

# The LPTV Report

News and Strategies for Community Television Broadcasting

Vol. 6, Issue 3

A Kompas/Biel Publication

March 1991

**NAB '91**



Not all the lights in Las Vegas are on the Strip. A view from Redrock Canyon near the city. Photo courtesy of the Las Vegas News Bureau.

## Not-To-Be-Missed NAB Offers Something For Everyone

### LPTV Mini-Conference Set For Wednesday Afternoon

The 1991 National Association of Broadcasters Annual Convention to be held April 15-18 in Las Vegas will offer a wealth of exhibits, sessions, and informational materials to choose from. Here are some highlights. For detailed information—and times and places—see the NAB's session and exhibit guide, available at the registration desk.

**LPTV—Gearing Up For Prime Time:** Everyone—LPTV broadcasters, CP holders, applicants, suppliers, and anyone else interested in this emerging

industry—is invited to hear some of LPTV's leading figures discuss programming, regulatory, and commercial issues. Panelists include Roy Stewart, chief of the FCC's Mass Media Bureau; Peter Tannenwald, general counsel to the Community Broadcasters Association; CBA president D. J. Everett; CBA executive director John Kompas; Matt Tombers, vice president and director of marketing for Foote, Cone & Belding Telecom; and CBA convention organizer Eddie Barker.

*continued on page 4*

## The 1991 NAB Walk-Through

### An LPTV Broadcaster's Guide To Exhibits

—by Jacquelyn Biel

More than 50,000 people are expected to throng the aisles at the 1991 National Association of Broadcasters convention in Las Vegas, April 15-18. And more than 700 exhibitors will share some 430,000 square feet of floor space in the huge Las Vegas Convention Center. That's a ten-mile hike for anyone dedicated to visiting every booth.

To help make your job easier, we invited all of the NAB exhibitors to send us information about the products they think LPTV broadcasters would especially like to see. Here are the companies who responded—many of whom may have already done business with you.

(For a handy reference to exhibitors' booth numbers, or to order information directly from the companies, see page 19.)

**3dbm (Booth 7149):** 3dbm will be showing a solid state transmitter designed for power levels up to 1,000 watts. The company shares Booth 7149 with Lindsay Antennas.

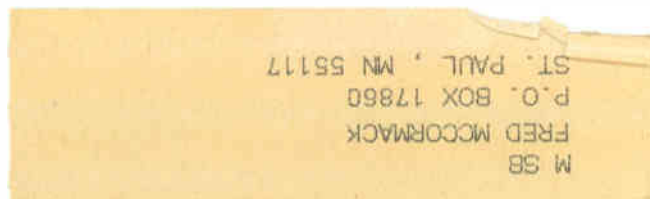
**Acrodyne (Booth 5525):** Acrodyne will be unveiling for the first time some new, lower priced products which should be of particular interest to LPTV broadcasters.

Established products on display will be the TLU/1000 solid state 1 kW UHF LPTV transmitter, the TLU/1KACT 1 kW UHF LPTV transmitter, the TLU/100T 100-watt UHF LPTV transmitter, and the TLH/100 100-watt VHF transmitter.

**Alden Electronics (Booth 5237):** Two new systems will be introduced at Alden Electronics' exhibit—the Weather Workstation, Model WS5500, for the display of NEXRAD radar and satellite and weather chart images; and LPATS, a lightning position and tracking system for plotting cloud-to-ground lightning strikes.

**Andrew Corporation (Booth 5533):** Andrew will be showing its new, expanded ALPine™ line of LPTV antennas. Available

*continued on page 7*



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WorldRadioHistory

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# Tunable Notch Filters 22 - 900 MHz

## For suppression of interference to electronic systems:

- VHF/UHF Systems
- Broadband LAN
- Mobile Radio
- Paging
- CATV
- FM
- TV

The 6367 series comprises 6 separate tunable notch filters, each of which covers an approximately 2:1 frequency range with adjustable 3 dB bandwidth.

In CATV, LAN or other Broadband Data Systems, adjacent channel or FM carriers often interfere with reception of a desired channel or data frequency. The notches offer a convenient means of suppression.

Paging Transmitters often overload CATV and other off air reception systems. The exact frequency is often unknown to the offended party. These filters offer a convenient means of "search and suppress."

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Standard models delivered in 3 days.

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### Tunable Notch Filter Type 6367

#### Standard Models 6367



Model #	Tunable (MHz)
6367-0	22 - 35
6367-1	30 - 50
6367-2	50 - 108
6367-3	108 - 216
6367-4	216 - 450
6367-5	450 - 900

Bandwidth Adjustment  
1-5 MHz min.  
Notch 20 dB approx. for  
Bandwidth=3 MHz  
Standard:  
75 ohm F conn.  
50 ohm BNC

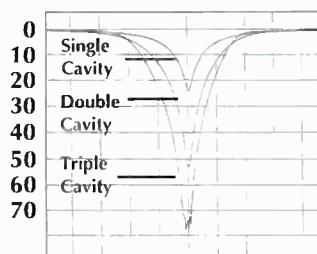


Special models available, including double and triple resonator types with 40 dB and 60 dB notches.

Other connectors available including SMA, TNC, N, C, UHF.

Standard Models \$152.00 - 3 Days Delivery  
Overnight delivery available.

**"We Make Filters In A Hurry For Customers In Trouble!"**

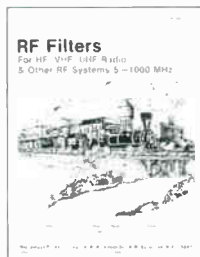


Response of single, double and triple cavity notches with same 3 dB bandwidth.

Details of 6367 series notch filters are given in FREE catalog RF/88, which also describes:

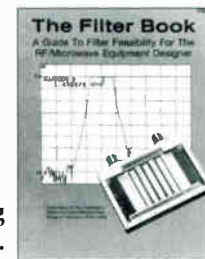
- Low Pass/High Pass
- High Power
- Bandpass
- Bandstop
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- Diplexers
- Tunable Notch

RF/88: RF Filters  
0 - 1000 MHz



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## In Our View

The FCC is well into its Further Notice of Proposed Rulemaking on effective competition to cable (MM Docket No. 90-4). As you probably remember, the proceeding began in January 1990 with a Notice of Proposed Rulemaking seeking to re-examine the conditions under which basic cable rates are regulated and, in particular, the "three-signal standard" of "effective competition" which exempts a cable system from rate regulation by local franchising authorities.

In December, the Commission issued its Further Notice, which incorporated the public comments it had received in response to the earlier document. In the Further Notice, the Commission said it would probably not be able to define a single standard for effective competition, given the complexity of the present video marketplace. Instead, it suggested three standards, any one of which could be applied, depending on the particular cable system:

- An independently owned, multi-channel video service is available to at least 50% of the homes passed by the cable system, and is subscribed to by at least 10% of those homes;
- Six unduplicated, over-the-air television signals are available to the cable community, and cable penetration is below 50%; and
- The cable system can pass a competitive behavior test, or a "good actor" test, the benchmarks of which would be set by the FCC. The test would determine whether the cable operator was acting reasonably and responsibly even in the absence of competition.

So far so good. But, unfortunately, both

documents fail to mention the potential of LPTV stations, particularly locally originating LPTV stations, to provide effective competition, or their capability of playing any role in the complex mix of video services now available to the public. (The original Notice does note that while translator stations are counted in the three-signal standard, LPTV stations are not [para. 23]. But that's all.)

In comments filed in response to the Further Notice, the Community Broadcasters Association complains about this silence on the subject of LPTV. One of the competitive behavior "benchmarks" that the Commission should adopt, says CBA, is a cable system's commitment to local service, including local programming. A system that unreasonably excludes a local LPTV station from carriage should not be considered a "good actor."

CBA also alertly points out that cable operators are likely to want to include LPTV signals in the six-signal standard. But, it argues, only LPTV stations that originate local programming should qualify. In other words, cable can't have it both ways; systems shouldn't be able to escape regulation by counting non-local LPTV's while at the same time they try to keep local LPTV's off their channels.

Thirdly, CBA says that a cable system should fail the good actor test if it refuses to carry a local LPTV signal because it wants to keep the LPTV station from competing with it for local ad dollars.

Beach TV, another commenter, also argues that local service must be a key element of the competitive behavior test. The company, which provides 100% local LPTV programming to several Florida communities that have no other local television service, says its stations have been denied carriage by the large MSO's who own the cable systems—in spite of significant local support. It has been forced to pay "prohibitive" rates for leased channels, and this only after threats of litigation.

Channel 8, South Jersey TV, which operates an LPTV station in Hammonton, NJ, also complains of being quoted exorbitant rates—more than \$1 million per year by three cable MSO's—for leased access channels. Channel 8 asks the Commission to

establish a competitive "Lease Rate Structure" as part of its effective competition rulemaking.

All three commenters focus on the place of localism, particularly local LPTV stations, in the competitive mix. And their comments point up a worrisome silence in both the Notice and the Further Notice on the role of localism. This silence is in contrast to the attention the concept received in the Commission's July 1990 six-year Report to Congress on the cable television service, where the entire section on the broadcast/cable relationship is explained wholly in the context of the value of localism and diversity (see paragraphs 143 ff.)

True, localism is more related than central to the question of competition. Indeed, if anything became clear from these proceedings, it is the brilliant variety of cable programming—only one part of which is local programming—and the fact that only a service or services equally as various can provide effective competition.

But the search for competition should not injure localism by ignoring or insufficiently acknowledging its value. Localism and diversity of viewpoint cannot be duplicated by national networks—broadcast or cable.

It is conceivable that this rulemaking could spawn situations where a community is served by two cable systems, both of whom refuse to carry the local broadcast signals. (It has already been proven—over and over again—that public demand for carriage of a local broadcast signal carries little weight with a cable system if such carriage could interfere with, for example, a system's local ad sales.)

In such a case, the cable systems are home-free—no rate regulation and no need to serve local interests either. Meanwhile, as Sherwin Grossman, another commenter, points out, the local broadcast stations—full power or LPTV—end up with whatever percentage of the market is left after the cable systems take their share.

The nation's commitment to localism and diversity must be protected from this eventuality as well.

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## Acrodyne's Digital TV Transmitter Successful

A digital television transmitter has performed successfully in lab tests at Acrodyne Industries, according to a recent announcement by the company. Acrodyne was awarded a patent in early 1989 for a method that digitally synthesizes the transmitted RF power signal by using non-linear, highly efficient amplifiers.

The method, which employs only class C amplifiers, makes a modulator and RF converter (exciter) unnecessary because digitally synthesized power RF is now generated on a channel, said Dr. Timothy Hulick, Acrodyne's vice president of engineering and the author of the patent. Among the benefits of the new method is that power consumption is cut in half, Hulick said.

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### BON MOT

I have confidence in them. My challenge is that they have confidence in me.

*French stunt car driver Remy Julienne, of his sons, members of his stunt team.*

## NAB Sessions

*continued from front page*

The session will be held Wednesday, April 17 from 1:00-3:00 p.m. in Room B1 of the Las Vegas Convention Center. Don't miss it!

**Regulatory Issues:** A wide range of legal and regulatory issues that radio and TV broadcasters face each day will be explored in eight one-hour sessions to be held on Wednesday, April 17. The sessions will present basic, practical advice on how to comply with the government's constantly changing policies and rules. Some session titles: "Contests and Promotions—Making Money Without FCC Fines"; "EEO/Hiring/Firing, Sexual Harassment, Age Discrimination and Other Station Workplace Issues"; "FCC Rule Enforcement and Keeping Your Station License"; "Children's TV—Advertising and Programming Law and Responsibilities"; "Newsroom Law for Broadcasters"; and "Advertising Laws and Problems for Broadcasters."

**Digital Radio:** Broadcasters anxious to learn more about CD-quality, interference-free digital radio are invited to four sessions: For managers—"DAB: Friend or Foe" and "Satellite DAB Direct

to Listeners: Prospects and Technology," both on April 17; and for engineers—"DAB Systems Concepts" on April 16, and "DAB Methods and Systems" on April 17.

Also slated throughout the convention week will be special DAB demonstrations that will give you a chance to compare FM and DAB sound.

**HDTV World '91 Conference & Exhibition:** Concurrent with the NAB show will be HDTV World '91 at the Las Vegas Hilton. A wealth of advanced TV products and HDTV broadcast applications will be shown, including many broadcast and consumer electronics goods from Japan that have never before been seen at a U.S. trade show. The Conference will include special sessions on production and programming, global HDTV developments, spectrum issues, and various HDTV technologies now being developed or tested.

**NHK Technology Open House:** Eighteen top Japanese companies will contribute to this year's NHK technology exhibit, the first ever to be held outside of Japan. NHK is Japan's public broadcasting corporation.

The 6,000 square foot NHK "Open House" will include prototypes of the latest in Japanese consumer, radio, and television technology, including fully three-dimensional stereoscopic television, advanced FM multiplex broadcasting, and a wall-mounted 33" flat screen television.

**TV Syndicator Hospitality Suites:** Thirteen television programming syndicators will host hospitality suites at the convention. King World, Columbia Pictures Television, Turner Program Services/CNN TV, Worldvision Enterprises, Conus News Service, Medstar, Orbis, Tribune Entertainment, Buena Vista, ITC, LBS, Viacom, and Warner TV will all have suites.

**Research Mini-Convention:** A mini-convention for radio and television station audience and market researchers will be held Monday afternoon, April 15. Learn how to conduct, evaluate, buy, and use qualitative research to assist in your station's programming, marketing, and sales. Get the pros and cons of various research approaches, and learn how to do your own research studies.

**Television Management Sessions:** See the NAB program for dates, times and places of these not-to-be-missed seminars for managers: "Cashing in on Direct Marketing...New Opportunities for Broadcasters"; "Which Way for Two-Way? An Update on Interactive TV"; "Hometown Television—Local Programming for a Profit"; "Live from Everywhere—War in the Television Age"; "Swap Shop...Sales Promotion Idea Exchange"; and "Fair Employment Practices...You Be the Judge!"

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## Would Your Station Like to Make 15-60% on Direct Response 30s, 60s and 1/2 hour Infomercials:

Cash Payment Settled Weekly:

Many to choose from including Financial, Sports, Home Items, New Ideas, and many other legitimate 800 & 900# offers.

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### **XLS 100 UHF**

- 100 Watts with all solid state reliability
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### **XL 10-20 UHF**

- 10 or 20 Watts from one unit
- Full line surge and VSWR protection
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### **MA-TVF-10 VHF**

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# Good Selling!

—by Joe Tilton

## Impressions and Exposures

"It takes four exposures to make an impression," we tell our clients.

What we mean is that if a viewer sees an advertisement four times, he or she will remember the message.

A recent study by a very large fast-food chain showed that every sixth time their advertising message reaches a consumer—regardless of how—the consumer will buy something. The company began employing a marketing strategy based on this study, and sales have increased dramatically.

Learn to use these facts to sell products and services for your clients. Selling repeat advertising is much easier when you have created ad material that actually works.

### Memory at Work

What happens when you see a commercial aired by mistake twice in a row? You may be amused or annoyed by the operator's error, but you *remember* the commercial. You have been given two exposures, precisely alike. Your memory of the first one is reinforced because your mind replays the message right along with the second exposure as you view it.

Advertising innovators are realizing the value of this technique and using it. Excedrin®, for example, runs a commercial at the beginning of a set of spots that shows a

person "feeling a headache coming on." Then at the end of the set, the same person reappears with a smile and "No more headache!"

Another example is the Energizer rabbit. He comes at you rapidly, again and again. And you remember!

Using this technique in local television is not difficult. In fact, it's a way to make more money. I call it Television Impressions™.

### How it Works

Ask four copywriters or salespeople to write a twelve-second commercial for a client, accompanied by a storyboard if necessary. The subject should be a single product, because when four writers each give their own interpretations of a product, the chances are quadrupled that at least one of the ads will match a viewer attitude.

Produce one three-second tag to fit at the end of each short commercial. This end tag *must* be the same for each of the four commercials.

When the pieces are fitted together, you will have four fifteen-second spots. Now dub them back to back to get one sixty-second commercial. The result is a Television Impression.

In the same time normally given to a single commercial exposure, you are giving

your client four impressions and causing cash registers to ring in his or her store. Just as the Energizer rabbit reinforces the Energizer message, your client's message is reinforced and sales will increase.

You can periodically change the order of the four commercials so that the appearance is fresh.

### Why it Works

Why does the Television Impression work?

- Reinforcement: "I've heard that before; it must be right," is a common reaction. With the Television Impression, you guarantee that the viewer sees the message more than once.

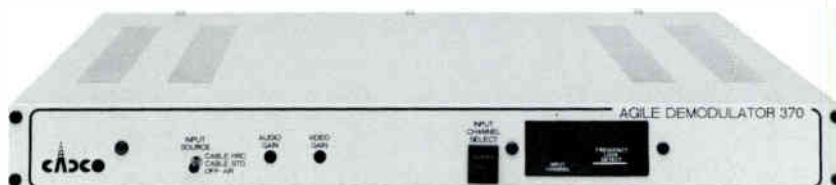
- Repetition: From our youth, we have been conditioned to learn by repetition. Did you ever have to write, "I will not chew gum in class," on the chalk-board a hundred times?

- Instant reference: Even the shortest memory can recall a commercial that just ran.

- Reassurance: Because the message is reinforced, viewers begin to feel that the product or service is right for them.

- Interpretation: The Television Impression helps viewers interpret the message by showing them that they understood it the

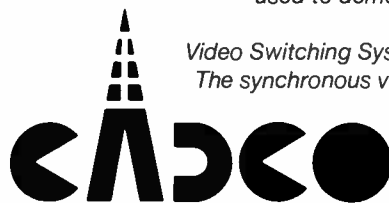
## INEXPENSIVE *but* PROFESSIONAL LPTV AGILE DEMODULATOR 370T



The CADCO Model 370T is a precision agile Demodulator used to demodulate any NTSC audio/video signal to baseband audio and video signals for use in Demod/Remod configurations:

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last time they saw it. The goal is to create internalization—to bring the message "home."

#### What to Charge

You can and should charge more—add 50%-75% to your normal sixty-second rate—for this type of commercial. First, more creative time and more production are involved. Secondly, the new standard commercial length—fifteen seconds—is incorporated. Third, your client gets better value in the form of dramatically better results.

I'm pleased to bring this concept to you through *The LPTV Report*. If you use it, I would appreciate copies of the ads produced, and particularly the ads that prove to be most effective. Also, I am available to teach your sales staff how to best use this concept in sales presentations.

*Joe Tilton has worked in broadcasting as an announcer, promotion director, chief engineer, news director, sports director, sales manager, and general manager. Presently he is a promotions writer and consultant for radio and television stations across the country. He can be reached at (817) 540-2754 or Box 155144, Ft. Worth, TX 76155.*

## FCC Brown Bag Lunch Set On LPTV Window

A Federal Communications Commission "Brown Bag Lunch" meeting featuring LPTV Branch chief Keith Larson and supervisory attorney Molly Fitzgerald, also of the LPTV Branch, is scheduled for 12 noon to 2 p.m. April 18 in Room 856 of the FCC's headquarters at 1919 M Street, NW, Washington, DC.

The informal Q & A session is entitled "Low Power Television—Latest Developments: Next Window Filing." The public is invited.

## Correction

In the article by Robert W. Warner entitled "Music Licensing: An Insider's View," which appeared in our January 1991 issue, an incorrect contact name was given for Broadcast Music, Inc.

Len Henzel is no longer with BMI. The person to contact is now Larry Sweeney.

## NAB Walk-Through

*continued from front page*

configurations include standard 1 kW versions, circularly polarized versions, and wideband low power versions for multi-channel operations. ALPine antennas are made from lightweight, easy-to-handle aluminum modules for quick installation, excellent weather resistance, and low weight loads. Full length radome segments provide complete environmental protection.

Also on display will be Andrew's new 1.8 meter "Flyaway" antenna. The segmented reflector splits into eight sections and packs into six containers that can be taken aboard commercial aircraft as "check-in" luggage. The antenna can operate in C, X, Ku, and C/Ku bands, in circular or linear polarization.

Finally, the company will be introducing a new family of 7/16 DIN connectors for foam dielectric cables. The connectors have silver-plated bodies and inner contacts for protection against intermodulation distortion and improved conductivity. The male plugs are available for 1/2", 7/8", 1 1/4", and 1 5/8" foam HELIAX® cables.

**Associated Production Music (Booth 1706-1708):** APM will be showing their Broadcast One and Broadcast 2 Produc-



Andrew Corporation's new 1.8 meter "Flyaway" antenna.

tion Music Libraries. All compact disks contain full-length and commercial-length edits for promos, commercials, news, weather, and program applications. The music comes from four of the most prestigious music libraries in the world—KPM, Bruton, Themes, and Sonoton.

APM also represents "Sound FX—The Library" a sound effects library, as well as the KPM "SFX" sound effects library. Other services include the "Coombe International" library of pre-recorded hit songs, the Bruton Gold Classics, and the

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## LPTV Distribution by State and Territory

February 26, 1991

	Licenses	CPs*
ALABAMA	11	22
ALASKA	222	10
ARIZONA	28	34
ARKANSAS	10	31
CALIFORNIA	44	87
COLORADO	20	33
CONNECTICUT	1	6
DELAWARE	1	1
WASHINGTON, DC	2	0
FLORIDA	44	130
GEORGIA	19	32
HAWAII	3	24
IDAHO	19	26
ILLINOIS	11	36
INDIANA	15	22
IOWA	13	30
KANSAS	10	29
KENTUCKY	12	30
LOUISIANA	16	41
MAINE	7	17
MARYLAND	2	8
MASSACHUSETTS	6	16
MICHIGAN	11	25
MINNESOTA	33	53
MISSISSIPPI	12	21
MISSOURI	18	28
MONTANA	27	34
NEBRASKA	4	8
NEVADA	22	19
NEW HAMPSHIRE	3	4
NEW JERSEY	2	14
NEW MEXICO	14	34
NEW YORK	30	46
NORTH CAROLINA	11	34
NORTH DAKOTA	9	10
OHIO	20	46
OKLAHOMA	21	30
OREGON	23	25
PENNSYLVANIA	15	54
RHODE ISLAND	0	2
SOUTH CAROLINA	3	19
SOUTH DAKOTA	8	15
TENNESSEE	29	37
TEXAS	54	106
UTAH	20	9
VERMONT	1	8
VIRGINIA	9	23
WASHINGTON	17	22
WEST VIRGINIA	1	9
WISCONSIN	15	14
WYOMING	24	17
GUAM	1	0
PUERTO RICO	5	8
VIRGIN ISLANDS	0	3

TOTALS: Licenses: 978  
Construction Permits: 1,442

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All rights reserved.



The Acrodyne TLU/1000 1 kW solid state UHF LPTV transmitter.

APM Mini-Package—"The Best of the Best," a compilation of 32 CD's from APM's CD libraries.

**AVCOM (Booth 5951):** AVCOM will be exhibiting their full line of high performance portable spectrum analyzers, satellite receivers, microwave video links, and microwave accessories. New at the show will be the PST-1500B portable satellite terminal, the PSR-1000A portable surveillance receiver, and the MVT-1000A microwave video transmitter. The PSR-1000A and the MVT-1000A are cost-effective, high-performance units that function as a miniature ENG system for broadcast applications.



The PTR-25 portable test receiver from AVCOM.

**BARCO (Booth 7601):** At the BARCO booth, look for the Emmy Award-winning first all-digital intelligent broadcast monitor. The CVS Monitor is designed to adapt to new technology and formats without hardware modifications. It offers automatic set-up, 700 lines of resolution, color temperature accuracy and stability regardless of aging tubes and circuitry, and accurate color matching between monitors.

Also to be shown are the AVM Series monitors, equipped with GBRS and S-VHS, Y/R-Y/B-Y analog component inputs. The Series comprises four models, from the portable 10" AVM-22 to the AVM-70, a 28" model.

And check out BARCO's professional television modulators and demodulators, as well as the BVRS 16 x 16 video routing

switcher which accepts all current analog video standards, including GBR, S-VHS, MII, Betacam, and HDTV. The BVRS is menu-driven and can be controlled from a remote location with a CVS Series monitor or any personal computer.



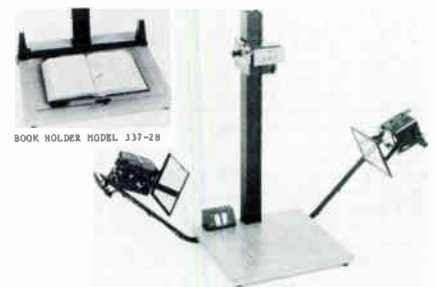
The BARCO-EMT 981 player.

**BASYS Group (Booth 6415):** Automation is the theme of the BASYS Group's exhibit. New products on display are the BASYS Master Control Automation System; the ALS-500 Automated Library System; the BASYS Resource Management System; the Advanced Automation System; Caption 21, a unique new closed captioning and prompting system; and the Librarian Archive System.

Also on display will be BASYS's complete Newsroom Automation Systems with Machine Controls; new Version II News System Software with enhanced word processing and search functions; Multi-Channel Automation; and the complete facility design and engineering services of the former Lake Systems.

**Bencher, Inc. (Booth 7345):** Bencher, a manufacturer of copystands, will be displaying the new Copymate II copystand with new light arms, copy lights, safety glass, polarizing filters, copy light control, and book holder.

The Copymate II is an attractive and versatile system for media users, photographers, videographers, and others who need to photograph or videotape books or small objects. The new compact quartz lights feature a reflector designed exclusively for close work applications. Two 300-watt quartz halogen side lights flood the baseboard with illumination so consistent that a user can meet virtually any reproduction requirement.



Bencher's Copymate II Model 900-30 with accessories.

Options include a copy light safety glass kit, a new easel-style book holder, a new copy light control, a fine focusing device, camera reflection shields, and camera quick release.



**Benchmark Media Systems, Inc. (Booth 2212):** Two new products to be shown by Benchmark Media Systems are the MIA-4x2, a portable two-channel microphone preamplifier, and the Loudmouth, a reporter's control station featuring many inputs and outputs, as well as control and monitoring capabilities.

Among established products to be shown are the System 1000 audio distribution amplifiers, and the INTERFACE SYSTEM, a 16-card frame with redundant power that houses 16 individual line amplifiers with  $\pm 20$  dB of gain adjustment. The INTERFACE SYSTEM solves the multiple channel audio level problems found on routers, intercoms, mobile recording trucks, and other applications.

**BEXT, Inc. (Booth 1020-1022):** At this year's show, BEXT will introduce a new 10-watt UHF transmitter. Also to be exhibited are the NS-100, a 100-watt UHF amplifier that combines a set of design and performance features otherwise unavailable at anywhere near its price; and the NS-1000S, a 1 kW UHF transmitter with a solid history of proven performance.

**beyerdynamic (Booth 5314-5316):** beyerdynamic will be showing their complete line of microphones, headphones, headsets, and accessories. Of special note are new products being introduced this year: the M59, a large diaphragm dynamic mic; the MCE50 miniature lavalier mic; and the MC742 stereo condenser mic—all for on-air studio and ENG/EFP use. Also of note are the DS-170H hand-held diversity wireless and the DS-170P body pack lavalier wireless microphone systems.

**Bi-Directional Microwave Systems (Booth 6124):** Bi-Directional Systems, which will share booth space with Allen Osborne Associates, will exhibit their bi-directional 10 through 23 GHz portable and fixed STL microwave transceivers for broadcast. The systems feature simplex video and audio with a duplex audio order wire channel featuring ring down and a built-in alignment tone.

Options include a third audio channel for stereo, as well as reversible video. A new decoder circuit is now available which is operated over the duplex order wire channel. This decoder allows DC control of 12 to 24 functions at the receive end simply by pushing a combination of buttons on the telephone handset at the transmit end.



The MIX TRAK 90 from Broadcast Electronics.

**Broadcast Electronics, Inc. (Booth 1120):** BE will feature the "B" Series FM broadcast transmitters, the FX50 digital quality FM exciter, and the TRAK 90 line of premium quality audio tape cartridge machines and audio consoles. The company will also be unveiling several new products at the show.

**Cablewave Systems (Booth 1148):** Cablewave Systems, Division of Radio Frequency Systems, Inc., will be displaying their entire line of turnkey RF transmission system components, including Flexwell<sup>®</sup> foam dielectric and air dielectric coaxial RF transmission lines from 3/8" to 12" O.D., Flexwell elliptical waveguide, RF connectors, rigid coaxial transmission line and components, and STL microwave parabolic antennas. Also on display will be Bogner<sup>®</sup> slot-array and dipole design antennas, pressurization equipment, and mounting hardware.



A Bogner UHF LPTV antenna from Cablewave Systems.

**Channelmatic (Booth 4665):** Among the many products and services to be displayed this year at the Channelmatic booth are the Adcart, the company's most versatile and advanced ad insertion system. The Adcart is modular and built with high-performance, low-cost units that can be added as needed. It can control multiple VCR's for full random access ad insertion and program playback.

For even lower cost, see the "Li'l Moneymaker" which inserts local commercials sequentially into satellite network programming. The single-channel, single-VCR system is fully automatic and features broadcast quality switching during the vertical interval.

Also on display will be the PCU-1A, the most advanced and easy-to-use clock controller on the market. Up to 3,000 events and 16 schedules can be loaded and readied for execution. The unit features menu-driven programming, full-screen terminal display, remote control, and automatic log generation.



Channelmatic's ADCART 2+2 random access ad insertion system.

**Comprehensive Video Supply Corporation (Booth 5863):** New products to be introduced at this year's NAB include the CUTTER<sup>™</sup>, CV Technologies' new, cut-only edit controller. The CUTTER is part of a system package that includes a keyboard, two CVNET interfaces, a master controller card, software, and cables—all for less than \$2,200 retail.

Also to be introduced will be EDIT-MASTER<sup>™</sup> for the Macintosh; an upgraded version of LOG MASTER, which includes expanded database capability as well as frame grabbing and Local Area Network features; new user aids for the CUE MASTER teleprompting software; the new MIC MASTER, a wireless microphone system that supports a variety of the industry's most popular lavaliers; and the LIST MASTER<sup>™</sup>, a new edit decision list utility software program that integrates list cleaning, list management, tracing, and translation.

Finally, Comprehensive will show a selection of its most popular accessory items, including cables and connectors, wireless mics, vertical interval matrix switchers, and their portable line of distribution amplifiers, switchers, keyers, mixers, and wipers.

**Dataworld (Booth 1609):** Dataworld maintains comprehensive databases and computational programs for AM, FM, TV, LPTV, and wireless cable applications. Directories, allocation and interference studies, population counting, FCC Flag service, terrain elevation retrieval, FM and TV area-to-locate studies, AM ground-wave calculations, AM daytime and nighttime channel studies (permissible radiation), license assignments and transfers, FCC/FAA tower location studies, and unused call sign listings.

Recent new services include three-second terrain data, FM and LPTV detailed interference studies, detailed coverage maps, population density maps, power density maps, terrain shadowing maps, and received signal level maps.

**Decision, Inc. (Booth 2041):** Decision, Inc. will exhibit their Broadcast System III station management software which runs on any MS-DOS, OS/2, or UNIX system, including the IBM RISC SYSTEM/6000. The software includes traffic, scheduling, accounts receivable, and logging capabilities. Additional modules include Prospect Management, Newsroom, Co-op/

Copy, and Financial Systems.

Intuitive, mouse-driven, graphical user interfaces make operation easy. All reports and manuals can be displayed and searched on-screen. And modern, open systems standards ensure a long-term return on investment.



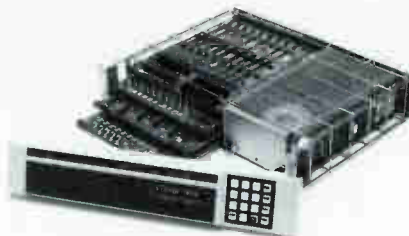
One of the Dielectric Communications LPTV antennas.

**Dielectric Communications (Booth 4539):** Dielectric Communications will introduce three new LPTV antenna patterns, adding to their long list of standard patterns. A full-scale model of the newest LPTV antenna will be mounted in the booth. Attendees are invited to stop by to check out the unique feed system, the radome construction, and the circularly polarized design. A floppy disk loaded with mechanical and electrical LPTV specs is available for the asking.

**Dynair (Booth 4459):** Dynair's popular DYNA MITE will be displayed in a new version at this year's NAB—the DYNA MITE D2, the first NTSC composite D2 router of its size able to provide 10, 20, or 30 x 10 video and control within a single 2-rack-unit frame.

The modular DYNA MITE can handle serial digital, NTSC, PAL, SECAM and audio as well as all proposed advanced TV and high definition TV signals, and medium resolution graphics signals up to 1280 x 1024, 60 Hz NI.

The unit can be controlled from up to thirty remote panels and is available with full alphanumeric source and destination displays. The display shows actual names, such as "STU 3" or "VTR 07," so the operator can make mistake-free selections and easily monitor the current status of the system. DYNA MITE D2 has applications in digital post islands, tape duplication, production switcher preselect, and switching between shared resources.



The Dynair DYNA MITE Serial D2 router.

**EMCEE Broadcast Products (Booth 6028):** EMCEE will be displaying UHF and VHF transmitters ranging in power from 1 to 5000 watts. Of particular interest to LPTV broadcasters will be the solid-state UHF 1 kW transmitter/translator.

EMCEE systems engineers will be available for free consultations regarding LPTV station construction. The company offers full-time field engineering; tower, antenna, and transmission installation; and proof-of-performance services to its customers. Information on leasing and financing will also be available.



ESE's 4 x 4 audio level interface.

**ESE (Booth 4233-4235):** Among the products being shown will be the new ES-244 (4 x 4 audio level interface) Bi-Directional IHF to PRO Level/Impedance Interface. The ES-244 is the ideal way to interconnect semi-pro equipment and professional studio gear. The 4 x 4 is a bi-directional unit with four independent amplifiers providing full stereo input and output interfacing, RF shielding, and output level adjustments.

**Gorman-Redlich (Booth 1024):** Gorman-Redlich will be showing Emergency Broadcast System encoders and decoders, as well as weather radios. Check out the Model CEB encoder/decoder, a complete two-frequency EBS system that meets all FCC requirements. The unit features gold contacts on all switches and relays, a self-testing decoder, barrier strip interconnection, CMOS digital circuitry in the encoder, and precision engineering in the decoder for low power drain.

The Model CRW is a highly sensitive and selective receiver for National Weather Service transmissions. It will au-

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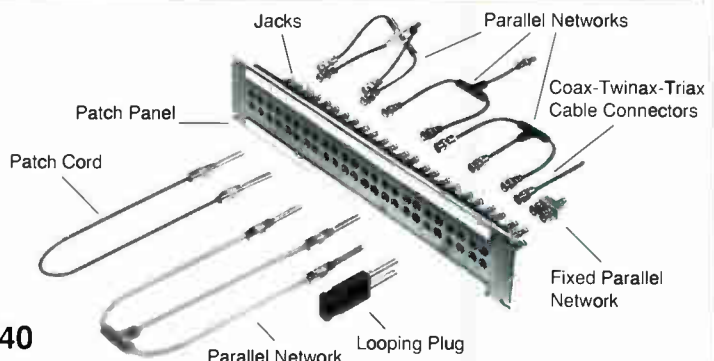
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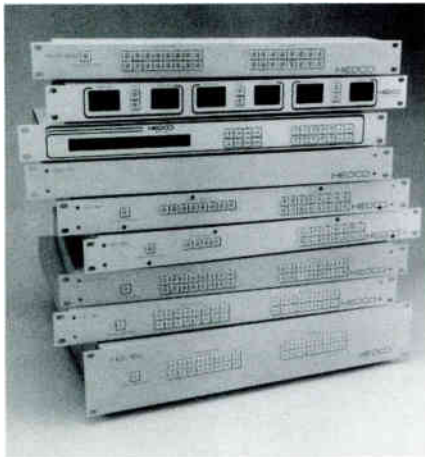


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tomatically record weather forecasts and emergency alert messages, and its three channels make it possible to market your audio for commercial services.

**HEDCO (Booth 4009):** On display at HEDCO's booth will be their famous 16X Series of routing switchers, including the new 16X<sup>plus</sup> Series. These new 16-input, single bus switchers, available in one or two rack units, allow flexible combinations of audio and wideband video, and are expandable up to 256 x 1. Any 16X Series routing switcher can also be ex-



The 16X Series routing switchers from HEDCO.

panded up to 32 x 32 with the new HEDCO Input and Output Expansion Frames.

Also on display will be the Pro-Bel HD Series AES/EBU digital audio router, the Pro-Bel Serial Digital Video Router, the HEDLINE Series audio and video distribution amplifiers, the 600 Series audio and video DA's, the HEDLINE 4 x 1 routing switcher, the TWS Series 12 x 1 routing switcher, and the HSG-100 signal generator. Look for HEDCO products at the booth of their parent company, Leitch.

**James Grunder & Associates, Inc. (Booth 3024):** James Grunder & Associates manufactures and distributes the Feral Industries line of video processing and special effects products which combine high performance and an affordable price.

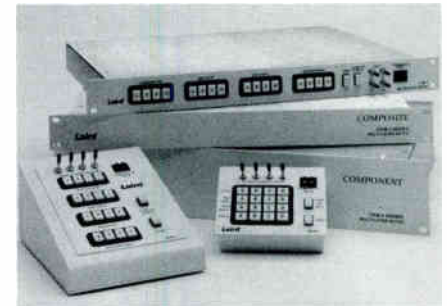
New products to be introduced at this year's NAB include the Feral Industries 6119 Professional Production Switcher which boasts a sync generator, genlock, 12 patterns, linear keys, auto transitions with GPI, fade-to-black, bordered wipes, variable soft edge, auto preview, and a downstream mix key. The company's 6119-YC Production Switcher is a six-input, three-bus version with the full bandwidth and high resolution of S-VHS, listing at \$5,495.



Feral Industries' 6119 production switcher from Grunder & Associates.

Also to be shown is the new C-100 Time Base Corrector, a full-frame S-VHS or composite synchronizer/TBC with direct serial control. The unit features 8-bit, 4:2:2 processing, freeze controls for fields 1 and 2, proc amp, and Y/C timing adjustments—all for under \$3,000.

**Jampro Antennas, Inc. (Booth 1200):** Jampro will be showing a UHF slot antenna, UHF corner reflectors, combiners, diplexers, power dividers, and panel antennas.



Laird's CKM-4 multi-layer, multi-source keyers.

**Laird Telemedia (Booth 2027):** Three products of special interest to LPTV broadcasters will be on display at the Laird exhibit. The CG-7000 character generators offer high resolution characters, edging, multiple fonts, 80 pages of memory, scrolling, flashing, and the ability to genlock to virtually any source. Available in both Y/C and composite versions, they are easy to use and inexpensive.

The Laird Legend family of products is a series of low-cost graphics and paint devices with a modular construction that makes upgrading easy. Each configuration offers 35 ns resolution with 65,000 displayable colors. Add paint, camera capture, font development and sizing, graphic import programs, and more to build a powerful video graphics workstation.

And the Laird CKM-4 multi-layer, multi-source keyers add keying power to your current production switcher. Each is a free-standing device requiring no modifications to your present equipment. Inputs can be taken from any video source—with or without key signals—and they can be stacked in any order. Both composite and component versions offer the choice of three remote panels for rackmount, desktop, or GVG-style bridge use.

*continued*

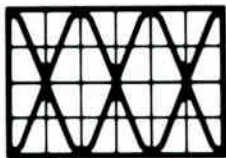
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**Leader Instruments (Booth 6716-6722):** Leader Instruments will be showing three items from their line of electronic test equipment. The first is the Model 300, a battery-powered 30 MS/s combination digital storage oscilloscope/digital multimeter with a number of unique features, including a large supertwist LCD display with high contrast and a large viewing angle, and an optional IC card that allows waveform information from the field to be saved for further analysis in the lab.

Also on display will be a new component/HDTV waveform monitor, the Model 5100, which provides convenient, precise video measurements for 525/60 and 625/60, NTSC and PAL composite, and HDTV (1125/60) signals.

The third unit to be exhibited is a new monoscope/TV Pattern Generator for checking high-resolution, large-screen television sets.



The Model 300 portable 30-MS/s digital storage oscilloscope from Leader.

**Lee Colortran, Inc. (Booth 4259):** Colortran dimming equipment on display will include the ENR dimmer series—the ENR Wall Pack available with semi-recessed mounting kit, the ENR 24 Rack and 96 Rack, and the ENR Portable Pack.

Also on display will be the Prestige 3000 Plus control console expanded to control up to 1,536 dimmers and 1,000 channels, the Scene Master 60 Plus console, and the new Scene Master 120 console with user-selectable channels and submasters from 20 to 120. Also available is the Status 12/24 or 24/48 control console which can operate as either a manual preset or memory console.

The company's line of lighting fixtures is highlighted by 1 kW and 2 kW television fresnels.



A Colortran 1 kW television fresnel.

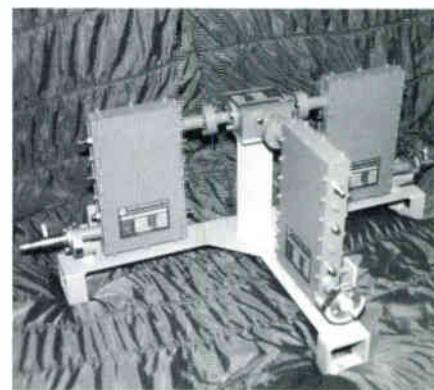
**Lindsay Specialty Products (Booth 7149):** Lindsay will be displaying a wide range of LPTV antennas, including the UHF Panel model. These antennas are easily installed to achieve various patterns and power levels. They are light weight, yet very durable, and are considerably less expensive than those of most other manufacturers.

**Manhattan Production Music (Booth 2113):** Manhattan Production Music bills itself as the "perfect music library for all production needs." It offers every type of music, including pop, rock, jazz, modern symphonic, dance, country, New Age, classical, funk, blues, and comedy.

Manhattan also has specialized music for news, sports, and public affairs backgrounds. Each CD contains an original theme, rhythm track, and a :10, :30, and :60 edit of each song.

A new sound effects demo and catalog will be available free at Manhattan's booth.

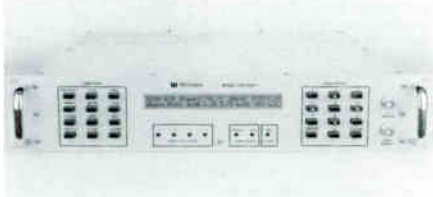
**Micro Communications, inc. (Booth 5432):** MCI will be introducing two new categories of products—LPTV antenna systems and LPTV multi-channel combiners. The new LPTV antennas are designed with "All-Band" panel technology to allow the station or tower owners to add new users at any time. The "All-Band" antenna, when installed with a broadband transmission line and multi-channel combiner, can be used for many stations at once.



An LPTV multi-channel combiner from Micro Communications, Inc.



Two types of channel combiners are available for use with 100-watt or 1 kW transmitters. "Star-Point" combiners are used when the channel spacing is close or a higher level of isolation is required. "Difference Length" combiners are used when the channel spacing is wide. Both types offer low insertion loss, low VSWR, and high isolation; and all are frame mounted for easy installation.



Microdyne's CSD-BQR 1 satellite receiver.

**Microdyne Corporation (Booth 6448):** Microdyne will be displaying the popular "VistaLink," a fully automated satellite video receiving system, as well as a full line of satellite receivers and SCPC radio equipment. To be introduced is a new broadcast quality receiver and exciter in a test set-up so operators can make their own performance measurements right at the booth.

**Microwave Radio Corporation (Booth 3000):** Microwave Radio will be showing several microwave systems at NAB this year.



The MicroLink III from Microwave Radio.

The MR-23VX is a low-cost studio-to-transmitter video link that can be used in both simplex (one-way) and duplex (two-way) configurations.

The Microlink III is a high performance short-haul video microwave system featuring up to four high-quality audio channels above the video. It is available in simplex, duplex, and multiplex configurations.

The advanced design, high-performance FLR Series of microwave equipment and a full range of portable transmitters and receivers with associated control systems will also be on display.

**Moseley Associates (Booth 1210):** Moseley will be demonstrating the MRC 1620 PC-based, dial-up remote control system. The system is currently being used by Trinity Broadcasting Network to monitor and control its LPTV transmitters. The TaskMaster 20 software developed by Moseley allows users to schedule calls from a PC using standard modems, so that transmitter readings can be monitored routinely. If a transmitter goes out of limits or off the air, the MRC 1620 calls and reports the problem to the PC.

**MSE Videotape Services (Booth 7622):** On display will be evaluated videotape in 1" and 3/4" formats. MSE reduces the cost of tape stock by providing a quality alternative to new videotape. The company also distributes all formats of Ampex and 3M videotape.

**NewTek (Booth 7301):** NewTek, which created a sensation at last year's NAB with its little miracle worker, the Video Toaster, will be showing the unit again this year. The Toaster is a 4-input production switcher, digital effects unit, 35 ns character generator, still store, 3D animation



NewTek's Video Toaster.

system, paint system, and color processor. Its output is full broadcast quality (it features D2 processing internally), and its effects are programmable for virtually limitless expansion.

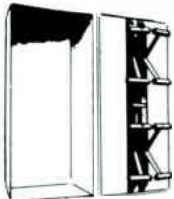
The Video Toaster is based on new technology invented and patented by NewTek. According to the company, it is the first device to integrate all these capabilities into one product. And it sells for just \$1,595.

**Nikon, Inc. (Booth 6455):** Nikon will be displaying both the ENG/EFP Series and the HDTV Series of zoom and fixed lenses. NAB 1990 saw the prototype of Nikon's S9 x 5.5B TV NIKKOR, a super-wide angle ENG lens; Nikon is showing the final version at NAB 1991. The S9's features—including high magnification, a high MFT curve, and an extra-long, built-in extender—enable it to provide a wide image while reducing TV distortion. Its 9x zoom ratio is the highest available among wide-angle zoom lenses.

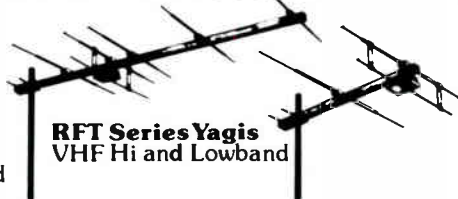
Also on display will be the S19 x 8B TV NIKKOR, a high-magnification, high per-

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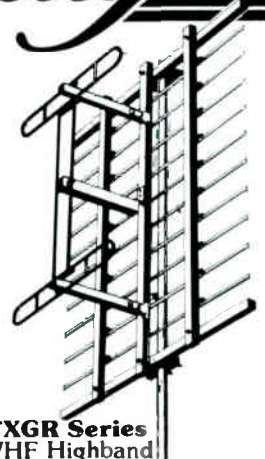
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formance compact zoom. Its 19x zoom ratio is the highest among standard ENG/EFP lenses, and its maximum aperture of f/1.7 covers focal lengths of 8-117 mm.

Finally, check out the S15 x 8.5B TV NIKKOR, the most widely used of Nikon's ENG line, and the S13 x 9B TV NIKKOR, the lightest and most compact standard ENG lens.

**Paltex International (Booth 6514):** After several months of field evaluation, Paltex International will unveil its new Convergence ECS-85™ at this year's NAB. The ECS-85 is the first production version of the new 85-Series edit controllers. It comes with two to six RS-422 serial VTR interfaces and an RS-422 serial switcher interface with register capability (A/B models only). Other features include the Convergence Joystick control; three-keystroke VTR assignment; 1000 lines of non-volatile edit decision list memory; and up to 32 Special Function cells per event, for motion control, switcher control, or optional programmable GPI's. Sequential and checkerboard auto-assembly, and built-in time code generator and readers for all VTR's are also included, as is on-board 409 list management software.

Also to be shown is the ABNER-II™, Paltex's next generation A/B roll edit controller. It is the most inexpensive edit controller available with vertical time code (VITC) capability and is ideal, according to the company, for use with S-VHS and MII VTR's. It features a 50-event edit decision list memory; sequential auto assembly; automatic animation mode; and multiple general purpose interface triggers.

**Panasonic Communications and Systems Company (Booth 4513):** For the

NAB show, Panasonic Communications and Systems Company will show the WV-F700 digital processing camera featuring 750 lines of resolution; the AG-A770 128-event, cuts-only edit controller; the WJ-MX 15 A/V mixer; the AG-7750 S-VHS editing VCR; the AG-7650 S-VHS source player; the BT-H1350Y 13" diagonal monitor; the new Big 9 multi-video projection system; and the DT-27—MS multi-scan monitor.

**Prime Image, inc. (Booth 7745):** Among the products to be shown this year is the new CLEAN CUT/EFX compact video production switcher with built-in time base correction. The CLEAN CUT/EFX offers easy operation and high quality video handling. All channels are time base corrected and synchronized, allowing for input of up to four non-synchronous sources, such as cameras, free-running VCR's, character generators, or satellite feeds, with internal locking of all sources to RS-170A sync for broadcast quality output.



The Prime Image CLEAN CUT/EFX.

The CLEAN CUT/EFX also features built-in digital single channel or transition effects. Single channel effects include field/frame freeze and strobe, mosaic, posterization, and sepia. Transition effects include variable-rate wipes with 15

patterns (forward and reverse), vertical "pullover" transitions, fade-to-black, and a "peek-through" digital dissolve in which pixels of the new video replace those of the old video one by one.

Prime Image will also be showing many of their established products, as well as a new RGB Transcoding Option for the 7.5 MHz and HR-600+ Series TBC/Frame Synchronizers.

**QSI Systems, Inc. (Booth 5845, 5942-5944):** Among the items on display at QSI's booth will be the Model 7700 portable color bar generator featuring battery-powered operation, a switchable field bar or blackburst generator, an 8-character field programmable alphanumeric source identifier, and a balanced 1000 Hz tone generator. Designed as an aid in the set-up and alignment of temporary remote microwave links, the 7700 is a useful tool anywhere a fully portable video source is needed.

Also of interest is the Model 5400 sync processor, designed specifically for sync processing of off-air video signals. The 5400's locking system is capable of processing extremely noisy signals, low amplitude signals, even signals with missing sync pulses—video that can choke normal proc amps. It produces completely new sync, burst, and blanking for virtually



QSI's Model 7700 portable color bar generator.

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any RS-170/RS-170A video source, with the added benefit of user-settable VBI line pass switches for each full line of each field.

**RF Technology, Inc. (Booth 5833):** RF Technology will be introducing a new line of 3.5 GHz ultra-portable transmitters and receivers; its "D" Series of compact portable transmitters featuring dual audio AC supplies, wideband frequency agility, and high RF output power; the RF-1303C transmitter, which completes the line of "C" Series DC powered miniature transmitters; the RF-ACC automatic chroma corrector for use with wireless camera systems; and the new "Flashback 7" live news car ENG system at 7 GHz. This system complements the 2/2.5 GHz Flashback system by allowing the customer 7 GHz capability at 10 watts of output power.

Also on display will be the company's complete line of microwave transmitters and receivers, and a selection of just some of their more than 40 antenna systems.

**RRN, Inc. (Booth 1040):** Meet LPTV Report columnist Joe Tilton in Booth 1040. Joe, who writes the column, "Good Selling!" has also published several promotions that could boost your sales.

**S.W.R., Inc. (Booth 7149):** S.W.R. will be displaying a complete line of antennas for LPTV, including the SWLP Series featuring custom-designed or ten standard patterns.

The SWLP Series comes in 8, 12, 16, 24, or 32 bay models in each of the ten standard or customized designs.

**Scala Electronic Corporation (Booth 4161-4163):** A wide range of professional VHF and UHF LPTV transmit antennas of various types will be exhibited at Scala's booth, including slots, panels, yagis, log-periodics, and parabolics. The

company invites you to discuss your specific coverage requirements with booth personnel and watch the Scala computer custom design an antenna system for your station.



The Shure VP64 omnidirectional dynamic ENG microphone.

**Shure Brothers (Booth 1414):** Shure will be exhibiting its line of professional microphone and circuitry products for broadcast, field production, and video production applications. Established products on display include the VP88 MS stereo condenser microphone, the L Series Wireless Microphone System, the SM Microphone Series, and the FP (field production) circuitry line.

New products to be introduced include the VP64, an omnidirectional, dynamic, ENG interview mic; and the FP410, the first portable automatic mixer for field or studio productions.

**Sony Corporation of America (Booth 4401):** Sony will introduce several items in its popular Betacam SP product line, among them the new BVW-50, a 90-minute portable that can be used for field editing. Also on display will be the complete line of Hi-8 equipment, includ-

ing a new VA-90 adaptor that makes it possible to connect any camera with a portable Hi-8 deck.

Several software enhancements to the popular BVE-9000 editing system will be demonstrated, along with production models of the DME-5000 and DME-9000 "System G" digital effects systems. And "System Pacs," complete turnkey editing packages built around the BVE-9000 and BVE-910 editing systems will be introduced for the first time.

Sony will also offer a very competitively priced digital color corrector, the BVX-D10, with direct editor control; and the first Sony digital switcher, available in either component or composite format versions.

**Tektronix, Inc. (Booth 4339):** Tektronix—Television Division designs and manufactures professional television test, measurement, and monitoring equipment. Among the new products to be introduced at this year's NAB are the TSG-130 Multiformat Signal Generator with Black Burst Output; the TSG170D Digital Composite NTSC Generator with Serial Digital Output, which provides signals for testing both serial and parallel digital video and audio systems; and the 1730D Digital Waveform Monitor which displays analog video and serial or parallel digital video signals and features the Eye Pattern measurement for evaluating the serial digital signal path.

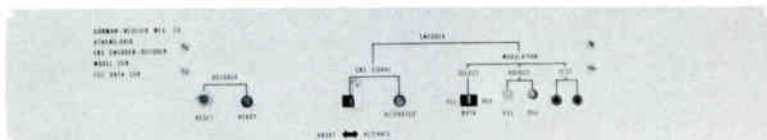
Established products on display will include the 1780R Video Measurement Set; the TSG-1001 Programmable TV Generator; the TSG-1050, 1125, and 1250 HDTV Generators; the SPG1000 HDTV Sync Generator; the 2467BHD Oscilloscope; and the 1730HD Waveform Monitor.

**Tel-Test, Inc. (Booth 5439):** Check out the Tel-Test booth for the MCS 8/2 Master Control Switcher, an 8-input master control system with stereo audio and 4-input DSK/Edger. Also look at the ACA Air Channel Automation system which provides automation control for single or multiple audio/video switching systems. ACA is more than a simple controller system; it can control single and multiple air channels from "traffic" to "air," as well as those functions behind the scenes like delay recording, tape transfer, and pre-packaging breaks.

Also on display will be the MC'SS. Audio features include "hot" on-air transfer capability, "heads up" video VU meters, and a "mix-monitors" system. Machine control includes routing switcher integration, a storage and recall system, and a universal device controller. Video features include a video mixer/fader, two keyers, and a title keyer.

**Television Technology Corporation (Booth 3066):** TTC will be showing the LS1000MU 1 kW UHF solid state transmit-

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## NAB '91 Selected Exhibits

For more information on the products and services exhibited at this show, circle the appropriate numbers on the **ACTION CARD** bound in this magazine and send it in.

Company	Action Card Number	Booth Number
3dbm. . . . .	5 . . . . .	7149
Acrodyne . . . . .	9 . . . . .	5525
Alden Electronics . . . . .	13 . . . . .	5237
Andrew Corporation . . . . .	15 . . . . .	5533
Associated Production Music . . . . .	34 . . . . .	1706-1708
AVCOM . . . . .	35 . . . . .	5951
BARCO . . . . .	41 . . . . .	7601
BASYS Group . . . . .	43 . . . . .	6415
Bencher, Inc. . . . .	44 . . . . .	7345
Benchmark Media Systems, Inc. . . . .	46 . . . . .	2212
BEXT, Inc. . . . .	49 . . . . .	1020-1022
beyerdynamic))) . . . . .	50 . . . . .	5314-5316
Bi-Directional Microwave Systems . . . . .	52 . . . . .	6124
Broadcast Electronics, Inc. . . . .	55 . . . . .	1120
Cablewave Systems . . . . .	56 . . . . .	1148
Channelmatic . . . . .	57 . . . . .	4665
Comprehensive Video Supply Corporation . . . . .	58 . . . . .	5863
Dataworld . . . . .	59 . . . . .	1609
Decision, Inc. . . . .	61 . . . . .	2041
Dielectric Communications . . . . .	63 . . . . .	4539
Dynair . . . . .	65 . . . . .	4459
EMCEE Broadcast Products . . . . .	66 . . . . .	6028
ESE . . . . .	68 . . . . .	4233-4235
Gorman-Redlich . . . . .	69 . . . . .	1024
HEDCO . . . . .	71 . . . . .	4009
James Grunder & Associates, Inc. . . . .	72 . . . . .	3024
Jampro Antennas, Inc. . . . .	73 . . . . .	1200
Laird Telemedia . . . . .	76 . . . . .	2027
Leader Instruments . . . . .	77 . . . . .	6716-6722
Lee Colortran, Inc. . . . .	78 . . . . .	4259
Lindsay . . . . .	82 . . . . .	7149
Manhattan Production Music . . . . .	83 . . . . .	2113
Micro Communications, Inc. . . . .	84 . . . . .	5432
Microdyne . . . . .	85 . . . . .	6448
Microwave Radio . . . . .	88 . . . . .	3000
Moseley . . . . .	89 . . . . .	1210
MSE Videotape Services . . . . .	91 . . . . .	7622
NewTek . . . . .	92 . . . . .	7301
Nikon . . . . .	93 . . . . .	6455
Paltex International . . . . .	98 . . . . .	6514
Panasonic Communications and Systems Company . . . . .	99 . . . . .	4513
Prime Image, inc. . . . .	101 . . . . .	7745
QSI Systems, Inc. . . . .	102 . . . . .	5845, 5942-5944
RF Technology, Inc. . . . .	104 . . . . .	5833
RRN . . . . .	105 . . . . .	1040
S.W.R. . . . .	107 . . . . .	7149
Scala Electronic Corporation . . . . .	109 . . . . .	4161-4163
Shure . . . . .	110 . . . . .	1414
Sony Corporation of America . . . . .	111 . . . . .	4401
Tektronix . . . . .	112 . . . . .	4339
Tel-Test, Inc. . . . .	113 . . . . .	5439
Television Technology Corporation . . . . .	114 . . . . .	3066
TimeLine . . . . .	116 . . . . .	2135-2137
Trompeter Electronics . . . . .	118 . . . . .	5239-5241
Ultimate Corporation . . . . .	119 . . . . .	6010
Videotek, Inc. . . . .	120 . . . . .	4053
Will-Burt Company . . . . .	121 . . . . .	5955-5957

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ter, and the 100-watt UHF solid-state transmitter, XLS100MU.

**TimeLine, Inc. (Booth 2135-2137):** TimeLine is a leading designer and manufacturer of serially controlled synchronization systems and machine control interfaces for audio and audio post-production. TimeLine's Lynx synchronization system is regarded as an industry standard.

New products to be introduced at NAB this year will be a Sony protocol for the Lynx Time Code Module, allowing easy interface with the Sony BVE-900/9000 editor; the Lynx System Supervisor with Neve interface; and CMX edit list upload and download capability for the Lynx System Supervisor, enabling CMX 5 1/4" disks to be uploaded and downloaded to the Lynx system.

Other products to be featured include the Lynx Time Code Module for synchronization, the Lynx Keyboard Control Unit for audio post-production, and the Lynx System Supervisor with Neve or SSL Interface.

**Trompeter Electronics (Booth 5239-5241):** Trompeter manufactures a complete line of high-quality coax patch-

*continued on page 28*

## "They do what they say they'll do."

Larry Boyd is the engineer for LPTV channel 57, serving Crawford County, Ill. Their BEXT 1000W transmitter has been on the air since January.

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## FCC Proposes Children's TV Rule Changes

Responding to mandates in the Children's Television Act of 1990, the Federal Communications Commission is presently considering several changes in its rules to

conform the rules to the Act.

Three requirements in the Act affect FCC rules. First, commercial television broadcast licensees and cable operators

must limit the amount of advertising in children's programs to 10.6 minutes per hour on weekends and 12 minutes per hour on weekdays.

(Proponents of the Act have charged that too many stations now allow as many as 17 minutes of advertising per hour of children's programming, although before the Reagan administration's deregulation of the FCC, broadcasters had been following voluntary industry guidelines limiting ads to 9.5 minutes per hour on weekends and 12 minutes per hour on weekdays.)

Second, when a station is up for license renewal, the Commission must take into account its compliance with the advertising limits (if it is a commercial station) and whether or not it has served children's "educational and informational needs."

Finally, the FCC must decide how to define "program length commercials" and how to treat them under the Act; and it must decide on standards for implementing commercial limits on children's programming.

One of the issues involved is how to define "children's programming" and "commercial matter." Experts have argued that many children cannot distinguish between ads and programs until they are 4 or 5 years old, and cannot recognize an advertising pitch as such until they are 7 or 8.

The FCC is proposing to define "children's programming" as programming that is specifically designed for children 12 and under, and "commercial matter" as airtime sold for the purpose of advertising—a definition that it already uses. It also proposes to define a "program-length commercial" in the context of children's programming as a program associated with a product in which commercials for that product are aired.

The limits on advertising under the Act would clearly apply to both television broadcast licensees and cable operators, although cable networks are not mentioned. The FCC is considering holding a cable network programmer directly responsible for cable network program violations.

Penalties for violations could range from fines to loss of renewal expectancy for full power broadcast stations.

So far, 56 companies and associations have submitted comments in the rule-making. *Broadcasting* magazine (February 4, 1991, page 22) reported a sharp division between two camps of commenters—broadcasters who argued for flexibility in interpreting how they should fulfill the requirements of the Act and no sanctions for anything other than "willful" violations, and ten public interest groups led by Action for Children's Television, who argued for strict definitions of terms and stringent penalties for viola-

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# Emotion In Business

—by Jennifer Jarik

Today my partner and I had a fight. We yelled...yet we solved the problem, a serious business question, in about fifteen minutes. It was the kind of question that could have taken weeks to solve in a boardroom.

I believe this is possible because my partner and I allow ourselves to be emotional in business. We have honest, direct disagreements, get the emotions lurking in the background out of the way, and get down to the business of business.

Yet we're told it's unprofessional to get upset. How many problems would be solved if the emotions behind a decision or a problem with an employee or a colleague were discussed as well as the actual decision? Little misunderstandings

can quickly turn into huge resentments, which in turn can affect productivity.

## Just a Machine?

Let's take "Anne." Anne works for a small public relations company. She is on the verge of quitting because she feels unappreciated. She explained the problem to me: "I am doing work that someone with a lot less experience than I have could be doing." She is angry because her employer doesn't recognize her value. And her anger interferes with her job, causing her to make mistakes.

I suggested that she confront her boss in order to resolve their differences. She replied that her boss didn't care how she felt, that she was "just a machine at work."

After this discussion, I realized that there was someone on my own staff who felt the same way. I sat down with "Alice"

and asked her if she was unhappy at work. Alice said basically the same thing that Anne had said: She was unhappy at work because I was giving her responsibilities that she felt someone else should have.

I mentioned to her that it simply wasn't cost-effective for us to hire another person to help her in her job. There were other parts of the company that needed resources more. I even went so far as to sit down with her and explain the monetary implications of the trade-off. She agreed with most of my decisions. I pointed out to her that asking her to do jobs that she felt were "below" her was in no way a reflection of what I thought of her capabilities. Finally, I told her she was appreciated.

Within a few minutes she relaxed, and her work has improved ever since. I wonder how many resentments could be taken care of this easily. It took about



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fifteen minutes of my time, and it paid off immediately.

#### What is Business?

Allowing emotion in business makes us confront some basic ideas about what business is and what it is supposed to be. Traditionally, people are supposed to be unhappy at work; emotional satisfaction is simply not assumed to be a part of a job. Managers, as a rule, are not supposed to care about the people who work for them; they are supposed to give orders and expect them to be carried out. A worker is viewed as a machine, a machine that is supposed to perform until it breaks down. Then it's gotten rid of; no maintenance, it's just thrown away.

However, those attitudes no longer work in the business world. Alvin Toffler, in *The Third Wave*, talks about the move from an industrial economy to a post-industrial economy, where money and big machines are no longer the keys to success. Success is obtained, instead, through knowledge.

Daniel Bell, in *The Coming of Post-Industrial Society*, talks about the leaders of the future being technocrats, not bureaucrats. They are people who are successful because they understand technology.

John Naisbitt, in *Megatrends*, talks about the movement from an industrial to an informational society. Society is no longer dominated by huge industrial machines. We are evolving into an society of people who deal primarily with information—the exchange of facts and ideas. Most people won't sell cars or lumber; most people will sell information. They will sell facts and ideas, or they will create, sift through, and understand information.

#### Trust Your Employees

Employers need to manage differently

in order to adapt to this change. Informational employees have to meet different expectations. Their responsibilities include thinking on the job (processing that precious information in the proper way) and thinking quickly. Speed is essential when clients want everything "now."

The people who work in these informational industries need to be trusted to work independently. The more information there is, the more that needs to be learned. And the ability to learn quickly is essential if one is to remain competitive. Books like *In Search of Excellence* stress the value of *doing*, instead of just talking about it. They even suggest rewarding employees' mistakes, as long as they're showing initiative.

*The One Minute Manager* advises managers to explain what they want employees to do—in one minute—and then let them do it. If an employee makes a mistake, simply have him or her do the job over. Trust the person to do the job.

So ask yourself whether letting someone show emotion will result in more work getting done. Ask yourself if a little yelling is such a bad thing. Do a few tears make someone unprofessional, or do they really serve to let off a little steam? If the next board meeting is stagnating because underlying power issues and fears need to be addressed, get them out of the way. Deal with emotions so you can start taking care of business.

*Jennifer Jarik is president of Blue Feather Company, a combination video production house and video equipment manufacturer. Based in New Glarus, WI, the company manufactures computer-based video products and special effects systems.*

M/R



—by Don Sabatke

## Why

Why do salespeople fail to make sales? Many times it's not the market or the product, but faulty sales techniques. Here, in no particular order, are some reasons and some solutions.

**Failure to Ask Questions:** People don't want to be sold; they want to buy. If you ask questions, you allow the customer to tell you what they want to buy. Some people call this the "Tell Me" sell.

**Failure to Listen:** Good salespeople spend up to 80% of their selling time listening. Listening involves hearing the customer, watching the customer, and—especially—caring about what the customer is saying. When a customer is talking, don't be thinking of what you're going to say next. Listen, and answer your customer's questions.

**Talking Too Much:** Your customer is not interested in what you need—how many more sales you need to meet your quota, for example. The customer is interested only in what he or she needs. Don't talk too much.

**Product Knowledge:** You must believe in what you're selling. Many salespeople don't believe in the product because they don't understand it. And if they don't understand the product, they can't deduce what the benefits to a particular customer will be. The benefits to your customer

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# Salespeople Fail

should always be the main focus of the sales pitch.

**Pushing Too Hard:** You don't have to use high pressure techniques to make sales. There is a big difference between good selling and high pressure selling. Remember that repeat sales are your bread and butter, so always leave the door open for a return visit.

**Lack of Enthusiasm:** You have to be enthusiastic when dealing with customers. Energy is infectious. Enthusiasm rubs off on others. When you are enthusiastic, everyone around you will be enthusiastic as well.

**Arguing with the Customer:** One theory says that the customer is always right. In many cases this is not true, but with a little practice you will be able to correct customers when they are wrong and still come out on top. Again, always leave the door open for another visit. A good salesperson is someone who makes customers think that they are right when they really aren't.

**Lack of Respect:** It is the salesperson's job to make the customer feel important. Customers should always be treated as if they know more, not less, than they really do.

When you deal with new customers for the first time, respect the fact that they understand the product that they are selling. Similarly, you must impress upon them that you are the expert when it comes to advertising. You know your product, and they know their product. It's as simple as that.

**Failing to Close:** Failing to ask for the order is the biggest single reason for failure in sales. Most salespeople give a good sales presentation and then don't close. If you don't ask for the order, chances are you won't get it.

There are several closes that you can use, and there is no rule that says you must use a certain close with a certain pitch. Simple closes are usually the best: "Try it." "Sign here." "Can I put you down for it?" "When would you like to start?" These are all good closes. No matter which one you use, the important thing is to use one. **ASK FOR THE ORDER.**

*Don Sabatke is president of Sabatke & Company, a sales training firm for LPTV stations. He can be reached at Sabatke & Company, 1033 S.E. 19th Place, Cape Coral, FL 33990, (813) 772-3994.*

# The LPTV Newsroom

## Choosing The Right Equipment

—by Jim West

They call us the cumbersome medium. And no wonder.

A newspaper reporter, for the most part, can do his or her job in the field with a pencil and paper. A radio reporter can be functional from any place in the world with a tape recorder, alligator clips, and a quick wit. However, to cover the same story, a television reporter may require a crew with \$50,000 of equipment on their backs, a half-million dollar satellite truck, and a host of electronic gadgetry at the receiving end to bring the same news home.

You may not know a diode from a dihedron, but sooner or later you may be forced to make some significant decisions on equipment to build and maintain your LPTV operation. News gathering is equipment-intensive and can take a huge chunk of your capital outlay. It is important, therefore, that you make sound decisions when you set up a television news department.

We're calling this article "Choosing the Right Equipment," but for many of us there may be little choice. You may be forced to make the most of "hand-me-down" used equipment, or, because of budget restrictions, limit your purchases to consumer-grade gear. But even with a small budget, it isn't a bad idea to have a master plan in mind, so that the equipment you'll purchase next year or the year after will work with and enhance what you presently have.

To give you an example: At the major market network affiliate where I served as news director, we devised a four-year transition from 3/4" equipment to Betacam. We had to carefully phase in each new piece of gear, to make sure we had enough editing space for the format we were shooting in the field. It wasn't easy, but it kept our annual capital outlay more reasonable.

### Tape Format

The starting point in a discussion of news-gathering equipment is not the camera, sexy as many of them are these days. The legitimate foundational decision is tape format. Many of today's cameras are "dockable"; that is, they can be hooked directly to videotape recorders of differing formats to form a camcorder. Even without this dockability, most cameras can send their signals to separate recorders using various umbilical cords, so the choice of camera is secondary.

Which format you use for news may already be decided as a result of other decisions. For instance, if your entire station—tape, playback, and all—is totally 3/4", and if you have an ample supply of machines for editing and playback, then it makes sense to keep tape formats uniform. However, if you are buying new equipment, you may want to consider some of the smaller formats such as S-VHS or Hi-8 mm. Whichever you choose, make sure that you will be able to use the format's strengths—Y/C editing, for example.

Here are some of the popular formats to consider:

- MII: Panasonic's broadcast format, used by NBC and some of their affiliates. Prices have dropped dramatically in the last year.
- Betacam SP: Sony's broadcast 1/2" format, widely used for news-gathering around the world. The cost of editing

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# How Good Is Your Station's Programming?

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equipment might make it unrealistic for LPTV.

- S-VHS: Panasonic's industrial 1/2" format. It provides 400+ lines of horizontal resolution and features a two-hour record capability.

- Hi-8 mm: Sony, Canon, and others offer this 1/2" format with similar horizontal resolution to S-VHS.

- 3/4" SP: An upgrade of the original 3/4", providing 330 lines of horizontal resolution.

- 3/4": Original 3/4" tape with 260 lines of horizontal resolution.

There are also other formats that you may run into—standard VHS, VHS-C, early Betamax, 8 mm, and ED-Beta. Unfortunately, space does not permit a full discussion of formats here. But whichever format you're looking at, assess it properly by asking your equipment vendors some of the following questions:

- What is the length of field recording tapes? (It can vary from 20 minutes to two hours.)

- Must metal oxide tapes be used?

- What is the horizontal resolution? (Horizontal resolution is a measure of how close two vertical lines may appear without overlapping.)

- Is the format capable of A-B roll editing (using three machines to create dissolves and special effects)?

- Is the format compatible with other formats? (Some broadcasters are using Hi-8 mm for field acquisition and editing to 3/4" SP.)

- Will the benefits of component Y/C be lost in the editing process?

There still is plenty of good 3/4" equipment around. With many television newsrooms converting to 1/2", there are some good bargains. But be sure to have it checked out before you buy. News editing equipment often is worn out long before similar equipment would be in a production house or corporate video environment.

### The Camera

As we said earlier, the choice of camera is a secondary decision, but important nonetheless. With the advancement of solid state CCD cameras and lower costs, there is little question that CCD is the way to go for news gathering. Granted, you may find some great deals on used tube equipment, and it may well meet your needs. But in the long haul, the CCD is preferable. It reduces smears and lags, it uses less power, it doesn't need registration, it's durable, it's smaller and lighter, and it can be pointed at the sun without danger.

CCD cameras come self-contained, either dockable or in single-piece units. They will drive almost any tape format. Prices vary widely from consumer-grade cameras in the hundreds of dollars to broadcast models in the tens of thousands of dollars. Again, your equipment reps will explain the differences in pixel count and other technicalities.

### Lenses

One place not to scrimp is in your camera's lens. While most consumer grade cameras will come with a 6 to 1 lens, you should purchase a 12 to 1 zoom lens at a minimum. For shooting sports, you might want to consider a 16 or 17 to 1 lens. Some lenses come with built-in 2X extenders. Nearly all have power zoom and auto-iris features. Auto-focus, however, a standard in consumer cameras, will be more a liability than an asset in news photography.

### Lights

Lights, camera, action! You don't want to forget lights. The new CCD cameras may be extremely sensitive in natural (available) light, but lighting still is necessary for the professional touch. For one thing, lighting enhances color, because a

camera has difficulty seeing colors in low light levels in the same way that our eye does. With additional lighting, you also can "paint" the picture to create certain moods, highlighting the subject and creating shadows for effect.

For many situations a battery-operated 10- to 30-watt light mounted on the camera will be just enough to bring out color and erase shadows. But for flexibility and professional results, you should consider equipping your photographer(s) with a basic three-light kit including barndoors, diffusers, gels, and filters. Of particular importance are dichroic filters which enable the lights to be used outdoors to augment natural lighting, or indoors when there is plentiful daylight.

Outdoor shooting often requires reflectors to erase strong shadows and fill in the dark spots. Some people have ingeniously made inexpensive reflectors with cardboard and aluminum foil. Commercial reflectors also are available.

### Audio

We think of television primarily as a visual medium, but there is nothing that will kill a story faster than bad audio. We often let sound take a back seat, relying on our camera-mounted shotgun mike and the deck's automatic gain control to take care of us. Many photographers do not have the time or take the time to continuously monitor the audio being recorded.

A basic photographic audio set should include the shotgun or built-in microphone on the camera, a separate stick mic such as the Electro-Voice 635 (you may need to pound nails with it in an emergency!) and one or more lavalier mics (for example, the SONY ECM-55 series). Two things you can't have enough of are extra cables and connectors. In my production kit I carry a variety of "Y" connectors, gender reversal adaptors, a multitude of audio connectors, and some impedance matching adaptors. You need to know the input levels of your deck, line vs. mic, and the impedance characteristics. With an assortment of adaptors, you usually can match the output of a public address system for instance to your deck. I carry my adaptors in a fishing tackle box with transparent covers for easy access.

Some of my former photographers would carry portable mixers with them to sub-mix interviews or for special setups involving live remotes. While they add flexibility, they are not essential for most news-gathering.

Wireless microphones are wonderful but cost far more than a 100-foot roll of mic cable left in the truck of your car.

### Tripods

Without naming particular makes and models, let's look at some factors to con-

sider when choosing a tripod.

- How easy is it to set up?
- Can you carry it with one hand?
- Is it a graphite composite, aluminum, plastic, or steel in construction?
- How easy is it to level?
- Does it adjust for the weight of the camera?
- How many drag settings does it have?
- Will it adapt to spreaders or a dolly?
- Does it have a fluid or friction head?
- Does it have a quick release function?

Though it may seem to be elemental in video, a tripod is a significant ingredient in quality production. The choice of a tripod should not be made lightly.

#### Protective Gear

Now that you've invested thousands of dollars in equipment, you don't want to give it a bath in the first summer downpour. Protective gear made by Port-A-Brace, Kangaroo, and others serves several purposes. First, it protects the gear from the elements. Perhaps just as important, the covering acts as a shock absorber and cushion while the camera rides in a vehicle or is jostled by a fast-moving crew. Lastly, many protective coverings have a variety of pouches and pockets that are ideal for carrying spare tapes, batteries, mics, cords, and headsets. Some network sound engineers come so fully loaded with coiled cords hooked on every corner, you wonder how they can even walk.


While you're at it, protect your employee as well. If your camera deserves rain gear, so also do your people. Foul weather gear and perhaps a pair of boots are a small price to pay to let them know they are just as important as the gear.

#### Miscellany

There are many other items which are important for your news photographers. You need several complete changes in batteries, chargers, AC power adaptors, extension cords, extra video and audio cables, and portable monitors. You may even need backup systems for redundancy.

Finally, remember that great pictures are made, not just by the camera, but in the eye of the photographer. So purchase carefully and hire wisely!

*Jim West is a veteran of 24 years in broadcast journalism. He now resides in New Port Richey, FL and runs a consulting, marketing, and video production company. He is a co-applicant for an LPTV construction permit.*

*To reach Jim, call West & Assoc., Inc. at 1-800-637-1071 or (813) 842-9042. *

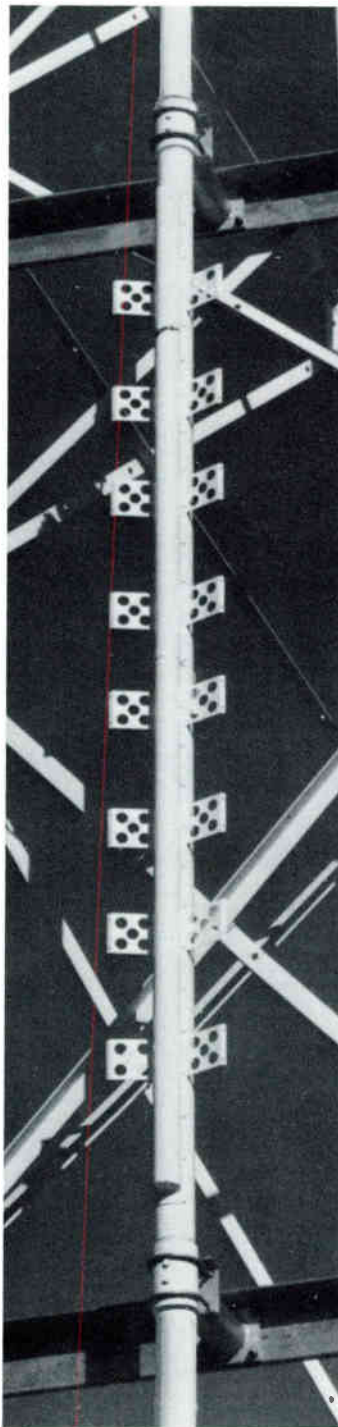
## FCC To Issue \$350,000 In Tower Painting/Lighting Fines

Last November, the Federal Communications Commission conducted a nationwide inspection of more than 1,000 radio towers looking for violations of painting and lighting regulations. The search revealed that 84% of the towers inspected were in compliance. However, more than \$350,000 in fines will be levied against those owners and licensees whose towers

fell short of the rules.

To protect air traffic, the FCC has imposed stringent regulations on the marking and lighting of towers. Station licensees are responsible for making sure that their towers comply with regulations even if they do not own the towers.

*continued on page 39*



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# Metzenbaum Introduces Cable Bills

Two new bills aimed at increasing cable competition and protecting cable subscribers were introduced to the Senate last month by Senator Howard Metzenbaum (D-OH). The two bills are similar to legislation that Metzenbaum introduced in the last Congress.

S.431, entitled the "Competition in Cable Act of 1991," would promote competition to cable systems by requiring vertically integrated cable programmers to offer their programming to cable competitors on fair terms and at non-discriminatory prices. It also restricts horizontal concentration in the cable industry by forbidding any one cable company from providing service to more than 25% of the nation's cable subscribers.

S.432, the "Cable Television Subscriber Protection Act," would allow basic cable rates to be regulated by franchising authorities when there is no effective competition to the cable system. The bill defines effective competition as the presence of more than one multi-channel video provider in any given area.

Senator Metzenbaum introduced the first bill in the last Congress aimed at reregulating the cable industry, and he was one of the original co-sponsors of S.1880 which died on the Senate floor early last October.



## Technical Talks

—by John H. Battison, P.E.

### Little Things Mean A Lot

Have you thought lately about the condition of your RF equipment? Managers have a very bad habit of ignoring their transmitters and antennas and assuming that these life's blood components of their operation will just go on running forever. 'Tain't necessarily so!

The chances are that your antenna is way up in the air on a tower—out of sight and out of mind. Your transmission line has been exposed to wind, rain, and the occasional idiot's (or small boy's) rifle slug. Your transmitter may be housed in a wooden or concrete block shack, where no one goes to look at it—unless it fails.

These three items are your most important units; but how often do you think about them when they are working properly?

#### Ghosts

Have you observed any deterioration in your signal at fringe areas? In fact, do you have a test location where you can go to check your picture quality objectively? A place where the signal should always be good and any built-in ghosts or imperfections will show up? If not, you should have. Of course your home is a good location for such tests—provided that it is far enough away so that even small deteriorations or aberrations in the signal can be observed.

Is there a ghost now that was not there when you went on the air? If so, does it appear at all locations, or at only a few. If the ghost is new, you must find the reason. It could be due to new construction in the area, but if there is no readily observable physical change in the path of the signal, you will have to run tests to find it.

Check the transmitter output with a monitor. If it is clean, the problem is pretty sure to be in the antenna/coax link. Beg, borrow, buy, or steal a TDR (time domain reflectometer). If you are on good terms with your local telephone or electrical power company, you may be able to borrow one from them. The TDR sends a pulse of electricity along the coax and up to the antenna. If there is any kind of discontinuity along the line, at a joint, or in the antenna itself, it will be reflected, together with the original pulse, and show up on the oscilloscope. TDR's are so accurate that it should be possible to tell if the ghost is originating in the antenna or in the coax and to locate it within a foot. Your actions after that depend on which component is giving the problem.

If the coax is in trouble, it must be examined for holes, leaks, mechanical

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The quality and reliability of Scala's products have been proven in broadcast and communications systems around the World over the past 46 years. Scala has a broader range of professional antennas and accessories for LPTV than any other manufacturer, plus a reputation for the industry's finest customer support. These days you have many choices of LPTV antenna suppliers, including several new entries to the market. Some offer poorly-designed products and some have little or no experience in the design and manufacture of LPTV transmit antennas. Only Scala can offer you more than 46 years of experience in professional antennas and a superb reputation for the kind of performance and quality your LPTV system needs and that you deserve.

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damage, and so on. If the problem is in the antenna, you probably will have to call in one of the manufacturer's service people. This is generally cheaper and faster (because the manufacturer's people know their own equipment inside out) than having your own technician climb the tower.

If the video is free of ghosts at the transmitter output, your problem is probably in the transmitter itself. But because every transmitter has its own system of operation, your technician should consult the manufacturer's instruction manual; this is an expert's job!

#### Keep It Clean

Assuming that you have no ghosts and your transmitter is running properly, your next job is to keep it that way by cleaning out the transmitter building. Rats and mice, as well as insects and birds, love to live in the nice warm atmosphere of a transmitter building. It is amazing how these "wee beasties" find their entrances.

Rodents can be taken care of with poison. Insects need to be blown out and an insect killer spray used. But watch out for wasps—they, too, love transmitter buildings. Birds will build nests anywhere there is a little hook or shelf to build on—so that their droppings fall on the transmitter's air filter!

Change or clean your transmitter's air filter regularly by vacuuming the dust away. The air in the transmitter building must also be free of dust. So be sure that the outside air filters are clean and have no holes in them. Re-oil any filters that require coating.

Most 1 kW UHF transmitters in use at present have a single tube in the power output stage. These tubes work in a cavity that must also be kept free of dust. Dust particles in the high voltage section of your transmitter can cause flash-overs or sustained arcs which will burn away components—and put you off the air. However, do NOT try to clean out transmitters yourself; let your knowledgeable technician do that, but be sure he/she does it!

If you have a complete solid-state transmitter, you won't have the high voltage/dust problems, but you will need to keep the units spotlessly clean. Heat is a big problem for solid-state components—this goes for the solid-state section of transmitters with a final tube also. If your building is air conditioned, now is the time to be sure the air-conditioning system will work in the summer. Even in the winter, air conditioning is sometimes needed.

#### Keep It Dry

Damp is also a bad enemy. Check for rain ingress, as well as damp arising from the ground. Damp will make your delicate UHF signals go to the ground instead of to

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the antenna. It can also corrode copper wires and connectors, break down some types of insulation, and block filters by causing mildew growth on the fibers.

I like to use a little silicon sealer/lubricant on the connectors in a transmitter building. Not only does the lubricant help to keep out moisture, but it makes it easier to uncouple connectors after many years when they have tended to weld together. But be guided by the manufacturer's suggestions.

Finally, keep good records. The FCC does not require it, but you would be very wise to keep at least a daily log of important transmitter operating parameters,

such as final stage current, voltage, power output, and reflected power. Other parameters will be suggested by the manufacturer's instruction book, and your technician's experience.

A sudden high reflected power (VSWR), coupled with new ghosts in your pattern, is generally a sure sign of trouble in your antenna system. If you've been keeping a record of such readings, you will be able to tell if it happened suddenly, or over a period of time. Such information makes it easier to diagnose the cause.

*John H. Battison, P.E. is a consulting engineer with offices in Loudonville, OH.* 

## HDTV Update

The Advanced Television Test Center (ATTC) has announced its testing schedule for the six advanced television systems being considered by the FCC's Advisory Committee on Advanced Television Service. Testing will begin this spring and finish early next year. The following are the test dates for each of the six systems:

- April 12-June 12, 1991: Advanced Compatible Television (ACTV), developed by the David Sarnoff Research Center;
- June 19-August 12, 1991: Narrow MUSE, developed by NHK/Japan Broadcasting Corporation;
- September 3-October 24, 1991: DigiCipher, developed by General Instrument Corporation;
- October 31-December 27, 1991: Spectrum Compatible HDTV (SC-HDTV), developed by Zenith Electronics Corporation;
- January 8-March 3, 1992: Analog Simulcast HDTV, developed by N. A. Philips

Consumer Electronics Company;

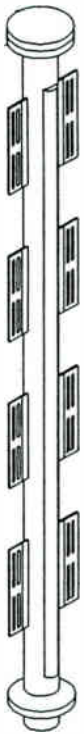
- March 10-April 30, 1992: Channel Compatible HDTV, developed by the Massachusetts Institute of Technology.

The ATTC will recommend a system to the FCC by September 1992, and the FCC will select a final HDTV standard by June 1993.

FCC Chairman Al Sikes has said the Commission could test other systems if they represent a significant new development. AT&T and Zenith Electronics plan to submit a new, jointly developed, all-digital system before Zenith's October test date. The system will be able to use the so-called "taboo" television channels that cannot now be used because of interference problems. The new, all-digital transmissions, however, use lower power levels and therefore eliminate the interference potential.

All but the Japanese group, NHK, have upgraded their proposals in response to

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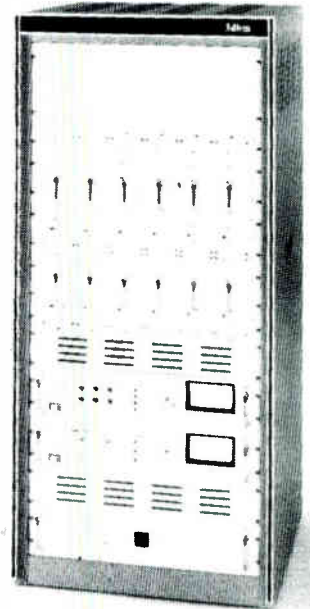
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General Instrument Corporation's Digi-Cipher entry last June.

Following the lab tests, the six systems will be tested on both broadcast and cable viewers in Canada. Satellite transmission will not be tested; the FCC wants to emphasize terrestrial broadcasting because of its ability to accommodate local programming.

All of the systems to be tested are simulcast systems, which means that two signals are transmitted—one for conventional receivers and one for HDTV receivers. Last spring, the FCC adopted a simulcast standard so that all consumers would be able to receive all television signals.

• • •

The ATTC has successfully demonstrated a new "format converter" which allows several different, incompatible forms of advanced television signals to be recorded in real time on a high definition digital videotape recorder.

The new device was developed for the Test Center by Tektronix, Inc. It will allow a more accurate "apples to apples" comparison of the various HDTV systems under consideration.

The ATTC will also use a large screen (65" diagonal) Hitachi High-Definition

Multi-Scan Rear-Screen Projection Display to test HDTV systems. The projector features the wide-screen, 16:9 aspect ratio that advanced television systems will use, instead of the current 4:3 aspect ratio.

The projector will be able to display each of the four different scanning formats to be used in testing the six ATV systems under consideration at the Center. Using the same display for all six systems will ensure the fairest possible comparison of results.

• • •

General Instrument Corporation has been appointed to the Executive Committee of the United States Advanced Television Systems Committee (ATSC). The company joins 16 other electronics corporations, broadcast and cable associations, and broadcast companies.

**BON MOT**

**Power is the ability to do good things for others.**

*Philanthropist and author Brooke Astor*

## NAB Walk-Through

*continued from page 20*

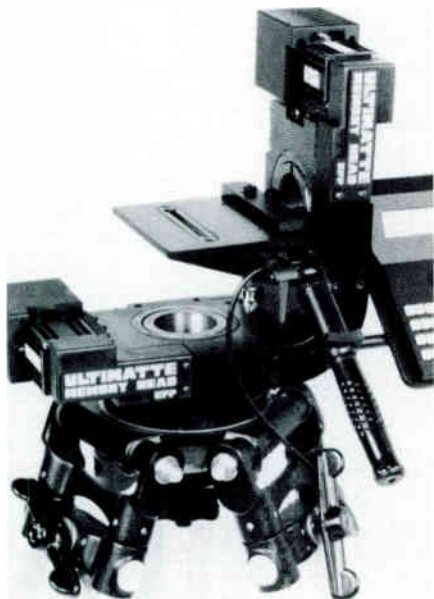
ing and connectors. On display will be a selection of standard and miniature patch jacks, "normal thru" jacks, paralleling jacks, patch plugs, patch cords, and cable assemblies. Coax connectors to be shown include 50- and 75-ohm tool and wrench crimp cable plugs and jacks for fast reliable terminations.

Trompeter will also show a selection of audio patching products including dual audio jacks, patch cords, and looping plugs.

**Ultimate Corporation (Booth 6010):** On display will be the System-6™ video image compositing system, featuring a menu-driven remote, a built-in time code reader, and a memory that can store up to 75 set-ups. The new Screen Correction™ circuitry permits flawless composites by correcting for poorly lit backings, smudges, uneven paint, and differences in the blue of the backing and set pieces.

Also on display will be the Ultimate Memory Head, a computerized pan/tilt head that operates like a conventional fluid head but that remembers and can repeat pans, tilts, zooms, and pulls accurately enough for image compositing.

New products include a high definition version of the System-6, as well as several accessories that allow the System-6 to be used with a PC or an external storage disk drive, and to interface with an editor in post-production facilities.




The Ultimatte Memory Head.

**Videotek, Inc. (Booth 4053):** New products at this year's NAB will be the TVM-710, a combination waveform monitor/vectorscope with SC/H phase displays, digital line selects, measurement cursors with on-screen digital readouts, and a 3D vector display; the TVM-720, a component/composite version of the TVM-710; the BTG-100, a hand-held SMPTE color bar generator with a 20-character source ID and either battery or AC power; and the Prodigy C, a component production switcher with linear upstream and downstream keyers, 240 wipe patterns, variable border softness inside and out, and a 100-event memory.

The company will also display its line of sync and timing equipment, distribution amplifiers, routing switchers, demodulators, color monitors, and audio program monitors.

**Will-Burt Company (Booth 5955-5957):** Will-Burt will be showing pneumatic telescoping masts for positioning antennas, sensors, or cameras at heights up to 134 feet; standard duty mast models for mobile radio remotes or testing up to 34 feet; heavy duty mast models for cameras, sensors, or mobile ENG and SNV remotes up to 58 feet; and trailer-mounted models of 100 feet and 134 feet for telecommunications applications.

Custom-designed masts for special requirements are available upon request. Pan/tilt positioners, pre-formed cable conduit, and pneumatic systems can be supplied to fit any application. 



# LPTV and the LAW

—by Peter Tannenwald

## Guest Appearances On Local Programs

Here in Washington, DC, our local newspapers carry lots of comic strips, so I have learned that much of the world's wisdom appears in the comics. As I write today, the *Mary Worth* strip is featuring a boisterous radio talk show host named Monty Madison, who delights in graciously inviting the community's luminaries to appear on his show and then skewering them on the air with accusations about their activities behind the scenes.

I don't know whether Madison will wind up as a turkey or a hero, but I do know that providing an outlet for local news and public affairs is one of the most meaningful services our LPTV industry performs. Many stations regularly open up their studios for appearances by guests of all kinds, from governmental officials to the ordinary citizens who are rarely in the limelight but who exercise the ultimate political authority at the ballot box. Some LPTV stations also feature entertainment programming that includes local musicians, comedians, and even advertisers who try to be musicians or comedians to sell their products.

But when you invite someone who is not your employee to be on the air, do you take any precautions to protect yourself against legal claims?

There are several areas where you can get into trouble. Although good insurance can help, it is important to do what you can to avoid trouble in the first place.

### Guests' Rights

Merely by appearing on the air, a person acquires several rights that you can invade. These include a right to privacy and a right of publicity that relates to the use of his or her name, likeness, and voice. If a person knowingly walks up to your camera on the street or voluntarily calls or comes to your studio, you are pretty safe with regard to a live broadcast; but the situation may become more complicated if you want to record the program and air it several times, or use the person's likeness in broadcast or print promotional advertising in a commercial announcement.

The problem gets worse if you want to give or sell tapes to others. And if you have a hidden camera, or you use a telephoto lens to photograph someone who is not aware of what you are doing, I would be happy to introduce you to some of the litigation attorneys in my firm.

There are also problems that relate not to the appearance itself but to the content of the program. Potential legal problems include defamation (commonly known as libel or slander), or placing someone in what is known as a "false light." You can put someone in a false light by direct speech, of course, but also indirectly, by implication—such as by displaying someone's picture next to a picture of a known criminal in a way that suggests that the two people may be associated. You can defame a person or place him or her in a false light even when the person is not on your program. And even if someone who does not work for you, such as an outside guest, speaks the harmful words, you are still liable as the "publisher" of those words if they are aired on your station.

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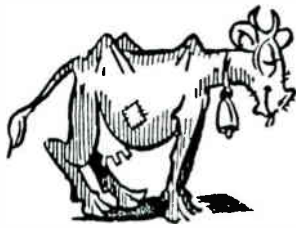
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cated that you will never do another local program. In almost every case, if someone is on the air with your consent, and you are careful in producing the program, you will have no trouble. And the hypothetical possibility of trouble from a crank should never stop a broadcaster from airing good local programming. However, if a program is planned in advance and you have the time, it is a good idea to obtain some kind of written consent from your guests, to make sure that you and they both understand what you are going to do with the program.

I have designed forms for clients that have several things on them, with boxes next to each item, so that the guest can check those things that apply and cross off anything that he or she does not like. The things I usually recommend on the form include consent to: (a) live broadcast of the person's image and voice, (b) recording the program for later broadcast, (c) repeat broadcasts of the program on your station, (d) furnishing all or parts of the program to a network or to other individual stations for broadcast either at the same time or later than your broadcast, (e) giving copies of the tape to the general public, and (f) selling copies to the general public.

To protect yourself from the payola laws and to ensure compliance with the sponsorship identification provisions of the Communications Act, you should also ask your guest to warrant that he or she

has not received any payment or other consideration from a third party for anything to be said or done on the air. Finally, a guest may be asked to hold your station harmless from any claim or liability arising from the appearance and even to indemnify you against claims based on the words the guest speaks.

## Musical Performances

Even if your guest agrees to all of these consents, remember that if a musical performance is involved, the guest can give you only the right to the artist's performance. Unless your guest is also the composer of the music, he or she cannot give you the right to broadcast a performance of the music or to make a recording of the music. Your ASCAP and BMI licenses may take care of the performance, but you need to go to the Harry Fox Agency or the music publisher for the right to record.

You never knew things could be so complicated, did you? But if you stop broadcasting local programming because of these potential problems, you are letting the cart drag the horse. Take care with your programming, carry good insurance, and go about your business serving the community.

*Peter Tannenwald is a partner in the Washington, DC law firm of Arent, Fox, Kintner, Plotkin & Kahn. He is general counsel to the Community Broadcasters Association.*

## What's Going On

**March 24-27, 1991.** National Cable Television Association Annual Convention. New Orleans, LA. *Contact:* (202) 775-3669.

**April 13-15, 1991.** Broadcast Education Association 36th Annual Convention. Las Vegas, NV. *Contact:* Louisa Nielsen, (202) 429-5355.

**April 15-18, 1991.** National Association of Broadcasters Annual Convention. Las Vegas, NV. *Contact:* (202) 429-5356.

**April 18, 1991.** Federal Communications Commission "Brown Bag Lunch" on the topic, "Low Power Television, Latest Developments: Next Window Filing." Speakers are Keith Larson, chief, LPTV Branch and Molly Fitzgerald, supervisory attorney, LPTV Branch. Time: 12 noon-2 p.m. At 1919 M St., NW, Washington, DC, Room 856. *Contact:* Trudy Udeh, FCC Consumer Assistance and Small Business Division, (202) 632-7000.

**April 19-21, 1991.** Southern Regional Conference of College Broadcasters. Georgia State University, Atlanta, GA. *Contact:* (401) 863-2225.

**April 21-24, 1991.** Broadcast Cable Financial Management Association & Broadcast Cable Credit Association Annual Conference. Century Plaza Hotel, Los Angeles, CA. *Contact:* Cathy Lynch, Meetings & Conventions Coordinator, (708) 296-0200.

**May 16-19, 1991.** American Women in Radio & Television 40th Annual National Convention. Atlanta, GA. *Contact:* Diane Walden, Director of Advertising and Promotion, (202) 429-5102.

**June 13-19, 1991.** 17th International Television Symposium and Technical Exhibition. Montreux, Switzerland. *Contact:* P.O. Box 97, Rue du Theatre 5, CH-1820 Montreux, Switzerland.

**June 16-19, 1991.** Broadcast Promotion and Marketing Executives/Broadcast Designers Association Conference & Exposition. Baltimore, MD. *Contact:* Gregg Balko, (213) 465-3777; Exhibitors contact Susan E. Rosenstock, (301) 468-3210.

**June 17-19, 1991.** HD World Advanced Television Conference & Exhibition. Sheraton Palace Hotel, San Francisco, CA. *Contact:* Kim Devan (registration) or Marilyn Reed (exhibits), Meckler Conference Management, (800) 635-5537; in CT: (203) 226-6967.

**September 14-16, 1991.** ShowBiz Expo East. Meadowlands Convention Center, Secaucus, NJ. *Contact:* Live Time, Inc., (213) 668-1811.

**September 25-28, 1991.** Radio-Television News Directors Association Annual Convention. Denver, CO. *Contact:* (202) 659-6510.

**October 3-6, 1991.** Society of Broadcast Engineers National Convention. Houston, TX. *Contact:* (317) 842-0836.

**October 26-30, 1991.** Society of Motion Picture and Television Engineers Annual Conference. Los Angeles. 1992 Conference: November 10-14, Toronto. *Contact:* Ann Cocchia, (914) 761-1100.

**October 27-30, 1991.** Association of National Advertisers 82nd Annual Meeting & Business Conference. Phoenix, AZ. *Contact:* Cynthia Roberts, Meeting Manager, (212) 697-5950.

**November 22, 1991.** University Network (UNET) Annual Affiliates Conference. Brown University, Providence, RI. *Contact:* (401) 863-2225.

**November 22-24, 1991.** Fourth Annual National Conference of College Broadcasters, Annual Convention of the National Association of College Broadcasters (Trade Expo, November 23-24). Brown University, Providence, RI. *Contact:* (401) 863-2225.

**November 23-25, 1991.** Community Broadcasters Association Fourth Annual LPTV Conference & Exposition. The Riviera, Las Vegas, NV. (1992 CBA Conference: November 20-22, also at The Riviera.) *Contact:* Suzanne Dooling, (414) 783-5977, or Eddie Barker, (800) 225-8183.

**December 11-13, 1991.** Private Cable Show. Westin Resort, Hilton Head Island, SC. *Contact:* (713) 342-9655.

**February 29-March 2, 1992.** ShowBiz Expo West. Los Angeles Convention Center. *Contact:* Live Time, Inc., (213) 668-1811.



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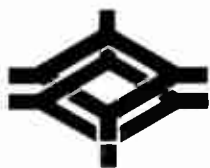


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While the job outlook in public tele-  
vision is "not bright," according to the  
authors, and openings at the commercial  
networks will decrease, commercial tele-  
vision stations will continue to require  
trained people. The outlook is also good  
for new networks, production companies,  
and performers. LPTV stations are ex-

pected to create at least 13,000 new jobs  
in the next five years.

The book, published in December by  
Facts on File, Inc. in New York City, pro-  
vides detailed profiles of jobs in television  
station management and administration,  
programming, production, news, engi-  
neering, ad sales, ad agencies, and per-  
formance. It also covers video-related job  
openings in cable and MMDS, consumer  
electronics and home video, education,  
private industry, government, and health.

### INDEX TO ADVERTISERS

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COMPANY	PAGE	ACTION CARD NUMBER	ADVERTISER FACT LINE
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Acrodyne Industries, Inc.	17	18	(215) 542-7000
American Consumers, Inc.	14	141	(919) 632-8717
Andrew Corporation	25	79	(708) 349-3300
BEXT, Inc.	20	47	(619) 239-8462
Cablewave Systems	13	32	(203) 239-3311
CADCO	6	117	(214) 271-3651
Channelmatic	37	6	(619) 445-2691
Coarc Video	23	28	(518) 672-7202
Decision, Inc.	32	14	(214) 586-0557
Eagle-Lion Video	33	96	(619) 277-1211
EMCEE Broadcast Products	11	1	(717) 443-9575
Gorman-Redlich	18	62	(614) 593-3150
HEDCO	38	128	(800) HEDCOGV
ITS Corporation	40	123	(412) 941-1500
International Video Brokers	20	122	(818) 505-6644
Kompas/Biel & Associates, Inc.	34	19	(414) 781-0188
Laird Telemedia	21	151	(801) 972-5900
Lindsay Specialty Products	15	12	(705) 324-2196
Manhattan Production Music	29	143	(800) 227-1954
Media Concepts	22	30	(918) 252-3600
Microdyne Corporation	31	100	(904) 687-4633
Microwave Filter	2	172	(315) 437-3953
Microwave Radio Corporation	7	134	(617) 272-3100, ext. 7459
Modern TV	16	40	(800) 237-8913
Money Management Television Network	4	36	(817) 282-6770
Panasonic	Insert	45	(800) 524-0864
Riser-Bond Instruments	19	90	(800) 688-8377
Sabatke & Company	30	168	(813) 772-3994
Scala Electronic Corporation	26	186	(503) 779-6500
Showplace	24	180	(312) 871-5246
TE Products, Inc.	35	17	(800) 832-8353
Techno Systems	12	74	(305) 477-5018
Tel-Test	36	108	(904) 374-4503
Television Technology Corporation	5	7	(303) 665-8000
Trident Productions, Inc.	27	165	(800) 955-5660
Trompeter Electronics	10	183	(818) 707-2020

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## Solid State Or Tube: A Manufacturer's View

—by Robert M. Unetich  
ITS Corporation

Considering the rapid pace of technological evolution, it may be surprising that vacuum tubes still have a place in the broadcast industry. But the reality is that, at high power levels, tube technology will be an important part of many transmitters for years to come for the simple reason that tubes are both efficient and inexpensive.

Advances in tube technology have produced several families of tube types including the old reliable Klystron, the tetrodes, the recently developed multiple depressed collector Klystron, and the tube that combines both tetrode and Klystron technology—the Klystrode. These devices are available at the 10,000-240,000 watt levels typically used at full power television stations.

As for solid state technology, solid state transmitters are now the norm for full power VHF stations. Suppliers offer solid state VHF television transmitters with up to 100,000 watts of output power. However, because it is difficult to achieve very high power in transistors at UHF frequencies, solid state UHF transmitters are generally not competitively priced with tube alternatives.

In the 1,000 to 10,000 watt range, however, the choices are not so clear. Several foreign transmitter suppliers are now offering solid state transmitters with up to 10,000 watts of output power. And at the 1 kW UHF level, the price difference between tube and solid state transmitters is negligible.

At power levels of one kilowatt and below—the power range of LPTV stations—transistors have replaced vacuum tubes almost universally. Individual

UHF transistors can now produce more than 100 watts of power each, making it unnecessary to use tubes below this power level. Powers greater than 100 watts are achieved by combining an array of solid state amplifiers—an approach that offers both advantages and disadvantages to a broadcaster.

This article will attempt to clarify these issues so that a more enlightened selection of a transmitter type can be made.

### Issues To Consider

ITS Corporation manufactures both solid state and tube type television transmitters at the 1,000 watt UHF power level. While we always favor using improved technology, we also know that selecting a transmitter type at this power level is a complex decision that depends more on the customer's requirements and resources than on purely technical issues.

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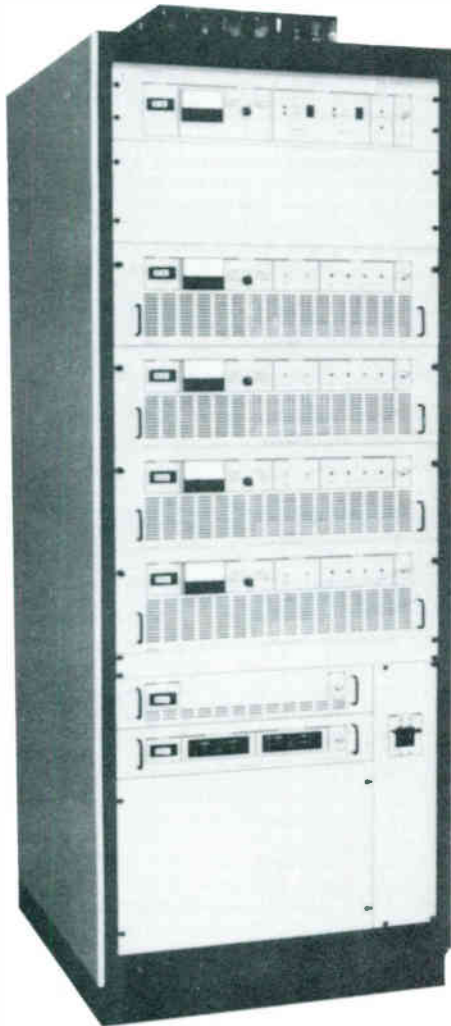
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Therefore, we will continue to offer both types of transmitters, and we believe that there will be appropriate uses for each for years to come.

One issue is, of course, cost. The transistors used in solid state UHF transmitters have relatively low gain and power capability compared to that of vacuum tubes. As a result, additional driver stages—and attendant power supply and support circuits—are required in solid state units. The impact of this is that present solid state transmitters cost more to manufacture, and therefore sell at a higher price, than typical tube transmitters do.



The ITS-1230 1 kW solid state UHF transmitter.

And although the price of solid state devices has been dropping in the last year, improved—and less expensive—versions of the tube transmitters have also been introduced. On the other hand, with tube transmitters, there is the periodic expense of tube replacement to consider.

Then there is the issue of safety. Vacuum tube circuits typically operate at powers in excess of 3,000 volts DC, while transistor circuits generally use less than 40 volts. In an age when fewer and fewer

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technical people have high voltage and tube circuit training, the safe repair of tube transmitters is becoming more difficult.

### Reliability

There is also the reliability question. Vacuum tube transmitters tend to be reliable over the life of the tube, but they are prone to fail in a catastrophic manner. Unless a backup transmitter is available, the unit must be repaired before on-air operation is resumed.

In contrast, solid state transmitters typically exhibit "graceful degradation." This means that, because an array of parallel amplifiers is employed, the loss of one portion of an amplifier does not affect or reduce the performance of other portions. Thus, a failure of any individual solid state amplifier component will generally mean only that output power is reduced, not that the whole transmitter stops operating.

The cost of air time must also be considered here. Lost air time is eliminated if a transmitter degrades gradually. This may be a major factor in the selection of solid state over vacuum tube transmitters.

The ITS-1230 solid state transmitter shown in the photo features parallel high gain amplifier trays, integral power sup-

plies in each amplifier tray, and independent cooling for each tray. These features make "graceful degradation" a reality. And in systems requiring a high level of redundancy and reliability, this type of transmitter is an ideal choice.

Tube transmitters often deliver picture and stereo sound performance superior to that of solid state equipment. This is due to the relative ease with which tubes can reach optimum power levels. Fewer components (and, thus, fewer connections) in the tube transmitter means simple, reliable operation. The only exception is the periodic need to replace the tube and retune the circuits.

For many new LPTV stations, it may be that vacuum tube transmitters are the technology of choice because of their lower initial cost. The choice is justifiable in many cases, but each LPTV broadcaster should carefully analyze his or her own financial and technical requirements before making a final decision.

*Robert M. Unetich is president of ITS Corporation, a manufacturer of LPTV, MMDS, and full power broadcast transmitters. He is a 1968 BSEE graduate of Carnegie-Mellon University and a licensed professional engineer. Mr. Unetich is the author of chapters in the last two editions of the National Association of Broadcasters' Engineering Handbook.*



# ...at the FCC

## NEW LPTV LICENSES

The following LPTV stations received licenses on the dates shown. Station call sign, location, and the name of the licensee are also given.

- K13VV Chenega, AK. State of Alaska, 1/31/91.
- W15AP Gadsden, AL. Great American TV and Radio Company, Inc., 2/4/91.
- K35CS Texarkana, AR. Beech Street Communications Corporation, 2/4/91.
- K54DK Boulder, CO. Sunbelt Media Group, Inc., 1/31/91.
- W48BC Destin, FL. Beach TV Cable Company, Inc., 1/31/91.
- W06BE Tampa, FL. Carol E. Schatz, 2/4/91.
- K64DG Iowa City, IA. Douglas Sheldahl, 1/31/91.
- W52AZ Evansville, IN. South Central Communications Corporation, 2/4/91.
- W25BN Marion, IN. ACTS of Marion, Inc., 2/4/91.
- K52CQ Baton Rouge, LA. Capital Community Television, 2/4/91.
- K57FM Browning, MT. Browning Public Schools, 1/31/91.
- K27DF Las Vegas, NV. Diana Kay Hall, 1/31/91.
- W38AA Long Island City, NY. Island Broadcasting Company, 1/31/91.
- K65ER Eugene/Springfield, OR. Metrocom of Oregon, Inc., 2/4/91.
- K44CW Sioux Falls, SD. Localvision, 2/19/91.
- K56EJ Abilene, TX. Sage Broadcasting Corporation, 2/4/91.
- K16BY Crockett, TX. Jim Gibbs, 2/4/91.
- K33CK San Antonio, TX. DCH Evangelism Television, Inc., 2/19/91.

W19BC Lynchburg, VA. Liberty University, Inc., 2/4/91.

## LPTV LICENSE RENEWALS

The following LPTV stations received license renewals on the dates shown. Station call sign, location, and the name of the licensee are also given.

- K56BW Tahoe City, CA. Gavilan Communications, 1/31/91.
- K63AW Grays River/Lebam, WA. Rural Television Co-operative Association, 1/30/91.
- K69BR Grays River/Lebam, WA. Rural Television Co-operative Association, 1/29/91.

## NEW LPTV CONSTRUCTION PERMITS

The following parties received LPTV construction permits on the dates shown. Station call sign and location are also given.

- W38BC Stamford, CT. Zenon Reynarowych, 1/31/91.
- K07UQ Buhl, ID. W. L. Armstrong, 2/5/91.
- 1W07CN Lumberton, NC. Billy Ray Locklear, 1/31/91.
- K64DW Seattle, WA. Krista Fordham, 2/19/91.

## CHANNEL CHANGES

- K43DK Denver, CO. Lomas De Oro Broadcasting Corporation, channel change granted from 49 to 43 on 12/20/90.
- K57FM Browning, MT. Browning Public Schools, channel change granted from 55 to 57 on 12/20/90.

## ASSIGNMENTS AND TRANSFERS

- K27DI Fort Smith, AR. Voluntary assignment of permit granted from Paris Broadcasting, Inc. to Trinity Broadcasting Network on 2/20/91.
- K09VB Santa Maria, CA. Voluntary assignment of

permit granted from Buenos Diaz Broadcasting Company, Inc. to Leo Kesselman on 2/13/91.

W31AY Jupiter/Tequesta, FL. Voluntary assignment of permit granted from Peter Clark and Leonard Walk, dba CW Partners, a General Partnership, to Palm Beach Television Broadcasting, Inc. on 1/31/91.

W36AQ West Palm Beach, FL. Voluntary assignment of permit granted from Peter Clark and Leonard Walk, dba CW Partners, a General Partnership, to Palm Beach Television Broadcasting, Inc. on 1/31/91.

W34AG Rome, GA. Assignment of license granted from Sudbrink Broadcasting Company of Georgia to Prism Broadcasting Network, Inc. on 2/26/91.

K07UD Kimberly, ID. Voluntary assignment of permit granted from Ellen M. Armstrong to Ambassador Media Corporation on 2/20/91.

K66EB Corpus Christi, TX. Voluntary assignment of permit granted from Elva Denise Hinojosa to Hye Chin Lowery on 2/6/91.

K27DP Taylor, TX. Voluntary assignment of permit granted from Kingstip Communications, Inc. to WFIL, Inc. on 12/13/90.

K67DV Salt Lake City, UT. Voluntary assignment of permit granted from Channel America LPTV Holdings, Inc. to Channel America LPTV License Subsidiary, Inc. on 12/13/90.

W40AH Chesapeake, VA. Assignment of license granted from ACTS Broadcasting Company of Chesapeake to The Union Mission on 2/6/91.

W68BI Driver, VA. Assignment of license granted from Channel America LPTV Holdings, Inc. to Channel America LPTV License Subsidiary, Inc. on 12/13/90.

W32BA Lynchburg, VA. Voluntary assignment of permit granted from Inspiration TV of Southern Oregon to Trinity Broadcasting Network on 1/15/91.

W67BL Charleston, WV. Voluntary assignment of permit granted from Channel America LPTV Holdings, Inc. to Channel America LPTV License Subsidiary, Inc. on 12/13/90. *continued*

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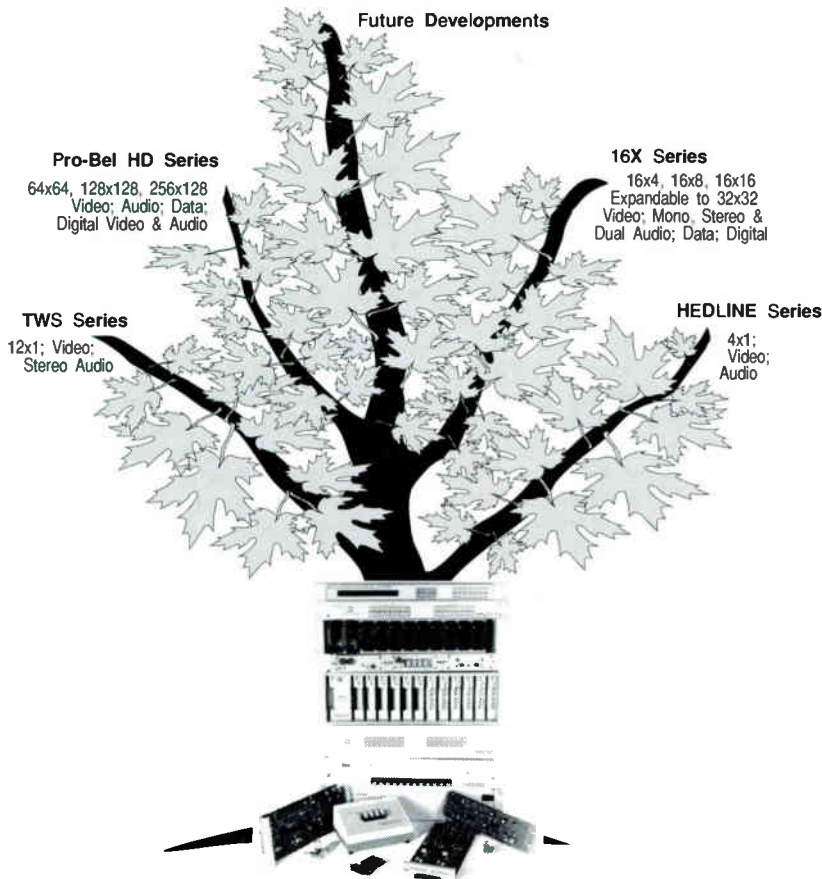
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W14BI Huntington, WV. Assignment of license granted from Channel America LPTV Holdings, Inc. to Channel America LPTV License Subsidiary, Inc. on 12/13/90.

### LPTV LOTTERY WINNERS

The following are tentative selectees of the LPTV/translator lottery held on February 20, 1991. If no petitions to deny the selectees are filed, and if they are otherwise qualified, they will be granted construction permits.

Ch. 31 Daytona Beach, FL. Patricia Van Zandt.  
Ch. 62 Kissimmee, FL. Robert Sandusky.  
Ch. 64 Hilo, HI. Margo Krost.  
Ch. 48 Honolulu, HI. Janet Roberts.  
Ch. 55 Kailua Kona, HI. Suzi Murayama.  
Ch. 64 Wailuka, HI. Helen Turnage.  
Ch. 69 Wailuka, HI. Helen Turnage.  
Ch. 25 Twin Falls, ID. Linda D. Clevenger.  
Ch. 69 Lexington, KY. Jerry E. Coone.  
Ch. 60 Mayfield, KY. Robert W. Sudbrink.  
Ch. 54 Lafayette, LA. Stacy L. Davis.  
Ch. 31 Livingston, MT. Owen Broadcasting Enterprises.  
Ch. 17 Red Lodge, MT. Owen Broadcasting Enterprises.  
Ch. 56 Fargo, ND. Harold L. Crittenden.  
Ch. 25 Forman, ND. Mountain TV Network, Inc.  
Ch. 25 Grand Forks, ND. Susan Easton.  
Ch. 52 Hobbs, NM. Impact Television Group, Inc.  
Ch. 15 Springfield, TN. Lorianne Crook-Owens.  
Ch. 53 Midland, TX. The Little Television Station.  
Ch. 58 Odessa, TX. Todd and Fugit.  
Ch. 48 San Antonio, TX. San Antonio College.

### PROPOSED CONSTRUCTION PERMITS

The following LPTV applications have been accepted for filing and are not mutually exclusive with any other pending applications. If no petitions to deny these applications are filed, they will be granted.

### New Stations

Ch. 22 Crescent City, CA. California-Oregon Broadcasting, Inc.  
Ch. 27 Gunnison, CO. Western Slope Communications, Ltd.  
Ch. 55 Hilo, HI. Alegria Broadcasting Corporation.  
Ch. 59 Honolulu, HI. Neal L. Andrews, Jr.  
Ch. 65 Kailua, HI. John Patrick Marcom.  
Ch. 40 Livingston, MT. Mountain TV Network, Inc.  
Ch. 53 Silver City, NM. The Church of the Crosses, Inc.  
Ch. 60 Athens, OH. Ruth J. Potter.  
Ch. 67 Tulsa, OK. Community Service Television Company.  
Ch. 55 Rio Grande City, TX. J. Villareal tr/as Villareal Broadcasting.

### Modification

K69FM Phoenix, AZ. Broadcasting Systems, Inc.



## FCC Issues Fines

continued from page 25

Already the FCC has fined one FM permittee—MTD, Inc., permittee of KWMW(FM), Maljamar, NM—\$10,000 for

violating tower lighting requirements, even after MTD appealed on the grounds that the tower builder—Transmission Structures, Ltd.—should have been responsible for compliance.

The FCC has given notice that it will continue its enforcement efforts in this area indefinitely. M/R

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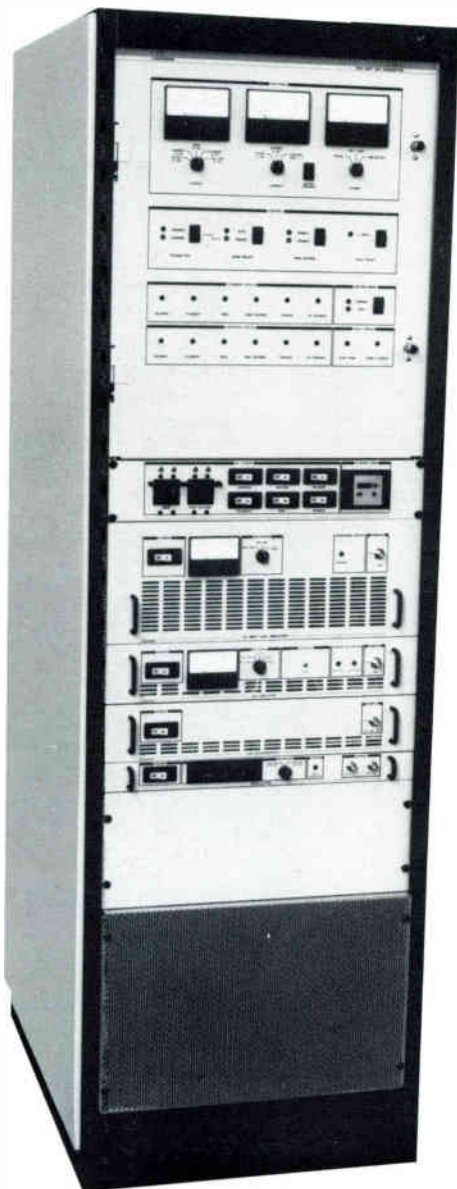
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