately. The monitoring needs of CCU, VTR, control room, transmission facilities, transmitter, and special systems are met by the use of 1480 Series waveform monitors. The 1485C and 1485R PAL/NTSC dual standard monitors (see photos) represent the essentials of all seven monitors in the 1480 Series. The differences between the monitors in the series are essentially confined to what lines in the vertical interval are selectable, what filters are selectable in the response mode, and in the field selection modes. Dual-Standard Monitors recognize the signal standard in use automatically and indicate that standard with front panel indicators.

### CHARACTERISTICS

#### VERTICAL DEFLECTION

**Inputs**—Input A and B are 75Ω high impedance loop-through. Return loss is ≥40 dB from dc to 5 MHz in a 75Ω system. Aux Video Input is internally terminated in 75Ω. Return loss is ≥34 dB from dc to 5 MHz.

**Scale Factor**—A and B input calibrated 1.0 V ±7 mV, 0.5 V ±15 mV, 0.2 V ±7 mV, (0.05 V ±2.5 mV Option 06) volts full scale. Variable: Range for each scale factor at least +40% to -50%. Aux Video Input 1.5 dB gain.

**Maximum Input Voltage**—2 V p-p (ac coupled), ±1.5 V dc + peak ac (dc coupled).

#### Frequency Response

**FLAT:** 50 kHz to 5 MHz ±1% (1.0 V F.S., VAR in detent). 5 MHz to 8 MHz +2, -3%, 8 MHz to 10 MHz +2, -6%. Typically within +2, -15% to 18 MHz and typically -3 dB at 20 MHz.

**Low Pass:** Attenuation ≥14 dB, 500 kHz and above. 3.58 MHz Bandpass: Amplitude within ±1% of amplitude in Flat response position. Bandpass ≈600 kHz. 4.43 MHz Bandpass: Amplitude within ±1% of amplitude in flat response position. Bandpass ≈800 kHz. IRE: Conforms to IEEE Standard 205, 1972.

#### Linear Waveform Distortion

**Pulse/Bar Ratio:** ±1%. For NTSC or PAL 2T Pulse or NTSC T Pulse.

**Short Time:** Preshoot, overshoot, ringing ≤1% of NTSC or PAL T Pulse and Bar.

**Line Time:** Tilt or rounding ≤1.0%. Field Time: (Ac coupled) ≤1%.

**Nonlinear Distortion**—Differential Gain: ≤0.5%.

**Dc Restorer**—Keyed type, may be turned off. Clamping point: Back Porch/Sync Tip. Time Constant: FAST reduces mains hum ≥26 dB, SLOW reduces mains hum <0.9 dB.

**Calibrator**—Amplitude selected by dc Restorer switch. Sync Tip: 1 V ±0.2%. Back Porch: 714 mV or 700 mV ±0.5%.

#### HORIZONTAL DEFLECTION

**Time Base**—5 μs and 10 μs timing accuracy ±2% (center 10 divisions); 5 μs and 10 μs linearity ±1% (center 10 division).

**External Sync Input**—Two loop-through high impedance, with ≥46 dB return loss in a 75Ω system. Inputs are slaved to A and B input or to A external sync input only.

**External Sync Input Requirements**—400 mV to 2 V composite video or 200 mV to 8 V composite sync.

**Field Selector**—Positive selection of Field 1 or Field 2 in the NTSC system. Positive selection of 1, 2, 3, 4, or 1 & 3, 2 & 4 in the PAL systems.

**Line Selector**—Dig: Selects lines 9 to 22 NTSC, line 9/322 to line 22/335 PAL, line 9/272 to line 22/285 PAL-M. Var: Approx line 20 of the selected field to line 4 of the next related field. 15 lines: Identical to Var, except 15 successive lines are displayed.

**Sync**—AFC horizontal frequency range is 15.75 kHz ±200 Hz. Maximum Jitter with Respect to Input Sync: 10 ns with 4 V RMS hum (30 ns with the addition of -36 dB white noise). Direct horizontal frequency up to ≤20 kHz. Maximum Jitter with Respect to Input Sync: 12 ns with 4 V RMS hum (90 ns with the addition of -36 dB white noise).

#### OUTPUTS

**Line Strobe**—TTL amplitude pulse. Pulse coincident with line or lines selected by VAR, 15 LINE or DIG modes of DISPLAY switch.

**Picture Monitor**—Output of incoming video with Line Strobe added. Output impedance is 75Ω. Output gain adjusted to unity with respect to A and B video input.

**Aux Video**—Output of incoming video. 75Ω output impedance. Gain adjustable to unity with respect to A and B video input.

#### OTHER CHARACTERISTICS

**RGB/YRGB Staircase Input**—12 V for 12.7 divisions deflection. RGB sweep length internally selected for 1/3 normal sweep. YRGB sweep length internally selected for 1/4 normal sweep length.

**Mains Voltage**—Ranges 100 V ac, 110 V ac, 120 V ac, 200 V ac, 220 V ac, 240 V ac ±10%. Frequency 48 Hz to 62 Hz, maximum power consumption 75 W. At factory, 1480, 1482 preset for 110 V ac. 1481, 1485 preset for 220 V ac.

#### CHARACTERISTICS (OPTION 01)

**10X Probe Channel**—Scale Factor: 1 V, 0.5 V, 0.2 V full screen with 10X attenuator probe. Gain Range: ±10%. Tilt: ≤5% on 50 Hz. Squarewave High Frequency Response: ±3%, 25 Hz to 5 MHz. Referenced to 50 kHz. Input Resistance 1 MΩ, ±2%, not including probe. Input RC Product: 20 μs, ±1%, not including probe. BNC connector accepts most Tektronix probes.

**10X Probe Calibrator**—Output voltage 1,000 V ±0.005 V or 0.995 V to 1.005 V.

#### SLOW SWEEP CHARACTERISTICS (OPTION 07)

**Duration**—4 to 12 s, variable with front panel control. Linearity—±5% of full-screen over the length of the sweep.

**Indicator**—Front panel indicator on when slow sweep is operating but sweep is not running.

**Triggering Signal**—APL change ≤10% to 90% (Bump or Bounce), front panel selectable for either + or - level change.

**Sensitivity**—400 mV to 2 V p-p composite video with APL change.

**Rate**—≥0.2 Hz, free-runs at rates <0.2 Hz or with no triggering signal.

# WAVEFORM MONITORS

Input—Internal or External

**50Hz/60Hz Squarewave Triggering**—Sensitivity: 400 mV p-p minimum to 3 V p-p maximum. Input Impedance: =10 kΩ ac coupled (Rear Panel loop-through connectors not return loss compensated.)

#### INCLUDED ACCESSORIES

Two BNC right angle adaptors (103-0031-00); One pair rackmount ext DWR Slides (351-0195-01); various external graticules (see matrix below); manual.

External Graticules w/Tek P/N	1480R/C	1481R/C	1482R	1485R/C
Blank				
331-0393-00	x	x	x	x
NTSC				
Composite				
331-0393-01				x
CCIR				
331-0393-02				
CCIR K				
Visual				
331-0393-05		x		x
CCIR K				
Photo				
331-0393-07		x		x
GRAT A				
Visual				
331-0393-08				x
GRAT B				
Visual				
331-0393-18	x			x
GRAT A				
Photo				
331-0393-10				x
GRAT B				
Photo				
331-0393-17	x			x

#### ORDERING INFORMATION

##### 1480C NTSC Waveform Monitor

..... \$6,300.00

##### 1480R NTSC Waveform Monitor

..... \$6,300.00

##### 1481C PAL Waveform Monitor\*1

..... \$6,090.00

##### 1481R PAL Waveform Monitor\*1

..... \$6,090.00

##### 1482R PAL-M Waveform Monitor

..... \$6,790.00

##### 1485C PAL/NTSC Dual Standard Wave-

form Monitor\*1 ..... \$6,300.00

##### 1485R PAL/NTSC Dual Standard Wave-

form Monitor\*1 ..... \$6,300.00

**Option 01**—1 MΩ, 20 pF Probe Input (not available with Option 06, probe not included) ..... \*\$300.00

**Option 06**—(1480R only) 124 ohm WECO STYLE inputs ..... \$2075.00

**Option 07**—Slow Sweep\*2 (Option 07 performance included with Option 06. Don't order with Option 06) ..... \*\$510.00

**Option 08**—SECAM Field Identification (1481C, 1481R, 1485C and 1485R only) ..... \*\$315.00

\*11481C/R, 1485C/R meets European Broadcast Union Tech. 3221-E, Guiding Principles for design of Television Waveform Monitors.

\*2Option 07 satisfies EBA Tech 3321-E§ 3.2.2.

#### OPTIONAL ACCESSORIES

**1480R Credle Assembly**—For mounting the 1480R in a WECO backless rack. Order 426-0309-00 . . . . .POR

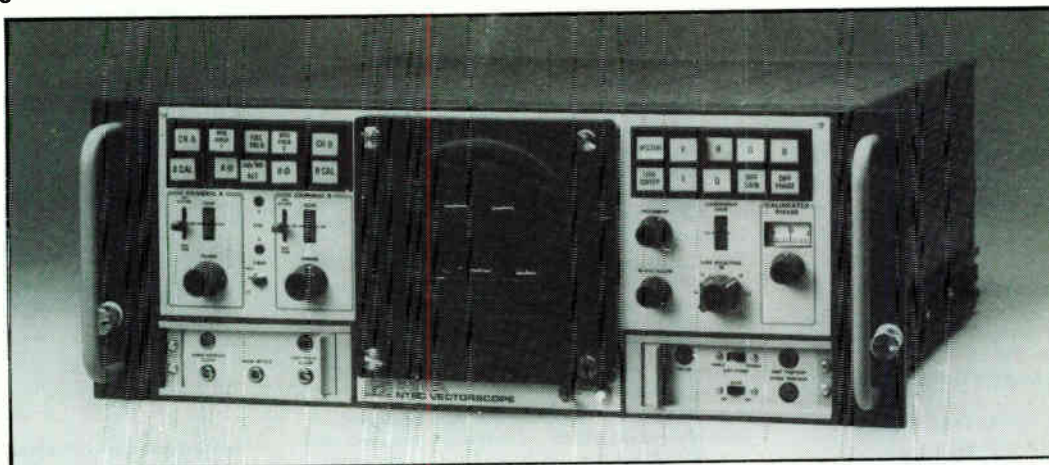
**Trace Recording Cameras**—Both the Tektronix C-53P and the C-59AP can be used . . . . .POR

**Field Case**—(For cabinet versions only) Order 016-0084-00. . . . .POR

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# VECTORSCOPES



R520A NTSC VECTORSCOPE

## R520A/R521A/R522A Vectorscopes

- Luminance Amplitude
- Chrominance Amplitude and Phase
- Precision Differential Phase and Gain

The Tektronix R520A Series vectorscopes include three basic instruments. These are the R520A for NTSC, the R521A for PAL, and the R522A for PAL-M.

### DISPLAYS

The vector display shows the relative phase and amplitude of the chrominance signal on polar coordinates. To help identify these coordinates, the graticule has points corresponding to the proper phase and amplitude of the primary and complementary colors: R (Red), B (Blue), G (Green), CY (Cyan), YL (Yellow), and MG (Magenta).

Any errors in the color encoding, video-tape recording, or transmission processes that change these phase and/or amplitude relationships cause color errors in the television picture. Polar coordinate displays, such as those obtained on the R520A, R521A, and R522A CRT, have proven to be the best method for displaying these errors.

The polar display permits measurement of hue in terms of relative phase of the chrominance signal with respect to the color burst. Amplitude is expressed in terms of the displacement from center (radial length) toward the color point which corresponds to 75% (or 100%) amplitude of the particular color being measured.

The outer boxes around the color points correspond to phase and amplitude error limits ( $\pm 10^\circ$ ,  $\pm 20\%$ ). For the R520A (NTSC) the inner boxes indicate  $\pm 2.5^\circ$  and 2.5 IRE units, and correspond to phase and amplitude error limits per EIA specification RS-189, amended for 7.5% setup. For the R521A (PAL), and R522A (PAL-M), the inner boxes indicate  $\pm 3^\circ$  phase angle and  $\pm 5\%$  amplitude.

An internally generated test circle, used with the vector graticule, verifies quadrature accuracy, horizontal to vertical gain balance, and gain calibration for chrominance signal

amplitude measurements. Two methods of measuring phase shifts are provided. You can accurately read large phase shifts from the parallax-free vector graticule. A precision calibrated phase shifter with a range of  $30^\circ$ , spread over 30 inches of dial length, is provided for measuring small phase shifts.

### CHARACTERISTICS

**Graticule**—Two separate graticules provide reference for vector and line sweep displays. The parallax-free vector graticule, or the luminance graticule, is automatically selected and edge-lighted concurrent with operating mode selection.

**Z-Axis Input**—The Z-Axis Input connector accepts external trace-brightening pulses for intensifying a portion of the display during the time of interest.

**Video Inputs**—Dual BNC input connectors for each channel permit 75  $\Omega$  loop-through operation with a return loss  $>48$  dB to 5 MHz (exceeds CCIR recommendation 567, Part D and D2). Amplitude range is 0.7 V to 1.4 V Video (sync tip to peak white).

### AC POWER

**Mains Voltage Range**—90 V ac to 136 V ac or 180 V ac to 272 V ac.

**Mains Frequency**—47 Hz to 63 Hz.

**Power Consumption**—95 W maximum at 115 V ac/60 Hz (Rear panel selector provides rapid accommodation to six line-voltage ranges. Factory set at 115 V ac for the R520A and R522A and 230 V ac for the R521A).

### ENVIRONMENTAL CHARACTERISTICS

**Operating Temperature Range**— $0^\circ\text{C}$  to  $+50^\circ\text{C}$  ambient.

### PHYSICAL CHARACTERISTICS

Dimensions	mm	in
Width	483	19.0
Height	178	7.0
Depth	483	19.8
Weights	kg	lb
Net	15.0	33.0
Shipping <sup>~</sup>	27.7	61.0

R520A NTSC Vectorscope ..... \$8,525.00  
R521A PAL Vectorscope ..... 8,525.00  
R522A PAL-M Vectorscope ..... 9,540.00  
Includes: Manual

### OPTIONAL ACCESSORIES

**75  $\Omega$  Voltage Step-Up Termination**—When used with a Tektronix vectorscope, the 75  $\Omega$  Voltage Step-Up Termination provides an X5 increase in chrominance amplitude and lets you make more accurate Differential Gain and Differential Phase measurements. Input impedance to the termination is a constant 75  $\Omega$ . Use of the termination requires a source of external sync to the vectorscope.

**Voltage Step-Up Termination**—For use with R520A (NTSC), R522A (PAL-M) Vectorscopes. Order 011-0100-00 ..... .POR

**Voltage Step-Up Termination**—For use with R521A Vectorscope. Order 011-0109-00 ..... .POR

**Single Sideband Chroma Amplitude Corrector**—Designed for use with a Tektronix vectorscope in transmitter applications where a vestigial sideband signal is being demodulated with a detecting diode. The corrector provides an X2 increase in chrominance amplitude and passes luminance components with little or no attenuation. Input impedance is 75  $\Omega$ .

**Chroma Amplitude Corrector**—For use with R520A (NTSC), R522A (PAL-M) Vectorscopes. Order 011-0107-01 ..... .POR

**Chroma Amplitude Corrector**—For use with R521A Vectorscope. Order 011-0108-01 ..... .POR

**Recommended Camera**—For Display Photographs: C-59AP with mounting adaptor 016-0295-01. . . \$90.00

**R520A Cradle Assembly**—For mounting the R520A in a WECO backless rack. Order 426-0667-00

..... .POR  
**Rackmount to Cabinet Conversion Kit**—Order 040-1153-00 ..... .POR



# TEKTRONIX, INC.

P.O. Box 500  
Beaverton, OR 97077  
(503) 627-7111 Telex: 15-1754  
TWX: 910-467-8708

## 650HR Color Monitor

- High Resolution Display Plus Capability for Critical Signal Analysis
- 0.25mm Triad Pitch High Resolution Trinitron® CRT
- Variable Aperture Correction
- Precise Color Tracking Over Full Signal Range
- Two Video Inputs with Differential (A-B) Capability
- Video Inputs Isolated from Ground for Hum Rejection
- Optional Parallel Component Inputs—Internally Selected Format
- NTSC, PAL and Multistandard Decoders Available
- Precise Decoders with Outputs to Provide Vector Display on External X-Y Monitor
- Unique Monochrome (White) Display of Decoded Blue Signal for Critical Analysis of Color Noise

The Tektronix 650HR Series color picture monitors are designed for exacting applications where picture quality and signal quality analysis are particularly important. The 650HR uses a Trinitron CRT with resolution capabilities which exceed the performance of encoded television signals. The decoders have sufficient chroma channel bandwidth to pass all of the information in standard signals.

The unique blue only mode feeds the decoded blue video signal to the red, green, and blue channels simultaneously. This produces a monochrome display with a high subjective sensitivity to chroma noise, allowing better analysis of video quality.

The chrominance channel may be manually switched to either the monochrome or color modes, or activated automatically by the presence of burst.

Circuits in the Tektronix 650HR Series are designed for color stability and consistency. Outputs are provided from the precision decoders and may be used to drive an X-Y monitor for a vector display. The regulated EHT supply is not affected by extreme changes in APL even when calibrated brightness, at peak white, is set at 30 fL. Raster size is held within 1%, while excellent clamping maintains a stable black level with a 0% to 100% range of APL.

## CHARACTERISTICS

**Input Signal Level**—0.5 V p-p minimum composite video 2 V p-p maximum. (Exceeds CCIR recommendations 567, Part D and D.2)

**Impedance**—Unterminated: High Z bridging inputs loop-through compensated for 75 Ω (not internally terminated). Return Loss: ≥ 46 dB to 5 MHz, power on or off, input in use or not.

**Maximum Safe Input**—Exceeds CCIR Recommendation 451-2 (± 5 V peak).

**Hum Rejection**—Hum is ≥ 50 dB down when 4 V maximum RMS common mode mains hum signal is applied to the monitor in floating ground mode.

**NTSC Luminance Channel**—Bandwidth (notch filter removed) ≈ 6 MHz. Subcarrier notch filter automatically removed when burst is not present and Mode switch is

in Auto position. Subcarrier notch filter removed when Mode switch is in Monochrome position. Dc Restoration back porch type; not affected by burst. Mains hum reduction due to dc restorer is < 6 dB. Amplitude Linearity: Within 2%.

**NTSC Chrominance Channel**—Demodulation Axis: R-Y, B-Y. Bandpass: 1.3 MHz equiband. Gain Range: Preset at 0 dB; adjustable from -6 dB to +10 dB.

**PAL Luminance Channel**—Bandwidth (notch filter removed) ≈ 6 MHz. Subcarrier notch filter can be removed by changing internal jumper. Subcarrier notch filter normally left in circuit.

**PAL Chrominance Channel**—Demodulation Axis: U, V. Bandpass: ≈ 1.2 MHz. Gain Range: Preset at 0 dB; adjustable from -6 dB to +10 dB.

**Residual Subcarrier Detection (On Applied Signal)**—Color of displayed picture will shift due to any residual subcarrier. This feature can be inhibited by a jumper on the decoder board.

**Chrominance/Luminance**—Timer Error: < 30 ns. Gain Error: < 3%.

**Delay**—Red to green to blue < 50 ns.

**Subcarrier Regeneration**—Phase Error: Within 1° with input burst variation of ± 10 Hz from subcarrier nominal burst frequency. With Temperature Variation: Within 5° with ambient temperature variation from 0° C to +50° C; with 1° for any +10° C increment within the range 0° C to +50° C. With Input Signal Variation: Within 1° with input signal variations of ± 3 dB from 1.0 V, within 3° with variation of burst/sync ratio of -6 dB to +10 dB. Breezeway Stability: ≤ .02° for burst timing errors including burst width variance (8 to 11 cycles), and breezeway variance ± 0.28 μs. Phase Error Due to Noise: Within 1° with RMS white noise at -24 dB (0 dB = 700 mV RMS).

## PICTURE

**Height**—184 mm (7.2 in).

**Width**—244 mm (9.6 in).

**Underscan**—≈ 20% reduction in both height and width.

**Aspect Ratio**—4.3.

**Deflection Linearity**—Vertical and Horizontal: 1% of picture height within a central area bounded by a circle whose diameter equals picture height, ± 2% of picture height outside of central area.

**Convergence Error**—< 1 mm within the central area. Outside of the central area, color separation (misconvergence) is < 2 mm.

**Unblinking**—All active picture elements are displayed. (Horizontal retrace is accomplished within 10 μs.)

**Color Temperature**—6500° K. Easily adjustable to other standards.

**Calibrated Contrast**—30 fL at peak white of standard 1 V signal.

**Calibrated Brightness**—Displayed black may be preset to a level appropriate for ambient conditions.

**EHT (Extremely High Tension)**—19 kV nominal, regulated. Load variations cause < 1% picture size variation. Monitor complies, as of date of manufacture, with applicable DHHS standards under Radiation Control for Health and Safety Act of 1968.

**Kinescope Protection**—Failure of horizontal or vertical scanning shuts off the EHT. Failure of HV Regulator circuit does not cause EHT to soar excessively. EHT supply is current limited.

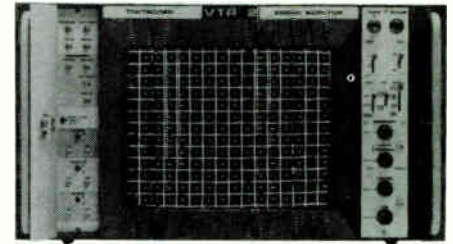
**Heater Voltage**—Regulated dc.

## SYNC and TIMING

**Signal Range**—Composite sync 0.5 V p-p to 8 V p-p or composite video 0.5 V p-p to 2 V p-p.

**Impedance**—Unterminated: High Z bridging inputs loop-through compensated for 75 Ω (not internally terminated). Terminated: 75 Ω. Return Loss: ≥ 46 dB to 5 MHz with respect to 75 Ω.

# COLOR MONITORS



650HR

**Synchronization**—Stable subcarrier regeneration, limited by line sync performance. Line sync white noise immunity is 20 dB. Field sync white noise immunity is 20 dB. Field sync stable with tilt equal to 100% of sync amplitude in vertical blanking. Stable with 20 IRE mains hum.

**AFC (Two Loop AFC Type)**—Phase Corrector: Corrects for phase errors due to side pincushion correction and other effects within the monitor. Slow AFC: Displays timing errors of incoming sync, particularly, 60 Hz or 240 Hz timing errors. Bandwidth is ≈ 25 Hz. Fast AFC: Largely corrects for incoming sync errors, ≈ 2 kHz bandwidth.

**Scan Delay**—Horizontal Delay: ≈ 1/4 line; displays burst. Vertical Delay: Displays the vertical blanking interval of the input signal expanded ≈ 2.5 times unless underscan is activated. If the underscan button is depressed, vertical expand is inhibited.

## AC POWER

**Mains Voltage Range**—115V: Within 10% (104VAC to 126VAC). 230V: Within 10% (207VAC to 250VAC maximum). 650HR, 650HR-C are factory set for 115V. 651HR, 651HR-1, 655HR-C and 652HR-C are factory set for 230V.

**Crest Factor**—≥ 1.3.

**Mains Current**—1.5A RMS maximum at 115V, 60Hz. 0.75A maximum at 230V, 50Hz. Current is substantially higher during degaussing.

**Degaussing Surge Current**—5A RMS.

**Power Consumption**—150W maximum, 110W typical.

**Mains Frequency**—48Hz to 66Hz.

## PHYSICAL CHARACTERISTICS

Dimension	Cabinet		Rackmount	
	mm	in	mm	in
Width	426	16.8	483	19.0
Height	279	11.0	266	10.5
Depth	419	16.5	464*1	18.3*1
<b>Weights</b>	<b>kg</b>	<b>lb</b>	<b>kg</b>	<b>lb</b>
Net	22.7	50.0	23.5	52.0
Domestic Shipping	28.5	65.0	30.4	67.0
Exp. Shpg.	36.3	80.0	37.2	82.0

\*1With handles

650HR NTSC . . . . .	\$4950.00
650HR-C NTSC Component . . . . .	\$5300.00
651HR PAL . . . . .	\$5165.00
651HR-C PAL Component . . . . .	\$5515.00
652HR-1 M Component . . . . .	\$5875.00
655HR-C NTSC, PAL, Component . . . . .	\$6100.00



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# COLOR MONITOR

## 656HR-1

**Color Sequencing from Field Identification Signals or Line Burst**

**Precision Decoding Allows Use of R-Y, B-Y Outputs for Vector Display Measurements**

**RGB Inputs with Vector Display Outputs**

**PAL/SECAM with Front Panel Control of Decoding Standard**

**Variable Aperture Correction**

**Vertical and Horizontal Delay Display Modes**

**Reduced Chrominance Line Crawl**

**Indicates Color Sequence Error**

**Rapid Retrace — Entire Picture Area is Displayed in Reduced Scan**

**Two Switchable Inputs Isolated from Ground for Hum Rejection**

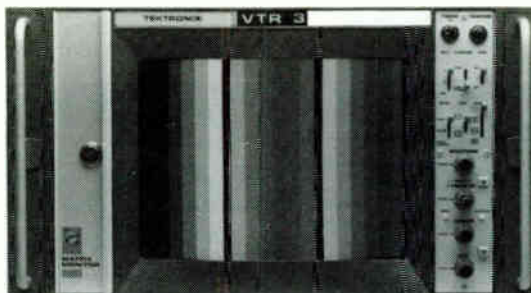
The Tektronix 656HR-1 SECAM color picture monitor is identical in function to the other 650HR Series monitors but is specifically designed for use in SECAM systems. It includes both PAL and SECAM decoders.

Color sequencing is front panel controlled by a three position mode switch. In the Field mode, field identification signals are used for color sequencing and a color display is enabled by the presence of detectable field identification signals. In the Line mode, line burst determines color sequence, and a color display is enabled whenever detectable SECAM subcarrier is present. Use of the Monochrome mode blanks the chrominance channel.

In the internally selectable Forced-Color mode, the very high limiting ratio of the chrominance channel lets you use the monitor to search for very small amounts of crosstalk or other unwanted signals. By displaying the chrominance portion of such signals on a brightened display, you can easily identify the source.

Two PROMs (Programmable Read Only Memories) are used in the monitor for generating accurate timing signals. Their use eliminates the need for many internal adjustments and possible drift related to the timing of internal signals. One of these PROMs is programmed with information corresponding to the lines containing subcarrier (including field identification lines) in 625/50 SECAM systems. The monitor then serves as a check on improper additions or deletions of lines that might possibly occur in improperly adjusted VTRs, processing amplifiers, and switchers.

Chrominance line crawl is greatly reduced by using separate acoustical delay lines; one for D'R and one for D'B. With front panel controls, you



656HR-1

can turn off luminance or chrominance, and examine each one separately. Brightness is automatically advanced for easier viewing when luminance is turned off for examination of chrominance. For purity checks, you can set up the equivalent of a flat field display by switching luminance off in a monochrome mode (chrominance off).

The monitor's chroma control has two operating modes. When the control is in, the chrominance is independent of subcarrier amplitude. When the control is out, the chrominance is proportional to subcarrier amplitude. In the first mode, the saturation will vary with incoming video level. In the latter mode, correct saturation will be maintained for varying signal levels. In either mode, both a preset (detent) position and a variable range are available. Switching between the two modes in the preset position provides an indication of abnormal chrominance or luminance amplitude.

### CHARACTERISTICS

#### SECAM PERFORMANCE-LUMINANCE CHANNEL

**Bandpass Without Chrominance Trap** — (Aperture Corrector set for 0 dB). Amplitude:  $\pm 0.5$  dB to 5 MHz. Aperture Corrector Maximum Range: 8 dB; doubled peaked at 2.5 MHz and 7 MHz;  $\leq 3$  dB between 4.0 MHz and 5 MHz.

**Chrominance Filter** — Subcarrier Rejection:  $>25$  dB at 4.250 MHz and 4.406 MHz,  $< -1$  dB at 5.5 MHz. NOTE: The chrominance filter is removed from the luminance channel whenever the display is monochrome.

**Pulse Distortion** —  $< 1\%$  tilt on 50 Hz squarewave.  $< 0.5\%$  tilt on 15 kHz squarewave.

**Dc Restoration** — Back porch type, not affected by burst. Mains hum reduction due to dc restorer is  $< 6$  dB.

**Amplitude Linearity** — Within 2%.

**Luminance Off Facility** — Displays chrominance only and automatically advances brightness.

#### SECAM PERFORMANCE-CHROMINANCE CHANNEL

**High Frequency De-emphasis** — Matching to Encoder High Frequency Pre-emphasis: Error  $\leq 0.5$  dB over the range 3.9 MHz to 4.75 MHz;  $< 3$  dB at 2.85.

**Drift (Center Frequency)** — Within  $\pm 20$  kHz.

**Luminance Rejection** —  $> 46$  dB at 15 kHz.

**Limiting Ratio** —  $> 60$  dB.

**Ultrasonic Delay Line Error** —  $< 30$  ns.

**Crosstalk at Input to Discriminators** — Between Direct and Delayed Chrominance Signals: Alternate line crawl on display is minimized through the use of separate delay lines for the D'R and D'B chrominance signals.

**Discriminator Linearity** — Overall: Within  $\pm 1\%$ . Incremental: Within 1%.

**Demodulator Center Frequency** — Clamped to crystal reference stabilized within  $\pm 0.250$  kHz.

**Chrominance Sequence and Color Enable** — Chrominance sequence and enable are statistically averaged with hysteresis for best performance under poor signal-to-noise conditions. Field Mode: Based upon field identification signals. Chrominance Amplitude: Disable when chrominance is more than 12 dB low, may be internally selected. Line Mode: normally based upon line burst with no chrominance amplitude disable. An internal jumper provides chrominance amplitude disable if required.

**Chrominance Unblinking** — Programmed internally according to 625 line 50 Hz SECAM standards. Field identification signals are displayed in vertical scan delay modes.

**Saturation** — Selectable to treat subcarrier as FM signal or to vary the saturation with incoming chrominance level. Independent of Subcarrier Amplitude: Gain Error  $< 3\%$ . Dependent on Subcarrier Amplitude: Tracking error  $< 5\%$  for signals within  $\pm 3$  dB to  $-6$  dB of normal amplitude. Chroma Control Separately Adjustable:  $\pm 6$  dB.

**Cross Talk** — Between R-Y and B-Y  $> 40$  dB attenuation.

**Chrominance/Luminance Time Error** —  $< 60$  ns with properly adjusted bell filter and low frequency de-emphasis.

**Sequence Error Indicator** — When the front panel red light indicates that the incoming SECAM signal has a chrominance sequence opposite to that indicated by an externally applied 7.8 kHz signal. Also when the monitor is used in the Line mode the light will indicate when the field identification signals are reversed with respect to the Chrominance Sequence present during the active picture.

### VECTORSCOPE OUTPUTS

**Calibrated Modes (Dots in Boxes)** — Selected by front-panel control for either 75% color bars or 25% color bars (SECAM and RGB only). Vector locations are within  $\pm 2\%$  of vector magnitude.

**Vectorscope Drive Capability** — Suitable to drive 10 ft of 75  $\Omega$  coaxial cable (unterminated) to X-Y display.

**Required X-Y Display Deflection Sensitivity** — 0.05 V/cm on both X axis and Y axis.

**Required X-Y Display Input Resistance** —  $> 100$  k $\Omega$ .

**RGB Vector Display** — R, G, and B input signals are matrixed to form R-Y and B-Y signals which are switched to the rear-panel vector output connectors when the RGB inputs are selected.

**RGB Matrix Error** — R-Y and B-Y relative output signal amplitudes are within  $\pm 2\%$  of desired values when equal R, G, and B signals are supplied.

**RGB Centering** — Black level is clamped to within  $\pm 9$  mV which corresponds to  $\pm 1$  mm in the 75% vector display.

**Other Inputs and Outputs** — 7.8 kHz input, 7.8 kHz output, and field 1 pulse output.

### PHYSICAL CHARACTERISTICS

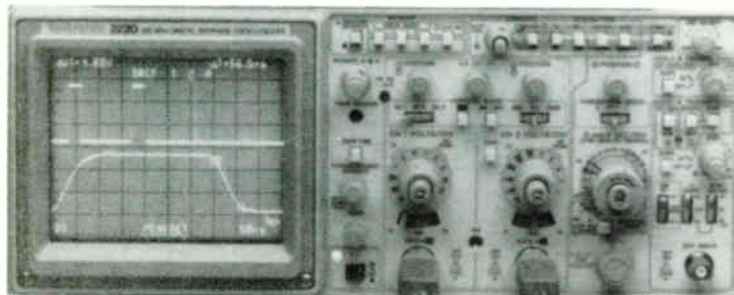
Same as 650HR

656HR-1 SECAM + PAL + RGB . . . . . \$6750.00

# TEKTRONIX, INC.

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# OSCILLOSCOPES



2230

## 2230/2221/2220

The 2230 Option 10, 2221 Option 10 and 2220 Option 10 comply with IEEE Standard 488-1978, and use Tektronix *Standard Codes and Formats*. The 2230 Option 12, 2221 Option 12 and 2220 Option 12 feature Standard RS-232C and use Tektronix *Standard Codes and Formats*.



- 100MHz Digital Storage and Nonstorage (2230)
- 60MHz Digital Storage and Nonstorage (2220, 2221)
- 100ns Glitch Capture at any speed
- Cursors for Time and Voltage Measurements (2230, 2221)
- Point Selectable Pre/Posttriggering (2230)
- Pre/Mid/Post Triggering (2221, 2220)
- 4K Record Length
- Post Acquisition Expansion, Compression, and Positioning
- GPIB or RS-232C Optional
- 26K Battery-Backed Save Reference Memory (2230 Option 10 or 12)

### TYPICAL APPLICATIONS

Medical Equipment Servicing  
Digital Design and Troubleshooting  
Power Supply Design and Troubleshooting  
Electromechanical  
Stress/Vibration Analysis

The 2230, 2221 and 2220 are the answer for general and special purpose storage needs. These high performance portable scopes have storage and nonstorage bandwidths of 100 MHz (2230) and 60 MHz (2220, 2221).

All scopes have been designed with many features which enhance their usefulness in your applications. The 2230 and 2221 offer cursors and CRT readout enabling you to measure time or voltage differences easily and accurately. The Multiple Save Reference memories (2230) allow you to view both stored and current waveform acquisitions onscreen simultaneously. Weighted signal averaging can be used to remove random

noise from a signal and improve measurement accuracy.

Peak detection makes 100 ns glitch capture possible at any sweep speed. This mode digitizes and stores, in acquisition memory as a data pair, the minimum and maximum levels of the input signal. The resulting display can be used to catch glitches, as narrow as 100 ns, view frequency drift and amplitude modulation, or detect aliasing.

Unlimited storage time; expandable, compressible, repositionable stored traces; save reference memory; pre/post trigger viewing; roll mode; standard X-Y plotter output; and optional interfaces make the 2230, 2221 and 2220 the most sensible digital storage oscilloscopes to own.



### Option 10 GPIB Interface Option 12 RS-232C Interface

GPIB (Option 10) and RS-232C (Option 12) interfaces are available for the 2230, 2221 and 2220. Either interface can transmit and receive waveform data. Most front panel settings can be queried and any functions can be controlled via the interface.

2230 Option 10 or 12 interfaces also allow messages or computed results to be displayed on screen, and include a battery-backed reference memory (minimum lifetime 3 years) for storage of up to 26 additional waveform sets.

#### Option 10 GPIB Interface

The Option 10 GPIB interface conforms to IEEE Standard 488-1978. It is fully compatible with *Tektronix Standard Codes and Formats*.

#### Option 12 RS-232C Interface

The Option 12 RS-232C interface has both DCE and DTE connectors. It is compatible with an extension of *Tektronix Standard Codes and Formats*.

Option 12 for the 2230 also includes 26K of battery-backed reference memory for the storage of up to 26 waveform sets.

#### GPIB/RS-232C Printers and Plotters

A 2230, 2221 or 2220 equipped with either Option 10 or Option 12 interface is fully compatible with any X-Y plotter that uses Hewlett-Packard Graphics Language (HPGL). The GPIB interface also supports the HP ThinkJet 2225A printer. The RS-232C interface also supports any Epson FX-Series format printer or the HP ThinkJet 2225D printer. Plotter output is directed to the interface if its control switches are set for the appropriate plotter or printer. Otherwise, plotting is directed to the X-Y outputs.

#### IEEE Standard 488-1978 Interface Function Subsets Implemented — SHI, AHI, T6, L3, SRI, RL2, PPO, DCI, DTO, CO.

#### ORDERING INFORMATION

2230 100MHz Dual Time Base Digital Storage Oscilloscope . . . . . \$4995.00  
Includes: Two P6121 10X voltage probes; front panel cover (200-2520-00); accessory pouch (016-0677-02); operator manual (070-4998-00); user's reference card (070-5370-00).

2221 60MHz Single Time Base Digital Storage Oscilloscope . . . . . \$3995.00  
Includes: Two P6121 10X voltage probes; front panel cover (200-2520-00); accessory pouch (016-0677-02); operator manual (070-5301-01); user reference guide (070-6532-00).

2220 60MHz Single Time Base Digital Storage Oscilloscope . . . . . \$2995.00  
Includes: Two P6122 10X voltage probes; front panel cover (200-2520-00); accessory pouch (016-0677-02); operator manual (070-5301-00); user's reference card (070-5681-00).

#### Options

Option 10—(2230) GPIB IEEE-488 Interface . . . . . \$750.00  
Includes: 26K of battery-backed reference memory.  
Option 12—(2230) RS-232C Interface . . . . . \$750.00  
Includes: 26K of battery-backed reference memory.  
Option 10—(2221) GPIB IEEE-488 Interface . . . . . .POR  
Option 12—(2221) RS-232C Interface . . . . . .POR  
Option 10—(2220) GPIB IEEE-488 Interface . . . . . \$500.00  
Option 12—(2220) RS-232C Interface . . . . . \$500.00  
Option 33—Travel line package . . . . . \$245.00

#### Field Retrofit Kits

2230F10—Field Retrofit Kit for Option 10 . . . . . .POR  
2230F12—Field Retrofit Kit for Option 12 . . . . . .POR  
2221F10—Field Retrofit Kit for Option 10 . . . . . .POR  
2221F12—Field Retrofit Kit for Option 12 . . . . . .POR  
2220F10—Field Retrofit Kit for Option 10 . . . . . .POR  
2220F12—Field Retrofit Kit for Option 12 . . . . . .POR

#### International Power Plug Options

Option A1—Universal Euro 220V/16A, 50Hz  
Order 020-0859-00 . . . . . \$26.00  
Option A2—UK 240V/13A, 50Hz  
Order 020-0860-00 . . . . . \$37.00  
Option A3—Australian 240V/10A, 50Hz  
Order 020-0862-00 . . . . . \$30.00  
Option A4—North American 240V/15A, 60Hz  
Order 020-0862-00 . . . . . \$30.00  
Option A5—Switzerland 220V/10A, 50Hz  
Order 020-0863-00 . . . . . \$19.00

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Prices and Specifications Subject to Change Without Notice.



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# OSCILLOSCOPES

## 2246/2245

- Bright, Crisp Display with High Writing Rate
- Four Independent Channels
- 100MHz Bandwidth with 2ns/Div Time Base
- On-Screen Scale Factor Readouts
- Flexible Triggering  
Auto Level and Auto HF, LF, Noise Reject,  
TV Line and TV Field
- Delayed Sweep
- Control Status Lights
- 2% Vertical and Horizontal Accuracy
- 2mV/Div Vertical Sensitivity at Full Bandwidth
- Specially Designed Probe
- Simple, Rugged Construction
- Labeled Volts Cursors with Ground-Referenced Readings and On-Screen Readouts
- Hands-Off Voltmeter Measurements  
+ Peak and -Peak  
Peak-to-Peak  
Gated Peaks  
Gated Peak-to-Peak  
DC
- SmartCursors™ Track Voltmeter Measurements
- SmartCursors Visually Indicate Trigger Level and Ground
- Time Measurements with Cursors or Alternate Delayed Sweep  $\Delta$  Time

### TYPICAL APPLICATIONS

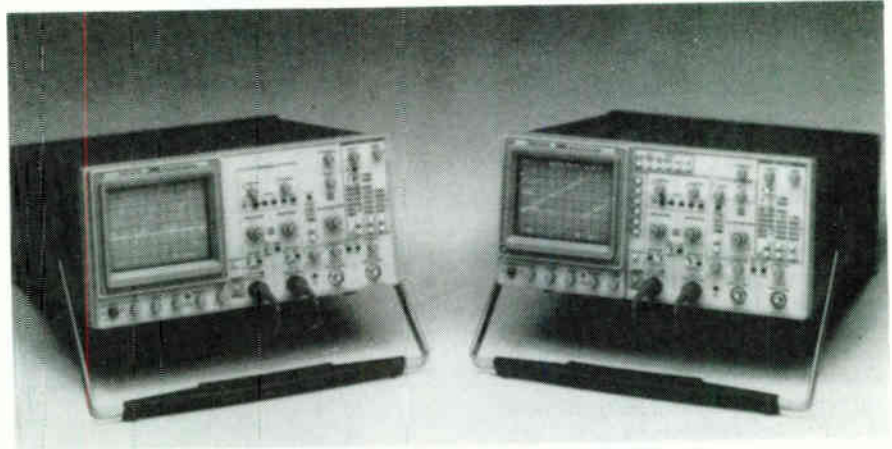
Logic Design and Repair  
Communications  
Power Supply Design

### Higher Performance, Lower Price

The performance/price ratio for portable oscilloscopes has been substantially upgraded. No other portable scope can offer the range of productivity enhancing features and performance characteristics at a comparably low price than the Tektronix NEW 2245 and 2246.

### Features That Promote Productivity

Four independent channels speed troubleshooting and design tasks by allowing simultaneous observation of multiple test points. Front panel set-ups are simplified by pushbutton activated functions and on-screen scale factor readouts. And with buttons that light up, settings can be verified at a glance.



### More Triggering Flexibility

Hands-free triggering, made possible by the Auto-level mode, automatically places a stable display of almost any waveform on screen. The LF, HF and Noise Reject modes, together with a 10-to-1 holdoff range, deliver stable triggering on complex waveforms. The built-in TV Line and TV Field triggering capability extends measurements to most video-related applications.

### Performance Plus

The NEW 2245 and 2246 oscilloscopes have low noise vertical systems that produce sharp, bright traces. Their 2 ns time base and 100 MHz bandwidth bring out the details on high speed signals and render measurements with good timing resolution.

Low level signal measurements are easily managed by the 2 mV/div vertical sensitivity, even at full bandwidth, and by trigger sensitivity that extends to 0.25 div at 50 MHz (0.5 div at 100 MHz).

### Voltage Measurements With The Push of a Button

A pushbutton activated measurement system on the 2246 enhances productivity even more. This scope turns out virtually hands-off measurements quickly of +peak, -peak, peak-to-peak, dc, and gated volts, all with convenient on-screen readout of values.

If more visual indication is desired, the unique cursor system can provide feedback showing

exactly where on the waveform an automatic measurement is being made. These feedback cursors, when selected, even show ground and trigger level locations.

There is also the ability to use cursors in the conventional manual mode for making point-to-point time and voltage measurements, including time interval measurements between a point on the reference waveform and a point on any of four other displayed waveforms.

### 2245 100 MHz Oscilloscope

Includes: Two 10X, 1.3 m probes with accessories (P6109); clear accessories pouch with ziploc fastener (016-0537-00); blue plastic CRT filter (337-2775-00); 2A, 250 V fuse (159-0023-00); operator manual (070-6083-00); user reference guide (070-6082-00). . . . . \$1775.00

**2246 100 MHz Oscilloscope with Voltmeter,  $\Delta$ Time, and SmartCursors™ . . . . . \$2400.00**  
Includes: Same as 2245.

### OPTIONS

- Option 02 — Protective front panel cover and accessory pouch. . . . . \$50.00
- Option 1C — C-5C Option 02 Camera. . . . . \$465.00
- Option 1K — K212 Portable Instrument Card. . . \$330.00
- Option 22 — Two additional P6109 probes. . . \$116.00
- Option A4 — Two 1X/10X P6062B, 6 ft. probes. \$350.00

### INTERNATIONAL POWER OPTIONS

- Option A1 — Universal Euro plug, 220V, 16A, 50Hz\*
  - Option A2 — UK plug, 240V, 13A, 50Hz\*
  - Option A3 — Australian plug, 240V, 10A, 50Hz\*
  - Option A4 — North American plug, 240V, 15A, 60Hz\*
  - Option A4 — Switzerland plug, 220V, 10A, 50Hz\*
- \* POR





## 2465A/2445A

### Option 05 Oscilloscopes

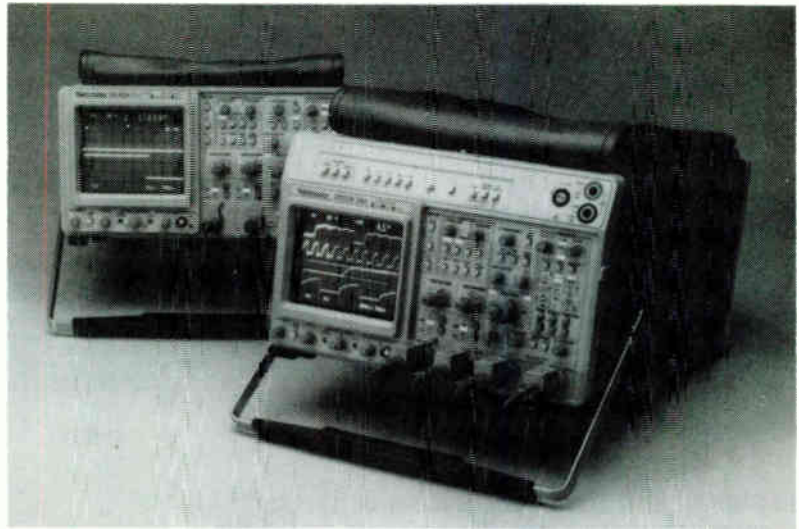
- All of the High-Performance Characteristics of Standard 2465A/2445A Oscilloscopes, plus Video Waveform Analysis Capabilities
- Auto Setup
- Save and Recall Setups
- Setup Sequencing
- 1ns/2.3ns Rise Time
- 350MHz/150MHz Bandwidth
- On-Screen Trigger Level Readout
- Volts and Time Cursors with On-Screen Readout
- Cursors After Delay
- Switchable 1M ohm and 50 ohm Inputs
- 20 ps Time Interval Resolution
- 2mV/Div Vertical Sensitivity at 350MHz/150MHz
- On-Screen Scale-Factor Readout
- Lightweight and Rugged
- 500MHz/250MHz Trigger Bandwidth
- Four Independent Channels
- 500 ps/1 ns per Div Time Base
- Selectable System-M and Non-system-M Protocols
- Selectable Triggering on any Line within a Field, with Line-Number Readout
- Compatible with Composite Video Having 13.1KHz to 77KHz Line Rates
- TV Blanking-Level Clamp (Back-Porch)
- Optimized Vertical Response Comparable to High Performance TV Waveform Monitors

Video measurement capabilities extend the 2465A/2445A's power and versatility to meet the challenges in broadcast and cable television, graphics displays and raster scan systems. The Video Waveform Measurement System (Option 05) makes quality measurements convenient during every stage of a product's life cycle: design, production, system calibration, quality assurance, maintenance and service.

With CRT readout of the line number and field selected for triggering, an operator knows precisely what the display represents. Any line can be selected from Field 1, Field 2, or Field 1 alternating with Field 2. The fourth video trigger selection is Lines, which superimposes all the lines in both fields. Systems with up to 1280 lines can be accommodated.

The back-porch clamp locks the video black level to a fixed point, so the display is stable and clean, even when the composite video contains low frequency hum or when the average picture level changes with AC coupling. Controls are provided for a wide variety of system protocols.

The set of characteristics is the same as specified for standard 2465A/2445A oscilloscopes and includes the following additions:



2465A

### VERTICAL SYSTEM (CHANNEL 1 AND CHANNEL 2)

**Frequency Response** — Applicable for Volt/Div settings between 5 mV and 0.2 V with Var Volt/Div control in calibrated detent and using a 5 div, 50 kHz reference signal from a 50  $\Omega$  or 75  $\Omega$  system.

Range	With Full BW	With BW Limiting
50 kHz to 5 MHz	$\pm 1\%$	+1%, -4%
> 5 MHz to 10 MHz	+1%, -2%	"
> 10 MHz to 30 MHz	+2%, -3%	"
> 30 MHz	"	"

\* Same as basic instrument.

**Squarewave Flatness** — 1% p-p for both 60 Hz and 15 kHz squarewaves, from a 50  $\Omega$  or 75  $\Omega$  system using a 1.0 V input with a 50 mV/Div setting and using a 0.1 V input at 20 mV/Div setting. 1.5% p-p using a 0.1 V input with 5 mV/Div and 10 mV/Div settings. Exclude first 50 ns following step transition. For signals with rise times  $\leq 10$  ns, add 2% p-p between 155 ns and 165 ns after step transition.

**Television Blanking-Level Clamp (Back-Porch) 60 Hz Rejection (Channel 2 Only)** —  $\geq 18$  dB at 60 Hz; with calibrated Volt/Div settings between 5 mV and 0.2 V, and a 6 div reference signal.

**Television Blanking-Level Clamp (Back-Porch) Reference** — Within 1.0 div of ground reference.

### TRIGGERING

**Sync Separation** — Stable sync separation from sync-positive or sync-negative composite video on systems with 525 to 1280 lines/frame, 50 Hz or 60 Hz field rate, interlaced or noninterlaced scan.

**Trigger Modes** — LINES, FLD 1, FLD 2, and ALT (FLD 1-FLD 2).

**Input Signal Amplitude for Stable Triggering** — Channel 1 and Channel 2: 1.0 div for composite video and 0.3 div for composite sync signals (dc + peak video-signal amplitude must be within 18 div of input ground reference).

2465A 300MHz Oscilloscope . . . . . \$5550.00  
2445A 150MHz Oscilloscope . . . . . 3590.00

Option 05—TV Waveform Measurement System . . . . . \$1050.00

### Other Instrument Options

Option 1R—Configured for Standard Rackmounting. . . . . \$320.00  
Option 10— GPIB . . . . . 900.00  
Option 11—Rear Panel Probe-Power Connectors (2465 Only) . . . . . 165.00  
Option 22—Two Additional P6131 Probes. . . . . 265.00

### Optional Accessories

**Rackmount Conversion Kit**—(Not compatible with Option 01.) Order 016-0691-02. . . . . POR  
**Probe Power Extender Cable for Rackmount 2445A/2465A Option 11**—Order 020-0104-00 . . . \$490.00  
**Word Recognizer Extender Cable for Rackmount 2445A/2465A Option 09 and 2465A CT**—Order 020-0103-00 . . . . . \$350.00

**GPIB Cables**—Double shield, low EMC.  
(1m) Order 012-0991-01 . . . . . \$140.00  
(2m) Order 012-0991-00 . . . . . 155.00  
(4m) Order 012-0991-02 . . . . . 180.00

**Recommended Cameras**  
C-5C Option 02—Low Cost. . . . . \$495.00

**Recommended Cart**  
K212 Portable Instrument Cart—For on-site mobility. . . . . \$350.00

**Software**  
EZ-TEK 2400 Test Program Generator—For instruments with GPIB; used with 4041 controller. Order S49F101 . . . . . POR

EZ-TEK 2400 PC Test Program Generator—For instruments with GPIB; used with IBM PC/XT/AT and compatibles. Requires GURU hardware. Order S49F103 . . . . . POR

**GPIB User's Resource Utility (GURU)**—Includes GPIB-PC interface board, GPIB cable, software, and documentation. Order 021-0396-00 . . . . . POR

**Viewing Hoods**  
(Polarized Collapsible) Order 016-0180-00. . . \$60.00  
(Folding Light Shield) Order 016-0592-00 . . . 14.25  
(Folding Binocular) Order 016-0566-00. . . . 19.00

**Protective Waterproof Vinyl Cover**  
Order 016-0720-00 . . . . . \$ 25.00

**Carrying Case**—Order 016-0792-01. . . . . 360.00

**Carrying Strap**—Order 346-0199-00 . . . . . 17.50

**OC Power**—1106/1105. . . . . POR

**OC Inverter**—1107. . . . . POR



# TELCOM RESEARCH

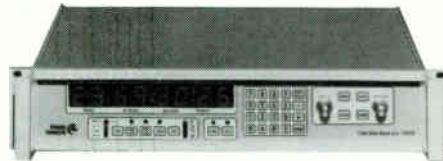
1163 King Road  
 Burlington, Ont., CN L7R 3X5  
 (416) 681-2450 FAX: (416) 681-1487

# TIME CODE EQUIPMENT

TCR-660



TCG-550



T-5010



T-6010



T-7000A

## TCG-550 SMPTE/EBU Time Code Generator

- Low cost opens up many new applications • Rugged construction
- Operates on four standards. Drop frame, 24, 25, and 30 frames per second • Color framing. Operates with both NTSC and PAL color field sequences...necessary for work requiring great precision such as animation • Auto preset to 23:58:30:00. Accommodates 1 1/2 minute pre-roll • "Lock" and "Line" indicator lights. Lets you know if you're properly sync'd to video signal or powerline • Large, bright display. LED's .6"/1.5cm high are readable at a glance • Microprocessor-design. Fewer parts; lower operating temperature; greater reliability
- Low power consumption. The TCG-550 draws only 4W from an AC source and 3W from 7 1/2-16VDC source . . . . . \$995.00

## TCR-660 SMPTE/EBU Time Code Reader

- Low cost opens up many new applications • Rugged construction for long, trouble free life • Operates on four standards. Drop frame, 24, 25 and 30 frames per second • Indicates color framed time code. Operates with both NTSC and PAL color field sequences...necessary for work requiring great precision such as animation • Time or user data display is selected from front panel • Front panel and remote Run/Hold lets you freeze a reading while the code count continues • Convenient operating range of .1 to 10 times play speed • Error light indicates absence of code • Large, bright display. LEDs .6"/1.5cm high are readable at a glance • Microprocessor design. Fewer parts; lower operating temperature; greater reliability • Low power consumption. Draws only 4W from AC source and 3W from 7 1/2-16VDC source . . . . . \$995.00

## T-5010 SMPTE/EBU Master Time Code Generator

- Generates SMPTE (drop and non-drop frame), EBU and 24 frames per second time code • 4 field NTSC and 8 field PAL color framing sequences • Jam sync and continuous jam operation featuring indicators for received time code error and received time code synchronous. All jam operations are held pending until received time code errors clear • Keyboard entry of time and user bits • High resolution 16 x 16 dot character generator. Offers boxed or uniquely bordered characters, reverse character video, continuously variable character position, frames suppression switch and two isolated video outputs • Time and user data displayed together or separately in video • Parallel input/output of time/user data • Two isolated 600 ohm time code outputs • Large, bright .8" high display with intensity adjustable to match your control room lighting • Microprocessor design and extensive use of NMOS large scale integrated circuits. Fewer parts and low operating temperature for greater reliability. 19" rackmount only 3.5" high • Versatility. Combination of function and size makes the T-5010 ideal for VTR room and mobile applications . . . . . \$2595.00

## T-6010 SMPTE/EBU High Speed Time Code Reader

- Full compatibility with any source of SMPTE/EBU time code • Drop frame indicates 25 or 30 frames per second modes • Reads 1/10 to 80 times play speed. Accommodates precise edit choices • Wide input level range accepts signal from any professional equipment source • Time or user data display is selectable from front panel. Provides time code for edit selection and user data for further identification or control purposes • High resolution 16 x 16 dot character generator. Offers boxed or uniquely bordered characters, reverse character video, two isolated video outputs, continuously variable character position, and frames suppression switch • Regenerated 600 ohm +11dBm time code output • Time and user data displayed together or separately in video • Remote and front panel Display Run/Hold control • Parallel output of time or user data • Indicates color framing in NTSC and PAL for precision editing jobs, such as animation where the odd/even color framing sequence is significant • Forward/Reverse indicator. Tells you the direction in which the tape is being read • Error indicator shows that you're not reading good code, and in the event of an error, the display will freeze on the last valid reading • Decoding delay compensation • Large .8" (2cm) high, bright LED display with intensity adjustable to match your control room lighting • Microprocessor design. Fewer parts for greater reliability. 19"/48.3cm rackmounting only 1 3/4"/4.5cm high. The low operating temperature means T-6010 can be racked immediately above or below other equipment • Versatility. Combination of size and function makes the T-6010 ideal for VTR room and mobile applications . . . . . \$2295.00

## T-7000A SMPTE/EBU Time Code Generator/Reader

- Self-powered, it weighs only ounces • This pocket calculator size time code generator/reader operates up to 8 hours on its internal rechargeable power supply; another 18 to 30 hours from the reserve supply in the book-size carrying case • It offers direct keyboard entry of time and user bits; standard 600 ohm +11dBm output; jam-sync with built-in reader; color framing; all 3 standards (drop frame 30 and 25 frames per second) as well as remote start/stop capability • High intensity display readable in direct sunlight without using the sun shield . . . . . \$1295.00



# VIDEO BROADCAST TEST EQUIPMENT

## TELEMET

DIVISION OF GEOTEL, INC.

185 Dixon Ave.  
Amityville, NY 11701  
(516) 842-2300 TWX: 510-227-9850

### 7932 12 x 3 AV Routing Switcher

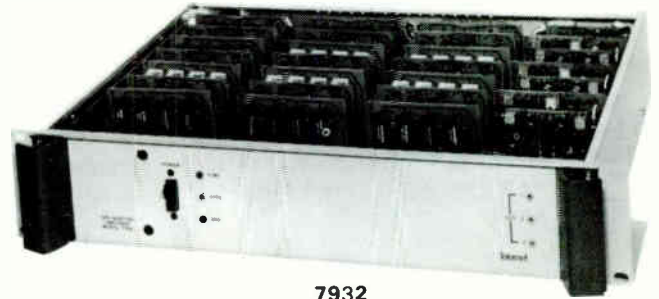
The 7932 is a modular system that uses 4 in 1 out video cards, and 4 in 1 out audio cards. The audio and video output amplifiers are also separate plug-in cards; therefore, a system can be expanded from 4 x 1 to 4 x 2, 8 x 1, 8 x 3 etc., to a maximum of 12 x 3 in one chassis. For economy, two other chassis are available wired 12 x 1 and 12 x 2 which can be used when it is known that expansion will not be needed.

<b>7932-B1</b> (Remote control version)	
12 x 1 . . . . .	\$2,415.00
12 x 2 . . . . .	3,885.00
12 x 3 . . . . .	5,300.00

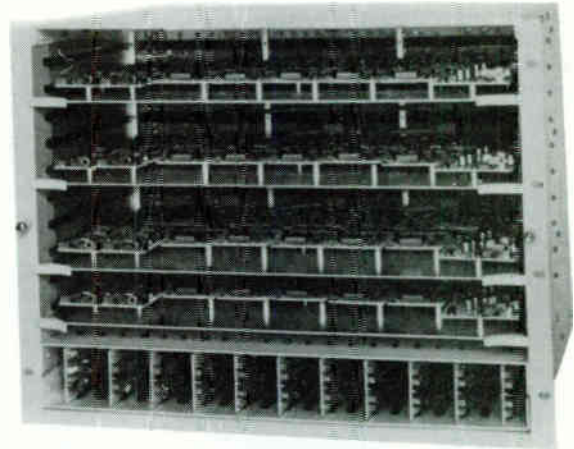
Note: Above prices include Switchcraft pushbutton panels with 50' cables.

<b>7932-B2</b> (self contained version)	
12 x 1 . . . . .	\$2,350.00
12 x 2 . . . . .	3,750.00
12 x 3 . . . . .	5,070.00

Note: Above prices include Switchcraft pushbuttons on front panel.



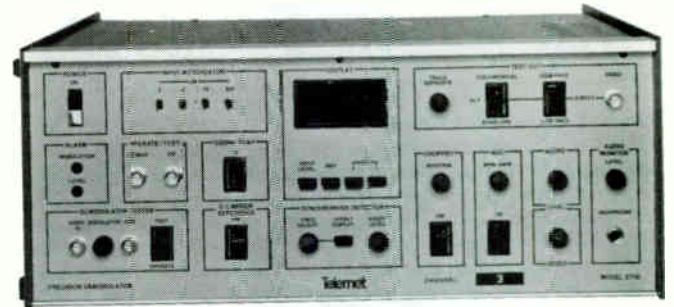
7932



7934

### 7934 AV Routing Switcher

- Remote controlled
- Crosspoints and latching CMOS integrated circuits provide energy efficient design
- Unlimited control versatility and computer interface with programmable switching
- < 0.1 μs switching time, 50mV max. instantaneous video change
- V.I. switching
- Stereo audio switching plus auxiliary. (Can be used for tally)
- Breakaway audio available
- Hi level tally available
- 20 x 10 standard, 400 x 400 possible
- Input sync adders optional
- Video DC restorers optional
- Accurate color timing
- Complete accessibility through modular construction
- All boards removable/insertable with power on



3713

### 3713 Stereo/Audio Demodulator

The 3713 is a comprehensive, precision testing instrument for checking the video quality of the television broadcast signal. It has its own built-in tester for self checking calibration.

<b>3713-A1</b> VHF—5mV sensitivity . . . . .	\$11,990.00
<b>3713-A2</b> UHF—5mV sensitivity . . . . .	12,490.00

### 4500 Demodulator

The 4500 accepts the broadcast signal and converts it to base band without distorting the original picture quality. It houses a plug-in VHF front end module that is selected and ordered separately for the particular VHF channel required. This VHF module is Telemet type D-xx-A1, where xx denotes the VHF channel number (e.g. D-02-A1 for Channel 2). It contains a crystal-controlled oscillator and FET mixer. Also a 2-stage AGC controlled VHF amplifier, using silicon insulated-gate field effect transistors.

<b>4500-B1</b> VHF Demodulator (off-air) . . . . .	\$2,215.00
<b>D-xx-A1</b> VHF plug-in (channels 2-13). . . . .	.710.00



4500-B1

### 4501 Broadcast Demodulator

The 4501 is for use in the measurement of the characteristics of broadcast television signals, including chrominance-luminance relative gain and delay, K rating, burst amplitude and modulation depth, differential phase and gain, intercarrier frequency stability (using an external counter) and other distortions.

<b>4501-B1</b> VHF—5mV sensitivity . . . . .	\$6,600.00
<b>4501-B2</b> UHF—5mV sensitivity . . . . .	.6,900.00



4501

Prices and Specifications Subject to Change Without Notice.

# TELEMET

DIVISION OF GEOTEL, INC.

185 Dixon Ave.

Amityville, NY 11701

(516) 842-2300 TWX: 510-227-9850

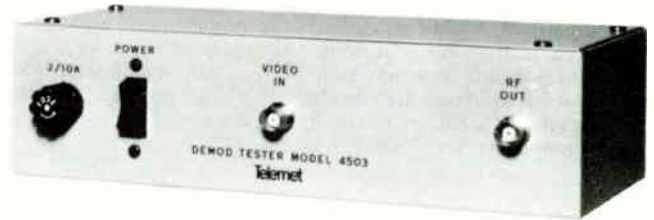
# VIDEO BROADCAST TEST EQUIPMENT

## 4503 Demodulator Tester

The 4503 provides a fast sure method of determining on-going frequency response of a broadcast TV demodulator.

4503-B1 VHF . . . . . \$ 880.00

4503-B2 UHF . . . . . 1015.00

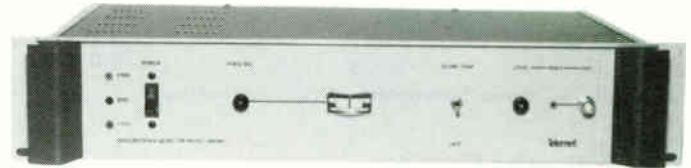


4503

## 4504-B1 Synchronous Detector

The 4504-B1 is designed to measure transmitter parameters, especially the incidental phase modulation of the visual carrier. The 4504-B1 can be used with the 4501 broadcast test demodulator and other suitable test modulators.

4504-B1 . . . . . \$2475.00



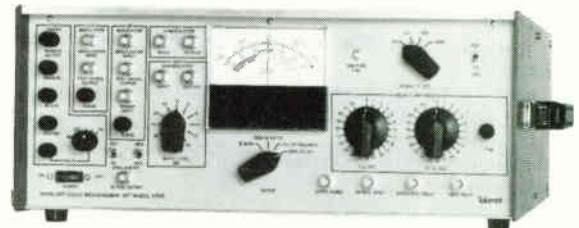
4504-B1

## 3705-A1 Envelope Delay Measurement Set

The 3705-A1 measures envelope delay over a wide frequency range. It is expressly designed for measuring the envelope delay incurred in equipment used in the transmission and reception of color television signals.

The 3705-A1 uses the split-frequency method proposed by Nyquist and Brand: a relatively low frequency, 20kHz, called a split-frequency amplitude—modulates a video or RF test frequency and the modulated test signal is applied to the equipment "under test". The split-frequency is demodulated from the output of the equipment "under test" and compared in phase with the split-frequency modulation.

3705-A1 . . . . . \$8415.00

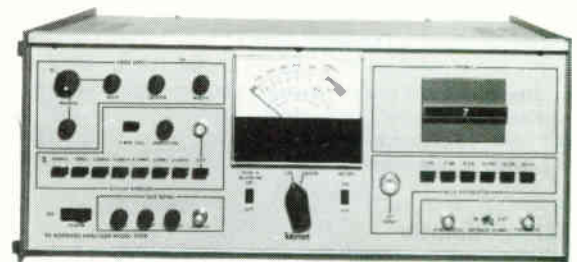


3705-A1

## 3706-A1 Sideband Analyzer

The 3706-A1 by direct display permits thorough examination of the entire sideband response of television transmitters and sideband filters. It can also be used for the examination, evaluation, and adjustments of video circuits. Spurious emissions, low level sidebands, and frequency deviations are accurately pin pointed with the use of 7 crystal markers whose frequencies are of the most interest in a television transmitter's VSB passband. Discrete frequency marking is augmented by a 1MHz crystal comb frequency marker which provides markers at 1MHz intervals across the swept band on display.

3706-A1 Includes VHF channel element (3708-A) . . . . . \$8250.00



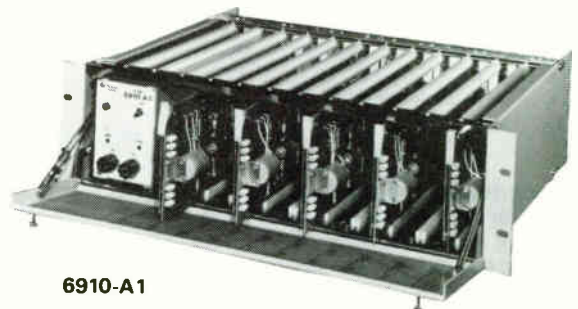
3706-A1

## 6910-A1 Audio DA System

The 6910-A1 is designed for distribution of audio signals in AM, FM and TV systems. The performance characteristics of the 6910-A1 are in keeping with the high standards of modern audio equipment.

Flexibility as to impedance, and expandability as to the number of single and dual channels available should fill all input and distribution requirements.

- 6910-A1 Audio DA system consisting of:
- 6001-A1 Frame . . . . . \$ 550.00
- 6101-A1 Power Supply . . . . . 550.00
- 6201-A2 Audio distribution amplifier with terminal board assembly . . . . . 500.00
- 4145-A1 Extender . . . . . 80.00
- 7300-B1 Audio Monitor . . . . . 1140.00



6910-A1

# TELEPAK

4783 Ruffner St.  
San Diego, CA 92111  
(619) 268-8559

# CASES

## Telepak™ Cases

- Non-slip shoulder strap pad
- Adjustable shoulder strap
- Velcro secured microphone straps
- Adjustable, quick release hand strap
- Washable white balance flap
- Cable restraint loops for protecting connectors and fittings
- Velcro straps for cable routing and control
- Quick out cinch straps for easy removal of VCR
- Velcro enclosure pockets for carrying production accessories
- Bad weather hood surrounding the VCR panel
- Shock absorbing, cross-linked polyethylene foam
- Rust-proof slides
- Water repellent, 100% nylon
- Vinyl white card
- Web nylon for straps and loops (tensile strength 6,000 lbs.)
- Magic grip, non-slip shoulder pad
- Woven, nylon hook and napped looped Velcro
- Accessory compartments integrally manufactured as part of the case

Telepak carrying cases are custom-designed for portable recorders of every major manufacturer.

### Broadcast VCR Paks

T-10	Sony BVU-100, VO-3800	\$165.00
T-11	Sony BVU-110	190.00
T-15	Sony BVU-150	175.00
T-50	Sony BVU-50	185.00
T-50TCG	Sony BVU-50 with time code generator pocket	215.00
T-20	Sony BVW-20, Thompson VT-625, Bosch BCB-20, Ampex CVR-20	185.00
T-25	Sony BVW-21/25, Thompson VT-624/626, Bosch BCB-21/25, Ampex CVR-21/25	190.00

### 3/4" U-Matic VCR Paks

T-44	JVC CR-4400, Panasonic NV-9400, Hitachi SV-340	\$175.00
T-47	JVC CR-4700U/4900U, PR-4800U, Panasonic NV-9450	168.00
T-48	Sony VO-4800	160.80
T-68	Sony VO-6800	175.00

### VHS/Beta VCR Paks

T-34	Sony SLO-340	\$170.00
T-62	JVC BR-6200	147.75
T-84	Panasonic NV-8420	152.50

### Modular Power Paks

T-PWR12	12V, 5AH modular pack	\$295.00
T-PWRBELT	Webbed belt	15.00
T-PWRCABLE	6' coiled extension cable XLR-4 m/f	40.00
T-PWRCHARG1	Battery charger 800mA	75.00
T-PWRCHARG2	Battery charger 12V, 4A	149.95

### VCR Pak Accessories

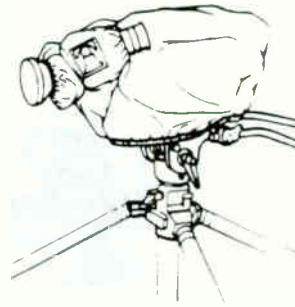
T-POK I	Small pocket (additional or replacement, user attached)	\$20.00
T-POK II	Large pocket (additional or replacement, user attached)	20.00
T-STRAP	Padded shoulder strap (side-pack to back-pack conversion)	15.00
T-TCG I	Sony BVU-50 time code generator pocket	50.00

### Camera Rain Covers

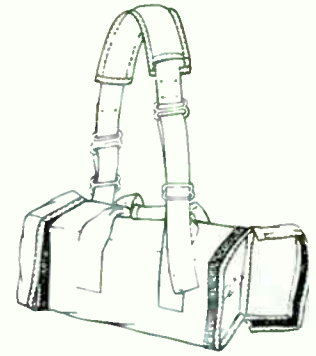
T-RAIN I	Sony DXC-M3A, DXC-3000, BVP-330/A, BVP-150; Hitachi SK-81/91/97, FP-21/22/Z31; JVC KY-310U	\$45.00
T-RAIN II	RCA TK-76/86, others	50.00
T-RAIN III	Sony Betacam BVW-1, 3A, 30, 105, 505, others	50.00

### Universal Camera Paks

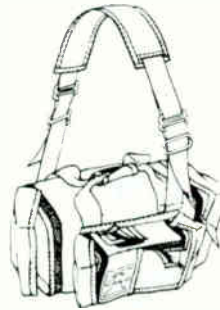
T-UCB-L	Large Universal Camera Pak	\$216.66
T-UCB-S	Small Universal Camera Pak	185.70



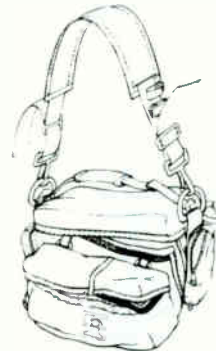
Camera Rain Covers



T-M22



T-COMBO



T-GRA



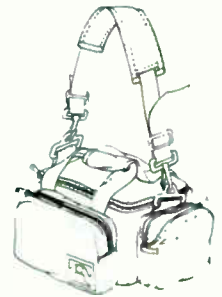
T-SCOPE



T-50



T-GAF



T-MINIGAF

### Other Specialty Paks

T-GAF	Grip/Gaffer Pak	\$120.00
T-MINIGAF	Mini Grip/Gaffer Pak	95.00
T-GRA	NAGRA Recorder Pak	180.00
T-M22	JVC TM-22/41 Monitor Pak	90.00
T-COMBO	JVC TM-22/HRC3 Combination Pak	235.00
T-B0	Sony EVM-8010, BVM-8021, PVM-8020	125.00
T-B0 HC	Sony EVM-8010, BVM-8021, PVM-8020 Shipper Case	200.00
T-VCR	Universal VCR Pak (user cuts foam to fit)	90.00
T-SCOPE	Tektronix 1740/50 Waveform/Vector Pak	120.00
T-PRO	Sony Betacam Protection Pak	140.00
T-MIX	Shure FP-31 Audio Mixer	125.00
T-CAM	Camera Case for Broadcast cameras	550.00

TELEPAK offers lightweight metalized textiles for high shielding effectiveness. These conductive fabrics are ideal for solving electromagnetic compatibility problems and protecting sensitive data. (Government inspected and approved).

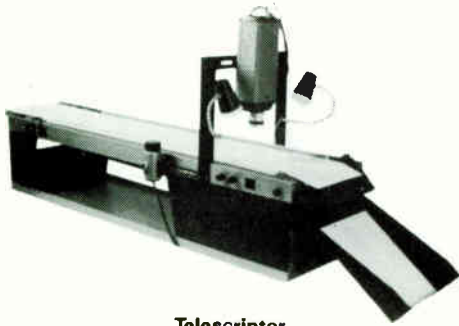
Colors: Blue, Black, or Burgundy. (Custom colors and camouflage available).



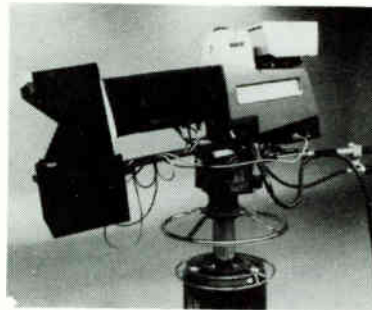
# TELESCRIPT, INC.

445 Livingston St.  
Norwood, NJ 07648  
(201) 767-6733

# MONITOR PROMPTING SYSTEMS



Telescriptor



Monitor Prompter



MPS

## The Telecuc

The compact, portable Telecuc transports prompting scripts and graphics with equal facility. To facilitate script prompting continuity and for remote location operation, 8 1/2" x 11" sheets of paper should be taped together.

## The Telescriptor

The Telescriptor transports prompting scripts and graphics via a white fiberglass belt with equal facility. Telescriptor prompting only requires that 8 1/2" x 11" sheets of paper be placed singly on the transport's belt. Over and under lapping and immediate editing by exchanging sheets is the norm.

## The "Presidential" System

### 2 Monitor Prompting System (MPS) for Public Speaking

- Telecuc with hand control and 25' cable
- Vidicon camera with mounting plate int. 2-1, 12.5mm f/1.8 1" format lens
- 2 17" monitor prompters
- 4 coax cables 50', 25', 10', 5'
- 2 mirror views for public speaking, housing for monitor prompter, panels, adj. bstr. holder and bstr.
- Workstation monitor

**Presidential System . . . . . \$5690.00**  
With C-64 (Commodore) Program . . . . . **4330.00**

#### Optional Equipment

- Video Blanking Control** 2 position or 4 position . . . . . **\$75.00-\$125.00**
- Contrast Enhancer** provides enhancement plus Video Rev. (white/black/shades of gray)
- Lightweight Carrying Cases** Foam lined, handles, latches, 2" wide straps. Fiberglass covered plywood . . . . . **\$255.00**
- 23" Monitors, 1000L** For placement in key areas for walk-about type speaking or group viewing . . . . . **\$950.00**

## 1 and 2 Monitor Prompting Systems

### Product Selections

**Telecuc Transport** including Script Feed Assembly

— or —

**Telescriptor Transport** including Table with Casters

**Remote Hand Control** and 25' extension cable, and **Vidicon Camera** with mounting plate int. 2-1, 12.5mm f/1.8 1" format lens, (Included with Telecuc or Telescriptor)

— or —

**Program** for the Commodore (C-64) Computer included ROM cartridge, support disk, 10 pushbutton controller, cables and 12" workstation monitor

## 1 Monitor Prompting System (MPS)

- 1 Monitor Prompter
- 1 Monitor Lensview Assembly
- 1 Monitor Mount Assembly
- Manuals

**1 MPS with Telecuc . . . . . \$4540.00**  
**1 MPS with Telescriptor . . . . . 4860.00**  
**1 MPS with C-64 Program . . . . . 3430.00**  
**1 MPS (12" Monitor Prompter-1000 Dots) with C-64 Program . . 2890.00**

## 2 Monitor Prompting System (MPS)

- 2 Monitor Prompters
- 2 Monitor Lensview Assemblies
- 2 Monitor Mount Assemblies
- Manuals

**2 MPS with Telecuc . . . . . \$6160.00**  
**2 MPS with Telescriptor . . . . . 6480.00**  
**2 MPS with C-64 Program . . . . . 5050.00**

Telecuc with hand control, 25' extension cable and script assembly . . \$2390.00  
Dual Control with hand control features plus 2 foot pedals, controls and 25' extension . . . . . **290.00**  
Telescriptor with hand control and 25" cable . . . . . **2690.00**  
Table with casters (Telescriptor) . . . . . **90.00**  
Vidicon Camera with mounting plate int. 2-1, 12.5mm 1" format lens . . 560.00  
C-64 Program ROM Cartridge, Support Disk, 10 Pushbutton Controller, Cables . . . . . **1630.00**  
IBM Transfer Disk, Cable and C-64's RS232 . . . . . **160.00**  
Monitor Prompter, 17" 1000 dots . . . . . **895.00**  
Monitor Prompter, 12", 1000 dots . . . . . **385.00**  
Work Station Monitor, 12", 1000 dots . . . . . **205.00**  
Monitor Lensview (LV) Assembly with Beamsplitter, Amb. . . . . **\$275.00-360.00**  
Monitor Mount Assembly with Counterbalancing Plate and Accessories. . . . . **355.00-475.00**  
Compensating Weight Assembly CWT (Pb) Ext. Plate and Hardware . . . 120.00  
Beamsplitters 30/70 or 40/60 with 2nd surface Low Refl. Coatings . . 95.00-145.00  
Wedge Adaptor and Wedge . . . . . **130.00 & 80.00**  
Counterweights (Pb) and Hardware . . . . . **35.00-85.00**  
Pedestal Weights . . . . . **20.00-30.00**  
Contrast Enhancer with Video Rev. (In and Out-of-doors Composite Prompting) . . . . . **410.00**  
Clarifier for Computer Prompting . . . . . **310.00**  
Telepod (Off camera Monitor Prompter support) Head, Adj. Pedestal, Base-Casters, Brackets for LV or direct Monitor Prompter Viewing . . . 520.00  
Mirror View for Public Speaking. Housing, Grained Panels, 3 Tiered Clutch Tubes, Beamsplitter Clamp Assy and B'str. "The Presidential System . . 540.00  
Universal Fluid Heads. For EFG cameras with MPS...The 50 lb. 205BVH 2 Pro handles, leveling adaptor for center post tripod, dolly with "Sticks-lock" wheels . . . . . **\$2190.00**

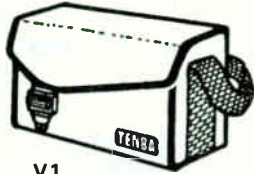
# TENBA, INC.

503 Broadway  
New York City, NY 10012  
(212) 966-1013 Telex: 22-0338

# BAGS

## Video Paks

• Super-tough 1000 denier Cordura nylon • Enbazote padding, closed cell, cross-linked for the best shock absorbency possible • Crucial seams double stitched • Corners stitched four times • Carry strap of 3000 lb.-test nylon • Welded, brass-plated "D" rings • Non-slip pad sewn to shoulder pad • High-quality Velcro • Self-repairing zipper • Cordura waterproofed with Tenbalock—exceeds 40 psi—the U.S. standard for waterproofness • Compact

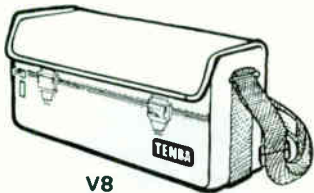


V1

### V1 Video Pak

• 11" x 6 1/2" x 5" • Weighs 1 lb. • For new JVC GR-C7 and GR-C9, Sony handcam and other small cameras

V1 ..... \$110.00



V8

### V8 Video Pak

• 13 1/2" x 8 1/2" x 6" • Weighs 1 lb. 7 oz. • Holds all 8mm camcorders

V8 ..... \$110.00



VP

### VP Video Pak

• 15 1/2" x 9" x 5 1/2" • Holds the new Matsushita built VHS camcorders: Panasonic, Chinon, GE, Curtis Mathes

VP ..... \$100.00

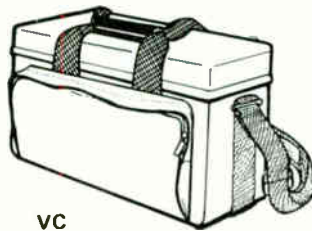


VH

### VH Video Pak

• 16 1/2" x 10 1/2" x 7" • Holds the Hitachi, RCA, Pentax, Minolta, VHS camcorder and extra batteries, tapes and recharger

VH ..... \$110.00

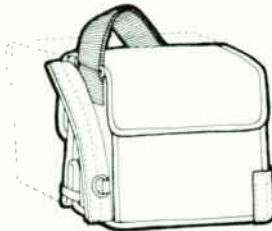


VC

### VC Video Pak

• 17" x 12" x 10" • Holds all cameras from amateur through light industrial • Four foam pads are velcro attached to a mid-divider for easily adapting the case for different cameras and accessories • Large outside pocket holds cables and connectors

VC ..... \$150.00



V212

### V212 Video Pak

• 11" x 10 1/2" x 4 1/2", expands to 9" • Weighs 1 lb. 9 oz. • Outfit bag holds newest Matsushita built and JVC VCRs with divider for extra battery or microphone or Hitachi built and older Matsushita VCRs • Front pocket expands to hold all smaller cameras and NiCad batteries, microphones or tapes • Flattens to as small as 1" when camera is removed • 1 1/2" longer version of V212 to hold Panasonic PK958 camera or equivalent

V212 ..... \$150.00

V212 1 1/2" Longer version ..... 175.00



VRPC

### VRPC Video Pak

• 14" x 16" x 4" • Weighs 1 lb. 15 oz. • Holds all VCPs and small VCRs for rental • Large front pocket holds at least 4 cassettes

VRPC ..... \$90.00

### V842 Video Pak

• 8 1/2" x 10 1/2" x 3 1/4" • Weighs 1 lb. 2 oz. • Form Fit case for newest generation Matsushita built 4 head VCRs • Front pocket holds spare batteries, tapes or NiCads

V842 ..... \$115.00

### V843 Video Pak

• 11" x 10 1/2" x 3 1/2" • Weighs 1 lb. 3 oz. • Form Fit case for Hitachi built and 2 head Matsushita built VCRs • Front pocket holds spare batteries, tapes or NiCads

V843 ..... \$115.00

### V844 Video Pak

• 9" x 10" x 2 3/4" • Weighs 1 lb. 3 oz. • Form fit case for the latest JVC 4 head VCRs • Front pocket holds spare batteries, tapes or NiCads

V844 ..... \$115.00

### V-Ski Backpack

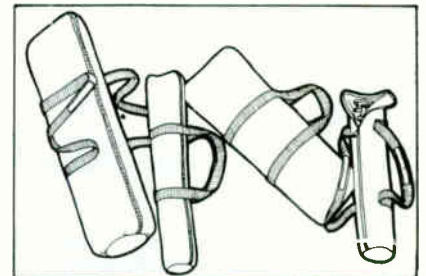
• 16 1/2" x 5" x 10 3/4" • Backpack for carrying all makes of camcorders • Padded inner bag V1 size, removes to hold full size camcorders in outer padded bag

V-Ski ..... \$150.00

### VTC Video Thermal Cover

• Insulated camcorder cover allows camcorder to function in much colder temperatures (below 32°) • Comes in nine separate models to fit specific makes

VTC ..... \$100.00



T488, T385, T388, T325

### Tri-Paks

The Tri-Pak is a professional tripod bag—to carry your light stands, umbrellas and tripods on location.

T 7010 70" x 10" dia. 2 lbs. 7 1/2 oz. . \$84.00

T 538 53" x 8 1/2" dia. 1 lb. 7 9/10 oz. . 74.00

T 488 48" x 8 1/2" dia. 1 lb. 14 oz. . . 66.00

T 388 38" x 8 1/2" dia. 1 lb. 11 oz. . . 58.00

T 385 38" x 5 1/4" dia. 1 lb. 2 oz. . . . 50.00

T 325 32" x 5 1/4" dia. 1 lb. 1 1/8 oz. . . 42.00

### Audio Bags

#### CDP

• 6" x 5 1/2" x 3 3/4" • Holds all compact disc players • Extra roomy for 5 extra discs • Available in 4 colors: Red, Black, Blue and Gray

CDP ..... \$30.00

#### TC

• 6" x 5" x 2" • Fits any Walkman and most Watchmen • Available in four colors: Red, Black, Blue and Gray

TC ..... \$20.00

# TESTRITE INSTRUMENT CO., INC.

135 Monroe St.  
Newark, NJ 07105  
(201) 589-6767  
FAX: (201) 589-4196

# LIGHTS/LIGHT STANDS/ PROJECTION STANDS

## Light Stands

### PRO7 FOTOLITE

#### 7' Lightweight Stand

Three section unit with 3/4", 5/8", and 1/2" upright, anodized aluminum tubing. Legs are 1/2" aluminum tubes double braced for rigidity. Closed size 30", leg spread 32" diameter, weight 2 lbs.

PRO7 Light Stand ..... \$37.95

### PRO9 FOTOLITE

#### 9' Mediumweight Stand

Three section unit with 7/8", 3/4" and 5/8" upright, anodized aluminum tubing. Legs are double strip, solid bar stock, double braced for extra rigidity. Closed size is 36", leg spread 42" diameter, weight 3 3/4 lbs.

PRO9 Light Stand ..... \$63.95

PRO9C Light Stand with removable 2" casters ..... \$79.95

### PRO11 FOTOLITE

#### 11' Heavyweight Stand

Four section unit with 1" 7/8", 3/4" and 5/8" upright, anodized aluminum tubing. Aluminum legs 1" diameter, mounted in heavy duty casting and double braced. 35" closed size, leg spread 42" diameter, weight 4 3/4 lbs.

PRO11 Light Stand ..... \$ 87.95

PRO11C Light Stand with removable 3" heavy-duty casters ..... 115.00



PRO9



PRO11



FC6 Flood  
QC6 Quartz



FC12 12" Flood  
QC12 12"  
Quartz



SPS1

## Flood Lights

### FC5 5" Flood

Uses 250W max., medium screw base lamps. This unit suitable for background, hair, accent and many other uses.

FC5 ..... \$64.95

### FC6 Flood

Flood unit uses R30 and R40 type reflector lamps up to 500W max., permanent barn doors attached.

FC6 ..... \$65.95

### FC8 8" Flood

Uses 500W max., medium screw base lamps. This unit suitable for main or fill in applications and many other studio uses.

FC8 ..... \$65.95

### FC10 10" Flood

Uses 500W max., medium screw base lamps. This unit suitable for main or fill in applications and many other studio uses.

FC10 ..... \$66.95

### FC12 12" Flood

Flood unit uses 500W max. lamps for all studio uses. Produces a 60° light beam.

FC12 ..... \$72.95

## Quartz Lights

### QF5 Quartz Focusing

Uses 600W DYH 3200°K lamps, focuses for flood or spot. Suitable for video and photo use. Pebble finish reflector, safety cable.

QF5 ..... \$114.95

BDQ5 Barn Doors ..... 42.95

QNF5 Non Focusing ..... 99.95

BDQNF5 Barn Doors ..... 49.95

### QC6 Quartz

Quartz unit use 600W DYX/DYV lamps, suitable for video and all photographic use. Permanent barn doors attached. Yellow finish.

QC6 ..... \$79.95

### QC12 12" Quartz

Quartz unit uses 600W max., DYS/DYV lamps suitable for video and photographic uses. White finish.

QC12 ..... \$89.95

## Projection Stands

### SPS1 Projector Stand

- An extremely solid and rigid projector stand
- Non-skid, heavy-duty ribbed rubber top, mounted on a 12" x 20" x 1" thick wood top with finished edges
- Legs screw into metal receptacle under top
- Adjustable heavy duty aluminum legs, rubber tipped
- Unbreakable handle
- Holds up to 85 lbs., vibration free

SPS1 Height adjustable from 24" to 41", weight 13 lbs ..... \$116.95

SPS2 Height adjustable from 32" to 56", weight 14 lbs ..... 128.95

### Accessories

**Second Projector Bracket.** Adjusts to fit all Kodak® Carousel Projectors. All metal.

SPS3B ..... \$29.95

**Utility Shelf.** Hooks onto legs instantly. Wood shelf holds accessories, trays, etc.

SPS4U ..... \$22.95

®Kodak Carousel is a registered trademark of EASTMAN KODAK CO.



# THEATRE MAGIC

6099 Godown Rd.  
Columbus, OH 43220  
(614) 459-3222

# SPECIAL EFFECTS EQUIPMENT

## FOG-MASTER™ FM-1/FR-1

The choice is yours: fog, smoke, or haze. The FOG-MASTER FM-1 and FR-1 are compact and lightweight, yet still produce dense, easily controlled, easily dissipated fog.

### FR-1 FOG-MASTER Remote

The FR-1 features a dismountable steel head that can be placed wherever you need it. With design and construction features making it virtually indestructible, this unit has become a favorite for remote operations.

• Weight: 16 lbs. • Dimensions: 9"H x 8 1/2"W x 12"L • Power: 115VAC • Current: 6A • Heat Coil: 700W  
FR-1 .....\$600.00

### FM-1 FOG-MASTER Manual

The FM-1 features manual operation capable of brief fogging cycles after heat-up, away from electrical power

• Weight: 7 lbs. • Dimensions: 12"H x 3"W x 15"L • Power: 115VAC • Current: 6A • Heat Coil: 700W  
FM-1 .....\$140.00

### Accessories

4-channel fog control box .....ea./\$250.00  
2-channel fog control box .....ea./130.00



## Aquafog™

A safe non-flammable fogging agent which produces dense, cool, odorless and self-dissipating clouds. In addition to the regular spice scent, Aquafog can be scented with mint, citrus, musk, rose, popcorn and pizza.

Aquafog Gallons (8 hrs. continuous fogging) .....\$48.00  
Aquafog Aerosol (20-30 minutes fogging) for Fog-Master FM-1 .....9.00

## Cobweb System T-3

• Safe, flexible blades, powerful but harmless • Lightweight—weighs less than 1 lb. • Portable—most versatile with a cordless drill, designed to fit any drill  
T-3 .....\$100.00

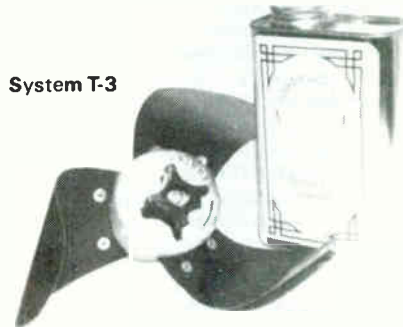
### Cobweb Liquid

Non-flammable yields flexible, long-lasting webs  
Quarts .....\$9.50

### Fullers Earth (to dust cobwebs)

By the pound .....\$6.75  
By the ounce .....55

System T-3



# SPECIAL EFFECTS EQUIPMENT

## Patterns

Stock Gobos (6 mil) .....\$ 7.75  
(for 8 mil add \$1.50 per pattern) .....8.75  
Original Design Gobos (6 mil) .....48.00  
(for 8 mil add \$1.50 per pattern) .....49.00  
Each Duplicate (6 mil) .....18.00  
(8 mil add \$1.50 per pattern) .....19.00

## Pyro-Equipment

4-channel control box .....ea./\$250.00  
Mortars .....ea./90.00  
Flame projector .....ea./90.00  
High sparkle pot .....ea./90.00  
Flash pot/smoke pot .....ea./90.00

## Pyrotechnics—Consumables

Electric matches .....per 100/\$125.50  
Concussion mix .....per 2 lbs./46.36  
Flame powder .....per lb./15.20  
Smoke mix .....per lb./18.70  
Green cannon fuse .....per ft./1.65  
Flash powder .....per oz./12.45  
Sparkle powder .....per oz./14.45  
Quick match .....per 60'/15.50  
Raw match (black fuse) .....per 20'/1.55  
Stunt gel (Pyro gel undercoating) .....per gal./71.50  
Pyro gel .....per gal./71.10  
per qt./20.02  
Flash paper (slow, medium, fast) .....per envelope w/4 sheets/12.50



Lighting Patterns

## Special Effects—Breakaways

TMG-1 Breakaway resin (for bottles) \* .....per lb./\$ 5.75  
TMG-2 Breakaway resin (for windows) \* .....per lb./5.75  
Mold release .....per can/8.45  
Glass colorant super concentrated w/dropper .....per set/36.00  
One each of red, green, yellow, blue .....ea./9.50  
Window pane casting film (36" wide) .....per yd./4.00  
Stage blood .....per gal./82.00  
per qt./21.55

\*5 lb. minimum

# THEATRE TECHNIQUES, INC.

60 Connolly Parkway  
Hamden, CT 06514  
(203) 281-6111  
FAX: (203) 281-3544

# LIGHTING CONTROL CONSOLES

## Micron Memory Control Console

• Grand Master with Blackout Switch • Split Dipless Crossfader with Digital Display • Single Handle Crossfader • Manual Control Potentiometer • Multi-Fade, Auto-Go and Auto Loop Functions with Rate Control • Programmable Chase with Speed, Step, Intensity and Directional Controls • Cue Sequencing • Programmable Time Fades • Infinite Adjust Wheel • Patch Assignment to 72 Channels of Control • Full Exam, Edit and Modification Capabilities • Programmable from Manual Console • Analog Output (Digital Available) • Editor Programming Keypad • Lead/Lag • CRT, Floppy disk, Handheld Remote and Printer Options Available • Compatible with all TTI Dimming Systems

<b>MRN-48/48A</b>	48 Manual Console Inputs, 48 Dimmers, 96 Control Channels, Analog Output. . . . .	<b>\$6995.00</b>
<b>MRN-48/96A</b>	48 Manual Console Inputs, 96 Dimmers, 96 Control Channels, Analog Output. . . . .	<b>7745.00</b>
<b>MRN-48/144A</b>	48 Manual Console Inputs, 144 Dimmers, 96 Control Inputs, 144 Dimmers, 96 Control Channels, Analog Output. . . . .	<b>8495.00</b>

## Spirit Control Console

• Uses Personal Computer Operating Techniques • Creates or Modifies Cues Live or Blind with a Manual Console or with the Digital Keypad and Function Keys • Grand Master with Blackout Switch • Split Dipless Crossfader with Digital Display • Patch Assignment to 96 channels

<b>SPT-48/48A</b>	48 Manual Console Inputs, 48 Dimmers, 96 Control Channels, Analog Output. . . . .	<b>\$5995.00</b>
<b>SPT-48/96A</b>	48 Manual Console Inputs, 96 Dimmers, 96 Control Channels, Analog Output. . . . .	<b>6745.00</b>
<b>SPT-48/144A</b>	48 Manual Console Inputs, 144 Dimmers, 96 Control Channels, Analog Output. . . . .	<b>7495.00</b>

## Micron and Spirit Accessories

<b>MS-VDM</b>	12" Amber Monitor (Green Available) . . . . .	<b>\$ 250.00</b>
<b>MS-P/R</b>	Printer/Rigger's Interface . . . . .	<b>595.00</b>
<b>MS-PTR</b>	Printer (with Cable) . . . . .	<b>POR</b>
<b>MS-RC</b>	Rigger's Control (with 100' Cable) . . . . .	<b>600.00</b>
<b>MS-DM</b>	Designer Module (with 100' Cable) . . . . .	<b>1200.00</b>
<b>MS-748</b>	48 Dimmer Analog Output Module . . . . .	<b>750.00</b>
<b>MS-IAC</b>	Manual Console Input Adaptor Cable (8:1/Jones: D50) . . . . .	<b>195.00</b>
<b>MS-OAC</b>	Dimmer Output Adaptor Cable (1:8/D50: Jones) . . . . .	<b>195.00</b>
<b>MS-FD</b>	Formatted Disk . . . . .	<b>9.95</b>
<b>MS-AF</b>	Active Filter Network (for use with Galaxy Series Consoles; must be factory installed) . . . . .	<b>475.00</b>
<b>MS-TC1</b>	Console Touring Case . . . . .	<b>269.00</b>
<b>MS-TC2</b>	VDM Touring Case. . . . .	<b>199.00</b>
<b>MS-TC3</b>	Combination Console/VDM Touring Case . . . . .	<b>499.00</b>
<b>MS-48-RP</b>	*Micron/Spirit 48 Circuit Receptacle Panel. . . . .	<b>610.00</b>
<b>MS-96-RP</b>	*Micron/Spirit 96 Circuit Receptacle Panel . . . . .	<b>870.00</b>
<b>MS-144-RP</b>	*Micron/Spirit 144 Circuit Receptacle Panel . . . . .	<b>1125.00</b>

\* = Surface Mounted Cabinet with Terminal Strip terminations.

**Notes:**  
Micron and Spirit Series Consoles are field expandable in 48 dimmer increments up to a maximum of 144 dimmers.

Micron and Spirit Series Consoles are available with multiplex output.

## Control Cables

<b>MDS-30/10</b>	10' Control Cable . . . . .	<b>\$ 45.00</b>
<b>MDS-30/25</b>	25' Control Cable . . . . .	<b>55.00</b>
<b>MDS-30/50</b>	50' Control Cable . . . . .	<b>65.00</b>



Micron



Spirit

<b>MDS-30/100</b>	100' Control Cable . . . . .	<b>100.00</b>
<b>MDS-31</b>	Preset/Pile-on Adaptor. . . . .	<b>60.00</b>
<b>MDS-36</b>	4.8kW Dimmer Adaptor. . . . .	<b>65.00</b>
<b>PHX-30/10</b>	10' Control Cable . . . . .	<b>75.00</b>
<b>PHX-30/25</b>	25' Control Cable . . . . .	<b>85.00</b>
<b>PHX-30/50</b>	50' Control Cable . . . . .	<b>100.00</b>
<b>PHX-30/100</b>	100' Control Cable . . . . .	<b>135.00</b>
<b>MS-IAC</b>	Manual Console Input Adaptor Cable (8:1/Jones: D50) . . . . .	<b>195.00</b>
<b>MS-OAC</b>	Dimmer Output Adaptor Cable (1:8/D50: Jones) . . . . .	<b>195.00</b>
<b>MSI-30/10</b>	10' Input Control Cable . . . . .	<b>210.00</b>
<b>MSI-30/25</b>	25' Input Control Cable . . . . .	<b>285.00</b>
<b>MSI-30/50</b>	50' Input Control Cable . . . . .	<b>415.00</b>
<b>MSI-30/100</b>	100' Input Control Cable . . . . .	<b>666.00</b>
<b>MSO-30/10</b>	10' Output Control Cable . . . . .	<b>210.00</b>
<b>MSO-30/25</b>	25' Output Control Cable . . . . .	<b>285.00</b>
<b>MSO-30/50</b>	50' Output Control Cable . . . . .	<b>415.00</b>
<b>MSO-30/100</b>	100' Output Control Cable . . . . .	<b>666.00</b>

## Control Plates and Receptacle Panels

	Male	Female	
One Gang	MDS-CPM1	MDS-CPF1	<b>\$30.00</b>
Two Gang	MDS-CPM2	MDS-CPF2	<b>40.00</b>
Three Gang	MDS-CPM3	MDS-CPF3	<b>52.00</b>
Four Gang	MDS-CPM4	MDS-CPF4	<b>65.00</b>
Five Gang	MDS-CPM5	MDS-CPF5	<b>80.00</b>
Six Gang	MDS-CPM6	MDS-CPF6	<b>92.00</b>

# THEATRE TECHNIQUES, INC.

60 Connolly Parkway  
Hamden, CT 06514  
(203) 281-6111  
FAX: (203) 281-3544

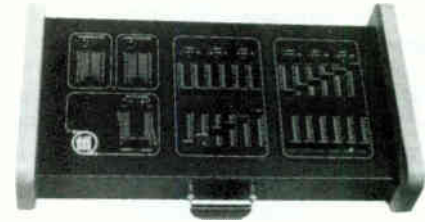
# LIGHTING CONTROL CONSOLES

## Galaxy Series 2 Scene Preset Controller

- Five standard systems: 12, 18, 24, 30, or 36 channels • Split dipless crossfader with on/off switches • Direct bus master with on/off switch • Grand Master with on/off switch • Direct/Fader/Off control • Blinkless Direct/Fader switching • Short circuit proof • Adjustable output voltage • Cover and handle (up to 24 circuits) • Fully regulated output • Modular for expansion capability

- GXY-12** Two scene, 12 channel control console. . \$ 850.00
- GXY-18** Two scene, 18 channel control console . . .1085.00
- GXY-24** Two scene, 24 channel control console . . .1250.00
- GXY-30** Two scene, 30 channel control console . . .1525.00
- GXY-36** Two scene, 36 channel control console . . .1690.00

**Note:** The Galaxy Series Console is also available in 48, 60 and 72 channel size on special order.



Galaxy

## Apollo Control Console

- 18, 36 or 54 channels of control • Split dipless crossfader with tracking • Grand Master with on/off switch • Bump/solo with intensity control • Flash switches with indicators • 2 scene or memory group control • Group crossfading • Proportional crossfading of groups • Group pile-on • Programmable direct master • Programmable chase with speed, intensity, directional controls and preview • Time fade (0-4 minutes) • Analog output (digital available) • Battery backup (3 year minimum)

- APO-18** Two scene, 18 channel control console, analog output . . . . . \$2960.00\*
- APO-36** Two scene, 36 channel control console, analog output . . . . . 3460.00\*
- APO-54** Two scene, 54 channel control console, analog output . . . . . 4500.00\*



Apollo

## Phoenix Control Console

- 18, 36, or 54 channels of control • Non-exclusive patching with LED digital display • Split dipless crossfader with tracking • Grand Master with on/off switch • 2 scene or memory group control • Four memory pages • Bump/solo with intensity control • Flash switches with indicators • Programmable direct master • Group crossfading • Programmable chase with speed, intensity, directional controls and preview • Time fade (0-4 minutes) • Inhibit bus and master • Exam/edit of memory groups • Blind programming • Group override • Patch access/safety keyswitch • Digital output (analog available) • Battery backup (3 year minimum) • Floppy disk option • Optional auxiliary control panel

- PHX-18** Two scene, 18 channel control console with patch, digital output . . . . . \$4750.00\*
- PHX-36** Two scene, 36 channel control console with patch, digital output . . . . . 5750.00\*
- PHX-54** Two scene, 54 channel control console with patch, digital output . . . . . 6800.00\*



Phoenix

## Apollo and Phoenix Accessories

- AP-12G** Worklight (unit price) . . . . . \$ 25.00
- AP-VC1** Vinyl Cover (APO-18) . . . . . 25.00

- AP-VC2** Vinyl Cover (APO-36/PHX-18) . . . . . 25.00
- AP-VC3** Vinyl Cover (PHX-36) . . . . . 25.00
- AP-VC4** Vinyl Cover (APO-54/PHX-54) . . . . . 25.00
- AP-TC1** Touring Case (APO-18) . . . . . 239.00
- AP-TC2** Touring Case (APO-36/PHX-18) . . . . . 279.00
- AP-TC3** Touring Case (PHX-36) . . . . . 339.00
- AP-TC4** Touring Case (APO-54/PHX-54) . . . . . 339.00
- APO-DG** Apollo Digital Output Option . . . . . POR
- PHX-AO1** Phoenix Analog Output Option (to 54 dimmers) . . . . . 750.00
- PHX-AO2** Phoenix Analog Output Option (to 120 dimmers) . . . . . 1250.00
- PHX-AO3** Phoenix Analog Output Option (to 240 dimmers) . . . . . 2000.00
- PHX-FD0** Phoenix Floppy Disk Option . . . . . 750.00
- PHX-FD** Formatted Disk . . . . . 9.95
- PHX-RP** Phoenix Receptacle Plate . . . . . 60.00

\*Includes (2) Gooseneck Worklights and (1) Vinyl Cover



# THEATRE TECHNIQUES, INC.

60 Connolly Parkway  
Hamden, CT 06514  
(203) 281-6111  
FAX: (203) 281-3544

# DIMMER MODULES

## Star Trak I Dimmer Module

- Six channel—1200W per channel—dimmer module • Convection cooled to eliminate dust build up and overheating
- Fully filtered for quiet performance • Rackable units for high density and dimmer per circuit applications • Rackmounts in 19" x 5 1/4" space • Power line regulation eliminates annoying dips and surges • Electrically isolated power circuitry for each set of three circuits • Internal short circuit proof power supply for remote Star Trak III console • Permanent or portable applications

- ST-1-16-36 Portable dimmer module—Terminal power connector—Terminal load connector. . \$1200.00
- ST-1-17-30 Portable dimmer module—Terminal power connector—Duplex outlet panel. . . . .1200.00
- ST-1-22-30 Portable dimmer module—Terminal power connector—Pin connector outlet panel. . 1235.00
- ST-1-24-30 Portable dimmer module—Terminal power connector—Twistlock outlet panel . . . 1235.00



Star Trak I

## Star Trak II Dimmer Module

- Six channel—1200W per channel—dimmer module with Inte-Trol one scene controller with master • Inte-Trol controller masters the level of all other signals • Unique Inte-Trol switch allows master to directly operate local integral one scene controllers or external controls • Touring power plug eliminates permanently attached power cables • Solid-state power monitor indicators for each circuit • Plus all other Star Trak I features

- ST-2-16-36 Portable dimmer module with Inte-Trol terminal power connector—Terminal load connector . . . . . \$1350.00
- ST-2-17-30 Portable dimmer module with Inte-Trol terminal power connector—Duplex outlet panel. . 1350.00
- ST-2-22-30 Portable dimmer module with Inte-Trol terminal power connector—Pin connector outlet panel. . . . .1385.00
- ST-2-24-30 Portable dimmer module with Inte-Trol terminal power connector—Twistlock outlet panel. . . . .1385.00



Star Trak II

## Star Trak III Dimmer Module

- Two scene preset control of six circuits each • Two scene pile-on masters with on/off switches • Flash buttons for instantaneous effects • Main on/off switch with solid-state indicator • Direct/Master/Off switch for each control circuit • Fully regulated output voltage • Slaving connectors permit mastering of other Star Trak III controllers • No power cord • Blinkless switching • Separate optional power supply allows console to control our MDS Series dimmers

- ST-3 Two scene, six channel control module . . \$425.00
- ST-40 Dimmer module rackmount kit . . . . .50.00
- ST-50 Power supply (required when using ST-3 to control MDS Series dimmers) . . . . .40.00
- ST-75 ST-3 Slave/master cable . . . . .15.00

## Star Trak Power Input Options

- ST-X-X-32 Two 1 phase 2 wire grounded, 30A pin connectors (mating connectors provided) . . . \$115.00
- ST-X-X-33 One 1 phase 3 wire grounded, 30A twistlock inlet. . . . .120.00
- ST-X-X-34 Two 12/3 separate power cords—20A . . 60.00
- ST-X-X-35 One 1 phase 3 wire grounded, 30A power cord . . . . .60.00



Star Trak III

# THEATRE TECHNIQUES, INC.

60 Connolly Parkway  
Hamden, CT 06514  
(203) 281-6111  
FAX: (203) 281-3544

# DIMMER MODULES

## RP20 High Density Dimmer Module

• Eighteen 2400W plug-in dimmer or non-dim modules, or six 6000W plug-in dimmer or non-dim modules, or six 2400W and six 6000W plug-in dimmer or non-dim modules • Primary circuit breaker • Protection against shorts and overloads—No fuses • 1 phase or 3 phase service—field adjustable • Selection of outlet panels—two outlets per dimmer (2.4kW), four outlets per dimmer (6.0kW) • Lamp and RFI filtering • Plug-in electronic control modules with diagnostics • Stackable for greater density—No top access required

## High Density Series Dimmer Modules (U.L. Listed)

### 2.4kW Dimmer Modules

RP20-200	Eighteen 2.4kW dimmers—No outlet panel . . . . .	\$5250.00
RP20-210	Eighteen 2.4kW dimmers—Blank outlet panel . . . . .	5300.00
RP20-217	Eighteen 2.4kW dimmers—Duplex outlet panel . . . . .	5750.00
RP20-222	Eighteen 2.4kW dimmers—Pin connector, outlet panel . . . . .	5750.00
RP20-224	Eighteen 2.4kW dimmers—Twistlock outlet panel . . . . .	6000.00

### 2.4kW Dimmer Module Outlet Panels

RP-210	Blank outlet panel . . . . .	\$ 50.00
RP-217	Duplex outlet panel . . . . .	500.00
RP-222	Grounded 20A pin connector outlet panel . . . . .	500.00
RP-224	Grounded 20A twistlock outlet panel . . . . .	750.00

### 6kW Dimmer Modules

RP50-300	Six 6kW dimmers—No outlet panel . . . . .	\$3995.00
RP50-310	Six 6kW dimmers—Blank outlet panel . . . . .	4045.00
RP50-315	Six 6kW dimmers—Branch circuit breaker outlet panel (4 per dimmer) . . . . .	4515.00
RP50-317	Six 6kW dimmers—Duplex outlet panel with branch circuit breakers . . . . .	4795.00
RP50-322	Six 6kW dimmers—Grounded 20A pin connector outlet panel with branch circuit breakers . . . . .	4930.00
RP50-330	Six 6kW dimmers—Grounded 50A pin connector outlet panel . . . . .	4720.00
RP50-340	Six 6kW dimmers—Combination grounded 50A and 20A pin connector outlet panel with branch circuit breakers . . . . .	5145.00

### 6kW Dimmer Module Outlet Panels

RP-310	Blank outlet panel . . . . .	\$ 50.00
RP-315	20A branch circuit breaker outlet panel (4 per dimmer) . . . . .	520.00
RP-317	Duplex outlet panel with 20A branch circuit breakers . . . . .	800.00
RP-322	Grounded 20A pin connector outlet panel with branch circuit breakers . . . . .	935.00
RP-330	Grounded 50A pin connector outlet panel . . . . .	725.00
RP-340	Combination grounded 50A and 20A pin connector outlet panel with 20A branch circuit breakers . . . . .	1150.00

### 2.4kW and 6kW Combination Dimmer Modules

RP2050-400	Six 2.4kW and six 6kW dimmers—No outlet panel . . . . .	\$5030.00
RP2050-410	Six 2.4kW and six 6kW dimmers—Blank outlet panel . . . . .	5080.00
RP2050-415	Six 2.4kW and six 6kW dimmers—20A branch circuit breaker outlet panel (6.0kW dimmers only) . . . . .	5550.00
RP2050-417	Six 2.4kW and six 6.0kW dimmers—Duplex outlet panel with branch circuit breakers . . . . .	5975.00
RP2050-422	Six 2.4kW and six 6kW dimmers—Grounded 20A pin connector outlet panel with branch circuit breakers . . . . .	6140.00

### 2.4kW and 6kW Combination Dimmer Module Outlet Panels

RP-410	Blank outlet panel . . . . .	\$ 50.00
RP-415	20A branch circuit breaker outlet panel . . . . .	520.00
RP-417	Duplex outlet panel with 20A branch circuit breakers . . . . .	945.00
RP-422	Grounded 20A pin connector outlet panel with 20A branch circuit breakers . . . . .	1110.00



RP20

## High Density Series Components and Accessories

RP-2.4kW	2400W plug-in dimmer module . . . . .	\$135.00
RP-20A	2400W plug-in non-dim module . . . . .	135.00
RP-6kW	6000W plug-in dimmer module . . . . .	260.00
RP-50A	6000W plug-in non-dim module . . . . .	260.00
RP-CM	Dimmer module analog control card . . . . .	250.00
RP-WM8	Dimmer module wall mount brackets . . . . .	Pair/100.00

Note: High density dimmer modules may be ordered with a combination of dimmer modules and non-dim modules installed.

## GDI - 2.4kW Independent Dimmer

GDI-D	2.4kW Independent dimmer module . . . . .	\$495.00
GDI-C	Remote control module . . . . .	35.00



MDS-1



MDS-5

## MDS-1 2.4kW Dimmer Module

• Six 2400W dimmers • 20A circuit breakers—recessed for durability • Full protection against dead shorts and overloads • 103 or 304 wire service • Various outlet panels available (two outlets per dimmer) • Convection cooled • Lamp and RFI filtering • Wall mounting models for permanent installation

MDS-1-0	Portable dimmer module—No outlet panel . . . . .	\$1875.00
MDS-1-1	Portable dimmer module—Blank outlet panel . . . . .	1895.00
MDS-1-2	Portable dimmer module—Duplex outlet panel . . . . .	2050.00
MDS-1-7	Portable dimmer module—Grounded pin connector outlet panel . . . . .	2095.00
MDS-1-9	Portable dimmer module—Twistlock outlet panel . . . . .	2150.00

## MDS-5 3kW Dimmer Module

• Six 3000W dimmers • Fully magnetic 25A circuit breakers—recessed for durability • Full protection against dead shorts and overloads • 103 or 304 wire service • Convection cooled • Lamp and RFI filtering • Wall mounting models for permanent installation

MDS-5-0	Portable dimmer module—No outlet panel . . . . .	\$2000.00
MDS-5-1	Portable dimmer module—Blank outlet panel . . . . .	2020.00
MDS-5-132	Portable dimmer module—Grounded pin connector outlet panel with branch circuit breakers (2 per dimmer) . . . . .	2420.00

## MDS Series Outlet Panels

MDS-116	Blank outlet panel . . . . .	\$ 20.00
MDS-117	Type 2 outlet panel (15/20A duplex) . . . . .	175.00
MDS-122	Type 7 outlet panel (15/20A pin connector) . . . . .	220.00
MDS-124	Type 9 outlet panel (3 pole, 20A twistlock) . . . . .	275.00
MDS-132	Grounded pin connector outlet panel with 12 SP20A branch circuit breakers . . . . .	420.00

Note: MDS-1 and MDS-5 dimmer modules are available in wall mount versions. Substitute -2- (or -6-) in the catalog number and add \$35.00 to the -1- (or -5-) price for wall mount option.

MDS non-dim modules, dimmer module power cords and additional outlet panel options are available on special order. Consult the factory for price and availability.

MDS-600 Series dimmer modules (six 7.2kW dimmers) are available on special order with a variety of outlet panel options.



# THERMODYNE INTERNATIONAL LTD.

20850 S. Alameda  
Long Beach, CA 90810  
(213) 603-1976

## CASES

### Mini-Rack™ Cases

The Mini-Rack, a line of instant access, shock-mounted cases offer all the protection of Thermodyne's popular Shok-Stop™ cases as well as the convenience of the Rack-Pack™. Mini-Rack has eliminated 5" of case height and 20% of the weight from the standard Rack-Pack design for critical space and weight requirements, yet still offers accessibility and protection.

The Mini-Rack has the standard 19" EIA rack width and 20" rack depth, but the case dimensions have been reduced 5" in width and 5" in height by redesigning the shock-mount system to attach the rack frame directly to the inside of the case. The space between the rack and the inside of the case has been reduced and the Mini-Rack has eliminated the high profile exterior shock mounts of the Rack-Pack, replacing them with low profile shock-mounts.

Like the Shok-Stop and Rack-Pack cases, Mini-Rack is available in a variety of sizes, from 5.37" to 24.625" rack height and 8.75" to 18" case height. Mini-Rack has all the standard Thermodyne cases, including: inner rack frame with EIA-RETMA hole pattern in front and rear rails, recessed latches and handles, interlocking ribs for ease of stacking, and watertight gasket construction. All Thermodyne cases are corrosion and fungus resistant. A number of optional items can be specified, including: shock mounts for unusual weight, extra t-bar supports, anodized outer valances, removable casters, and custom colors.

### Shok-Stop Cases

Made of high density polyethylene, the Shok-Stop case acts as a shock absorber. When an impact occurs, the case accepts all of the force. The slight shock that reaches the interior is instantly overcome by the foam which can be custom-fitted to the exact dimensions of your equipment.

Carefully engineered channels and corner bumpers on every Shok-Stop case are designed to deliver maximum protection in high-stress conditions. Hardware includes spring-loaded handles which fit tightly during shipping, and recessed hinges and latches that are field-replaceable if necessary. By using non-invasive hardware attachment and pressure relief valves, Shok-Stop cases can be ordered completely water-tight or vapor-tight, depending upon the requirements. All Shok-Stop cases offer Electromagnetic Interference (EMI) shielding and can be panel-mounted.

Shok-Stop cases can be ordered empty, with a solid foam core, or Thermodyne can custom cut the foam to the customer's specifications. Shok-Stop is available in a variety of shapes and sizes, from 8.0" to 89.0" in length. The standard color is gun-metal gray, but custom colors are available at no additional charge. Thermodyne stocks the most common standard sizes in inventory for quick response to orders. Like all Thermodyne cases, Shok-Stop cases are corrosion and fungus resistant and are available with a variety of options, including: anodized outer valances, automatic pressure relief valve, removable casters and lift rings.

### Rack-Pack Cases

Rack-Pack transportation/operating cases now combine permanent mounting in a standard 19" rack with easy equipment access. These instant-access, shock-mounted cases offer all the protection of Thermodyne's Shok-Stop cases and increased accessibility.

Available in sizes from 5.37" rack height and 13.75" case height to 24.625" rack height and 33.0" case height, Rack-Pack features standard specifications such as: inner rack frame with EIA-RETMA hole pattern in front and rear rails, recessed latches and handles, interlocking ribs for stacking, and watertight gasket construction. Like other Thermodyne cases, Rack-Pack is corrosion and fungus resistant, high-density polyethylene.

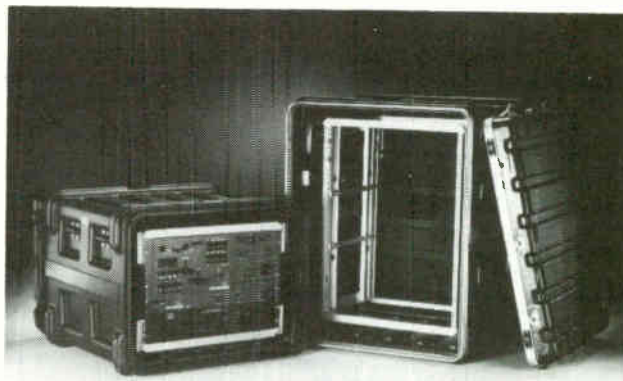
When timing is critical, Rack-Pack allows you to set up and operate equipment in minutes, rather than hours. The equipment can be stacked and pre-wired in place, and you need only remove the front and back covers for immediate access. Every case features recessed ribbing for shock absorption and elastometric shock-mounts for vibration protection. The inner rack is constructed of 6061-T5 aluminum for durability and light weight and all latches and handles are mounted firmly without intrusive fasteners.



Mini-Rack



Shok-Stop



Rack-Pack

If your equipment requires access by means of slides, they are available by special order. This makes on-site maintenance or repairs easier and quicker. Rack-Pack cases are made to your specifications without expensive alterations: standard 19" rack width, 20" depth, and holes drilled to EIA-RETMA hole patterns, and rack heights to your specification from 5.37" to 24.625". Rack-Pack cases can stack on interlocking ribs to form a modular workstation that is secure in any environment.

Thermodyne has over 150 standard Shok-Stop cases: 11 standard Rack-Pack sizes, 11 standard Mini-Rack sizes, and a growing library of inner foam liner cutting specs. Every Shok-Stop, Rack-Pack and Mini-Rack case meets or exceeds the toughest military specifications including, ATA300-CAT 1, MIL-C-4150, and MIL-T-21200 and is constructed of high-density polyethylene for flexibility and shock absorbency.



# JAMES THOMAS ENGINEERING, LTD.

122 Sherlake Rd.  
 Knoxville, TN 37922  
 (615) 690-5397 FAX: (615) 694-0899

# STAGE LANTERNS/ REFLECTORS



PAR Lanterns

### Stage Lanterns

All Thomas lighting units are quality engineered from high grade spun aluminum to combine minimum weight with maximum durability, and excellent heat dissipation properties. Stage lanterns are complete with filter frame and integral lamp safety guard, and are designed for easy lamp replacement. Black or silver are standard colors. Ceramic lampholder, cable, and connector are not included in fixture price.

PAR 64	Lantern . . . . .	\$68.68
PAR 64	Barndoor — 4-way . . . . .	32.29
PAR 64	Colorframe — additional . . . . .	4.30
PAR 64	Lampholder and 3' cable . . . . .	8.20
PAR 56	Lantern . . . . .	66.63
PAR 56	Barndoor — 4-way . . . . .	30.14
PAR 56	Colorframe — additional . . . . .	3.90
PAR 56	Lampholder and 3' cable . . . . .	8.20
PAR 46	Lantern . . . . .	64.58
PAR 46	Barndoor — 4-way . . . . .	29.05
PAR 46	Colorframe — additional . . . . .	3.48
PAR 36	Lantern . . . . .	60.99
PAR 36	Barndoor — 4-way . . . . .	27.98
PAR 36	Colorframe — additional . . . . .	3.08
PAR 16	MINI-PAR uses MR-16 lamp . . . . .	41.00



Raylight Reflector

### Raylite Reflectors

The Reflector is available for use in PAR 64, 56 and 46 fixtures, and in a variety of beam patterns. Using a 600W DYS lamp, the Raylight Reflector offers an alternative to the heavier and more expensive PAR lamp. The narrow reflector creates a beam comparable to an ACL without the hassle of series wiring. The leads, which are wired directly into the socket (eliminating the common problem of lost leads), are simply plugged into the PAR ceramic. A double-sided spring clip ensures good contact between the lamp and the socket, and secure lamp retention.

34-280	PAR 64 very narrow . . . . .	\$26.65
34-290	PAR 64 narrow . . . . .	26.65
34-292	PAR 64 wide . . . . .	26.65
34-300	PAR 56 . . . . .	26.65
34-310	PAR 46 . . . . .	26.65

# JAMES THOMAS ENGINEERING, LTD.

122 Sherlake Rd.  
Knoxville, TN 37922  
(165) 690-5397 FAX: (615) 694-0899

# TRUSSING/ LIGHT FIXTURES

## Aluminum Trusses

30-130	Pre-rigged Truss (30" x 26" x 91") Designed to contain 12 lanterns on light bars which lower for use and travel inside truss. Price includes Camlocs, castors and mechanism for moving and containing light bars. Price does not include light bars or lanterns . . . . .	\$ 1105.00
30-117	Pre-rigged Truss (30" x 26" x 60") Same as system above, designed to contain 8 lanterns with two extra circuits on each truss bar. Price does not include light bars or lanterns . . . . .	\$ 975.00
30-360	2-way Corner Blocks including Camlocs and castors . . . . .	572.00
30-370	4-way Corner Blocks including Camlocs and castors . . . . .	780.00
30-395	Universal Pivot Section including Camlocs 0-270 . . . . .	780.00
30-560	Underhanging Follow Spot Chairs . . . . .	780.00
30-565	Top Mount Follow Spot Chairs . . . . .	650.00
30-566	Universal Follow Spot Chairs . . . . .	1040.00

## General Purpose Trusses (18" x 12")

30-140	5' Long Section including Camlocs . . . . .	\$ 624.00
30-150	8' Long Section including Camlocs . . . . .	728.00
30-160	10' Long Section including Camlocs . . . . .	780.00

## General Purpose Trusses (12" Square)

30-167	2'6" Long Section including Camlocs . . . . .	\$ 468.00
30-170	5' Long Section including Camlocs . . . . .	598.00
30-180	8' Long Section including Camlocs . . . . .	702.00
30-190	10' Long Section including Camlocs . . . . .	754.00
30-330	2-way (12") Corner Blocks including Camlocs . . . . .	390.00
30-340	4-way (12") Corner Blocks including Camlocs . . . . .	559.00
30-350	6-way (12") Corner Blocks including Camlocs . . . . .	780.00
30-387	Universal Pivot Section including Camlocs . . . . .	624.00

## General Purpose Trusses (20 1/2" Square)

30-200	5' Long Section including Camlocs . . . . .	\$ 650.00
30-210	8' Long Section including Camlocs . . . . .	754.00
30-220	10' Long Section including Camlocs . . . . .	806.00
30-300	2-way Corner Blocks including Camlocs . . . . .	468.00
30-310	4-way Corner Blocks including Camlocs . . . . .	650.00
30-320	6-way Corner Blocks including Camlocs . . . . .	832.00
30-390	Universal Pivot Section including Camlocs 0-270 . . . . .	728.00

## General Purpose Triangular Trusses

30-240	5' Long Section including Camlocs . . . . .	\$ 598.00
30-250	8' Long Section including Camlocs . . . . .	702.00
30-260	10' Long Section including Camlocs . . . . .	754.00

All right angle members of trussing are manufactured from 2" diameter x 1/8" wall tube.

## Truss Accessories

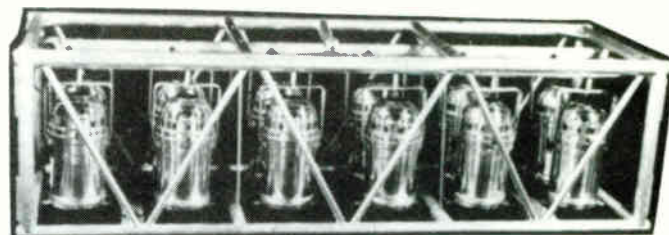
30-410	Camlocs (per set: 1 male, 1 female, 1-pin) . . . . .	\$ 33.54
30-420	Castors 4" (each) . . . . .	12.80
30-430	Couplers, Half with hardware . . . . .	21.80
30-440	Couplers, Swivel . . . . .	39.00
30-450	Couplers, Rigid . . . . .	36.40
30-505	Shank Hooks with pin . . . . .	16.64
30-385	PRT to 20 1/2" Adaptors . . . . .	468.00

## Spot Banks

Spot Banks are designed for punch lighting, audience blinders and other applications where a concentrated source of light is required. Constructed of lightweight aluminum, fixtures include safety wire mesh over the lamps as a standard feature. The independent movement of each row of lamps makes focusing quick and easy. Lamps are accessed through the front of the fixture and no tools are required.

25-450	Par 36 8-Lite Unit . . . . .	\$346.50
25-454	Par 36 6-Lite Unit . . . . .	300.30
25-452	Par 36 4-Lite Unit . . . . .	253.66
25-460	Par 64 6-Lite Unit . . . . .	519.75

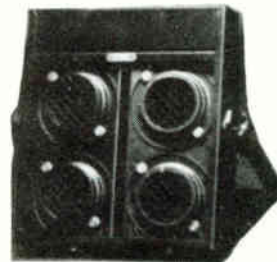
Price does not include lamps or wiring.



Pre-rigged Truss Complete



Par 36 Spot Banks



## Cyc Lites

25-465	Cyc Unit 500W 1-Cell (wired with trailing lead) . . . . .	\$165.00
25-467	Cyc Unit 500W 4-Cell (wired with 4 trailing leads) . . . . .	528.00
25-469	Cyc Unit 500W 2 X double cell (with 4 trailing leads) . . . . .	594.00
25-470	Cyc Unit 1K 1-Cell (wired with trailing lead) . . . . .	198.00
25-480	Cyc Unit 1K 4-Cell (wired with 4 trailing leads) . . . . .	594.00
25-481	Cyc Unit 1K 4-Cell (wired with male to female Socapex with two 15A Chassis outlets) . . . . .	693.00
25-490	Cyc Unit 1K 6-Cell (wired with male to female Socapex) . . . . .	869.00
25-491	Cyc Unit 1K 2 X Double Cell (with 4 trailing leads) . . . . .	660.00

Price does not include lamps.

# THORN EMI

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**L. E. NELSON SALES CORP.**  
 5451 Ukiah Cr.  
 Las Vegas, NV 89118  
 (702) 376-3656 Telex: 29-9664

# STUDIO/THEATRE LAMPS

## Medium Prefocus 120V

BTL	500W	\$47.00
BTM	500W	47.00
BTN	750W	47.00
BTP	750W	47.00
BTR	1000W	52.50
FKA	650W	99.00
FKC	1000W	70.00
FKL	650W	99.00

## 220/240V

FKB (T13)	650W	\$102.00
FKD (T14)	1000W	57.00
FKF (T17)	500W	92.00
FKM (CP51)	650W	99.00
FKN (CP52)	1000W	99.00

## Mogul Prefocus 120V

BVT	1000W	\$70.00
BVV	1000W	70.00
BVW	2000W	88.00
CWZ	1500W	96.00
DTA	1500W	90.00

## Medium Bi-Post 120V

EGN	500W	\$50.00
EGR	750W	70.00
EGT	1000W	75.00

## 220/240V

FKH (CP39)	650W	\$80.00
FKJ (CP40)	1000W	92.00

## Mogul Bi-Post 120V

BWA	2000W	\$120.00
CXZ	1500W	115.00
CYV	1000W	90.00
CYX	2000W	120.00
DPY	5000W	535.00
DTY	10000W	995.00

## 220/240V

FKK (CP41)	2000W	\$135.00
CP29	5000W	525.00
CP83	10000W	995.00

## Medium 2-Pin and Gy 9.5 120V

EHC/EHB	500W	\$50.00
EHD	500W	52.00
FKV	650W	58.00
EHF	750W	58.00
EHG	750W	58.00
FCV	1000W	64.00
FEL	1000W	52.00
CP81/FKW	300W	45.00
CP82	500W	55.00
CP89	650W	55.00

## 220/240V

FKR (HX 86)	650W	\$70.00
FEP (CP 77)	1000W	60.00
CP 81	300W	55.00
CP 82	500W	62.00
CP 89	650W	65.00

## Medium Prefocus 120V

EGE	500W	\$58.00
EGG	750W	66.00
EGJ	1000W	68.00
EGK*	1000W	70.00

## 220/240V

EWE	1000W	\$71.50
FKE (T15)	1000W	99.00

## Mogul Screw

BWF	2000W	\$130.00
BWG*	2000W	140.00
DSE*	1000W	54.00
DSF*	1500W	62.00
HX 147	2000W	130.00
BWL	2000W	140.00

## Par 64 Tungsten Halogen 120V

FFN (VNSP)	1000W	\$ 92.00
FFP (NSP)	1000W	92.00
FFR (MFL)	1000W	92.00
FFS (WFL)	1000W	92.00
FGM (NSP)	1000W	190.00
FGN (MFL)	1000W	190.00
FGP (WFL)	1000W	190.00

## 220/240V

EXC (CP60) (VNSP)	1000W	\$152.00
EXD (CP61) (NSP)	1000W	152.00
EXE (CP62) (MFL)	1000W	152.00

## 2-Pin Prefocus, Mini-Can Screw

DYH (120V)	600W	\$30.00
DYR (220V)	650W	33.50
DYG (30V)	250W	30.00
DYS/BHC/DYV (120V)	600W	25.00
P2/25 (120V)	850W	40.00
EVR	500W	35.00
EVR (240V)	500W	45.00

## Double-Ended, 3 1/8" M.O.L. 120V

EHR	400W	\$37.00
FAD	650W	22.00
FBX*	650W	27.00
DWY	650W	26.00
FCA*	650W	26.00

## 220/240V

DXX (P2/13)	800W	\$26.00
DXV	800W	31.50

## Double-Ended, 3 3/4" M.O.L. 120V

FCB	600W	\$32.00
DXN	1000W	37.00
DXW	1000W	38.00
FBY*	1000W	39.00

## 220/240V

DWN	800W	\$38.50
P2/35	1000W	38.50

## Double-Ended, 4 1/16" M.O.L. 120V

EHM	300W	\$29.00
EHZ*	300W	33.00
FCL	500W	29.00
FCZ*	500W	33.00
FDV	500W	31.00
FDN*	500W	32.00
EJG	750W	35.00
EMD*	750W	40.00
FCM	1000W	30.00
FHM*	1000W	32.00

## 220/240V

EME	800W	\$37.50
EMF*	800W	37.00
K9	300W	37.50
K9F*	300W	39.00
K1	500W	32.00
K1F*	500W	34.00

## Double-Ended, 5 5/8" M.O.L.

FEY (120V)	2000W	\$110.00
FEX (220/240V)	2000W	113.00

## Double-Ended, 6 9/16" M.O.L. 120V

FFT	1000W	\$56.00
FDB	1500W	58.00

## CSI Compact

### Source Iodine Lamp

99-0201	400W	\$157.50
99-0221	1000W	315.00
99-0421†	1000W	420.00
99-1222 (Par 64)	1000W	472.50
99-1422† (Par 64)	1000W	630.00

## CID Compact

### Iodine Daylight Lamp

99-0211†	200W	\$ 236.25
99-0415†	500W	342.25
99-0416† (Par 46)	575W	†1635.00
99-0222	1000W	420.00
99-0422†	1000W	525.00
99-1225 (Par 64)	1000W	†1630.00
99-1425† (Par 64)	1000W	†1735.00
99-1435R† (Par 64)	1200W	700.00
99-0431†	2500W	1145.00

## Xenon Lamps

98-1432	1.0kW	POR
98-1432HSC	1.0kW	POR
98-1475	1.6kW	POR
98-1475HSC	1.6kW	POR
98-1515	2.0kW	POR
98-1902	3.0kW	POR
98-1910	4.0kW	POR

## HMI

### (Linear Double-Ended Lamps)

HMI 575	575W	\$ 425.00
HMI 1200	1200W	600.00
HMI 2500	2500W	1025.00
HMI 4000	4000W	1300.00
HMI 6000	6000W	2175.00
HMI 12000	12000W	4100.00

## Projection Lamps

### MR-16

BAB	\$21.00	EPX	\$18.50
BRL	7.50	EPZ	18.50
DDL	17.50	ESZ (M68)	21.00
DDM	21.50	EXN (M58)	20.00
DDS	20.00	EXT (M49)	21.00
DED	20.00	EXZ (M50)	21.00
DZE/FDS	14.00	EYC (M60)	20.00
EHJ	20.00	EYF (M61)	20.00
ELC	21.00	FAL (M50)	27.50
ELD/EJN	19.00	FCR	10.00
ELH	27.50	FCS	10.00
ELS/ELR	23.00	FDT	14.00
EMM/EKS	27.50	FHX	20.00
ENX	28.50	FLS	17.00
EPV	17.50	FLT	17.50

### MR-11

FSS (M55)	\$20.00	FTC (M51)	\$20.00
FST (M54)	20.00	FTD (M62)	20.00
FSV (M63)	20.00	FTE (M65)	20.00
FTA (M64)	20.00	FTT (M66)	20.00
FTB (M52)	20.00		

\*Frosted

††Instant (Hot) Re-strike

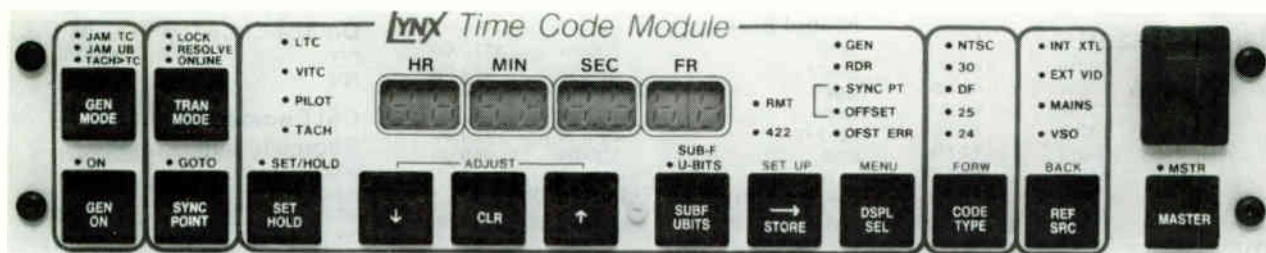
††With set of five lenses (narrow spot, spot, medium flood, wide flood, extra wide flood) if lens set not required, deduct \$70.00 from price.



# TIME LINE, INC.

270 Lafayette St., Room 1300  
New York, NY 10012  
(212) 431-0330  
FAX: (202) 966-7824

# TIME CODE MODULE



LYNX

## LYNX Time Code Module

The LYNX Time Code Module is a high performance modular time code product that is actually four independent functional units in a single enclosure:

- Wide band SMPTE time code reader
- Multi-standard SMPTE time code generator
- Audio/video tape machine synchronizer
- SMPTE 422 communications port for use with external editors

The LYNX module is available in two software versions — the LYNX/SAL (standalone) configuration, and the LYNX/VSI video editor interface.

The modules are half-rack, and only 1<sup>3</sup>/<sub>4</sub>" high, which creates an extremely small rackmounted system. A four machine controller with four independent generators uses just 3<sup>1</sup>/<sub>2</sub>" of rack space. There are no internal adjustments. Machine interfaces are made by cable change and machine selection from the front panel. Reconfiguration of all operating parameters are automatically controlled by the internal microprocessor. For each controlled machine the independent generator allows convenient local time code striping.

### Additional Features

- Nonvolatile battery backup RAM
- No internal adjustments
- Machine selection made from front panel and stored in battery backup RAM
- Employs latest VLSI components for high performance
- CMOS design for low power and heat dissipation
- Opto-isolation between machine audio, video, and communications grounds
- Worldwide transportability:
  - All time code standards
- Internal options cards:
  - RS232/422 machine control board to supplement parallel output
  - Film chain quadrature interface

### LYNX/SAL (Standalone)

- Internal crystal or external video reference input
- Selected reference resolves speed of all machines, including current master (wow and flutter are not passed through)
- Expandable up to 32 machines online
- Masterless system — any machine may be freely selected as current master
- Operates in standalone mode only

The LYNX/SAL forms a standalone synchronization system, which employs one LYNX module to each machine in the system and a minimum of two LYNX for master/slave operation. The units are interconnected with 9-pin RS422 data cables supporting up to a 32 machine system.

Front panel access is given to setting sync points, offsets, control of the generator, and basic system functions. Software compatibility is built-in for most standard tape transports.

LYNX/SAL ..... \$2559.00

### LYNX/VSI (Video Editor Interface)

- Direct plug-in to machine port of external video editor
- Supports Ampex VPR3 style serial communications
- Enables complete emulation of video transport:
  - Locks audio transport to house video reference
  - Accepts video editor commands
  - Reports transport status to editor
- Accepts all standard LYNX audio interfaces
- Interfaces with video editors only

The LYNX/VSI video editor interface software version makes the LYNX module a compatible audio machine interface to Ampex, CMX, and Grass Valley/ISC editing systems. This LYNX software also enables external computer systems to assert machine control, when transmitting Ampex VPR3 type commands.

LYNX/VSI ..... \$2879.00

### Interface Cables

Ampex ATR 100, 102, 104 .....	\$275.00
Ampex ATR 124 .....	275.00
Ampex MM1100/1200 .....	385.00
JVC 6650/8250 ("Y") .....	385.00
Mitsubishi X850 .....	275.00
Otari 5050 Mark III/B-Q2, 16-pin, "non Y" .....	275.00
Otari 5050 Mark III/B-Q2, 34-pin, "non Y" .....	275.00
Otari 5050 Mark III/B-Q2, 34-pin, "Y" .....	385.00
Otari MTR 10/12-1 .....	275.00
Otari MTR 10/12-2, MX70 .....	275.00
Otari MTR 20 .....	275.00
Otari MTR 90-1 .....	385.00
Otari MTR 90-2 .....	275.00
Sony 3324 (requires Sony "V Clock" board) .....	385.00
Sony VO5850 "Y" (includes serial interface card) .....	650.00
Sony JH 114, 24 ("Y") .....	495.00
Sony JH 110, low profile cabinet ("Y") .....	495.00
Sony JH 110, high profile cabinet ("Y") .....	495.00
Sony BVH 2000 (includes serial interface card) .....	500.00
Sony BVU 800, BVW 10, BVW 40 .....	275.00
Studer A80 .....	385.00
Studer A800 .....	275.00
Studer A810, A820 .....	275.00
Tascam 40 .....	275.00
Tascam 50 .....	275.00
3M M79 .....	275.00

# TIMES SQUARE THEATRICAL AND STUDIO SUPPLY CORP.

318 W. 47th St.  
New York, NY 10036  
(212) 245-4155 FAX: (212) 956-6537

# FOLLOWSPOTS

Followspots are used to follow the movement of an individual or a group of performers. With the manual control knobs, the beam can be adjusted for sharp or soft edged focusing as well as from spot to flood. The beam can also be framed off at the top and bottom by using the built-in framing shutters.

## Marc 350 Quartz Arc Followspot

- Maximum throw 200'
- Utilizing a Quartz Arc tube reflector lamp. Unit features an integral lamp transformer generating a brilliant, white light output
- Dual lens system
- Iris and shutter sharp to soft edged focusing
- Color boom with 6 colors
- Blackout dowser
- Integral fan
- Low power consumption
- Adjustable caster stand
- On/off switch
- Power cable and plug
- 18" H x 12 1/2" W x 44" L
- Height with stand before extending 53"
- Weight 132 lbs.

### Available Lamp for Marc 350

Lamp	Watts	Approx. Life
Marc 350/16T	350	50 hrs.
<b>Marc 350</b>		<b>\$3400.00</b>
Marc 350/16T 350W lamp, 50 hrs		150.00

## QF 1000/QF 1002 Quartz Followspots

QF1000 Maximum throw 125'  
QF1002 Maximum throw 90'

	QF1000	QF1002
Dual Lens System	X	X
Iris and Shutter Control	X	X
Sharp to Soft Edged Focusing	X	X
Color Boom with 6 Colors	X	X
Blackout Dowser	X	X
Dual Muffin Fans	X	
Single Muffin Fan		X
Lamp Booster Device	X	
Adjustable Caster Stand	X	X
On/Off Switch	X	X
25' Power Cable and Plug	X	X

The QF1000 features an integral lamp booster device that intensifies the 1000W Tungsten-Halogen lamp to out-perform a 2000W spotlight.

- 16" H x 11" W x 33" L
- Height with stand before extending 53"
- Weight QF1000 90 lbs.
- Weight QF1002 78 lbs.

### Available Lamp for QF1000, QF1002

Lamp	Watts	Approx. Life
FEL	1000	300 hrs.
<b>QF1000</b>		<b>\$990.00</b>
<b>QF1002</b>		<b>900.00</b>
FEL 1000W lamp, 300 hrs		53.00



Marc 350



QF1000/  
QF1002



IQ4ZMF

## IQ4ZMF Mini-Followspot

- Maximum throw 40'
- Zoom lens system
- Iris and shutter control
- Sharp to soft edged focusing
- Accessory holder
- Adjustable caster stand
- Power cord and plug
- Achieve extra wide beam spreads at close range projection
- Ideal for installations that have limited space and short throw requirements
- Weight 44 lbs.
- 6" H x 6 1/4" W x 19" L
- Height with stand before extending 51"

### Available Lamps for IQ4ZMF

Lamp	Watts	Approx. Life
EVR	500	2000 hrs.
EYT	750	500 hrs.
<b>IQ4ZMF</b>		<b>\$400.00</b>
EVR 500W lamp, 2000 hrs.		31.67
EYT 750W lamp, 500 hrs		44.77

# TIMES SQUARE THEATRICAL AND STUDIO SUPPLY CORP.

318 W. 47th St.  
New York, NY 10036  
(212) 245-4155 FAX: (212) 956-6537

# FRESNELS/ ELLIPOSIDALS



Q8PC



Q325



Q6Z



C3



6PC

## Fresnel Spots

The fresnel spot light produces an intense, soft edged beam of light that can be adjusted from a spot position to a flood position. Widely used in theatrical productions, they are excellent for night clubs and photography.

- C3—Miniature Fresnel Spot with 3" lens. (100W through 250W lamps available). Recommended throw 5'-20' . . . . . \$70.00
- 6PC—Standard Fresnel Spot with 6" lens. (250-500-750W lamps available). Recommended throw 10'-30' . . . . . \$84.00
- Q8PC—Quartz Fresnel Spot with 8" fresnel lens. (1000W through 2000W lamps available.) Recommended throw 10'-60' . . . . . \$174.00

## Color Frames

- C3CF—Color frame filter holder for C3 . . . . . \$4.40
- 6CF—Color frame filter holder for 6PC . . . . . 4.40
- 8CF—Color frame filter holder for Q8PC . . . . . 6.00

## Snoots

- C35—Tapered snoot for C3 . . . . . \$12.00
- 6S—Snoot with 3" opening for 6PC . . . . . 20.00
- 6S5—Snoot with 5" opening for 6PC . . . . . 20.00

## Four-Door Barndoors

- C3BD4—Four-door barndoor for C3 . . . . . \$35.00
- 6BD4—Four-door barndoor for 6PC . . . . . 36.00
- Q8BD4—Four-door barndoor for Q8PC . . . . . 70.00

## Stand Adaptors

- C3SA—Stand adaptor for C3 . . . . . \$12.83
- SA—Stand adaptor for 6PC and Q8PC . . . . . 12.83

## Pipe Clamps

- PCS—Pipe clamp for C3 . . . . . \$ 8.80
- PSI—Pipe clamp for 6PC . . . . . 12.00
- PC9C—Pipe clamp for Q8PC . . . . . 12.00

## Motorized Color Wheels

- 6MW—Motorized color wheel for 6PC . . . . . \$108.00
- TB4—Table base for C3 fresnel. . . . . 8.80
- TA1—Single circuit track adaptor for C3 fresnel . . . . . 28.00
- TA3—Three circuit track adaptor for C3 fresnel . . . . . 38.00
- 6L—Pin Spot Adaptor converts the 6PC fresnel to a pin spot. It produces a sharply defined circle of light. The 6L comes with three various diameter templet drop-ins . . . . . \$64.16

## Ellipsoidals

Our line of ellipsoidals are designed for superior performance, with a hi-tech look. The ellipsoidal provides a concentrated, well-defined beam of light that can be shaped with built-in framing shutters to eliminate spill. It is engineered with a concentrated high power light source, precision reflector and lens system designed to project a sharp-edged of diffused beam of light. Each unit produces an even field of illumination without any hot spots or shadows. Various accessories are available to project design patterns and circles of light.

- Q325—Variable focal length 3 1/2" ellipsoidal. The square design of the 3 1/2" ellipsoidal is hi-tech and compact enough for most low ceiling applications. Its powerful performance makes it ideal for clubs, display lighting, and pattern projection. Uses 150-250-325W lamps. (Recommended throw 5'-25') . . . . . \$240.00

## Accessories for Q325

- 3T—Pattern Template Holder . . . . . \$12.00
- Q3CF—Colorframe Filter Holder . . . . . 4.40
- P100—Mini-pattern Template Series . . . . . 8.45

- Q4W—Variable focal length ellipsoidal with 4 1/2" lens system. Provides spreads of 32°, 40°, or 48°. (Recommended throw 5'-30') . . . . . 220.00

- Q4Z—Variable focal length Zoom Ellipsoidal combines the features of the Q4M and Q4W with a lens system that is built on a sliding track to obtain infinitely more beam spreads . . . . . 240.00

## Interchangeable Accessories— for Q4M, Q4W, and Q4Z

- 4T—Pattern Template Holder . . . . . \$12.00
- Q4CF—Colorframe Filter Holder . . . . . 4.40
- Q4I—Iris Kit . . . . . 80.00
- SA—Stand Adaptor . . . . . 12.83
- P200—Series of Pattern Templates . . . . . 8.45

## Square Style Fixed Lens Position Ellipsoidals

- Q6X9—6" Quartz Ellipsoidal—wide angle: 40°. Recommended throw—10'-30' . . . . . \$220.00
- Q6X12—6" Quartz Ellipsoidal—medium angle: 30°. Recommended throw—10'-40' . . . . . 220.00
- Q6X16—6" Quartz Ellipsoidal—medium-narrow angle: 20°. Recommended throw—20'-70' . . . . . 220.00
- Q6X22—6" Quartz Ellipsoidal—narrow angle: 12°. Recommended throw—20'-80' . . . . . 220.00
- Q6Z—6" Variable focal length Zoom Ellipsoidal. Features a sliding lens system to obtain spreads from 32° (wide angle) to 26° (medium angle) to 20° (medium-narrow angle) and an infinite number of spreads between. (Recommended throw for distance up to 70') . . . . . \$330.00

## Accessories for 6" Ellipsoidals

- 6CF—Colorframe Filter Holder . . . . . \$ 4.40
- 6T—Pattern Template Holder . . . . . 12.00
- 6I—Iris Kit . . . . . 80.00
- 6MW—Motorized Color Wheel . . . . . 108.00
- P200—Pattern Template Series . . . . . 8.45



# TOTE VISION

901 Thomas St.  
Seattle, WA 98109  
(206) 682-4343  
FAX: (206) 682-1051

# VHS VIDEOCASSETTE PLAYERS/ COLOR MONITORS

## TI-3000 VHS Videocassette Player

- Automatic repeat makes it ideal for sales presentations • 3-speed selection (SP, LP, SLP) plays tapes up to 8 hours long • Automatic front loading saves space, loads tapes quickly and easily • Picture search in forward and reverse • Still frame • Automatic rewind • Rotary head helical scanning system • Trim, lightweight design makes it easy to carry

TI-3000 (AC only) .....\$260.95



TI-3000

## GS-2000AC VHS Videocassette Player

- Automatic repeat makes it ideal for sales presentations • 3-speed selection (SP, LP, SLP) plays tapes up to 8 hours long • Automatic front loading • Picture search in forward and reverse • Still frame • Automatic rewind • Rotary Head Helical Scanning System • Tape protection system automatically stops machine before excess humidity can damage tape • Aluminum chassis allows safe, cool operation over long hours of continuous play • Handsome matte black exterior • Trim, lightweight design makes it easy to carry

GS-2000 (AC only) .....\$260.95



GS-3000H

## GS-3000H AC/DC VHS Videocassette Player

- Automatic repeat makes it ideal for sales presentations • 3-speed selection (SP, LP, SLP) plays tapes up to 8 hours long • Operates on AC current or optional DC car cord • Automatic front loading saves space, loads tapes quickly and easily • Picture search in forward and reverse • Still frame • Automatic rewind • Rotary head helical scanning system • Tape protection system automatically stops machine before excess humidity can damage tape • Trim, lightweight design and handle make it easy to carry • Handsome matte black exterior

GS-3000H (AC/DC) .....\$279.95

## DA-1300 13" Color Monitor

- Video and audio input make it ideal for sales training, computer programs or your favorite movies • Comb filter delivers superior picture definition • Molded-in handle for easy carrying • Operates on AC power • High-tech design in solid black • Removable anti-glare filter provides comfortable viewing

DA-1300 .....\$235.95



DA-1300



CB-1900

## CT-6000 5" Color Television/Monitor

- Miniature, high-tech picture gives you vivid color • Weighs just 7 lbs. • Audio/video in/out jacks and TV/monitor switch let you use it as monitor with your VCR and computer • Automatic fine tuning • Telescoping antenna • Precise electronic tuning easily tunes in VHF and UHF channels • Sunscreen gives you a great picture outdoors • High-impact plastic cabinet is light and strong • Earphone jack • Three power options—AC adaptor, DC car cord, 10 "D" batteries (Batteries not included)

CT-6000 .....\$270.95

## CB-7000 AC/DC VHS Videocassette Player with 5 1/2" Color Monitor

- Weighs only 20 lbs. • Can be used with AC adaptor or DC car cord • Flat, square picture tube • Highly advanced rotary helical scanning system • Forward and reverse picture search permits review and emphasis of key material • Single speed play (tape speed of 33.4mm/sec). • Still frame capability allows you to freeze the action • Playback time is up to 2 hrs., 40 min. with T-160 tape • Handsome metal case with protective, removable faceplate and carrying handle • 5"H x 16 1/2"W x 15"D

CB-7000 .....\$612.95

## CB-1900 Color Television/Monitor with Built-In VCR

- Wireless TV/VCR remote control function • Soft-touch controls located in front for easier operation • Direct-drive, front-loading system • 105-channel, cable-ready tuning (12-position electronic tuning) • Dew indicator prevents the playing of (and damage to) damp tape • Visual search (cue/review) function • Automatic rewind • Automatic playback speed selector (SP, LP, SLP record/playback) • Allows up to 8 hours of record/playback time • Tape counter with memory function • LED indicators show VCR operation • Direct-drive head drum and capstan • Equipped with all regular VCR modes except the program function

CB-1900 .....\$770.95

# TROMPETER ELECTRONICS INC.

31186 LA BAYA DR.  
P.O. BOX 5069  
WESTLAKE VILLAGE, CA 91359-5069

PH. (818) 707-2020  
FAX (818) 706-1040  
TWX: 910-494-1210

## Standard Coax Patching Systems

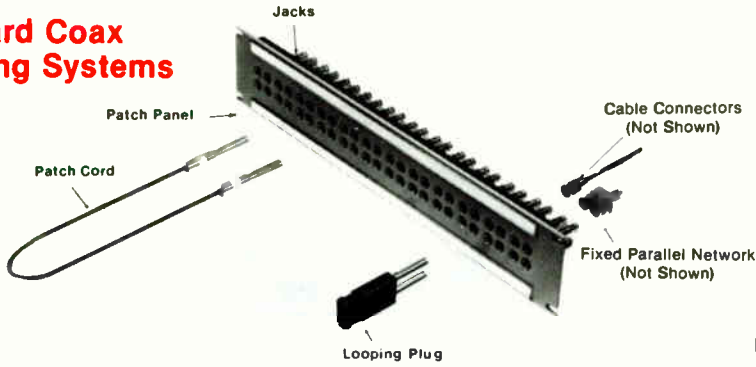


FIG. 1

## Plugs & Cable Assemblies



**PATCH PLUGS (Crimp)**  
PL1C-Δ .070 pin (RCA) A = 2.80" B = 1.57" FIG. 2  
PL1WC-Δ .090 pin (WE) A = 2.52" B = 1.29"



**ADAPTER PLUG (BNC)**  
AD1 .070 pin (RCA) A = 2.77" (Shown) FIG. 3  
AD1W .090 pin (WE) A = 2.83"



**LOOPING PLUG**  
.070 pin (RCA) A = 3.76" B = 1.55" FIG. 4  
.090 pin (WE) A = 3.50" B = 1.25"



**PATCH CORD**  
PCL-Z (50, 75, 93 ohm) .070 pin (RCA) FIG. 5  
PCWL-Z (50, 75, 93 ohm) .090 pin (WE)



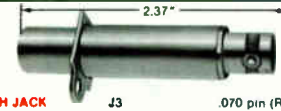
**CABLE ASSEMBLY (Std Patch and BNC)**  
PCX-L-Z (50, 75, 93 ohm) .070 pin (RCA) FIG. 6  
PCWX-L-Z (50, 75, 93 ohm) .090 pin (WE)  
Designate 75 ohm BNC by prefix U.

## Jacks: Single/Dual



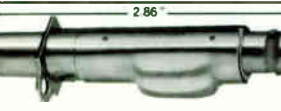
**PATCH JACK (Cable entry)** J3E-Δ .070 pin (RCA) FIG. 7  
J3WE-Δ .090 pin (WE)

Usable whenever cable entry is desired in place of standard connectors.



**PATCH JACK (BNC)** J3 .070 pin (RCA) FIG. 8  
J3W .090 pin (WE)

Rear mates with Trompeter PL20-N series or any standard BNC plug.



**PATCH JACK (BNC) (Self-terminating)** J13-R\* .070 pin (RCA) FIG. 9  
J13W-R\* .090 pin (WE)

Rear mates with any BNC plug. Circuit is terminated when patch plug is removed. Signal degradation increases when used above 100 MHz. See Fig. 17



**PATCH JACK (Normal Thru)** J14 Series FIG. 10

For available circuit configuration See Fig. 12 thru 16



**PATCH JACK (Dual) — Wired** J15B (BNC) .070 pin (RCA) FIG. 11  
J15WB (BNC) J15WH (TNC) .090 pin (WE)

**PATCH JACK (Dual) — No Wiring** J15BA (BNC) .070 pin (RCA) FIG. 11  
J15WBA (BNC) J15WHA (TNC) .090 pin (WE)

**REAR ENTRY CABLE** J15-Δ .070 pin (RCA) FIG. 11  
J15W-Δ .090 pin (WE)

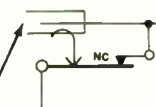
## Introduction:

Trompeter Electronic's standard coax patching systems, shown on this page, provide limitless flexibility to route signals from one place to another. Two basic versions of Standard Coax patching are available. The RCA 50 ohm with a pin size of .070" and the Western Electric (WE) 75 ohm type with a pin size of .090". Signal degradation occurs above 100 mhz. The two series are not interchangeable but can be intermixed on the same panel along with TEI's audio patch jacks and panel lites (not shown).

PART NO.	RCA	WESTERN ELECTRIC	FUNCTION	REAR ENTRY	PC FIG.	CIRCUIT FIG.
J3E-Δ	J3WE-Δ		Patch Jack, Single	Cable*	7	—
J3	J3W		Patch Jack, Single	BNC Standard TNC Available	8	—
J3D	J3WD		Patch Jack, Single	Solder Pot	Not Shown	—
J13R*	J13WR		Patch Jack, Single — Self Terminating	BNC Standard TNC Available	9	16
J13C-R*	J13WC-R		Patch Jack, Single — Self Terminating	Cable, Crimped	Not Shown	16
J14 Series	J14W Series		Patch Jack, Dual — Self Looping	Dual BNC Standard TNC Available	10	12 thru 15
J15 Series	J15W Series		Patch Jack, Dual — Prewired Parallel or No Wiring	Single — BNC, TNC or Cable	11	—

\* Substitute Resistance for R (1/2 W 5%)

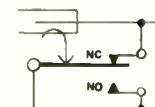
RG CABLE	1	2	3	4	5	6
	58	59	122	174	223	



STANDARD

J14/J14W

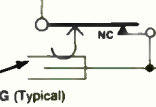
FIG. 12



STANDARD TERMINATED

J14T-R/J14WT-R\*

FIG. 13

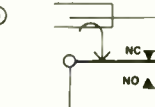


PATCHING (Typical)

MONITOR

J14M/J14WM

FIG. 14



MONITOR TERMINATED

J14MT-R/J14WMT-R\*

FIG. 15

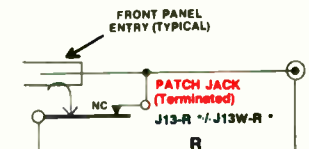
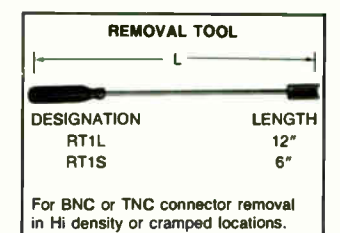


FIG. 16



For BNC or TNC connector removal in Hi density or cramped locations.

## Patch Panels

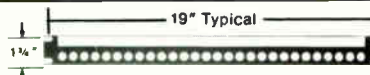


FIG. 18

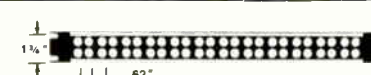


FIG. 19



FIG. 20

PANEL HEIGHT	NO. ROWS	FIG.	PANEL DESIGNATION AND NO. OF SINGLE JACKS ACCOMMODATED										VERTICAL SPACING				
1 3/4"	1	18	12	14	16	20	24S	26	28								
	2	19							32S	40S	48S	52S					.625
3 1/2"	2	20					24L	28A	32A	36A	40	48	52	56			.625

◀ Will not accept J14 or J15 Dual Jack.

Full Line Catalog and Pricing Available on Request. Prices and Specifications Subject to Change Without Notice.

## Ordering Information:

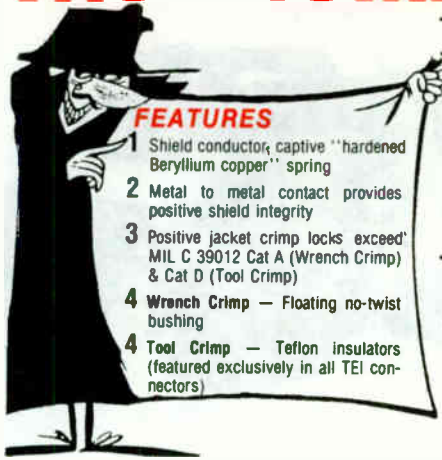
JSI - 12 / J3W

Panel Type \_\_\_\_\_  
(JS = Aluminum)  
(JSI = Insulated)  
No. of Jack Holes \_\_\_\_\_  
Jack Type \_\_\_\_\_  
To Order Panels Only, Leave "Jack Type" Blank.



# The TROMPETER NETWORK CONNECTION

## MINIATURE COAX SERIES CONSTRUCTION



### FEATURES

- 1 Shield conductor, captive "hardened Beryllium copper" spring
- 2 Metal to metal contact provides positive shield integrity
- 3 Positive jacket crimp locks exceed MIL C 39012 Cat A (Wrench Crimp) & Cat D (Tool Crimp)
- 4 Wrench Crimp — Floating no-twist bushing
- 4 Tool Crimp — Teflon insulators (featured exclusively in all TEI connectors)



### WRENCH CRIMP\*\*

FIELD SERVICEABLE



### TOOL CRIMP

### BNC 2-LUG BAYONET

### TNC THREADED

		Construct.	50 Ohm	75 Ohm		Construct.	50 Ohm	75 Ohm
IN-LINE CABLE PLUGS		WRENCH CRIMP	PL20-N*	UPL20-N*		WRENCH CRIMP	PL40-N*	UPL40-N*
		TOOL CRIMP	PL220-N*	UPL220-N*		TOOL CRIMP	PL240-N*	UPL240-N*
IN-LINE CABLE JACKS		WRENCH CRIMP	CJ20-N*	UCJ20-N*		WRENCH CRIMP	CJ40-N*	UCJ40-N*
		TOOL CRIMP	CJ220-N*	NOT AVAILABLE		TOOL CRIMP	CJ240-N*	NOT AVAILABLE
INSULATED BULKHEAD CABLE JACKS		WRENCH CRIMP	BJ26-N*	UBJ26-N*		WRENCH CRIMP	BJ46-N*	UBJ46-N*
		TOOL CRIMP	BJ226-N*	NOT AVAILABLE		TOOL CRIMP	CONTACT FACTORY	NOT AVAILABLE
INSULATED BULKHEAD FEEDTHRU JACKS		—	BJ28	UBJ28		—	BJ48	UBJ48

\*SPECIFY CABLE NO. & MANUFACTURER. JACKET DIA. MAX. .332" (8.42mm) CONDUCTOR DIA. MAX. .057" (1.45mm)

\*\*TEI'S TPS & TCM SUBMINIATURE, F MINIATURE & C & N STANDARD COAX CONNECTOR SERIES ALSO FEATURE 3 PIECE WRENCH CRIMP CONSTRUCTION

### COAX DATA SWITCHES:

Designed for use up to 15 MHz. Circuits are isolated from ground with shield & center conductor switched. Switched out ports are terminated in a resistive load.



BNC/TNC

SINGLE LINE BNC OR TNC

### WALL MOUNT PLATE:

Available with up to 6 BNC or TNC connectors.



### DATA DISTRIBUTION PANELS:

TEI manufactures signal distribution panels that accommodate from 12 to 52 Bulkhead Cable or Feedthru Jacks illustrated above. All panels are 19" standard rack size in insulated and non-insulated versions. Panels accommodating 24, 32, 40 or 52 lines are double row (as illustrated) and 3 1/2" high. Light gray is the standard color though other colors are available on special order.



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TROMPETER ELECTRONICS, INC.

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# TV SPECIALISTS

180 E. 21st South, Ste. 104  
Salt Lake City, UT 84115  
(801) 486-5757

# CAMERA/VTR SYSTEM

## Z III Professional 3-Tube Camera/VTR System

By utilization of recent advances in half-inch signal processing, component recording, and camera miniaturization the Z III sets new standards for performance, ease of operation and cost effectiveness for professional video production.

The Z III combines direct Y/C component analog recording, 20% increased white clip level, non-linear pre-emphasis, and the advantages of a fully integrated three-tube camera/VTR system while maintaining complete compatibility with composite VHS systems.

### Full Compatibility

Complete and versatile, the Z III produces high quality Y/C component recordings on high grade VHS cassettes that can be played back on any VHS VCR and yet will yield a production quality image when edited and dubbed in Y/C components.

### Quality Challenging 3/4"

Now for the first time it is possible to shoot, edit, and duplicate in Y/C component form without changing formats while maintaining full VHS compatibility and quality comparable to mastering on 3/4" tape.



### High Picture Quality

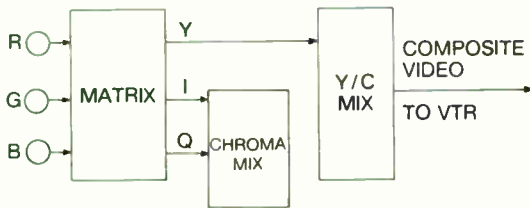
The camera achieves exceptionally sharp image quality by utilization of a middle index prism beam splitter and a 2 line vertical enhancer.

Horizontal resolution exceeds 570 lines with a high signal-to-noise ratio of better than 54dB.

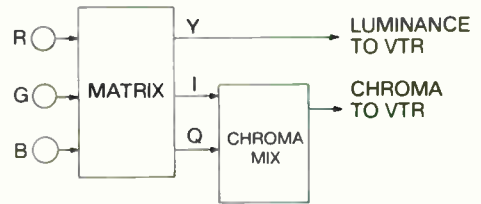
Z III ..... \$8995.00

## Component Quality, Half-Inch Economy, Fully Compatible

### Conventional Camera



### Z III Camera/VTR



## Lumachrome™ VHS Compatible Component Recording

Lumachrome is a new proprietary component recording system designed by TV Specialists for professional video applications. Conventional VHS and VHS HQ compatibility are maintained by utilizing existing 2 hour recording speeds, head drum cylinders and VHS video tapes. Lumachrome takes advantage of the latest component technology and provides the following advantages:

- True multiple-generation capability • Better than 48dB signal-to-

- noise ratio luminance • Improved depth of modulation for sharper pictures • Reduces ringing and edge noise • 80% tape cost savings compared to 3/4" • 40%-60% equipment savings compared to 3/4" • 50% reduction in weight and size compared to 3/4" portable systems • Improved color signal-to-noise ratio, typical 46dB • Reduced color smear and phase shift • Improved color band width and detail • Improved playback on conventional VHS VCRs • 6 times longer recording time per tape

### Specifications

#### Camera

Optical System:	f/1.4 RGB prism
Scanning Standard:	525 lines 60 fields
Synchronizing System:	Built-in S.S.G.
Pickup Tubes:	1/2" ST-MG Newvicon®
Output:	Composite 1.0V p-p NTSC Component 1.0V p-p Y, .5V p-p C
Registration:	Less than .1% Zone 1 Less than .3% Zone 2 Less than .6% Zone 3
Vertical Aperture	
Correction:	2 line
Color Bar:	Built-in full field
Minimum Illumination:	140 fc f/4.0 3 fc f/1.4 + 12dB 57dB luminance
Signal-to-Noise Ratio:	570 lines
Horizontal Resolution:	10:1 f/1.4 Power Zoom w/macro
Lens:	1.05A 2VDC
Power Consumption:	

#### VTR

Video Recording System:	4 rotary heads
Luminance:	FM azimuth recording
Chroma:	Converted subcarrier
Tape Format:	VHS compatible
Tape Speed:	1 5/16 ips
Rec/Playback Time:	2 hrs. T-120
Horizontal Resolution:	300 lines
Signal-to-Noise Ratio:	47dB
Television System:	525 line 60 fields
Power Consumption:	7W
Audio Frequency	
Response:	50-10,000Hz
Audio Signal-to-Noise Ratio:	Better than 45dB

# TV SPECIALISTS

180 E. 21st South, Ste. 104  
Salt Lake City, UT 84115  
(801) 486-5757

# VIDEO EFFECTS SYSTEM

## The Wizard Series Type II 2-Channel Digital Video Effects System

The Wizard Series Type II is a cost effective digital video effects system that provides two channel A/B effects from its own built-in mixing switcher and dual channel TBC's. The system is the only one of its kind that offers true modular design including both effects and bandwidth expansion.

For the first time it is now possible for even a single source editing system to have the polished look of a big budget production without the usual high costs. As production needs arise the modular design of the Wizard allows upgrading.

### Modular A/B Roll Effects

#### The Wizard Apprentice Type II

A/B roll dissolve	Still frame
A/B cuts	Still field
Fade to black or color	Variable strobe
Horizontal wipe	Posterization
Vertical wipe	Variable mosaics
Editor interface	Dual proc amps
Auto transitions	T-bar or auto control
Color correction	VCR motion effects
<b>Apprentice Type II . . . . .</b>	<b>\$11,900.00</b>

#### The Wizard Type II

All of the above plus:	
Digital dissolve (breakup)	Picture compression (1/4)
Picture positioning (joystick)	Multiple pictures with overlay (5 max)



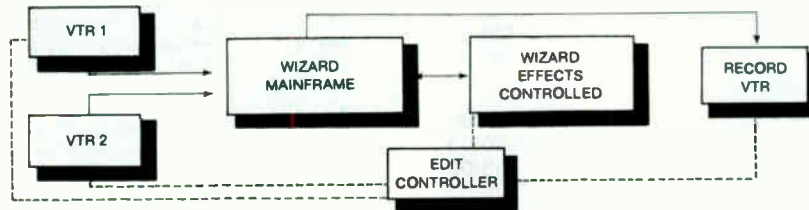
WIZARD SERIES

Slide on (4 directions)	Compression trails
Slide off (4 directions)	Mirror fold over
Picture inversion	Mirror tunnel
Half size horizontal	Strobe zoom out
Half size vertical	
<b>Type II . . . . .</b>	<b>\$15,900.00</b>

#### The Wizard Master Type II

All of the above plus:	
Variable H & V compression	Variable zoom
Adjustable boards w/color	Dual T-bars
Vertical flips	Disc storage
<b>Master Type II . . . . .</b>	<b>\$20,900.00</b>

## Typical Connections



## Specifications

### Channel One

Input Composite Video:	1.0V p-p 75 ohms
Signal Bandwidth:	2.8MHz Heterodyne 4.2MHz Direct
Signal-to-noise ratio:	58dB
Digitization System:	8 bit 4 x sc
Time base correction:	16 line
Power:	60Hz, 120VAC
Reference input:	1.0V p-p 75 ohms
Sync:	RS-170 internal or ext.
Output Stability:	± 15 ns

### Channel Two

Input Composite Video:	1.0V p-p 75 ohms
Signal Bandwidth:	2.8MHz Standard 4.2MHz Option
Signal-to-noise ratio:	56dB
Digitization System:	7 bit 7 component
Time base correction:	Infinite window
Power:	60Hz, 120VAC
Reference input:	Same as channel one
Sync:	RS-170 internal or ext.
Output Stability:	± 15 ns

Prices and Specifications Subject to Change Without Notice.

V-1117

# ULTIMATE SUPPORT SYSTEMS, INC.

P.O. Box 470  
Fort Collins, CO 80522-4700  
(303) 493-4488  
Telex: 49-91589 ULTIMATE SUPPT

# TRIPODS

## TS-30T/TS-33T Tripod Stands

### Common Features

• Combines deep etched and clear anodized aluminum tubing with black polycarbonate parts • Ideal for speakers, PA systems, signs, photo studio lights, etc. • Large, easy-to-use handknobs • Waterproof nylon tote bag included • All USS lighting products can also be used with the TS-30T

### TS-30T

• Height: 3'6" to 6'7" • Max. base diameter: 47" • Load capacity: 75 lbs. • Breakdown dimensions: 41 1/4" x 6 1/2" dia. • Weight: 6 lbs. • Set up time: 2 minutes

TS-30T ..... \$100.00  
TS-30BT Black ..... 115.00

### TS-33T

• Height: 5'0" to 9'2" • Max. base diameter: 62" • Load capacity: 100 lbs. • Breakdown dimensions: 57 1/2" x 6 1/2" dia. • Weight: 8 lbs. • Set up time: 2 minutes

TS-33T ..... \$120.00  
TS-33BT Black ..... 138.00

## TS-30AT/TS-33AT Articulating Leg Tripods

### Common Features

• Enables their users to direct the sound on almost any surface • By simply adjusting a handknob located at the top of the leg, the tripod can be infinitely adjusted to the exact contours of the ground surface • Allows the tripod to be used normally on flat surfaces • Constructed of lightweight aluminum alloy tubing and glass-reinforced polycarbonate parts • Breaks down to slip into a waterproof nylon tote bag which is included • Variety of mounting adaptors are available

### TS-30AT

• Height: 3'6" to 6'7" • Max. leg extension: 11" • Load capacity: 75 lbs. • Breakdown dimensions: 41 1/4" x 6 1/2" dia. • Weight: 6 1/2 lbs. • Set up time: 2 minutes

TS-30AT ..... \$115.00  
TS-30ABT Black ..... 130.00

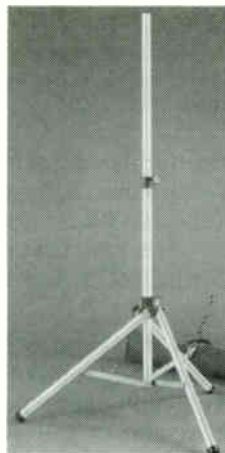
### TS-33AT

• Height: 5' to 9'2" • Maximum leg extension: 16" • Load capacity: 100 lbs. • Breakdown dimensions: 57 1/2" x 6 1/2" dia. • Weight: 8 1/2 lbs. • Set up time: 2 minutes

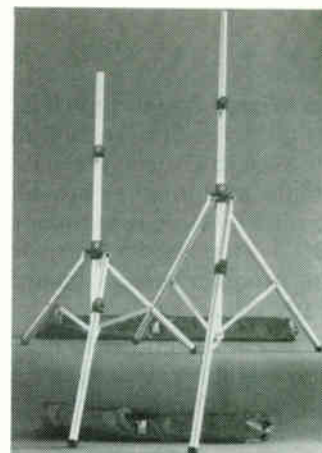
TS-33AT ..... \$135.00  
TS-33ABT Black ..... 154.00

## Lighting Components

BE-24 Boom extension (2') ..... \$27.00  
BE-24B Boom extension (black) (2') ..... 30.00  
BE-48 Boom extension (4') ..... 33.00  
BE-48B Boom extension (black) (4') ..... 36.00  
CB-24 Lighting crossbar pair (w/mounting hardware) (2') ..... 40.00  
CB-24B Lighting crossbar pair (black) (w/mounting hardware) (2') ..... 43.00  
CB-48 Lighting crossbar (w/mounting hardware) (4') ..... 40.00  
CB-48B Lighting crossbar (black) (w/mounting hardware) (4') ..... 43.00  
HB-24 Heavy lighting crossbar pair (for theatrical clamps) (2') ..... 36.00  
HB-24B Heavy lighting crossbar pair (black) (for theatrical clamps) (2') ..... 40.00  
HB-48 Heavy lighting crossbar (for theatrical clamps) (4') ..... 36.00  
HB-48B Heavy lighting crossbar (black) (for theatrical clamps) (4') ..... 40.00



TS-33T



TS-30AT

TS-33AT

UB-48 Boom system [Includes: (1) Aluminum tube (4'), (1) SJT-155, (1) CWS-100]. ..... \$82.00  
UB-48B Boom system (black) [Includes: (1) Aluminum tube (4'), (1) SJT-155, (1) CWS-100] ..... 85.00  
VE-24 Lighting vertical extension (w/mounting hardware) (2') ..... 20.00  
VE-24B Lighting vertical extension (black) (w/mounting hardware) (2') ..... 23.00

**Package Systems—Lighting Stands**

CT-33PT Lighting tree package [Includes: (1) TS-33T, (1) CB-48, (1) CB-24, (1) VE-24, (1) BAG-502] ..... \$230.00  
CT-33BPT Lighting tree package (black) [Includes: (1) TS-33BT, (1), CB-48B, (1) CB-24B, (1) VE-24B, (1) BAG-502] ..... 255.00  
HT-33PT Heavy lighting tree package [Includes: (1) TS-33T, (1) HB-48, (1) HB-24, (1) VE-24, (1) BAG-502] ..... 225.00  
HT-33BPT Heavy lighting tree package (black) [Includes: (1) TS-33BT, (1) HB-48B, (1) HB-24B, (1) VE-24B, (1) BAG-502] ..... 250.00

## Accessories

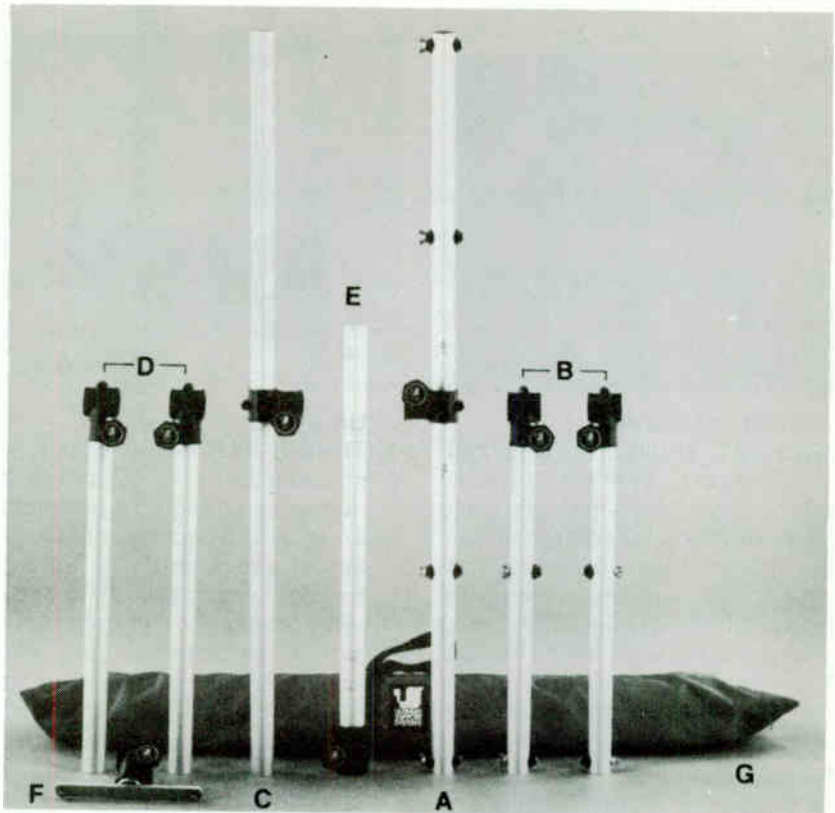
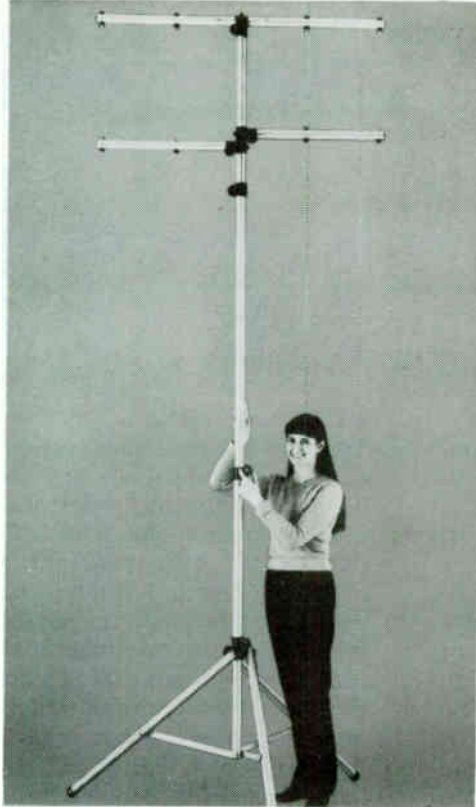
ADB-150 Adaptor base ..... \$10.00  
ADR-5B3 Adaptor threaded (5/8" stud, 3/8"-16 Eurothreads) ..... 8.50  
ATB-150 Adaptor T-base ..... 15.00  
BAG-401 Tote bag zippered (VT-44 bag) ..... 38.00  
BAG-402 Tote bag zippered (KR-48DP bag) ..... 27.00  
BAG-403 Tote bag drawstring (TS-30T bag) ..... 13.00  
BAG-502 Tote bag zippered (lighting accessory bag) ..... 25.00  
BAG-605 Tote bag drawstring (TS-33T bag) ..... 16.00  
BJR-150 Boom joiner ..... 20.00  
BJR-150B Boom joiner (black) ..... 21.00  
BMB-200 Mounting bracket ..... 20.00  
BMB-200K Mounting bracket kit (w/mounting hardware) ..... 24.00  
CST-150S Caster assembly single (replaces CRK-150) ..... 19.00  
CWS-100 Counterweight (10 lbs.) ..... 38.00  
CWS-250 Counterweight (25 lbs.) ..... 65.00  
CWS-250K Counterweight kit (w/o lead shot) ..... 22.00  
EMP-120 Electronics mounting bracket pair (w/adhesive Velcro®) ..... 35.00  
EMP-120B Electronics mounting bracket pair (black) (w/adhesive Velcro) ..... 37.00  
EXP-550 Expander bracket ..... 19.00  
EXT-220 Pin extension pair ..... 4.00  
KMM-150 Monitor mount ..... 35.00  
KMM-150B Monitor mount (black) ..... 35.00  
PKT-100 Parts kit lighting ..... 85.00  
SHF-1B5 Shelf (18 1/2") ..... 30.00  
SJT-150 Swivel joint ..... 20.00  
SJT-155 Swivel joint w/T-fitting ..... 32.00  
TAD-100 Adaptor stud (1" dia.) ..... 9.00  
TAD-13B Adaptor stud (1 3/8" dia.) ..... 9.00  
TMB-400K Slide mounting bracket kit (w/mounting hardware) ..... 20.00



# ULTIMATE SUPPORT SYSTEMS, INC.

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Fort Collins, CO 80522-4700  
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# LIGHTING STAND/ COMPONENTS



## TS-33T Lighting Stand and Components

The on-stage professional utilizes the latest technologies to visually create the atmosphere he desires. Through the use of dimmers, barn doors, and control modules, the lighting engineer tries to transform a drab set into an exciting arena. However, due to the lack of achievements in lighting stands, these effects are limited by large, heavy tarnished steel bars which sit ominously on an otherwise aesthetic stage. This has changed by the introduction of aluminum stands; deep etched and clear anodized, to add to, instead of take away from the desired effect.

In addition to being attractive, these systems are lightweight. Through the use of aluminum alloy tubing, the entire stand as shown weighs only 12 lbs. This feature reduces shipping costs as well as physical wear and tear.

Other features include: large, convenient handknobs and easy-to-use fittings; your choice of bolt and wingnut type crossbar, or heavy walled crossbars for clamp type lights. Fittings are constructed of glass reinforced polycarbonate, one of the toughest plastics available.

The TS-33T Tripod forms the base for this versatile system and comes with a nylon tote bag. The tripod's excellent stability enables the lights to be extended over 11' when used in conjunction with the vertical extension.

This lighting stand gives you the choice as to how you want to build up your own stand. The modular design allows you to add on the additional parts as you require.

TS-33T	.....	\$120.00
TS-33BT Black	.....	138.00

Add ons to the TS-33T Tripod include:

<b>CB-48 (A)</b>	4' crossbar with bolts and wingnuts. Capacity: 8 lights. Two bolts are also provided for attaching power expanders, dimmer packs, etc. Weight: 1 1/2 lbs.	
CB-48	.....	\$40.00
CB-48B Black	.....	.43.00

**CB-24 (B)**  
2' crossbar with bolts and wingnuts. Comes in pairs. Capacity: 4 lights/pr. Weight: 1 1/2 lbs.

CB-24	.....	\$40.00
CB-24B Black	.....	.43.00

**HB-48 (C)**  
4' heavy crossbar. Heavy walled tubing for clamp type fixtures. Weight: 2 3/4 lbs.

HB-48	.....	\$36.00
HB-48B Black	.....	.40.00

**HB-24 (D)**  
2' heavy crossbar. Heavy walled tubing for clamp type fixtures. Comes in pairs. Weight: 3 lbs.

HB-24	.....	\$36.00
HB-24B Black	.....	.40.00

**VE-24 (E)**  
2' vertical extension. Extending the TS-33 Tripod up to 11'. Weight: 1 lb.

VE-24	.....	\$20.00
VE-24B Black	.....	.23.00

**EXP-550 (F)**  
Expander bracket for power expanders, dimmer packs, etc. Weight: 1/2 lb.

EXP-550	.....	\$19.00
---------	-------	---------

**BAG-502 (G)**  
Lighting accessory bag

BAG-502 (G)	.....	\$25.00
-------------	-------	---------

After the performance, the eleven foot lighting stand compacts to fit into two small tote bags for easy transportation.

### Specifications

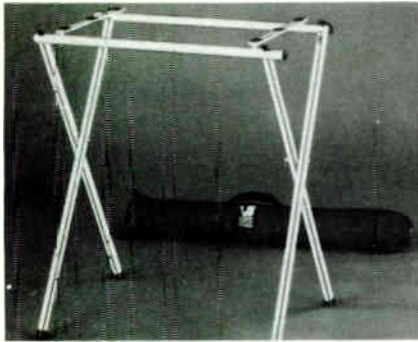
- Height: 5'0" to 11'2"
- Max. Base Diameter: 62"
- Load Capacity: 100 lbs.
- Weight (as shown): 12 lbs.
- Set up time: 3 minutes

Prices and Specifications Subject to Change Without Notice.

# ULTIMATE SUPPORT SYSTEMS, INC.

P.O. Box 470  
 Fort Collins, CO 80522-4700  
 (303) 493-4488  
 Telex: 49-91589 ULTIMATE SUPPT

# STANDS/TABLES

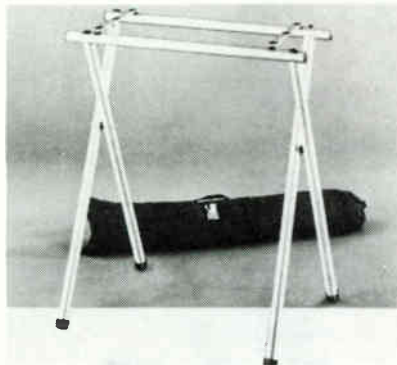


### US-22T Utility Stand

The US-22T, smallest of the Ultimate Support Systems' utility stands, weighs 4 1/2 lbs., securely holds up to 75 lbs. of equipment: 1" diameter aluminum alloy tubing construction. Features allow the entire stand to fit into a slender 33 1/2" long bag when disassembled. The US-22T, when set up, has a height of 30 1/4". The perfect stand for: keyboards, mixing boards, lighting consoles, rack equipment, etc. The two support bars can be placed in any of four positions to accommodate various equipment widths. The aluminum is deep etched and clear anodized to provide a look that complements any product it upholds. The feet are double-capped and skid resistant; all nuts are locking type; rubber pads are included to keep equipment from sliding. A waterproof nylon tote bag is included for traveling ease.

#### Specifications

Height:	30 1/4"
Tabletop Dimensions:	28 1/4" x 14 1/8"
Load Capacity:	75 lbs.
Breakdown	
Dimensions:	33 3/8" x 4" diameter
Weight:	4 1/2 lbs.
Set Up Time:	2 minutes
US-22T .....	\$85.00
US-22BT Black .....	\$99.00



### US-44T Utility Stand

The US-44T Utility Stand is constructed of 1 1/2" diameter aluminum alloy tubing. The products' 6 1/2 lb. structure securely holds up to 75 lbs. of equipment. The tubing goes through a special etching and anodizing process to create a rich matte look to complement any piece of equipment it upholds. The top dimensions are 15 3/4" x 34 1/8". The two support bars can be placed in any of four positions for various equipment widths. When set up, the US-44T's 36" height is perfect for mounting keyboards, lighting consoles, mixing boards, etc. The entire stand disassembles to slip into a slender 40" long waterproof nylon tote bag, which is included. Additional features include: double capped skid resistant feet, locking type nuts, and rubber pads to keep equipment from sliding.

#### Specifications

Height:	36"
Tabletop Dimensions:	15 3/4" x 34 1/8"
Load Capacity:	75 lbs.
Breakdown	
Dimensions:	39 1/4" x 5 1/4" diameter
Weight:	6 1/2 lbs.
Set Up Time:	2 minutes
US-44T .....	\$110.00
US-44BT Black .....	\$125.00



### VT-44 Versa Table

The VT-44 is ideal for elevating large synthesizers and keyboards; mixing consoles, lighting controls, and other paraphernalia. The VT-44 is constructed of lightweight aluminum alloy tubing. The deep etch and clear anodize gives the quality appearance that complements any type of equipment that is placed on it. The VT-44 features individually adjusting legs (seven height settings). Coupled with the absence of long braces, this enables the VT-44 to straddle rows of theatre seats, sit securely on uneven ground and tilt to adjust to individual preferences. The tabletop is constructed of 1/8" oil tempered hardboard and is covered with heavy black vinyl. The edging is constructed of vinyl clad metal, providing tough protection all around. The tabletop dimensions are 22" by 44". Height can be adjusted in 2 1/4" increments between 20" and 33". A brace under the center of the tabletop gives a solid working surface capable of supporting 250 lbs. of equipment. Spring buttons and ball-lock pins make setup and breakdown a snap. Double capped skid resistant feet are glued on to stay in place. A tough waterproof nylon tote bag for easy transportation and storage is available separately.

#### Specifications

Height:	20"-33"
Tabletop Dimensions:	22" x 44"
Load Capacity:	250 lbs.
Breakdown	
Dimensions:	22" x 44" x 2 1/2"
Weight:	15 1/4 lbs.
Set Up Time:	1 minute
VT-44 .....	\$185.00
VT-44B Black .....	\$205.00

# ULTIMATTE CORP.

18607 Topham St.  
 Reseda, CA 91335  
 (818) 345-5525 Telex: 66-2453  
 FAX: (818) 344-7053

# VIDEO MATTING EQUIPMENT



Newsmatte-2



Ultimate-300

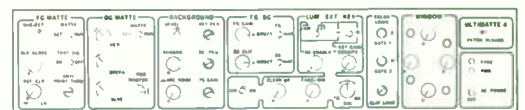
## Ultimate®/Newsmatte™ Video Matting Equipment

All Ultimattes and Newsmattes can composite transparent objects, fine detail such as hair or smoke, out of focus objects, reflections and shadows. They can all matte on blue, green or red; and all permit the foreground subject to touch the backing without causing fringing or break-up in the composite. They all remove blue spill from the foreground subject while reproducing blue foreground colors. They all have a clean up control to remove unwanted shadows or defects in the backing and a black gloss control to deal with black glossy surfaces in the foreground. All have a positive matte output.

Features	Ultimate-5	Ultimate-4	Newsmatte-2	Newsmatte	Ultimate-300
Automated Background Level and Background Matte Adjustment	With Manual Override		•	•	•
Background Matte Controls	•	•			
Built In Window Generator	•	•			
Soft Edge Windows	•				
Inverted Windows	•	•			
Reverse Windows	•				
External Window Input (In addition to External Matte Input)	•				
Background Defocusing Control	•				
Separate Matte Density Adjustment for Warm & Cool Colors	•				
Foreground Fade In & Fade Out	•	•			•
Foreground Contrast Adjustments	•	•			
Foreground Colorizer	•				
Background Field Colorizer	•	Internal			
White Logic (Can matte on white)	•	Optional			
Black Logic (Can matte on black)	•	•			
Remote Control	1 Furnished Can add 3 more	Optional	Kit Available		Kit Available
Glare/Noise (Shadow) Control	•	•			Automated
Negative Matte Output	•				
Digital Memory of Control Systems	32 Sets of Values		One Set of Values		One set of Values
Glow Input Circuit	•				
Flare-Suppressed Foreground Direct			•		•
Gate 3 Control to faithfully reproduce Green against Blue or Blue against Green	•				
Matte In Polarity Switch	•	•			
Ability to Isolate and Hold Blue Objects	•				
Foreground Input Requirements	RGB or Component	RGB	RGB & Encoded	RGB & Encoded	RGB & Encoded
Background Inputs	RGB, Component or Encoded	Encoded or RGB (option)	Encoded	Encoded	Encoded
Outputs	RGB & Component	RGB	Encoded	Encoded	Encoded
Requires Separate Encoder	•	•			
Requires External Black Burst	•	Only if using Matte Output			
Requires External Sync and Blanking		•		•	
Knob Adjustability	•	•			•
Micro-Processor Controlled					•



Ultimate-5



Ultimate-4 Front Panel

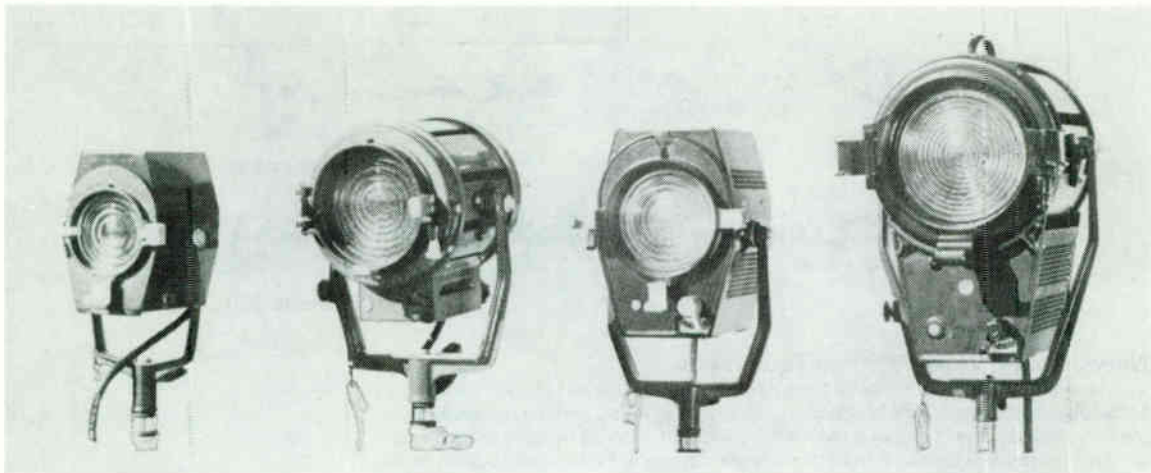
- Ultimate-5 (Includes one remote) . . . . . \$ 26,900.00
- Additional remotes for Ultimate-5 . . . . . 4,500.00
- Ultimate-4 . . . . . 14,500.00
- Ultimate-4R (Remote with 10 meters of cable) . . . . . 15,500.00
- Remote Control Kit for Ultimate-4 . . . . . 1,595.00
- Extra Remote Cable for Ultimate-4 . . . . . per meter/12.50
- Ultimate-300 . . . . . 8,895.00
- Newsmatte-2 . . . . . 7,850.00
- Remote Control Kit for Newsmatte-2 . . . . . 245.00
- Newsmatte . . . . . 4,985.00
- High-Definition Ultimate . . . . . 39,850.00



# ULTRA LIGHT MFG. CO.

6846 Lankershim Blvd.  
N. Hollywood, CA 91605  
(818) 765-2200 (800) 626-3935

# SPOTLIGHTS



200W Mini

650W  
Dowie

1000W  
1K Hot Shot

2000W  
2K Hot Shot

## 200W Mini Spotlight

- Rugged spotlight
- Suited for location or studio
- Can be used as a keylight, backlight, or a kicker
- Can also be mounted on a camera as a camera light
- Focus knob is located in back, and can be flooded or spotted with an even field

## 650W Dowie Spotlight

- Easy access to globe
- Swing away door
- Cooler
- Better flood
- Rugged construction
- Baked Enamel Hi Temp finish

The Dowie is a rugged spotlight, ideally suited for location or studio work. It can be used as a keylight, backlight, or a kicker. Focus knobs are front and back, and can be flooded or spotted with an even field.

## 1000W Hot Shot Spotlight

- Small, compact 4 1/2" fresnel
- Can be used as a keylight, backlight or a kicker
- Precise gear focus movement
- Mounts on any stand or hanger with a 5/8" standard pin
- Front and rear focus knobs
- Top swings back for easy access to globe

## Lights

### Fresnels

212	250W Mini . . . . .	\$143.00
612	650W Dowie . . . . .	285.00
1412	1000W 1K Studio Baby . . . . .	335.00
1512	1000W 1K Hot Shot Baby Baby . . . . .	368.50
2512	2000W 2K Hot Shot Baby Jr . . . . .	568.50

## Doors

### Fresnels

20212	200W Mini, 2 Way . . . . .	\$32.00
20214	200W Mini, 4 Way . . . . .	41.50
20612	650W Dowie-Tweenie, 2 Way . . . . .	36.00
20614	650W Dowie-Tweenie, 4 Way . . . . .	44.90
21412	1000W 1K Studio Baby, 2 Way . . . . .	36.50
21414	1000W 1K Studio Baby, 4 Way . . . . .	47.95
21512	1000W 1K Hot Shot Baby Baby, 2 Way . . . . .	36.50
21514	1000W 1K Hot Shot Baby Baby, 4 Way . . . . .	47.95
22512	2000W 2K Hot Shot Baby Jr., 2 Way . . . . .	62.50
22514	2000W 2K Hot Shot Baby Jr., 4 Way . . . . .	99.50

## Gel Frames

### Fresnels

30212	5" 200W Mini . . . . .	\$6.55
30612	5" 650W Dowie or Tweenie . . . . .	6.55
31412	6 5/8" 1000W 1K Studio Baby . . . . .	7.95
31512	7 1/4" 1000W 1K Hot Shot Baby Baby . . . . .	8.10
32512	9" 2000W 2K Hot Shot Baby Jr . . . . .	9.50

## Snoots

### Fresnels

40212	200W Mini (Set of 3) . . . . .	\$49.50
40612	650W Dowie-Tweenie (Set of 3) . . . . .	49.50
41412	1000W 1K Studio Baby (Set of 3) . . . . .	59.90
41512	1000W 1K Hot Shot Baby Baby (Set of 3) . . . . .	59.90
42512	2000W 2K Hot Shot Baby Jr. (Set of 3) . . . . .	65.50

# ULTRA LIGHT MFG. CO.

6846 Lankershim Blvd.  
N. Hollywood, CA 91605  
(818) 765-2200 (800) 626-3935

# SOFTLIGHTS

## 750W/2000W/4000W Softlights

- Easy to use
- Easy to set up
- Rugged construction
- Hidden light trough
- Excellent ventilation
- Cooler operation
- Special diffusing paint
- Baked power finish

All three models provide virtually shadowless light with a smooth field. Their rugged construction makes them ideal for location or studio applications. The light comes indirect, using a trough system. Designed with cameramen and gaffers in mind, using additional ventilation systems, the softlights create a much cooler performing light with savings on gels, paint, and globes. Accessories include a variety of lamp configurations, gel frames, and a unique "egg crate" light control.

### Performance Data – 750W

Distance Feet	Light Intensity FC	Beam Diameter Feet
4	250	6.0
6	110	9.0
8	60	12.0
10	40	15.0
12	25	18.0

### Globe Table\*

Base, recessed single contact. Burn horizontal  $\pm 4.^\circ$  T-3 bulb;  $4^{11}/16''$

Watts	Ordering Code	Color Temp. °K	Finish	Volts	Life Hrs.	Amps
800	Q800T3/4CL	3200	Clear	240	250	3.3
800	Q800T3/4	3200	Frost	240	250	3.3
750	Q750T3/4CL	3200	Clear	120	400	6.3
750	Q750T3/4	3200	Frost	120	400	6.3
750	EJG	3200	Clear	120	400	6.3
500	Q500T3/4CL	3200	Clear	120	400	4.2
500	Q500T3/4	3200	Frost	120	400	4.2

### 2000 Watt

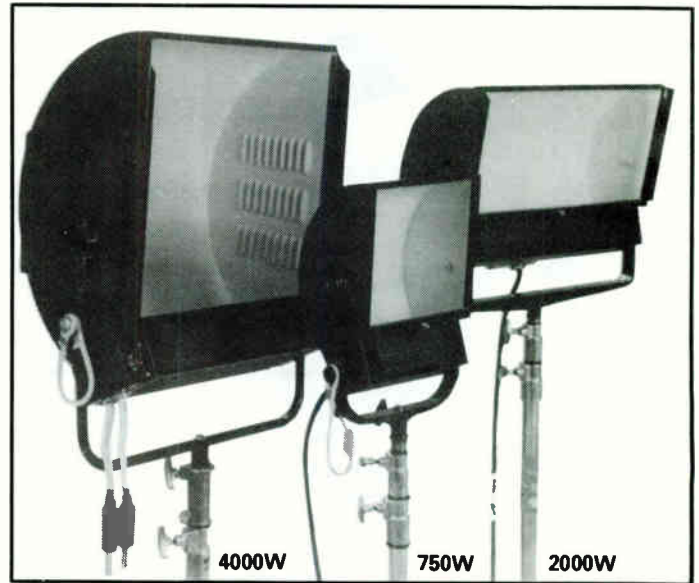
Using two Q1000T3/4 CL, 1000W, 120V, 3200°K quartz globes.

Distance Feet	Light Intensity FC	Lighted Area Dimensions Width
4	600	6.0
8	180	12.0
12	90	18.0
16	60	24.0
20	30	29.5

### Globe Table\*

Base, recessed single contact. Burn horizontal  $\pm 4.^\circ$  T-3 bulb;  $4^{11}/16''$

Watts	Ordering Code	Color Temp. °K	Finish	Volts	Life Hrs.	Amps
1000	Q1000T3/4CL	3200	Clear	120	500	8.3
1000	Q1000T3/4	3200	Frost	120	500	8.3
1000	FCM	3200	Clear	120	300	8.3
1000	FHM	3200	Frost	120	300	8.3
800	Q800T3/4CL	3200	Clear	240	250	3.3
800	Q800T3/4	3200	Frost	240	250	3.3
750	Q750T3/4CL	3200	Clear	120	400	6.3
750	Q750T3/4	3200	Frost	120	400	6.3
500	Q500T3/4CL	3200	Clear	120	400	4.2
500	Q500T3/4	3200	Frost	120	400	4.2



### 4000 Watt

Using 4 Q1000T3/4CL, 1000W, 120V, 3200°K quartz globes

Distance Feet	Light Intensity FC	Beam Diameter Feet
4	1100	6.0
8	300	12.0
12	140	17.0
16	90	23.0
20	55	28.5
24	35	33.6
28	30	39.6

### Globe Table\*

Base, recessed single contact. Burn horizontal  $\pm 4.^\circ$  T-3 bulb;  $4^{11}/16''$

Watts	Ordering Code	Color Temp. °K	Finish	Volts	Life Hrs.	Amps
1000	Q1000T3/4 CL	3200	Clear	120	500	8.3
1000	Q1000T3/4	3200	Frost	120	500	8.3
1000	FCM	3200	Clear	120	450	8.3
1000	FHM	3200	Frost	120	300	8.3
800	Q800T3/4 CL	3200	Clear	240	250	3.3
800	Q800T3/4	3200	Frost	240	250	3.3
750	Q750T3/4 CL	3200	Clear	120	400	6.3
750	Q750T3/4	3200	Frost	120	400	6.3
500	Q500T3/4 CL	3200	Clear	120	400	4.2
500	Q500T3/4	3200	Frost	120	400	4.2

\*Globes not included in the price of lamp.

### Softlights

712	750W zip softlight (7 lbs.)	\$297.50
2012	2000W 2K zip softlight (13 lbs., 8 oz.)	398.50
4012	4000W 4K zip softlight (26 lbs., 12 oz.)	840.00

### Gel Frames

30712	750W zip softlight	\$17.95
32012	2000W 2K zip softlight	18.95
34012	4000W 4K zip softlight	26.95

### Egg Crates

50712	750W zip softlight	\$ 94.50
52012	2000W 2K zip softlight	126.50
54012	4000W 4K zip softlight	149.60

# UNICOL PRODUCTS, INC.

76 Fourth St.  
New Rochelle, NY 10801  
(914) 636-7775

# STANDS/BRACKETS



T/3350/TGB



MSU-1232

## T/3350/TGB

### Heavy-Duty Single Column Stand

- Height adjustable from 38" to 55"
- 26" x 31" base with 10cm ball bearing wheels
- Shelf tilt:  $\pm 15^\circ$
- Shelf dimension: 18" x 18"
- Capacity: 120 lbs.

T/3350/TGB . . . . . \$409.02  
T/3350/TGB with braked wheels . . . . . 512.22

## MSU-1232

### Monitor Suspension Unit

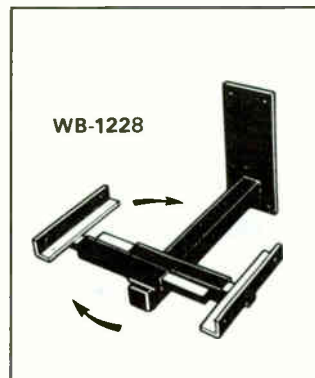
- Can be ordered for low headroom installations
- Minimum dimension of 8"
- Supports up to 150 lbs.
- Adjusts for monitors 12" to 32" wide and 14" to 24" high

The MSU-1232 has a wide range of adjustment to accommodate different sizes of television receivers and monitors. Full swivel and tilt adjustment is also provided. The unit comes complete with 77" of suspension column (or shorter lengths if required) and a standard mounting plate.

MSU-1232 . . . . . \$336.60



TCB/552/TPC/Tilt TPK



WB-1228



WB-1536

## TCB/552/TPC/Tilt TPK

### Ultra Heavy-Duty Dual Column Stand

- Projector height adjustable up to 59"
- Equipment shelf full height adjustable
- Projector shelf dimension: 22" x 22"
- Equipment shelf dimension: 18" x 22"
- Shelf tilt:  $> 20^\circ$
- Dual column base with 10cm ball bearing wheels
- Capacity: 150 lbs.

The ultimate for large video projectors.

Mounting height of up to 5'; the source(s) (VCR, computer, disk player, etc.) can be mounted close to the projector for convenience.

TCB/552/TPC/Tilt TPK . . . . . \$549.72  
TCB/552/TPC/Tilt TPK with braked wheels . . . . . 652.98

## WB-1228

### Compact Wall Bracket

- For small television receivers or speakers
- Adjusts from 12" to 28" wide
- Support arm 12"
- Supports up to 75 lbs.

WB-1228 Standard model as illustrated . . . . . \$118.80  
WB-1228F With flat mounting arms . . . . . 118.80  
WB-1228E Angled 10°. . . . . 142.80  
WB-1228EF Angled 10° flat arms . . . . . 142.80

## WB-1536

### Heavy-Duty Wall Bracket

- Adjusts from 15" to 36" wide
- Support arm 18"
- Supports up to 150 lbs.

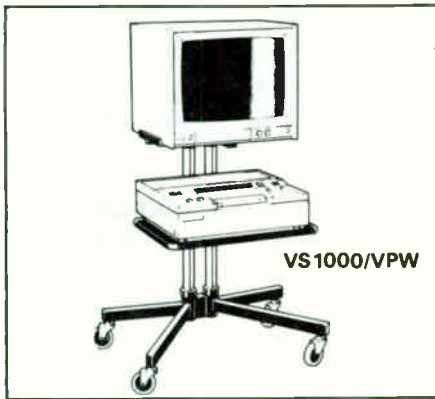
WB-1536 Standard model as illustrated . . . . . \$226.80  
WB-1536F With flat mounting arms . . . . . 226.80  
WB-1536E Angled 10°. . . . . 249.60  
WB-1536EF Angled 10° flat arms . . . . . 249.60



# UNICOL PRODUCTS, INC.

76 Fourth St.  
New Rochelle, NY 10801  
(914) 636-7775

# TROLLEYS/ EQUIPMENT CENTERS



VS 1000/VPW

### VS 1000/VPW Standard Trolley

Robust twin column cantilever design allows unrestricted access to video equipment and a wide choice of platform sizes — the ultimate in system flexibility.

Includes one equipment platform. Height 39".

VS 1000/VPW . . . . . \$509.82



VSB/552/VPW-5

### Video Duplication Unit

Height 59"

VSB/552/VPW-5 . . . . . \$939.72



TCB/452/TPX/TPC-2

### TC 1000 Multi-Platform Unit

Height 52"

TCB/452/TPX/TPC-2 . . . . . \$639.54



T/32/EP

### T/32/EP Standard Single Column Television Trolley

A robust trolley for television monitors, back projection units, public address speakers or other equipment. Wide choice of assembly options available.

Height 39". Supports up to 200 lbs.

T/32/EP . . . . . \$253.74



TCB/322/TMF/TLC

### TC 1000 Security Trolley

Height 39"

TCB/322/TMF/TLC . . . . . \$628.20



VSB/352/VPW-2

### VS 1000 Twin Platform Unit

Height 39"

VSB/352/VPW-2 . . . . . \$512.34



VSB/452/VMB/VPW-3

### VS 1000 Equipment Center

Height 49"

VSB/452/VMB/VPW-3 . . . . . \$789.06



TC 1000/TPH

### TC 1000 Standard Trolley

The standard trolley for educational television. Many thousands in daily use in schools, colleges, universities and with industrial users.

Includes one equipment platform. Height 39".

TC 1000/TPH . . . . . \$441.60



HD1250

### HD1250 Ultra Heavy-Duty Trolley

The ultimate load carrier for very large film or video beam projectors or any application involving a mass of heavy equipment. Versions also available for large screen television monitors. Supports up to 450 lbs. Height 49".

HD1250 . . . . . \$978.90

#### Separate Components

HB2 Bases (Pair) . . . . . \$251.46

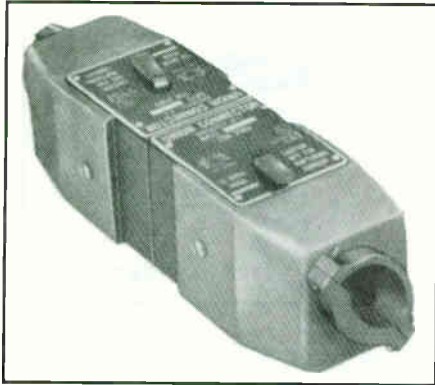
454 Columns (4) . . . . . 174.66

HPZ Platform . . . . . 184.26

# UNION CONNECTOR CO., INC.

300 Babylon Turnpike  
Roosevelt, NY 11575  
(516) 623-7461

# PLUGS/CONNECTORS/ RECEPTACLE/INLETS

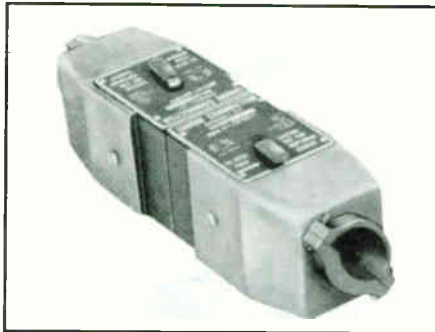


## Series G475 Plug/Connector/ Receptacle and Inlet

- The only 3 phase-4 wire and ground wiring device that is U.L. listed for 75A (OSHA acceptable). Previously only 60A was available
- Unique HARJ style lock permits rough usage
- Cord grip range .740-1.980
- Easy to wire (directly into pins)

### Plug or Connector

G475F	.....	\$91.00
G475F-FL	.....	76.00
G475F-RC	.....	78.00
G475M	.....	91.00
G475M-FL	.....	76.00
G475M-RC	.....	78.00



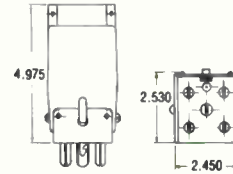
## Series G4100 Plug/Connector/ Receptacle and Inlet

- 100A 3φ Y 120/208V 4 pole-5 wire grounding. U.L. listed (OSHA acceptable)
- Unique HARJ style lock permits rough usage
- Dead front construction
- High mechanical strength and impact resistance
- Cord grip range .740-1.980
- Easy to wire (directly into pins)

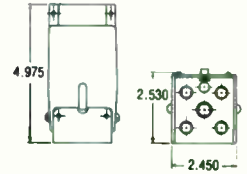
### Plug or Connector

G4100F	.....	\$123.00
G4100F-FL	.....	115.00
G4100F-RC	.....	117.00
G4100M	.....	123.00
G4100M-FL	.....	115.00
G4100M-RC	.....	117.00

### CORD STYLE PLUG AND CONNECTOR

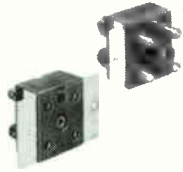


G475M PLUG

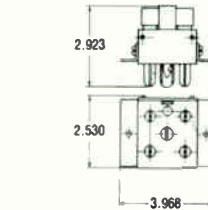


G475F CONNECTOR

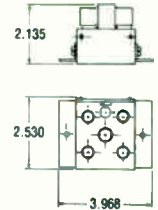
### FLUSH PANEL MOUNTED



Inlet available with or without protective sleeve.

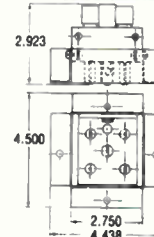


G475F-FL Flush Inlet (Motor Plug)

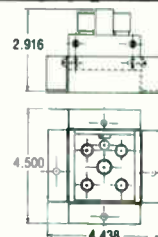


G475F-FL Flush receptacle

### RECESSED PANEL MOUNTED

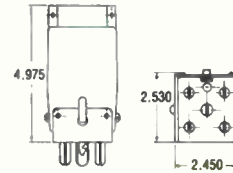


G475M-RC Recessed Inlet (Motor Plug)

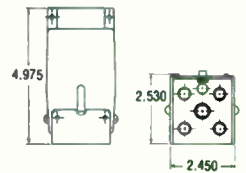


G475F-RC Recessed receptacle

### CORD STYLE PLUG AND CONNECTOR



G4100M PLUG

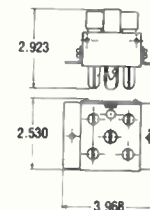


G4100F CONNECTOR

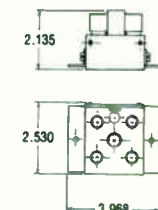
### FLUSH PANEL MOUNTED



Inlet available with or without protective sleeve.

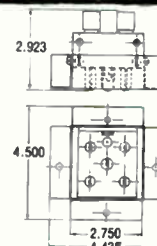


G4100M-FL Flush inlet (Motor Plug)

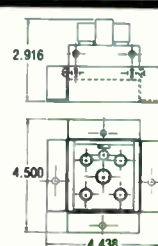


G4100F-FL Flush receptacle

### RECESSED PANEL MOUNTED



G4100M-RC Recessed inlet (Motor Plug)



G4100F-RC Recessed receptacle

# UNION CONNECTOR CO., INC.

300 Babylon Turnpike  
Roosevelt, NY 11575  
(516) 623-7461

# CONNECTORS/DISTRIBUTION BOXES

## Pin Connectors

A quality line of heavy-duty electrical wiring connectors that are practically indestructible. Made of molded impact phenolic, XX grade laminated phenolic, and vulcanized fiber.

Our connectors have excellent dielectric, tensile, and impact strength, as well as heat resistance from 105°C to 170°C.

The electrical capacity exceeds U.L. requirements.

The flat style reduces possible accidents and allows heavy weights on the connector without breakage.

The round contact pins assure positive connections.

## Index

- R—Reversible
- NR—Non-reversible
- M—Male end
- F—Female end
- C—Portable cable
- A—Asbestos wire

### Single Wire Connector

Cat. #	Amp/Volt	AWG Size	Wire Type	Style	Dimensions		Price
					Length	O.D.	
155	15-20/250-125	12	C	R	1 <sup>3</sup> / <sub>4</sub>	<sup>5</sup> / <sub>8</sub>	\$ 6.90

### Two Wire Connectors—UL

Cat. #	Amp/Volt	AWG Size	Wire Type	Style	Dimensions			Price
					A	B	C	
30-2P & GM	30/250	10	C&A	R	2 <sup>1</sup> / <sub>32</sub>	2 <sup>1</sup> / <sub>4</sub>	31 <sup>31</sup> / <sub>32</sub>	\$ 16.50
60-2P & GM	60/250	6	C&A	R	3 <sup>3</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>16</sub>	16.50
100-2P&GM	100/250	2	C&A	NR	4 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	1 <sup>15</sup> / <sub>32</sub>	31.00

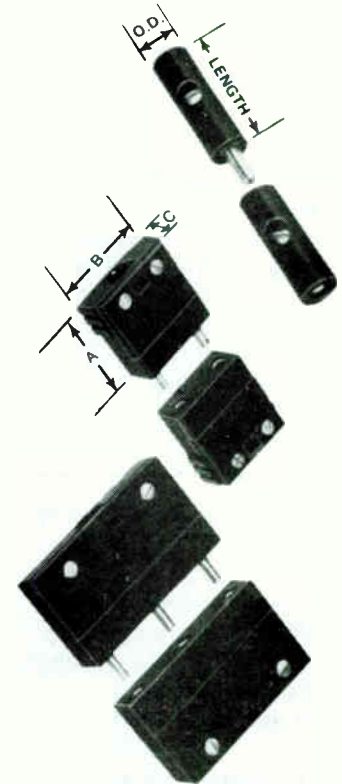
Aluminum clamp used on 60 amp and 100 amp.

### Branch-Off Connectors Three Outlets—UL

Cat. #	Amp/Volt	AWG Size	Wire Type	Style	Dimensions			Price
					A	B	C	
G3255	15-20/250-125	10	C	NR	3 <sup>27</sup> / <sub>32</sub>	3 <sup>1</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	\$ 25.50

### Male Tap-In Branch-Off Connectors Three Outlets—UL

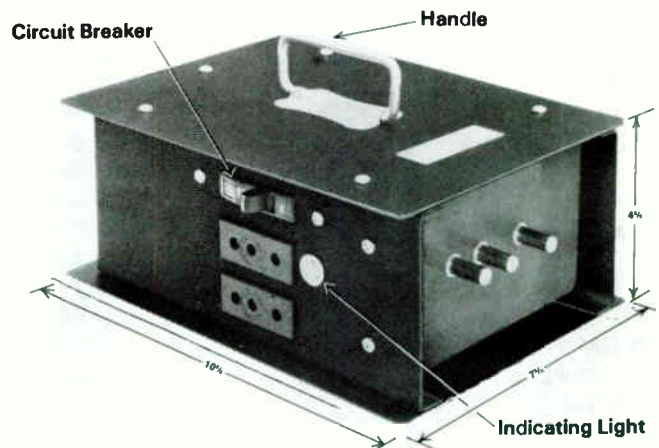
Cat. #	Amp/Volt	AWG Size	Wire Type	Style	Dimensions			Price
					A	B	C	
G3255MT	15-20/250-125	—		NR	3 <sup>27</sup> / <sub>32</sub>	3 <sup>1</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	\$ 30.50



## Distribution Boxes

- 2 pole and ground • U.L. listed • OSHA acceptable
- Each circuit protected by 20 amp breakers • Indicating light shows when circuit is open • Easy to carry (has its own handle) • Stackable and lightweight • Total output 7200W • Weight 8<sup>1</sup>/<sub>2</sub> lbs.

60DB-620GP	.....	\$ 240.00
60DB-320GL	.....	255.00
60DB-320UG	.....	255.00
100DB-620GP/160	.....	395.00
100DB-620GL/160	.....	465.00
100DB-620UG/160	.....	465.00
3P-2P Adaptor	.....	6.40





# UNION CONNECTOR CO., INC.

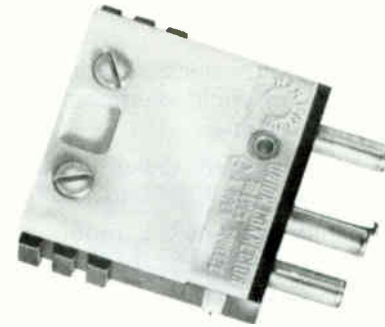
300 Babylon Turnpike  
Roosevelt, NY 11575  
(516) 623-7461

# PIN PLUGS

## 2P & GMCL HARJ-Plug Pin Plug

- 15/20 amp. 2 pole and ground pin plug that locks on ground pin
- Little pressure needed...just squeeze to lock and squeeze to unlock
- Exclusive HARJ-Plug feature
- Will fit all female grounded pin connectors now being used
- Will lock with all female connectors with grip design
- Will fit all 15/20 amp. receptacles i.e. branch-off flush receptacles, outlet panels
- Will lock with all receptacles that are marked HARJ
- Shipping Weight: 4 oz. each

2P & GMCL .....\$7.24



2P & GMCL

## 2P & GFCS Shielded Pin Plug

- Fits all male grounded pin plugs now being used
- High impact non-conductive housing
- Any arcing confined within the connector cavity
- Pins recessed (accidental touching impossible)
- Good chemical resistance
- Exclusive shield feature
- Fits male HARJ-plug
- Shipping Weight: 3 oz.

2P & GFCS .....\$5.60



2P&GFCS Shielded  
Pin Connector  
With Male Plug

## 2 Pole - 3 Wire Grounding Pin Plugs

- U.L. listed/OSHA acceptable
- Wire directly into pin, no soldering. Eliminates costly labor of crimping lugs
- Finger-tip locking mechanism
- Safe-all contact made within the shield of the connector, all arcing confined internally (60 amp only)
- Patented spring lock on all flush receptacles and male inlets
- Less area needed for receptacles and inlets than any single phase units made
- With dead front construction accidental touching impossible
- Compatible with all grounded pin plugs now being used
- High impact non-conductive housing

2P & GFC .....\$ 4.75

2P & GMC .....4.75

2P & GF-FL .....5.70

2P & GM-FL .....6.90

30-2P & GF .....16.50

60-2P & GF .....16.50

100-2P & GF .....31.00

30-2P & GF-FL .....13.45

60-2P & GF-FL .....14.75

100-2P & GF-FL .....19.80

30-2P & GM-FL .....15.00

60-2P & GM-FL .....17.00

100-2P & GM-FL .....22.00

30 AMP

Material: Lexan, Heavy Duty XX Phenolic



30-2P&GF



30-2P&GM

60 AMP

Material: Lexan



60-2P&GF  
(comes with or  
without shield)



60-2P&GM

100 AMP

Material: Lexan, Heavy-Duty CE Phenolic



100-2P&GF

# UNION CONNECTOR CO., INC.

300 Babylon Turnpike  
Roosevelt, NY 11575  
(516) 623-7461

# ENCLOSURES/PANELS/ OUTLET BOXES

### 20/30/60/100RE Recessed Enclosures \*

- Inlets (male) can be mounted behind the face of panels without sacrificing space
- Eliminates damage to the pins and adds a higher safety factor during installations and when in use
- No loss of space in depth of box, minimum increase of space on centers between inlets or receptacles
- Easy to assemble
- Recessed enclosures available without inlets and receptacles

20RE .....	\$ 6.00
30RE, 60RE, 100RE .....	10.00

\*Enclosure only. Wiring device purchased separately.

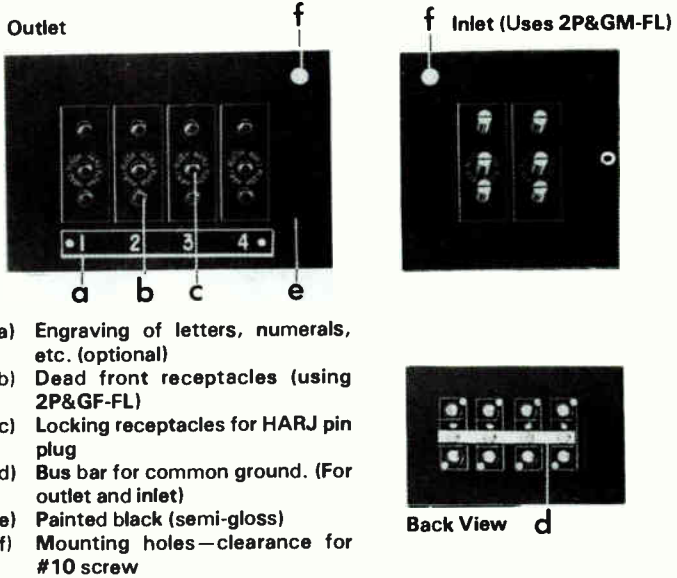


### 20PS Steel Outlet and Inlet Panels

- Engraving of letters, numerals, etc. (optional)
- Dead front receptacles (using 2P&GF-FL)
- Locking receptacles for HARJ pin plug
- Bus bar for common ground. (For outlet and inlet)
- Painted black (semi-gloss)
- Mounting holes - clearance for # 10 screw

Regular outlet/inlet panel comes in twelve standard sizes. All other outlet/inlet panels made to customer's specifications must have a minimum width of 3" for U.L. and OSHA acceptance.

Outlet Panels		Inlet Panels	
20PS64-4 .....	\$ 39.00	20PS64-4M .....	\$ 42.00
20PS66-4 .....	40.00	20PS66-4M .....	43.00
20PS86-6 .....	53.00	20PS86-6M .....	59.00
20PS88-12 .....	89.00	20PS88-12M .....	103.00
20PS108-18 .....	128.00	20PS108-18M .....	150.00
20PS1510-24 .....	180.00	20PS1510-24M .....	200.00
20PS1510-36 .....	258.00	20PS1510-36M .....	286.00
20PS124-6 .....	53.00	20PS124-6M .....	59.00
20PS244-12 .....	94.00	20PS244-12M .....	103.00
20PS244-18 .....	135.00	20PS244-18M .....	149.00
20PS364-24 .....	176.00	20PS364-24M .....	203.00
20PS484-36 .....	260.00	20PS484-36M .....	293.00



### 20FL Outlet Boxes

- Dead front receptacles
- Locking receptacles for HARJ pin plug
- Knockouts

20FL outlet boxes come in 7 standard sizes or can be manufactured to your specifications.

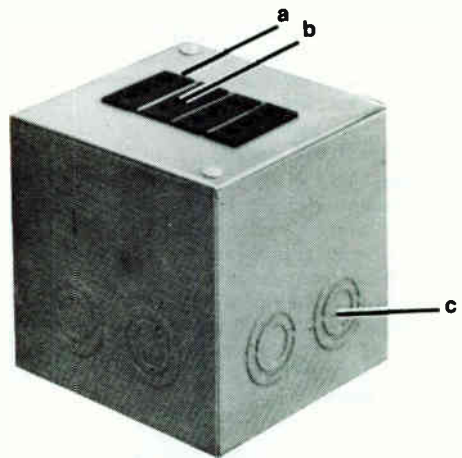
Outlet Boxes		Inlet Boxes	
20FL644-4 .....	\$ 53.00	20FL644-4M .....	\$ 56.00
20FL664-4 .....	55.00	20FL664-4M .....	58.00
20FL864-6 .....	69.00	20FL864-6M .....	73.00
20FL884-12 .....	109.00	20FL884-12M .....	119.00
20FL1084-18 .....	156.00	20FL1084-18M .....	175.00
20FL15104-24 .....	210.00	20FL15104-24M .....	232.00
20FL15104-36 .....	286.00	20FL15104-36M .....	323.00
20FL1244-6 .....	74.00	20FL1244-6M .....	79.00
20FL2444-12 .....	123.00	20FL2444-12M .....	133.00
20FL2444-18 .....	162.00	20FL2444-18M .....	177.00
20FL3644-24 .....	212.00	20FL3644-24M .....	236.00
20FL4844-36 .....	307.00	20FL4844-36M .....	337.00

### 3-Phase Outlet Boxes

G475FL666-1 .....	\$149.00
G475RC666-1 .....	160.00
G4100FL666-1 .....	179.00
G4100RC666-1 .....	183.00

### 3-Phase Inlet Boxes

G475FL666-1M .....	\$149.00
G475RC666-1M .....	160.00
G4100FL666-1M .....	179.00
G4100RC666-1M .....	183.00

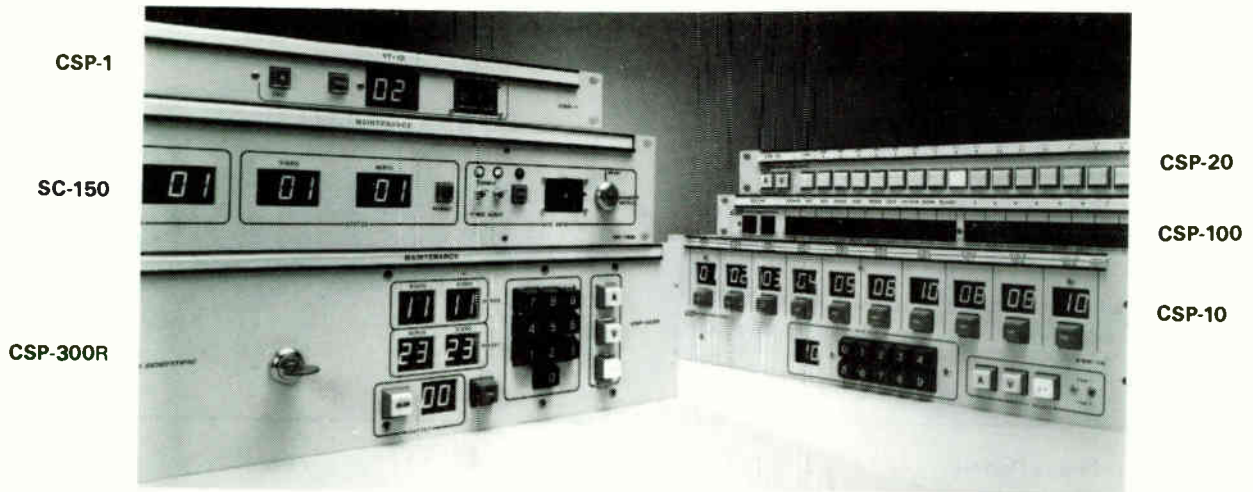


- (a) Dead front receptacles
- (b) Locking receptacles for HARJ pin plug
- (c) Knockouts

# UTAH SCIENTIFIC, INC.

1685 W. 2200 S.  
Salt Lake City, UT 84119  
(801) 973-6840 (800) 453-8782  
Telex: 26-6916

# NUMERIC CONTROL PANELS



## Numeric Control Panels

- Loophrough coax control connection
- Wide variety of panels and mounting styles
- Continuous status readout
- Single-bus, multiple-bus and full-matrix models
- Optional encoding — permits addressing sources by name
- Audio and video select buttons for separate switching and statusing
- Simultaneous audio and video switching from different inputs (CSP-300R only)
- No custom components or proprietary software
- All keycap and write-in strip graphics provided

## CPD/PL Desktop Party Line Control Panel

This panel consists of an attractive enclosure mounting a pair of lever switches for input selection plus a Take button. It connects to one of the AVS-1 or AVS-1B party lines by means of a single rear-mounted connector. The CPD/DL is battery powered thus eliminating the need for an AC power cord. The CMOS and "LS" TTL circuitry consume power only when a new input selection is made. Thus, battery life of several years can be expected in normal operation.

## CSP-1 and CSP-2 Lever Switch Control and Status Panels

These panels utilize lever switches for data Preset and Take buttons for switch execution. Two-digit numeric readouts indicate crosspoint status on each assigned bus on data from the matrix refresh memory. Breakaway switching is accomplished by an Audio-Only button.

## CSP-10 10 or 20 — Bus Control and Status Panel

This panel provides an inexpensive means of controlling up to 20 buses. Ten two-digit numeric indicators provide continuous status information on ten randomly assigned buses while associated Take buttons permit input selection on each bus. New input data is entered by means of a ten-key touchpad which, with associated two-digit readout, sets up input selection data prior to being switched on one or more buses. As with other numeric panels, the addition of coding PROMs and relegendable keycaps permits addressing and statusing each device by its "familiar" name.

## CSP-10C

This panel provides the same features as the CSP-10, but mounts as a front panel on the matrix rack frame and includes a matrix card restraint bar (not pictured). It is most often used in remote van installations where matrices are typically smaller and rack space is at a premium. Mounting height, including 20 x 20 AV matrix or 30 x 10 AAV matrix, is 10 1/2".

## CSP-100 Group/Units Control and Status Panel

This panel, in its non-encoded form, permits addressing up to 100 inputs using two groups of buttons for Tens and Units data entry. With encoding PROMs added each two-button combination addresses a randomly assigned source. This allows the Tens buttons to be assigned group names so that, in combination with the numeric Units buttons, sources can be addressed by their familiar names (VTR-8, TBC-2, etc.). New selections within the same group require only a single keystroke allowing for rapid A/B comparisons such as camera matching. Breakaway buttons provide for separate audio and video switching and statusing. Mounting height is 1 3/4".

## CSP-20/CX-20 Button-Per-Source Panels

The CSP-20 Control and Status Panel with an associated CX-20 Expansion Panel provides button-per-source selection of from 20 to 140 inputs. Each new selection requires only a single keystroke and each button is identified by the source name printed on the label strip.

## SC-150 Supervisory Control Panel

The SC-150 Panel provides separate three-digit numeric displays for video and audio statusing. Data entry for up to 160 output buses and 160 sources is by lever switches. Audio and video breakaway switches plus a status-request button are also provided. The keylock switch permits disabling the panel as to switching all buses except one bus (typically a system maintenance or quality control bus) while enabling it to momentarily status any other bus. 3 1/2" rackmount.

## CSP-300R Full Matrix Control and Status Panel

This panel provides touchpad data entry and Preset and Active two-digit displays for both audio and video. Input selection data entered from the ten-key touchpad is displayed by either one or both of the preset displays until the Take button is depressed. If different data is entered for audio and video, the two matrices are each switched to their respective selected inputs when the Take button is depressed.



# UTAH SCIENTIFIC, INC.

1685 W. 2200 S.  
Salt Lake City, UT 84119  
(801) 973-6840 (800) 453-8782  
Telex: 26-6916

## ROUTING SYSTEMS

### AVS-1B Routing Systems

- 60MHz Video Bandwidth—no obsolescence with conversion to MAC or HDTV video signals
- Sync-tip clamping of video inputs and outputs
- No control buffer cards used—worst-case failure is single 10 x 10 card
- Multi-sourced, discrete components—no proprietary circuits
- Fully reprogrammable with no downtime
- 10-year memory retention of reprogrammed data and matrix status
- Single or redundant power supplies with failure alarms
- Source/destination lockout capability
- Single-motherboard design for fully operational extender card servicing
- Up to eight individually-addressable levels
- 320 inputs/unlimited outputs maximum size per level
- Secondary combining matrices not required regardless of system size
- Automatic control card switchover with alarm—No undetected failure disasters
- Redundant "Plug-In" cooling fans
- Regenerative time code matrices
- Four user ports, RS-232 and RS-422
- Loophrough coax control panel interconnection via four isolated party lines
- Control panel source names assigned by customer—not by manufacturer
- BNC video and compression-type audio connectors—interface panels not required
- SALVO switching from computer terminal

### Master Control Switching

The AVS-1B Routing Switcher is also used as the switching matrix for Utah Scientific Master Control Switchers. In this system, sources are selected by router crosspoints then processed as necessary by the master control mainframe. Some of the advantages of this approach to master control switching are:

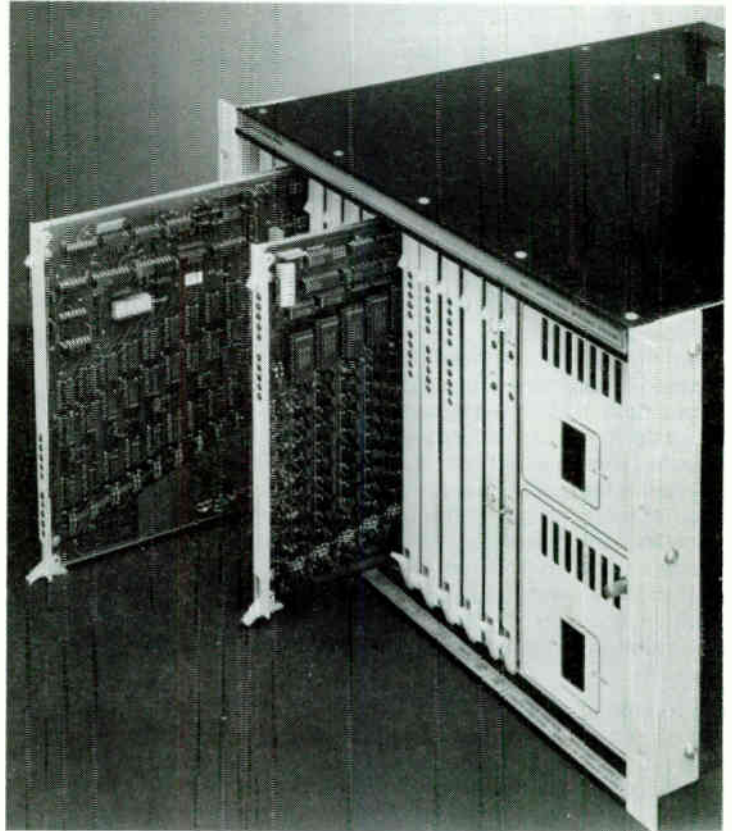
- All sources feeding the router are available to the Master Control Switcher
- System timing is greatly simplified since all sources are normally in proper time at the router inputs and the delay of a separate master control matrix needn't be accommodated
- In automated systems additional matrix buses can easily be controlled for multiple output feeds, off-line recording, etc.
- Overall system cost is significantly reduced

### Integration with Machine Control

AVS-1B switching systems can be integrated with either of the two machine control systems offered by Utah Scientific. The PLMC-1 party line system can, in many instances, share the matrix party lines. Where the more sophisticated SMC-1 machine control system, with its high speed DYNABUS™ communications network, is used, interconnection with the AVS-1B party line is accomplished at the DYNABUS User Interface/Diagnostic panel. With either system, machine control assignments can either follow or be independent of A/V switches.

### User Control Ports

The PL-160 Control and Memory Card furnished with each system incorporates multiple user ports to allow matrices to be controlled and/or monitored by various external devices. Two ports support RS-232 protocol and are brought out to standard RS-232 connectors on the rear panel. Another port supports RS-422 protocol while a fourth port can be internally strapped for either RS-232 or RS-422 operation.



AVS-1

### System Reprogramming

The relationship between source and destination names and their associated matrix inputs and outputs is subject to change as equipment is replaced and systems are expanded.

To alleviate this problem, Utah Scientific has incorporated reprogrammable, non-volatile memories in all its recent panel designs, with the PL-160 Control and Memory Card and the system party lines acting as the reprogramming medium.

The write-cycle time for the RAM memory used in Utah Scientific panels is typically faster, by a factor of 60,000:1, than the EPROMS used by other switcher manufacturers. This permits the reprogramming data to be interspersed with party line control commands and refreshment words. The result is system reprogramming with no downtime.

While RAM memory retention (by Lithium batteries) is typically ten years, with or without AC power applied, it is still backed up by factory-programmed PROMs that down-load into RAM if a check sum error ever occurs on panel start-up or reset.

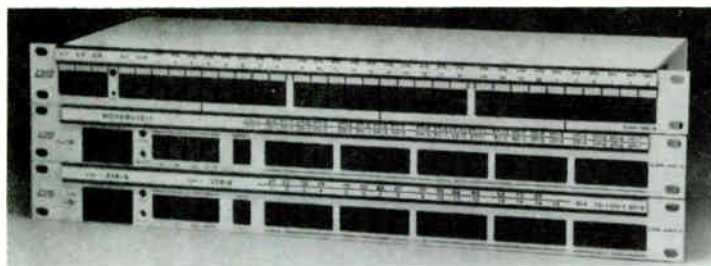
A customer-furnished "dumb" terminal is used for reprogramming. This same terminal can be used for entering and executing SALVO switch commands and source and destination lockouts.

### Power Supply Systems

Two separate power supply systems may be supplied with Utah Scientific switchers. Where space permits, one or two (for optional redundancy) diode-isolated PS-1B supplies are installed in matrix card cages. In other systems the PS-2 redundant power supply system, powering an entire rack of matrix frames, is furnished. The PS-1B system has both audible and external-contact failure alarms, while the PS-2 system offers an optional scanner/alarm panel that continuously scans 36 circuit points creating both audible and external-contact alarms while identifying the trouble source upon failure detection.

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CSP-30/4

CSP-40/4

CSP-260/4

# ROUTER CONTROL PANELS



CSPD/4

## Reprogrammable Router Control Panels

- All panels are reprogrammable with no system or panel downtime
- Program-Select switch doubles bus capacity of most panels
- Sixteen group names to satisfy needs of modern TV plants
- Group names assigned by customer—not by manufacturer
- Up to 1600 possible source names provided by most panels
- Touchpad entry of source, destination or panel lockouts
- 10-year retention of user-programmed data, power on or off
- Multi-bus panels provide instantaneous status readout for each level upon selection of new bus
- Single coax party line control connection
- Industry's widest range of reprogrammable, alphanumeric, multi-level panels
- Full matrix/maintenance panel performs various system diagnostics

Reprogrammable Router Control Panels provide individual control and status of up to four switching levels (matrices). Designed to operate with either AVS-1 or AVS-1B Routing Switchers, these panels provide a high degree of user-defined flexibility. All panel operations are straightforward, requiring a minimum number of keystrokes to switch or status multiple levels. Other functions, such as source or destination lockouts and panel lock are also entered from the keyboard in a logical manner.

Panels may be reprogrammed as to source and destination names or output bus assignments. This is accomplished over the routing system's party lines in conjunction with the PL-160 Control and memory card. Reprogramming is achieved without interrupting system operation or removing the panel from service.

Panel memory is Lithium battery-supported RAM, typically providing 10-year memory retention with or without AC power applied. Nevertheless, factory-programmed PROMs are also incorporated which download into RAM if a check sum error occurs on panel start-up or reset. The write cycle time for the RAM is 60,000 times faster than that typical of the E<sup>2</sup>PROMs used by other manufacturers, permitting reprogramming data to be interspersed with party line control commands and refresh words.

Panels are reprogrammed using a customer supplied "dumb" terminal connected to one of the PL-160 Control and Memory card's user ports. This same terminal may also be used for entering and executing SALVO switch commands and source and destination lockouts.

Control panels range from simple, button-per-source, single bus units to a sophisticated full matrix/diagnostic unit that operates in either numeric or alphanumeric modes while performing a variety of switching system diagnostics.

CSPD-4

Four-level deskmount controller. Full matrix (or multi-bus or single bus as programmed). 3" H x 6 1/2" W x 6" D

CSP-30/4

Button-per-source four-level controller to select 30 randomly assigned sources. 1 1/3" rackmount

CX-30/4

30-button panel to expand CSP-30/4 to 60 sources. 1 3/4" rackmount

CSP-40/4

Button-per-source four-level controller to select 20 (or 40 by means of Program Select switch) sources. Includes alphanumeric status display. 1 3/4" rackmount

CSP-260/4

Four-level controller to select from one to sixteen sources within each of sixteen groups. Includes four direct-take buttons plus alphanumeric status display. 1 3/4" rackmount

CSP-1601/2

Two-level controller to select up to 100 sources within each of sixteen groups. 3 1/2" rackmount

CSP-1605/2

Two-level 5-bus controller to select up to 100 sources within each of sixteen groups. 3 1/2" rackmount

CSP-1610/2

Two-level 10-bus (or 20-bus with Program Select switch) controller to select up to 100 sources within each of sixteen groups. 5 1/4" rackmount

CSP-1600/4

Four-level single-bus (or 2-bus with Program Select switch) controller with separate Preset/Status displays for each level. 3 1/2" rackmount

CSP-1601/4

Four-level single-bus controller with separate Preset/Status displays for each level. 1 3/4" rackmount

CSP-1605/4

Four-level 5-bus (or 10-bus with Program Select switch) controller with separate Preset/Status displays for each level and five output bus select buttons. 3 1/2" rackmount

CSP-1610/4

Four-level 10-bus (or 20-bus with Program Select switch) controller with separate Preset/Status displays for each level. 5 1/4" rackmount

CSP-16160/4

Four-level full matrix (or multi-bus as programmed) controller with separate Preset/Status displays for each level plus output bus display. Specially programmed to perform system diagnostics. 3 1/2" rackmount

# VANNER, INC.

745 Harrison Dr.  
Columbus, OH 43204  
(614) 272-6263 FAX: (614) 272-0085

# POWER CONVERTERS



## Series 20 Inverters

- Produces full designated wattage continuously regulated 120VRMS power from idle to high RPM, and is not affected by high or low deviations in battery voltage
- Produces a pulse width modulated waveform with less than 14% harmonic distortion
- Frequency controlled by a 30 parts per million quartz crystal for 60Hz time base
- Capable of operating all types of electrical AC loads including resistive and reactive (either inductive or capacitive) without distortion. This is necessary for operating various types of medical and broadcasting equipment
- Operates on only 30W at no load, and is over 87% efficient at full load, for more usable AC power. The 24V model, ideally suited for helicopter use, provides 1500W continuously with 2200W surge and is 92% efficient
- Light weight—only 26 lbs.

- Compact size—8" x 6" x 13" for convenient installation
- Lighted remote control switch kit and quick connect battery terminals are standard equipment
- Built-in 120VAC transfer switch is also available for shore power equipped vehicles

ENG Inverters are the most advanced products designed and engineered for the inversion of electrical power from battery to line current. The high efficiency, regulated control of frequency and voltage, light weight and compact size, and undistorted waveform make it effective for use in ambulances, fire trucks, boats, mobile broadcasting, and utility vehicles. Its efficiency, current control and reliability combine to make this the most outstanding product of its type manufactured today.

Model No.	Output Voltage	Wattage		Hz	Input Voltage		H	W	L	Lbs.
		Constant	Surge		Min.	Max.				
20-200	120VAC	200	300	60	11.0	14.0	6 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	12
20-500	120VAC	500	1000	60	11.0	14.0	6 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>2</sub>	27
20-500T					same with transfer switch*					28
20-1000	120VAC	1000	1800	60	11.0	14.0	6 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>2</sub>	27
20-1000T					same with transfer switch*					28
21-800	220VAC	800	1500	50	11.0	14.0	6 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>2</sub>	27
21-1600	220VAC	1600	3000	50	11.0	14.0	6 <sup>1</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>2</sub>	51
24-1500	120VAC	1500	2400	60	22	28	6 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>2</sub>	27
24-1500T					same with transfer switch*					28
OPT-4	Load demand and low voltage cutoff option. Not available for 20-200									
OPT-7	Fan thermal cut-off. Not available for 20-200									

For High Inductive Loads use Power Factor (PF) versions of Vanner-Vertters. They have been designed to overcome phase shifts prevalent in pumps, motors, microwave ovens and equipment with ferroresonant transformers. Detailed catalog on "PF" series is available on request.

20-2200PF	120VAC	2200	3600	60	11.0	14.0	6 <sup>1</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>2</sub>	51
20-2200TPF					same with transfer switch*					52
24-3000PF	120VAC	3000	4800	60	22	28	6 <sup>1</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>2</sub>	52
24-3000TPF					same with transfer switch*					52
24-5000PF	120/240VAC	5000	10,000	60	22	28	6 <sup>3</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	19 <sup>1</sup> / <sub>2</sub>	88

Load demand on/off switch, low voltage cut-off, and Fan Thermal Control included as standard equipment at no cost.

\* Transfer switch option should be ordered when vehicle is wired with 120VAC shore power.

Prices and Specifications Subject to Change Without Notice.

V-1133



# VDO-PAK PRODUCTS

931 Alexander St.  
P.O. Box 290969  
Port Orange, FL 32029  
(904) 756-9770 (800) 874-5906  
FAX: (904) 756-9733

# BATTERY/POWER SUPPLIES



Power Belts

## Power Belts

VDO-PAK offers the most complete range (from 6 to 20AH) of battery power belts for the home videophile. All belts feature auto reset circuit breaker for safety and ease of use. All belts utilize a modular design that allows upgrade of smaller belts and use of larger belts at half capacity for reduced carry weight. Power belts are supplied with regulated high output float charges. From full discharge, the belt will regain full capacity within 14 hours, and will never overcharge, regardless of how long it is connected to the charger. All VDO-PAK power belts provide comfortable, balanced 12VDC power for all applications.

B-600	6A	.....	\$ 149.95
B-850	8A	.....	199.95
B-1000	10A	.....	224.95
B-1200	12A	.....	249.95
B-1700	17A	.....	299.95
B-2000	20A	.....	349.95
MIC-710	7A NiCad.	.....	299.95
B-xxx-XLR	for XLR conn. add suffix:.	.....	50.00

## SP-650 Soft Pak

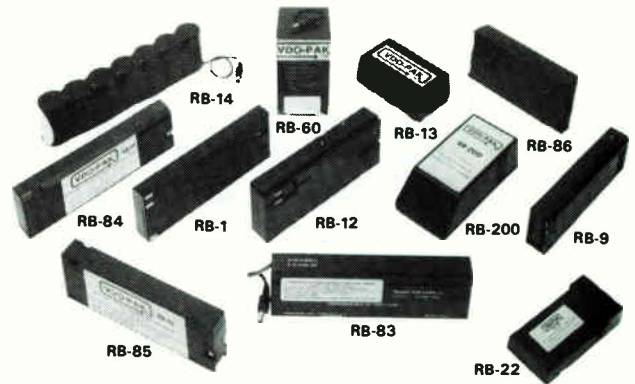
The SP-650 battery pack is a small convenient source of 12VDC power. The heart of the SP-650 is a sealed, maintenance-free 6.5AH gelled-electrolyte power cell, the same as used in the VDO-PAK Power Belts. The Soft Pak is packaged with a charger, a fused cigarette lighter cord, and a fully adjustable belt.

SP-650	Battery pack with charger	.....	\$ 49.95
SP-650F	Battery pack with float charger	.....	74.95
SPL-6000	Combination battery/light	.....	109.95
SPL-6000F	Combination with float charger	.....	134.95

## Portable Power Supplies

The VP-20 and the VP-16 are compact, regulated power sources for use with camcorders and portable VCR/camera combinations. It is no longer necessary to take a large, bulky tuner/timer "on-location" to operate your portable VCR. Camcorder power supplies can be left free to charge internal batteries. With use of an optional charging clip, selected models of batteries can be recharged with the high output (2000mA) VP-20. The ultra compact VP-16 (1600mA) can power any camcorder and most portable VCRs.

VP-20	2A adaptor/charger	.....	\$69.95
VP-20c	Panasonic charge clip for VP-20	.....	7.95
PAC-1	Panasonic clip	.....	4.00
VP-16	1.6A adaptor/charger/clip	.....	69.95



VCR/Camcorder Replacement Batteries

## Camcorder/VCR Replacement Batteries

VDO-PAK covers a broad range of camcorder and portable VCR batteries with its line of replacement batteries. All batteries meet or exceed the performance of the original equipment battery. Batteries for all current model camcorders are available, including Sony 8mm and JVC VHS-C units. Batteries are also available for older camcorders and portables, and for professional cameras, monitors, and recorders.

RB-1	Sony NP-1	.....	\$79.95
RB-2	Sony NP-11	.....	49.00
RB-9	RCA NB-009	.....	59.95
RB-11	JVC NBP-1	.....	79.95
RB-12	JVC NBP-4	.....	49.00
RB-13	JVC NBP-8	.....	59.95
RB-14	JVC PBP-1/LCR-3012	.....	66.95
RB-22	Sony NP-22	.....	39.95
RB-60	Sony BP-60	.....	59.95
RB-83	Panasonic LCR-1812	.....	49.95
RB-84	Panasonic LCS-2012	.....	49.95
RB-85	Panasonic PV-BP80	.....	49.95
RB-86	Panasonic PV-BP20M	.....	54.95
RB-87-1	Matsushita 8mm-1 hour	.....	59.95
RB-87-2	Matsushita 8mm-2 hour	.....	N/A
RB-200	RCA CB-120	.....	64.95
RB-300	Hitachi (Pentax) 8mm	.....	N/A

# VELBON INTERNATIONAL CORP.

2433 Moreton St.  
Torrance, CA 90505  
(213) 530-5446 (800) 423-1623  
FAX: (213) 618-0166

# TRIPODS

## Victory Series Video Tripods

- Matte black finish
- Friction adjustable geared center column
- 3-section leg designs with quick lever locks and center leg braces for maximum stability
- Steel ground spikes with retractable rubber feet

### Victory 460

The Victory 460 video tripod features a 2-way spring counter balanced panhead (PH-152).

**Victory 460 . . . . . \$84.95**

### Victory 480

The Victory 480 video tripod weighs only 4 lbs. and features the Vel-Flo 8 fluid effect 3-way panhead (PH-258) to provide smooth, continuous pans and tilts. The quick release camera mounting platform also makes it ideal for use with still cameras.

**Victory 480 . . . . . \$ 125.95**



460

## Specifications and Features

Model	Max. Op. Ht.	Folded Length	Weight	Color	Panhead		Leg				Center Column		
					Type	Quick Release Mounting Platform	Type	No. of Sections	Type of Locks	Radial Braced	Rubber Feet w/Spike	Type	Friction Adj.
Victory 460	59.30"	22.30"	3.80 lbs.	Black	2-way Spring Counter Balanced		Sealed (DPK)	3	Quick-Lever	•	•	Geared	•
Victory 480	59.20"	23.00"	4.00 lbs.	Black	3-way Fluid Effect	•	Sealed (DPK)	3	Quick-Lever	•	•	Geared	•

## Stratos Series Video Tripods

- Matte black finish
- Friction adjustable geared center column
- 3-section leg designs with quick side lever locks and center leg braces for maximum stability
- Rubber feet

### Stratos 460

The Stratos 460 video tripod features a 2-way spring counter balanced panhead (PH-262).

**Stratos 460 . . . . . \$ 120.95**

### Stratos 480

The Stratos 480 features the Vel-Flo 10 fluid effect panhead (PH-268) with quick release camera mounting platform.

**Stratos 480 . . . . . \$221.95**



480

## Specifications & Features

Model	Max. Op. Ht.	Folded Length	Weight	Color	Panhead		Leg				Center Column		
					Type	Quick Release Mounting Platform	Type	No. of Sections	Type of Locks	Radial Braced	Rubber Feet w/Spike	Type	Friction Adj.
Stratos 460	63.00"	25.60"	5.20 lbs.	Black	2-way Spring Counter Balanced		Sealed (DPK)	3	Side Lever	•	•	Geared	•
Stratos 480	63.40"	26.40"	5.90 lbs.	Black	2-way Fluid Effect	•	Sealed (DPK)	3	Side Lever	•	•	Geared	•

# VELBON INTERNATIONAL CORP.

2433 Moreton St.  
Torrance, CA 90505  
(213) 530-5446 (800) 423-1623  
FAX: (213) 618-0166

## TRIPODS/ FLUID HEADS

### PX-741K Video Tripod

The PX-741K is a heavy-duty professional type video tripod featuring 3-section closed channel legs for rugged heavy-duty use, a friction adjustable geared center column, leveling bubble, and large self-leveling feet. The 3-way panhead features a spring counter balanced camera mounting platform with two large control handles for smooth and continuous pans and tilts. Black finish.

**PX-741K** ..... \$271.95

### PX-781K Video Tripod

The PX-781K is similar to the PX-741K but features the Vel-Flo™ 10 fluid effect panhead for super smooth pans and tilts. Black finish.

**PX-781K** ..... \$297.95

### WX-851B Video Tripod

The WX-851B is a professional-type heavy-duty tripod especially designed for use with large format still, movie and video cameras. It features a W-shank leg design for maximum stability, friction adjustable geared center column, and a large double handled 2-way dual spring counter balanced panhead.

**WX-851B** ..... \$384.95



PX-741K



PX-781K

### Specifications and Features

Model	Max. Op. Ht.	Folded Length	Weight	Color	Panhead		Leg				Center Column		
					Type	Quick Release Mounting Platform	Type	No. of Sections	Type of Locks	Radial Braced	Rubber Feet w/Spike	Type	Friction Adj.
PX-741K	65.75"	26.00"	8.90 lbs.	Black	3-way		Closed Channel	3	Quick-Lever	•		Gearred	•
PX-781K	66.00"	26.75"	8.50 lbs.	Black	2-way Fluid Effect	•	Closed Channel	3	Quick-Lever	•		Gearred	•
WX-851B	63.13"	37.75"	11.70 lbs.	Gray/Black	2-way		Closed Channel	2	Quick-Lever	•	•	Gearred	•

### PH-258 Vel-Flo 8 Fluid Effect Panhead

A 3-way fluid effect panhead designed to provide smooth and continuous panning with home video cameras and camcorders for professional looking results.

The matte black finished Vel-Flo 8 features a quick release camera mounting platform, extra long (10 1/2") sure-grip pan and tilt control handle, tension adjustable panning lock knob, built-in bubble level, plus pan and tilt degree marks. The 3-way head provides 360° pan, 75° up tilt and 90° down tilt.

**PH-258** ..... \$69.95



PH-258

### PH-268 Vel-Flo 10 Fluid Effect Panhead

This fluid effect panhead is designed to give video cameras the smooth, continuous panning and tilting of professional productions.

The Vel-Flo 10 Panhead has a quick release camera mounting platform for fast, easy camera removal, a built-in leveling bubble, and an adjustable control handle that can be mounted for right or left handed operation. Vel-Flo 10 has a 360° pan, 75° up tilt and 90° down tilt. Both pan and tilt movements have adjustable tension controls.

**PH-268** ..... \$129.95



PH-268



# VIDEO ACCESSORY CORP.

2450 Central Ave., Ste. H  
 Boulder, CO 80301  
 (303) 443-4950  
 (800) 821-0426

# LINE ISOLATORS/GENERATORS/ FAULT INDICATORS

## VL-1PC Video Line Isolator

The unique "opto-coupled" video line isolator improves the overall performance of your video system by providing 80dB of isolation between input and output grounds.

Common-mode ground loop problems caused by different AC power ground potentials are eliminated. Video input and output are rear panel insulated BNC connectors. A hazard lamp on the front panel indicates dangerous ground potential voltages. Balanced audio isolation with a rear panel barrier strip is optional.

**VL-1PC** . . . . . \$278.00  
**VL-1APC With audio option** . . . . . 345.00



Front

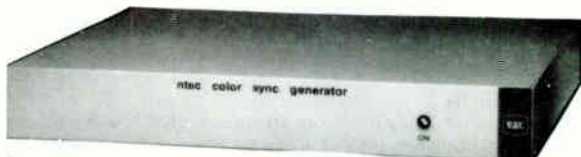
Rear

VL-1PC

## 100 NTSC Color Sync Generator

The 100 Color Sync Generator provides subcarrier, sync, blanking, burst flag, horizontal drive, vertical drive, and black burst outputs. This NTSC unit insures that all cameras, monitors, VCRs, character generators, editing, and duplicating equipment are locked on exactly the same frequency. For increased capability a built-in VDA-2P distribution amplifier is optional (100DA). The VAC color sync generator is a 117VAC unit in a cabinet. Input and outputs are BNC connectors on the rear panel. A power indicator is located on the front panel.

**100-2PC Sync generator with black burst** . . . \$706.00  
**100DA-2PC As above with 1 in 3 out VDA** . . . 870.00



Front



Rear

100-2PC

## PG-2PC Color Pattern Generator

The PG-2PC provides 5 test patterns: Full Field Color Bars, Split Field Color Bars, Full Field Blue Gun, Cross-Hatch, and Black Burst. Up to 64 customer specified alphanumeric characters can be switched on to any test pattern. It is genlockable and will run on 117VAC or 12VDC. It can also provide a 1000Hz audio test tone and a field 1 ID flag. Its subcarrier phase is adjustable. Options include: up to 11 additional customer specified test patterns, an additional customer specified alphanumeric screen, and an additional multi-burst or black burst output.

**PG-2PC** . . . . . \$1130.00



Front



Rear

PG-2PC

## VS-2PC Video Squelch

The Video Squelch is an automatic two input, one output video switch. If the quality of the main input signal falls below the user predefined setting on the front panel dial, the output is switched from the main input to the alternate input, a power relay trips, and a defeatable audible alarm sounds.

**VS-2PC With mono audio follow video** . . . . \$1030.00

Any or all of the following may be added to the VS-2PC:

**SA Stereo audio** . . . . . \$206.00

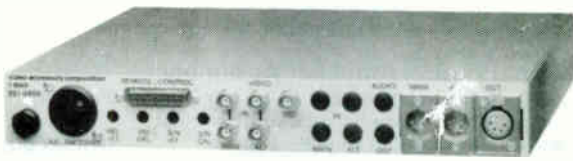
**AT Terminated audio** . . . . . 103.00

**XLR XLR audio connectors (3 or 4-pin)** . . . . . 52.00

**RC Remote control** . . . . . 206.00



Front



Rear

VS-2PC

# VIDEO ACCESSORY CORP.

2450 Central Ave., Ste. H  
 Boulder, CO 80301  
 (303) 443-4950  
 (800) 821-0426

# SWITCHES/ALARMS/ DISTRIBUTION AMPLIFIERS

## VPS-1P Video Activated Power Switch

When this failsafe unit senses a signal, it provides AC power to any device plugged into it. It is useful in remote applications, inaccessible units, and many other applications. Available as a kit for installations in existing equipment or as a complete self contained unit.

VPS-1P Assembled and tested PC board . . . . . \$108.00



VPS-1P



## APS-1P Audio Activated Power Switch

When this failsafe unit senses a signal, it provides AC power to any device plugged into it. It is useful in remote applications, inaccessible units, and many other applications. Available as a kit for installations in existing equipment or as a complete self contained unit.

APS-1P Assembled and tested PC board . . . . . \$108.00



AA-1P



## AA-1P Audio Alarm

This failsafe unit automatically monitors an audio signal. It will sound a clearly audible alarm upon any loss of audio for more than 12 seconds. Available as a kit for installations in existing equipment or as a complete self contained unit.

AA-1P Assembled and tested PC board . . . . . \$108.00

## VA-1P Video Alarm

This failsafe unit automatically monitors a video signal. It will sound a clearly audible alarm upon any loss of video for more than one second. Available as a kit for installations in existing equipment or as a complete self contained unit.

VA-1P Assembled and tested PC board . . . . . \$108.00



VDA-1



## VDA-1/VDA-2P Video Distribution Amplifiers

These distribution amplifiers provide a loopthrough input, 6 outputs, adjustable -3 to +3dB gain, and 20MHz bandwidth for reliably distributing video to a number of devices. The VDA-2PC is a 117VAC unit in a cabinet. Input and outputs are rear panel BNC connectors. Test points, power indicator and gain control are located on the front panel. The VDA-2P is the 117VAC unit without a cabinet. The VAD-1 is a 12VDC unit without a cabinet.

VDA-1 Assembled and tested PC board for 12VDC . . . . . \$182.00

VDA-2P Assembled and tested PC board for 117VAC . . . . . \$206.00



PDA-2P



## PDA-2P Pulse Distribution Amplifier

A 1 in 6 out pulse distribution amplifier with loopthrough input, and 75 ohm outputs adjustable from -3.5V to -4.5V. These output pulses are regenerated by the amplifier so that dirty input signals are actually cleaned up.

PDA-2P Assembled and tested PC board . . . . . \$206.00

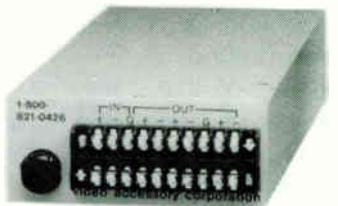
## ADA-2P Audio Stereo Distribution Amplifier

A 1 in 6 out audio distribution amplifier with loopthrough input, 600 ohm isolated balanced or unbalanced outputs, 20Hz to 80kHz bandwidth, and up to +15dB output.

ADA-2P Assembled and tested PC board . . . . . \$206.00



ADA-2P



## DA 10-2PC Distribution Amplifier Assembly

Four or five of any combination of our VDA-2P or PDA-2P distribution amplifiers may be ordered in one full rack width cabinet.

DA 10-2PC With four distribution amplifiers . . . . . \$1030.00

DA 10-2PC With five distribution amplifiers . . . . . \$1288.00

# VIDEO DATA SYSTEMS

30 Oser Ave.  
Hauppauge, NY 11788-2001  
(516) 231-4400

## CG-2000 Commander Character Generator System

The CG-2000 is a stand alone display channel providing full color displays of alphanumeric information and limited graphics. In addition, an externally supplied video signal may replace the internal color background to provide camera pictures in a selected region of the screen. The unit may be interfaced to a variety of external devices providing bidirectional information and control capabilities—e.g., inputs may be weather transducers, computers, data services, etc. and outputs can be made to control, in real time, tape recorders, switchers, etc.

### Genlock

System locks to composite video permitting internal downstream keying, even to 1/2" tape players. Internal adjustments for horizontal positioning and subcarrier phase.

### Resolution

70ns per font element provides 26 characters per row.

### Font (standard)

128 characters defined as 64 upper case ASCII letters, numbers and standard symbols.

- 26 lower case letters
- 26 special European Alphabetic characters
- 12 other special symbols

Each character in a font is defined in a 24 x 64 element box. Vertical elements are selected for display depending on height selected.

### Font (optional)

Total of 8 fonts of 128 characters each (total 1024 characters) downloadable from diskette. Customer specified fonts can be created.

### Font Height

Character heights are definable on a row basis from 4 scan lines to 252 scan lines.

### Memory

The diskette and system RAM memory are organized as files. Each file has a capacity of up to 394 lines of text.

### Diskette Capacity

Absolute maximum capacity in rows: 14,000

### Display Format

Provides mixed displays of page files, crawl files and roll files.

### Display Regions

The screen can be divided into 6 regions, each region has its own definable memory which dynamically displays its own group of files.

### Time Display

The system maintains a real time clock with battery back-up. The time of day in date, month, year, day of week, hours, minutes and seconds may be placed anywhere on a page.

In addition, either a count-down or count-up clock reporting hours, minutes, and seconds since being enabled may be placed anywhere on a page.

### Display Speeds

When sequencing the pages of a display file, each page may be assigned an individual dwell time to be from 1 to 63 seconds, or from 4 to 63 video frames, to provide the visual effect of animation.

### Palette

A 16 color palette is defined for each page: 8 colors for Background and 8 for Character.

A palette entry can define a color as any one of 512 available colors.

# CHARACTER GENERATOR SYSTEM



CG-2000

### Help

Each function key has its own Help page recallable by the operator at any time.

### Real Time Control (scheduling)

Both automatic display of text information and external event control can be determined by a single real time control file.

**External** The system provides the ability to control up to 16 external events by means of TTL logic levels. The resolution of control is  $\pm 1$  second.

**Display Selection** Selection of files for automatic display sequencing based on the hour, minute, second and day of the week is provided.

**Automatic Operation** The system can be configured by the operator to automatically start, or resume, interpreting the commands of a real time control file upon power on. This permits fully unattended operation in the event of a power failure.

**Weather Input** Optional software is available to provide interfacing to a Heathkit weather sensor package, model IDW 4001. Custom software can be supplied for other models of weather instrumentation.

**External Input** Optional software is available to interface to any one of the standard newswire services which provide RS-232 ASCII coded data interfacing.

### Machine Control

Any device or machine which could be conceivably controlled by a contact closure of TTL logic level is a candidate for the CG-2000. With this software, it becomes a master controller of automated program presentations by regulating the display sequence of a variety of sources.

### Applications

**Message** Ideal for text and message display channels in CATV, hotels, industrial facilities, SMATV operations where quality and readability are essential.

**Advertising** Easily created display ads with high visual impact can be automatically inserted into satellite delivery programs on cable or can be inter-mixed with other data to create automatic display channels for cable, SMATV or point of sale applications.

CG-2000 Commander 2000. . . . . \$3995.00

### Options

**Weather Software/Interface** . . . . . \$500.00

**Weather Instruments** . . . . . 700.00

**Standard Fonts** . . . . . each/200.00

**Custom Fonts** . . . . . each/400.00



# VIDEO DATA SYSTEMS

30 Oser Ave.  
Hauppauge, NY 11788-2001  
(516) 231-4400

# TITLER/DISPLAY



## VS-3000 VidStar Titler/Display

VS-3000

### System Features

- Color Background** Choose any of 512 colors for any scan line.
- Color Characters** Character and edge color separately selected from 512 color array.
- Fonts** Two fonts are standard. Up to 8 may be installed.
- Graphics** Font with basic graphic symbols available. Custom logos and graphic symbols optional.
- Resolution** 30ns character resolution assures smooth curves and clear edge definition.
- Genlock** Unique circuit design lets the VidStar lock to most NTSC video signals, even to 1/2" tape players.
- Video Output** Output is NTSC standard.
- Data Input** RS-232 serial data at up to 9600 baud.

### Display Features

- Proportional Spacing** Characters are automatically spaced according to their width.
- Line Spacing** Spacing between text lines is operator adjustable.
- Overlap** Characters, graphics and logos can be incrementally positioned on the screen and can be set to overlap for eye catching effects.
- Edging** Full control of character edging allows selection of edge width and height. Edge may be all around or shadow with variable angle.
- Character Slant** Slant is selectable on a character basis in 31 increments to the left or right.
- Video Windows** External video windows of different sizes, shapes and screen locations can be programmed and used for creative special effects.

### Applications

- Titling** The VidStar is the logical choice of industrial TV Productions, Low Power television stations, CATV, schools and institutional TV studio applications.
- Message Displays** VidStar is ideal for text and message display channels in hotels, industrial plants, SMATV operations where quality and readability are essential.
- Advertising** Easily created display ads with high visual impact can be automatically inserted into satellite delivered programs on cable or can be intermixed with news text or other data to create automatic display channels for Cable, SMATV or point of sale applications.

Whether you program the VidStar with your own computer, an Apple II with VidStar Software, or add it to a Video Data System's Microsystem II, you can have a broadcast real time titler/display that is cost effective and highly adaptable.

VS-3000 . . . . . \$3695.00



**VIDEO DATA SYSTEMS'  
ULTRA DISPLAY CHANNEL.  
It's what was missing!**



# VIDEOMEDIA

211 Weddell Dr.  
Sunnyvale, CA 94089  
(408) 745-1700 Telex: 29-4530 VMED UR

# EDITING SYSTEMS



Eagle

## Eagle I, II and III Editors

### Standard Features for all Eagle Editors:

- 250 event memory
- Auto-Edit
- Auto-Tag
- Multi-Split Edits
- Frame Accurate (Micro-Loc or SMPTE)
- Upgradeable
- Control up to 6 transports (optional)
- Printer output
- Status display generator
- On-line "Help" Functions
- Distributed Intelligence
- Animation
- Transitional data entry

### Eagle System Specifications

**System Configuration:** Distributed intelligence using independent transport control processors. Electronics, rack-mount

**Central Processor:** Z80A 8-bit microprocessor

#### Transport Control

**Processor:** Z80A 8-bit microprocessor

**Software Programs:** Contained in EPROMs (non-volatile) or optional disk operating system

#### Communication

**Format:** RS232C/serial printer; parallel to Transport Control Processor  
Serial printer

#### Edit List Output:

**Maximum Number of Devices**

**Controllable:** 5 source, 1 record

**Edit Accuracy:** Frame accurate, color framed with SMPTE or Micro-Loc; machine dependent with control track

**Time Code Standards:** SMPTE drop/non-drop frame, EBU

**Television Standards:** NTSC/PAL/SECAM/PAL-M

**Keyboard:** Remote, dedicated

**Motion Control:** Dual proportional shuttle arms

**Chassis:** 5 1/4" H x 19" W x 22 1/4" D

**Weight:** 32 lbs.

**Keyboard:** 4" H x 21" W x 11 7/8" D

**Power:** 110/220/240VAC; 48 to 62Hz

**Disk Package:** (optional) 3 1/2" H x 19" x 13 1/4" D

**Weight:** 25 lbs.

- Eagle I** 2 machine, 250 event, animation, printer output. Unit has built in sync generator with sync, 3.58 and two black burst outputs . . . . . **\$8,250.00**
- Eagle II** All the features of the Eagle I plus full list management functions including: Insert Event, Delete Event, Move Event, Index, Ripple, Auto-Clean and Slide . . . . . **\$9,500.00**
- Eagle III** A/B roll system includes all the features of the Eagle II plus a third TCP module, Z6006 multi-level transition switcher control, and Z6007 monitor switcher and GPSI unit. (Specify switcher to be used.) . . . . . **\$16,500.00**
- Eagle 900** Special edition includes 250 events, A/B roll, Z6006 switcher driver, 3 TCP modules, printer port, basic slow motion control, and list management . . . . . **\$13,750.00**
- Magnum** A/B roll, rackmount electronics, 250 event, 8" dual disk operating system, software assignable transports, CMX disk translator, expanded list management, printer output, 5 general purpose contact closures, animation, sync roll, diagnostics. Slow motion control is included, if transports specified are capable. Basic system includes serial switcher interface for all popular switchers and 3 transport control processors (serial or parallel, specify transports). System can handle up to six transports by adding additional TCP modules . . . . . **\$23,500.00**

### Eagle/Magnum Editing Options and Accessories

- Micro-Loc II** Intelligent Micro-Loc reader generator. Specify VTR type. . . . . **\$825.00**
- TCP-3** Complete set of hardware and software for serial interface of additional transports to the Magnum. (Specify type transports) . . . . . **\$2,750.00**
- TCP-SM** SMPTE/EBU time code reader option for use with TCP-3 on parallel type VTRs . . . . . **\$500.00**
- EA 100** Single 5 1/4" disk file storage and retrieval system. Includes one 5 1/4" drive, rackmount chassis, disk controller card and software. (not for the 900) . . . . . **\$1,995.00**
- EDOS-1** Dual 5 1/4" disk operating system. Includes 2 each 5 1/4" drives, rackmount chassis, disk controller board and operating software. System also includes Version 2.00 enhanced list management, assignable VTRs, slow motion control. (Eagle II or III only) . . . **\$5,000.00**
- ZDOS-1** Dual 8" disk operating system. Includes 2 each 8" drives, rackmount chassis, disk controller board and operating software. System also includes Version 2.00 enhanced list management, assignable VTRs, slow motion control and translator to CMX compatible disk. (Eagle II or III only) . . . . . **\$7,500.00**
- Z6007** Contact closure and general purpose interface. Includes audio and video monitor switcher and software control of 5 separate contact closures for use with external devices. (This unit is standard with Eagle III and 900) . . . . . **\$1,000.00**

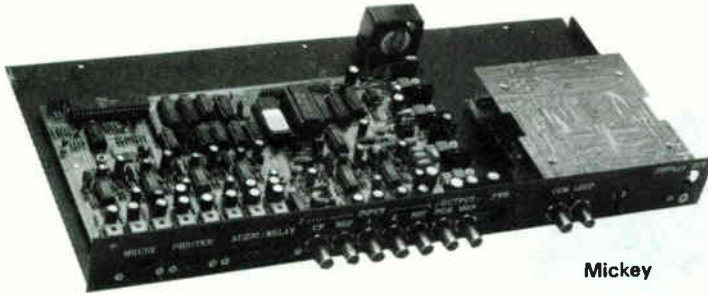
### Upgrade or Changeout Charges

- TCP Changeout** (VTR Change) Includes software and cable swap for one VTR. If second half of TCP-3 board is ordered active, add \$900.00. . . . . **\$1,000.00**
- EA-DOS to EDOS-1 upgrade** . . . . . **1,000.00**
- Z6004 to ZDOS-1 upgrade** . . . . . **1,250.00**
- Eagle 900 to any higher model** Plus price difference in models . . **1,000.00**

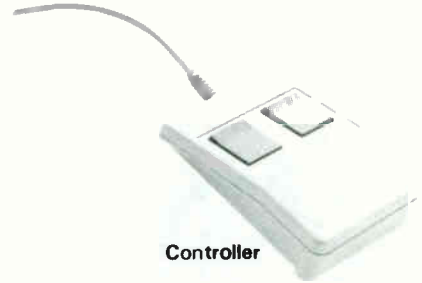
# VIDEOMEDIA

211 Weddell Dr.  
Sunnyvale, CA 94089  
(408) 745-1700 Telex: 29-4530 VMED UR

# EDITING CONTROLLERS



Mickey



Controller

## Mickey 1 and 2 Editing Controllers

- "Mouse" input control • Frame accurate (using SMPTE time code)
- 50 event internal memory • 2 VTR control • Built-in video mixer with 2 channel audio follow mixer • Multiple split edit capability • Automatic external trigger for additional effects devices • Printer output port (RS-232) • Interfaces to most popular VHS, U-Matic, 1/2" and 1" type "C" VTRs • Upgradeable to Mickey 2

### Standard Features of Mickey 2

- Mickey 2 includes all of the features mentioned for Mickey 1 plus:
- 3 VTR A/B roll capability • Full auto-drive of internal audio/video mixer

All editing operations on Mickey are achieved by movement of an opto-mechanical "mouse" which will highlight various squares presented on a data display monitor.

The left-hand button of the two button "mouse" activates the function highlighted on the monitor. The right-hand button controls VTR motion (Play, Pause, Variable Speed, Jog, Shuttle, etc.)

### Distributed Intelligence

Mickey uses distributed intelligence. That means each VTR has its own dedicated computer (VSIO unit) controlling it. Distributed intelligence is the only method by which consistent frame accuracy of a system can be maintained. Mickey provides protection against obsolescence since expandability is assured by the fact that distributed intelligence is used.

### High Speed LAN

The VTRs require no modifications. Mickey's main computer communicates to all VSIO units in the system via a single BNC coax cable. A defective VTR or VSIO unit can be located, isolated and replaced or removed literally within seconds. This high speed Local Area Network (LAN) is a remarkable technological breakthrough.

Mickey's software is just as impeccably designed as its hardware. This mouse driven system is easily the fastest editor to use. Mickey can automatically find a match cut point, extend an edit and clean the edit list with one single stroke, procedures that take any other editing system countless keystrokes.

## Specifications

- System Configuration:** Distributed intelligence using independent Transport Control Processors. (VSIO Units)
- Central Processor:** Z80A 8-bit microprocessor
- Transport Control Processor:** Z80A 8-bit microprocessor
- Software Programs:** Contained in EPROMS (non-volatile)
- Communication Format:** RS232C/serial printer; Co-ax LAN Loop to Transport Control Processors
- Edit List Output:** Serial printer

- Inputs:** Mouse, Audio (2 channel, 2 source, 1 record), REF (black burst or composite sync), CF (color frame ID pulse, required only for certain VTRs), Video (2 source, 1 record)
- Maximum Number of Devices Controllable:** 2 source, 1 record
- Edit Accuracy:** Frame accurate, color framed w/SMPTE or Micro-Loc; machine dependent w/control track
- Time Code Standards:** SMPTE drop/non-drop frame, EBU
- Television Standards:** NTSC/PAL/SECAM/PAL-M
- Input Control Device:** Opto-mechanical Mouse
- Motion Control:** Full proportional speed using Mouse
- Video Dissolve:** Selectable rate 5 to 120 frames
- Audio Mix:** 2 channel stereo, same rate as Video
- Outputs:** Printer-DB9, Audio (2 channel) monitor and program, Video (monitor and program), Display 1V p-p composite

**Mickey 1** 2 machine cuts only editor with GPSI interface for external devices. Includes 50 event memory, mouse control operating system, printer port, 2 channel video dissolve and 2 channel stereo audio follow video dissolve. 2 VSIO-M distributed intelligence interface modules for serial control VTRs are included. (Specify VTR) . . . \$3,500.00

**Mickey 2** 3 machine A/B roll editing system with all features of Mickey 1 plus sync roll and A/B roll software, plus one additional VSIO-M distributed intelligence interface for serial control VTRs. (Specify VTR) . . . \$4,500.00

**VSIO-PS Option** This option must be ordered (one per VTR) for control of parallel VTRs i.e. type 5 U-Matics, JVC CR series. This option includes a SMPTE time code reader. This option may also be used with serial VTRs i.e. JVC 850s, BVUs to provide time code without the necessity of the optional VTRs internal time code boards . . . \$500.00

**PC-Link Option** PC board and software for adding any IBM (PC, XT or AT) computer to the Mickey LAN system. This allows edit list storage and retrieval to floppy disk or hard disk and direct keyboard data entry for the Mickey editing systems. This option is mandatory for use with the Mickey LM list management system . . . \$1,850.00

**LM Option** List management and EDL data basing software package for Mickey editing systems equipped with the PC-Link option. . . . \$950.00



# VIDEOMEDIA

211 Weddell Dr.  
Sunnyvale, CA 94089  
(408) 745-1700

# AUTOMATION/ANIMATION SYSTEMS

## AUTOMATION SYSTEMS

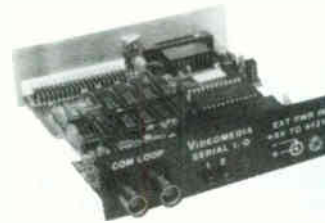
- Q-STAR II/A** Computer based 900 event, random access and/or sequential automated playback system. Includes 4 VSIO and VTR interfaces. Additional VTRs may be added by ordering additional VSIO units. Up to 20 devices may be controlled. Multiple keyboards may be added. Switcher included with system is a 10 X 1 AFV dual audio channel unit. (Call factory for other switcher possibilities). System also includes real-time clock/date generator, keyboard, electronics, serial printer port and control cables . . . . . \$ 9,250.00
- VMC-2000** Master control system includes IBM-AT compatible computer with EGA color card and color monitor, serial and parallel control ports, 20M hard disk, UPS battery backup, and high speed printer. Accepts logs from the VMC-3000. LAN software to control up to 20 Q-STARs and the VSIO master buffer. System includes 1 Q-STAR 4 machine channel. . . . . 29,000.00
- VMC-2000-2** As above but complete setup for two channel operation. Includes 2 Q-STAR 4 machine channels . . . . . 37,000.00
- VMC-2000-4** As above but complete setup for four channel operation. Includes 4 Q-STAR 4 machine channels . . . . . 49,000.00
- VMC-2000-8** As above but complete setup for eight channel operation. Includes 8 Q-STAR 4 machine channels . . . . . 78,000.00
- VMC-3000** Multi-user station management and traffic control center. Features contract generator, billing software, cuts sheet generator, log generator, sales tracking and report generator, and word processor. Maintains all data for up to 20 channels of operation. LAN System allows for up to 32 additional IBM compatible user stations. Center includes IBM AT compatible computer, EGA color card, color monitor, 20M hard disk, LAN server card and 1 LAN slave card, high speed printer, and UPS battery backup power supply . . . . . 28,500.00

### Options

- VMC-260A** FSK integrated operational software package. Stand-alone FSK encoding and verification station includes terminal, VTR interface, computer and software . . . . . \$3,000.00
- FSK-1** FSK data decoder (requires VSIO-1) . . . 500.00
- FSK-2** FSK CRT data display generator . . . 1,200.00
- SM-4** SMPTE time code reader (requires VSIO-1) . . . . . 500.00
- MDM-1** Modem and communications software. (VMC-2000, VMC-3000) . . . . . 1,695.00
- VSIO-1** Intelligent transport control interface module . . . . . 750.00



Q-Star II/A



ANI-MATE



- VMC-101V** Tone encoder for Q-STAR II or VMC-2000 systems. (Not used if FSK or SMPTE are used) . . . . . \$900.00
- LAN-1** Plug in slave card for placing any IBM compatible computer on VMC-3000 LAN network . . . . . 750.00

Control cable and connector for any U-matic or 1/2" VTR. For use with VSIO units or Q-STAR or VMC-2000 systems . . . . . 75.00

## ANIMATION SYSTEMS

- VS-5** 3/4" U-matic frame accurate animation system. Can be used stand-alone or controlled from an external computer via RS-232 interface. System includes Sony VO-5850 VTR with modifications, MICRO-LOC reader-generator, special VSIO and operating software . . . . . \$10,000.00
- ANI-MATE** Animation system for frame accurate edits on any Sony BVU, Betacam or BVH 2000 VTRs. Uses the 9-pin remote. VTR must be equipped with SMPTE time code reader . . . . . 850.00

# VIDEONICS, INC.

1129 Dell Ave.  
Campbell, CA 95008-6611  
(408) 866-8300

# VIDEO EDITING SYSTEM

## DirectED Video Editing System

The system allows you to combine your favorite scenes, in any order, with special effects, graphics, titles, and backgrounds to make productions you'll be proud to show. The system contains a powerful video computer which knows the exact location of each scene and event in your home library. You can find any scene without manually searching through your tapes.

### Compatibility.

The system works with VHS, Beta, 8mm and 3/4" systems. Your VCR and camcorder (or second VCR) can use different formats.

To make a movie with DirectED, you select the scenes you want from your original tapes. DirectED can remember the names and locations of thousands of scenes. You can arrange scenes in any order. Making a movie can be as simple as marking the desired scenes and selecting which scenes to show, in which order. Then, with the press of a few buttons on the wireless remote control, DirectED will automatically place the scenes on a final production, telling you when to change tapes.

For more interesting movies, DirectED provides built-in titles, graphics, fades, and wipes. You can add titles to your scenes, in different fonts and sizes, on top of your video or on a colored background. Backgrounds and text come in 64 colors. You can add a color graphic to your movie, selecting from a set of pictures that are supplied inside DirectED. You can add text to the graphic. Finally, you can choose from 17 fades and wipes to move between scenes, backgrounds, and graphics, even fading the sound and picture separately.

DirectED is easy to learn and use. Instead of an elaborate control panel with knobs and switches, DirectED comes with a simple wireless remote control. Operating choices are presented on your television screen in a menu format. To make a movie, you simply progress down the menu. Each menu choice is explained in more detail at the bottom of the screen. When you need more, the red "Help" key on the remote control provides a full explanation.

All movies are made directly from the original tapes, not from a "working copy". The internally generated pictures, text, backgrounds, fades, and wipes are digitally generated by the built-in high-speed video computer so they're crisp, clear, and colorful. The computer accurately controls your VCR so that scenes are placed precisely and the transitions between them are as precise and clean as possible with the equipment you have.

### Expandability.

You can add inexpensive modules to your system to expand its capabilities. Like CollectED, the video jukebox. With CollectED attached to your Videonics system, the system keeps track of all your music videos for you. You won't have to remember which videos are on which tape and you won't have to search back and forth across a tape to find what you want. Instead, the names and artists appear on the screen. You use the remote control to move up and down the list, selecting the videos you want to see. Inexpensive modules such as CollectED add new capabilities to the Videonics system. They build on the system's high-speed video computer, exploiting its ability to memorize the names and whereabouts of your home entertainment materials, control your VCR, and process audio and video signals.

## Technical Information

The Videonics System uses a high-speed microcomputer, combined with custom audio-video circuitry and software.

Processor: NEC V40™ (a superset of the Intel 80186™ microprocessor). 8MHz clock with no wait states.

Software: Custom software developed using Turbo PASCAL™ from Borland International.



DirectED



Memory: 256K bytes RAM main memory.

Permanent memory: 8K bytes of non-volatile RAM with fail-safe backup power provided by dual redundant lithium cells with a minimum life of eight years. The same dual-lithium backup cells also maintain the settings of the system clock and calendar.

Digital information, including software, video library database, graphics, and storyboards are stored on videotape. The full 256K byte memory is saved in approx. 5 seconds with 16-bit CRC-16 error detection and redundant recording. Timing track on library tapes has a resolution of one frame. Each frame is uniquely identified.

Control: 50-key infrared remote control. Controls all system functions in combination with on-screen menus and Help screens. Infrared emitter attaches to VCR to control its functions. System "learns" remote control codes and characteristics of VCRs.

Audio: Four high-fidelity channels, controlled by system software over a range of 90dB in 1.5dB steps.

Graphics and video: Resolution of digitally generated graphics (using half-shift capability) is 768 x 480. Custom video circuitry combined with Motorola 1378 provides 64 colors, half-shift and shadow, ability to switch between external and internal video sources pixel-by-pixel.

Special effects hardware: Custom circuitry capable of detecting any of 64 video levels with full resolution. Cross fade between internal and external video with 64 levels.

Inter-module connection bus. Modules are connected through a bus with four video and four audio channels plus a 38K bit/sec. bi-directional serial data bus. The video and audio channels are connected through a crosspoint system—any source can be connected to any of the bus lines.

Power supply produces 26W. The system without modules uses only 5W, leaving 21W for future modules.

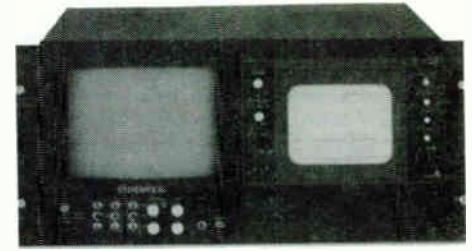
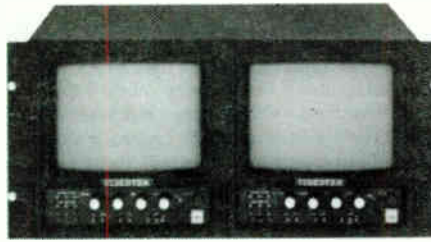
DirectED . . . . . \$499.00



# VIDEOTEK, INC.

243 Shoemaker Rd.  
Pottstown, PA 19464-9990  
(215) 327-2292 TWX: 710-653-0125  
FAX: (215) 327-9295

# PROFESSIONAL RACKMOUNT COLOR MONITORS



## SYSTEM 8

**8" Broadcast Rackmount AC/DC Color Monitor With Comb Filter and Glare Shield. Includes TSM-5A Waveform Monitor and PVS-6 Switcher**

**Features Include:** Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, RGB gun switches, RGB background and drive controls, tally light, medium resolution 350 lines, comb filter, internal/external sync, anti-glare shield, rackmount accessories, selectable ACC defeat, and Service manual

**Options:** Pulse Cross, Underscan  
**Dimensions:** 8<sup>3</sup>/<sub>4</sub>" H x 19" W x 18<sup>1</sup>/<sub>2</sub>" D  
**Weight:** 40 lbs.

**Power Consumption:** 40W AC, 33W DC  
**Power Consumption/Entire System:** 95W  
**System 8** .....\$3595.00

## VM-8PRD

**Dual 8" Professional Rackmount AC/DC Color Monitor**

**Features Include:** Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, RGB gun switches, RGB background and drive controls, tally light, internal/external sync, selectable ACC defeat, rackmount accessories and service manual

**Options:** Pulse Cross, Underscan  
**Dimensions:** 8<sup>1</sup>/<sub>4</sub>" H x 19" W x 15<sup>3</sup>/<sub>4</sub>" D  
**Weight:** 57 lbs.

**Power Requirements:** 120VAC, 60Hz, 12 or 24VDC  
**Power Consumption:** 40W AC, 33W DC (ea. unit)

**VM-8PRD** .....\$2365.00

## VM-8PRW

**8" Professional Rackmount AC/DC Color Monitor with Space Provided for Videotek TSM-60 with Standard Case or VSM-60 with Standard Case.**

**Features Include:** Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, RGB gun switches, RGB background and drive controls, tally light, internal/external sync, rackmount accessories, selectable ACC defeat, and service manual

**Options:** Pulse Cross, Underscan  
**Dimensions:** 8<sup>3</sup>/<sub>4</sub>" H x 19" W x 15<sup>3</sup>/<sub>4</sub>" D  
**Weight:** 32 lbs.

**Power Requirements:** 120VAC, 60Hz 12 or 24VDC

**Power Consumption:** 40W AC, 33W DC  
**VM-8PRW** .....\$1250.00

**VM-8PRW-1** Same as VM-8PRW but with space provided for PVS-6 Switcher .....\$1260.00



## VM-8PT

**8" Professional Portable AC/DC Color Monitor**

**Features Include:** Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, RGB gun switches, RGB background and drive controls, tally light, internal/external sync, selectable ACC defeat, and service manual

**Options:** Pulse Cross, Underscan  
**Dimensions:** 9<sup>1</sup>/<sub>4</sub>" H x 8<sup>1</sup>/<sub>2</sub>" W x 16<sup>1</sup>/<sub>4</sub>" D  
**Weight:** 25 lbs.

**Power Requirements:** 120VAC, 60Hz, 12 or 24VDC

**Power Consumption:** 40W AC, 33W DC  
**VM-8PT** .....\$1265.00

## VM-8PR

**8" Professional Rackmount AC/DC Color Monitor**

**Features Include:** Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, RGB gun switches, RGB background and drive controls, tally light, internal/external sync, selectable ACC defeat, rackmount accessories and service manual

**Options:** Pulse Cross, Underscan  
**Dimensions:** 8<sup>3</sup>/<sub>4</sub>" H x 19" W x 15<sup>3</sup>/<sub>4</sub>" D  
**Weight:** 30 lbs.

**Power Requirements:** 120VAC, 60Hz, 12 or 24VDC

**Power Consumption:** 40W AC, 33W DC  
**VM-8PR** .....\$1195.00

## VM-8PRA

**8" Professional Rackmount AC/DC Color Monitor w/Speaker Cabinet**

**Features Include:** Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, dual audio inputs, RGB gun switches, RGB background and drive controls, tally light, internal/external sync, rackmount accessories, selectable ACC defeat, and service manual

**Options:** Pulse Cross, Underscan  
**Dimensions:** 8<sup>3</sup>/<sub>4</sub>" H x 19" W x 15<sup>3</sup>/<sub>4</sub>" D  
**Weight:** 32 lbs.

**Power Requirements:** 120VAC, 60Hz, 12 or 24VDC

**Power Consumption:** 40W AC, 33W DC  
**VM-8PRA** .....\$1450.00



# VIDEOTEK, INC.

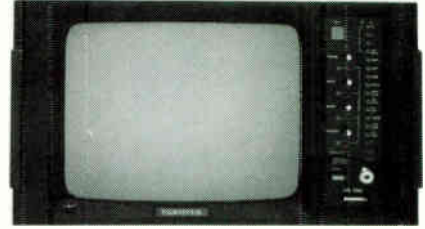
243 Shoemaker Rd.  
Pottstown, PA 19464-9990  
(215) 327-2292 TWX: 710-653-0125  
FAX: (215) 327-9295

# COLOR MONITORS

## HR-130/HR-190 Broadcast Master Color Monitor RGB/NTSC

- Hi resolution (600 lines) • Video inputs A, B, C/A-B split field adjustable video display • Linear phase aperture correction • 1H comb filter, notch filter-selectable • Pulse cross mode • Separate H & V adjustable pulse cross delays • Expanded vertical mode • Underscan mode H, AFC time constants selectable • Internal-external sync selectable • RGB gun kill control • Color-monochrome mode • Manual or preset chroma, phase, brightness and contrast front panel controls • Analog RGB inputs, NTSC-RGB selectable • Lockable engineering adjustment drawer • Tally indicator

HR-130 13" .....\$3795.00  
HR-190 19" .....4795.00

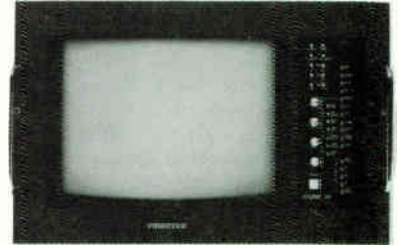


HR-130

## Studio-13 Professional Rackmount Color Monitor

- 13" Trinitron® Plus color picture tube • 380 Lines of resolution • Selectable comb and notch filters • High voltage regulation • Separate H & V delay front panel adjustable • Split mode A-B display (front panel adjustable) • Automatic sync switchover to internal if external sync is lost, external sync indicator • Automatic degauss • Keyed back porch clamping • A-B-C looping video inputs • RGB video inputs • RGB gun switches • RGB background and drive controls • Tally light • Underscan • Presets — Chroma/Phase/Brightness/Contrast • ACC defeat (switchable) • Selectable time constant (H, AFC) • Monochrome select • Setup select • Aperture control • Rackmount slides • Service manual • Dimensions: 10 1/2" H x 19" W x 19" D • Weight: 52 lbs. • Power requirements: 120VAC, 60Hz ± 10% • Power consumption: 85W (Avg.), 120W (Max.)

Studio-13 .....\$2495.00

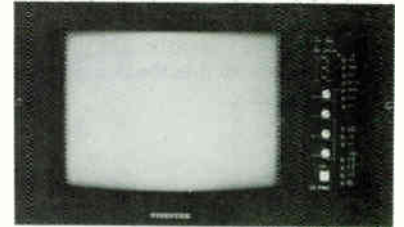


Studio-13

## VM-13PRO 13" Professional Rackmount Color Monitor

- Raster size regulation • Automatic degauss • Keyed back porch clamping • A-B-C inputs • RGB gun switches • RGB background and drive controls • Tally light, internal-external sync • Pulse cross • Underscan • Presets • Selectable automatic chroma control (ACC) defeat for detection of chroma loss • Monochrome-color select • Set-up switch • Selectable horizontal time constant (H, AFC) • Aperture control • Rackmount slides • Dimensions: 10 1/2" H x 19" W x 19" D • Weight: 48 lbs. • Power requirements: 120VAC, 60Hz ± 10% • Power consumption: 55W (Avg.), 80W (Max.)

VM-13PRO .....\$1695.00



VM-13PRO

## AVM-19s (19") and AVM-13s (13") Color Monitors with Audio

- Automatic degauss • Keyed back porch clamping • A-B-VTR inputs • Blue gun • Tally light • Internal-external sync selectable • Pulse cross • Underscan • External demodulator input • Internal audio speaker • 8-pin VTR cable (6") • Service manual (Switchable comb-notch filter • Power isolation transformer • B & W color switch • Sharpness control; AVM-19s only

### Specifications

**CRT:** Slot mask in-line, 90° deflection  
**Color Standard:** NTSC  
**Video Signal Level:** .8V to 1.2V p-p composite video loop through or switchable 75 ohm termination, negative sync  
**Video Inputs A-B VTR:** Switchable, better than 50dB at 4MHz isolation  
**Audio Input Level:** 350mVRMS (nominal) high impedance bridging  
**Audio Output:** 1.2W typical (10% distortion) 8 ohm internal speaker. (AVM-13s) 1.5W typical (10% distortion) 8 ohm internal speaker. (AVM-19s)  
**Connectors:** Video, external sync — BNC  
 Audio — RCA  
 VTR — 8-pin  
 External demodulator — 6-pin DIN (Direct interface with Sony TU-1110 tuner)  
**Resolution:** 280 lines horizontal. (AVM-13s) 350 lines horizontal with comb filter. (AVM-19s)  
**DC Restoration:** Keyed back porch clamping  
**Pulse Cross:** Switchable to display horizontal and vertical blanking intervals  
**Underscan:** Switchable to display 90% of full screen  
**External Sync:** 4V p-p (nominal) high impedance bridging, negative polarity  
**Power Cord:** 8', 3 wire ground  
**Options:** Rackmount adaptor (AVM-13s)  
**Dimensions:** 12 1/4" H x 14 1/2" W x 15" D (AVM-13s)  
 17 1/2" H x 19" W x 19" D (AVM-19s)  
**Weight:** 32 lbs. (AVM-13s)  
 60 lbs. (AVM-19s)  
**Power Requirements:** 120VAC, 60Hz  
**Power Consumption:** 80W (avg.) (AVM-13s)  
 100W (avg.) (AVM-19s)



AVM-19s



AVM-13s

AVM-19s .....\$825.00  
 AVM-13s .....650.00  
 RB-013 Rackmount Kit for AVM-13s .....45.00  
 RB-019 Rackmount Slides for AVM-19s .....60.00

# VIDEOTEK, INC.

243 Shoemaker Rd.  
Pottstown, PA 19464-9990  
(215) 327-2292 TWX: 710-653-0125  
FAX: (215) 327-9295

# RGB MONITORS

## RGB/VM-25XB, RGB/RM-25XB

### 25" Analog and Digital RGB Monitors

- A-B inputs • External sync • Blue gun • Underscan • Switchable NTSC/RGB • Digital or analog • Sync on green (switchable)

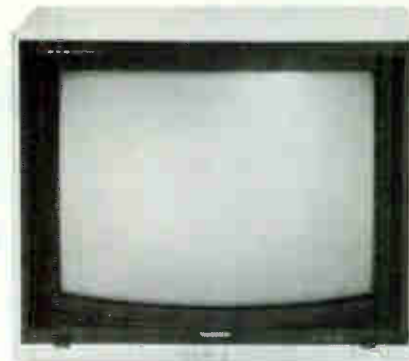
RGB/VM-25XB 25" analog and digital RGB/NTSC combination monitor (IBM PC® Compatible) ..... \$2425.00

RGB/RM-25XB 25" Analog and Digital RGB/NTSC Combination Cable Ready Receiver/Monitor (IBM PC Compatible) ..... 2595.00

## RGB/VM-25XB/D, RGB/RM-25XB/D

### 25" Analog RGB Monitors

- A-B inputs • Automatic sync switching between RGB (Sync on green) and NTSC • Blue gun • Underscan • Increased vertical blanking time



RGB/RM-25XB

RGB/VM-25XB/D 25" Analog RGB/NTSC combination monitor (DEC® VT100 and 200 Series, Rainbow PC, Pro Series, DEC Mate 2 & 3 Compatible) ..... \$2855.00

RGB/RM-25XB/D 25" Analog RGB/NTSC Combination Cable Ready Receiver/Monitor (DEC VT 100 & 200 Series, Rainbow PC, Pro Series, DEC Mate 2 & 3 compatible) .. 2995.00

## RGB-25XBA 25" Digital or Analog RGB Monitor

- Designed to display RGB signals from computers having a scan rate of 25.745kHz • 25" Microblack Trinitron® CRT • DC restoration • Hand-held wireless remote control • Sync on green select • Underscanned raster • AT & T 6300 PC® compatible (16 color) • 25-pin D-subminiature connector for RGB inputs • Composite or separate horizontal and vertical sync—normal or inverted polarity • Internal/external sync select with looping BNC input • 2000 character display

RGB-25XBA ..... \$2995.00



RGB-25XBA

## CD-19HR 19" Analog RGB Monitor

- High resolution CRT capable of a clear display of 4,000 characters (approx. 1,000 pixels in screen center) • Black-matrix CRT Pii-Delta construction for stable, simple convergence of beam registration • Full range analog input • Video channel bandwidth, 50Hz to 25MHz (± 3dB) • 3 looping RGB inputs with selectable 75 ohm termination • Internal/external sync auto select • Multiple scan rates • Separate H and V drives • 19" rackmountable • Dynamic focusing • Multi mains input select • Selectable 3:4 or 1:1 aspect ratio

CD-19HR with cabinet (US-1 standard) ..... \$2850.00



CD-19HR

## CD-13HR 13" Analog RGB Monitor

- High resolution CRT capable of a clear display of 2,000 characters (approx. 700 pixels in screen center) • Black-matrix CRT Pii-Delta construction for stable, simple convergence of beam registration • Full range analog signal input • Video channel bandwidth, 50Hz to 20MHz (± 3dB) • 3 looping RGB inputs with selectable 75 ohm termination • Internal/external sync select set internally • Multiple scan rates • Multi mains input select

CD-13HR with cabinet (US-1 standard) ..... \$1995.00



CD-13HR

# VIDEOTEK, INC.

243 Shoemaker Rd.  
Pottstown, PA 19464-9990  
(215) 327-2292 TWX: 710-653-0125  
FAX: (215) 327-9295

# COLOR MONITORS/ RECEIVERS

## RM-8A 8" AC/DC Portable Color Receiver/Monitor

Dimensions: 9<sup>3</sup>/<sub>8</sub>" H x 10<sup>1</sup>/<sub>4</sub>" W x 13<sup>3</sup>/<sub>4</sub>" D  
Weight: 20 lbs.  
Power Requirements: 120VAC 60Hz, 12 or 24VDC  
Power Consumption: 49W AC (max.), 40W (12VDC), 33W (24VDC)

RM-8A .....\$957.00



RM-8A

## VM-8A 8" AC/DC Portable Color Monitor

Dimensions: 9" H x 10<sup>1</sup>/<sub>4</sub>" W x 13<sup>3</sup>/<sub>4</sub>" D  
Weight: 18 lbs.  
Power Requirements: 120VAC 60Hz, 12 or 24VDC  
Power Consumption: 49W AC (max.), 40W (12VDC), 33W (24VDC)

VM-8A .....\$855.00

## RM-13T 13" Cable Ready Portable Color Receiver/Monitor

Dimensions: 14" H x 15<sup>1</sup>/<sub>2</sub>" W x 16<sup>1</sup>/<sub>2</sub>" D  
Weight: 33 lbs.  
Power Requirements: 120VAC 60Hz  
Power Consumption: 55W (avg.), 80W (max.)

RM-13T .....\$795.00



RM-13TR

## VM-13T 13" Portable Color Monitor

Dimensions: 14" H x 15<sup>1</sup>/<sub>2</sub>" W x 16<sup>1</sup>/<sub>2</sub>" D  
Weight: 33 lbs.  
Power Requirements: 120VAC 60Hz  
Power Consumption: 55W (avg.), 80W (max.)

VM-13T .....\$725.00

## RM-13TR 13" Cable Ready Rackmount Color Receiver/Monitor

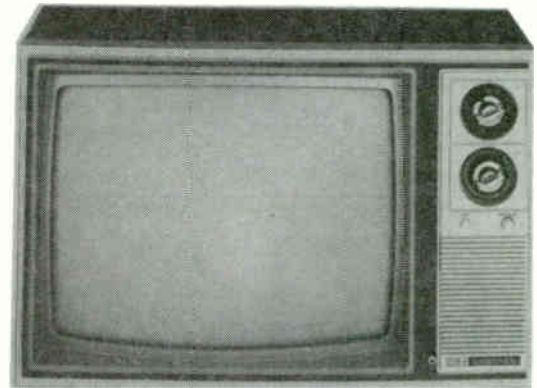
Dimensions: 15<sup>3</sup>/<sub>4</sub>" H x 19" W x 16<sup>1</sup>/<sub>2</sub>" D  
Weight: 38 lbs.  
Power Requirements: 120VAC 60Hz  
Power Consumption: 55W (avg.), 80W (max.)

RM-13TR .....\$895.00

## VM-13TR 13" Rackmount Color Monitor

Dimensions: 15<sup>3</sup>/<sub>4</sub>" H x 19" W x 16<sup>1</sup>/<sub>2</sub>" D  
Weight: 38 lbs.  
Power Requirements: 120VAC 60Hz  
Power Consumption: 55W (avg.), 80W (max.)

VM-13TR .....\$820.00



RM-19B

## RM-19 19" Cable-Ready Color Receiver/Monitor

Dimensions: 19" H x 26<sup>1</sup>/<sub>2</sub>" W x 18<sup>5</sup>/<sub>8</sub>" D  
Weight: 63 lbs.  
Power Requirements: 120VAC, 60Hz  
Power Consumption: 73W (avg.), 115W (max.)

RM-19 .....\$985.00

## RM-19B 19" Color Receiver/Monitor

Dimensions: 17<sup>1</sup>/<sub>8</sub>" H x 23<sup>1</sup>/<sub>4</sub>" W x 18<sup>1</sup>/<sub>2</sub>" D  
Weight: 60 lbs.  
Power Requirements: 120VAC, 60Hz  
Power Consumption: 83W

RM-19B .....\$795.00

## VM-19 19" Color Monitor

Dimensions: 19" H x 26<sup>1</sup>/<sub>2</sub>" W x 18<sup>5</sup>/<sub>8</sub>" D  
Weight: 61 lbs.  
Power Requirements: 120VAC, 60Hz  
Power Consumption: 73W (avg.), 115W (max.)

VM-19 .....\$899.00

## RM-25 25" Color Receiver/Monitor

Dimensions: 21<sup>1</sup>/<sub>4</sub>" H x 30<sup>1</sup>/<sub>4</sub>" W x 22<sup>1</sup>/<sub>4</sub>" D  
Weight: 92 lbs.  
Power Requirements: 120VAC 60Hz  
Power Consumption: 93W

RM-25 .....\$1070.00

## RM-27RC 27" Cable-Ready Color Receiver/Monitor

• Remote controlled • 24<sup>3</sup>/<sub>8</sub>" H x 33" W x 22<sup>1</sup>/<sub>2</sub>" D

RM-27RC .....\$1850.00

## VM-27RC 27" Color Monitor

• 24<sup>3</sup>/<sub>8</sub>" H x 33" W x 22<sup>1</sup>/<sub>2</sub>" D

VM-27RC .....\$1795.00

### Options

PC-1 Pulse Cross .....\$175.00  
US-1 Underscan .....99.00  
AB-1 A-B Inputs .....125.00  
BP-2 BP-81 Battery Pack for 8" .....185.00  
DCC-1 DCC-15AW 12V Adaptor for 8" into car lighter .....27.00  
CS-1 Carrying case for 8" .....200.00  
8P-1 8-pin VTR cable (8') .....20.00  
HG-1 Hospital grade AC cord .....45.00



## VIDEOTEK, INC.

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FAX: (215) 327-9295

### TSM-50 Waveform Monitor NTSC/PAL/PAL-M Standards Available

**Compact:** Mounts in 5 1/4" of vertical rack space and 1/2 standard rack width space  
525 lines, 30 frame (60Hz field rate) scan.

**NTSC (TSM-50):** 625 lines, 25 frame (50Hz field rate) scan.

**PAL, CCIR (TSM-50/P):** 525 lines, 30 frame (60Hz field rate) scan.

**PAL-M, CCIR (TSM-50/P-M):** 525 lines, 30 frame (60Hz field rate) scan.

**Vertical Frequency Response:** Flat to 6MHz

**Graticule:** Internal illuminated graticule; eliminates parallax errors

**Visibility:** High brightness CRT, non-glare contrast filter

**Inputs:** Selectable A/B video looping BNC inputs. AC or DC coupled

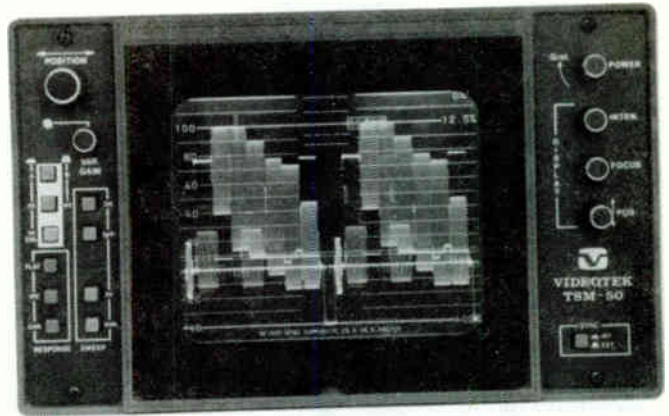
**Sync:** Selectable internal/external input

**Filters:** Flat, IRE, or chroma

**Time Base:** 2 line, expanded 2 line, 2 field or expanded 2 field

**Options:** Standard case, portable case, double rackmount case, blank panel

**TSM-50** ..... \$1598.00



### TSM-60 Waveform Monitor NTSC/PAL/PAL-M Standards Available

**Compact:** Mounts in 5 1/4" of vertical rack space and 1/2 standard rack width space  
Standard NTSC, 525 lines, 30 frame (60Hz field rate) scan

**NTSC:** Standard PAL, 625 lines, 25 frame (50Hz field rate) scan

**CCIR:** Standard PAL-M, 525 lines, 30 frame (60Hz field rate) scan

**Vertical Frequency Response:** Flat to 10MHz

**Graticule:** Internal illuminated graticule; eliminates parallax errors

**Visibility:** High brightness CRT, non-glare contrast filter

**Inputs:** Selectable A/B video looping BNC inputs. AC or DC coupled

**Output:** Separately buffered video out 1V p-p into 75 ohm termination

**Sync:** Selectable internal/external input

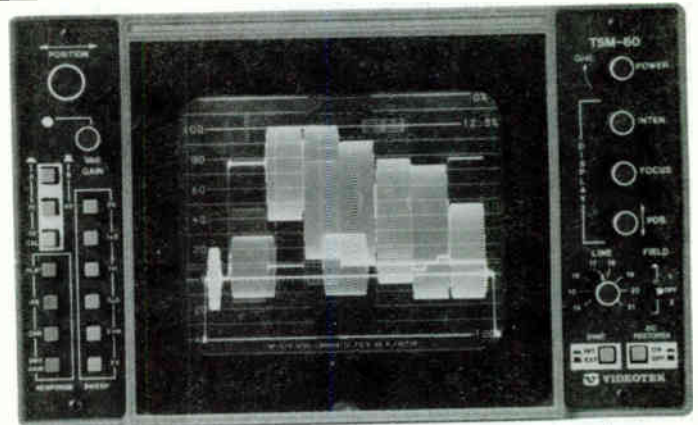
**Filters:** Flat, IRE, chroma or differential gain

**Time Base:** 2 line, 1 line, expanded 2 line, expanded 1 line, 2 field or expanded 2 field

**Line Select:** Selects lines 14 through 21 of field selected

**Field Select:** Field 1 or 2 selectable

**TSM-60** ..... \$2065.00



**YRGB/RGB:** 9-pin access connector for monitoring color processing amplifier waveforms

**DC Restoration:** Selectable

**Options:** Standard case, portable case, double rackmount case, blank panel

**TSM-60** ..... \$2065.00

### VSM-60 Vectorscope NTSC/PAL/PAL-M Standards Available

**Compact:** Mounts in 5 1/4" of vertical rack space and 1/2 standard rack width space

**NTSC:** Standard NTSC, 525 lines, 30 frame (60Hz field)

**CCIR:** Standard PAL, 625 lines, 25 frame (50Hz field)

**CCIR:** Standard PAL-M, 525 lines, 30 frame (60Hz field)

**Graticule:** Internal illuminated graticule; eliminates parallax errors

**Visibility:** Non-glare contrast filter

**Inputs:** Selectable A/B video looping BNC inputs, subcarrier A select, external subcarrier looping BNC inputs, external PAL pulse looping BNC inputs (PAL only)

**REF NTSC:** Selectable A/B and external subcarrier looping inputs

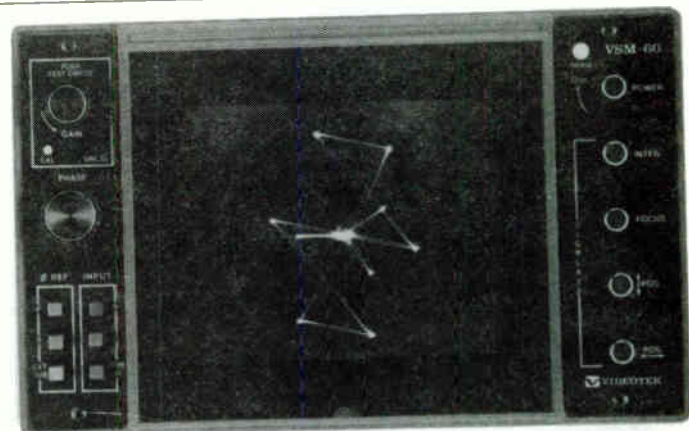
**REF PAL:** Selectable A or B and external subcarrier looping inputs

**Test NTSC:** Normal/alternate line/test circle pushbutton selectable

**Test PAL/PAL-M:** Normal/NTSC display/test circle pushbutton selectable

**Options:** Standard case, portable case, double rackmount case, blank panel

**VSM-60** ..... \$2065.00



**Options for TSM-50, TSM-60, VSM-60**

**SSC-1** Single standard case ..... \$ 39.00

**PTC-1** Portable case w/handle & sunshield ..... 135.00

**DRC-1** Double rackmount case ..... 200.00

**BLK-1** Blank panel ..... 30.00

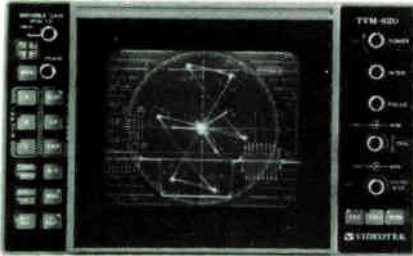
**OPT-A** Remote change over for TSM-60 ..... 135.00

Prices and Specifications Subject to Change Without Notice.

# VIDEOTEK, INC.

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FAX: (215) 327-9295

# TEST EQUIPMENT



**TVM-620**

## TVM-620 Combination Waveform Monitor/Vectorscope

The TVM-620 combination waveform monitor/vectorscope sets the standard in half rack width test equipment. Microprocessor based and featuring tactile membrane control panels, the TVM-620 produces a variety of unique display modes.

One, two or three video signals may be observed individually or in any combination of three inputs. Waveforms can be displayed in either simultaneous parade modes or overlaid for comparison of timing and amplitude characteristics. It is also possible to display any one input with simultaneous flat, low pass and chroma filters.

Vector displays can also be overlaid for simultaneous observation and comparison of the phase and amplitude of up to three signals.

Four user-defined memories permit rapid recall of frequently used modes. Diagnostic testing of the front panel controls and LEDs is built-in.

An R-Y mode displays the demodulated chrominance with horizontal sweep. When the burst phase is properly aligned in the vector mode, this mode displays the R-Y signal (V axis in PAL, PAL-M) as a processed video waveform. A graticule scale is provided to aid in measuring differential phase. This display can be viewed simultaneously in the parade mode with one or two additional filter waveforms.

Display sync can be made relative to any of the three video inputs or an external reference. The TVM-620 will automatically select a reference, in order of priority External-A-B-C, with the loss of external reference or the selected video reference signal.

The TVM-620 is available with an optional AC/DC power supply (ADC-1). An external DC power source or battery may be input via a 4-pin XLR connector for portable field use.

## Specifications

### Electrical Characteristics Vertical Deflection System (Waveform Mode)

<b>Flat:</b>	Frequency response from 25Hz to 15MHz $\pm 1\%$ of 50kHz response. 15MHz to 20MHz + 3%, -5% of 50kHz response 40dB attenuation at $F_{SC}$ , Low Pass response within 1% Flat response
<b>Low Pass:</b>	Response at 3.58MHz NTSC, 4.43MHz PAL, 3.57MHz PAL-M does not vary between Flat and Chroma by more than 1%. 7.2MHz attenuation is 25dB or greater
<b>Chroma:</b>	Flat mode using $\sin^2$ pulse bar signal 0.99:1 to 1.01:1
<b>Transient Response:</b>	$\leq 1\%$ 140 IRE units $\pm 1\%$ with 1V input $\pm 3.5V$ (DC + peak AC) 100k ohm at $< 10pF$ (unterminated) > 50dB, DC to 10MHz Input signals between 0.5V and 2.0V can be adjusted for 1V display (140 IRE)
<b>Pulse to Bar Ratio:</b>	
<b>Tilt With Field Rate Squarewave or Vertical Window or 25<math>\mu</math>s Pulse Signal:</b>	
<b>Deflection Factor 1V Full Scale:</b>	
<b>Maximum Absolute Input Level:</b>	
<b>Input Impedance:</b>	
<b>Return Loss (75 ohm)—Inputs A, B, C:</b>	
<b>Input Gain Range:</b>	

### Horizontal Deflection System (Waveform Mode)

<b>Timebase Line:</b>	Always displayed with no sync on video inputs
<b>V Timebase:</b>	Equal to x1, x2 or x3 of the field rate of applied video or external reference. (User selected Parade modes)
<b>V Sweep Magnification:</b>	x5
<b>H Timebase:</b>	Equal to x1, x2, or x3 of the H line rate of applied video or external reference. (User selected Parade modes)
<b>H Sweep Magnification:</b>	x10
<b>Timing Accuracy:</b>	Mode: 1H, HMAG (0.5 $\mu$ s/div) $\pm 2\%$ ; 2H, HMAG (1 $\mu$ s/div) $\pm 2\%$ ; 3H, HMAG (1.5 $\mu$ s/div) $\pm 2\%$ $\leq 2\%$ over complete horizontal position range excluding first and last major division
<b>Linearity:</b>	
<b>DC Restoration</b>	
<b>Restorer Clamp Time:</b>	Back porch

<b>Low Frequency Response at 60Hz:</b>	Attenuation of 60Hz added to input signal is $\leq 5\%$ . DC restoration switched from off to on
<b>Blanking Level Shift Due to Presence or Absence of Burst:</b>	$\leq 1$ IRE
<b>Blanking Level Shift with 10-90% APL Change:</b>	APL changes from 50% to either 10% or 90% will cause blanking level shift of $\leq 1$ IRE
<b>Calibrator (Waveform Mode)</b>	
<b>Frequency:</b>	100kHz, $\pm 0.1$ kHz. Synchronizes in H sweep modes providing reference for sweep and magnifier calibration
<b>Amplitude:</b>	1.0V $\pm 0.5\%$
<b>Vector Mode:</b>	Displays test circle for sweep linearity check and quadrature alignment
<b>Video Output</b>	
<b>Frequency Response:</b>	DC to 6MHz, $\pm 1\%$
<b>Differential Gain:</b>	2% at 50% APL with 140 IRE units displayed
<b>Differential Phase:</b>	3% at 50% APL with 140 IRE units displayed
<b>DC Level On Output:</b>	$\leq \pm 100mVDC$ into 75 ohm
<b>Output Impedance:</b>	75 ohm, nominal
<b>Amplitude:</b>	1V Cal input is 1V $\pm 2$ IRE for 140 IRE unit display
<b>Return Loss:</b>	> 40dB, DC to 5MHz
<b>Synchronization Requirements</b>	
<b>Internal Reference:</b>	Composite video or blackburst with sync and burst amplitudes 286mV, $\pm 6dB$
<b>External Reference Waveform Mode:</b>	Sync amplitude between 143mV and 4V will synchronize sweeps
<b>Vector Mode:</b>	Composite video at blackburst with sync and burst amplitudes 286mV, $\pm 6dB$
<b>Input Impedance:</b>	100k ohm at $< 10pF$ (unterminated)
<b>Return Loss (75 ohm):</b>	> 50dB, DC to 10MHz
<b>Vector Mode</b>	
<b>Chrominance Bandwidth:</b>	3dB points
<b>Lower:</b>	3.03MHz $\pm 150kHz$ - NTSC; 3.88MHz $\pm 150kHz$ - PAL; 3.02MHz $\pm 150kHz$ - PAL-M
<b>Upper:</b>	4.13MHz $\pm 150kHz$ - NTSC; 4.98MHz $\pm 150kHz$ - PAL; 4.12MHz $\pm 150kHz$ - PAL-M
<b>Phase Control Range:</b>	360° minimum, 400° typical. (Vector and R-Y modes)
<b>Vector Accuracy:</b>	$\leq 2^\circ$
<b>Differential Gain:</b>	$\leq 1\%$
<b>Differential Phase:</b>	$\leq 1^\circ$
<b>Variable Gain Range:</b>	12dB minimum, +6dB to -6dB typical with 1V input
<b>Gain Stability:</b>	< 2% $\Delta$ from 0°C to 50°C. AC mains varied $\pm 5\%$ from center of range
<b>Subcarrier Regenerator</b>	
(Phase locked to subcarrier on burst signal of designated reference.)	
<b>Nominal Frequency:</b>	3.579545MHz - NTSC; 4.433619MHz - PAL; 3.575611MHz - PAL-M
<b>Pull-In Range:</b>	Within 50Hz of $F_{SC}$
<b>Phase Shift with Subcarrier Frequency Change:</b>	< 0.025° per Hz deviation from: 3.579545MHz - NTSC; 4.433619MHz - PAL; 3.575611MHz - PAL-M
<b>Phase Shift with Burst Amplitude Change:</b>	< 0.5° per dB change in burst amplitude for 6dB change from nominal burst amplitude
<b>Phase Shift with Reference Switched Between Internal and External References:</b>	$\leq 0.5^\circ$
<b>Phase Shift with Input Channel Change:</b>	$\leq 0.5^\circ$
<b>Phase Shift with Variable Gain:</b>	$\leq 0.5^\circ$ as gain is varied from +6dB to -6dB
<b>Multiple Display Mode Measurement Accuracy</b>	
<b>Waveform Overlays (H Mag):</b>	$\pm 100nS$ - Relative; $\pm 1$ IRE - Relative
<b>Vector Overlays:</b>	$\pm 1^\circ$ - Relative; 1 IRE - Relative
<b>Microprocessor Control System</b>	
<b>Microprocessor:</b>	Low power, 65C02 at 4MHz
<b>Memory:</b>	1 year typical (self charging battery)
<b>Diagnostics:</b>	Built-in front panel test mode
<b>Physical Characteristics</b>	
<b>CRT</b>	
<b>Display Size:</b>	B x 10cm
<b>Graticule:</b>	Internally etched with variable scale illumination. Scales provided for Waveform, Vector, and R-Y
<b>Cabinet:</b>	5.25" H x 8.5" W x 17.75" D (13.3 x 21.6 x 46cm)
<b>Weight:</b>	16 lbs. (7.3kg)
<b>Power Requirements</b>	
<b>AC Power Source:</b>	108-132VAC or 216-264VAC at 48Hz to 250Hz line frequency. Nominal line voltage is 120VAC $\pm 10\%$ at 48Hz to 66Hz; 240VAC $\pm 10\%$ at 66Hz to 250Hz. (Internal jumper selectable)
<b>Main Crest Factor:</b>	1.41 $\pm 5\%$
<b>DC Power Source (optional):</b>	12VDC at 3.5A nominal
<b>Input Range:</b>	10 to 14VDC
<b>Power Consumption:</b>	45W typical AC; 42W typical DC

**TVM-620 . . . . . \$3995.00**

### Options

<b>SSC-1</b>	Single Standard Case . . . . .	<b>\$ 39.00</b>
<b>PTC-1</b>	Portable Case with Handle and Sunshield . . . . .	<b>135.00</b>
<b>DRC-1</b>	Double Rackmount Case . . . . .	<b>200.00</b>
<b>BLK-1</b>	Blank Panel . . . . .	<b>30.00</b>
<b>DAT-3</b>	Half Rack Tray for DRC-1 to Mount: VPH-360, PVS-6 or PVS-6A or Videotek stand alone distribution amplifiers . . . . .	<b>99.00</b>
<b>ADC-1</b>	AC/DC Power Supply for TVM-620. (Must be factory installed during manufacture.) . . . . .	<b>200.00</b>

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# DISTRIBUTION AMPLIFIERS

## MODULAR SERIES

### 800 Series Distribution Amplifiers

The 800 Series Distribution Amplifiers are engineered to meet critical video distribution needs in all types of applications. The 800 Series is based on the TR-800 eight bay modular tray and PS-800 power supply. Up to eight distribution amplifier modules may be mounted in the TR-800 tray, in addition to a second PS-800 power supply for backup in case of primary supply failure.

The VDA-816S is a standard video DA with one looping single ended input and six outputs. Up to 300' of Belden 8281 may be equalized via a front card equalizer adjustment.

The VDA-816 is a precision video clamping DA with one looping differential or single ended input and six outputs. An optional EQ-800 card may be added to the VDA-816 to allow front panel adjustment of equalization up to 1000' of Belden 8281.

### TR-800 Modular DA Tray

- Eight bay modular two rackmount high tray • Will accept any combination of VDA-816 precision DAs or VDA-816S standard DAs • Also permits the use of a redundant back-up PS-800 supply
- Comes standard with a single PS-800 supply

**TR-800** .....\$850.00

### PS-800 Redundant Power Supply

- Provides unregulated  $\pm 16$ VDC to the TR-800 rack tray • An additional PS-800 can be installed as a back-up supply in case of primary supply failure

**PS-800** .....\$199.00

**EQ-800** Equalizing Module for VDA-816. Equalizes up to 1000' of Belden 8281 .....65.00

**EX-800** Extender Card for Servicing DA Modules .....90.00

### VDA-816 Precision Video Clamping DA Module

- Front card output level adjustment • Front card equalizer adjustment when optional EQ-800 equalizer card is employed • Can equalize up to 1000' of Belden 8281 • Switchable clamping or DC restoration • Modular plug-in card • One looping differential or single ended input and six outputs

**VDA-816** .....\$375.00

### VDA-816S Standard Video DA Module

- Front card output level adjustment • Front card equalizer adjustment can equalize 300' of Belden 8281 cable • Modular plug-in card • One looping single ended input and six outputs

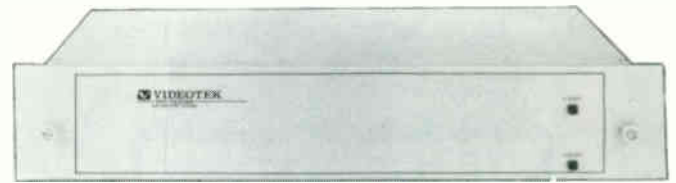
**VDA-816S** .....\$250.00

## SELF-CONTAINED SERIES

### VDA-16 Video Distribution Amplifier

- One looping video input • Six isolated video outputs • Front panel output level adjustment • Cable equalizer front panel adjustment (300' Belden 8281) • Front panel input/output test points • Front panel LED power indicator • BNC input/output connectors
- Rackmountable

**VDA-16** .....\$325.00



800 Series



VDA-16



PDA-16



ADA-16



SDA-14

### VDA-16WB Wide Band Video Distribution Amplifier

- 40MHz video bandwidth • One looping video input • Six isolated video outputs • Front panel output level adjustments • Wide band cable equalization from panel to adjustment • Front panel LED power indicator • BNC input/output connectors • Rackmountable

**VDA-16WB** .....\$425.00

### ADA-16 Audio Distribution Amplifier

- One balanced/unbalanced audio input • Six balanced audio outputs • Front panel output level adjustment • Front panel input/output test points • Front panel LED power indicator • Barrier strip input/output connectors • Rackmountable

**ADA-16** .....\$325.00

### PDA-16 Pulse Distribution Amplifier

- One looping pulse input • Six pulse outputs • Front panel input/output test points • Front panel LED power indicator • BNC input/output connectors • Rackmountable

**PDA-16** .....\$325.00

### SDA-14 Subcarrier Distribution Amplifier

- One looping subcarrier input • Four isolated subcarrier outputs • Regeneration technique removes noise & distortion from input signal • Available for NTSC, PAL, PAL-M • Front panel 0°-360° output phase adjust w/0° preset • Front panel input/output test points • Front panel LED power indicator • BNC input/output connectors • Rackmountable

**SDA-14** .....\$450.00

### Options

For all self contained distribution amplifiers

**DAT-1** Rackmount frame accommodates (3) DA's. ....\$79.00

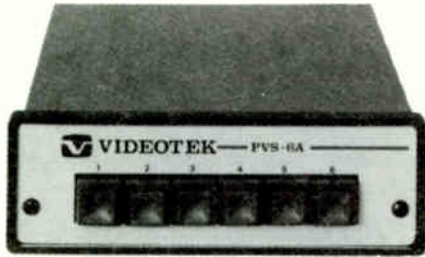
**DAT-2** Blank panel .....25.00



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# ROUTING SWITCHERS



PVS-6A

## PVS-6A 6x1

### Audio Follow Video Passive Switcher

- 100% passive—no power requirements • Low insertion loss • Low video/audio crosstalk • Six video/audio (unbalanced) inputs • One video/audio (unbalanced) output • BNC video connectors • Barrier strip audio connection • 1<sup>3</sup>/<sub>4</sub>" rackmount height • Can mount three units side by side using a Videotek DAT-1 rackmount tray

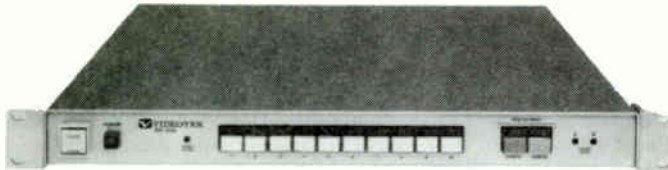
PVS-6A ..... \$190.00

## PVS-6 6x1

### Passive Video Switcher

- 100% passive—no power requirements • Low insertion loss • Low video crosstalk • Six video inputs/one video output • 1<sup>3</sup>/<sub>4</sub>" rackmount height • Can mount three units side by side using a Videotek DAT-1 rackmount tray

PVS-6 ..... \$140.00



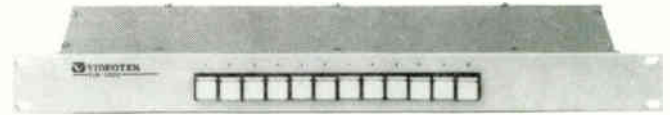
RS-10A

## RS-10A 10x1 Routing Switcher Series

### Audio Follow Video With Breakaway Feature

- Ten video inputs, bridging two video outputs • Two audio inputs for each video channel • Video/audio latching breakaway control • Balanced/unbalanced audio inputs or outputs • Overnight channel memory • Vertical interval switching/momentary contact pushbuttons with changeable legends and "LED" audio/video indicators • 1<sup>3</sup>/<sub>4</sub>" rackmount or free standing with rubber feet

RS-10A	10x1 Vertical Interval Switcher with Two Audio Channels and Audio (or) Video Breakaway Feature .....	\$1285.00
RS-10ARC	Remote 10x1 Vertical Interval Switcher with Two Audio Channels and Audio (or) Video Breakaway Feature, includes RCT-1 Remote Connector Kit .....	1885.00
RS-10ARC-L	Local portion of RS-10ARC only, includes RCT-1 Remote Connector Kit .....	1457.00
RS-10ARC-LS	Same as RS-10ARC, but with Switching capability at the Local and Remote Locations, includes RCT-1 Remote Connector Kit .....	2100.00
RS-10ARC-L-SW	Local portion of RS-10ARC-LS only includes RCT-1 Remote Connector Kit .....	1528.00
<b>Options (RS-10ARC, RS-10ARC-LS)</b>		
RSP-1	10x1 Remote Switching Panel (May be added to RS-10ARC or RS-10ARC-LS to provide a Second Remote Switching Location) .....	\$675.00
RCT-1	Remote Connector Kit .....	30.00
CR-1	Cable for Remote .....	ft./1.99



VIS-1201

## VIS-1201

### 12x1 Video Only Routing Switcher

- 12 video inputs, bridging/2 isolated video outputs • 24 hour channel memory • Vertical interval switching • Momentary contact illuminated pushbuttons with changeable legends • 1<sup>3</sup>/<sub>4</sub>" rackmount

VIS-1201 ..... \$395.00



RS-12

## RS-12 12x1 Routing Switcher Series

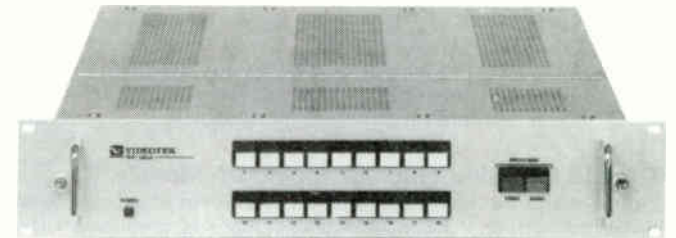
### Video Only Routing Switcher

- Video inputs, bridging/two video outputs • Overnight channel memory • Vertical interval switching/momentary contact pushbuttons with changeable legends and "LED" video indicators • 1<sup>3</sup>/<sub>4</sub>" rackmount or free standing with rubber feet

RS-12	12x1 Vertical Interval Switcher, Video Only	\$ 995.00
RS-12RC	Remote 12x1 Vertical Interval Switcher, Video Only, includes RCT-2 Remote Connector Kit .....	1263.00
RS-12RC-LS	Same as RS-12RC, but with Switching Capability at the Local and Remote Locations, includes RCT-2 Remote Connector Kit .....	1332.00
RS-12RC-L	Local portion of RS-12RC only, includes RCT-2 Remote Connector Kit .....	959.00

### Options (RS-12, RS-12RC, RS-12RC-LS)

RSP-2	12x1 Video Switching Panel with Remote Rackmount Kit (RRK-2) .....	\$395.00
RRK-2	Remote Rackmount Kit .....	172.00
BLK-2	Blank Panel .....	95.00
RCT-2	Additional Remote Connector Kit .....	39.00
CR-2	Cable for Remote .....	ft./1.22



RS-183A

## RS-183A 18x1 AFV Routing Switcher With Breakaway and Computer Interface

- 18 loop thru video inputs • 18 stereo and data channel audio inputs (balanced/unbalanced) • +24dBm audio headroom • Vertical interval line 10 switching • Edit pulse for user controlled switching times • RS-422 computer control interface • Optional RS-232 computer control interface • Computer control, menu driven for ease of operation • 15 selectable communication baud rates • Single line coax remote bus control • Multi-local addressing for remote selection of different locals • FCC approved EMI filtering

RS-183A	Includes audio I/O and computer connectors . . .	\$3045.00
RS-183ARC	Remote Control RS-183A, includes Audio I/O and Computer Connectors .....	\$3820.00
RS-183ARC-L	Additional Local for RS-183ARC, includes Audio I/O and Computer Connectors .....	2965.00
RS-183ARC-LS	Same as RS-183ARC with switching at both the Remote and Local Locations, includes Audio I/O and Computer Connectors .....	3897.00
RSP-3	18x1 Remote Switching Panel (may be added to RS-183A or RS-183ARC-LS to provide a Second Remote Switching Location) . . . .	899.00

# VIDEOTELECOM

1041 N. Highland Ave.  
Hollywood, CA 90038  
(213) 856-5300

# CAMERA SUPPORT EQUIPMENT

## "Eddie-Cam" Camera Stabilizer

- Shoots 1 1/2' above or below eye level
- Shoots ground level to waist
- Film: Arri 16SR; Aatton 16; Feathercam 35
- Video: Ikegami 79; Sony BVP3; All Mini-Cams 15 lbs.

"Eddie-Cam" is a lightweight handheld camera stabilizer that allows for smooth fluid camera moves while walking, running, skating or skiing. Designed for cameras under 15 lbs.

"Eddie-Cam" .....\$675.00



Top Mounted

## Barber "Baby" Boom

- Vertical boom span: 10'
- Horizontal swing: 12'
- Approximate weight: 90 lbs.
- Boom radius: 360° +
- Camera pan: 360° +
- Camera tilt: 180° +
- Approximate 15 minute set up
- Mounts on standard flat Mitchell mount (sticks, dollies, cranes)
- The boom works with most film and video cameras under 70 lbs.
- Film: Arri BL III; Panavision; Arri 3, 2C, 16SR
- Video: Betacam; Ikegami 79

The Barber "Baby" Boom requires only the cameraman to operate and control it. The camera is mounted on the end of the boom arm. You are at the other end with your hands on the two controls. You look into the video monitor and begin to track the action...fast, slow, whatever speed you need for the shot.

Barber "Baby" Boom .....\$12,000.00



## 20' Barber Boom

- Vertical boom span: 20'
- Horizontal swing: 22'
- Approximate weight: 100 lbs.
- Boom radius: 360° +
- Camera pan: 360° +
- Camera tilt: 180° +
- Approximate 15 minute set up
- Mounts on standard flat Mitchell mount (sticks, dollies, cranes)
- The boom works with most film and video cameras under 30 lbs.
- Film: Arri 3 (400' mags, primes); Arri 2C (400' mags, primes); Arri 16 SR
- Video: Sony BVP3; Ikegami 79

The Barber Boom is a remote controlled camera requiring only one operator to boom up and down, swing left and right, pan and tilt, zoom and focus, simultaneously; all in one smooth continuous motion.

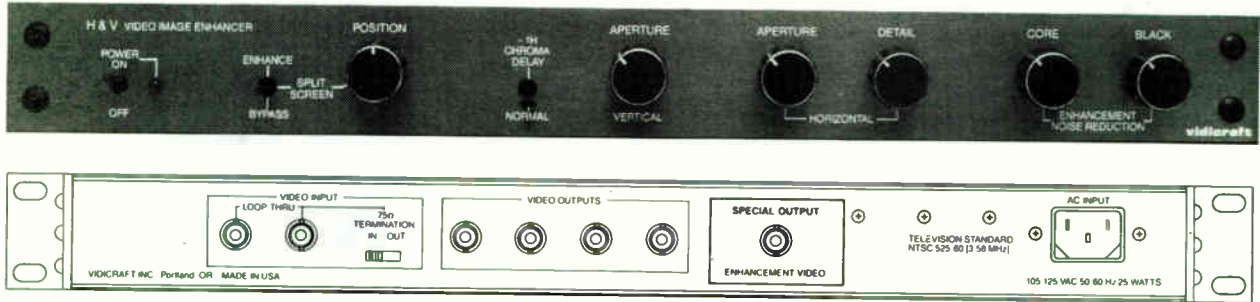
Barber Boom .....\$20,000.00



# VIDICRAFT, INC.

0704 S.W. Bancroft St.  
Portland, OR 97201  
(503) 223-4884 TWX: 910-464-5156

# VIDEO IMAGE ENHANCER



## H & V Video Image Enhancer

The Horizontal and Vertical image enhancer represents a significant step forward in affordable image enhancement. The manipulation of picture elements line-to-line (vertical enhancement) as well as within a scan line (horizontal enhancement) gives an improvement of picture detail and clarity unattainable with simple horizontal enhancement.

The H & V Enhancer minimizes detail loss. The visual clarity of pictures is significantly improved when used with Videotape Productions and Video Projection Systems and the editing and duplication of 3/4" and 1/2" recordings. Other applications which will benefit from the use of the H & V Enhancer include video camera taping and film-to-tape transfers.

The image enhancer features 2H processing of vertical detail, noise reduction and split screen comparison. 2H processing utilizes information from three successive lines to form a symmetrical enhancement signal. Noise usually increased by enhancement is minimized by a combination of two techniques: coring which reduces noise in all areas of the picture and a Level-Dependent circuit which suppresses enhancement in the darker areas of the picture where noise is more visible. A split screen mode allows side-by-side comparison of unenhanced and enhanced video.

H & V Video Image Enhancer . . . . . \$ 1295.00

## Specifications

### Operating Controls Enhance/ Split Screen/ Bypass

Enable/Disable enhancer circuitry for total picture comparison

### Chroma, normal/ -1H delay

The -1H (minus one line delay) feature is especially useful when dealing with systems that introduce a one line chroma delay or smear i.e. PAL decoders, single tube color cameras etc.

### Front Panel Power on/off

### Variable Controls Split-Screen position

Operates only when Enhance/ Split-Screen/ Bypass switch is in the Split-Screen mode

### Horizontal Detail

Controls horizontal enhancement of only low amplitude textural picture information

### Horizontal Aperture

Controls horizontal enhancement of high frequency picture information

### Vertical Aperture Enhancement Noise Reduction

Controls amount of vertical enhancement

### Coring

Used to minimize noise amplified by enhancement

### Black

Reduces enhancement in areas of low picture luminance which decreases the visibility of enhancement-amplified noise

### Video Input Level

### Video Output Level

### Frequency Response

Unity in reference to input  
Within +1, -3dB to 4.5MHz (NTSC). Y/C crossover 2.9MHz (all variable controls counter-clockwise, enhance switch in enhance position)

### Maximum Enhancement

NOTE:

Greater than +12dB for H. Detail, H. Aperture, or V. Detail

Excess enhancement is clipped above 20% of peak video white and below 25% of sync (referenced to back porch). Clippers will adapt to changes of video level within the limits of the video input specification. Enhancement is gated off during both horizontal and vertical blanking intervals.

### Vertical Tilt Video Inputs

Less than 2%

### Video Outputs

1 (high impedance loop-thru w/75 ohm termination switch)

### Connectors

4

### Power

1 special (enhance signal on 50% setup with sync)

### Cabinet Type

110VAC 20W—220VAC available on request

### Dimensions

Rackmount with detachable mounting brackets

Height 1 3/4"

Width 17"

Depth 11 3/8"

Weight 7 lbs.

### Shipping Weight

14 lbs.

PAL (4.43MHz)/SECAM available on request



# VIDICRAFT, INC.

0704 S.W. Bancroft St.  
Portland, OR 97201  
(503) 223-4884 TWX: 910-464-5156

# IMAGE ENHANCERS/ SPECIAL EFFECTS GENERATOR

## DET-300 Detailer III Image Enhancer

- Corrects for sharpness and detail losses
- Allows enhancement before recording
- Separate color and monochrome operation modes
- Level-dependent video noise (snow) reduction
- 4 selectable video/stereo-audio inputs
- 4 video/stereo-audio outputs and video/audio distribution amplifier
- Accessory-loop connection
- Enhance/bypass switching
- 12V operation
- Steel cabinets with anodized aluminum front panel and knobs
- 20-20kHz  $\pm$  1dB frequency response
- -60dB max hum and noise
- Dimensions: 2 $\frac{3}{8}$ " H x 15" W x 8 $\frac{1}{8}$ " D
- Weight: 5 lbs. 3 oz.

DET-300 . . . . . \$269.95



DET-300

## VCP-100 Video Color Processor

- Can operate with a camcorder with a composite video output and a TV; between two VCRs; between a camera and a VCR; between a VCR and a TV; and between a cable box and a TV
- Can be powered from a 110VAC or 12VDC source and used virtually anywhere
- Automatic Fade capability allows "fade to black" when editing videos and provides smooth fades without audio/video "noise"
- Corrects the side effects of "low light" shoots with camcorders (or cameras)
- Variable brightness, color and hue circuits let you control brightness and color not just on playback, but directly onto videotape
- Built-in RF modulator enables equipment operation with a standard television set
- Built-in Distribution Amplifier provides two video outputs, allowing two recordings at once without signal voltage loss; also allows permanent output connections to multiple VCRs or other video components

VCP-100 . . . . . \$219.95



VCP-100

## IVE-200 Integrated Video Enhancer

- Auto-Stabilizer controls picture roll and "jittery", "tearing", "flashing" video seen with some videotapes and television sets. The stabilizer also overcomes playback problems associated with Macrovision and copyguard-encoded tapes
- Image Enhancer improves picture sharpness and detail using two separate controls
- VN<sup>X</sup>™ video noise reduction reduces possible side-effects of enhancement
- RF Modulator allows direct connection of the IVE-200 to a television set
- Distribution Amplifier sends video information to two devices without any signal loss
- Stereo Audio inputs and outputs for best sound
- Quality Construction includes an all-metal cabinet for durability and shielding from interference, industrial-grade, double-sided circuit board for high reliability, low noise, and improved performance, and anodized aluminum control knobs

IVE-200 . . . . . \$239.95



IVE-200

## SEG-200 Special Effects Generator

- Finger-touch pattern menu for selection of effects
- Automatic or manual control over all fades, wipes, and cuts
- Effects can be retained on-screen for setup prior to using automatic mode
- Fade/wipe to color backgrounds which are variable using a simple slide control
- Standard fade-to-black is also possible
- Create soft-edge patterns and vary from a hard clean pattern edge to a soft, halo-like effect using a slide control
- Variable pattern shapes using the slant angle slide
- Automatic transition time for fades and wipes is variable from 1/2 to as long as 5 seconds
- Video sources can be either synchronous or nonsynchronous
- 20-20kHz  $\pm$  1dB
- Black burst sync
- Automatic A-B input switching
- -60dB max. hum and noise
- 2.97" H x 16.79" W x 9.88" D
- 8.44 lbs.

SEG-200 . . . . . \$529.95



SEG-200

# VIDICRAFT, INC.

0704 S.W. Bancroft St.  
Portland, OR 97201  
(503) 223-4884 TWX: 910-464-5156

# IMAGE ENHANCER/ STABILIZER/SWITCHERS

## AVP-100 Audio/Video Processor/DET-400 Detailer® IV Advanced Image Enhancer

### Common Features

- Individual sharpness and detail controls • VNX™ enhancement noise reduction system • Four buffered output tracks and four switchable inputs • Selectable Dynamic Noise Reduction (DNR™)
- Optional split screen • Audio and video are controlled with electronic digital switches

### Detailer Features

- Individual horizontal and vertical sharpness control • Black noise reduction system

DET-400 .....\$419.95

### A/V Processor Features

- Tri-color LED metering system • Luminance control • Color control adjust color saturation • Hue control makes color correction possible during playback or while taping

AVP-100 .....\$459.95



AVP-100

## PLR-100 Play-Right™ Digital Video Stabilizer

- Stabilizes video signals from any camcorder or VCR • Eliminate changes in brightness, color flashing, loss of color, picture rolls, and jittering when playing back copy-protected movies • Digital processing removes all "unwanted" information, then generates a new video signal that is clean, stable, and accurate • Corrects playback problems associated with: Copy-protected videotape/VCR playback incompatibility; VCR/television (or monitor) incompatibility; Weak control tracks found on camcorder-recorded videotapes and poorly duplicated movies

PLR-100 .....\$129.95



PLR-100

## AVS-100 A/V Switcher 4 x 4 Matrix Switcher

- Sends any one of four inputs to any or all of four outputs • Integrates all audio and video equipment • Connects up to 4 VCRs or audio cassettes at one time for multiple copying • Switches the audio and video signals from each input separately • Vertical interval switching lets you use the switcher to make clean cuts • Test mode confirms operation of switches and LEDs • Microprocessor controlled power-down memory automatically resets the audio/video switcher when it's turned on to whatever configuration was selected when it was turned off • Frequency response: flat from 20Hz to 20kHz • 790dB signal-to-noise ratio • 2.97" H x 16.79" W x 8.28" D • 8.44 lbs.

AVS-100 .....\$399.95



AVS-100

## PSW-500 4 x 4 Matrix Pro Switcher

- Combine audio console and video components for custom system integration without compromising signal quality • Digital 4 x 4 matrix design makes it possible to route any one of four inputs to any or all of the four outputs • Combine multiple switchers to expand input and output capability • Computer control from one to 16 pro switchers via RS-232 port, supported by internal software; asynchronous, ASCII format • Preselect separate stereo audio or video switching or route audio and video together • Vertical interval switching provides sync for excellent A/B roll edits • Microprocessor controlled, non-volatile memory; automatically resets to last setting upon power down or power failure • Test mode confirms operation of switches and LEDs; manual front panel and/or computer-control operation

PSW-500 .....\$529.00



PSW-500

# VID

# VIDEO

## Offers Great Flexibility & Cost Savings with the

# SHUTTLE-IB

Independent Remote Controller



**V** ID VIDEO engineers have developed a remote controller that expands the normal single-source editing capability of the RM-440 to roll a "B" VTR with the normal edit cycle. The Shuttle-IB plugs into the cue out connector on the RM-440 using an ordinary RCA-to-RCA cable.

- Shuttle-IB unit and interface kit permits the use of a VP-5000 and VO-5600 as a source VTR—save \$2000

OR

Connect the Shuttle-IB remote cable to your VO-5800 or VO-5850 and edit directly with no modification. Also, the unit can be detached from your editing system and used as a remote controller to log tapes while continuing to edit A-roll only.

- Independent control knob
- Independent Control Track Display readout with minutes, seconds, frames and a minus sign
- All cabling is supplied and additional RRC-5F interface cables not required—save \$300
- Programmable General Purpose Interface, (GPI) a pulse to start the Pyxis® or other GPI cue

- Preroll: 5-second or 10-second switch selectable
- Provides automatic re-cue for multiple previews, and a GPI command output for selection of transition point for an external switcher/effects system

also offering

### ADDRESS TRACK TIME CODE SMPTE ZERO FRAME OFFSET

- BVU Compatibility. Make your VP-5000, VO-5600, VO-5800 or VO-5850 BVU time code compatible
- Record, Playback, Edit. Record and playback time code on the address track channel
- Upgrade your Type-5 equipment to Broadcast Level and SMPTE Standard
- Save \$6000 to \$8000 while increasing editing efficiency and accuracy

### VO-6800 SMPTE

- Add third channel capability
- RCA® phono jacks (female)
- Video playback address track gating
- Switched video output
- Records and plays back BVU compatible T/C in play, fast-forward and rewind

# VID VIDEO

3919A W. Magnolia Blvd.  
Burbank, CA 91505  
(818) 845-1515 (800) 826-2035



**Shuttle I Remote Control Unit**

Make your Sony VP-5000 or VO-5600 shuttle playback equal to the VO-5800 and VO-5850.

Shuttle I also provides full remote capability for the VO-5800/VO-5850.

- Control track display readout with frames, seconds, minutes, minus sign, a reset button and a 'O' memory stop function
- Pre-roll button will cue-back to the VTR, minus 5 seconds, and pause—the O cue-back time is from 0 to 8 seconds
- Large shuttle knob that can activate the search mode with a twist of the search dial and change VTR speed and direction
- Lighted, full-function remote control buttons—fast-forward, rewind, play, stop, pause, record, and dub ch.#1, search and pre-roll
- Variable speed control from 0 to 5X play speed through forward and reverse
- Make edit decision lists for control track editing using control track display editing



Shuttle I

- Strong aluminum construction that can handle those tough assignments—plus an optional 19" rackmount panel assembly
  - Shuttle I requires the addition of a small interface board
  - PAL units available
- Shuttle I unit plus component installation. . . . . \$1200.00**

**Shuttle I-B A/B Roll Remote Control  
(For Use With Sony RM-440)**

Expands your RM-440 system to do A/B rolls. Shuttle I also provides full variable speed control over the VP-5000, VO-5600, VO-5800 and VO-5850.

- A GPI command output for selection of transition point for an external switcher/effects system (programmable switch triggers PYXIS effects)
- Independent shuttle knob
- Pre-roll is 5 or 10 seconds switch selectable
- Lighted full-function remote control buttons—fast-forward, rewind, play, stop, pause, record, dub ch.#1, search, pre-roll, reset and memory
- No extra 33-pin cables needed
- The Shuttle I-B unit and interface kit permits the use of a VP-5000 and/or VO-5600 as a source VTR—Save \$2000
- Connect the Shuttle I-B remote cable to your VO-5800 or VO-5850 and edit with no modification
- PAL units available



Shuttle I-B

**Shuttle-I unit plus installation kit . . . . . \$1500.00**

**Shuttle II Controller Interface**

- Edit with your VP-5000 or VO-5600 as a source deck
- Give your VP-5000/VO-5600 variable speed control
- Shuttle your VTR 0 to 5X play speed—forward and reverse—from your edit controller knob or joystick
- Send Bump Commands from your edit controller to your VP-5000/VO-5600 for VTR synchronization
- After simple installation, just plug your edit controller in the 33-pin remote connector of the VP-5000/VO-5600
- The Shuttle II Interfaces between your VTR and edit controller

- The Shuttle II Interface is compatible with:  
Sony RM-440  
CMX  
Paltex ABR  
Convergence ECS-90  
ECS-103  
ECS-195  
ECS-204
  - Also compatible with "Loc Box" and Fostex audio synchronizers
- Shuttle II Interface card plus component installation kit. . . . \$485.00**

### 'O' Frame Offset Address

#### Track Time Code Modification

- Totally redesigned digital time code board
- Add a third audio channel for recording and playing back address track time code
- Plays back tapes recorded on BVU-800s, BVU-110s or JVC® VCRs
- Address track indicates the presence of time code on the address track
- Make your Sony VO-5800/VO-5850 BVU time code compatible
- Playback from 1/30 speed through 10X shuttle in forward and reverse, and fast-forward and fast-rewind
- Head switch changed to 2 1/4 H/V (broadcast standard same as BVU-800)
- Time code in and out uses RCA phono jacks (F connectors)
- Video inserts do not affect the address track channel
- No more audio (channel 1 or 2) time code bleed through
- PAL versions currently available
- Time code output is switchable from channel #1 to #2 to #3 (address track). This feature allows you to use videotapes with different time code locations and switch the selector to send the time code to your edit controller with no repatching.
- For use with Sony VO-5850, VO-5800, VO-5600, VP-5000, VO-6800, VP-7000, VP-9000 and VO-9600

#### Specifications

- Playback:** Adjustable 2V p-p with controlled rise and fall times for SMPTE specs
- Output:** Impedance drive capability 600 ohms — adjustable from 0 to 6dBm (time code output is completely regenerated)
- Record Input:** Level is adjustable from 1V p-p to 5V p-p
- Input:** Impedance 50K ohms with diode limiting
- Record/Playback Offset:** 'O' offset time code compared to a BVU-800

VO-5850	.....	\$ 1300.00
VO-5800	.....	1200.00
VO-5600	.....	1200.00
VP-5000	.....	1100.00
VO-6800	.....	950.00
VP-7000	.....	1100.00
VP-9000	.....	1100.00
VO-9600	.....	1200.00

### Type-2 Speed Modification

For Sony VP-2260, VO-2860 and VO-2860A. Achieve 4X speed search capability with Sony RM-440 or Convergence ECS-90.

Type-2 Speed Modification .....per deck/\$250.00

### Translator I Control Unit

Your RM-440 can now control a JVC or Panasonic VHS or 3/4", or a Sony Betacam deck.

- Translates Sony 33-pin command structure to Panasonic 34-pin protocol, JVC 45-pin protocol or to Sony 36-pin protocol
- Do interformat editing with your RM-440: VHS to U-matic formats, U-matic to Betacam or any other combination
- The Translator I installs between the edit controller and the VTR with no modifications
- The cable automatically switches the internal circuitry for the proper machine configuration
- The Translator I works with the following controllers:
  - Sony RM-440
  - VID VIDEO Shuttle I and Shuttle I-B (others are currently being tested)
- The Translator I works with the following VTRs:
  - JVC CR-850, CR-8250/6650/5550, CR-8200/6600/5500 U-matic and BR-8600 VHS; Panasonic AU-700, NV-9600 U-matic and NV-8500, AG-6500/7500 VHS; Sony BVU-800/820/850/870, BVU-200/A/B U-matic and BVW-10/15/40 Betacam (new VTRs are being tested as they come into the marketplace)



Translator I

#### Specifications

- Input:** Sony 33-pin remote female connector on rear
- Output:** 37-pin "D" male connector to rear
- Translator I control unit (not incl. cable) .....\$995.00
- I/O Cable .....135.00

# VIKING CASES

A DIVISION OF THE STEMLER CORP.

10480 Oak St., NE.

St. Petersburg, FL 33716

(813) 577-1216

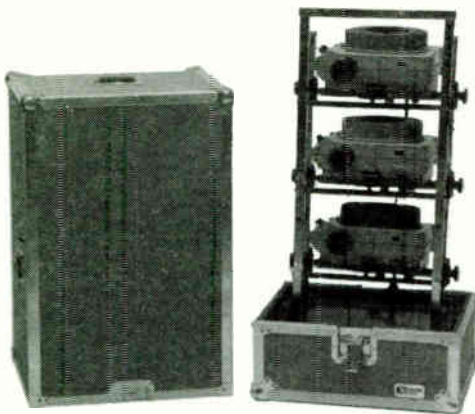
# CASES



COMBO CAMERA/VTR



RACK CASES



STACKER



VIDEO PROJECTOR WITH CONTROLLER

- Reel-to-reel system cases
- Triple stack 35mm projector cases
- Video tape recorder cases
- Video camera cases
- BB rack style cases
- Monitor (TV) cases
- Shock-mounted BB rack style cases
- Projector and screen cases
- Shock mounted broadcast racks

Wherever you look on a Viking case, you'll see superior strength and workmanship. Wood panels laminated with tough, scratch resistant ABS or stucco aluminum are supported by a double edged aluminum extrusion crimped at intervals for a permanent, non-yielding bond; a construction technique far stronger than conventional gluing, stapling or riveting.

Viking's heavy duty valances contribute to long life and a tight fit. And all but the smallest Viking cases are equipped with heavy duty steel recessed hardware including spring loaded handles, twist locks and corners. All Viking hardware is attached with steel rivets and backed with steel washers; your assurance of greater strength and impact resistance.



CARRYLITE CASES

The Carrylite is 25% less expensive and 30% lighter than our ATA case. Carrylite is rugged...built of dependable heavy gauge ABS for exceptional strength yet still a beautiful and versatile way to carry your valuable equipment. Carrylite is adaptable in size for audio/visual, video, computers, and musical instruments.



# VINTEN EQUIPMENT, INC.

275-C Marcus Blvd.  
Hauppauge, NY 11788  
(516) 273-9750  
Telex: 64-0470 FAX: (516) 273-9759

## FLUID HEADS/ LINK/POST

### MK3A Cam Head

- $\pm 50^\circ$  tilt
- Capacity: 400 lbs.
- Weight: 44 lbs.
- 7" H x 14" W x 12" D

3717 .....\$4175.00



MK3A



Vision 20

### MK5 Cam Head

- $\pm 60^\circ$  tilt
- Capacity: 180 lbs.
- Weight: 24 lbs.
- 7" H x 15" W x 9" D

3716 .....\$3415.00

### MK7 Fluid Cam Head

- $\pm 60^\circ$  tilt
- Capacity: 200 lbs.
- Weight: 35 lbs.
- 9 1/2" H x 11 1/2" W x 11 1/2" D

3084 .....\$4485.00



MK5



Vision 30

### Vision 10 ENG Fluid Pan and Tilt Head

- Full 180° of tilt
- Weight: 6 3/4 lbs.
- Pan range: 360°
- 6" H x 5 3/4" W x 7 1/4" D

3321 .....\$2995.00

### Vision 20 ENG/EFP Fluid Pan and Tilt Head

- Full 180° of tilt
- Dual 100/150mm ball base
- 6 3/4" H x 6 1/2" W x 10" D
- Weight: 12 lbs.
- Pan range: 360°

3322 .....\$4295.00

### Vision 30 Cormorant EFP Fluid Pan and Tilt Head

- Full 180° of tilt
- Weight: 22 lbs.
- Pan range: 360°
- 8 1/4" H x 7 1/4" W x 9 1/2" D

3259 .....\$5995.00

3259-3B Same as above but with flat base to accept  
intermediate adaptor. ....6175.00



MK7



Petrel MKII

### Petrel MKII Fluid Link

- 40° tilt in either direction
- Weight: 15 1/4 lbs.
- 7" H x 9" W x 6 1/2" D
- Load capacity: 100 lbs.
- Pan range: full 360° arc

3076 .....\$2450.00

### MKII Swan Fluid Post

- Weight: 20 lbs.
- Load capacity: 50 lbs.
- Tilt range: 360° depending on size of camera and lens envelope
- Pan range: full 360° arc

3078 .....\$4425.00



Vision 10



MKII Swan

# VINTEN EQUIPMENT, INC.

275-C Marcus Blvd.  
Hauppauge, NY 11788  
(516) 273-9750  
Telex: 64-0470 FAX: (516) 273-9759

# TRIPODS PEDESTAL/DOLLY

## Vision Single Stage ENG Tripod

- Minimum height: 25"
- Maximum height: 57 1/2"
- Load capacity: 45 lbs.
- Strong anodized tubular alloy, thermoplastic moldings and diecasting construction
- Weight: 6 1/2 lbs.

3311 .....\$650.00



3311



3316-3

## Vision Two Stage ENG Tripod

- Minimum height: 16 1/2"
- Maximum height: 62"
- Load capacity: 45 lbs.
- Overall weight: 6 3/4 lbs.
- Folds down to a compact 27"

3310 .....\$825.00

## Vision Two Stage EFP Tripod

- Minimum height: 19 3/4"
- Maximum height: 61 3/4"
- Load capacity: 100 lbs.
- Overall weight: 12 lbs.

3312 .....\$995.00



3310



3207

## Vision ENG Single Stage Tripod

- Complete with integral mid-level spreader, carpet spreader feet and 100mm bowl
- Minimum height: 25 1/4"
- Maximum height: 54 1/4"
- Load capacity: 45 lbs.
- Overall weight: 6 1/2 lbs.

3316-3 .....\$850.00

## Heavy-Duty Tripod with Stabilizer

- Suitable for loads up to 230 lbs.
- Low angle mounting on dolly

3207-3B .....\$1865.00

3206 Short heavy-duty tripod with stabilizer .....1865.00

3719 Heavy-duty dolly .....1525.00

3719-3A Heavy-duty dolly with cable guards for 3206/3207 .....1655.00



3312



3056

## PortaPed Self-Leveling Portable Pedestal

- Self pumping action
- Lightweight, portable, easy fold units
- Weight: 35 lbs.
- Capacity: 90 lbs.
- Height range: 24" to 56"

3056 .....\$5425.00

3071 Portaskid folding/castering dolly .....795.00

## TriTrack Dolly

- Combined unit with tiller control
- 8" wheels with rubber tires and individual brakes
- Legs can be adjusted to reduce track width

3064 .....\$5325.00

3178 TriTrack Dolly with twin wheels .....6300.00



3064

Shown with  
PortaPed Option



3160-3B

## Betacam Mounting Bracket

- True quick release
- Easy installation
- Totally rigid
- Optimum balance on pan and tilt heads by providing alternate 3/8" and 1/4" mounting holes
- Complete with combination male/female wedge adaptor and screws which fit into existing tapped holes on bottom of camera

3160-3B .....\$350.00

# VINTEN EQUIPMENT, INC.

275-C Marcus Blvd.  
Hauppauge, NY 11788  
(516) 273-9750  
Telex: 64-0470 FAX: (516) 273-9759

# PEDESTALS/CRANES

## Fulmar Extended Range Pneumatic Pedestal

- Height range: 21 1/2" to 59"
  - Suitable for loads up to 350 lbs.
  - Width at base: minimum—34", maximum—39"
- 3702 .....\$23,495.00



Fulmar

## Hawk Extended Range Pneumatic Pedestal

- Suitable for loads up to 150 lbs.
  - Height range: 24" to 59"
  - Width at base: minimum—36", maximum—38"
- 3267 .....\$17,495.00



Teal

## Teal Standard Range Pneumatic Pedestal

- Suitable for loads up to 140 lbs.
  - Height range: 30" to 51"
  - Width at base: minimum—30", maximum—35 1/2"
- 3197 .....\$10,350.00

## Tern Standard Range Pneumatic Pedestal

- Width at base: minimum—29", maximum—36"
  - Height range: 33" to 54"
  - Suitable for loads up to 290 lbs.
- 3741 .....\$11,450.00



Hawk



Tern

## MidiPed 2-Piece Lightweight Pneumatic Pedestal

- Height range: 28 1/2" to 58"
  - Suitable for loads up to 90 lbs.
  - Width at base: minimum—34 1/2", maximum—42"
  - Weight: 56 lbs.
- 3286 .....\$4,875.00

## Merlin Camera Arm

- Exceptional height ranges
  - Fits all pedestals and tripods
  - Positive camera control with precision viewfinder bracket
  - Weight (not including balance weights, viewfinder and camera): 121 lbs.
  - Capacity: 40 lbs.
- 3257 .....\$24,825.00

## Short Dolphin Crane Arm

- Can be carried by one person
  - Simplified trim weight
  - Detachable camera support beam provides alternative low angle gooseneck fitting
  - Suitable for loads up to 55 lbs.
  - Will fit TriTrack, tripods or pedestals
- 3167 .....\$7,875.00



MidiPed



Short  
Dolphin

## Long Dolphin Crane Arm

- Suitable for loads up to 55 lbs.
  - Camera arm traverse 90° each side of arm axis
  - Will fit TriTrack, tripods or pedestals
- 3067 .....\$7,875.00

## Kestrel OB Camera Crane

- Fold-over camera platform for shorter chassis storage—77 1/4"
  - 360° seat and camera mounting rotation
  - Either manual or powered jib
  - Pivoted wheel assemblies for width reduction to 28 1/2"
- 3743 Crane with manual jib arm .....\$33,355.00  
3754 Crane with powered jib arm .....\$39,065.00



Merlin

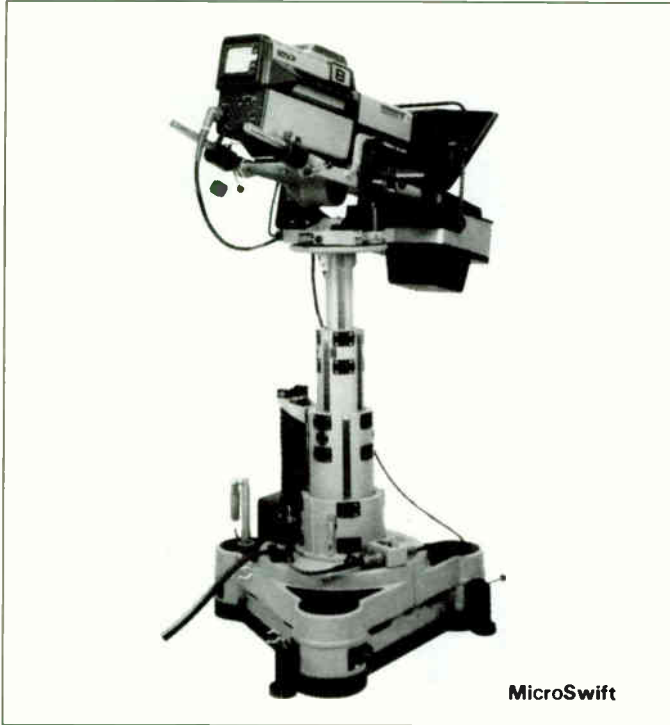


# VINTEN EQUIPMENT, INC.

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# REMOTE CONTROL CAMERA SYSTEM



MicroSwift

## MicroSwift Digital Remote Camera Control Systems

- Proven in use
- Flexible in action
- Allows for custom-designed arrangements
- 2 alternative types of joysticks
- Expandable
- Remote controllable, via modems
- Controls have an exceptionally wide dynamic range
- Choice of controls
- Shot storage with a capacity of up to 1500 individual shots
- Stored parameters include pan, tilt, zoom, focus, pedestal height and CCU functions
- Shot linking
- Shot replay
- No movement on power-up
- User-defined movement limits
- Pedestal profiling
- Soft start and stops

MicroSwift is an advanced and flexible servo control system, designed for remote positioning and control of television cameras. It embodies the very latest techniques of control processing and communications to provide on-air quality movements, and to enable control of virtually any arrangement of cameras over any distance.

**Note:** All pricing is for use as a **guide only** as system pricing varies according to exact customer specifications.

## A. Typical Single-Channel Remote Control System

### 1. Mark 3 Post Head for ENG Camera without Prompting System (Capacity 77 lbs.)

Mark 3 Servo Pan and Tilt Head . . . . .	\$19,495.00
Servo Control Module with Pan, Tilt, Zoom, Focus (supplied in slim-line wall mounting case) . . . . .	9,550.00
Panel Electronics Module . . . . .	6,525.00
Operator Panel with up to 99 preset shots per page (max. 15 pages). Fitted with keypad and shot displays . . . . .	3,495.00
Replacement Lens Drive for customer supplied zoom and focus ENG servo modules . . . . .	6,485.00
<b>Single-Channel ENG System Package Price . . . . .</b>	<b>\$45,550.00</b>

### 2. Mark 2 Spring Balanced Head for Studio Camera with Prompter (Capacity 240 lbs.)

Mark 2 Servo Pan and Tilt Head . . . . .	\$30,825.00
Servo Control Module (as above) . . . . .	9,550.00
Panel Electronics Module . . . . .	6,525.00
Operator Panel (as above) . . . . .	3,495.00
Replacement Lens Drive . . . . .	6,485.00
<b>Single-Channel Studio System Package Price . . . . .</b>	<b>\$56,880.00</b>

### 3. Mark 2 Spring Balanced Head (as above) with Servo Pedestal

Mark 2 Servo Pan and Tilt Head . . . . .	\$30,825.00
Servo Pedestal (Modified 3702 Fulmar) . . . . .	50,000.00
Servo Control Module with Pan, Tilt, Zoom, Focus and Pedestal Height (Supplied in slim-line wall mounting case) . . . . .	9,550.00
Panel Electronics Module . . . . .	6,525.00
Operator Panel (as above) . . . . .	3,495.00
Replacement Lens Drive . . . . .	6,485.00
<b>Single-Channel Studio System Package Price . . . . .</b>	<b>\$106,880.00</b>

## B. Typical Double-Channel Remote Control Systems

### 1. Mark 3 Post Heads (see A. 1.)

(2) Mark 3 Servo Pan and Tilt Heads . . . . .	\$38,990.00
(2) Servo Control Modules . . . . .	19,100.00
(1) Panel Electronics Module . . . . .	7,125.00
(1) Operator Panel . . . . .	4,150.00
(2) Replacement Lens Drive . . . . .	12,970.00
<b>Double-Channel ENG System Package Price . . . . .</b>	<b>\$82,335.00</b>

### 2. Mark 2 Spring Balanced Heads (see A. 2.)

(2) Mark 2 Servo Pan and Tilt Heads . . . . .	\$61,650.00
(2) Servo Control Modules . . . . .	19,100.00
(1) Panel Electronics Module . . . . .	7,125.00
(1) Operator Panel . . . . .	4,150.00
(2) Replacement Lens Drive . . . . .	12,970.00
<b>Double-Channel Studio System Package Price . . . . .</b>	<b>\$104,995.00</b>

### 3. Mark 2 Spring Balanced Heads with Servo Pedestals

(2) Mark 2 Servo Pan and Tilt Heads . . . . .	\$ 61,650.00
(2) Servo Pedestals . . . . .	100,000.00
(2) Servo Control Modules . . . . .	19,100.00
(1) Panel Electronics Module . . . . .	7,125.00
(1) Operator Panel . . . . .	4,150.00
(2) Replacement Lens Drives . . . . .	12,970.00
<b>Double-Channel Studio System Package Price . . . . .</b>	<b>\$204,995.00</b>

# SL WABER, INC.

A SUBSIDIARY OF SL INDUSTRIES, INC.

300 Harvard Ave.

Westville, NJ 08093

(609) 456-5400 (800) 257-8384

FAX: (609) 456-5538

# POWER LINE CONDITIONERS

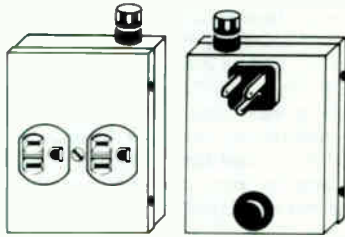
## POWER MASTER™ Line Monitor Power Conditioners

Solid-state electronic plug-in devices, a simple calculator, an expensive instrument, or a computer system, are subject to very hostile environments caused by electrical disturbances coming through the utility power lines that feed them, or generated by electrical equipment within a building. Usually, the solution to this problem has been the installation of a "dedicated" or separate power line to the wall receptacle that powers the sensitive equipment. Even with this expensive installation, equipment damage, memory failure, erroneous data input and output caused by thunderstorms, equipment switching, and other "electrical pollution", are still common occurrences.

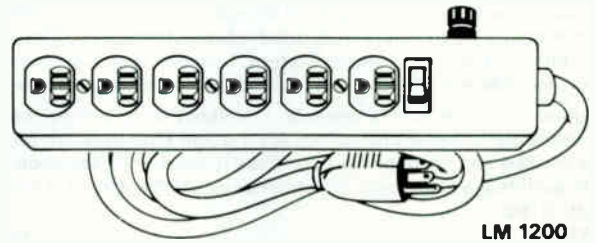
Power Master Line Monitor Power Conditioners eliminate the requirement of a separate, dedicated, branch circuit. They have the latest solid-state technology. Most models have multi-stage filter networks, continuous voltage spike protection, RFI, EMI, and EMP noise rejection, anti-ground loop design, shielded power cords, and more, all in one package.

Your equipment can work without interruption even when the power conditioner is dissipating a high voltage spike. Also, all models have an easily resettable 15A circuit breaker in the rare case of a voltage spike that exceeds the design limits of the power conditioner.

Power Master Line Monitor Power Conditioners protect against spike damage by filtering both the hot line and the neutral line. In addition, the filter is bidirectional, it dissipates both incoming spikes and outgoing spikes created by your equipment. The Power Master filter system is passive, it operates only when a voltage spike occurs. When a spike is sensed, the Power Master instantaneously clamps or reduces the over-voltage to a level that is safe for use by your equipment. The spike, depending upon its voltage and the design of your Power Master, is harmlessly dissipated, either in the form of heat, through the grounding system, or both. All noise-protected models have a three-stage passive noise filter system, a high frequency filter and a low frequency filter that operate in the transverse mode, the common mode, or both. The high and low frequency filters overlap to give double protection in the mid-range frequencies where it is needed the most.



LM 1100



LM 1200

### LM 1100 Wall Plug-In Unit

- Max. Spike Energy Dissipation: 80 joules one time, 40 joules with repeated usage, self-restoring
- Max. Spike Voltage: 6000V
- Clamping Spike Voltage: 325V
- Surge Current Clamping Ratio:  $\leq 2.03:1$
- Max. Spike Current: 6500A
- Clamping Response Time:  $\leq 5\text{ns}$
- Environment: For indoor use in dry locations

Designed for use at the wall receptacle. Ready to use, just plug it in. Provides one "U" ground duplex outlet accommodating two plugs. Contains one metal-oxide varistor or spike protection. Case is steel with baked-on black finish; outlets are also black. Measures 4 1/8" x 3 1/4" x 1 5/16", Weighs 1 1/2 lbs.

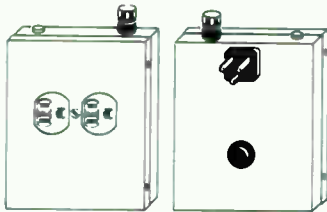
LM 1100 .....\$30.95

### LM 1200 Strip Power Line Conditioner—6 Plugs

- Max. Spike Energy Dissipation: 80 joules one time, 40 joules with repeated usage, self-restoring
- Max. Spike Voltage: 6000V
- Clamping Spike Voltage: 325V
- Surge Current Clamping Ratio:  $\leq 2.03:1$
- Max. Spike Current: 6500A
- Clamping Response Time:  $\leq 5\text{ns}$
- Environment: For indoor use in dry locations

3 "U" ground duplex outlets accommodating 6 plugs. Contains 3 metal-oxide varistors for isolated spike protection. Case is steel with baked-on beige finish; outlets, power cord, and illuminated master switch are also beige. Measures 11 5/16" x 2 5/16" x 1" and weighs 2 lbs. Mounts by means of keyhole slots on 10 15/16" centers. Power cord is 14/3 SJT 9' long.

LM 1200 .....\$39.95



LM 2100



LM 2200

### LM 2100 Wall Plug-In Unit

- Max. Spike Energy Dissipation: 80 joules one time, 40 joules with repeated usage, self-restoring
- Max. Spike Voltage: 6000V
- Clamping Spike Voltage: 225V
- Max. Spike Current: 6500A
- Surge Current Clamping Ratio:  $\leq 1.5:1$
- Clamping Response Time:  $\leq 5\text{ns}$
- Noise Rejection Frequency Response: 150kHz to 100MHz
- Attenuation: 20 to 40dB (volt ratio)
- Noise Protection: Transverse Mode
- Environment: For indoor use in dry locations

Designed for use at the wall receptacle. Ready to use, just plug it in. Provides one "U" ground duplex outlet for two plugs. Unit contains six-stage filter network providing isolated voltage spike and noise protection for each outlet. Case is steel with baked-on black finish; outlets are black. Measures 5 1/2" x 4 1/2" x 1 5/16" and weighs 4 lbs.

LM 2100 .....\$69.95

### LM 2200 Strip Power Line Conditioner—8 Plugs

- Max. Spike Energy Dissipation: 80 joules one time, 40 joules with repeated usage, self-restoring
- Max. Spike Voltage: 6000V
- Clamping Spike Voltage: 225V
- Max. Spike Current: 6500A
- Surge Current Clamping Ratio:  $\leq 1.5:1$
- Clamping Response Time:  $\leq 5\text{ns}$
- Noise Rejection Frequency Range: 150kHz to 100MHz
- Attenuation: 20 to 40dB (volt ratio)
- Noise Protection: Transverse mode
- Environment: For indoor use in dry locations

A six-stage filter network provides voltage spike and noise protection. Case is steel with baked-on beige finish; the outlets, power cord, and illuminated master on-off switch are also beige. Unit measures 20" x 2" x 1" and weighs 6 lbs. Power cord is 14/3 SJT 9' long. Mounts by means of end slots on 19 3/4" centers.

LM 2200 .....\$89.95

# SL WABER, INC.

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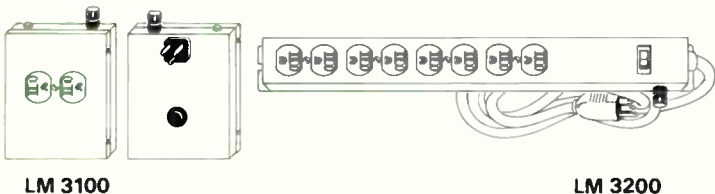
300 Harvard Ave.

Westville, NJ 08093

(609) 456-5400 (800) 257-8384

FAX: (609) 456-5538

# POWER LINE CONDITIONERS



## LM 3100 SERIES POWER LINE CONDITIONERS

### LM 3100 Wall Plug-In Unit

- Max. Spike Energy Dissipation: 80 joules one time, 40 joules with repeated usage, self-restoring
- Max. Spike Voltage: 6000V
- Clamping Spike Voltage: 225V
- Surge Current Clamping Ratio:  $\leq 1.5:1$
- Max. Spike Current: 6500A
- Clamping Response Time:  $\leq 5ns$
- Noise Rejection Frequency Range: 150kHz to 100MHz
- Attenuation: 20 to 40dB (volt ratio)
- Noise Protection: Transverse and common modes
- Leakage Current: Leakage to ground does not exceed 10mA
- Environment: For indoor use in dry locations

Designed for use at wall receptacle. Provides two hospital-grade outlets with isolated spike protection. A six-stage filter network provides voltage spike and noise protection. Case is steel with baked-on beige finish; outlets are also beige. Unit measures 5 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " x 1 $\frac{5}{16}$ " and weighs 5 lbs.

**LM 3100** ..... \$89.95

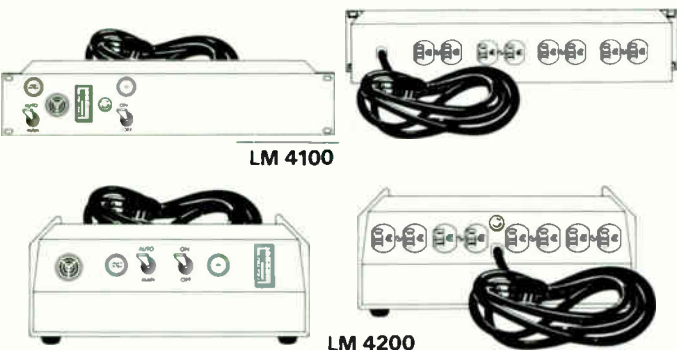
### LM 3200

#### Strip Power Line Conditioner — 8 Plugs

- Max. Spike Energy Dissipation: 80 joules one time, 40 joules with repeated usage, self-restoring
- Max. Spike Voltage: 6000V
- Clamping Spike Voltage: 225V
- Max. Spike Current: 6500A
- Surge Current Clamping Ratio:  $\leq 1.5:1$
- Clamping Response Time:  $\leq 5ns$
- Noise Rejection Frequency Range: 150kHz to 100MHz
- Attenuation: 20 to 40dB (volt ratio)
- Shielded Power Cord Attenuation: Up to 20dB
- Noise Protection: Transverse and common modes
- Leakage Current: Leakage to ground lead does not exceed 10mA
- Environment: For indoor use in dry locations

A six-stage filter network provides voltage spike and noise protection. Each outlet has isolated grounding and isolated spike protection. Case is steel with baked-on beige finish; the hospital-grade outlets are ivory, shielded power cord is black, master on-off switch has black housing and amber illumination. Unit measures 20" x 2" x 1" and weighs 7 lbs.

**LM 3200** ..... \$139.95



## LM 4000 SERIES

### POWER LINE CONDITIONERS

LM 4100 and LM 4200 offer the best spike protection with the highest overvoltage handling capability and the quickest response time. The series also offers the best noise suppression in both the common and transverse modes. Both models have RFI-shielded power cords and isolated, hospital-grade, double-wipe, grounding outlets for additional protection against noise. Included in both models is an AC voltmeter with color-coded scale to visually indicate that an undervoltage condition exists. An undervoltage sensing and warning system is also included. When the incoming line voltage drops to  $\leq 105V$ , the warning system, consisting of a red light and a buzzer, will activate. If the low voltage is still within the operating range of the equipment, the operator can then choose to shut off the buzzer by means of a cutoff switch. The red pilot light, however, remains on, acting as a constant reminder until the line undervoltage is corrected.

### LM 4100

#### Rack/Panel Power Line Conditioner

- Max. Spike Energy Dissipation: 80 joules one time, 40 joules with repeated usage, self-restoring
- Max. Spike Voltage: 6000V
- Clamping Spike Voltage:  $\pm 20V$  as it appears on the sine wave; 190V, max.
- Max. Spike Current: 6000A
- Surge Current Clamping Ratio:  $\leq 1.63:1$
- Clamping Response Time:  $\leq 5ns$
- Noise Rejection Frequency Range: 150kHz to 100MHz
- Attenuation 20 to 40dB (volt ratio)
- Shielded Power Cord Attenuation: Up to 20dB
- Noise Protection: Transverse and common modes
- Leakage Current: Leakage to ground lead does not exceed 10mA
- Environment: For indoor use in dry locations

Designed for rack or panel mounting with end slots on 18 $\frac{1}{4}$ " x 3" centers. Eight hospital-grade, "U" ground outlets are provided on the back of the unit. The front of the unit contains the master on-off switch, voltmeter, auto-manual switch, warning buzzer, and warning light. Case is steel with baked-on black enamel finish: front cover is spun aluminum, outlets are ivory, power cord is black, switches are black, on indicator light is green, and undervoltage indicator light is red. A seven-stage filter network provides voltage spike and noise protection with each outlet having isolated spike protection. Front plate measures 19"L x 3 $\frac{1}{32}$ "W x 2 $\frac{3}{8}$ "D; the back cover measures 17"L x 3 $\frac{1}{32}$ "W x 2 $\frac{3}{8}$ "D. Unit weighs 15 lbs.

**LM 4100** ..... **POR**

### LM 4200

#### Console Power Line Conditioner

- Max. Spike Energy Dissipation: 80 joules one time, 40 joules with repeated usage, self-restoring
- Max. Spike Voltage: 6000V
- Clamping Spike Voltage:  $\pm 20V$  as it appears on the sine wave; 190V, max.
- Max. Spike Current: 6000A
- Surge Current Clamping Ratio:  $\leq 1.63:1$
- Clamping Response Time:  $\leq 5ns$
- Noise Rejection Frequency Range: 150kHz to 100MHz
- Attenuation 20 to 40dB (volt ratio)
- Shielded Power Cord Attenuation: Up to 20dB
- Mode Noise Protection: Transverse and common
- Leakage Current: Leakage to ground lead does not exceed 10 $\mu A$
- Environment: For indoor use in dry locations

The LM 4200 is a console type unit with sloping front and back panels; the front panel contains on-off switch, auto-manual switch, voltmeter, "on" indicator light, undervoltage indicator light, and warning buzzer. The back panel contains 8 outlets and a circuit breaker. The eight outlets are hospital-grade, "U" ground type. Each has isolated spike protection. Case is steel with woodgrain vinyl finish; outlets are ivory, power cord is black, switches are black, "on" indicator light is green, warning indicator light is red. A seven-stage filter network provides voltage spike and noise protection. Unit measures 13 $\frac{1}{2}$ "L x 4 $\frac{1}{8}$ "W x 4 $\frac{7}{8}$ "H and weighs 15 lbs.

**LM 4200** ..... **POR**



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## The Compact Group

Model 602 has 5 outlets; Model 603 has 4 outlets; Model 605 has 3 outlets, on-off switch, and pilot light; Model 608 has 3 outlets on top, one outlet on one end (for "series stringing"), master on-off switch, and pilot light. All units have "U" ground outlets. Overall Size: 1 1/2" H x 2 3/8" W x 8 5/8" L. Mounting: Type I on 8 1/4" centers. Case Color: Gray.

Model	No. of Outlets	Master Switch	Pilot Light	Cord Length (ft)	Circuit Breaker	Fuse	Price
602	5	—	—	6	—	—	\$14.46
602-15	5	—	—	15	—	—	18.70
UL602CB-6	5	—	—	6	YES	—	21.82
UL602CB-15	5	—	—	15	YES	—	26.02
603CB	4	—	—	6	YES	—	18.63
603CB-15	4	—	—	15	YES	—	22.85
UL603CB-6	4	—	—	6	YES	—	20.66
UL603CB-15	4	—	—	15	YES	—	24.85
UL605CB-6	3	YES	YES	6	YES	—	23.50
UL605CB-15	3	YES	YES	15	YES	—	27.75
UL608CB-6	4	YES	YES	6	YES	—	25.17
UL608CB-15	4	YES	YES	15	YES	—	29.42



UL800



UL25P

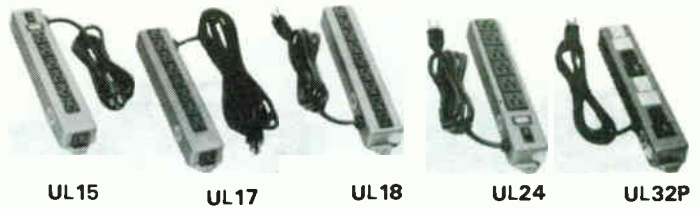
## The Deluxe Group

The Deluxe Group provides the user with a number of grounded outlets in a small area. All models have circuit breaker protection and master switch with built-in pilot light. The UL 25P series is ideal where individually switch controlled outlets are needed.

UL 25P series has alternative black and white switch and outlet configurations. UL 25P series has individual outlets — 800 series has 5 duplex outlets.

Model	Master Switch No. of Outlets	With Pilot Light	Individual Outlets Switched	Cord Built-in Pilot Light	Cord Length (ft)	Circuit Breaker	Weight (lbs)	Price
UL25PCB-6	7	YES	YES	YES	6	YES	3	\$70.75
UL25PCB-15	7	YES	YES	YES	15	YES	4	75.00
UL800CB-6	10	YES	—	—	6	YES	3	43.80
UL800CB-15	10	YES	—	—	15	YES	4	48.05

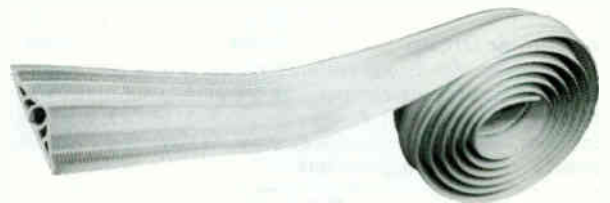
# MULTIPLE OUTLET STRIPS



## The Mid-Length Group

Model 15 and 17 are designed for "series stringing" with an outlet on one end and the power cord on the other. Model 15 is the control unit, with on-off switch, pilot light, fuse (or circuit breaker), and 7 outlets. Model 17, with 9 outlets, is the slave unit. Model 18 has 9 outlets; Model 24 has 6 outlets, on-off switch, pilot light, and fuse (or circuit breaker). Model 32 has four color-coded, individually switched outlet sets with circuit breaker protection; the switches on the Model 32 are illuminated to serve as pilot lights. Overall Size: 1 1/2" H x 13 1/8" L. Mounting: Type I on 12 3/4" centers. Case Color: Gray.

Model	No. of Outlets	No. of Switches	No. of Pilot Lights	Cord Length (ft)	Circuit Breaker	Fuse	AC Volt Meter	Price
15CB	7	1	1	6	YES	—	—	\$30.70
15CB-15	7	1	1	15	YES	—	—	34.93
UL15CB-6	7	1	1	6	YES	—	—	32.02
UL15CB-15	7	1	1	15	YES	—	—	36.27
UL17CB-6	9	—	—	6	YES	—	—	30.20
UL17CB-15	9	—	—	15	YES	—	—	34.40
UL18CB-6	9	—	—	6	YES	—	—	31.52
UL18CB-15	9	—	—	15	YES	—	—	35.77
24CB	6	1	1	6	YES	—	—	27.91
24CB-15	6	1	1	15	YES	—	—	32.15
UL24CB-6	6	1	1	6	YES	—	—	28.57
UL24CB-15	6	1	1	15	YES	—	—	32.82
UL32PCB-6	4	4	4	6	YES	—	—	43.39
UL32PCB-15	4	4	4	15	YES	—	—	47.59



## Cordgard™ Electrical Cord Ducting

A quick, inexpensive way to keep people from tripping over electrical cords that must run across floors or flat surfaces. Comes complete and ready to use; includes double-faced adhesive tape to prevent sliding on smooth surfaces, or, it can be permanently attached with epoxy cement. For carpeted floors, ribbed slots on the bottom prevent movement. The ducting is made of tough, flexible vinyl and can be used indoors or outdoors. Measures 9/16" H x 3" W. Center channel will accept cords up to 7/16" diameter and is slit for easy cord insertion. The standard color is beige which will harmonize with every decor; other colors are available on special order.

Model	Color	Length (ft)	Weight (lbs)	Price
G-6-BE	Beige	6	4	\$13.95
G-15-BE	Beige	15	9	30.95
G-50-BE	Beige	50	29	95.95

# SL WABER, INC.

A SUBSIDIARY OF SL INDUSTRIES, INC.

300 Harvard Ave.

Westville, NJ 08093

(609) 456-5400 (800) 257-8384

FAX: (609) 456-5538



900 Series



904 Series



903 Series

## The Rack Mounts Group

The greatest convenience item and time-saver ever conceived for racks, enclosures, desks, and cabinets. The Rack Mounts offer instant power distribution from either front, back, or a combination of both.

Model No.	No. Outlets F-Front B-Back	Master Switch w/Built-In Pilot Light	Cord Length (ft.)	Circuit Breakers	Unit Shipping Wt. (lbs.)	Price
900CB	6 F	Yes	6	Yes	3	\$46.08
900CB-15	6 F	Yes	15	Yes	3 1/2	50.88
903CB	6 F	Yes	6	Yes	2 1/2	43.65
903CB-15	6 F	Yes	15	Yes	3	47.88
904CB	2 F, 4 B	Yes	6	Yes	3	48.36
904CB-15	2 F, 4 B	Yes	15	Yes	3 1/2	52.62
911CB	6 B	Yes	6	Yes	2 1/2	46.08
911CB-15	6 B	Yes	15	Yes	3	50.33



ULA4E Series



ULA4TME Series



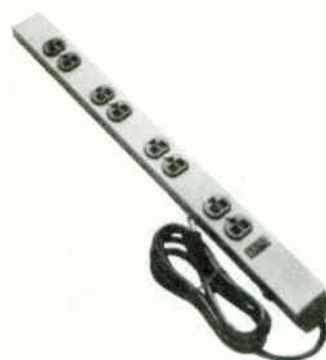
ULA6E Series

## The Premier Group

The designer Premier Group features a lower profile contoured shape. Color coordinated beige components are perfect for areas where esthetics are most important. Applications include offices, work stations, laboratories, computer equipment, store displays and more. Particularly useful in contract applications.

Model No.	No. of Outlets	Master Switch with Pilot Light	Cord Length (ft.)	Circuit Breaker	Price
ULA4E-6	4	—	6	Yes	\$19.69
ULA4E-15	4	—	15	Yes	23.09
ULA4TME-6	4	Yes	6	Yes	23.65
ULA4TME-15	4	Yes	15	Yes	27.05
ULA6E-6	6	—	6	Yes	25.02
ULA6E-15	6	—	15	Yes	28.42
ULA6TME-6	6	Yes	6	Yes	28.72
ULA6TME-15	6	Yes	15	Yes	32.12

# MULTIPLE OUTLET STRIPS



7208 Series

## The Trim Line Group

These rugged, versatile multi-length strips provide a real convenience wherever multiple outlet strips are required. Widely used in racks, on workbenches, production lines, and lab tables. No wiring to do. Just plug them in.

Model No.*	Length of Case	No. of Outlets	Switch & Pilot Light	Circuit Breaker	Cord Length (ft.)	Price
UL7208-6	2 ft.	8	Yes	Yes	6	\$43.14
UL7208-15	2 ft.	8	Yes	Yes	15	47.34
UL7408-6	4 ft.	8	Yes	Yes	6	50.90
UL7408-15	4 ft.	8	Yes	Yes	15	55.15
UL7415-6	4 ft.	15	Yes	Yes	6	59.78
UL7415-15	4 ft.	15	Yes	Yes	15	64.03
UL7610-6	6 ft.	10	Yes	Yes	6	60.85
UL7610-15	6 ft.	10	Yes	Yes	15	65.10
UL7619-6	6 ft.	19	Yes	Yes	6	70.95
UL7619-15	6 ft.	19	Yes	Yes	15	75.15

### \*Notes:

1) UL7208 series has switch with built-in amber pilot light.

2) Standard Models (except 7208 series) do not have switches, pilot lights, or circuit breakers.



95 Series



96 Series

## The Console Group

• U.L. listed • Case: wood grained vinyl permanently adhered to metal, heavy steel base with baked-on black finish • Outlets: black "U" ground outlets on back of unit • Switches: each outlet controlled by a single switch with built-in pilot light; alternate black and white switches • Power supply cord: 14/3 SJT, molded plug, black • Protection: all equipped with circuit breakers • Maximum rating: 15A, 125VAC, 60Hz, 1875W, continuous duty • Mounting: four protective rubber feet — no provisions for mounting by fastening

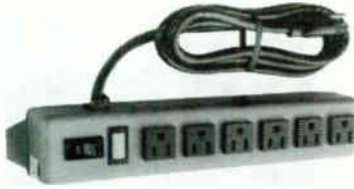
Model No.	No. of Outlets	No. of Switches With Built-In Pilot Light	Cord Circuit Breaker	Length (ft.)	Price
UL96CB-6	6	6	Yes	6	\$54.86
UL96CB-15	6	6	Yes	15	59.11

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# MULTIPLE OUTLET STRIPS



## 90° Design Multiple Outlet Strips

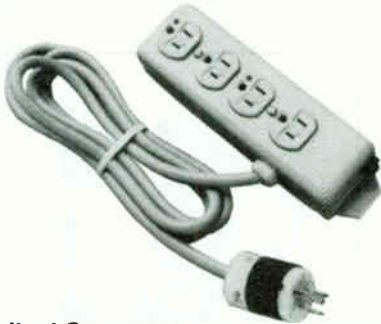
Now you can use all receptacles without worrying about oversized plugs. Ideal for plugging in equipment with a right angle plug or re-charger adaptor. Great for calculators or other equipment using a re-charger.

Model No.	No. of Outlets	Master Switch and Pilot Lights	Cord Length	Circuit Breaker	Nominal Shipping Weight	Price
UL24RA-6	6	Yes	6'	Yes	2 1/2 lbs.	\$29.74
UL24RA-15	6	Yes	15'	Yes	3 lbs.	33.99

## 20 Amp-Rated Multiple Outlet Strips

Now you can get the same industrial quality found in our 15A, 125V outlet strips in a 20A, 125V design. Great for industrial applications where equipment may draw heavy amperage.

Model No.	No. of Outlets	Master Switch with Pilot Light	Cord Length (ft.)	Circuit Breaker	Price
UL620-6	6	Yes	6	Yes	\$73.49
UL620-15	6	Yes	15	Yes	78.56



## The Medical Group

Manufactured especially for use in hospital and laboratory environments, these two new strips offer the advantages of hospital grade components and are U.L. listed. Ideal applications include work areas, lab and instrument carts, laboratory work benches and more.

Model No.	No. of Outlets	Cord Length (ft.)	Circuit Breaker	Price
ULHC4-6	4	6	Yes	\$42.27
ULHC4-15	4	15	Yes	47.35
ULHC6-6	6	6	Yes	52.32
ULHC6-15	6	15	Yes	57.40

## The Power Master Group for Pegboard Merchandising

• U.L. listed and CSA certified • All have circuit breakers • Maximum rating: 15A, 125VAC, 60Hz, 1875W, continuous duty • Outlets: individual "U" ground • Seamless steel case with blue baked-on finish • Power supply cord: 6', 14/3 SJT, molded plug • Mounting: Type III

Model No.	No. of Outlets	U.L. Category No.	Circuit Breaker	Master Switch	Pilot Light	Unit Shipping Weight (lbs.)	Price
3SP	3	UL609CB-6	Yes	Yes	Yes	1 1/2	\$16.60
4S	4	UL607CB-6	Yes	Yes	—	1 1/2	16.60
5	5	UL604CB-6	Yes	—	—	1 1/2	16.60
6SP	6	UL26CB-6	Yes	Yes	Yes	2	19.95
7S	7	UL27CB-6	Yes	Yes	—	2	19.95
8	8	UL28CB-6	Yes	—	—	2	19.95

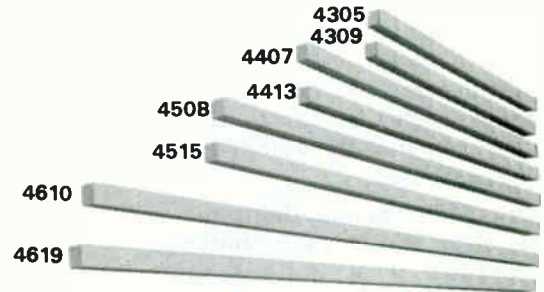
All models equipped with 6' power supply cord.

## The Premier Group for Pegboard Merchandising

Premier Group point-of-purchase display packages are ideal for offices, work stations, laboratories, computer equipment and more.

Model No.	No. of Outlets	Master Switch with Pilot Light	Cord Length (ft.)	Circuit Breaker	Price
ULA4E-6X	4	No	6	Yes	\$15.95
ULA4TME-6X	4	Yes	6	Yes	18.95
ULA6E-6X	6	No	6	Yes	21.95
ULA6TME-6X	6	Yes	6	Yes	24.95

Only 6' cord models are available in point-of-purchase display package.



## The Permanent Installation Group

These U.L. listed, permanently mounted models install rapidly with minimum effort. The ample room inside the unit allows for greater ease in wiring and installation. Additional insulated wires can easily be run through the case. Time, labor and total installation cost are significantly reduced. Outlets are pre-wired with leads included for quick wire nutting to your entry cable. Knock-outs for a 1/2" connector are provided on both ends of the case assembly.

Model No.	Length (ft.)	No. of Outlets	Outlet Centers (in.)	No. Mounting Holes	Mounting Hole Distances From Ends (in.)	Center to Center (in.)	Unit Shipping Wt. (lbs.)	Price
4305	3	5	7	2	8	20	3	\$26.90
4309	3	9	3 1/2	2	8	20	3	29.84
4407	4	7	7	3	8	16	4	31.21
4413	4	13	3 1/2	3	8	16	4	40.09
4508	5	8	7	3	8	22	5	33.50
4515	5	15	3 1/2	3	8	22	5	45.83
4610	6	10	7	3	8	28	6	37.71
4619	6	19	3 1/2	3	8	28	6	54.05



# WEYEL INTERNATIONAL

110 E. Atlantic Ave.  
Delray Beach, FL 33444  
(305) 276-4575 FAX: (305) 276-3082

## MOBILE VIDEO CABINETS

### Durastar media trolleys without extra storage unit Model No. 69054, Article No. 68051

- Monitor platform, with video recorder shelf arranged below, with optional pull-out base (article no. 68086)
- Pre-wired, with central mains supply and 3m long lead
- Standard connections for aerial and video
- 75 ohm aerial connections

### Mobile video-instant use

The media trolleys provide a firm and secure housing for monitors and video recorders without them being tied to one location. They can be moved easily and safely, and the pre-wired electrics with central mains supply ensures instant "switch-on" eliminating a great deal of "plugging in" and the usual tangle of cables. An optional telescopic base for the recorder simplifies the option of top loading machines.

### Safeguard against unauthorized access with lockable roller shutters

The lockable roller shutters safeguard the contents and also eliminate the usual hazards associated with open, sharp edged doors.

The round contours also prevent injuries. The media trolley with its clean design and color scheme fits in everywhere — as an individual unit or as part of a full Weyel system.

### Extra storage space

An "under unit" with separate lockable roller shutter is an available extra which provides spacious storage room for software, teaching aids and accessories.



Article  
68051



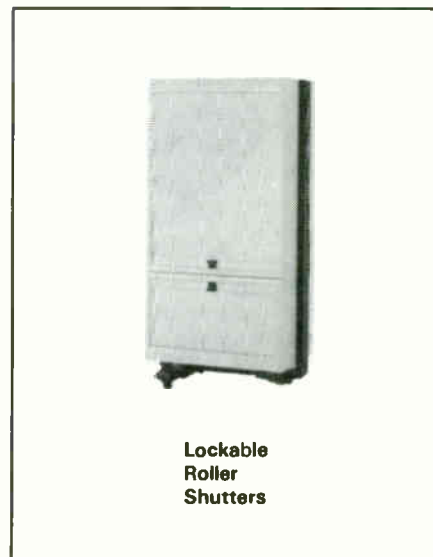
Article  
68021

### Durastar media trolley with "under" storage unit Model No. 69054, Article No. 68021

Same as article 68051, but with additional unit of similar design to house the software, teaching aids and accessories, complete with lockable roller shutter.

### Specifications

- Mains and aerial connections inside and outside
- Lockable roller shutter
- Removable, lockable rear panel for easy installation and service of equipment
- Stable feet with 4 free-running casters
- Color scheme: body beige melamine resin coated; handles brown; aluminum support frame brown stove-enamelled.



Lockable  
Roller  
Shutters

# WHEELIT, INC.

P.O. Box 7350  
Toledo, OH 43615  
(419) 531-4900 (800) 523-7508

# VIDEO EQUIPMENT CARTS

## EFP-17 Folding All-Terrain Field Production Cart

The EFP-17 folding camera cart is the big brother to ENG-1. The EFP-17 is a larger, smoother folding vehicle designed to assemble all of the necessary portable video equipment required for field production. It features a separate shelf to support a monitor for playback or viewing as the action happens. The monitor platform is positioned forward to place the recorder controls at the fingertips of the operator. With optional elevator column and head, taping may be accomplished directly from the cart. Large 12" inflatable pneumatic wheels dampen vibration and allow basic dolly moves over general terrain. The EFP-17 folds to 15 1/2" and only the camera and monitor need be removed for storage. The equipment board is predrilled in 1" increments for quick adjustment.

### Specifications

**Equipment Platform:** 17" x 29"  
**Monitor Platform:** 41" H x 15" x 21"  
**Camera Platform\*:** 37" H x 6" x 17"  
**Folded Size:** 42" x 28" x 15"  
**Load Capacity:** 175 lbs.  
**Wheel Base:** 16"  
**Wheels (inflatable):** 12" pneumatic  
**Casters:** 5" swivel with lock  
**Straps:** 1 ea. 8", 2 ea. 5"  
**Shipping:** Assm. 57 lbs. truck

\*Note: Camera platform is predrilled for elevator column

EFP-17 ..... \$400.00

### Accessories:

Receptacle and Cord Reel, Elevator Column, Friction Head, or Fluid Head

## DG/H4/TM The Challenger Friction Head

### Specifications

**Load Capacity:** 25 lbs.  
**Minimum Height:** 34"  
**Maximum Height:** 70"  
**Elevation Adjustment:** 16"  
**Geared Center Post:** 1 3/8" dia.  
**Leg Diameters:** 1 1/8" - 1 1/4"  
**Head Tilt Angles:** 60° up, 90° down  
**Spring Loaded Head:** 2 springs  
**Head Pan Rotation:** 360°  
**Weight:** 8 lbs.

### Material &

**Finish:** Clear and Black anodized aluminum

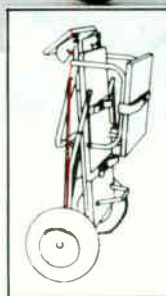
Self-Locking Gear Mechanism

DG/H4/TM ..... \$170.00

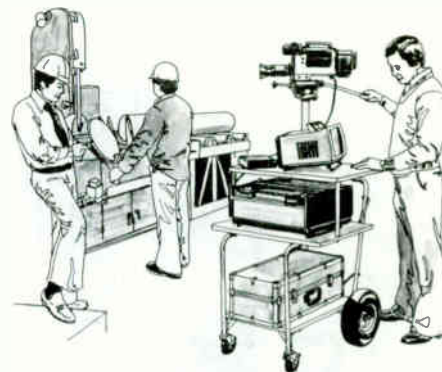
## DG/TM/FM-15 Fluid Head

### Specifications

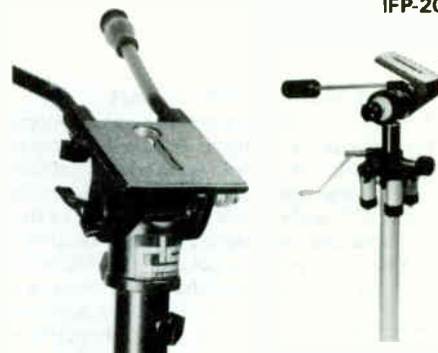
- Camera platform 4" x 4 1/4"
- Accommodates cameras up to 25 lbs.
- Dual handle capability
- Positive tilt lock and pan lock
- Leakproof and dustproof sealing
- Easily visible bubble level gauge



EFP-17  
with Column and Head



IFP-20



DG/TM/FM-15

DG/H4/TM

- Extremely smooth pan and tilt movements
- Weight: 5 lbs.
- Height: 5"
- Fits ball on flat top tripod
- Low profile design
- Rugged construction
- Reliable operation
- Compatible with European standards
- Unique quick release camera mounting screw with slot to allow camera balancing
- Tilt: +90°

DG/TM/FM-15 (Includes Head and Elevator Assig) ..... \$400.00

## IFP-20 (Non-Folding) Industrial Field Production Cart

The IFP-20 is a heavy-duty industrial, non-folding camera cart designed to assemble all of the necessary video equipment required for quality industrial video production. This vehicle will accommodate camera, videocassette recorder with electric editing, monitor, camera control unit, AC adaptors, batteries and/or battery packs. Taping can be accomplished directly from the vehicle with the addition of an optional elevator column and head. The large inflatable pneumatic tires offer smooth transportation over rough terrain.

**Specifications**  
**Upper Platform\*:** 40" H x 29" x 19"  
**Center Platform:** 28" H x 29" x 19"  
**Lower Platform:** 10" H x 18" x 24"  
**Load Capacity:** 200 lbs.  
**Wheel Base:** 21"  
**Wheels (inflatable):** 12" pneumatic  
**Casters:** 5" swivel with lock  
**Straps:** 3 ea. 8"  
**Shipping (3 crt.):** K/D, 75 lbs. UPS

\*Note: Upper platform is pre-drilled for elevator column.

IFP-20 ..... \$345.00

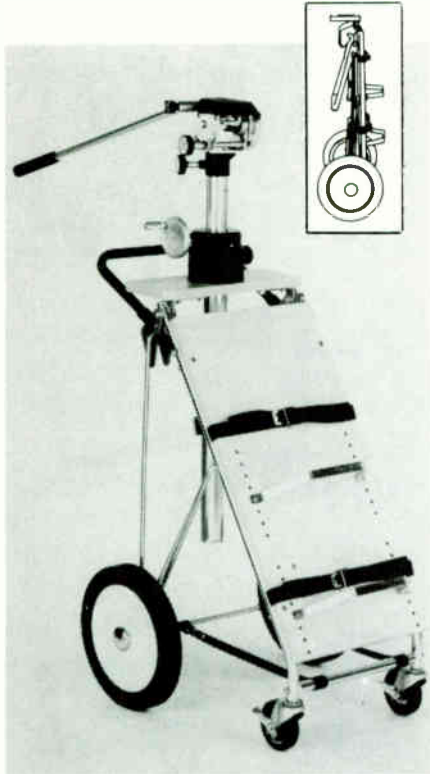
### Accessories

Receptacle and Cord Reel, Elevator Column, Friction Head, or Fluid Head

# WHEELIT, INC.

P.O. Box 7350  
 Toledo, OH 43615  
 (419) 531-4900 (800) 523-7508

# VIDEO EQUIPMENT CARTS



**ENG-1**  
 With Column



**GR-3**



**CAM-10**

## ENG-1 Mobile Camera Cart

The ENG-1 mobile camera cart was developed for the video industry as the ideal vehicle for transporting and employing portable video recording equipment. The unit accommodates most VTR and camera CCU's as well as their AC adaptors and battery packs. Addition of the optional elevator column and friction or cam link head converts the ENG-1 into one of the most versatile production tools available. ENG-1 folds to a slim 12" for transportation and storage. The equipment board is pre-drilled in 1" increments for rapid adjustment.

### Specifications

<b>Equipment Platform:</b>	14" x 29"
<b>Camera Platform:</b>	6" x 14" x 35" H
<b>Wheel Base:</b>	16"
<b>Wheels:</b>	12"
<b>Casters:</b>	4" swivel
<b>Load Capacity:</b>	150 lbs.
<b>Straps:</b>	2 ea. 4'
<b>Folded Size:</b>	23" x 42" x 12"
<b>Shipping:</b>	Assm. 45 lbs. UPS

\*Note: Camera platform is pre-drilled for optional column.  
**ENG-1** ..... \$280.00

### Accessories

Receptacle and Cord Reel, Elevator Column, Friction Head, or Cam Head

## GR-3 Video Cart

The GR-3 is the smaller offspring of the ENG-1. This folding cart is designed to store, transport, and operate your portable 1/2" VCR equipment. This lightweight, affordable cart is ruggedly built with 8" semi-pneumatic wheels and 4" front swivel casters. The GR-3 is standard with spring head and telescoping column which will accommodate cameras up to 7 lbs. With the GR-3, there is no need to carry or set-up equipment on location; it's all there on your cart when you are ready to shoot. The cart can be folded with your equipment in place.

### Specifications

<b>Equipment Platform:</b>	13" x 33"
<b>Wheel Base:</b>	16"
<b>Wheels:</b>	8"
<b>Casters:</b>	4" swivel
<b>Load Capacity:</b>	100 lbs.
<b>Straps:</b>	3 ea. 5'
<b>Folded Size:</b>	21" x 41" x 10"
<b>Column Height:</b>	43" min., 82" max.
<b>Shipping:</b>	Assm. 39 lbs. UPS

**GR-3** ..... \$370.00

### Accessories

Receptacle and Cord Reel

## CAM-10 Videocassette Cart

CAM-10 is designed to accept all 1/2" and 1/4" portable VCR equipment as well as their AC adaptors and battery packs. The upper shelf of the CAM-10 is parallel to the ground and is large enough to accept a full size monitor or a small VCR and monitor combination. The lower shelf can be placed in a horizontal position or can be firmly locked into a slanted position to hold a recorder and/or battery pack. The CAM-10 comes complete with elevator column and anti-dumping spring head and will handle TV cameras up to 15 lbs.

### Specifications

<b>Top Platform:</b>	16" x 24" x 36" H
<b>Bottom Platform:</b>	15" x 18" x 6" H
<b>Wheel Base:</b>	16"
<b>Wheels:</b>	10"
<b>Casters:</b>	4"
<b>Load Capacity:</b>	150 lbs.
<b>Straps:</b>	2 ea., 6'; 1 ea., 5'
<b>Column Height:</b>	45" min., 60" max.
<b>Folded Size:</b>	25" x 40" x 12"
<b>Shipping:</b>	Assm. 58 lbs. truck

**CAM-10** ..... \$500.00

### Accessories

Receptacle and Cord Reel



# WHEELIT, INC.

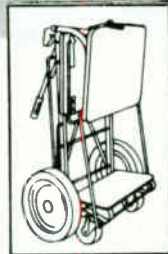
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 Toledo, OH 43615  
 (419) 531-4900 (800) 523-7508

# ALL PURPOSE CARTS

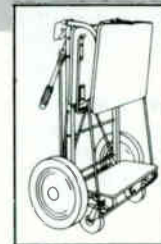
## Folding Action Series C-402/68-402P/69-22VTR All Purpose Carts

The C-402 is an all purpose utility vehicle designed for transportation of video tape equipment, audio/visual equipment, photography equipment, and business machines. The C-402 has become a particular favorite of photographers because it offers an abundant carrying capacity.

Construction of the 68-402P and 69-22 VTR is similar; however, basic differences will be found in the length of the wheel bases and the dimensions of the platforms. The upper and lower platforms are spaced so that a VT monitor and recorder can be interchanged to accommodate different viewing heights. Folded, these carts fit into most automobile trunks. Heavy-duty equipment straps are standard.



C-402



68-402P

### C-402 Specifications

- Upper Platform:** 21" x 16" x 40" H
  - Center Platform:** 21" x 12" x 18" H
  - Lower Platform:** 19" x 6" x 4"
  - Load Capacity:** 150 lbs.
  - Wheel Base:** 16"
  - Wheels:** 12"
  - Casters:** 4" swivel w/lock
  - Folded Size:** 15" x 38" x 25"
  - Straps:** 2 ea., 6'
  - Shipping:** Assm. 56 lbs. truck
- C-402 .....\$260.00

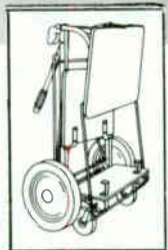
### 68-402P Specifications

- Upper Platform:** 24" x 16" x 40" H
  - Center Platform:** 24" x 15" x 18" H
  - Lower Platform:** 19" x 8 1/2" x 5" H
  - Load Capacity:** 175 lbs.
  - Wheel Base:** 19"
  - Wheels:** 12"
  - Casters:** 5" swivel w/lock
  - Folded Size:** 17" x 38" x 25"
  - Straps:** 1 ea., 8', 1 ea., 6'
  - Shipping:** Assm. 65 lbs. truck
- 68-402P .....\$275.00

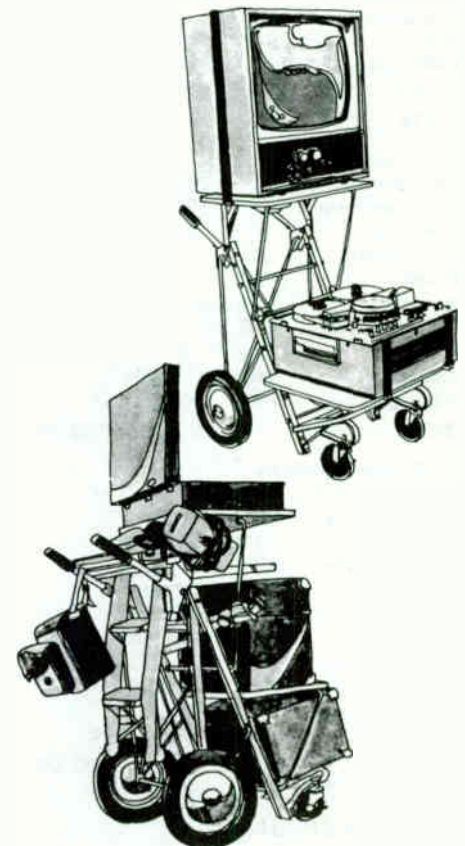
### 69-22VTR Specifications

- Upper Platform:** 24" x 18" x 40" H
  - Center Platform:** 24" x 18" x 14" H
  - Lower Platform:** 19" x 11" x 5" H
  - Load Capacity:** 175 lbs.
  - Wheel Base:** 22"
  - Wheels:** 12"
  - Casters:** 5" swivel w/lock
  - Folded Size:** 20" x 38" x 25"
  - Straps:** 2 ea., 9'
  - Shipping:** Assm. 70 lbs. truck
- 69-22VTR .....\$290.00

**Accessories**  
 Receptacle and Cord Reel



69-22VTR



# WHEELIT, INC.

P.O. Box 7350  
Toledo, OH 43615  
(419) 531-4900 (800) 523-7508

# ELECTRONIC EQUIPMENT CARTS

## Portage Series

### S-4218/4218/TV-503

#### Indoor/Outdoor Carts

The 4218 is designed for indoor/outdoor transportation of video player and monitor unit. The 5" casters and 12" rear wheels assure a smooth ride and stability over questionable terrain. The 4218 folds to a thin 12" to store in a closet or automobile trunk. As with all folding Wheelits, the platforms lock into the upright position with positive assurance. The S-4218 increases the utility and load capacity by adding a 15" x 18" bottom platform to the 4218. This bottom platform locks into a slanted position when the cart is folded.

The TV-503 is a non-folding cart that features a top platform for placement of a television monitor for the viewers' standing line of vision. The top platform incorporates two leveling screws for tilting the monitor 10°. For presentation to a seated audience, the top platform is folded down and viewing equipment is placed upon the second shelf for proper eye level.

#### S-4218 Specifications

**Upper platform:** 18" x 25" x 42" H  
**Center platform:** 18" x 25" x 30" H  
**Clearance:** 11" H x 25 1/4" W  
**Lower platform:** 15" x 18" x 8" H  
**Wheel base:** 16"  
**Wheels:** 12"  
**Casters:** 5" swivel w/lock  
**Load capacity:** 180 lbs.  
**Straps:** 1 ea. 8', 1 ea. 6'  
**Folded size:** 46" x 24" x 12"  
**Shipping:** Assm. 69 lbs. truck

**S-4218** ..... \$285.00

#### 4218 Specifications

**Upper platform:** 18" x 25" x 42" H  
**Center platform:** 18" x 25" x 30" H  
**Clearance:** 11" H x 25 1/4" W  
**Wheel base:** 16"  
**Wheels:** 12"  
**Casters:** 5" swivel w/lock  
**Load capacity:** 180 lbs.  
**Straps:** 1 ea. 8', 1 ea. 6'  
**Folded size:** 46" x 24" x 12"  
**Shipping:** Assm. 62 lbs. truck

**4218** ..... \$260.00

#### TV-503 Specifications

**Upper platform:** 24" x 19" x 50" H  
**Center platform:** 24" x 19" x 36" H  
**Clearance:** 13" H x 25 1/4" W  
**Lower platform:** 19" x 21" x 14" H  
**Wheel base:** 17"  
**Wheels:** 12"  
**Casters:** 4" swivel w/lock  
**Load capacity:** 160 lbs.  
**Straps:** 1 ea. 8', 2 ea. 6'  
**Folded size:** non-folding  
**Shipping:** Assm. 70 lbs. truck

**TV-503** ..... \$280.00

#### Accessories

Receptacle and Cord Reel.



S-4218



4218



6000

### 6000

#### Video Transporter Cart

To move a heavy 25" monitor and accompanying VCR equipment you need the super tough 6000 Video Transporter Cart.

It features a 48" high platform to hold the monitor so it is at the proper viewing angle for a seated audience.

Other features include frame member made of 1" x 15 Ga. (.065 wall) steel tubing migt-welded to 1/8" platform flanges at a 86° angle.

When the 3/4" particle board platforms are bolted to the black-enameled frame, a stable pyramid is formed. The platforms have low pressure laminated surfaces and vinyl edge molding in a neutral almond color. The casters are bolted through the bottom platform to the frame flanges.



TV-503

#### Specifications

**Upper platform:** 32" x 24" x 48"  
**Center platform:** 27" x 24" x 30"  
**Lower platform:** 39" x 29" x 8"  
**Casters:** 5" swivel  
**Load capacity:** 250 lbs.  
**Straps:** 3 ea., 9' x 1 1/4"  
**Shipping:** 100 lbs.

**6000** ..... \$295.00



# WHEELIT, INC.

P.O. Box 7350  
Toledo, OH 43615  
(419) 531-4900 (800) 523-7508

# WORK STATION CARTS

## Folding Slim-Line Series 3628/S-3628/2916/S-2916

### Work Station Carts

The Folding Slim-Line 3628 is designed for indoor/outdoor transportation of office machines, lab equipment, and electronic monitoring hardware. The large upper platform is positioned at a convenient working height for technicians on the move. The S-3628 has an additional lower platform to handle extra pieces of equipment. Both carts fold in seconds for fast and efficient storage.

The 2916 was designed with the salesperson in mind. This rugged cart weighs only 33 lbs., folds to 10", and yet has a load capacity of 150 lbs. Its platform height of 29" makes it the ideal working desktop. The thick sound-absorbing particle board with vinyl edge molding makes it the preferred demonstration cart. The S-2916 has an additional lower platform for equipment accessories.

#### 3628 Specifications

**Top Platform:** 20" x 28" x 36" H  
**Folded Size:** 42" x 25" x 12"  
**Load Capacity:** 180 lbs.  
**Wheel Base:** 16"  
**Wheels:** 12"  
**Casters:** 5" swivel w/lock  
**Straps:** 1 ea., 6'  
**Shipping:** Assm. 48 lbs. truck

**3628** ..... \$220.00

#### S-3628 Specifications

**Top Platform:** 20" x 28" x 36" H  
**Lower Platform:** 15" x 18" x 7" H  
**Folded Size:** 42" x 25" x 12" H  
**Load Capacity:** 200 lbs.  
**Wheel Base:** 16"  
**Wheels:** 12"  
**Casters:** 5" swivel w/lock  
**Straps:** 1 ea., 6'  
**Shipping:** Assm. 54 lbs. truck

**S-3628** ..... \$245.00

#### 2916 Specifications

**Top Platform:** 24" x 16" x 29"  
**Folded Size:** 38" x 24" x 10"  
**Load Capacity:** 150 lbs.  
**Wheel Base:** 16"  
**Wheels:** 10"  
**Casters:** 4" swivel w/lock  
**Straps:** 1 ea., 6'  
**Shipping:** Assm. 40 lbs. UPS

**2916** ..... \$180.00



2916



3628



S-2916



S-3628



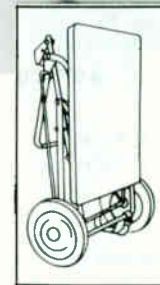
#### S-2916 Specifications

**Top Platform:** 24" x 16" x 29" H  
**Lower Platform:** 15" x 18" x 6" H  
**Folded Size:** 38" x 24" x 10" H  
**Load Capacity:** 170 lbs.  
**Wheel Base:** 16"  
**Wheels:** 10"  
**Casters:** 4" swivel w/lock  
**Straps:** 1 ea., 6'  
**Shipping:** Assm. 48 lbs. UPS

**S-2916** ..... \$205.00

#### Accessories

Receptacle and Cord Reel





# WHEELIT, INC.

P.O. Box 7350  
Toledo, OH 43615  
(419) 531-4900 (800) 523-7508

# ELECTRONIC EQUIPMENT CARTS



430



4102



3302

## Transporter Series

430/4102/3302

### Indoor/Outdoor Carts

The 430, 4102 and 3302, the work horses of the Wheelit line, are designed as general purpose indoor/outdoor carts. These non-folding transporters are standard with 4" casters, large rear wheels, and two equipment straps.

The 430 and 4102 are ideal for operation of projection equipment from the back of a room, over the heads of an audience. The 430 has an extra wide top platform for larger equipment. The 3302 is best suited to operation of audio/visual equipment from a center aisle audience arrangement.

#### 430 Specifications

**Upper platform:** 30" x 20" x 41" H  
**Lower platform:** 19" x 21" x 13" H  
**Load capacity:** 150 lbs.  
**Wheelbase:** 17"  
**Wheels:** 12"  
**Casters:** 4" swivel w/lock  
**Straps:** 1 ea. 8', 1 ea. 6'  
**Shipping:** K/D, 58 lbs. truck

430 ..... \$180.00

#### 4102 Specifications

**Upper platform:** 21" x 19" x 41" H  
**Lower platform:** 19" x 21" x 13" H  
**Load capacity:** 150 lbs.  
**Wheelbase:** 17"  
**Wheels:** 12"  
**Casters:** 4" swivel w/lock  
**Straps:** 2 ea. 6'  
**Shipping:** K/D, 53 lbs. truck

4102 ..... \$170.00

#### 3302 Specifications

**Upper platform:** 21" x 19" x 33" H  
**Lower platform:** 19" x 21" x 13" H  
**Load capacity:** 140 lbs.  
**Wheelbase:** 17"  
**Wheels:** 10"  
**Casters:** 4" swivel w/lock  
**Straps:** 2 ea. 6'  
**Shipping:** K/D, 47 lbs. UPS

3302 ..... \$155.00

#### Accessories

Receptacle and cord reel.

## Vagabond Series

2727/4327/5330

### Universal Carts

The 2727 is designed for universal transportation and utilization of audio/visual and electronic instrument equipment. This non-folding cart features dual caster locks, tilt back handles, and 10" wheels.

The rigid tri-level 5330 and 4327 are designed for indoor transportation and utilization of video tape recording and playback equipment. The tallest cart incorporates two tilt screws for positioning the monitor to standing eye level without adjustment.

#### 2727 Specifications

**Top platform:** 19" x 27" x 27" H  
**Bottom platform:** 18" x 24" x 9" H  
**Load capacity:** 150 lbs.  
**Wheelbase:** 21"  
**Wheels:** 12"  
**Casters:** 4" swivel w/lock  
**Straps:** 1 ea. 8'  
**Shipping (2 crt.):** K/D, 48 lbs. UPS

2727 ..... \$165.00

#### 4327 Specifications

**Top platform:** 19" x 27" x 43" H  
**Center platform:** 19" x 27" x 28" H  
**Bottom platform:** 18" x 24" x 9" H  
**Load capacity:** 160 lbs.  
**Wheelbase:** 21"  
**Wheels:** 12"  
**Casters:** 5" swivel w/lock  
**Straps:** 1 ea. 8', 1 ea. 6'  
**Shipping (2 crt.):** K/D, 65 lbs. UPS

4327 ..... \$225.00

#### Accessories

Receptacle and cord reel.



2727



4327

# WIDE RANGE ELECTRONICS CORP.

140 Sun Valley Circle  
St. Louis, MO 63026  
(314) 343-9191

# DEGAUSSER/ ERASING PENCIL

## 642-21/115 Degausser

- Professional bulk eraser
- Erase reels up to 10<sup>1</sup>/<sub>2</sub>" diameter, 2" thick
- Portable
- 2 locating spindles
- Simple and efficient operation

The 642-21 is designed for the same applications and usage as the 9205A except that it is equipped with a single powerful electromagnet (same type as in the 9205A) and is limited to erasure of 10<sup>1</sup>/<sub>2</sub>" reels. This unit is recommended where size and cost are primary considerations.

Construction is of heavy-duty steel, finished in gray baked enamel with a brown phenolic top panel and 2 locating reel spindles. A sturdy handle is located on the front panel of the unit.

Degaussing is accomplished by rotating the reel by hand on the top surface of the degausser. Cartridges and cassettes can be passed slowly across the field area for a clean erasure. The unit provides an audible indication when in operation. It is equipped with a high temperature rated coil for extended life under heavy use.

### Specifications

<b>Reel Size:</b>	Will handle any size reel up to 10 <sup>1</sup> / <sub>2</sub> " in diameter and 2" thick. Any size cartridges and cassettes that fit within the field area outlined on the top panel
<b>Erase Level:</b>	60 to 90dB minimum erasure below recorded level
<b>Switch:</b>	Heavy-duty, single pole
<b>Fuse:</b>	One 15A, line fuse
<b>Power Requirements:</b>	115VAC, 50/60Hz
<b>Power Consumption:</b>	1000W
<b>Dimensions:</b>	4 <sup>1</sup> / <sub>8</sub> " x 6" x 8"
<b>Net Weight:</b>	15 lbs.
<b>Shipping Weight:</b>	18 lbs.
<b>642-21/115</b>	.....\$200.13



642-21/115

## 642-21/230

Identical to the 642-21/115 except the 642-21/230 is designed to operate at 230VAC, 50/60Hz.

### Specifications

<b>Net Weight:</b>	16 lbs.
<b>Shipping Weight:</b>	19 lbs.
<b>642-21/230</b>	.....\$214.27

## 8905 Magnetic Erasing Pencil

The 8905 is an excellent tool for erasing limited, small areas of sound tracks and splices on tape and film. In program material, words, complete sentences, and even syllables may be erased. The 8905 is equally useful for demagnetizing record and play heads. A press to operate switch is located on the handle.

### Specifications

<b>Active Tip Area:</b>	0.250" diameter
<b>Switch:</b>	Single pole, press to operate
<b>Enclosure:</b>	Heavy phenolic case, complete with 6' rubber cord
<b>Finish:</b>	Matte black
<b>Power Requirements:</b>	115VAC, 50/60Hz
<b>Power Consumption:</b>	10W
<b>Dimensions:</b>	5/8" diameter by 8" long
<b>Net Weight:</b>	6 oz.
<b>Shipping Weight:</b>	12 oz.
<b>8905</b>	.....\$54.34



8905

# WIDE RANGE ELECTRONICS CORP.

140 Sun Valley Circle  
St. Louis, MO 63026  
(314) 343-9191

# DEGAUSSERS

## 9210 Degausser

The 9210 produces twice the effective output with 25% less current than previous comparable models. The unit will handle 2" tape for audio, video or digital data with ease. The 9210 may also be used to demagnetize tools or components having residual magnetism imparted into the metal being worked. The special high performance output coil is a real miser on power consumption. The heavy-duty ferro-tuned coil's secondary winding is resonated with a capacitor thereby keeping current draw to a minimum. The 9210 requires only 15 amperes at 110VAC. The heavy-duty steel case and composite plate assure many years of dependable service.

### Specifications

**Reel Size:** Will handle any size up to 16" in diameter and 2" in thickness  
**Erase Level:** 60 to 80dB minimum erasure below recorded level  
**Switch:** Heavy-duty, double pole  
**Fuses:** 2 15A fuses, one for each side of coil  
**Pilot Lights:** For monitoring power to coil  
**Power Requirements:** 115VAC, 50/60Hz  
**Power Consumption:** 1800W  
**Dimensions:** 4 1/8" x 12" x 14"  
**Net Weight:** 28 lbs.  
**Shipping Weight:** 31 lbs.

9210 (115V) ..... \$465.00  
9210A (230V) ..... 495.00



9210

## 9205A-115 Degausser

- A professional heavy-duty unit
- Erases reels up to 17" diameter, 2" thick
- Rugged and reliable
- 2 powerful electromagnets
- Portable

The 9205A is recommended for complete erasure of program and residual noise on audio, video, and data recording tape and magnetic film — in reels, cartridges and cassettes. For use with plastic, aluminum or other non-magnetic reels with any type hub and any diameter up to 17". If used with care, 19" reels may be degaussed. May also be used to demagnetize tools or components having residual magnetism imparted into the material being worked.

The degausser contains 2 powerful electromagnets which generate the erasing field, each having its individual fuse and pilot lamp located on the front panel. The top of the unit is a heavy-duty black bakelite plate with a 5/16" spindle emerging from it. It is equipped with high temperature rated coils for extended life under heavy use.

Degaussing is accomplished by rotating the reel slowly around the spindle 3 (or more) times. Continue to rotate and at the same time lift the reel slowly off and away from the degausser. For 2" tape, turn the reel over and repeat the procedure.

The 9205A is manufactured with heavy-duty, double pole switches, double-fused with dual pilot lights for individual protection and monitoring of each coil, 6' three conductor cord with 2-prong plug and ground connector, heavy steel gray baked enamel case complete with rubber feet.

### Specifications

**Reel Size:** Will handle any size reel up to 17" in diameter and 2" thick  
**Erase Level:** 60 to 90dB minimum erasure below recorded level  
**Switch:** Heavy-duty, double pole  
**Fuses:** 2 15A; one for each coil  
**Pilot Lights:** 2; one for each coil  
**Power Requirements:** 115VAC, 50/60Hz  
**Power Consumption:** 2000W  
**Dimensions:** 4 1/8" x 12" x 14"  
**Net Weight:** 32 lbs.  
**Shipping Weight:** 35 lbs.  
9205A-115 ..... \$342.20



9205A-230

## 9205A-230 Degausser

Identical to the 9205A-115 except the 9205A-230 is designed to operate at 230VAC, 50/60Hz.

### Specifications

**Net Weight:** 33 lbs.  
**Shipping Weight:** 36 lbs.  
9205A-230 ..... \$370.49

### Optional Accessories

#### 11-267-1 Hub Adaptor

Permits easy degaussing of NAB reels with 3" hub diameters. Fits on existing 5/16" spindle.

11-267-1 ..... \$12.80

#### 22-323-1 Foot Switch

A companion accessory to the bulk degaussers that allows convenient, "hands free" operation and provides a positive means of turning the degausser off immediately after use. This is a momentary acting switch and can help extend the life of the degausser.

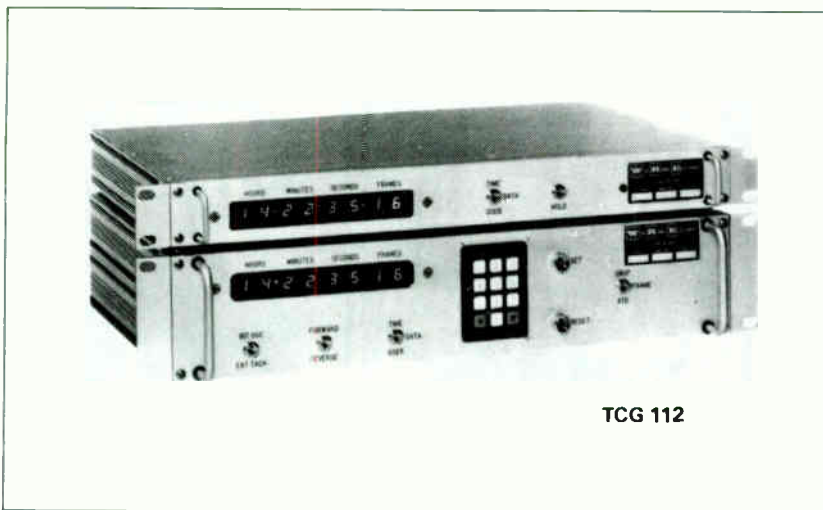
22-323-1 ..... \$43.84



# WIDE RANGE ELECTRONICS CORP.

140 Sun Valley Circle  
St. Louis, MO 63026  
(314) 343-9191

# TIME CODE GENERATOR/READER



## TCG 112 Time Code Generator

- Microprocessor based
- Easy data entry by means of 12-key pad
- Rackmount or tabletop case
- Compact size
- Large display size

The TCG 112 is a microprocessor based device that generates SMPTE/EBU serial time code. This code contains time in hours, minutes, seconds, and frames, along with user bits. The code is recorded on film or tape so that when played back it may be used as an electronic indexing means, allowing synchronization to other machines.

## Operation

Front panel controls, a 12-key pad, pushbutton, and toggle switch, allow convenient setting of time code and user bits. The time base may be referenced to an internal crystal or external encoder signal as selected by a toggle switch. Another switch selects either drop frame or non-drop frame. The display may be held at any time by means of a momentary pushbutton. A reset pushbutton may be used to zero the time code and user bits.

## Output

The time code signal is a balanced output at 600 ohms at 0dB. Its rise and fall times are controlled so as to minimize the required band width for recording and to reduce crosstalk. When an encoder is used as the time base, the generated code will follow from 0 to 10 times speed, allowing a film machine to be locked to other machines in the system.

## Specifications

- Output:** Edit Code—SMPTE/EBU standard at 0dB, 600 balanced line  
Encoder—2400Hz, 2 phase at 0V to 5V levels
- Input:**
- Power:** 105VAC-125VAC, 50/60Hz at 12W (220VAC option available)
- Controls:** Internal/External—Selects internal crystal or external encoder; Time Code/User Bits—Selects display mode; Drop Frame—Selects drop frame or non-drop frame; Reset—Set time code and user bits to 0; Preset—Activates 12-key pad for setting time code or user bits; Hold—Freezes display as long as button is held
- Temp.:** 0-70°C operating  
-20 to 85°C storage
- Mechanical:** 3 1/2" H x 19" W x 11" D
- TCG 112** . . . . . \$2745.00

## Options

- 24 frame code as used in film industry
- Remote entry of data
- 25 and 30fps
- Parallel BCD output for time code and user bits

## TCR 114 Time Code Reader

The TCR 114 decodes serial SMPTE/EBU time code or user bits as selected by a front panel switch. Code may be read over a speed range of 1/16 to 60 times play speed. The display is a 3/8" LED display allowing easy readability. A hold button is provided which when depressed freezes the display to the current reading. An LED readout is used to indicate that the incoming code is of the drop frame format.

**TCR 114** . . . . . \$1865.00

# H. WILSON CO.

555 W. Taft Dr.  
South Holland, IL 60473  
(312) 339-5111 (800) 342-5492

# VIDEO/AV CARTS



WKD-54-5



WKD-VT-4



VT2466 with WCT

## Mobile Equipment Carts

Super-rugged, multi-shelf tables especially designed to support your heaviest video equipment; has been tested to securely hold more than 450 lbs. Features 1" chrome-plated tubular steel legs and 18-gauge steel shelves — 33% heavier than used for conventional tables. Shelves have rolled retaining lip that add strength and enhance safety. Has a non-slip rubber mat for top shelf.

Shelves may be adjusted to various heights. Patented corner clamps secure the shelves to the legs with a grip that's stronger than a weld. Table rolls surely and easily on 5" swivel, ball-bearing casters. Two may be locked for in-place stability.

Model No.	Description	Total Ht. (in.)	Shelf Size (in.)	Casters (in.)	Ship Wt. (lbs.)	Price
WKD-VT-4	4 Shelf (terra cotta)	54	24 x 30	5	95	\$375.00
WKD-VT-5	5 Shelf (terra cotta)	54	24 x 30	5	110	440.00
WKD-54-4	4 Shelf (brown)	54	21 x 30	5	87	253.00
WKD-54-5	5 Shelf (brown)	54	21 x 30	5	102	302.00
VT 2430	2 Shelf (terra cotta)	29	24 x 30	4	45	199.00

Specify "E" for electrical assembly with 20' cord, two grounded receptacles, U.L. listed. Add 3 lbs. to shipping wt; and add \$27.00. CSA approved add \$37.00.

## Mobile Video Interface Workcenter

This new heavy duty, durable, yet portable interface station is affordable yet functional. It can be used in-house or go mobile on a remote. The Terra Cotta color, enamel finish shelves are 18-gauge steel with raised edges for retaining equipment. The legs are 1" diameter chrome-plated steel tubing and the patented corner clamps secure the shelves to the legs with a grip that's stronger than a weld. 4" ball-bearing, swivel casters (two lock per section), allow easy movement. The 24" x 66" main work surface may be set up in-line, or swivel format, where the VCR section with side management tray and 4-outlet, grounded electrical assembly can be attached on either side of the 24" x 36" main console at any angle between 5° to 90°, or as a separate unit. The console section comes with a 12" x 36" monitor shelf, wire management tray, a 6-outlet, grounded, electrical assembly and a non-slip, rubber work surface mat. It is designed to carry the weight of all brands and formats of video editing systems, interactive video systems or computer systems. Available options: Model #CB90, 90° extra depth monitor retainer, price \$12.67; Model #CD0333, pedestal with tray, price \$35.33; Model #WCT, pull-out tray (reversible drawer/shelf), price \$39.99.

Model No.	Description	Ship. Wt. (lbs.)	Price
VT2466	Mobile Video Workcenter	115	\$539.00



PBCT

## Tuffys with Pullout Tray Ideal for Overhead Projectors

For additional work space or storage, the popular Tuffy Cart can be purchased with a reversible pullout tray. The almond colored 17 3/4"W x 13"D metal shelf can be reversed to create a 1 3/4"H drawer. Pullout tray can be purchased as an accessory to existing Tuffy models.

Model No.	Description	Total Ht.	Between Shelf (in.)	Shelf Size	Ship Wt.	Price
WT42T	Mobile Thermoplastic	42"	14 1/2 / 16 1/2	18" x 24"	*35	\$137.95
WT34T	Carts w/metal	34"	6 1/2 / 16 1/2	18" x 24"	*34	134.95
WT26T	Pullout shelf	26"	16 1/2	18" x 24"	*27	122.95
WT16T		16"	6 1/2	18" x 24"	*26	118.95
WTT	Pullout tray				8	49.95

\*Ships in 2 cartons

Specify "E" for electrical assembly with three grounded receptacles, UL/CSA approved. Add 2 lbs. to shipping wt; and add \$26.00.

## The Professional

This compact, portable AV Table provides the professional with an attractive and versatile table in a non-glare, black metal brief case; no assembly necessary. Opens to desired height of 16" or 30" in one simple lifting motion. Comes equipped with special tray for visuals. Ideal for use with portable overheads or AV/video point of purchase equipment. Holds up to 30 lbs.

Model No.	Description	Dimensions D x L x W	Weight (lbs.)	Price
PBCT	Metal Brief Case Table	5" x 18 1/2" x 13 1/2"	20	\$159.95



WT34T

# H. WILSON CO.

555 W. Taft Dr.  
South Holland, IL 60473  
(312) 339-5111 (800) 342-5492

# VIDEO PROJECTOR/TV TABLES



WT16



WKD32XA



WKD32A

## Tuffy VP Tables

Wilson Tuffy Carts ideal for certain sizes of VP's. These carts are formed from durable, structural thermoplastic that won't warp, crack or peel. Comes with easy rolling 4" swivel, ball-bearing casters.

Model No.	Description	Total Ht.	Shelf Size	Ship. Wt.	Price
WT16	Mobile Video Projection Carts	16"	18" x 24"	18	\$69.00
WT26		26"	18" x 24"	19	73.00

Specify "E" for UEA electrical assembly; UL/CSA approved. Add 2 lbs. to shipping wt.; add \$26.00.

## Adjustable Video Projector Tables

Super rugged table for video projectors; a 2 shelf unit uniquely designed for adjustability requirements of VP's. Features chrome plated tubular steel legs and 18 ga. steel shelves. Units are available in 4 convenient shelf sizes. Top shelf can be flat or slanted up to 5° and has a non-slip rubber mat. The shelf height can be adjusted by using the patented corner clamps or the 2" increment adjustable legs. Comes with 4" casters. Can be used without casters for lower height adjustments.

Model No.	Ht. w/ caster	Shelf Size	Ship. Wt. (lbs.)	Price
WKD42PA	28"-42"	18" x 24" (3 Shelves)	55	\$185.00
WKD32PA	22"-32"	18" x 24"	33	165.00
WKD32A	22"-32"	21" x 30"	38	190.00
WKD32WA	22"-32"	24" x 30"	43	220.00
WKD32XA	22"-32"	27" x 30"	48	229.00
CPS2130	29"	21" x 30"	36	177.00

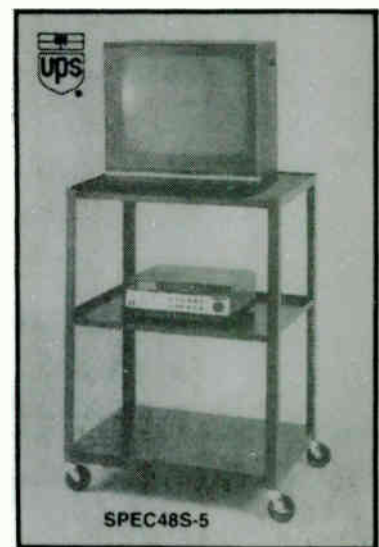
Specify "E" for electrical assembly with 20' cord; 2 grounded receptacle, U.L. listed. Add 3 lbs. to shipping wt.; add \$27.00. CSA approved; add \$37.00.



PD-1



WKD48SPEC



SPEC48S-5

## Pyramid Design TV Table

Exceptionally attractive with dark walnut finish 1 1/4" high pressure laminate shelves with heavy duty vinyl tee mold bumper on all exposed edges. Legs are designed of 1 1/4" chrome plated tubular steel. Unit is furnished with extra heavy duty 5" swivel ball-bearing plate casters (2 locking).

Specially designed with large weighted base shelf to help eliminate tilting in highly mobile applications. Unit comes knock-down and is easy to assemble.

Model No.	Total Ht.	Shelf Size	Ship. Wt. (lbs.)	Price
PD-1	42"	Top 23" x 33" Center 25" x 36" Bottom 27" x 39"	172	\$295.00

## WKD Special TV Tables

These exceptionally large TV tables are designed for use and support of larger video equipment. Constructed of chrome plated steel tubular legs and 18 gauge 24" x 36" steel shelves with rolled retaining lip to enhance safety. Top shelf comes with a non-slip rubber mat. The stronger than a weld patented corner clamp allows adjustability of shelves. 5" swivel ball bearing casters provide easy mobility (two locking).

Model No.	Total Ht.	Shelf Size	Ship. Wt. (lbs.)	Price
WKD42SPEC	42"	24" x 36"	66	\$253.00
WKD48SPEC	48"	24" x 36"	71	268.00
WKD54SPEC	54"	24" x 36"	76	275.00

Specify "E" for electrical assembly with 20' cord; 2 grounded receptacle, U.L. listed. Add 3 lbs. to shipping wt.; add \$27.00. CSA approved; add \$37.00.

## HWC Special TV Tables

Wilson special steel tables provide the additional space needed for larger and heavier video equipment. These units have a spacious shelf size of 25 x 34 inches. Each unit has welded construction and baked brown enamel finish for durability. Tables available with 4" or 5" swivel, ball-bearing casters. Two lockable for in-place stability.

Model No.	Description	Total Ht.	Shelf Size	Cast-ers	Ship. Wt.	Price
SPEC48S-4	slants 5"	48"	25" x 34"	4"	60	\$220.00
SPEC48S-5	slants 5"	48"	25" x 34"	5"	60	232.00
SPEC48F-4	flat	48"	25" x 34"	4"	72	215.00
SPEC48F-5	flat	48"	25" x 34"	5"	72	227.00
SPEC54F-4	flat	54"	25" x 34"	4"	75	225.00
SPEC54F-5	flat	54"	25" x 34"	5"	75	237.00

Specify "E" for electrical assembly with 20' cord; 2 grounded receptacle, U.L. listed. Add 3 lbs. to shipping wt.; add \$27.00. CSA approved; add \$37.00.

Prices and Specifications Subject to Change Without Notice.

V-1181



# H. WILSON CO.

555 West Taft Drive  
 South Holland, IL 60473  
 (312) 339-5111 (800) 342-5492

# MOBILE VIDEO TABLES



## WKDP54C

54" Pyramid Design Cabinetized KD TV Table with 4" Casters

**Size:** (2) 27" x 30" Shelves and (1) 21" x 30" Shelf  
**Weight:** 109 lbs.  
**Colors:** Charcoal Gray  
**Material:** 18 gauge steel shelves and cabinet—1" chrome plated steel tubular legs  
**Finish:** Nylon bead paint finish

WKDP54C .....\$316.00

## WKDP48

48" Pyramid Design KD TV Table with 4" Casters

**Size:** (2) 21" x 30" Shelves and (1) 27" x 30" Shelf—  
 Distance between top and middle shelves is 12"  
**Weight:** 67 lbs.  
**Colors:** Charcoal Gray  
**Material:** 18 gauge steel—1" chrome plated steel tubular legs  
**Finish:** Nylon bead paint finish

WKDP48 .....\$207.00

## WKDP54

54" Pyramid Design KD TV Table with 4" Casters

**Size:** (2) 21" x 30" Shelves and (1) 27" x 30" Shelf—  
 Distance between top and middle shelf is 12"  
**Weight:** 69 lbs.  
**Colors:** Charcoal Gray  
**Material:** 18 gauge steel shelves and cabinet—1" chrome plated steel tubular legs  
**Finish:** Nylon bead paint finish

WKDP54 .....\$210.00

## WKDP48C

48" Pyramid Design Cabinetized KD TV Table with 4" Casters

**Size:** (2) 27" x 30" Shelves and (1) 21" x 30" Shelf  
**Weight:** 107 lbs.  
**Colors:** Charcoal Gray  
**Material:** 18 gauge steel shelves and cabinet—1" chrome plated steel tubular legs  
**Finish:** Nylon bead paint finish

WKDP48C .....\$313.00



## WP54C

54" Pyramid Design Arc Welded Cabinetized TV Table with 4" Casters

**Size:** (1) 24" x 28" Shelf and (2) 28" x 30" Shelves  
**Weight:** 84 lbs.  
**Colors:** Charcoal Gray  
**Material:** 18 gauge steel  
**Finish:** Nylon bead paint finish

WP54C .....\$287.00

## WP48

48" Pyramid Design Arc Welded TV Table with 4" Casters

**Size:** (1) 24" x 28" Shelf and (2) 28" x 30" Shelves  
**Weight:** 62 lbs.  
**Colors:** Charcoal Gray  
**Material:** 18 gauge steel  
**Finish:** Nylon bead paint finish

WP48 .....\$189.00

## WP54

54" Pyramid Design Arc Welded TV Table, with 4" Casters

**Size:** (1) 24" x 28" Shelf and (2) 28" x 30" Shelves  
**Weight:** 65 lbs.  
**Colors:** Charcoal Gray  
**Material:** 18 gauge steel  
**Finish:** Nylon bead paint finish

WP54 .....\$198.00

## WP48C

48" Pyramid Design Arc Welded Cabinetized TV Table with 4" Casters

**Size:** (1) 24" x 28" Shelf and (2) 28" x 30" Shelves  
**Weight:** 81 lbs.  
**Colors:** Charcoal Gray  
**Material:** 18 gauge steel  
**Finish:** Nylon bead paint finish

WP48C .....\$278.00

# H. WILSON CO.

555 W. Taft Dr.  
South Holland, IL 60473  
(312) 339-5111 (800) 342-5492

## VIDEO/AV FURNITURE

# Communicators Choice

Knocked down tables designed to support heavy video equipment. Constructed of chrome-plated steel tubular legs and 18 gauge steel shelves with rolled retaining lip to enhance safety. Top shelf can be slanted up to 5° and comes with a non-slip rubber mat. The stronger than a weld patented corner clamps allow adjustability of shelves. Swivel ball bearing casters provide easy mobility, (two locking). Web strap available for securing monitor. Ships UPS.

## Model WKDX – Super-sized Table

Extra large knocked down tables have 27" x 30" shelves capable of handling TV/monitors up to 26". Comes with 5" casters for greater mobility and stability.

Model No.	Ht. (in.)	Shelf Size (in.)	Caster	Price
WKD54X	54	27 x 30	5"	\$254.00
WKD48X	48	27 x 30	5"	250.00
WKD42X	42	27 x 30	5"	240.00

Specify "E" for electrical assembly with 20' cord, two grounded receptacles, U.L. listed. Add 3 lbs. to shipping wt.; add \$27.00. CSA approved add \$37.00.

## Model WKDA – Adjustable Table

Adjustable knocked down tables provide overall height adjustability by using the D-clamp pins and double tube legs. The 42" table adjusts in 2" increments from 28" to 42" with 18" x 24" shelves and 4" swivel casters, while the 54" table has 2" increment adjustment from 36" to 54" with either 21" x 30" shelves with 4" casters or 27" x 30" shelves with 5" casters.

Model No.	Ht. (in.)	Shelf Size (in.)	Caster	Price
WKD42PA	28-42	18 x 24	4"	\$185.00
WKD54A	36-54	21 x 30	4"	212.00
WKD54XA	36-54	27 x 30	5"	272.00

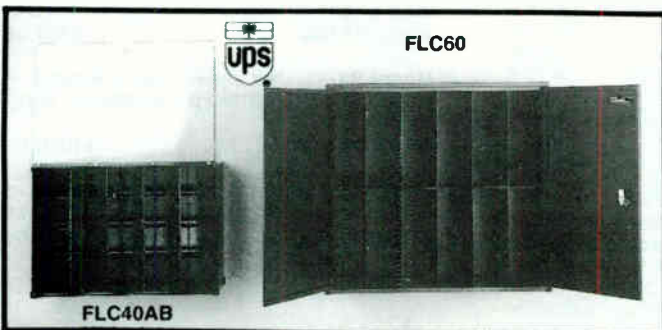
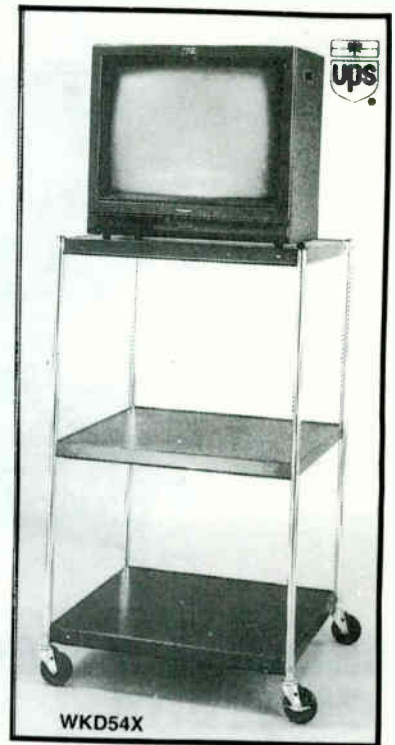
Specify "E" for electrical assembly with 20' cord, two grounded receptacles, U.L. listed. Add 3 lbs. to shipping wt.; add \$27.00. CSA approved and \$37.00.

## Table Skirting

Ideal accessory when projection tables are being used as a support product in delivering your AV/Video presentations. Three standard sizes in black or brown to fit all brands of 34", 42", 48" or 54" height tables. Overlap/underlap concept provides either three or four sides of skirting. 100% textured polyester, machine washable and flame retardant to meet NFPA - 701 standards.

Model No.	W x H	Standard Color	Price
SK30BL	90" W x 30" H	Black	\$45.00
SK30BR	90" W x 30" H	Brown	45.00
SK38BL	90" W x 38" H	Black	67.00
SK38BR	90" W x 38" H	Brown	67.00
SK44BL	116" W x 44" H	Black	75.00
SK44BR	116" W x 44" H	Brown	75.00
SK50BL	116" W x 50" H	Black	75.00
SK50BR	116" W x 50" H	Brown	75.00

Specify colors, sizes and logo imprint available upon request.



## Video Storage/Retrieval Cabinets

**FLC40AB** — This cabinet is designed for easy viewing, storage, and retrieval of video cassettes. It has 20 compartments allowing storage and easy retrieval of up to 60 VHS and/or Beta Cassettes. The top hinged door made of 1/8" clear Butyrate allows for immediate visual inventory of contents as well as protection and safety with its security lock. Our cabinet is constructed of heavy gauge steel with exterior measurements of 15 3/4"H x 8 3/4"D x 22"W and each interior compartment measures 3 3/4"H x 7 1/2"D x 4 1/4"W. Key hole design provides easy installation on any wall or may be used attractively on any table top. Weighs 26 lbs. which allows UPS shipping. Price — \$149.95.

**FLC60** — A durable steel constructed cabinet with twelve, 11 3/4"H x 9 1/4"D x 4 1/4"W interior compartments for storage of video cassettes and training materials. The exterior measures 25"H x 9 3/4"D x 27"W and has lockable doors for security. Designed for wall-mounting or table top use. Weighs 35 lbs. Ships UPS. Price — \$239.95.

Prices and Specifications Subject to Change Without Notice.

# THE WINSTED CORP.

10901 Hampshire Ave., S.  
 Minneapolis, MN 55438  
 (612) 944-8556 (800) 447-2257  
 TWX: 510-601-0887 FAX: (612) 944-1546

# MOBILE VIDEO CENTERS



Model R3303  
\$147.00

Model R3353  
\$155.00

Model R3400  
\$327.00

Model R3601  
\$749.00

Model 37509  
\$1375.00

Model R3720  
\$598.00

Model R3740  
\$981.00

## MOBILE VIDEO CENTERS

### Mobile carts and consoles to organize and store your video equipment

Four new economy A/V carts with the same built-in quality you've learned to expect from all Winsted products. Choose from 34" or 54" heights. Shelves are 28 $\frac{1}{2}$ "W x 18 $\frac{1}{2}$ "D to fit most any electronics. Sturdy, strong, formed and welded steel construction for years of service. Four-inch swivel casters (two locking) for mobility. Textured baked on enamel gray finish with chrome post accents.

**A** **34" High Video Stand.** Features three shelves to fit all of your electronics. Twelve inch clearance between shelves leaves plenty of room for equipment access. Measures 34"H x 22"D x 32"W. Shpg. wt. 43 lbs.

Model R3303 ..... \$147.00

**Two Shelf Video Stand.** (Not shown.) Top shelf accommodates up to a 25" monitor. Shelf measures 28 $\frac{1}{2}$ "W x 18 $\frac{1}{2}$ "D. Stand is 34"H x 22"D x 32"W. Shpg. wt. 34 lbs.

Model R3302 ..... \$125.00

**B** **Portable Video Stand.** Ideal for setup anywhere. Three shelves makes a space for your monitor, VCR and accessories. Measures 54"H x 22"D x 32"W. Shpg. wt. 47 lbs.

Model R3353 ..... \$155.00

**54" Video Stand.** (Not shown.) Gives you four shelves to hold all of your A/V equipment. Measures 54"H x 22"D x 32"W. Shpg. wt. 54 lbs

Model R3354 ..... \$177.00

Beautifully styled, decorator consoles in a selection of attractive finishes. Ball bearing casters for total mobility on any surface. Fine furniture for your conference room, office, studio, show-room...and point of purchase displays.

V-1184

**C** **Low-Profile Video Center.** Designed for smaller groups and individual use. Monitor shelf is set back slightly to permit easy access to VTR shelf. Top shelf is 15"D x 32"W. Cabinet is 34"H x 22"D x 32"W. Wt. 68 lbs.

Model R3400 ..... \$327.00

**Full Shelf Low-Profile Video Center.** (Not shown.) Same as R3400. Top shelf is a full 22"D x 32"W. Lockable base cabinet is 17 $\frac{1}{2}$ "H x 22"D x 32"W. Overall dimensions: 34"H x 22"D x 32"W. Wt. 72 lbs.

Model R3401 ..... \$327.00

**D** **Compact Portable Video Center.** Provides complete mobility, ease of operation, and key-lock security. Top section takes most 19" (some 21") monitors and VTR units. Locking swing-away doors. Ventilated locking rear panel for full access to video equipment. Bottom section provides safe storage for your expensive video accessories. 60"H x 22"D x 32"W. Wt. 195 lbs.

Model R3601 ..... \$749.00

## Executive Conference Room Consoles

**E** **Hand Rubbed Oak VCR Cabinet.** For the VCR center where only the nicest furniture will do. An elegant VCR cabinet sculpted of oak solids with matching oak wood veneers. The look is expensive. The rolled edge design comfortable and clean. Satin smooth hand rubbed finish with uncommon attention to detail.

Offer a pull-out VCR shelf, an adjustable shelf in the lower storage area (30"W x 23 $\frac{3}{4}$ "D) and a spacious compartment (30"W x 23 $\frac{3}{4}$ "D x 25"H) for your TV monitor. Locking doors swing out of the way a full 270°. Cut-outs in rear for cabling. Rolls where you want it on hidden heavy duty casters. Inside dimensions are 57 $\frac{1}{2}$ "H x 30"W x 23 $\frac{3}{4}$ "D. Outside dimensions are 62 $\frac{1}{2}$ "H x 31 $\frac{1}{2}$ "W x 25 $\frac{3}{8}$ "D. Natural oak finish. Shpg. wt. 140 lbs.

Model 37509 ..... \$1375.00

**F** **Executive Video Console.** Rich medium oak woodgrain. Holds any 3/4" or 1/2" VTR machine and monitor of up to 25". Convenient shelf stores tapes and other video accessories. VTR shelf pulls out for easy access to controls. Accessory equipment shelf adjusts up or down. Locking cabinet doors for extra security—swing back out of the way. Rear opening provides access to cords, cables and control adjustments. Swivel casters make moving easy. 31 $\frac{1}{2}$ "W x 33"H x 28 $\frac{1}{2}$ "D. Wt. 110 lbs.

Model R3720 ..... \$598.00

**Model R3724.** (Not shown.) Same features as our Model R3720 with two pull-out shelves. Shpg. wt. 110 lbs.

Model R3724 ..... \$627.00

**Model R3722.** (Not shown.) Same features as our Model R3720 with storage drawer. Shpg. wt. 110 lbs.

Model R3722 ..... \$648.00

**G** **Large Security Cabinet.** With full length locking doors. Provides ample storage space for 25" monitors as well as front loading VTRs. Plate casters for total mobility. Pull-out shelf for accessibility to top, sides and back of your installed equipment. Adjustments and settings may be made without removal. Base compartment offers storage for extra cassettes and video accessories. Measures 63 $\frac{3}{4}$ " x 31 $\frac{1}{2}$ "W x 28 $\frac{1}{2}$ "D. Wt. 198 lbs.

Model R3740 ..... \$981.00

**Model R3742.** (Not shown.) Same features as our Model R3740 with two pull-out shelves. Shpg. wt. 198 lbs.

Model R3742 ..... \$1010.00

**Model R3744.** (Not shown.) Same features as our Model R3740 with storage drawer. Shpg. wt. 198 lbs.

Model R3744 ..... \$1031.00

Prices and Specifications Subject to Change Without Notice.



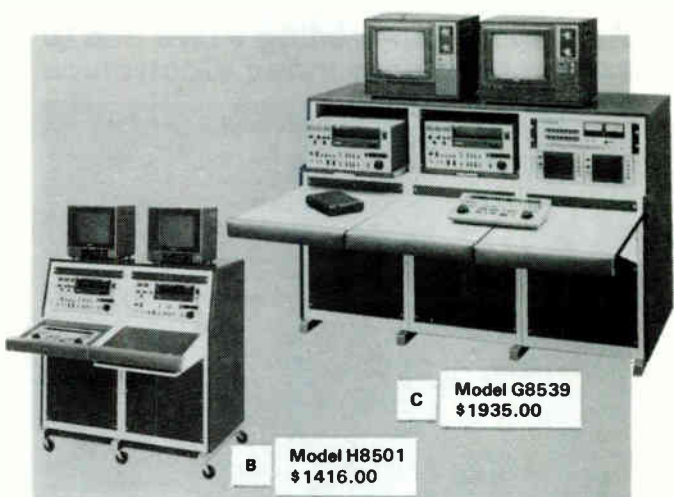
# THE WINSTED CORP.

10901 Hampshire Ave., S.  
 Minneapolis, MN 55438  
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# MODULAR VIDEO CONSOLES



**A** Model H8502  
\$1653.00



**B** Model H8501  
\$1416.00



**C** Model G8539  
\$1935.00

## SYSTEM/85 MODULAR VIDEO CONSOLES

A new generation of modular video furniture for use with Sony's front loading video machines, new 3/4" editing systems and other studio equipment.

These standard 19" EIA modular units are constructed of strong, welded and bolted heavy-gauge steel. All units assemble quickly and easily in any configuration to suit your individual needs. The basic module is expandable to any size system with add-on units. Textured baked on enamel finish in Beige and Gray.

A complete line of console accessories are available to compliment the new System/85 consoles—with rack mounting kits for both series of VTRs, panel kits for editors, heavy-duty swivel casters for mobility, multiple outlet electrical assemblies, an oversize shelf for large controllers, and blank panels.

**A. Model H8502.** For use with Sony's "Type 5" VTRs and RM-440 Controllers. Overall dimensions 41" H x 61" W x 42 1/2" D. System includes:

1 ea. G8502	Basic console—19"	.....	\$515.00
2 ea. G8500	Add-on console—19"	(\$319.00 ea.)	..... 638.00
2 ea. 85041	Interchangeable top—19"	(\$33.00 ea.)	..... 66.00
1 ea. 85040	Intermediate top—19"	.....	32.00
2 ea. 85080	Sloped editor shelf—19"	(\$96.00 ea.)	..... 192.00
1 ea. 85180	RM-440 editor panel	.....	45.00
1 ea. 85147	14" Blank panel—19"	.....	25.00
3 ea. 85140	1 3/4" Blank panel—19"	(\$8.00 ea.)	..... 24.00
3 ea. 85149	19 1/4" Blank panel—19"	(\$32.00 ea.)	..... 96.00
1 ea. 85141	3 1/2" Blank panel—19"	.....	9.00
1 ea. 85142	5 1/4" Blank panel—19"	.....	11.00

Model H8502 Complete Shpg. Wt. 348 lbs. ....Total \$1653.00

Model H8802 (Not shown). Same as H8502 set up for Sony's 800 Series VTRs and 801 Edit Controller.

Model H8802 Shpg. Wt. 348 lbs. ....\$1629.00

**B. Model H8501.** For use with Sony's "Type 5" VTRs and RM-440 controller. Overall dimensions 44" H x 43" W x 42 1/2" D. System includes:

1 ea. G8502	Basic console—19"	.....	\$515.00
1 ea. G8500	Add-on console—19"	.....	319.00
2 ea. 85041	Interchangeable top—19"	(\$33.00 ea.)	..... 66.00
2 ea. 85080	Sloped editor shelf—19"	(\$96.00 ea.)	..... 192.00
1 ea. 85180	RM-440 Editing panel	.....	45.00
1 ea. 85141	3 1/2" Blank panel—19"	.....	9.00
1 ea. 85147	14" Blank panel—19"	.....	25.00
1 ea. 85580	Pull-out shelf—19"	.....	69.00
2 ea. 85149	19 1/4" Blank panel—19"	(\$32.00 ea.)	..... 64.00
2 ea. 85140	1 3/4" Blank panel—19"	(\$8.00 ea.)	..... 16.00
3 pr. 85781	3" Industrial casters (\$32.00 pr.)	.....	96.00

Model H8501 Complete Shpg. Wt. 255 lbs. ....Total \$1416.00

Model H8801 (Now shown). Same as H8501 set up for Sony's 800 Series VTRs and 801 Controller.

Model H8801. Shpg. Wt. 255 lbs. ....\$1400.00

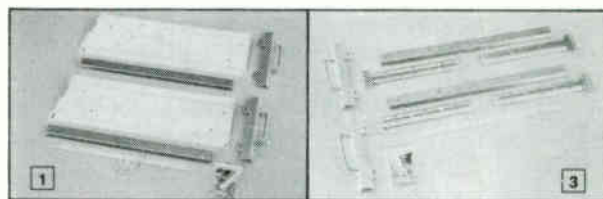
**C. Model G8539.** Video console with pull-out trays for your video equipment.

Overall dimensions: 41" H x 61" W x 42 1/2" D. System includes:

1 ea. G8501	Base module—19"	.....	\$323.00
2 ea. 85000	Add-on module—19"	(\$198.00)	..... 396.00
2 ea. G8590	Cabinet with pull-out shelf—19"	(\$215.00 ea.)	..... 430.00
1 ea. 85002	10 1/2" Top module—19"	.....	114.00
1 ea. 85164	Filler panel	.....	18.00
1 pr. 85122	10 1/2" Side panels	.....	64.00
2 ea. 85041	Interchangeable top—19"	(\$33.00 ea.)	..... 66.00
1 ea. 85040	Intermediate top—19"	.....	32.00
3 ea. G8540	Flat editor shelf—19"	(\$120.00 ea.)	..... 360.00
3 ea. 85148	15 3/4" Blank panel—19"	(\$28.00 ea.)	..... 84.00
6 ea. 85140	1 3/4" Blank panel—19"	(\$8.00)	..... 48.00

Model G8539 Complete Shpg. Wt. 398 lbs. ....Total \$1935.00

Model G8535. (Not shown). Same as model G8539 except set up with 20" pull-out shelves. Wt. 398 lbs. ....\$2279.00



### RACK SLIDE KITS

Order separately. Not included in console prices.

#### RACK SLIDE KITS FOR SLOPED UPPER CABINET.

1. Model F8500. Rack slide kit for Sony's Type 5 VTRs. Wt. 8 lbs. ....\$236.00
2. Model F8800. (Not shown). Rack slide kit for Sony's 800 Series VTRs. Wt. 8 lbs. ....\$236.00

#### RACK SLIDE KITS FOR LOWER BASE MODULE

3. Model F8501. Rack slide kit for Sony's Type 5 VTRs. Wt. 8 lbs. ....\$236.00
4. Model F8801. (Not shown). Rack slide kit for Sony's 800 Series VTRs. Wt. 8 lbs. ....\$236.00

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# CONSOLES

## DESIGN CONSOLES

Perfect for top-loading VTR's and to rack mount your video electronics

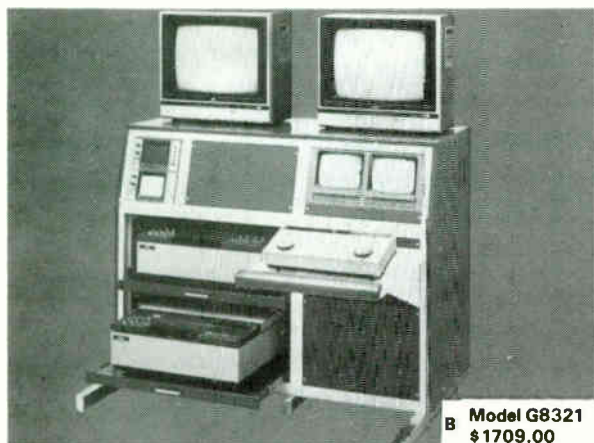


**A** Model G8300  
\$1949.00

**A. Model G8300.** Ideal "A/B Roll" console. Overall dimensions: 42" H x 66" W x 54" D. System includes:

1 ea. G8311	Add-on console—30"	.....	\$446.00
1 ea. 83000	Base module—30"	.....	229.00
1 pr. 85120	Base side panels	.....	85.00
1 ea. 83001	Add-on slope module	.....	177.00
1 pr. 85121	10 1/2" Slope side panels	.....	71.00
1 ea. 83252	Bracket for 1/2" rackmounting	.....	38.00
1 pr. 83208	10 1/2" Divider rail	.....	56.00
2 ea. 83041	Interchangeable top—30" (\$46.00 ea.)	.....	92.00
2 ea. 83087	Pull-out shelf—30" (\$198.00 ea.)	.....	396.00
1 ea. 83081	Stationary shelf—30"	.....	75.00
1 ea. G8340	Wood editor shelf—30"	.....	153.00
1 ea. 85142	5 1/4" Blank panel—19"	.....	11.00
1 ea. 83158	15 3/4" Blank panel—30"	.....	29.00
1 ea. 83151	3 1/2" Blank panel—30"	.....	11.00
1 pr. 83200	Stabilizer leg	.....	80.00

Model G8300 Complete Shpg. Wt. 320 lbs. Total \$1949.00



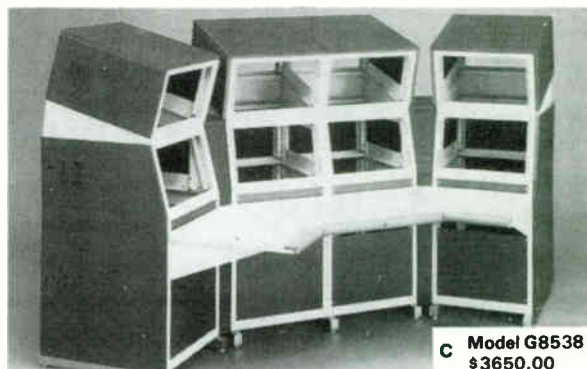
**B** Model G8321  
\$1709.00

**B. Model G8321.** Top loading VTR console with 19" rack space for additional electronics. Overall dimensions: 41" H x 54 5/8" W x 42 1/2" D. System includes:

1 ea. G8312	Basic console—30"	.....	\$642.00
1 ea. G8500	Add-on console—19"	.....	319.00
1 pr. 83208	10 1/2" Divider rail	.....	56.00
1 ea. 85041	Interchangeable top—19"	.....	33.00
1 ea. 83041	Interchangeable top—30"	.....	46.00
1 ea. 85082	Flat editor shelf—19"	.....	117.00
2 ea. 83087	Full extension shelf—30" (\$198.00 ea.)	.....	396.00
1 ea. 85148	15 3/4" Blank panel—19"	.....	28.00
1 ea. 85145	10 1/2" Blank panel—19"	.....	18.00
2 ea. 85140	1 3/4" Blank panel—19" (\$8.00 ea.)	.....	16.00
1 pr. 83200	Stabilizer legs	.....	80.00

Model G8321 Complete Shpg. Wt. 302 lbs. Total \$1709.00

## CUSTOM CORNER AND WOOD CONSOLES



**C** Model G8538  
\$3650.00

### Corner Console Wrap-around design saves space

**C. Model G8538.** Corner consoles with 24" deep work surface. System includes:

1 ea. G8502	Basic console—19"	.....	\$515.00
3 ea. G8500	Add-on console—19" (\$319.00)	.....	957.00
4 ea. 85002	10 1/2" Top modules—19" (\$114.00)	.....	456.00
3 pr. 85122	10 1/2" Side panels (\$64.00 ea.)	.....	192.00
4 ea. 85161	Wedges—19" (\$75.00 ea.)	.....	300.00
2 ea. 85042	Single tops—19" (\$34.00 ea.)	.....	88.00
2 ea. 85041	Interchangeable tops—19" (\$33.00 ea.)	.....	86.00
1 ea. 85202	Corner kit	.....	398.00
2 ea. G8541	Corner shelves (\$223.00 ea.)	.....	446.00
2 ea. 85200	Chrome legs (\$40.00 ea.)	.....	80.00
4 ea. 85148	15 3/4" Blank panel—19" (\$28.00 ea.)	.....	112.00
8 ea. 85140	1 3/4" Blank panel—19" (\$8.00 ea.)	.....	64.00

Model G8538 Complete. Shpg. Wt. 610 lbs. \$3650.00



**D** Model G8524  
\$1707.00

### Wood Console Gives your electronics an attractive new look

**D. Model G8524.** Two-bay JVC wood console. Overall dimensions are 53 1/4" H x 44 5/8" W x 44" D. System includes:

2 ea. 85000	Base module—19" (\$198.00)	.....	\$396.00
2 ea. 85010	19 1/4" Slope rack (\$198.00 ea.)	.....	396.00
2 ea. 85085	Flat extended editor shelf (\$122.00 ea.)	.....	244.00
1 ea. 85190	JVC RM-86U controller panel	.....	49.00
1 ea. 85200	Chrome leg	.....	40.00
1 pr. 85520	Base wood side panels	.....	175.00
1 pr. 85528	19 1/4" Slope wood side panels	.....	156.00
1 ea. 85542	Wood top for 2-bay console	.....	155.00
3 pr. 85781	3" Industrial casters (\$32.00 pr.)	.....	96.00

Model G8524 Complete Shpg. Wt. 315 lbs. Total \$1707.00



# THE WINSTED CORP.

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# MOBILE EDITING CONSOLES

## MOBILE EDITING CONSOLES

**A Model E9303.** Caster mounted console for complete mobility in your teleproduction studio. Overall dimensions: 56"Hx28"Dx60"W. System includes:

2 ea. C9300 Basic frame—30" (\$329.00 ea.)	658.00
2 ea. C9310 VTR drawer—30" (\$193.00 ea.)	386.00
3 ea. 93580 Monitor shelf—30" (\$95.00 ea.)	285.00
1 ea. 93582 Editor shelf—30"	183.00
1 ea. 93084 Mini monitor shelf—30"	39.00
<b>Model E9303 complete. Shpg. wt. 300 lbs.</b>	<b>Total \$1551.00</b>

**B Model L9307.** Production console set up for front loading VTRs. Dimensions of VTR console are 56"Hx26"Dx22"W. Dimensions of editing console are 45"Hx45"Dx62"W. System includes:

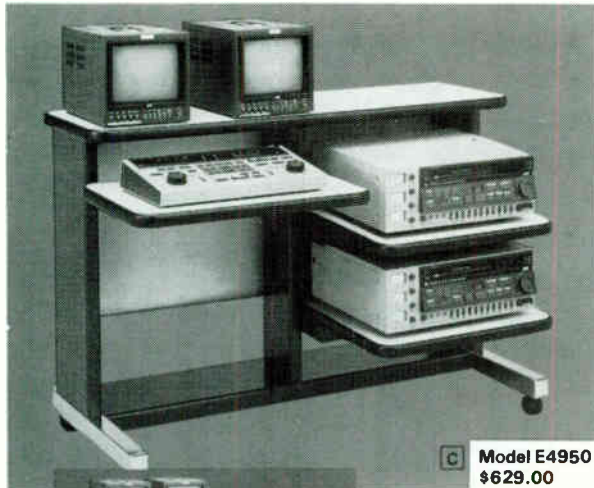
2 ea. 93021 Mini frames—30" (\$165.00 ea.)	330.00
2 ea. 93100 Back panels—30" (\$40.00 ea.)	80.00
1 ea. C9200 Basic frame—22"	319.00
1 pr. 93200 Leg extensions	51.00
3 ea. C9210 Pull-out VTR drawer—22" (\$176.00 ea.)	528.00
1 ea. C9311 Pull-out editor shelf—30"	286.00
1 ea. C9312 Pull-out switcher shelf—30"	405.00
2 ea. 93081 Rackmount shelves—30" (\$93.00 ea.)	186.00
3 ea. 98002 10 1/2" Rack cabinets (\$152.00 ea.)	456.00
1 ea. 93540 Wood top	98.00
1 pr. 93521 Wood side panels	163.00
12 ea. 98243 Cabinet hold down (\$2.00 ea.)	24.00
<b>Model L9307 complete. Shpg. wt. 588 lbs.</b>	<b>Total \$2926.00</b>



**A Model E9303**  
\$1551.00



**B Model L9307**  
\$2926.00



**C Model E4950**  
\$629.00



**D Model R3802**  
\$992.00

**C Model E4950.** The latest in design for editing and post production rooms. A basic two machine editing console or a sophisticated A/B roll setup. The uniquely designed mini console is only 28" deep and easily rolls through doorways. Top monitor shelf measures 16"D x 48"W. VCR shelves are 23 1/2"D x 20"W; edit shelf is 15"D x 23"W—adjust in 1-inch increments. Call your dealer for additional models. Includes glides and casters for optional mobility. Baked-on enamel finish in Beige and Gray. Overall 34"H x 28"D x 48"W.  
**Model E4950 complete. Shpg. wt. 146 lbs.** ..... \$629.00

**D Model R3802.** Compact editing console with locking doors. Overall dimensions: 56"H x 26"D x 24 1/2"W. System includes:

1 ea. 38000 Base console	775.00
1 ea. 38080 Upper shelf and posts	217.00
<b>Model R3802 complete. Shpg. wt. 204 lbs.</b>	<b>Total \$992.00</b>

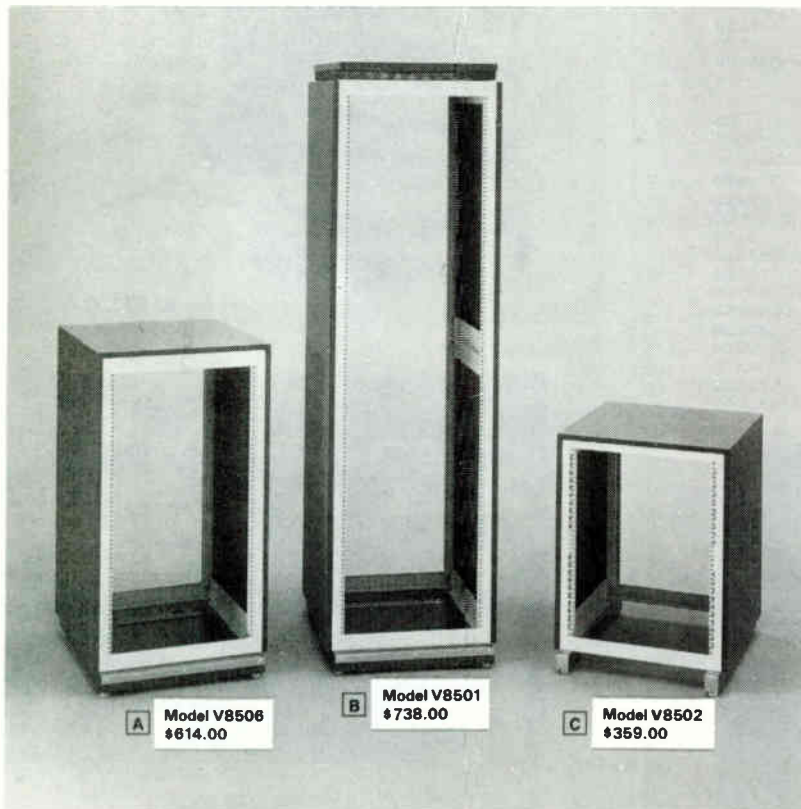


# THE WINSTED CORP.

10901 Hampshire Ave., S.  
 Minneapolis, MN 55438  
 (612) 944-8556 (800) 447-2257  
 TWX: 510-601-0887 FAX: (612) 944-1546

# CABINETS/RACKS

## VERTICAL EQUIPMENT CABINETS...with removable side panels for installation of electronics and servicing convenience.



**A** Model V8506 \$614.00

**B** Model V8501 \$738.00

**C** Model V8502 \$359.00

Ruggedly constructed, totally adaptable electronic equipment cabinets. Designed to the industry standard of 19"W x 26"D. Large holes in base for cabling. Removable panels. Ventilating louvers on top and base to keep electronics cool. Enamel finish compatible with all other System/85 consoles. Optional rear door available for 35" and 70" models.

**A** Model V8506. Vertical rack cabinet has 35" of usable rack space. Gray and Beige baked enamel finish, with vented sides and base for cabling. 42"H x 26"D x 22"W. Wt. 90 lbs. **\$614.00**

Rear Door for Model V8506. Wt. 25 lbs.  
**Model 85301** **\$112.00**

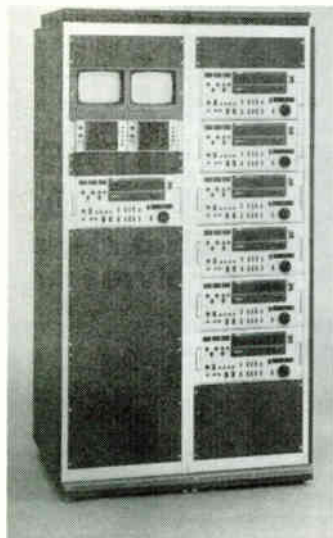
**B** Model V8501. Vertical rack cabinet with 70" of rack space. Vented top and bottom. 79"H x 26"D x 22"W. Wt. 160 lbs. **\$738.00**

Rear Door for Model V8501. Wt. 31 lbs.  
**Model 85300** **\$128.00**

**C** Model V8502. Vertical rack cabinet with 24½" of rack space. Open bottom and vented sides for cool air flow. 30"H x 26"D x 22"W. Wt. 81 lbs. **\$359.00**

Back Panel for V8502 rack cabinet. Wt. 10 lbs.  
**Model 85100** **\$59.00**

**D** Model V8510. Gives you a compact duplication console by combining two 70" cabinets into a double width equipment rack. Offers 140" of rack space. Ideal for cable TV and hotel playback systems. May also be used as a production console editing from ¾" machines. Wt. 265 lbs. **\$1308.00**



## ADD-A-RACK

**70" Basic Rack.** Without sides or base. Wt. 102 lbs.

Model V8520 **\$436.00**

**Standard Base.** With cooling vents and cable access ports. Wt. 31 lbs.

Model 85060 **\$134.00**

**Anti-Tip Base.** Use with full-suspension shelves and drawers. Wt. 38 lbs.

Model 85062 **\$185.00**

**Side Panels.** (Pair) Wt. 59 lbs.

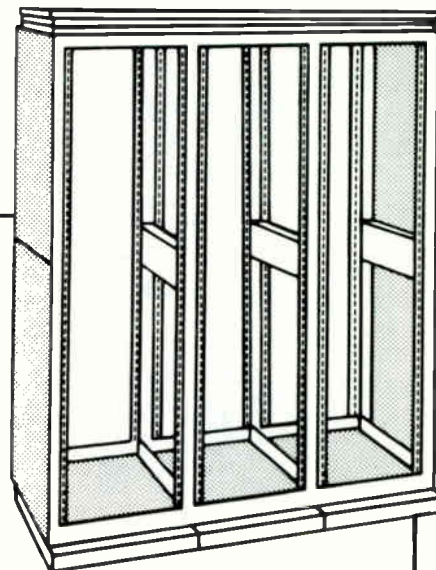
Model 85124 **\$168.00/pr.**

**Stationary Shelf.** Wt. 10 lbs.

Model 85088 **\$35.00**

**13" Pull-Out Shelf.** Wt. 12 lbs.

Model 85091 **\$119.00**



**20" Full-Suspension Shelf.** Wt. 12 lbs.

Model 85083 **\$179.00**

**Optional 2½" Casters.** Set of 4. Wt. 3 lbs.

Model 85782 **\$28.00**

# THE WINSTED CORP.

10901 Hampshire Ave., S.  
 Minneapolis, MN 55438  
 (612) 944-8556 (800) 447-2257  
 TWX: 510-601-0887 FAX: (612) 944-1546

# DUBBING RACKS

## STATIONARY & MOVABLE DUBBING RACKS FOR 1/2" & 3/4" FORMATS

**A Model D4500.** Stationary type with five walnut woodgrain pull-out VTR shelves. Shelves are mounted on ball-bearing rollers for easy pull-out. Overall dimensions: 72"H x 20"D x 32"W. Includes:

- 1 ea. D4501 Basic rack ..... \$302.00
- 1 pr. 45121 Side panels ..... 85.00
- 5 ea. 45580 Pull-out shelves (\$98.00 ea.) ..... 490.00
- Model D4500 complete. Shpg. wt. 194 lbs. .... Total \$877.00

Model 4500 (Not shown). Caster base for models D4500 and D4502. Overall dimensions: 4"H x 28"D x 32"W.  
 Wt. 32 lbs. .... \$208.00

**B Model D9300.** Mobile duplication console with all steel pullout shelves. Overall dimensions: 71"H x 26"D x 30"W. System includes:

- 1 ea. C9302 Extended basic frame—30" ..... \$406.00
- 4 ea. C9310 Pull-out drawers—30" (\$193.00 ea.) ..... 772.00
- 1 ea. 93580 Monitor shelf—30" ..... 95.00
- 2 ea. 93786 Heavy-duty 4" caster (\$6.50 ea.) ..... 13.00
- 2 ea. 93787 Heavy-duty locking caster (\$7.50 ea.) ..... 15.00
- Model D9300 complete. Shpg. wt. 337 lbs. .... Total \$1301.00



**A Model D4500**  
\$877.00

**B Model D9300**  
\$1301.00

**C Model D8911.** Single bay duplicating rack with seven shelves. Overall dimensions: 78"H x 26"D x 23 1/8"W. System includes:

- 1 ea. D8900 Basic rack ..... \$316.00
- 1 pr. 89120 Side panels ..... 119.00
- 7 ea. 85088 Stationary shelf (\$35.00 ea.) ..... 245.00
- Model D8911 complete. Shpg. wt. 180 lbs. .... Total \$680.00

**D Model D8913.** Compact dubbing console with 14 inches of rack mount capacity. Overall dimensions: 78"H x 26"D x 46 1/4"W. System includes:

- 2 ea. D8900 Basic racks (\$316.00 ea.) ..... \$ 632.00
- 1 pr. 89120 Side panels ..... 119.00
- 12 ea. 85091 13" Pull-out shelves (\$119.00) ..... 1428.00
- 2 ea. 89061 Anti-tip base (\$63.00 ea.) ..... 126.00
- 1 pr. 89243 14" Rack rail ..... 21.00
- Model D8913 complete. Shpg. wt. 347 lbs. .... Total \$2326.00

Model 85300 (Not shown). Rear door for Model D8900.  
 Wt. 25 lbs. .... \$142.00

### ADD-A-RACK

Basic rack frames can be bolted together without side panels to form an economical "in line" duplicating center. Side panels are installed at each end. Shelves can be installed at 1" increments to fit exact equipment needs.

Model D4501. Basic rack without side panels.  
 Wt. 89 lbs. .... \$302.00

Model 45121. Side panels (Pr.)  
 Wt. 55 lbs. .... \$85.00

Model 45580. Pull-out shelves.  
 Wt. 18 lbs. .... \$98.00



**C Model D8911**  
\$680.00

**D Model D8913**  
\$2326.00

### ADD-A-RACK

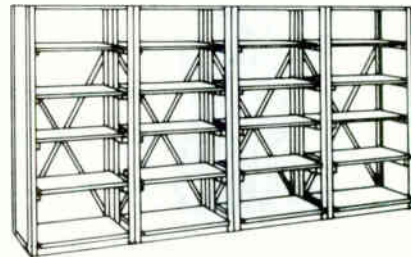
Basic rack frames can be bolted together without side panels to form an economical "in line" duplicating center. Side panels and shelves may be added to complete your duplicating center.

**Model D8900.** Basic rack without sides or shelves.  
 Wt. 62 lbs. .... \$316.00

**Model 85088.** Stationary shelf.  
 Wt. 10 lbs. .... \$35.00

**Model 89120.** Side panels (Pair)  
 Wt. 49 lbs. .... \$119.00

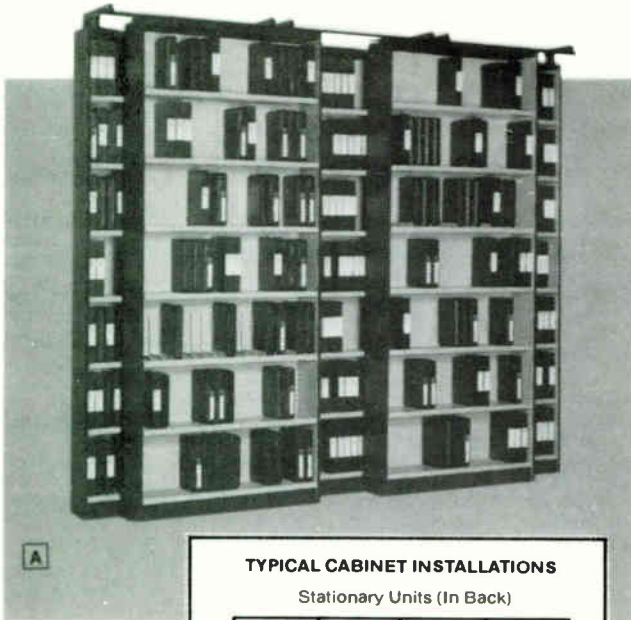
**Model 85091.** 13" Pull-out shelf.  
 Wt. 12 lbs. .... \$98.00



# THE WINSTED CORP.

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# MOVABLE STORAGE SYSTEMS



## MOVABLE STORAGE SYSTEMS

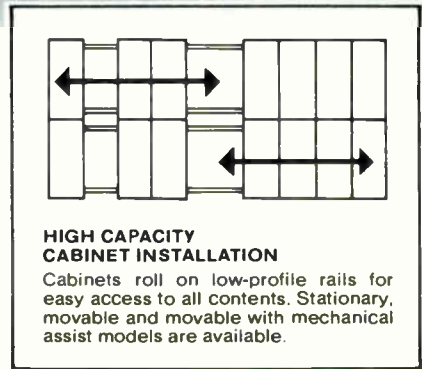
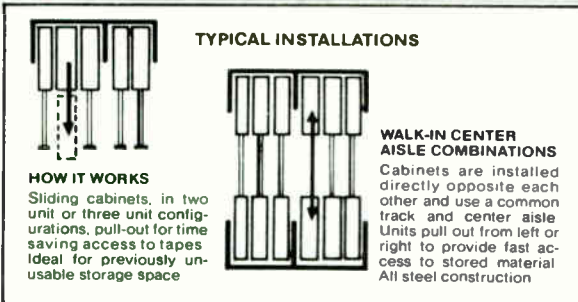
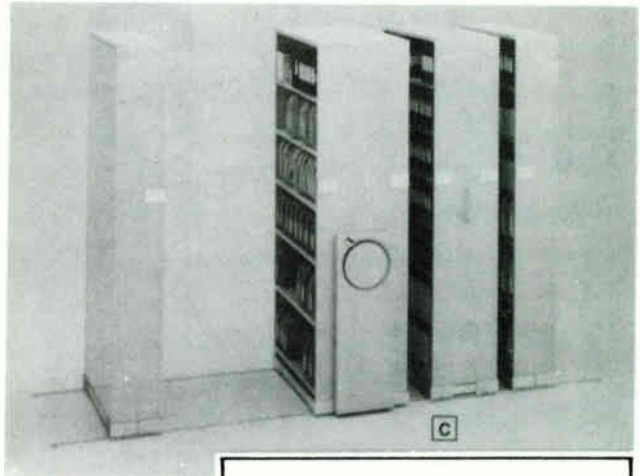
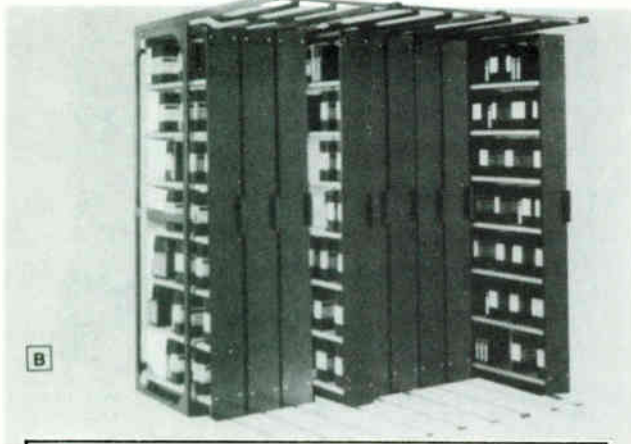
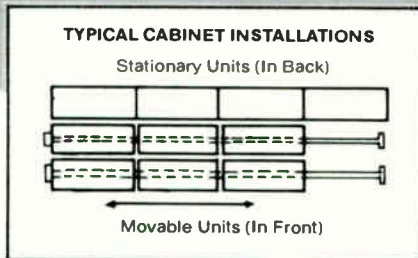
In a variety of designs and 5" to 36" depths to serve your special storage needs.

**Winsted Shelf Storage System.** Offer organization and storage for most any tape or film storage system. Choose from stock or custom shelving at affordable prices. All designs are completely flexible—can be adapted to a variety of configurations and setups to serve your special storage needs. What's more, Winsted shelving grows as your needs grow. Both stock and custom installations can be expanded, or relocated as your needs change.

**A "Super Density" Movable Cabinets.** Offered in a range of cabinet depths for maximum storage in a limited space. Front row cabinets move side to side on floor tracks for easy access to rear storage. Ideal for "VHS," "BETA," "U-matic" and broadcast tape storage.

**B Space-Saving Pull-Out Cabinets.** Ideal for "high access" tape storage. May be installed in room alcoves or set-backs. Save floor space, too, by eliminating unnecessary aisles. Gives you 100% storage space efficiency. Units bolt together for any length system. Cabinets pull-out effortlessly on a low-profile track.

**C High Capacity Tape Storage System.** Affords compact storage in a limited space. Offered in a full range of cabinet depths to meet every storage need. Cabinets move laterally on low-profile rails for easy access to all records instantly, effortlessly.





# THE WINSTED CORP.

10901 Hampshire Ave., S.  
 Minneapolis, MN 55438  
 (612) 944-8556 (800) 447-2257  
 TWX: 510-601-0887 FAX: (612) 944-1546

# TAPE CABINETS

## OPEN SHELF TAPE CABINETS

For the organization & storage of all tape formats

**A Model T7400.** Ideal videotape storage system for 3/4" U-Matic videocassettes. Eight inch deep cabinet holds 161 videocassettes. Order molded plastic dividers for videocassettes separately. (Model 70983—see Optional Accessories). Seven shelves. Overall: 88"H x 8"D x 36"W. (Inside dimensions: 34 1/2"W x 83"H).  
 Wt. 120 lbs. .... **\$439.00**

**Add-on Unit.** Model T7403. For side-to-side installation.  
 Wt. 105 lbs. .... **\$409.00**

**Model 74080.** Extra Shelf.  
 Wt. 4 lbs. .... **\$26.00**

**B Model T7700.** Video tape storage system holds 102 1" video tapes. Deeper 12" cabinet depth takes 1" broadcast tapes, 7"-10 1/2" quad tapes and 3/4" U-Matic videocassettes. Order molded plastic dividers for videocassettes separately. Six shelves overall: 88"H x 12"D x 36"W. (Inside dimensions: 34 1/2"W x 83"H).  
 Wt. 125 lbs. .... **\$464.00**

**Add-On Unit.** Model T7703. For side-to-side installation.  
 Wt. 110 lbs. .... **\$426.00**

**Model 77080.** Extra Shelf  
 Wt. 5 lbs. .... **\$29.00**

**C Model T7600.** "Super Pak" videocassette tape storage system. Holds 207 3/4" videocassettes. For maximum capacity tapes are stored and labeled on end. Nine shelves. Overall: 88"H x 10"D x 36"W. (Inside dimensions: 34 1/2"W x 83"H).  
 Wt. 139 lbs. .... **\$459.00**

**Add-on Unit.** Model T7603. For side-to-side installation.  
 Wt. 118 lbs. .... **\$421.00**

**D Model T7800.** Quad Tape Storage System. A 16" deep cabinet that is perfect for 2" quad and holds 55 tapes. Five shelves. Overall: 88"H x 16"D x 36"W. (Inside dimensions: 34 1/2"W x 83"H).  
 Wt. 165 lbs. .... **\$519.00**

**Add-On Unit.** Model T7803. For side-to-side installation.  
 Wt. 150 lbs. .... **\$479.00**

**Model 78080.** Extra Shelf.  
 Wt. 6 lbs. .... **\$31.00**

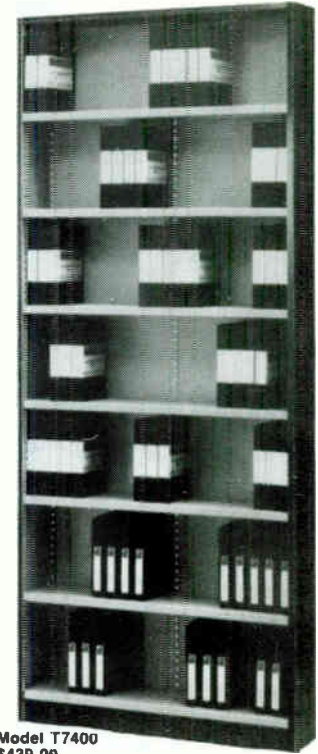
**E Model 70300.** Locking cabinet doors provide security for valuable master tapes. Doors fit all of the Winsted "T" series tape cabinets (except T7200 and T7500 models) and can be added to any existing "T" unit. Full length door hinge and two-point locking system. NOTE: Install cabinet doors only on cabinets that are securely fastened to a wall. Dimensions: 84 1/2"H x 1 1/4"D x 34 1/2"W. Beige baked enamel finish.  
 Wt. 61 lbs. .... **\$179.00**

**F Model T7104.** Beta or VHS Storage. Holds 270 Beta tapes or 240 VHS. Ideal for 1/2" videocassette storage. Order molded plastic dividers for videocassettes separately (Model 70986). Overall: 88"H x 4 1/2"D x 36"W. (Inside dimensions: 34 1/2"W x 83"H).  
 Wt. 137 lbs. (BETA) .... **\$419.00**

**Model T7100.** (Not shown).  
 Wt. 135 lbs. (VHS) .... **\$398.00**

**Add-On Unit.** Model T7107. For side-to-side installation.  
 Wt. 127 lbs. (BETA) .... **\$399.00**

**Add-On Unit.** Model T7103. For side-to-side installation.  
 Wt. 120 lbs. (VHS) .... **\$378.00**

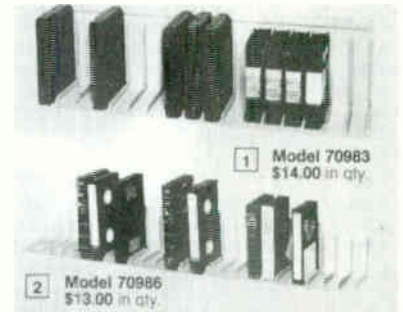


**A Model T7400**  
**\$439.00**

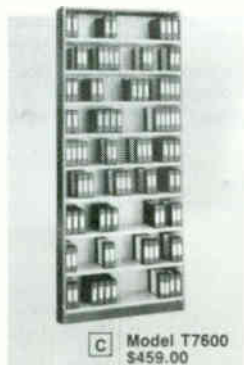
### OPTIONAL ACCESSORIES

**1 Model 70983.** Molded plastic divider insert (3/4" tapes) for use in T7400, T7600, or T7700.  
**#70983 Individual Dividers.**  
 Wt. 3 lbs. .... **\$14.00**

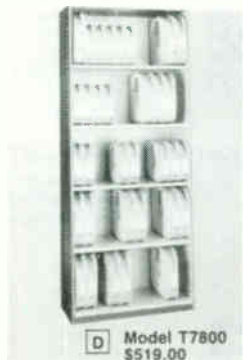
**2 Model 70986.** Plastic cassette holder (1/2" tapes) for use in T7100 or T7104 cabinets.  
**#70986 Individual Dividers.**  
 Wt. 2 lbs. .... **\$13.00**



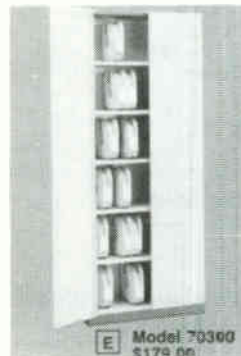
**B Model T7700**  
**\$464.00**



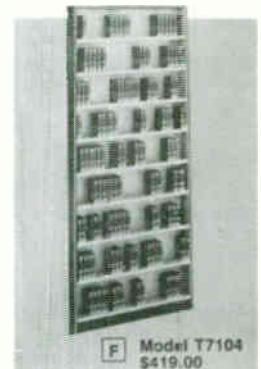
**C Model T7600**  
**\$459.00**



**D Model T7800**  
**\$519.00**



**E Model 70300**  
**\$179.00**

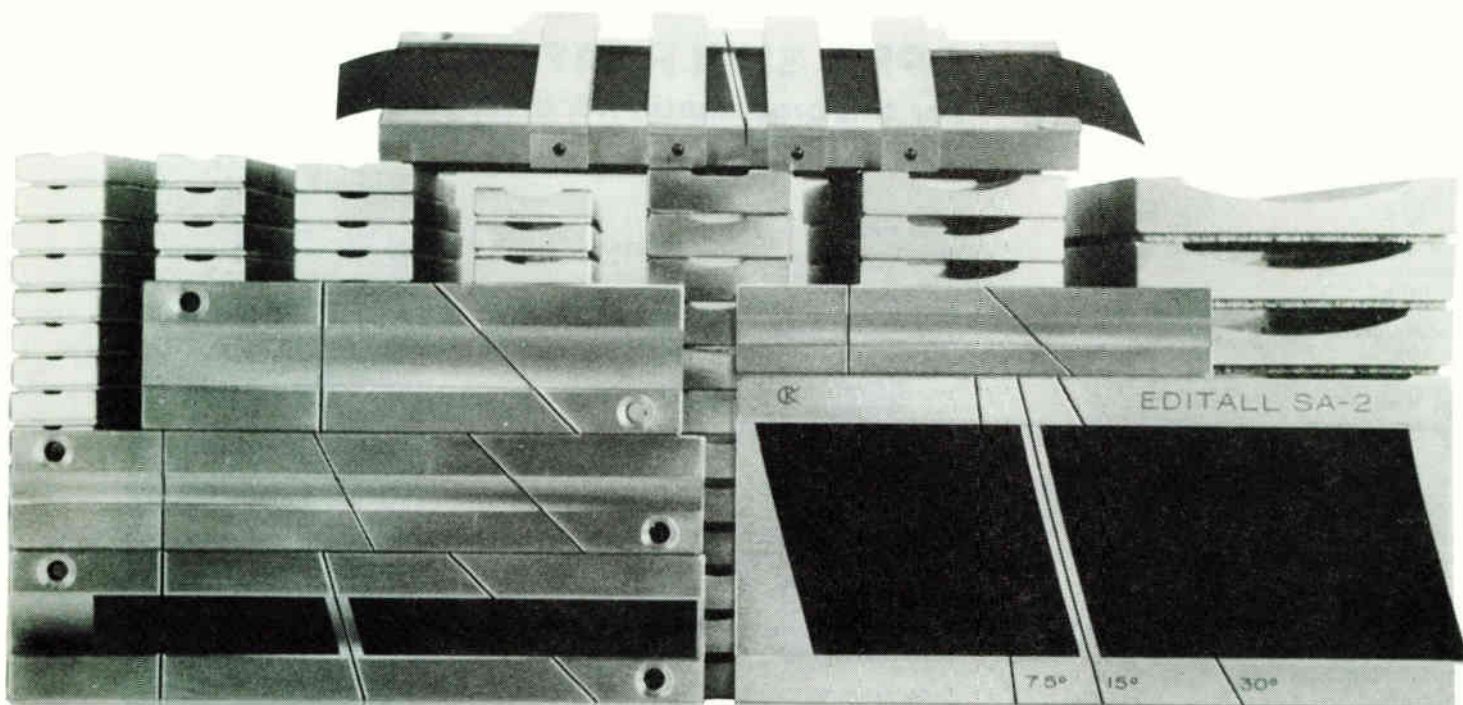


**F Model T7104**  
**\$419.00**

# XEDIT CORP.

133 S. Terrace Ave.  
Mount Vernon, NY 10550  
(914) 668-0388 (800) 431-8900

# PROFESSIONAL EDITING/ SPLICING SYSTEM



## BLOCKS AND KITS

Block (Kit) Model	Tape Size	Block Dimensions	Cutting Angle/s	Mounting	Block Price
(K) S-1	CA	5.75x1	(90°/45°)	H	\$ 38.50
(K) S-1S	CA	4x.75	(90°/45°)	T	30.00
(K) P-2	1/4"	4x.75	(90°/45°)	HT	15.00
(K) S-2	1/4"	4x.75	(MTK/45°)	T*	30.00
(K) S-2/90	1/4"	4x.75	(90°/45°)	T*	30.00
(K) S-2.5	1/2"	4x.75	(MTK/45°)	T*	30.00
(K) S-2.5/90	1/2"	4x.75	(90°/45°)	T*	30.00
(K) S-3	1/4"	5.75x1	(MTK/45°)	H	38.50
(K) S-3/90	1/4"	5.75x1	(90°/45°)	H	38.50
(K) S-3D	1/4"	5.75x1	(90°/MTK/45°)	H	45.00
N/A S-3L	1/4"	5.75x1	(165°/1" Long)	H	45.00
(K) S-3X	1/4"	5.75x1	(60°X/45°)	H	45.00
(K) S-3/OT	1/4"	5.87x.75	(90°/MTK/45°)	T*	42.00
(K) S-3.5D	1/2"	5.75x1.25	(90°/MTK/45°)	H	55.00
(K) S-3.5S	1/2"	4.75x1.25	(90°/45°)	H	45.00
(K) S-3.5E	1/2"	5.75x1	(MTK/45°)	T	42.00
(K) S-3.5X	1/2"	5.75x1.25	(73°X/45°)	H	69.00
(K) S-3.75	3/4"	5.75x1.5	(MTK/45°)	H	69.00
(K) S-4	1.0"	5.75x1.75	(90°/45°)	H	69.00
N/A SA-2	2.0"	6x2.75	(7.5°/15°/30°)	C	140.00
N/A A-2	2.0"	6x3/Clamps	(3.5°)	H	165.00
(K) V-8mm	8mm	4.5x1	(Video)	T	35.00
(K) V-3.5	1/2"	4.5x1.25	(Video)	H	60.00
(K) V-3.75	3/4"	5.75x1.5	(MTK/45°)	H	70.00
(K) V-4	1.0"	5.75x1.75	(Video)	H	80.00

## EDITABS

EDITAB Model	Tape Size	Material	Tab/Sheet	List Prices
				Box/200    1000
CX-1	1/4"	Mylar/10		\$ 11.00    \$38.00
CX-2	1/4"	Foil/10		12.50    43.50
CX-3	CAS	Mylar/15		11.00    38.00
CX-4	1/2"	Foil/10		14.00    47.00
CX-5	3/4"	Foil/07		15.50    59.00
CX-6	1/2"	Mylar/10		16.00    61.50
CX-7	3/4"	Mylar/07		18.00    68.00
CX-8	1.0"	Mylar/06		20.00    80.50
CX-9	8mm	Mylar/10		14.00    47.00

Item	Description	List Prices
RB-1	Razor Blade (.012")	\$ 9.50/100
RB-2	Razor Blade (.009")	9.50/100
WP-1	White Editing Marker	9.00/doz.
MTD	Mag. Tape Developer	10.00/can
TB-2	32 page text on all aspects of tape editing by Mr. Joel Tall	3.00/book
20-P	Drift and flutter meter IEEE/DIN (Peak) & JIS-(RMS) Reading	600.00

MTK: Multi Track Cutting Angle; calculated for normally imperceptible time interval of less than 1/100<sup>th</sup> of a second between the top and bottom tracks.

BLOCKS: All are individually precision machined from hard aluminum alloy; P-2 is precision molded from reinforced plastic; for educational use.

KITS: Audio "KS" each contain: Precision block, 30 pre-cut self aligning Editabs, razor blade, and editing pencil. Video "KV" in addition to above items, also includes one spray can of Kyread, Magnetic Tape Developer.

MOUNTING: H—Countersunk holes  
T—Adhesive Tape Backing  
C—Non-Slip Cork Backing  
\*—Otari Replacement

\*For the complete KIT, add prefix "K" to block model no., and add \$3 for Audio KIT and \$7 for Video KIT to Basic Block Price.

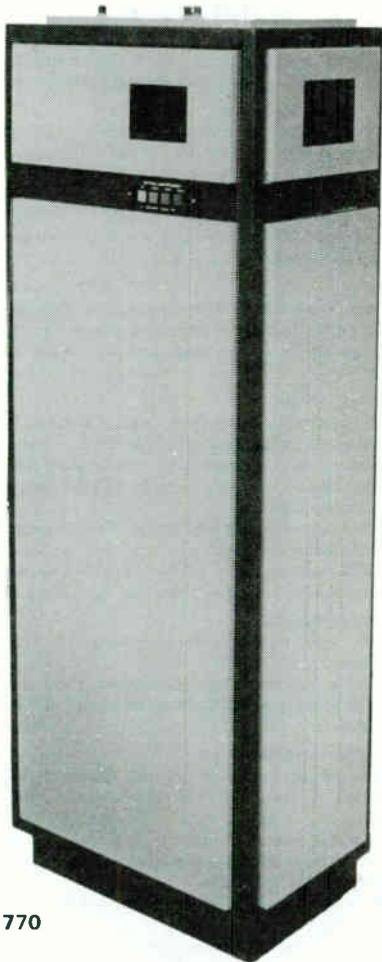
## Edge Clamping, Flat Trough. Clear Access Block

EC-D.5	1/2"	C	\$275.00
EC-D1	1" Digital Single Cut	C	300.00
EC-A1	1" Analog 3 Cut	C	325.00
EC-A2	2" Analog 3 Cut	C	350.00

# THE ZEI-MARK CORP.

P.O. Box 182  
 Brookfield Center, CT 06805  
 (203) 355-0008

# BROADCAST LARGE IMAGE OPTICAL MULTIPLEXER



770

## 770 Optical Multiplexer

- Color or monochrome
- Instant image transfer
- Self-dousing
- Audio with optical switching
- Remote control option
- Precision optical assembly
- Rigid construction

The 770 is designed to meet full broadcast requirements for a large image optical multiplexer. The optical system will accept up to three film inputs, usually one slide projector and two motion picture projectors. Optical switching between film inputs is dynamic at < 100Ms and occurs as a vertical wipe off two DC motor driven first surfaced mirrors. The DC motors provide a positive bi-directional drive which is DC braked for instant stopping without any bounce. The mirror arrangement provides a self-dousing system which permits only the selected input to reach the TV camera, even if the remaining projectors are "on". The 770 is primarily designed to work with broadcast TV cameras which include an integral field lens, but can be equipped with a field lens when applied for use with TV cameras with an objective "taking" lens.

The top cover includes dome lamps which indicate the mode of multiplexer at all times. Local controls are illuminated in colors to match the dome lamps and include power on, select Film 1, Slide or Film 2. Remote control of the multiplexer mode selection is available as an option. Follow lighting is used throughout to indicate the multiplexer mode at all control points. Operation of the multiplexer and remote control is entirely DC derived from an integral DC power supply.

## Specifications

<b>Number of Mirrors:</b>	Two
<b>Image Size:</b>	Up to 3.38 x 4.50"
<b>Mirror Action:</b>	Vertical wipe
<b>Mirror Height:</b>	3.25"
<b>Actuation:</b>	Positive bi-directional DC motor drive
<b>Image Transfer Time:</b>	< 100Ms
<b>Optical Centerline:</b>	48" ± 1/2"
<b>Mirror Surface:</b>	First surfaced aluminum silicon monoxide
<b>Film Inputs:</b>	Three
<b>Outputs:</b>	One
<b>Dimensions:</b>	53" H x 19" L x 13" W
<b>Weight:</b>	150 lbs., uncrated. 200 lbs., crated
<b>Color:</b>	Two-tone gray
<b>Finish:</b>	Baked epoxy paint
<b>Power Requirements:</b>	115VAC 50/60Hz or 230VAC 50/60Hz
<b>Power Consumption:</b>	100W

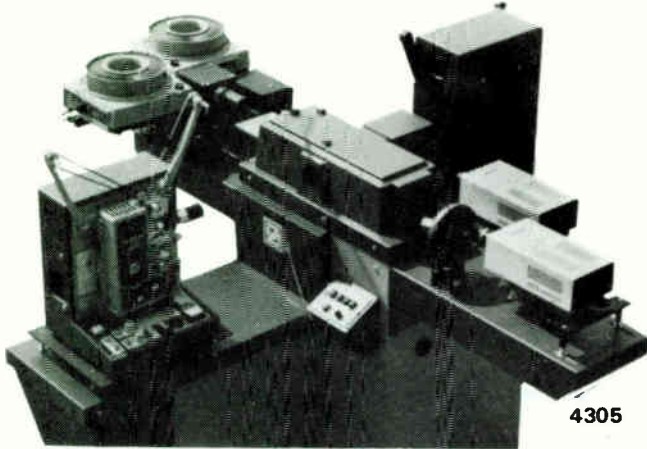
770	Optical multiplexer, large image. 3 inputs and one output. Illuminated dome lamps and local control switches. Select Film 1, Slide or Film 2. Includes level. No field lens . . . . .	\$3995.00
770-L	Same as above, except left-hand model. Use with left hand film projectors . . . . .	4295.00
RC770	Remote control for 770 series select Film 1, Slide or Film 2. 1.75 x 19" rackmounted panel . . . . .	250.00
C3	Remote control cable for 770 series multiplexer. Add cable length as dash number. (e.g., C3-50) . . . . .	ft/1.50
FL770	Field lens assembly. Mounts to camera end of 770 multiplexer. Includes 6" diameter field lens, mount, mounting brackets, cover and guides for FL770-T and FL770-SM . . . . .	1295.00
FL770-T	Alignment target, used to size and focus images. Fits FL770 assembly . . . . .	60.00
FL770-SM	Slide mount for Eastman Kodak cross step gray scale slide. Fits FL770 assembly . . . . .	175.00
KTS-1	Eastman Kodak Inconel cross step gray scale slide with instructions. Used to calibrate TV camera . . . . .	795.00
732A	Pedestal, styled to match 770 multiplexer accommodates slide projectors with max. 10" optical centerline (e.g., RCA TP7 and SS-32 series) . . . . .	795.00



# THE ZEI-MARK CORP.

P.O. Box 182  
 Brookfield Center, CT 06805  
 (203) 355-0008

# MULTIPLEXERS



4305

## 4305 Optical Multiplexer

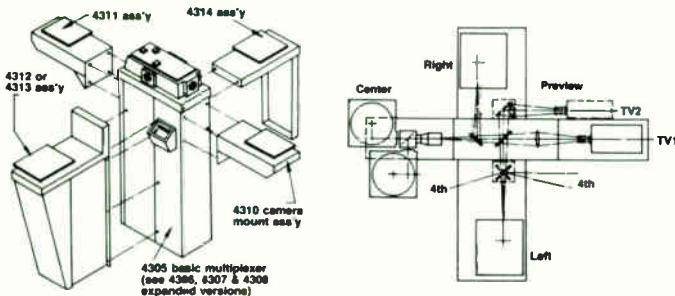
The 4305 consists of a pedestal mounted optical transfer assembly designed to the industry standard 48" optical centerline. The basic unit includes local control, neutral density filter mounts for each input, three duplex AC outlets (6) for equipment, attached 3-wire AC power cable and complete set-up and operating instructions. All options are at added cost.

TV camera and center input projector supports as well as projector side mounts include all necessary adjustable mounting hardware for item to be used. Where remote control is specified, please indicate cable footage required. Projectors include the necessary projection lenses. Remote control is 24VDC operation.

The Preview option, 2<sup>nd</sup> TV camera output provides a back-up TV camera in the event of prime output camera failure and to minimize "on-air" errors, e.g., wrong slide, improper start or restart of motion picture film, etc., since Preview enables the operator to verify subsequent inputs while "on-air" from the second TV camera which may be a relatively inexpensive monochrome camera.

Since the 4305 is in itself a fully functional and operational system, the unit may be directly applied for use with floor mounted TV cameras and pedestal mounted film projectors.

Where floor mounted TV cameras have a built-in field lens designed to suit the internal camera optical system, the 4305 field lens can simply be removed to permit direct projection through the 4305 optical transfer and onto the TV camera field lens.



### Notes:

- For the 4307 and 4308, 4<sup>th</sup> Input source must be reversible format film, e.g., 2 x 2 slides, 35mm filmstrip, and "live" Tel-Op input.
- For 1" format Vidicon TV cameras, use 50mm "C" mount lens. For 2/3" format Vidicon TV cameras, use 35mm lens.
- At time of order, please specify TV camera and projector models to be used at each input station.
- For TV cameras, which due to their design require special lenses (other than 35mm or 50mm focal lengths), Zei-Mark can supply special field lenses to work with such TV camera at added cost (usually nominal).

## Series 4300 Optical Multiplexer and Accessories

4305	Optical multiplexer, 3 inputs and 1 output. Custom model. Expandable to add Preview and 4 <sup>th</sup> options. Features custom molded top cover, illuminated dome lamps w/matching colored switches at local control console . . . . .	\$1995.00
4306	Custom optical multiplexer, 3 inputs and 2 outputs. Expanded model 4305. 2 <sup>nd</sup> output Preview . . . . .	2795.00
4307	Custom optical multiplexer, 4 inputs and 1 output. Expanded model 4305. See notes . . . . .	2995.00
4308	Custom optical multiplexer, 4 inputs and 2 outputs. Expanded model 4305, combination model 4306 and 4307 . . . . .	3495.00

### TV Camera and Projector Supports

4310	TV camera support and adjustable mount. Fits all models . . .	\$215.00
4310-SP	Same as 4310, but for TV cameras in excess of 30 lbs. . .	250.00
4311	Center input projector support . . . . .	150.00
4312	Custom fully skirted side mount for Left and Right film projectors. Fits all models . . . . .	295.00
4313	Custom side mount for Left and Right film projectors, less skirts. Fits all models . . . . .	250.00

### Projector Pedestal

KG	Custom pedestal for film projectors. Supplied to accommodate optical centerline heights ranging from 7 to 11 1/2". Equipped with adjustable mounting plate and AC outlets with attached power cable. . . . .	\$350.00
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### Multiplexer Remote Controls

RC4305	4305 remote control Select Left, Center or Right input. Console styled 19" rackmount for either flat or vertical mounting. 3 1/2" H. Illuminated to match 4305 dome lamp colors . . . . .	\$250.00
RC4306	4306 remote control. Same as RC4305 except includes Preview select switches . . . . .	275.00
RC4307	4307 remote control. Same as RC4305 except includes 4 <sup>th</sup> Input mode select switches. . . . .	275.00
RC4308	4308 remote control. Same as RC4305 except includes both Preview and 4 <sup>th</sup> Input switches. . . . .	300.00

### Projector RC Mounting Panels

PRC-3	3 1/2" x 19" rack panel for mounting up to three RC modules listed below . . . . .	\$90.00
PRC-4	3 1/2" x 19" rack panel for mounting four projector remote controls listed below. Custom designed to suit system requirements. . . . .	300.00

### Projector Remote Control Modules

RC-2	Slide projector remote control. Works with Ektagraphic or Ekt. Series III models. Provides lamp on/off, forward and reverse. . . . .	\$140.00
RC-2LDX	LD-4250 remote control. Includes change, rate, individual E-2 controls for forward and reverse and "hold" to repeat slides. LEDs indicate "on" projector . . . . .	200.00
RC-8EL	ELMO GS-1200 TC Remote Control. Provides fwd/lamp, rev/lamp and stop . . . . .	200.00
RC-16E	Eiki NT-0 Series remote control provides forward, forward w/ lamp, reverse, reverse w/lamp and stop . . . . .	200.00
RC-16EL	ELMO model 16FTC remote control. Projector must be factory supplied to provide for remote control functions, forward, lamp, reverse and stop. . . . .	200.00
RC-16S	Remote control for Telex 2230 16mm TV projector. Provides forward, lamp and stop. . . . .	200.00
RC-16	Remote control for 16mm projectors not listed above. Can accommodate up to 5 switches (momentary and/or p-p) Specify projector . . . . .	250.00

### Automatic Light Control Remote Modules

RC-ND510	Remote control for ND10 auto light control. AGC and manual control . . . . .	\$100.00
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### Remote Control Cables

C1	Multiplexer remote control cable . . . . .	ft./\$1.00
C2	Projector remote control cable. . . . .	ft./1.00

### ND Filters

FK-6	Filter kit. Set of six (6) 3" x 3" Kodak gelatin ND filters w/values 0.1, 0.2, 0.5, 1.0, 2.0 and 3.0. Up to six may be ordered in any combination. Filter mounts and glass supplied as standard on all 4300 and 2000 series multiplexers . . . . .	\$110.00
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### Miscellaneous

A43	Audio-follow control PC board assy. For use with 4300 series multiplexers. Audio switches according to the multiplexer mode. Accepts up to 3 wires from 3 separate sources to a 3 wire output. Operates automatically from mult. control electronics . . . . .	\$140.00
SL-1	Slot-Lok quick disconnect. One TV camera adaptor and one baseplate . . . . .	175.00
SL-2	Slot-Lok quick disconnect. One TV camera adaptor and two baseplates. Order when studio camera is used on the film chain . . . . .	235.00
SLA	Slot-Lok TV camera adaptor only . . . . .	125.00
SLB	Slot-Lok baseplate only. . . . .	70.00

# ZENITH ELECTRONICS CORP.

1000 N. Milwaukee Avenue  
Glenview, IL 60025  
(312) 391-7000  
FAX: (312) 391-7265

# COLOR TELEVISIONS/CAMCORDER/ VHS RECORDER



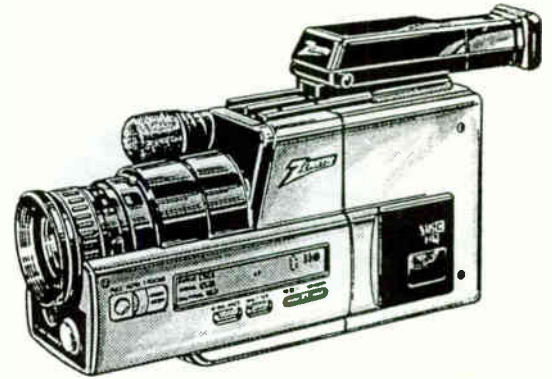
## ZENITH 19" DIAGONAL CUSTOM SERIES COLOR TV • D1914W

- Chromacolor Contrast Picture Tube.
- Reliable Duratech Chassis.
- Auto-Control Color System.
- TV Turn-Off Sleep Timer.
- Programmable Channel Scan.
- Detachable Telescoping VHF/UHF Antenna.



## ZENITH 19" DIAGONAL SYSTEM 3 REMOTE CONTROL COLOR TV • SD1933W

- MTS Stereo Sound System.
- Chromacolor Contrast Picture Tube for exceptional contrast and color fidelity.
- Reliant Chassis with 100% Modular design.
- Electronic tuning.
- Computer Space Command Remote Control.
- Programmable Favorite Channel Scanning.
- 178 Channel Capability including 122 cable channels.
- Contemporary Style. Eastern Walnut color finish.



## ZENITH CCD CAMCORDER • VM6300

- 4-Head scanning.
- Automatic viewfinder displays prompts and plays back scenes for instant review.
- High-Speed Shutter Mode for stop-action pictures.
- Includes VHS-C blank cassette, super high capacity battery, shoulder strap, cassette adapter, AC power supply/battery charger, more.



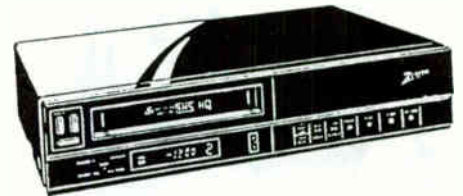
## ZENITH 25" DIAGONAL SYSTEM 3 REMOTE CONTROL COLOR TV • SD2593W

- MTS Stereo Sound System.
- Chromacolor Contrast Picture Tube for exceptional contrast and color fidelity.
- Reliant Chassis with 100% Modular design.
- Receiver/Monitor.
- Electronic tuning.
- Programmable Favorite Channel Scanning.
- 178 Channel Capability including 122 cable channels.
- Video Filter.
- Contemporary Style. Eastern Walnut color finish.



## ZENITH 27" SYSTEM 3 COLOR TV • SD2769W

- Chromacolor Contrast Picture Tube.
- 100% Reliant Chassis.
- Computer Space Command 2800 TV/VCR Remote Control.
- 178 Channel Tuning.
- Programmable Channel Scan.



## ZENITH'S NEW 4-HEAD CABLE COMPATIBLE VHS HQ RECORDER • VRD200

- 2 week, 4 event automatic timer with overlap warning.
- VHS Index Search System locates recordings quickly.
- Counter GO-TO Search via remote control.
- Auto Power-On with Auto Play, Rewind, Eject, and Next Function Memory.
- 10 Second Power Reserve.
- Counter Memory returns tape to selected spot.

Prices and Specifications Subject to Change Without Notice.

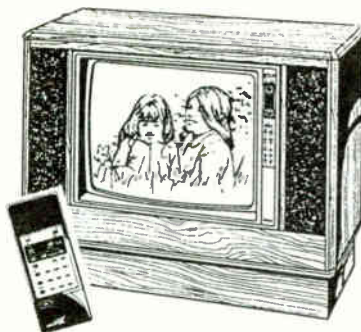
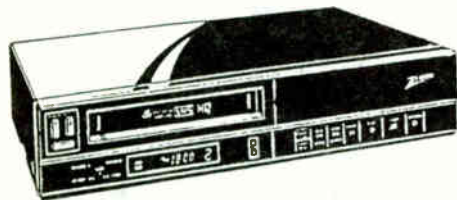
V-1195



# ZENITH ELECTRONICS CORP.

1000 N. Milwaukee Avenue  
Glenview, IL 60025  
(312) 391-7000  
FAX: (312) 391-7265

# COLOR TELEVISIONS/ VHS RECORDERS



## ZENITH'S NEW 4-HEAD VHS HQ RECORDER WITH REMOTE PROGRAMMING • VRD208

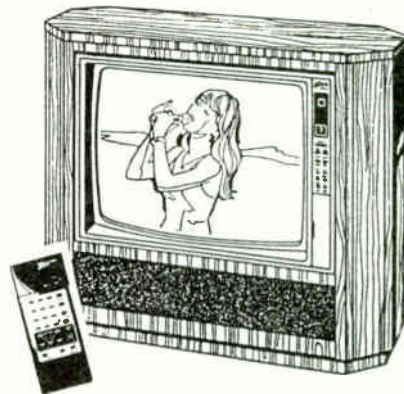
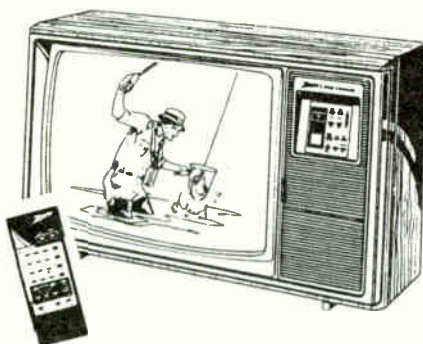
- New VHS Index Search System.
- Automatic Power-On with Automatic Play, Rewind, Eject and Next Function Memory.
- Counter Go-To for fast, accurate tape searching.
- Instant Record Feature.
- Full function TV/VCR wireless remote control.

## ZENITH 25" DIAGONAL CUSTOMSERIES REMOTE CONTROL COLOR TV • SD2511G

- MTS Stereo Sound System.
- Chromacolor Contrast Picture Tube for exceptional contrast and color fidelity.
- Reliant Chassis with 100% Modular design.
- Electronic tuning.
- Computer Space Command 2800 Remote Control.
- Programmable Favorite Channel Scanning.
- 178 Channel Capability including 122 cable channels.
- Contemporary Style, Nutmeg Oak color finish.

## ZENITH'S NEW 2-HEAD CABLE COMPATIBLE VHS HQ RECORDER • VRD100

- Auto Power-On with Auto Play, Rewind, Eject, and Next Function Memory.
- 10 Second Power Reserve.
- Tape Counter and Elapsed Time.
- Pause Bar On-Screen Display.
- Forward/Reverse Picture Speed Search with Search Lock.
- One Button Instant Record System.
- Dual Function TV/VCR Remote Control.



## ZENITH 20" DIAGONAL SYSTEM 3 REMOTE CONTROL COLOR TV • SD2023W

- Computer Space Command 2800 Remote control.
- Chromacolor Contrast Picture Tube for exceptional contrast and color fidelity.
- Reliant Chassis with 100% Modular design.
- Magic Touch Electronic tuning.
- Front-firing Speaker.
- Timed Entry, Flashback.
- Programmable Favorite Channel Scanning.
- 178 Channel Capability including 122 cable channels.
- Contemporary Style. Eastern Walnut color finish.

## ZENITH 19" DIAGONAL CUSTOMSERIES REMOTE CONTROL COLOR TV • SD1907W

- Computer Space Command 2400 Remote Control.
- Chromacolor Contrast Picture Tube for exceptional contrast and color fidelity.
- Quartz-controlled Electronic Tuning featuring 178 channel capability (incl. 122 cable channels).
- Dependable 100% Modular Reliant Chassis.
- Programmable Favorite Channel Scanning.
- Compact style-simulated American Walnut finish.

## ZENITH 25" DIAGONAL CUSTOMSERIES REMOTE CONTROL COLOR TV • SD2503G

- Chromacolor Contrast Picture Tube for exceptional contrast and color fidelity.
- Reliant Chassis with 100% Modular design.
- Electronic tuning.
- Computer Space Command Remote Control.
- Programmable Favorite Channel Scanning.
- 178 Channel Capability including 122 cable channels.
- Flashback.
- Contemporary Style with swivel base. Nutmeg Oak color finish.



# TELEPHONE DIRECTORY

**Abekas Video Systems, Inc.**  
101 Galveston Drive  
Redwood City CA 94063 . . . . .(415) 369-5111

**Acme-Lite Mfg. Co.**  
3659 Lunt Avenue  
Lincolnwood IL 60645-1210 . .(312) 588-2776

**CA Progressive Marketing**  
1521 Placentia Ave.  
Anaheim 92806 . . . . .(714) 774-4820

**CO Alpha-Omega**  
1010 Yuma St.  
Denver 80204 . . . . .(303) 571-1111

**NJ Alan Sarfaty & Associates, Inc.**  
82 Munro Ave., W. Keansburg  
Hazlet Township 07734 . . . . .(201) 787-8759

**NY Alan Sarfaty & Associates, Inc.**  
31 Water Mill Lane  
Great Neck 11021 . . . . .(516) 466-6770

**OH Mid Atlantic Representatives**  
5800 Andrews Rd., Room 201  
Mentor 44060 . . . . .(216) 257-5573

**TX Zeeco Sales & Marketing, Inc.**  
P.O. Box 731  
Colleyville 76034-0731 . . . . .(817) 581-8179

**WI Central Marketing, Inc.**  
1455 Bloomfield Rd.  
Lake Geneva 53147 . . . . .(414) 248-8200

**ADC Telecommunications, Inc.**  
4900 West 78th Street  
Minneapolis MN 55435 . . . . .(612) 835-6800

**Advanced Imaging Data, Inc.**  
875 Maude Ave.  
Mountain View CA 94043 . . . . .(415) 961-9626

**The Advance Products Co., Inc.**  
1101 E. Central  
Wichita KS 67201 . . . . .(316) 263-4231

**Agfa-Gevaert, Inc.**  
100 Challenger Rd.  
Ridgefield Park NJ 07660 . . .(201) 440-2500

**CA Agfa-Gevaert, Inc./Pacific Region**  
1801 Century Park East  
Los Angeles 90067 . . . . .(213) 552-9622

**CA Agfa-Gevaert, Inc./Pacific Region**  
601 Gateway Blvd., Suite 500  
South San Francisco . . . . .(415) 589-0700

**GA Agfa-Gevaert, Inc./Atlantic Region**  
380 Interstate North, Suite 200  
Atlanta 30339 . . . . .(404) 955-4326

**IL Agfa-Gevaert, Inc./Central Region**  
2803 Butterfield Road, Suite 200  
Oak Brook 60521 . . . . .(312) 242-1951

**NJ Agfa-Gevaert, Inc./Atlantic Region**  
100 Challenger Road  
Ridgefield Park 07660 . . . . .(201) 440-2500

**TX Agfa-Gevaert, Inc./Central Region**  
4251 West Highway 114  
Irving 75063 . . . . .(214) 258-1441

**Alexander Manufacturing Co.**  
P.O. Box 1508  
Mason City IA 50401 . . . . .(515) 423-8955

**Allen Avionics, Inc.**  
224 E. Second St.  
Mineola NY 11501 . . . . .(516) 248-8080

**Allsop, Inc.**  
4201 Meridian  
Bellingham WA 98227 . . . . .(206) 734-9090

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535 Race St., Suite 230  
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57 Alexander St.  
Yonkers NY 10701 . . . . .(914) 476-7987

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Norwood NJ 07648 . . . . .(201) 767-4100

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Schiller Park IL 60176-2190 . .(312) 671-6670

**AL Kemp Instruments**  
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Huntsville 35814 . . . . .(205) 837-4304

**AZ The Knight Company**  
108 W. Kristal Way  
Phoenix 85027 . . . . .(602) 994-1311

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San Mateo 94402 . . . . .(415) 345-4466

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Los Angeles 90045 . . . . .(213) 670-2833

**CO FG Marketing Co.**  
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Englewood 80150 . . . . .(303) 795-9176

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Bensenville 60106 . . . . .(312) 766-3667

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P.O. Box 9189  
Ft. Wayne 46899 . . . . .(219) 747-3650

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St. Paul 55126 . . . . .(612) 484-8531

**MO Rush & West Associates, Inc.**  
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St. Louis 63131 . . . . .(314) 965-3322

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Mahwah 07430 . . . . .(201) 825-0473

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Great Neck 11021 . . . . .(516) 482-4080

**NY Reagan/Compar Albany, Inc.**  
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Albany 12205 . . . . .(518) 489-4777

**OH Electro Sales Associates**  
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Dayton 45432 . . . . .(513) 426-5551

**PA White/Whiddett Co.**  
P.O. Box 597  
Edgemont 19028 . . . . .(215) 353-6343

**TX Kemp Engineering Company, Inc.**  
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Addison 75001 . . . . .(214) 931-7100

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17090 Avondale Way, N.E.  
Redmond 98052 . . . . .(206) 885-6991

**Amherst Electronic Instruments, Inc.**  
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Haydenville MA 01039 . . . . .(413) 268-7204

**Amperex Electronic Corp.**  
One Providence Pike  
Slatersville RI 02876 . . . . .(401) 762-3800

**CA Amperex Electronic Corp.**  
3760 Cahuenga Blvd., West  
North Hollywood 91604 . . . . .(818) 980-4212

**CA Amperex Electronic Corp.**  
3000 Scott Blvd., Suite 107  
Santa Clara 95054 . . . . .(408) 727-6132

**GA Amperex Electronic Corp.**  
6251 Smithpointe Drive, Suite 411  
Norcross 30092 . . . . .(404) 242-2625

**IL Amperex Electronic Corp.**  
360 Beinoris Drive  
Wood Dale 60191 . . . . .(312) 860-7373

**NY Amperex Electronic Corp.**  
230 Duffy Avenue  
Hicksville 11802 . . . . .(516) 931-6200

**TX Amperex Electronic Corp.**  
13773 N. Central Expressway, #1228  
Dallas 75243 . . . . .(214) 231-3481

**Ampex Corporation**  
401 Broadway  
Redwood City CA 94063 . . . . .(415) 367-2011

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**Ampex Corp.**  
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**Ampex Corp.**  
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**Ampex Corp.**  
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**Ampex Corp.**  
Frankfurt (Main) West Germany(069) 605-80

**Ampex Corp.**  
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**Ampex Corp.**  
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**Ampex Corp.**  
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**Ampex Corp.**  
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**Ampex Corp.**  
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**Ampex Corp.**  
Reading, Berks. U.K. . . . .(073) 487-5200

**Ampex Corp.**  
Caracas Venezuela . . . . .782-3255

**Amtel Systems, Inc.**  
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Nashua NH 03060 . . . . .(603) 880-9011

**CA Amtel Systems, Inc.**  
25831 Marguerite Parkway, Ste. 204  
Mission Viejo 92692 . . . . .(714) 859-6236

**NJ Amtel Systems, Inc.**  
36 Fairfield Drive  
Tinton Falls 07724 . . . . .(201) 389-2264

**Angenieux Corp. of America**  
7700 N. Kendall Drive, Suite 503  
Miami FL 33156 . . . . .(305) 595-1144

**Anton/Bauer, Inc.**  
One Controls Drive  
Shelton CT 06484 . . . . .(203) 929-1100

**Anvil Cases, Inc.**  
P.O. Box 888  
Rosemead CA 91770-0888 . . .(818) 575-8614

**A & S Flight & Road Case Co.**  
1111 N. Gordon Street  
Hollywood CA 90038 . . . . .(213) 466-6181

**Aston Electronics, Inc.**  
346 N. Lindenwood Drive  
Olathe KS 66062 . . . . .(913) 782-4007

**NJ Joseph Nigro Associates, Inc.**  
25 Patton Court  
Wayne 07470

**Atlas/Soundolier**  
1859 Intertech Drive  
Fenton MO 63026 . . . . .(314) 349-3110

**AZ J.R. Morgan Agency, Inc.**  
3411A East Corona Ave.  
Phoenix 85040 . . . . .(602) 268-3464

# ATLAS/SOUNDOLIER-CENTRAL DYNAMICS

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5301 North Exchange St.  
Los Angeles 90039 .....(818) 242-8823
- CA Warren Associates  
2338 Calle Del Mundo  
Santa Clara 95054 .....(408) 988-1121
- FL Bencik Associates  
3730 N.E. 42nd Lane  
Ocala 32670 .....(904) 732-9775
- GA Secom Systems  
3402 Oak Cliff Road, Suite B-4  
Atlanta 30340 .....(404) 455-0672
- IL Ziskind Associates, Inc.  
5420 Newport Drive, Suite 52  
Rolling Meadows 60008 .....(312) 577-1624
- IN Monfort Electronics Marketing  
P.O. Box 40905  
Indianapolis 46240 .....(317) 872-9977
- MI Key Marketing  
41940 Jay Road  
Plymouth 48170 .....(313) 459-6040
- NJ Atlas/Soundolier  
10 Pomeroy Road  
Parlappany 07054 .....(201) 887-7800
- TX Graham/Davis, Inc.  
14925A Memorial Drive, Suite 159  
Houston 77079 .....(713) 558-8662
- WA Roger Ponto Associates, Inc.  
12816 N.E. 125th Way  
Kirkland 98034 .....(206) 821-2996
- Ontario Atlas Electronics Limited  
50 Wingold Ave.  
Toronto M6B 1P7 Canada .....(416) 789-7761
- Audico, Inc.**  
219 Crossen Ave.  
Elk Grove IL 60007 .....(312) 640-1030
- Audio Kinetics, Inc.**  
P.O. Box 1260  
Caramel NY 10512 .....(914) 225-0380
- Audiolab Electronics, Inc.**  
5831 Rosebud Lane, Bldg. P  
Sacramento CA 95841 .....(916) 348-0200
- Automatic Devices Co.**  
2121 S. 12th St.  
Allentown PA 18103 .....(215) 797-6000
- Automation Associates, Inc.**  
P.O. Box 90  
Bryn Mawr PA 19010 .....(215) 642-0200
- AV Associates, Inc.**  
1768 Storrs Rd.  
Storrs CT 06268 .....(203) 487-1330
- Barco Electronics, Inc.**  
1500 Wilson Way, Suite 250  
Smyra GA 30080 .....(404) 432-2346
- Barco Industries, Inc.**  
170 Knowles Drive, Suite 212  
Los Gatos CA 95030 .....(408) 370-3721
- NC Barco Industries, Inc.  
2211-B Executive Street  
Charlotte 28208 .....(704) 392-9371
- NH Barco Industries, Inc.  
472 Amherst Street  
Nashua 03063 .....(603) 880-1430
- Ontario Adcom Electronics Ltd.  
310 Judson St., Unit 1  
Toronto M8Z 5T6 Canada .....(416) 251-3355
- Bardwell & McAlister, Inc.**  
2621 Empire Avenue  
Burbank CA 91504 .....(213) 849-5533
- BCD Associates, Inc.**  
7510 N. Broadway Extension, #205  
Oklahoma City OK 73116 .....(405) 843-4574
- Beaveronics, Inc.**  
8 Haven Ave.  
Port Washington NY 11050 .....(516) 883-4414
- Beckman Industrial Corp.**  
3883 Ruffin Rd.  
San Diego CA 92123-1898 .....(619) 495-3264
- Belden Wire and Cable**  
P. O. Box 1980  
Richmond IN 47375 .....(317) 983-5200
- Bencher, Inc.**  
333 W. Lake  
Chicago IL 60606 .....(312) 263-1808
- Bib Audio/Video Products**  
P.O. Box 27682  
Denver CO 80227 .....(303) 972-0410
- B & K Precision**  
6470 W. Cortland St.  
Chicago IL 60635 .....(312) 889-1448
- Blackbourn, Inc.**  
10150 Crosstown Circle  
Eden Prairie MN 55344 .....(612) 944-7010
- Blair Industries, Inc.**  
116 E. Missouri  
Scott City MO 63780 .....(314) 264-2146
- Bogen Photo Corp.**  
17-20 Willow St.  
Fair Lawn NJ 07410 .....(201) 794-6500
- Brandons Camera**  
1819 Kings Ave.  
Jacksonville FL 32207 .....(904) 398-1591
- Bretford Mfg., Inc.**  
9715 Soreng Avenue  
Schiller Park IL 60176 .....(312) 678-2545
- Walter S. Brewer Co., Inc.**  
5200 So. Yale, Suite 501  
Tulsa OK 74135 .....(918) 493-7323
- Broadcast Video Systems Ltd.**  
40 West Wilmot Street  
Richmond Hill Ontario L4B 1H8  
Canada .....(416) 764-1584
- Brooks Mfg. Co.**  
4001 N. American St.  
Philadelphia PA 19140 .....(215) 425-3359
- BSM Broadcast Systems, Inc.**  
West 7106 Will D. Alton Dr. #106  
Spokane WA 99204 .....(509) 838-0110
- BTS Broadcast Television Systems, Inc.**  
P.O. Box 30816  
Salt Lake City UT 84130-0816 (801) 972-8000
- Bud Industries, Inc.**  
4605 E. 355th St.  
Willoughby OH 44094 .....(216) 946-3200
- Buhl Optical Co.**  
1009 Beech Avenue  
Pittsburgh PA 15233-2035 .....(412) 321-0076
- Cabbage Cases, Inc.**  
1166-C Steelwood Rd.  
Columbus OH 43212-1356 .....(614) 486-2495
- Cabtron Systems, Inc.**  
200 Anets Drive  
Northbrook IL 60062 .....(312) 498-6090
- CAE, Inc.**  
10087 Industrial Dr.  
Hamburg MI 48139 .....(313) 231-9373
- Calaway Engineering**  
49 South Baldwin Avenue  
Sierra Madre CA 91024 .....(818) 355-2094
- Calzone Case Co.**  
225 Black Rock Avenue  
Bridgeport CT 06605-1204 .....(203) 367-5766
- CA Future Sales of No. CA  
288 Cascade  
Fairfax 94930 .....(415) 459-6880
- CO H.P. Marketing  
2530 West Church Avenue  
Littleton 80120 .....(303) 794-8367
- FL Mort Press Video  
1800 San Souci Blvd., Suite 305  
North Miami .....(305) 895-2262
- GA Secom Systems  
3402 Oakcliff Road, Suite B-4  
Doraville 30340 .....(404) 455-0672
- MA F.M. Valenti Inc. & Associates  
1 Saunders Ledge  
Nahant 01908-1692 .....(617) 592-5300
- MD Stash Michalski Sales & Marketing  
11712 Highview Avenue  
Wheaton 20902 .....(301) 942-2092
- MI Innovative Audio Sales  
4370 Forest Avenue  
Pontiac 48054 .....(313) 673-2280
- NY Ouzunoff and Associates  
3701 Gomer Street  
Yorktown Heights 10598 .....(914) 245-6452
- TX Zeeco Sales  
616 Frontier Court  
Colleyville 76034 .....(817) 498-6670
- WA Future Sales of the N.W.  
16141 Redmond Way, Suite 164  
Redmond 98052 .....(206) 868-5577
- WI Ludwig Marketing  
8406 110th Avenue  
Kenosha 53142 .....(414) 697-9355
- Cambridge Products Corp.**  
244 Woodland Avenue  
Bloomfield CT 06002 .....(203) 243-1761
- Canon U.S.A., Inc.**  
One Canon Plaza  
Lake Success NY 11042 .....(516) 488-6700
- Harry "Carter Cartop" Mfg. Co.**  
P.O. Box 298  
Welches OR 97067 .....(503) 622-4477
- Dwight Cavendish Developments, Ltd.**  
2117 Chestnut Avenue  
Wilmette IL 60091 .....(312) 256-0937
- Cel Electronics Ltd.**  
5925 Beverly  
Mission KS 66202 .....(913) 831-0188
- Central Dynamics, Ltd.**  
147 Hymus Boulevard  
Pointe Claire Quebec H9R 1G1  
Canada .....(514) 697-0810
- CA Techna Resources Corp.  
8590 Venice Blvd.  
Los Angeles 90034 .....(213) 204-1053
- FL R & H Associates  
2060 N.E. Coachman Road  
Clearwater 34625 .....(813) 442-7505
- IL Image Marketing Associates  
P.O. Box 68996  
Schaumburg 60168 .....(312) 359-8050
- KY Broadcast Plus, Inc.  
Central Amer. Term., Bowman Field  
Louisville 40205 .....(502) 452-2777
- MD Wiltronix Inc.  
P.O. Box 364  
Washington Grove 20880 .....(301) 258-7676
- MA For-A Corp. of America  
320 Nevada St.  
Newton 02160 .....(617) 244-3223
- MA Beers Associates, Inc.  
112 Turnpike Rd., Ste. 302  
Westborough 01581 .....(617) 898-3200
- MO Electronic Video Systems  
1856 S. Stewart  
Springfield 65804 .....(417) 881-4677
- NE Audiovisual Inc.  
8025 Maple Street  
Omaha 68134 .....(402) 393-9911
- ND Audiovisual Inc.  
P.O. Box 2239  
Bismark 58502 .....(701) 258-6360
- TX Gene Sudduth Co. Inc.  
P.O. Box 293  
Flint 75762 .....(214) 894-6303
- Alberta Applied Electronics Ltd.  
6007 Dalford Road N.W.  
Calgary T3A 1L3 .....(403) 288-8055
- B.C. Applied Electronics Ltd.  
201-993 West 8th Avenue  
Vancouver V5Z 1E4 Canada .....(604) 738-0058
- Ontario Central Dynamics, Ltd.  
801 York Mills Rd., Suite 201  
Don Mills M3B 1X7 Canada .....(416) 446-1543

Ontario Applied Electronics Ltd.  
299 Evans Avenue  
Toronto M8Z 1K2 Canada . . . (416) 252-3761

Quebec Applied Electronics Ltd.  
P.O. Box 158  
Ville Mont Royal H4P 3B9  
Canada . . . . . (514) 277-1316  
Manly, NSW 2095 Australia . . . . . 977-0566  
Mexico, D.F. 01720 Mexico . . . . . 680-4399  
Abantek S.A.  
Lima 14 Peru . . . . . 363-166  
Auvitec S.A.  
14 Rue de Acacias  
75017 Paris France . . . . . (47) 66-0402  
Avexco S.A.  
3 Rue de la Cite  
1204 Geneva Switzerland . . . . . 21-9155  
Jose Castiglioni (H) S.A.  
Ituzaingo 1533  
Montevideo Uruguay . . . . . 91-9000  
Compania Comercial Curacao de  
Colombia S.A.  
Bogota Colombia . . . . . 257-0224  
Electro-Acoustics Systems Pte. Ltd.  
1302 Lorong 1 Toa Payoh Hex 06-13  
Singapore 1231 . . . . . 250-6616  
Tacnet Electronica Ltda.  
Rua Santa Clara 50 - S/820  
Rio de Janeiro Brazil 22041 . . . . . 255-8315  
Electrocom S.A.  
Ave. M.L. King, Box 2084  
Port au Prince Haiti . . . . . 22484  
Empire Electronics Corp.  
Pasong Tamo Ext., Makati  
Metro Manila Philippines . . . . . 883580  
Fading S.A.  
Servando Batanero 8  
28017 Madrid Spain . . . . . 408-6700  
For-A Audio Visual Import Co. Ltd.  
3-2-26 Nishi-Shinjuku, Shinjuku-Ku  
Tokyo 160 Japan . . . . . 342-6073  
For-A Co. Ltd. - Middle East Office  
P.O. Box 7177  
Sharjah U.A.E. . . . . 351-177  
Ingeniörfirma Puke & Sjöholm A.B.  
Ankdammsgatan 7  
S-17143 Solna Sweden . . . . . 826-262  
JBA Representatives  
Larroque 1351, Banfield, 1828  
Buenos Aires Argentina . . . . . 242-9518  
Jorgen Andersen Ingenierfirma A.S.  
1 Produktionsvej  
DK-2600 Glostrup Denmark . . . . . 91-8888  
Jorgen Andersen Ingenierfirma OY  
Teerikukonkaja 2  
SF-00700 Helsinki Finland . . . . . 345-4030  
Katonix  
C-15 Greater Kailash I  
New Delhi 110048 India . . . . . 641-1369  
KBL Electronics  
P.O. Box 39073  
Tel Aviv Israel . . . . . 44-8458  
Middle East Electronics Corp.  
P.O. Box 1991  
Amman Jordan . . . . . 38-262  
PHI C.A.  
Apartado 65600  
Caracas 1066A Venezuela . . . . . 561-3591  
Philips Electrical Co. of Thailand Ltd.  
P.O. Box 961  
Bangkok 5 Thailand . . . . . 233-6330  
Power Source Development Ltd.  
15 Cheung Yue St., Cheung Sha Wan  
Kowloon Hong Kong . . . . . 745-2343  
Premier Enterprises Ltd.  
27 Steeet no. 28 F-6/1  
Islamabad Pakistan . . . . . 822-484  
Quantum Communications Pty. Ltd.  
39 E. Esplanade, Ste. 7, Level 4  
Rank Cintel Limited  
Watton Road, Ware  
Hertfordshire SG12 0AE U.K. . . (44) 920-3939  
Rank Precision Industries GmbH  
Gustav Stresemann Ring 12-16  
6200 Wiesbaden W. Germany . . . . 37-3051  
Rank Precision Ind. Mktg.  
P.O. Box 58  
1042 Vienna 4 Austria . . . . . 65-5821  
Saetong Corporation  
CPO Box 3590  
Seoul Korea 150 . . . . . 783-6551

Tecom Videosystem SRL  
Via Veneto 31  
20024 Garbagnate (MI) Italy . . . . 995-7846  
Teknomerica S.A. De C.V.  
Telemedia Africa  
P.O. Box 783515  
Sandton 2146 South Africa . . . . . 803-3353  
Telantan  
Ciragan Cad. 15/2  
Besiktas, Istanbul Turkey . . . . . 160-2309  
Thomson Video Equipment  
BP no. 8244, 95801 Cergy  
Pontoise Cedex France . . . . . 3420 7000  
Yungkang Trading Co. Ltd.  
102 Kuang Fu S. Road  
Taipei, Taiwan R.O.C. . . . . 752-7421

**Century Precision Optics**  
10713 Burbank Blvd.  
North Hollywood CA 91601 . . (818) 766-3715

NY Bern Levy Associates  
17 Tarleton Lane  
Northport 11768-2532 . . . . (516) 269-2870

**Certron Corp.**  
1651 S. State College Blvd.  
Anaheim CA 92806 . . . . . (714) 634-4280

**Channelmatic, Inc.**  
821 Tavern Road  
Alpine CA 92001 . . . . . (619) 445-2691

CA Channelmatic, Inc.  
821 Tavern Rd.  
Alpine 92001 . . . . . (619) 445-2691

CO Channelmatic, Inc.  
1356 South Street  
Castle Rock 80104 . . . . . (303) 688-8777

FL Channelmatic, Inc.  
1039 Dees Drive  
Oliviedo 32765 . . . . . (305) 366-1567

WI Channelmatic, Inc.  
549 Park  
Prairie Du Sac 53578 . . . . . (608) 643-2445

**Chief Mfg., Inc.**  
14310 Ewing Ave. South  
Burnsville MN 55337 . . . . . (612) 894-6280

**Christie Electric Corp.**  
20665 Manhattan Place  
Torrance CA 90501 . . . . . (213) 320-0808

AZ Systems Marketing Services, Inc.  
1822 E. Intrepid  
Mesa 80524 . . . . . (602) 892-6634

CA Pro Rep Co.  
1169 Chess Drive, Suite G  
Foster City 94404 . . . . . (415) 570-5055

CA Pro Rep Co.  
P.O. Box 221819  
Carmel 93922 . . . . . (408) 625-6560

CO Systems Marketing Services, Inc.  
350 Indiana Street, Suite 111  
Golden 80401 . . . . . (303) 278-9200

FL Jim Freeman & Associates  
St. Petersburg . . . . . (813) 577-0097

GA Jim Freeman & Associates  
670 Hillcrest Rd., Suite 400  
Lilburn 30247 . . . . . (404) 921-8687

IL Go Video Sales, Inc.  
1195 S. Wilson Dr.  
Lake Forest 60045 . . . . . (312) 295-6726

IL Go Video Sales, Inc.  
242 W. Washington  
Lombard 60148 . . . . . (312) 627-0195

IL Go Video Sales, Inc.  
893-B W. North Ave.  
Villa Park 60181 . . . . . (312) 953-1434

IN Bruce Dawson & Associates  
Route 3, Box 300  
Rockport 47635 . . . . . (812) 649-9715

KS R.L. Graham & Associates  
9201 Belinder Road  
Leawood 66206 . . . . . (913) 383-3475

KY Bruce Dawson & Associates  
Central Amer. Term., Bowman Field  
Louisville 40205 . . . . . (502) 456-6666

MN Go Video Sales, Inc.  
1698 12th Ave. West  
Shakopee 55379 . . . . . (612) 445-1395

MO R.L. Graham & Associates  
P.O. Box 259  
Chesterfield 6300

TX Active Marketing, Inc.  
2815 Valley View Lane, Suite 125  
Dallas 75234 . . . . . (214) 243-2564

OR Pro Rep Co  
10350 S.E. Sherman Street  
Portland 97216 . . . . . (503) 254-4038

WV Bruce Dawson & Associates  
4817 Sunset Drive  
Huntington 25704 . . . . . (304) 429-3333

**Chyron Corp.**  
265 Spagnoli Road  
Melville NY 11747 . . . . . (516) 845-2022

CA R.E. Snader & Associates  
150 Gate Five Road  
Sausalito 94965 . . . . . (415) 332-7070

CA Video Communications Corp.  
2514 Ontario Street  
Burbank 91504 . . . . . (818) 954-0150

CO Midwest Communications/Rocky Mountain  
7334 South Alton Way, Suite A  
Englewood 80112 . . . . . (303) 773-9499

FL Midwest Communications  
8875 N.W. 23rd Street  
Miami 33172 . . . . . (305) 592-5355

IL Roscor Corporation  
1061 Feehanville Drive  
Mount Prospect 60056 . . . . . (312) 539-7700

KY Midwest Communications  
One Spertl Drive  
Edgewood 41017 . . . . . (606) 331-8990

MD Professional Products, Inc.  
4964 Fairmont Ave.  
Bethesda 20814 . . . . . (301) 657-2141

MN Todd Communications  
6545 Cecilia Circle  
Minneapolis 55435 . . . . . (612) 941-0556

NY MPCS Video Industries, Inc.  
514 West 57th Street  
New York 10019 . . . . . (212) 586-3690

PA Lerro Electrical  
3125 N. Broad St.  
Philadelphia 19132 . . . . . (215) 223-8200

TX MZB & Associates  
6211 No. O'Connor, Suite 110  
Irving 75039 . . . . . (214) 869-4500

VA Midwest Communications  
2730 Aylitt Road  
Norfolk 23513 . . . . . (804) 853-2600

WA Midwest Communications/Bennett  
Engineering  
1331 118th Avenue, S.E.  
Bellevue 98005 . . . . . (206) 455-2331

**Cinema Products Corp.**  
3211 South La Cienega Blvd.  
Los Angeles CA 90016-3112 . . (213) 836-7991

CA Moviemac Super Rental  
1150 S. Robertson Blvd.  
Los Angeles 90035 . . . . . (213) 278-4956

**Cinematography Electronics, Inc.**  
1625 Stanford St.  
Santa Monica CA 90404 . . . . (213) 829-1811

**Cine 60, Inc.**  
630 9th Avenue  
New York NY 10036 . . . . . (212) 586-8782

CA Cine 60, Inc.  
1050 Cahuenga Blvd.  
Hollywood 90038 . . . . . (213) 461-3046

**Cipher Digital, Inc.**  
5734 Industry Lane  
Frederick MD 21701 . . . . . (301) 695-0200

**CMX Corp.**  
2230 Martin Avenue  
Santa Clara CA 95050 . . . . . (408) 988-2000  
CMX Euroservice  
Postbus 7000, Amsteldijk 166  
1079 LH Amsterdam  
Netherlands . . . . . (204) 21198

**Coast Manufacturing Co., Inc.**  
118 Pearl St.  
Mt. Vernon NY 10550 . . . . . (212) 324-4656

CA Coast Mfg. Co.  
910 N. Orange Dr.  
Los Angeles 90038 . . . . . (213) 876-4572



# COAST-ELECTRONICS DIVERSIFIED

- MI** Coastar of Michigan, Inc.  
27537 Schoolcraft Rd.  
Livonia 48150 .....(313) 522-1121
- TX** Dickens Sales Co., Inc.  
11341 Indian Trail  
Dallas 75229 .....(214) 243-5971
- COHU, Inc.**  
5755 Kearny Villa Road  
San Diego CA 92123 .....(619) 277-6700
- Colorado Video, Inc.**  
P.O. Box 928  
Boulder CO 80306 .....(303) 530-9580
- MA** Colorado Video, Inc.  
17 Amble Road  
Chelmsford 01824 .....(617) 256-3381
- Comprehensive Video Supply Corp.**  
148 Veterans Drive  
Northvale NJ 07647 .....(201) 767-7990
- Computer Prompting Corp.**  
1511 K Street, N.W., Suite 831  
Washington DC 20005 .....(202) 783-2051
- ComSonics, Inc.**  
1350 Port Republic Rd.  
Harrisonburg VA 22801 .....(703) 434-5965
- Conrac Corp.**  
600 N. Rimsdale Avenue  
Covina CA 91722 .....(818) 966-3511
- Cool-Lux Lighting Industries, Inc.**  
5723 Auckland Ave.  
N. Hollywood CA 91601-2207 .....(818) 761-8181
- Costume Armour, Inc.**  
P.O. Box 325  
Cornwell-on-Hudson NY 12520  
.....(914) 534-9120
- Covid, Inc.**  
2400 W. 10th Place, #4  
Tempe AZ 85281 .....(602) 966-2221
- CA** American Video Communications  
10541 Humboldt Street  
Los Alamitos 90720 .....(213) 493-3771
- CA** Audio Visual Headquarters  
361 North Oak Street  
Inglewood 90302 .....(213) 419-4040
- CA** Projection Systems  
111-1 Glenn Way  
Belmont 94002 .....(415) 595-3160
- CA** Videomedia  
211 Weddell Drive  
Sunnyvale 94089 .....(408) 745-1700
- GA** Southern Business Communications  
3175 Corners North  
Norcross 30092 .....(404) 449-4088
- GA** Total Audio Visual Services  
811 Marietta St. N.W.  
Atlanta 30318 .....(404) 875-7555
- IL** Ancha Electronics  
189 Gordon Street  
Elk Grove Village 60007 .....(312) 437-7712
- IN** Burke Technologies  
2207 South Michigan Street  
South Bend 46680 .....(219) 232-6958
- KY** Midwest Communications Corp.  
One Spertl Drive  
Edgewood 41017 .....(606) 331-8990
- MN** Blumberg Communications  
525 North Washington Avenue  
Minneapolis 55401 .....(612) 333-1271
- NJ** Comprehensive Video Supply  
148 Veterans Drive  
Northvale 07647 .....(201) 767-7990
- NJ** Eastern Computer Graphics  
6 Industrial Way West  
Eatontown 07724 .....(201) 542-7733
- NY** Emes Systems  
1201 Broadway #105  
New York 10001 .....(800) 223-1749
- NY** Maya Video Products  
172 Madison Avenue  
New York 10016 .....(212) 532-6206
- V-1200**
- TX** Hi-Tech Plus  
2777 Allen Parkway #1126  
Houston 77019 .....(713) 520-8800  
Reflex Ltd.  
Viewpoint Gardener Rd. Maindenhead  
Berkshire SL6 7RJ England .....77-1414
- Michael Cox Electronics Ltd.**  
40 W. Wilmot St.  
Richmond Hill Ontario L4B 1H8  
Canada .....(416) 764-1584
- Crosspoint Latch Corp.**  
95 Progress Street  
Union NJ 07083 .....(201) 688-1510
- Cullman**  
P.O. Drawer U  
Farmingdale NY 11735 .....(516) 752-0066
- Dago Cases**  
6945 Indiana Court, Suite 600  
Golden CO 80403 .....(303) 421-7912
- NY** Omnivue  
274 Madison Ave. #1406  
New York 10016 .....(212) 532-5576
- Da-Lite Screen Co., Inc.**  
3100 State Rd., 15 North  
Warsaw IN 46580 .....(219) 267-8101
- Bill Daniels Company, Inc.**  
P.O. Box 2056  
Shawnee Mission KS 66201 .....(913) 492-9900
- Datatek Corp.**  
1121 Bristol Rd.  
Mountainside NJ 07092 .....(201) 654-8100
- Davis & Sanford Co., Inc.**  
24 Pleasant St.  
New Rochelle NY 10802 .....(914) 632-1636
- DeSisti Lighting**  
1109 Grand Avenue  
No. Bergen NJ 07047 .....(201) 319-1100
- Digital Services Corp.**  
3622 N.E. 4th Street  
Gainesville FL 32609 .....(904) 377-8013
- CA** Digital Services Corporation  
17206 Pinot Place  
Poway 92064 .....(619) 485-1156
- GA** Digital Services Corporation  
P.O. Box 4042  
Albany 31706 .....(912) 888-2142
- IN** Digital Services Corporation  
Route 1 Box 47B  
Trafalgar 46181 .....(317) 738-3219
- MN** Digital Services Corporation  
24500 Cedar Point Road  
New Prague 56071 .....(612) 758-3036
- NY** Digital Services Corporation  
325 Central Avenue  
White Plains 10606 .....(914) 761-7928
- TX** Digital Services Corporation  
P.O. Box 293  
Flint 75762 .....(214) 894-6303
- Digital Video Systems**  
120 Middlefield Road  
Scarborough Ontario M1S 4M6  
Canada .....(416)299-6888
- Di-Tech, Inc.**  
48 Jefryn Blvd.  
Deer Park NY 11729 .....(516) 667-6300
- Dot Line Corp.**  
11916 Valerio St.  
N.Hollywood CA 91605 .....(213) 875-2035
- Draper Shade & Screen Co., Inc.**  
P.O. Box 425  
Spiceland IN 47385-0425 .....(317) 987-7999
- Dubner Computer Systems, Inc.**  
6 Forest Ave.  
Paramus NJ 07652 .....(201) 845-8900
- Dukane Corp.**  
2900 Dukane Dr.  
St. Charles IL 60174 .....(312) 584-2300
- Dynair Electronics, Inc.**  
5275 Market Street  
San Diego CA 92114 .....(619) 263-7711
- Dynatech Data Products**  
7644 Dynatech Court  
Springfield VA 22153 .....(703) 569-9000
- MI** H.M. Dyer Electronics  
48647 Twelve Mile Road  
Novi 48050 .....(313) 349-7910
- NJ** H.M. Holzberg Associates  
P.O. Box 323  
Sea Bright 07760 .....(201) 530-8555
- Ontario** Glentronix, Ltd.  
90 Nolan Court, Unit 7  
Markham L3R 4L9 Canada .....(416) 475-8494
- ECHOlab, Inc.**  
175 Bedford Rd.  
Burlington MA 01803 .....(617) 273-1512
- AL** Vica Associates  
115 Mount Clair Loop  
Daphne 36526 .....(205) 626-6204
- AZ** C.A. Lange & Associates  
1705 E. Bell De Mar Drive  
Tempe 85283 .....(602) 998-4051
- CA** Pro Rep Company  
1169 Chess Drive, Suite G  
Foster City 94404 .....(415) 570-5055
- FL** Vica Associates  
5715 Gardner Court Drive  
Tampa 33634 .....(813) 884-9378
- GA** Vica Associates  
4296 Memorial Drive  
Decatur 30032 .....(404) 292-7506
- IL** Go Video Sales, Inc.  
1195 S. Wilson  
Lake Forest 60045 .....(312) 295-6726
- KY** Bruce Dawson & Associates  
Central Amer. Term., Bowman Field  
Louisville 40205 .....(502) 456-6666
- MA** F.M. Valenti Company  
One Saunders Ledge  
Nahant 01908 .....(617) 592-5300
- MN** Kodo Associates  
8314 Pillsbury Avenue South  
Minneapolis 55420 .....(612) 881-1255
- NC** Vica Associates  
Route 3, Box 135  
Apex 27502 .....(919) 362-1125
- NJ** Symco, Inc.  
P.O. Box 373  
Millington 07946 .....(201) 647-6262
- TX** Active Video Marketing  
2815 Valley View, Suite 125  
Dallas 75234 .....(214) 243-2564
- VA** Commercial Video Representatives  
602 Galveston Road  
Fredericksburg 22405 .....(703) 371-2621  
Per Sjolfors  
Postfach 390  
CH 8034 Zurich Switzerland .....47-17-03
- EECO, Inc./Convergence**  
1601 E. Chestnut Ave.  
Santa Ana CA 92702-0659 .....(714) 835-6000
- Eigen**  
848 Goldflat Road  
Nevada City CA 95959 .....(916) 265-2020
- Eiki/Bell & Howell Audio Visual/Video**  
27882 Camino Capistrano  
Laguna Niguel CA 92677 .....(714) 582-2511
- Elcon**  
P.O. Box 393  
South Salem NY 10590-0393 .....(914) 763-8893
- CA** Television Equipment Assoc., Inc.  
Beverly Hills .....(213) 271-9570
- Electrohome Ltd.**  
809 Wellington St. North  
Kitchener Ontario N2G 4J6  
Canada .....(519) 744-7111
- Electronics Diversified, Inc.**  
1675 N.W. 216th Ave.  
Hillsboro OR 97124 .....(503) 645-5533

**Electronic Systems Products, Inc.**

1301 Armstrong Drive  
Titusville FL 32780-7999 . . . . .(305) 269-6680

CA Electronic Systems Products, Inc.  
P.O. Box 998-073  
EI Segundo 90245 . . . . .(213) 615-1115

CT Electronic Systems Products, Inc.  
20 Lowell Terrace  
Milford 06460 . . . . .(203) 877-6105

FL Electronic Systems Products, Inc.  
8106 Pamlico Street  
Orlando 32817 . . . . .(305) 657-8982

IL Electronic Systems Products, Inc.  
399 Hill Avenue  
Glen Ellyn 60137 . . . . .(312) 469-7362

PA Electronic Systems Products, Inc.  
713 Buckley Road  
Penlynn 19422

**Electronic Theatre Controls, Inc.**

3002 West Beltline Highway  
Middleton WI 53562 . . . . .(608) 831-4116

**ELMO Mfg. Corp.**

70 New Hyde Park Road  
New Hyde Park NY 11040 . . . . .(516) 775-3200

GA Marketline Inc.  
2541 Poplar St.  
Atlanta 30278 . . . . .(404) 972-9048

OH Mid-Atlantic Reps  
5800 Andrews Road  
Mentor 44060

TX Lex Lawson & Associates  
1313 So. Shiloh Road  
Garland 75042 . . . . .(214) 272-8482

**ESE**

142 Sierra St.  
El Segundo CA 90245 . . . . .(213) 322-2136

**Evertz Microsystems Ltd.**

3465 Mainway  
Burlington Ontario L7M 1A9  
Canada . . . . .(416) 335-3700

**Excalibur Industries**

12427 Foothill Blvd.  
Lake View Terrace CA 91342 . . . . .(818) 899-2547

**Fairlight Instruments, Inc.**

2945 Westwood Blvd.  
Los Angeles CA 90064 . . . . .(213) 470-6280

NY Fairlight Instruments, Inc.  
110 Greene St.  
New York 90012 . . . . .(212) 219-2656

**Faroudja Laboratories, Inc.**

946 Benicia Ave.  
Sunnyvale CA 94086 . . . . .(408) 245-1492

**Fast Forward Video**

3001 Red Hill Ave. Bldg. 6 Ste. 206  
Costa Mesa CA 92626 . . . . .(714) 966-2114

**FEC**

P.O. Box A  
New Hyde Park NY 11040 . . . . .(516) 352-4776

**Fiberbilt Cases, Inc.**

601 W. 26th St.  
New York NY 10001-1199 . . . . .(212) 675-5820

**Film/Video Equipment Service Co.**

800 S. Jason  
Denver CO 80223 . . . . .(303) 778-8616

**FOR-A Corp. of America**

320 Nevada Street  
Newton MA 02160 . . . . .(617) 244-3223

CA For-A Corp. of America  
11060-E Artesia Boulevard  
Cerritos 90701 . . . . .(213) 402-5391

IL For-A Corp. of America  
450 E. Devon Avenue, Suite 185  
Itasca 60143 . . . . .(312) 250-8833

**Fortel, Inc.**

6420 Atlantic Boulevard, Suite 100  
Norcross GA 30071 . . . . .(404) 449-4343

**Frezzi/Pag**

5 Valley Street  
Hawthorne NJ 07506 . . . . .(201) 427-1160

**Frezzolini Electronics, Inc.**

5 Valley Street  
Hawthorne NJ 07506 . . . . .(201) 427-1160

**Froehlich FotoVideo**

6 Depot Way  
Larchmont NY 10538 . . . . .(914) 834-5411

**Fujinon, Inc.**

10 Highpoint Drive  
Wayne NJ 07470-7431 . . . . .(201) 633-5600

CA Fujinon, Inc.  
118 Savarona Way  
Carson 90746 . . . . .(213) 532-2861

IL Fujinon, Inc.  
3 N. 125 Springvale  
West Chicago 60185 . . . . .(312) 231-7888

TX Fujinon, Inc.  
2101 Midway, Suite 350  
Carrollton 75006 . . . . .(214) 385-8902

**Fuji Photo Film U.S.A., Inc.**

555 Taxter Road  
Elmsford NY 10523 . . . . .(914) 789-8100

**Galaxy Audio Visual, Inc.**

175 Commerce Drive  
Hauppauge NY 11788 . . . . .(516) 434-9467

**GarLin Enterprises**

P.O. Box 67  
Exton, PA 19341 . . . . .(215) 692-2076

**Garner Industries, Inc.**

4200 N. 48th Street  
Lincoln NE 68504 . . . . .(402) 464-5911

CA Garner Industries, Inc.  
5810 Gold Hill Road  
Placerville 95667 . . . . .(916) 626-9363

**Gaslight Video**

2324 N. Batavia St., Suite 111  
Orange CA 92665-2002 . . . . .(714) 637-1800

**General Electric Co.**

525 East 14th Ave.  
North Kansas City MO 64116 . . . . .(816) 471-0123

**Geneva Group of Companies, Inc.**

7255 Flying Cloud Dr.  
Eden Prairie MN 55344 . . . . .(612) 829-1724

**Genie Industries**

18340 N.E. 76th Street  
Redmond WA 98052 . . . . .(206) 881-1800

B.C. Genie Industries  
340 Brooksbank Avenue  
N. Vancouver V7L 4L3  
Canada . . . . .(604) 984-4242

**GKM Manufacturing Corp.**

47 Bridgewater Street  
Brooklyn NY 11222 . . . . .(718) 388-4114

**GMI Photographic, Inc.**

P.O. Drawer U  
Farmingdale NY 11735 . . . . .(516) 752-0066

**GML America, Inc.**

8150 Leesburg Pike, Suite 910  
Vienna VA 22180 . . . . .(703) 790-0101

CA Innovative Concepts, Int.  
575 Esplanade, Unit 102  
Redondo Beach 90277 . . . . .(213) 540-2556

GA Marketline, Inc.  
2541 Poplar St.  
Snellville 30278 . . . . .(404) 972-9048

IL Go Video Sales  
1195 S. Wilson Dr.  
Lake Forest 60045 . . . . .(312) 295-6726

KS R.L. Graham & Associates  
9201 Belinder Rd.  
Leawood 66206 . . . . .(913) 383-3475

KY Bruce Dawson & Associates  
Central Amer. Term., Bowman Field  
Louisville 40205 . . . . .(502) 456-6666

MD Sales & Marketing Group  
11712 Highview Ave.  
Wheaton 20902 . . . . .(301) 942-2092

NH Associated Systems  
38 Nathan Cutler Dr.  
Bedford 03102 . . . . .(603) 472-2297

NJ Symco  
26 Lurline Dr.  
Basking Ridge 07920 . . . . .(201) 674-6262

TX Active Marketing, Inc.  
2815 Valley View, Suite 125  
Dallas 75234 . . . . .(214) 243-2564

**G & M Power Products, Inc.**

943 N. Orange Dr.  
Los Angeles CA 90038 . . . . .(213) 850-6800

**The Grass Valley Group, Inc.**

P.O. Box 1114  
Grass Valley CA 95945 . . . . .(916) 478-3000

CA Grass Valley Western Reg. Office  
21243 Ventura Blvd., Suite 143  
Woodland Hills 91364 . . . . .(818) 999-2303

CA Grass Valley Western District Office  
1032 Elwell Court, Suite 243  
Palo Alto 94303 . . . . .(415) 968-6680

GA Grass Valley Southeastern District Office  
3554 Habersham at Northlake  
Tucker 30084 . . . . .(404) 493-1255

IN Grass Valley Midwestern Reg. Office  
P.O. Box 4609  
Elkhart 46514 . . . . .(219) 264-0931

MD Grass Valley Eastern District Office  
12520 Prosperity Drive, Suite 110  
Silver Spring 20904 . . . . .(301) 622-6313

MN Grass Valley Northwestern District Office  
3585 N. Lexington Ave., Suite 339  
Arden Hills 55126 . . . . .(612) 483-2594

NJ Grass Valley Eastern Reg. Office  
Six Forest Avenue  
Paramus 07652 . . . . .(201) 845-7988

TX Grass Valley Southwestern District Office  
5628 Green Oaks Blvd. SW, Suite A  
Arlington 76017 . . . . .(817) 483-7447

GVG International, Ltd.  
St. Thomas House, 7 St. Thomas St.  
Winchester, Hampshire S023-9HE U.K.

**Gray Engineering Laboratories, Inc.**

504 W. Chapman Ave., Suite P  
Orange CA 92668 . . . . .(714) 997-4151

**HAMEG Instruments**

88-90 Harbor Rd.  
Port Washington NY 11050 . . . . .(516) 883-3837

CA Hameg, Inc.  
4431 Corporate Center Drive #131  
Los Alamitos 90720 . . . . .(714) 995-4435

**Clifford B. Hannay and Son, Inc.**

600 East Main St.  
Westerlo NY 12193 . . . . .(518) 797-3791

**Harris Video Systems**

960 Linda Vista Ave.  
Mountain View CA 94043 . . . . .(415) 969-9100

CA Harris Video Systems  
P.O. Box 710  
Blue Jay 92317 . . . . .(714) 336-3046

CT Harris Video Systems  
17 Tally Ho  
Ridgefield 06877 . . . . .(203) 431-9386

KS Harris Video Systems  
8663 West 108th Place  
Overland Park 66210 . . . . .(913) 451-1388

**Karl Heitz, Inc.**

34-11 62nd Street  
Woodside NY 11377 . . . . .(718) 565-0004

**H & H Specialties, Inc.**

2210 N. Merced Avenue  
South El Monte CA 91733 . . . . .(213) 283-3562

**Hines Cases Co., Inc.**

6301 J. Richard Dr.  
Raleigh NC 27612 . . . . .(919) 783-9077

**Hitachi Denshi Ltd.**

175 Crossways Park West  
Woodbury NY 11797 . . . . .(516) 921-7200

**Hitachi Sales Corp. of America**

401 W. Artesia Blvd.  
Compton CA 90220 . . . . .(213) 537-8383

# HOPPMANN-LOWEL-LIGHT

- Hoppmann Corp.**  
14560 Lee Road  
Chantilly VA 22021 .....(703) 631-2700
- House of Metal Enclosures, Inc.**  
P.O. Box 225  
Hermann MO 65041 .....(314) 486-3111
- Hudson Photographic Industries, Inc.**  
P.O. Box 227  
Irvington NY 10533 .....(914) 591-8700
- Hughes Aircraft Co.**  
6155 El Camino Real  
Carlsbad CA 92009 .....(619) 931-3000
- Hughes Electronic Devices Corp.**  
P.O. Box 1985  
Grass Valley CA 95945 .....(916) 273-9524
- GA Vica Associates**  
4296 Memorial Drive, Suite A  
Decatur 30032 .....(404) 292-7506
- NY Skip Dunn Video Sales**  
P.O. Box 448  
New Rochelle 10802 .....(914) 576-6003
- Ikegami Electronics (U.S.A.), Inc.**  
37 Brook Ave.  
Maywood NJ 07607 .....(201) 368-9171
- CA Ikegami Electronics (U.S.A.), Inc.**  
23105 Kashiwa Court  
Torrance 90505 .....(213) 534-0050
- FL Ikegami Electronics (U.S.A.), Inc.**  
6201 Johns Road, Suite #5  
Tampa 33634 .....(813) 884-2046
- HI Ikegami Electronics (U.S.A.), Inc.**  
1020 Auahi Street, Bldg. 7 Bay 3A  
Honolulu 96814 .....(808) 946-5955
- IL Ikegami Electronics (U.S.A.), Inc.**  
747 Church, Units C4 & C5  
Elmhurst 60126 .....(312) 834-9774
- NJ Ikegami Electronics (U.S.A.), Inc.**  
29 Brook Avenue  
Maywood 07607 .....(201) 368-9171
- TX Ikegami Electronics (U.S.A.), Inc.**  
6311 N. O'Connor Rd., Suite 100  
Irving 75039-3510 .....(214) 869-2363
- Image Amplification, Inc.**  
P.O. Box 699  
Pine Brook NJ 07058 .....(201) 882-0584
- Image Labs Corp.**  
P.O. Box 158  
Pearl River NY 10965-9998 ..(914) 737-4420
- Image Media, Inc.**  
P.O. Box 640  
Candler NC 28715 .....(704) 667-2545
- Image Video, Ltd.**  
705 Progress Ave., Unit 46  
Scarborough Ontario M1H 2X1  
Canada .....(416) 438-3940
- Innovative Television Equipment**  
6445 De Soto Ave.  
Woodland Hills CA 91367 ... (818) 888-9421
- NJ Innovative Television Equipment "East"**  
250 Gorge Rd., #6E  
Cliffside Park 07010 .....(201) 943-7470
- Instant Replay**  
2951 S. Bayshore Drive, Suite 8E  
Coconut Grove FL 33133 ... (305) 448-7088
- Interand Corp.**  
3200 W. Peterson Ave.  
Chicago IL 60659-3699 .....(312) 478-1700
- Inter Group Video Systems, Inc.**  
2040 N.W. 67 Place  
Gainesville FL 32606 .....(904) 335-0901
- JVC Professional Products Company**  
41 Slater Drive  
Elmwood Park NJ 07407 ... (201) 794-3900
- CA JVC West Coast Branch**  
1111 West Artesia Blvd.  
Compton 90220 .....(213) 537-6020
- IL JVC Midwest Branch**  
2250 Lively Blvd.  
Elk Grove 60007 .....(312) 364-9300
- NJ JVC East Coast Branch**  
I-80 at New Maple Ave.  
Pinebrook 07058 .....(201) 882-0900
- TX JVC Southwest Branch**  
407 Garden Oaks Blvd.  
Houston 77018 .....(713) 694-0666
- Kangaroo Video Products, Inc.**  
10845 Wheatlands Ave., Suite C  
Santee CA 92071-2856 .....(619) 562-9696
- Harman Kardon, Inc.**  
240 Crossways Park West  
Woodbury NY 11797 .....(516) 496-3400
- K & H Products, Ltd.**  
P.O. Box 246  
N. Bennington VT 05257 ... (802) 442-8171
- Kinotone, Inc.**  
P.O. Box 508  
Paterson NJ 07544 .....(201) 279-9700
- Kliegl Brothers Lighting, Inc.**  
5 Aerial Way  
Syosset NY 11791 .....(516) 937-3900
- Kloss Video Corp.**  
42 4th Ave.  
Waltham MA 02514 .....(617) 890-1245
- Knox Video Products**  
8547 Grovemont Circle  
Gaithersburg MD 20877 ... (301) 840-5805
- CA Sharon Fitzgerald**  
9725 Hillhaven Avenue  
Tujunga 91042
- CA SCH Video**  
320 Harding Avenue  
Los Gatos 95032 .....(408) 356-1286
- GA Marketline, Inc.**  
2541 Poplar Street  
Snellville 30278 .....(404) 972-9048
- IL Go Video Sales**  
1195 South Wilson Drive  
Lake Forest 60045 .....(312) 295-6726
- IN George Constantine Assoc.**  
9928 Culpepper Dr.  
Carmel 46032 .....(317) 844-2001
- MO Midwest Video Sales Co.**  
P.O. Box 121  
Ballwin 63021 .....(314) 394-7796
- NH Associated Systems**  
P.O. Box 5211  
Manchester 03180 .....(603) 472-2297
- NY Leon Pomerantz Associates**  
52 Chateau Square  
Rochester 14618 .....(800) 824-7888
- NY J.L. Schaffer Associates**  
16-44 202nd St.  
Bayside 11360 .....(718) 352-8838
- OH LMS Marketing**  
11465 Windridge Dr., NW  
Pickerington 43147 .....(614) 837-7900
- TX Audio Video Marketing**  
817 Panay Way  
Ft. Worth 76108 .....(817) 246-7166
- Eastman Kodak Company**  
343 State Street  
Rochester NY 14650 .....(716) 724-4000
- Kramer Electronics Ltd.**  
P.O. Box 382  
Westbury NY 11590 .....(718) 363-1430
- Laird Telemedia, Inc.**  
2424 South 2570 West  
Salt Lake City UT 84119 .....(801) 972-5900
- Leader Instruments Corp.**  
380 Oser Avenue  
Hauppauge NY 11788 .....(516) 231-6900
- LEE Colortran, Inc.**  
1015 Chestnut Street  
Burbank CA 91506-9983 .....(818) 843-1200
- LEE Filters**  
534 W. 25th St.  
New York NY 10001 .....(212) 691-1910
- Leitch Video of America, Inc.**  
825K Greenbrier Circle  
Chesapeake VA 23320 .....(804) 424-7920
- Ontario Leitch Video Int'l. Inc.**  
10 Dyas Road  
Don Mills M3B 1V5 Canada ..(800) 387-0233
- LEMO USA, Inc.**  
335 Tesconi Circle  
Santa Rosa CA 95401 .....(707) 578-8811
- CA Balzer - Wolf Associates**  
17951-G Skypark Circle  
Irvine 92714 .....(714) 261-6877
- CA Ruppert Sales & Eng.**  
812 South Seventh St.  
San Jose 95112 .....(408) 998-8717
- IL Raines & Associates**  
P.O. Box 1446  
Northbrook 60065 .....(312) 498-0890
- KS Midtec Associates, Inc.**  
11900 W. 87th St. Pkwy., Suite 220  
Lenexa 66215 .....(913) 541-0505
- MA Zieco Inc.**  
175 Bedford Street  
Lexington 02173 .....(617) 861-8300
- MD Mechtronics Sales Inc.**  
P.O. Box 1037  
Rockville 20850 .....(301) 340-2130
- MI Jack M. Thorpe Company**  
18301 Eight Mile Road  
East Detroit 48021 .....(313) 779-6363
- MN Hanna Lind**  
4917 Eden Ave., Suite 101B  
Edina 55424 .....(612) 925-5700
- NJ Sprung - Nussbaum**  
41 Park Place  
Englewood 07631 .....(201) 569-5666
- NM Trembley Associates**  
119 Quincy NE  
Albuquerque 87108 .....(505) 266-8616
- NY Canavan - Scanlon Associates**  
P.O. Box 3089  
Syracuse 13220-3089 .....(315) 437-1271
- OH K/T Depco**  
11 Alpha Park  
Cleveland 44143 .....(216) 442-6200
- OR Earl & Brown Co., Inc.**  
9735 S.W. Sunshine Ct., Suite 500  
Beaverton 97005 .....(503) 643-5500
- PA Jacobsen Associates**  
499 Easton Road  
Horsham 19044 .....(215) 674-2937
- TX Jim Hughes Company**  
448 High School  
Lewisville 75067 .....(214) 221-1536
- Lenco, Inc.**  
300 North Maryland St.  
Jackson MO 63755 .....(314) 243-3147
- Lighting Associates**  
P.O. Box 299  
Chester CT 06412 .....(203) 526-9315
- Lighting Methods, Inc.**  
P.O. Box 299  
Chester CT 06412 .....(203) 526-9315
- Lindburg Enterprises, Inc.**  
9707 Candida Street  
San Diego CA 92126 .....(619) 566-5656
- Peter Lisand Machine Corp.**  
352 River Road  
Edgewater NJ 07020 .....(201) 943-5600
- Listec Video Corp.**  
30 Oser Ave  
Hauppauge NY 11788 .....(516) 273-3020
- Lowel Alpine Systems**  
P.O. Box 1449  
Broomfield CO 80020 .....(303) 465-3706
- Lowel-Light Manufacturing, Inc.**  
475 10th Ave.  
New York NY 10018-1197 ... (212) 947-0957



**LSS Laboratories**

P.O. Box 866  
Wallingford CT 06492 .....(203) 284-0664

**LTM Corp. of America**

1160 N. Las Palmas Avenue  
Hollywood CA 90038 .....(213) 460-6166

**FL LTM Corp./Florida**

909 N.W. 10th Terrace  
Ft. Lauderdale 33311 .....(305) 522-1070

**MI LTM Corp./Michigan**

36875 Schoolcraft Road  
Livonia 48150 .....(313) 464-1103

**NY LTM Corp./New York**

437 W. 16th Street  
New York 10011-5835 .....(212) 243-9288

**Lucasey Mfg. Corp.**

P.O. Box 7255  
Oakland CA 94601 .....(415) 534-1435

**Luxor Corp.**

P.O. Box 830  
Waukegan IL 60079-0830 .....(312) 244-1800

**Luxot Products**

P.O. Box 1118  
Richmond VA 23208 .....(804) 644-2355

**Lycian Stage Lighting**

P.O. Box D  
Sugar Loaf NY 10981 .....(914) 469-2285

**Lyon Lamb Video Animations Systems, Inc.**

4531 Empire Ave.  
Burbank CA 91505 .....(818) 843-4831

**3M Company**

3M Center  
St. Paul MN 55144 .....(612) 733-1110

**Magni Systems, Inc.**

9500 S.W. Gemini Drive  
Beaverton OR 97005 .....(503) 626-8400

**Marshall Electronics, Inc.**

P.O. Box 2027  
Culver City CA 90230 .....(213) 390-6608

**Marshall Products, Inc.**

3 Golf Center, Suite 312  
Hoffman Estates IL 60195 .....(312) 310-0951

**Matthews Studio Equipment, Inc.**

2405 Empire Ave.  
Burbank CA 91504 .....(818) 843-6715

**Matthey**

P.O. Box 393  
South Salem NY 10590 .....(914) 763-8893

**Maxell Corp. of America**

60 Oxford Dr.  
Moonachie NJ 07074 .....(201) 641-8600

**Memtek Products**

P.O. Box 58118  
Santa Clara CA 95052-8118 ..(408) 559-2900

**CA Memtek Products**

1 Sierragate Plaza, Suite 150B  
Roseville 95678 .....(916) 786-6027

**IL Memtek Products**

3206 No. Kennicott Drive  
Arlington Heights 60004 ... (312) 506-0880

**TX Memtek Products**

2450 West I-20  
Arlington 76017 .....(817) 467-0473

**VA Memtek Products**

5803 Rolling Rd., Ste. #215A  
Springfield 22152 .....(703) 644-5255

**Merlin Engineering Works**

2440 Embarcadero Way  
Palo Alto CA 94303 .....(415) 856-0900

**Microtime, Inc.**

1280 Blue Hills Ave.  
Bloomfield CT 06002 .....(203) 242-4242

**CA Microtime, Inc.**

.....(805) 297-1060

**GA Microtime, Inc.**

.....(404) 979-4437

NJ Microtime, Inc. ....(609) 896-3716

TX Microtime, Inc. ....(214) 644-0232

WI Microtime, Inc. ....(608) 493-2619

**Miller Fluid Heads (USA), Inc.**

2819 W. Olive Avenue  
Burbank CA 91505 .....(818) 841-6262

**NJ Miller Fluid Heads (USA) Inc.**

.....(201) 907-0729

**Minolta Corp.**

101 Williams Dr.  
Ramsey NJ 07446 .....(201) 825-4000

**CA Minolta Corp.**

4340 Stevens Creek Blvd.  
San Jose 95129 .....(408) 985-1497

**CA Minolta Corp.**

3105 Lomita Blvd.  
Torrance 90505 .....(213) 530-2022

**GA Minolta Corp.**

5904 Peachtree Corners East  
Norcross 30071 .....(404) 449-3600

**IL Minolta Corp.**

3000 Tollview Dr.  
Rolling Meadows 60008. ....(312) 398-4400

**TX Minolta Corp.**

6230 North Beltline Rd., Suite 310  
Irving 75063 .....(214) 550-8585

**Mitsubishi Electric Sales America, Inc.**

110 New England Ave. West  
Piscataway NJ 08854 .....(201) 981-1414

**CA Mitsubishi Electric Sales America, Inc.**

5757 Plaza Drive  
Cypress 90630-6007 .....(714) 220-2500

**GA Mitsubishi Electric Sales America, Inc.**

6100 Atlantic Blvd  
Norcross 30071 .....(404) 448-1263

**IL Mitsubishi Electric Sales America, Inc.**

800 Biermann Court  
Mt. Prospect 60045-2173 ... (312) 298-9223

**TX Mitsubishi Electric Sales America, Inc.**

9000 Royal Lane  
Irving 75063 .....(214) 929-0046

**Mole Richardson Co.**

937 North Sycamore Ave.  
Hollywood CA 90038-2384 ... (213) 851-0111

**Morton Hi-Tek Furnishings**

950 W. Central Ave., Unit A  
Brea CA 92621 .....(714) 529-4007

**MPO Videotronics Corp.**

2580 Turquoise Circle  
Newbury Park CA 91320. ....(805) 499-8513

**GA MPO Videotronics Corp.**

Atlanta .....(404) 875-0015

**IL MPO Videotronics Corp.**

640 No. LaSalle St.  
Chicago 60610 .....(312) 527-3680

**NY MPO Videotronics Corp.**

619 West 54th St.  
New York 10019

**Mycomp Technologies Corp.**

200 McCormick Ave.  
Costa Mesa CA 92626 .....(714) 545-5111

**Nalpak Video Sales, Inc.**

1937 C Friendship Drive  
El Cajon CA 92020 .....(619) 258-1200

**NJ Alpack Associates**

P.O. Box 270 WOB  
W. Orange 07052 .....(201) 485-3684

**National Video Services, Inc.**

Commerce Park, Finance Drive  
Danbury CT 06810 .....(203) 792-3862

**NEC America, Inc.**

1255 Michael Drive  
Wood Dale IL 60191-1094 ... (312) 860-9500

**NEC Home Electronics (USA), Inc.**

1255 Michael Drive  
Wood Dale IL 60191-1094 ... (312) 860-9500

**CA NEC Home Electronics (USA), Inc.**

4942 W. Rosecrans  
Hawthorne 90250. ....(213) 978-8363

**GA NEC Home Electronics (USA), Inc.**

302 Perimeter Ctr. North, Ste. 305  
Atlanta 30346. ....(404) 668-7431

**NJ NEC Home Electronics (USA), Inc.**

373 Route 46 West  
Fairfield 07006 .....(201) 882-8998

**Nova Systems, Inc.**

50 Albany Turnpike  
Canton CT 06019 .....(203) 693-0238

**CA The Enright Company**

3965 Walnut Avenue  
Long Beach 90807 .....(213) 595-4624

**GA JFA Associates**

670 Hillcrest Road, Suite 400  
Lilburn 30247. ....(404) 921-8687

**IL Applied Technologies Marketing**

3975 Suffolk Lane  
Hoffman Estate 60195 .....(312) 934-6262

**IN Constantine & Assoc.**

9928 Culpepper Drive  
Carmel 46032 .....(317) 844-2001

**MD Commercial Video Representatives**

6707 Whitestone Road, #101  
Baltimore 21207 .....(301) 597-8860

**MO Midwest Video Marketing**

P.O. Box 121  
Ballwin 63022. ....(314) 394-7796

**NY Omnivue, Inc.**

274 Madison Avenue, Suite 1406  
New York 10016 .....(212) 532-5576

**TX Active Marketing**

2815 Valley View Drive, Ste. 125  
Dallas 75234. ....(214) 243-2564

**WA S & F Northwest, Inc.**

5210-C Roosevelt Way N.E.  
Seattle 98105 .....(206) 525-5203

**Numark Electronics Corp.**

P.O. Box 493  
Edison NJ 08818 .....(201) 225-3222

**Ben Nye Company, Inc.**

11571 Santa Monica Blvd.  
Los Angeles CA 90025 .....(213) 477-0443

**O'Connor Engineering Labs**

100 Kalmus Drive  
Costa Mesa CA 92626 .....(714) 979-3993

**Olympus Corp.**

145 Crossways Park  
Woodbury NY 11746. ....(516) 364-3000

**CA Olympus Corporation**

7245 Garden Grove Blvd., Suite E  
Garden Grove 92641 .....(714) 895-5326

**IL Olympus Corporation**

5400 Newport Drive, Suite 21  
Rolling Meadows 60008. ....(312) 255-9500

**Omnimount Systems**

10850 Vanowen Street  
North Hollywood CA 91605 ..(818) 766-9000

**Optimus, Inc.**

161 East Grand Ave.  
Chicago IL 60611 .....(312) 321-0880

**Oscarvision Systems, Inc.**

20 Arcadia Road  
Old Greenwich CT 06870 ... (203) 637-7880

**Packaged Lighting Systems, Inc.**

P.O. Box 285  
Walden NY 12586 .....(914) 778-3515

**Paltex Corp.**

2752 Walnut Avenue  
Tustin CA 92680 .....(714) 838-8833

# PANASONIC-ROSCO

- Panasonic Industrial Company**  
One Panasonic Way  
Secaucus NJ 07094 . . . . .(201) 348-7000
- CA** Panasonic Western Region  
6550 Katella Ave.  
Cypress 90630 . . . . .(714) 895-7200
- GA** Panasonic Southeast Region  
1854 Shackelford Ct., Suite 115  
Norcross 30093 . . . . .(404) 925-6835
- IL** Panasonic Midwest Region  
425 E. Algonquin Rd.  
Arlington Hts. 60005 . . . . .(312) 981-4826
- NJ** Panasonic Northeast Region  
50 Meadowland Pkwy.  
Secaucus 07094 . . . . .(201) 348-7620
- TX** Panasonic Southwest Region  
1825 Walnut Hill Lane  
Irving 75038 . . . . .(214) 580-0518
- WA** Panasonic Northwest Region  
1200 Westlake Ave. North, Ste. 508  
Seattle 98109 . . . . .(206) 285-8883
- Peerless Sales Co.**  
1950 Hawthorne Ave.  
Melrose Park IL 60160 . . . . .(312) 865-8870
- Pentax Corp.**  
35 Inverness Drive East  
Englewood CA 80112 . . . . .(303) 799-8000
- Pep, Inc.**  
25 West 54th Street  
New York NY 10019 . . . . .(212) 246-2490
- Permacel**  
P.O. Box 671  
New Brunswick NJ 08903 . . . . .(201) 418-2400
- Perma Power Electronics, Inc.**  
5601 West Howard Ave.  
Chicago IL 60648 . . . . .(312) 647-9414
- CA** Personal Electronics Sales  
1516 S. Bundy Dr., Suite 220  
Los Angeles 90025 . . . . .(213) 826-3711
- CA** Technical Sales Associates  
25370 Cypress Ave.  
Hayward 94544 . . . . .(415) 887-6616
- CA** Teqni-Rep  
7664 San Fernando Road  
Sun Valley 91352 . . . . .(818) 768-4223
- CA** Westco Enterprises, Inc.  
880 South Bascom Avenue  
San Jose 95128 . . . . .(408) 297-4800
- CA** WMD Marketing, Inc.  
1171 - 65th  
Oakland 94608 . . . . .(415) 428-1100
- CO** Equal Electric, Inc.  
P.O. Box 1246  
Parker 80134 . . . . .(303) 841-8982
- CO** Stan Sliiz Associates  
700 Burbank Street  
Broomfield 80020 . . . . .(303) 466-1608
- CT** The Smith Company  
85 Prospect Ave.  
Hartford 06106 . . . . .(203) 523-0512
- IL** G/B Marketing Inc.  
1495 Busch Parkway  
Buffalo Grove 60015 . . . . .(312) 520-4008
- IL** Don Roth  
106 North Wilmet  
Deerfield 60015 . . . . .(312) 940-0010
- IN** Green Wissler Sales Co., Inc.  
8770 Commerce Park Place, Ste. G  
Indianapolis 46268 . . . . .(317) 872-9981
- MA** C.P. Marketing, Inc.  
381 Elliot Street  
Upper Newton Falls 02164 . . . . .(617) 969-1150
- MA** W & D Marketing  
165 U New Boston Street  
Woburn 01801 . . . . .(617) 935-5610
- MI** J. Malcolm Flora Inc.  
165 West Liberty Street  
Plymouth 48170 . . . . .(313) 453-4296
- MN** R.W. Sales, Inc.  
1563 Como Avenue  
St. Paul 55108 . . . . .(612) 646-2710
- MO** Carmine A. Vignola Associates, Inc.  
P.O. Box 569  
Jefferson City 65101 . . . . .(314) 636-3121
- NC** Adams & Associates, Inc.  
1300 Westover Terrace  
Greensboro 27408 . . . . .(919) 272-6838
- NJ** Fahy Marketing  
142 Tauton Blvd.  
Medford 08055 . . . . .(609) 654-1022
- NJ** MGB Marketing  
Sir George Sq., Penny Town Ste.1-N  
Pennington 08534 . . . . .(609) 466-4000
- NY** Landau & Mack, Inc.  
29 Cain Drive  
Plainview 11803 . . . . .(516) 293-3310
- NY** LSM Associates  
27 Orchard Park  
Phelps 14532 . . . . .(315) 548-4891
- NY** Morhan Exporting  
270-278 Newtown Road  
Plainview 11803 . . . . .(516) 293-5582
- NY** Repmaster Inc.  
95 Commercial Street  
Plainview 11803 . . . . .(516) 349-1150
- NY** Tomorrow's Answers, Inc  
8 Bond Street  
Great Neck 11021 . . . . .(516) 487-9640
- OH** J.W. Lehner Co.  
1221 Temple Trail  
Stow 44224 . . . . .(216) 686-1965
- OH** Marketing, Inc.  
119 Fernwood Road  
Chagrin Falls 44022 . . . . .(216) 247-2450
- TX** Dick Bellew Sales Co.  
13405 Floyd Cr., Suite 102  
Dallas 75234 . . . . .(214) 644-7881
- TX** Berthold Sales Co.  
P.O. Box 280720  
Dallas 75228 . . . . .(214) 328-0067
- TX** Hamilton & Associates  
P.O. Box 2077  
Spring 77383 . . . . .(713) 288-0096
- WA** Northmar Inc.  
1011 N.E. 69th Street  
Seattle 98115 . . . . .(206) 524-5170
- WI** Voss-Dent & Associates  
N48, W14170 Hampdon Road  
Menomonee Falls 53051 . . . . .(414) 781-0555
- Philips Test & Measuring Instruments**  
P.O. Box C9090, M/S 250C  
Everett WA 98206 . . . . .(206) 356-5400
- Phoebus Mfg.**  
2800 Third Street  
San Francisco CA 94107 . . . . .(415) 550-1177
- Pinnacle Systems, Inc.**  
2380 Walsh Avenue  
Santa Clara CA 95051 . . . . .(408) 970-9787
- FL** Pinnacle Systems, Inc.  
2904 Brey Ct.  
Tallahassee 32308 . . . . .(904) 893-5950
- MA** Pinnacle Systems, Inc.  
203 Broughton Dr.  
Beverly 01915 . . . . .(617) 922-3394
- Pioneer Communications of America, Inc.**  
600 East Crescent Ave.  
Upper Saddle River NJ 07458-1827(201) 327-6400
- CA** Pioneer Video, Inc.  
915 E. 230th St.  
Carson 90749 . . . . .(213) 518-0710
- Plastic Reel Corp. of America**  
Brisbin Ave  
Lyndhurst NJ 07071 . . . . .(201) 933-5100
- Platt Luggage, Inc.**  
2301 S. Prairie Ave.  
Chicago IL 60616-9990 . . . . .(312) 225-6670
- Polaroid Corp.**  
575 Technology Square  
Cambridge MA 02139 . . . . .(617) 577-2000
- Pook Diemont & Ohl, Inc.**  
701 East 132nd Street  
Bronx NY 10454 . . . . .(212) 402-2677
- Portac, Inc.**  
108 Aero Camino  
Goleta CA 93117 . . . . .(805) 685-2960
- Porta-Pattern, Inc.**  
P.O. Box 38945  
Los Angeles CA 90038 . . . . .(213) 461-3561
- PortaVideo International, Inc.**  
P.O. Box 22130  
Tempe AZ 85282 . . . . .(602) 894-1222
- Power-Sonic Corp.**  
P.O. Box 5242  
Redwood City CA 94063 . . . . .(415) 364-5001
- Premier Metal Products Co.**  
381 Canal Place  
Bronx NY 10451-9977 . . . . .(212) 993-9200
- CA** Premier Metal Products Co. Service  
16641 Orange Way  
Fontana 92335 . . . . .(714) 829-3089
- Prime Image, Inc.**  
19943 Via Escuela  
Sarotoga CA 95070 . . . . .(408) 867-6519
- Pro Tapes and Specialties**  
832 Eighth Ave.  
New York NY 10019 . . . . .(212) 586-8873
- Proton Corp.**  
737 W. Artesia Blvd.  
Compton CA 90220 . . . . .(213) 638-5151
- QSI Systems, Inc.**  
12 Linscott Road  
Woburn MA 01801 . . . . .(617) 938-1403
- Q-TV**  
104 E. 25th Street  
New York NY 10018 . . . . .(212) 460-9050
- CA** Q-TV  
7350 Beverly Blvd.  
Los Angeles 90036 . . . . .(212) 936-6195
- Quanta Corp.**  
2440 South Progress Drive  
Salt Lake City UT 84119 . . . . .(801) 974-0992
- CA** Quanta Corp., West  
49 South Baldwin Avenue  
Sierra Madre 91024 . . . . .(818) 355-8224
- CT** Quanta Corp., Northeast  
57 North Street, Suite 207  
Danbury 06810 . . . . .(203) 797-1179
- TN** Quanta Corp., Southeast  
1833 Auburndale Drive  
Chattanooga 37405-1403 . . . . .(615) 892-8427
- UT** Quanta Corp., Intermountain  
3417 A Honeycut Road  
Salt Lake City 84106 . . . . .(801) 485-1913
- Quantel**  
655 Washington Blvd, Suite 602  
Stamford CT 06909 . . . . .(203) 348-4104
- QuickSet International, Inc.**  
3650 Woodhead Drive  
Northbrook IL 60062 . . . . .(312) 498-0700
- Rampart Cases, Inc.**  
701 Charles Street  
Gloucester NJ 08030 . . . . .(609) 456-0101
- RCA Commercial Products**  
Route 38, Building 203-3  
Cherry Hill NJ 08358 . . . . .(609) 486-5830
- RCA Consumer Electronics**  
600 N. Sherman  
Indianapolis IN 46206-1976 . . . . .(317) 267-5000
- Redline Research Laboratories, Inc.**  
4055 Guasti Road, Suite  
Ontario CA 91761 . . . . .(714) 986-7600
- Remeo Products Corp.**  
41 Bridge St.  
Florida NY 10921 . . . . .(914) 651-4431
- Remin Lab**  
510 Manhattan Rd.  
Joliet IL 60433 . . . . .(815) 723-1940
- Rosco Laboratories, Inc.**  
36 Bush Ave.  
Port Chester NY 10573 . . . . .(914) 937-1300

**CA Rosco Laboratories, Inc.**  
1135 N. Highland Ave.  
Hollywood 90038 .....(213) 462-2233

**Ontario Rosco Laboratories Ltd.**  
1271 Devison St. #66  
Markham L3R 4B5 Canada... (416) 475-1400

**Rosebrand**  
517 West 35th Street  
New York NY 10001 .....(212) 594-7424

**Ross Video Ltd.**  
P.O. Box 220  
Iroquois Ontario K0E 1K0  
Canada .....(613) 652-4886

**Runco International**  
1670 S. Amplett Blvd., Suite 316  
San Mateo CA 94402 .....(415) 574-5800

**Sachtler Corp. of America**  
55 North Main St.  
Freeport NY 11520 .....(516) 867-4900

**CA Sachtler Corporation of America**  
3316 W. Victory Blvd.  
Burbank 91505 .....(818) 845-4446

**Schwem Technology**  
3305 Vincent Road  
Pleasant Hill CA 94523 .....(415) 935-1226

**SciTech Corp.**  
1450 N.W. 78th Ave.  
Miami FL 33126 .....(305) 591-1620

**Scriptovision, Inc.**  
7419 La Jeunesse St.  
Montreal Quebec H2R 2J1  
Canada .....(514) 271-2265

**Seikosha America, Inc.**  
1111 MacArthur Blvd.  
Mahwah NJ 07430 .....(201) 529-4655

**Sharp Electronics Corp.**  
Sharp Plaza  
Mahwah NJ 07430 .....(201) 529-8731

**CA Sharp Electronics Corp., Western Region**  
20600 S. Alameda St., Sharp Plaza  
Carson 90810 .....(213) 637-9488

**GA Sharp Electronics Corp., Southeast Region**  
725 Old Norcross Road  
Lawrenceville 30245 .....(404) 995-0717

**IL Sharp Electronics Corp., Midwest Region**  
1300 Naperville Drive  
Romeville 60441 .....(312) 759-8555

**NJ Sharp Electronics Corp., Northeast Region**  
P.O. Box 650  
Mahwah 07430 .....(201) 529-8734

**Shibasoku Corp. of America**  
12509 Beatrice Street  
Los Angeles CA 90066 .....(213) 827-7144

**Shintron Co., Inc.**  
144 Rogers St.  
Cambridge MA 02142 .....(617) 491-8700

**CA PACVID Inc.**  
8404 Franklin Ave.  
Los Angeles 90069 .....(213) 650-7373

**CA Pro Rep Co.**  
1169 Chess Drive  
Foster City 94404 .....(415) 570-5055

**MA F.M. Valenti Inc.**  
One Saunders Ledge  
Nahant 01908-1692 .....(617) 592-5300

**MO Digital Systems Sales**  
4606 East 137th Terrace  
Grandview 64030 .....(816) 765-3337

**Sigma Electronics, Inc.**  
P.O. Box 448  
E. Petersberg PA 17520-0448 (717) 569-2681

**Skotel Corp.**  
1445 Provencher  
Brossard Quebec J4W 1Z3  
Canada .....(514) 465-8990

**Smith-Victor Corp.**  
301 N. Colfax St.  
Griffith IN 46319 .....(219) 924-6136

**Sonar Radio Corp.**  
3000 Stirling Rd.  
Hollywood FL 33021-2099 ... (305) 981-8800

**Sony Corp. of America**  
1600 Queen Anne Rd.  
Teaneck NJ 07666 .....(201) 833-5200

**Spectrum Design & Development, Inc.**  
3420 Walbert Ave.  
Allentown PA 18104 .....(215) 395-6934

**CO Professional Sound & Lighting**  
9241 West Virginia Place  
Lakewood 80226 .....(303) 986-5999

**GA Raleigh Perry & Associates**  
3963 Magnolia Lane  
Buford 30518 .....(404) 945-3142

**WI Ludwig Marketing**  
8406 110th Avenue  
Kenosha 53142 .....(414) 697-9355

**Standard/Audiscan Products Co.**  
1414 130th Ave.  
Bellevue WA 98009 .....(206) 454-0694

**Stantron**  
6900 Beck Ave.  
N. Hollywood CA 91605 .....(213) 875-0800

**Star Case Mfg. Co., Inc.**  
648 Superior Ave.  
Munster IN 46321 .....(219) 922-4440

**Stewart Filmscreen Corp.**  
1161 W. Sepulveda Blvd.  
Torrance CA 90502-2797 ... (213) 326-1422

**Strand Lighting**  
P.O. Box 9004  
Rancho Dominguez CA 90224(213) 637-7500

**Strong International**  
1712 Jackson Street  
Omaha NE 68102 .....(402) 342-4444

**Sylvania/GTE Products Corp.**  
**Lighting Center**  
100 Endicott St.  
Danvers MA 01923 .....(617) 777-1900

**Taber Manufacturing & Eng. Company**  
1880 Embarcadero Road  
Palo Alto CA 94303 .....(415) 493-3811

**Tamron Industries, Inc.**  
24 Valley Road  
Port Washington NY 11050 ..(516) 883-8800

**Ontario Amplis Foto, Inc.**  
22 Telson Road  
Markham L3R 1E5 Canada

**Tape Care**  
2801 N. 27th St.  
Lincoln NE 68521 .....(402) 464-5858

**TDK Electronics Corp.**  
12 Harbor Park Drive  
Port Washington NY 11050 ... (516) 625-0100

**CA TDK Electronics Corp.**  
17102 Dewar  
Irvine 92714 .....(714) 863-9386

**GA TDK Electronics Corp.**  
1700 Westfork Dr.  
Lithia Springs 30057 .....(404) 948-1346

**IL TDK Electronics Corp.**  
4711 Golf Road  
Skokie 60076 .....(312) 595-3528

**Teatronics, Inc.**  
3100 McMillan Road  
San Luis Obispo CA 93401 ..(805) 544-3555

**Tech Electronics, Inc.**  
6699 Peachtree Industrial Blvd. Ste. D  
Norcross GA 30092 .....(404) 446-1416

**Technov Industries, Ltd.**  
412 West 57th Street  
New York NY 10019 .....(212) 586-3690

**Tekskil Industries, Inc.**  
#108 15290 103A Avenue  
Surrey BC V3R 7A2 Canada ..(604) 589-1100

**CA Innovative Concepts Int.**  
575 Esplanade, Apt. #102  
Redondo Beach 90277 .....(213) 540-2556

**FL Mort Press Video Inc.**  
1800 San Souci Boulevard, #305  
North Miami 33181 .....(305) 895-2262

**IL Go Video Sales**  
1195 South Wilson Drive  
Lake Forest 60045 .....(312) 295-6726

**KS R.L. Graham & Associates**  
P.O. Box 6464  
Leawood 66206 .....(913) 383-3475

**KY Bruce Dawson & Associates**  
Central Amer. Term., Bowman Field  
Louisville 40205 .....(502) 456-6666

**LA Michael A. Dollacker & Associates, Inc.**  
5831 S. Robertson Street  
New Orleans 70115 .....(504) 861-4513

**MD Sales & Marketing Group**  
11712 Highview Ave.  
Wheaton 20902 .....(301) 942-2092

**NC C.E. Cook Company**  
P.O. Box 1385  
Salisbury 28145 .....(704) 636-2825

**NH Associated Systems**  
P.O. Box 5211  
Manchester 03108 .....(603) 472-2297

**NJ Symco Inc.**  
P.O. Box 373  
Millington 07946 .....(201) 647-6262

**NY Jack Schaffer**  
#16 - 44 202 St.  
Bayside 11436 .....(718) 352-8838

**Tektronix, Inc.**  
P.O. Box 500  
Beaverton OR 97077 .....(503) 627-7111

**Telcom Research**  
1163 King Road  
Burlington Ontario L7R 3X5  
Canada .....(419) 681-2450

**Telemet**  
185 Dixon Ave.  
Amityville NY 11701 .....(516) 842-2300

**Telepak**  
4783 Ruffner St.  
San Diego CA 92111 .....(619) 268-8559

**Telescript, Inc.**  
445 Livingston St.  
Norwood NJ 07648 .....(201) 767-6733

**Tenba, Inc.**  
502 Broadway  
New York NY 10012 .....(212) 966-1013

**Testrite Instrument Co., Inc.**  
135 Monroe  
Newark NJ 07105 .....(201) 589-6767

**Theatre Magic**  
6099 Godown Road  
Columbus OH 43220 .....(614) 459-3222

**Theatre Techniques, Inc.**  
60 Connolly Parkway  
Hamden CT 06514 .....(203) 281-6111

**Thermodyne International Ltd.**  
20850 S. Alameda  
Long Beach CA 90810 .....(213) 603-1976

**James Thomas Engineering, Ltd.**  
122 Sherlake Road  
Knoxville TN 37922 .....(615) 690-5397

**Thorn EMI**  
5451 Ukiyah Cr.  
Las Vegas NV 89118 .....(702) 376-3656

**Time Line, Inc.**  
270 Lafayette St., Room 1300  
New York NY 10012 .....(212) 431-0330



**Times Square Theatrical & Studio Supply Corp.**

318 West 47th Street  
New York NY 10036 . . . . .(212) 245-4155

**Tote Vision**

901 Thomas St.  
Seattle WA 98109 . . . . .(206) 682-4343

**Trompeter Electronics, Inc.**

31186 La Baya Drive  
Westlake Village CA 91362 . . .(818) 707-2020

**TV Specialists, Inc.**

180 East 2100 South, Suite 104  
Salt Lake City UT 84115 . . . .(801) 486-5757

**TV Specialists, Inc.**

170 East 2100 South  
Salt Lake City UT 84115 . . . . .(801) 486-7555

**Ultimate Support Systems, Inc.**

P.O. Box 470  
Fort Collins CO 80522 . . . . .(303) 493-4488

**Ultimate Corp.**

18607 Topham St.  
Reseda CA 91335 . . . . .(818) 345-5525

**Ultra Light Mfg. Co.**

6846 Lankershim Blvd.  
N. Hollywood CA 91605 . . . . .(818) 765-2200

**Unicol**

76 Fourth St.  
New Rochelle NY 10801 . . . . .(914) 636-7775

**Union Connector Co., Inc.**

300 Babylon Turnpike  
Roosevelt NY 11575 . . . . .(516) 623-7461

**University Research Co.**

4720 W. 2100 North  
Cedar City UT 84720 . . . . .(801) 586-5261

**Utah Scientific, Inc.**

1685 W. 2200 S.  
Salt Lake City UT 84119 . . . . .(801) 973-6840

**Vanner, Inc.**

745 Harrison Dr.  
Columbus OH 43204 . . . . .(614) 272-6263

**VDO-PAK Products**

931 Alexander St.  
Port Orange FL 32029 . . . . .(904) 756-9770

**Velbon International Corp.**

2433 Morten St.  
Torrance CA 90505 . . . . .(213) 530-5446

**Video Accessory Corp.**

2450 Central Ave., Suite H  
Boulder CO 80301 . . . . .(303) 443-4950

**CA Innovative Concepts Int'l.**

575 Esplanade, Unit 102  
Redondo Beach 90277 . . . . .(818) 848-1234

**GA VICA Associates**

4296 Memorial Drive, Suite A  
Decatur 30032 . . . . .(404) 292-7506

**IL Go Video Sales Inc.**

1195 S. Wilson Drive  
Lake Forest 60045 . . . . .(312) 295-6726

**IN Constantine & Associates**

9928 Culpepper Drive  
Carmel 46032 . . . . .(317) 844-2001

**KS R.L. Graham Associates**

9201 Belinder Avenue  
Leawood 66206 . . . . .(913) 383-3475

**LA Dollacker & Associates Inc.**

5831 S. Robertson St.  
New Orleans 70115 . . . . .(504) 861-4513

**MD Sales & Marketing**

11712 Highview Avenue  
Wheaton 20902 . . . . .(301) 942-2092

**NY Omnivue Inc.**

274 Madison Avenue, Suite 1406  
New York 10016 . . . . .(212) 532-5576

**Video Data Systems**

30 Oser Ave.  
Hauppauge NY 11788 . . . . .(516) 231-4400

**CA Pacific Group**

75 West Green St., Suite 1  
Pasadena 91105 . . . . .(818) 577-0738

**V-1206**

**GA Vica Associates**

4296 Memorial Drive, Suite A  
Decatur 30022 . . . . .(404) 292-7506

**IL Applied Technologies Marketing**

3975 Suffolk Lane  
Hoffman Estates 60195 . . . . .(312) 934-6262

**IN George Constantine**

9928 Culpepper Drive  
Carmel 46032 . . . . .(317) 844-2001

**MD Sales & Marketing Group**

11712 Highview Avenue  
Wheaton 20902 . . . . .(301) 942-2092

**NY Omnivue, Inc.**

274 Madison Avenue  
New York 10016 . . . . .(212) 532-5576

**Video Expressions**

23677 Baiter St.  
Canoga Park CA 91304 . . . . .(818) 704-8884

**Videomagnetics**

3517 Edison Way  
Menlow Park CA 94025 . . . . .(408) 737-8300

**Videomedia, Inc.**

211 Weddell Drive  
Sunnyvale CA 94089 . . . . .(408) 745-1700

**Videonics, Inc.**

1129 Dell Ave.  
Campbell CA 95008-6611 . . .(408) 866-8300

**CA EMC**

4737 Brewster Drive  
Tarzana 91356 . . . . .(818) 705-6485

**CO On Mark Sales**

4695 Kingston Street  
Denver 80239 . . . . .(303) 371-3550

**FL United Marketing Inc.**

7798 N.W. 64th Street  
Miami 33166 . . . . .(305) 592-1106

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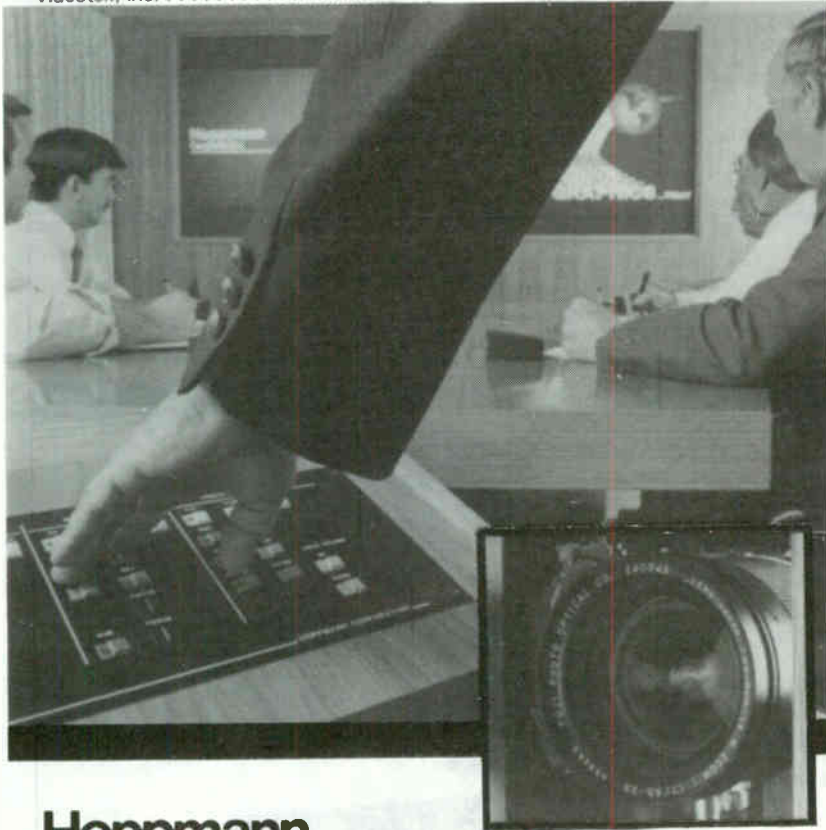
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### Videocassette Recorders/Players, Beta

Ampex Corp. . . . .V-59-62  
Sony Corp. of America . . . . .V-999, 1000

### Videocassette Recorders/Players, MII

JVC Professional Products Company . . . . .V-598-603

### Videocassette Recorders/Players, Motion Analyzer

Panasonic Industrial Co. . . . .V-862

### Videocassette Recorders/Players, Multistandard

Instant Replay . . . . .V-591

### Videocassette Recorders/Players, S-VHS

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Panasonic Industrial Co. . . . .V-854, 855

### Videocassette Recorders/Players, VHS

Canon U.S.A., Inc. . . . .V-231  
Hitachi Sales Corp. of America . . . .V-539  
JVC Professional Products Company . . . . .V-644-647, 650-654  
Mitsubishi Electric Sales America, Inc. .V-809  
NEC Home Electronics (USA), Inc. . . . .V-829, 832  
Panasonic Industrial Co. . . . .V-856-862  
PortaVideo International, Inc. . . . .V-901  
RCA Consumer Electronics . . . .V-931, 932  
Sharp Electronics Corp. . . . .V-971  
Tote Vision . . . . .V-1113  
Zenith Electronics Corp. . . . .V-1195, 1196

### Videocassette System, Automatic

Dwight Cavendish Developments, Ltd. . . . .V-235

### Videoscope

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### Waveform/Vector Monitors

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Hitachi Denshi Ltd. . . . .V-534  
Leader Instruments Corp. . . . .V-706  
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Philips Test & Measuring Instruments . . . . .V-883, 886  
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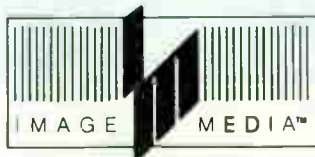
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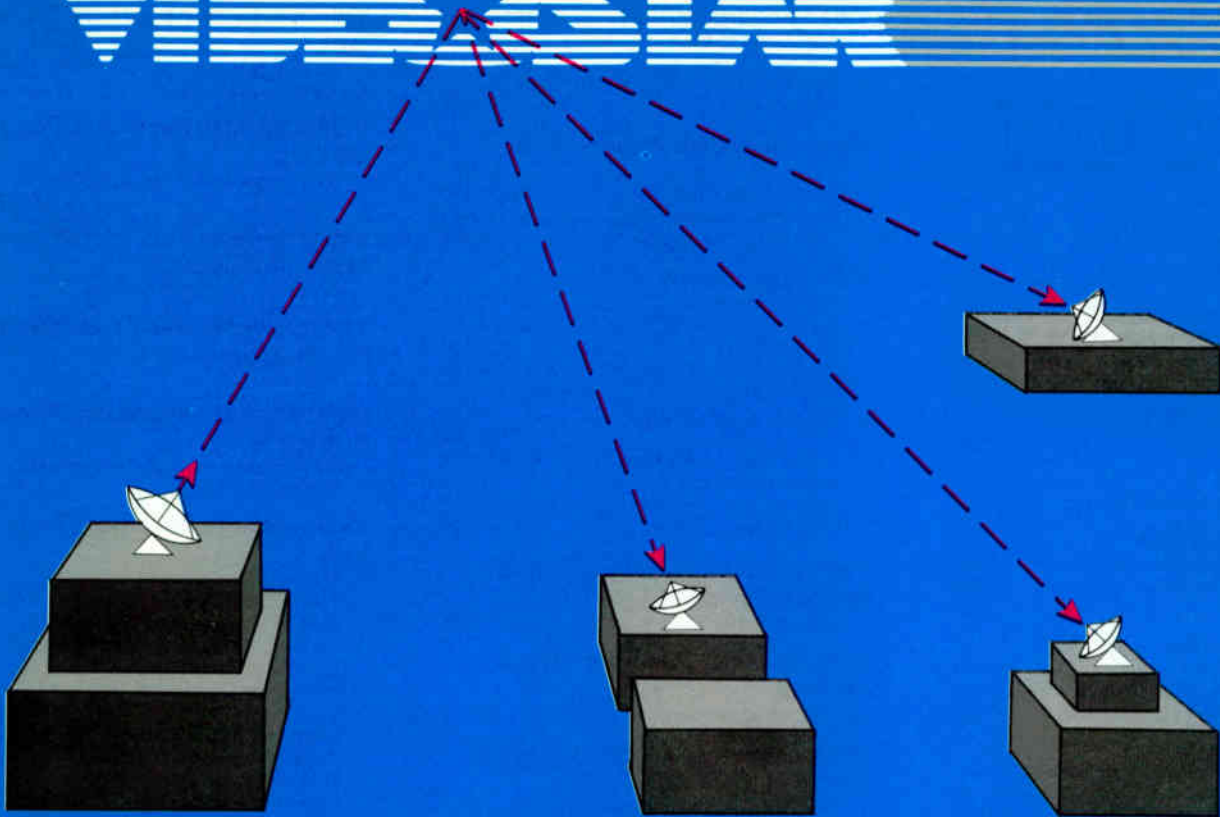
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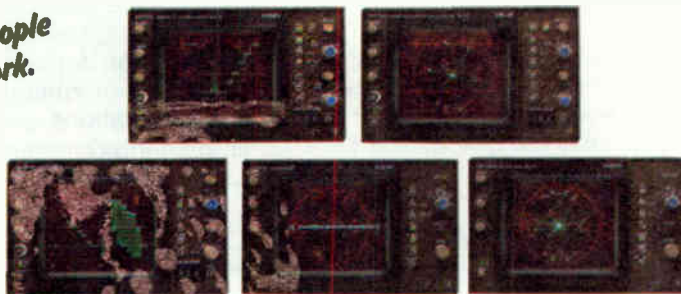
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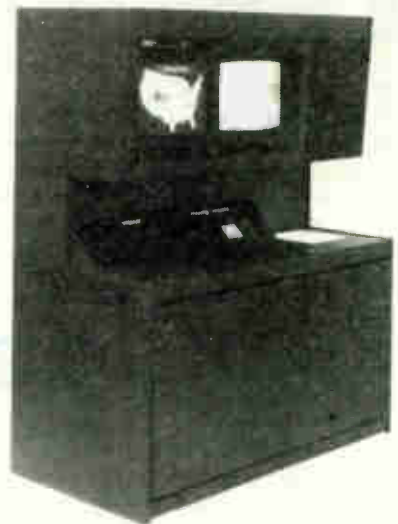


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