

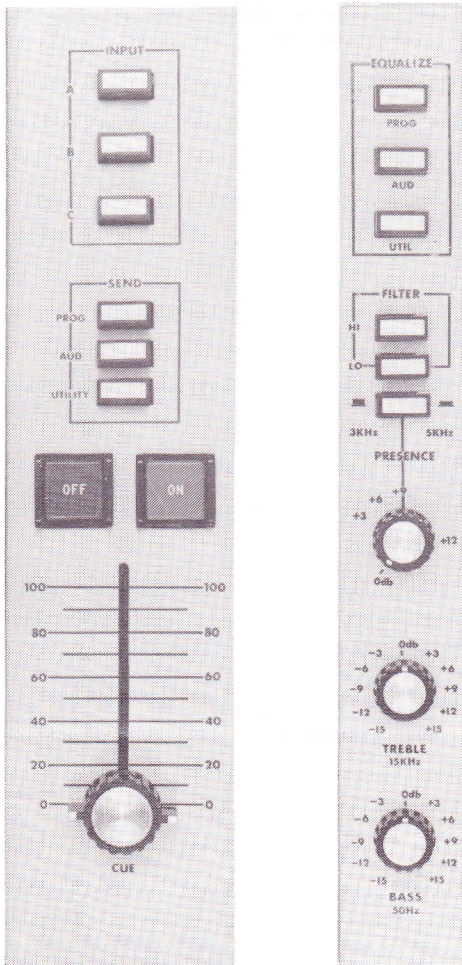


# The SPARTAN

VOL. IV. • NO. 1

JAN-FEB. 1975

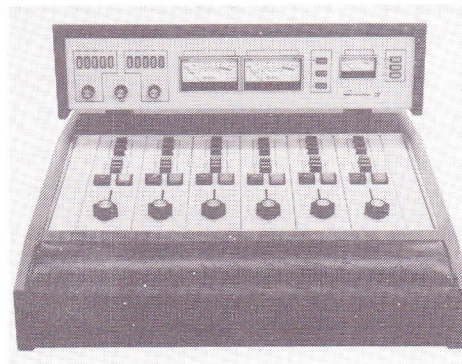
## Modified Equalization Unit - For Centurion Consoles



The original equalization system, offered as an option for the Sparta Centurion Console series, has been brought fully into the Centurion design scheme as shown by the same-size photographs.

The equalizer is one-half the width of the mixer module, and replaces the right-hand trim panel (photo, above) of any of the four Centurion Series basic consoles, so does not take up any room required for the mixer module array itself. It operates with either the monaural (Centurion I and III) or stereo (Centurion II and IV) consoles.

The equalizer is a positive-action system; that is, it is normally OUT of all cir-



cuits until one of the three audio buss selection switches is depressed. It then operates only on that circuit, and only on one buss at any time unless used as a SELECTIVE equalization system for the output of certain mixers.

Selective equalization is accomplished, very generally, by equalizing either the Audition or Utility busses (see photo), to which the selected mixer outputs are assigned, and remixing this for Program buss output through use of one mixer as a sub-master.

The basic features of the Centurion Equalization system are high-pass and low-pass cutoff filters, and a presence boost control for two mid-range frequencies (3 KHz and 5KHz) most useful for voice frequencies. This control complex comprises the second set of pushbuttons, and first rotary attenuator, below the audio buss selection set.

The lower rotary attenuators are high and low frequency controls for both BOOSTING AND CUTTING bass and treble.

Overall, the Centurion Equalization system gives more choice and flexibility, within broadcast requirements, than systems outside the recording studio complexity range. The present compact module easily retrofits Centurion Consoles already in use, whether they employed other equalization systems or not.

Contact Sparta's Sales or Audio departments for further information on Centurion Consoles and their many options.



"Bill" Livingston

-Sparta Photo

## Livingston Heads Audio Production

Billy D. "Bill" Livingston has taken over the job of guiding electronic, mechanical, and turntable assembly, plus tape cartridge production and silkscreening department. His new title, "Audio Production Supervisor", effective December 3rd, is a promotion from electronic checkout Leadman.

Bill comes from a three-generation military family. His father was Army Cavalry in the Mexican War and WWI, settling for retirement in Kansas, IL, where Bill was born. Bill's older brother retired from the Army, and Bill retired after 27 years in the Air Force. The oldest of Bill's three sons is in his first year at the Air Force Academy, and is already approved for both pilot training and graduate work at M.I.T. His middle son is tentatively approved for the Academy also, leaving only his 12-year-old youngest boy uncertain about a service career!

Bill's 27 years included 12 as combat crew member in charge of radar and radio aboard heavy bombers (three combat tours), and the other 15 years in heavy ground radar.

He and his wife, Emlie, decided they liked Sacramento as a place to live as long ago as Bill's first duty tour. After spending

*(continued on page 4)*

# News of

## Cetec Corporation

**CETEC CORPORATION** (formerly **Computer Equipment Corporation**), El Monte, CA. Reporting for the third quarter of 1974, ended September 30th, President Hugh P. Moore said the company "is out-performing our forecasts of six months ago."

Operating earnings, he said, increased 50% on a 20% sales gain. For the nine months of 1974 reported, earnings were up 31% on a 25% sales rise.

Cetec Corporation is listed on the American and Pacific Stock Exchanges.

**JAMPRO ANTENNA COMPANY**, Sacramento, CA. Jampro officers at this writing were still awaiting FCC approval for tests of their new circularly-polarized TV antenna at KLOC Channel 15, Modesto, CA. The tests are expected to last about six months.

Recent important Jampro TV antenna sales include four UHF-TV antennas to the Ontario Educational Communications Authority. The four units will equip ETV stations in four cities of the Canadian province. Another sizeable educational authority buy was that of the State of Louisiana for an ETV antenna at Baton Rouge.

**CETEC AUDIO**, North Hollywood, CA. Robert J. Horak, who lives with his family in Claremont, has been appointed general manager of the Cetec Audio Division of Cetec Corporation. Horak has had extensive marketing, engineering and management experience with the technical products of Bell and Howell, Conrac, Sundstrand and Ailtech.

**D-MAC, LTD.**, Glasgow, Scotland. Hugh P. Moore, president of Cetec Corporation, has announced that the hereditary chief of the Clan Campbell,



Duke of Argyll

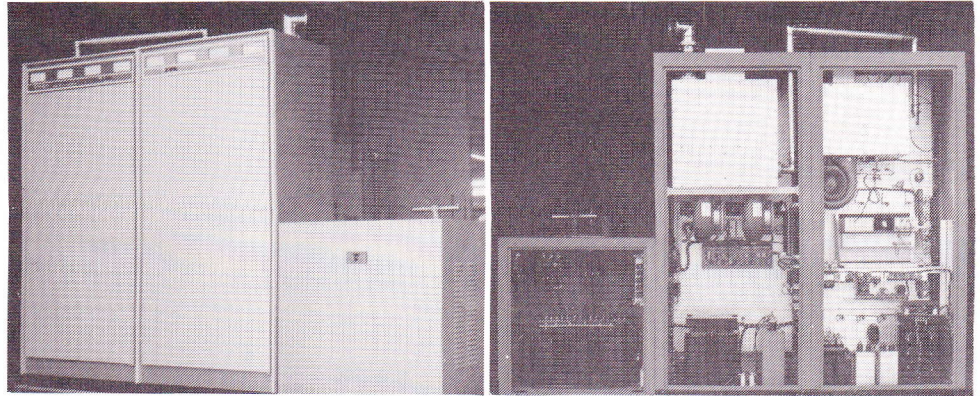
the Duke of Argyll of Inverary, Scotland, has agreed to join the board of directors of this Cetec subsidiary.

The Duke, 37, is very active in the economic development of Scotland. D-Mac manufactures computerized digital equipment marketed in Europe and the U.S.A.

**DATA MEASUREMENTS CORPORATION**, Santa Clara, CA. DMC, with sizeable manufacturing contracts covering the next three years, moved to an all-new building in Santa Clara on Jan. 6. The dedication ceremonies are slated for the 15th of the month at the facility, which is three times larger than their previous plant.

The largest of the present contracts for DMC's computer programmable terminals are with Bell of Canada and Avco Financial Systems.

## Product For This Issue



### 625A 25,000 Watt FM Transmitter

The Sparta 625A, due to its modular construction in three cabinets (all smaller than competing transmitters), can be shipped to, and installed at, sites and in buildings which would not accommodate other such equipment.

The configuration shown above, considered standard for the engineers' convenience, need not be adhered to. The three cabinets comprising the 625A can be situated in nearly any relationship to each other.

The lefthand cabinet is a complete Sparta Model 602A 2,500 Watt FM Transmitter. The center cabinet is the 25 kw amplifier section, while the short righthand cabinet is the power supply for the high power amplifier. Thus, the 625A gives the user a 2,500 Watt built-in standby transmitter, which can be automatically switched to feed the antenna (with optional equipment) in event the high power

section fails.

Features of the Model 625A include Automatic Power Control and VSWR protection, both standard. The tallest cabinet is 75", and all three cabinets are 34"W x 25½"D. The Model 680 Direct FM Exciter, with optional 682 Stereo Generator and 683 SCA Generator, forms the FM heart of the 625A and other Sparta FM transmitters.

Photo at right (above) shows rear view of the Model 625A FM Transmitter. The complete Model 602A driver-transmitter is the righthand cabinet in this picture. Note the Model 680 Exciter and 682 Stereo Generator, at about the center-front of the 602A.

The modular configuration allows plenty of maintenance and inspection room: front panels of both larger cabinets also swing out for access from either front or back.

*a little of . . .*

## EVERYTHING

A year ago we expressed optimism about the future of the broadcast industry, and the country's commerce generally. We see that optimism as having been justified by events: times are not all so rosy for many, but not as bad as some 'prophets' said in late '73.

Based on preliminary indicators, as the 1974 reports are compiled, we here at Sparta can look forward confidently to serving your equipment needs this year even better than last. Many troubling parts shortages have been at least partially offset, if not overcome. Prices continue to rise, but not as rapidly as the cost-of-living index. Some of our recent capital expenditures in new production equipment show signs of paying off in increased output at nearly the same cost as before.

So we're hoping that our efforts will in their way contribute to the good of all . . . that we can hold the line against price increases and slowly begin to reverse the inflation which plagues us all today.

Have a GOOD year . . . our sincere wish as 1975 starts to raise the curtain on its mysteries.

**BILL OVERHAUSER**  
President  
Sparta Electronic Corporation

# Tech Tips

—by DAN PELUSO  
Mgr. Customer Service



Peluso

I base my remarks here mainly on two sources: (1) what I hear, or see, which come across my desk from you engineers out there; and (2) my own . . . sometimes unhappy . . . experience for years in the field. Some respondents to this column tell me I am belaboring the obvious points about maintenance, and to those engineers and all others who have never had an equipment failure because of lack of maintenance, I must apologize for insisting on repeating some basic information. However, based on the two considerations above, I know that there *are* many failures of critical equipment which could have been prevented.

To those engineers who haven't checked their stepladder type console attenuators, then, I address this column. You who *have* checked theirs may go on to some spicier reading elsewhere in this issue. You get a gold star from Tech Tips . . .

Every 3 or 4 months step attenuators should be cleaned and lubed, depending on use and environment. Clean the contacts with a spotless and lint free cloth using isopropyl alcohol. Apply a *small* amount of Davenoil (first choice) or non-medicated white petroleum jelly.

Rotate the control several times; if a black film comes from the contacts clean again carefully, relube, and check again. Repeat until *no* grime develops. Step attenuators are the greatest, but regular maintenance is a **MUST** to reap their long term service advantage.

If you've thought of replacing your present composition/carbon 'pots' with step type, ask our operator for Extension 65 and let's talk it over. Call collect . . .



Published Bi-Monthly by

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ELECTRONIC CORPORATION

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## Sparta On The Overseas Scene



### —New Zealand

The first American-made radio transmitters in 27 years will be supplied by Sparta to the New Zealand Broadcasting Corporation, the official government voice of the island country.

Two Model 703B 3,000 Watt AM Transmitters ship to New Zealand's North Island early this year, for operation as a 5 kw dual-redundant system similar to KMWX, Yakima, WA (Mar-Apr 1974 "Spartan", and December BM/E; Ed.):

Interestingly enough, the combiner order was for four of the unique Sparta units; three other AM transmitter systems, manufactured by two different companies in two different countries, will be operated through the ferrite combiners made only by Sparta. Evidently they are even more unique than we thought!

**BOB HOPKINS** (white shirt) and **Martin Hijman** of the Transmitter Engineering staff discuss some aspect of the Sparta Model 703B 3 kw AM Transmitter, one of two bound for New Zealand installation as a 5 kw dual-redundant system. At extreme left a Model 625A FM Transmitter (see "Product of This Issue"; Ed.), and at farthest distance a Model 710 10 kw AM transmitter flank the 703B on the final test line.

### —Radio Uganda

Sparta has a major custom order of audio equipment in process for Uganda Radio and Makerere University, in the nation's capital, Kampala, Uganda.

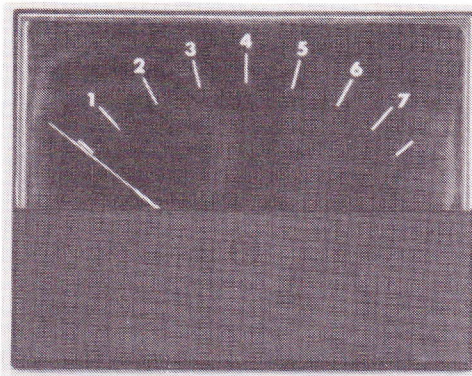
The Radio Uganda communications program for their small country is complicated by the great number of tribal languages and dialects still used, even though the country, bordering Lake Victoria in East Central Africa, is of smaller size than the state of Oregon, and has a population less than the New York City metropolitan area.

This multi-lingual condition has led Uganda Radio to equip 13 studios with

custom Centurion Consoles (Makerere University gets the other two of the 15-console order) and GT3-12 Custom Turntables (3-speed export models with platter altered for European-style 45 rpm records with a small center hole), in each of which an announcer speaking a different language will be readying broadcasts!

The situation is further complicated by Radio Uganda requirements that each Centurion Console in 10 of the major studios have a network input from any of the other nine consoles! Sparta audio engineers are building a custom 10-position switching panel to accomplish this.

Another master switching panel . . . required by the fact that Radio Uganda may



feed any of the 10 major studio outputs to any of 10 transmitters at a time! . . . is being built by Stancoil, Ltd., of Windsor, England.

In the European style, the Centurion Consoles for Uganda will all be equipped with Peak Program Meters instead of the standard VU meters (see photo above). The PPM is available as an option to any buyer, U.S. or foreign, who wishes it.

The Radio Uganda order, with a portion of the equipment slated for the University, totals 15 Centurion Custom Consoles, 33 GT3-12 Turntables, and a large quantity of related audio equipment. Other items are being designed and purchased in Europe for Uganda by C.E.C., Ltd., the Sparta sister company headquartered in suburban London, England.

### —Bogota Fair

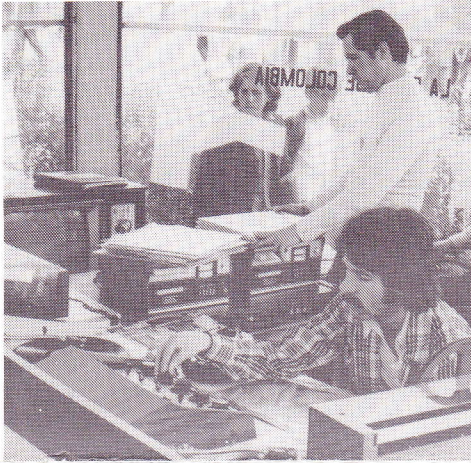
A recent nation-wide trade fair in Bogota, Colombia's capitol city, brought out the Radio Cadena Nacional broadcasters in force (Nov-Dec "Spartan" — Ed.).

On next page, two unidentified RCN engineers keep a stereo FM remote broadcast going from the fairgrounds, in a "fish bowl" presentation, with Century Series tape cartridge equipment and ASC 305B

(continued on page 4)

# -Bogota Fair

(continued from page 3)



Studio/ Remote Audio Control Center.  
-Electronica de la Sabana Photo

# New Prices -- New Values From Sparta

"Every broadcaster should have our new price list," said Jack Lawson, VP/Marketing, (when we asked him to comment on the folder dated December 1st 1974 which we've seen around the offices recently), "in order to continue to compare Sparta broadcast equipment values to those of other manufacturers."

"Fine," we replied, "but new price lists often suggest higher prices these days. Surely this is true of the new Sparta list?"

"There are price increases, and there are

price non-increases," Lawson replied cryptically.

Finally, when we had the entire story down in black-and-white, it became much clearer.

First, Sparta prices ... unlike most other manufacturers ... were not raised across-the-board. Those prices which did rise ... and they are a minority ... went up strictly according to price increases in electronic components which Sparta buys, or due to increased manufacturing costs in other areas over which Sparta had no control.

The inflationary trend noticeable elsewhere in the industry ... to increase all prices if you increase any ... was forbidden by President Bill Overhauser. "Our history is one of offering the best value for the current price," as Overhauser put it, "and our December 1st prices, compared to those of other equipment makers, show again that the broadcaster is paying less for comparable value when he buys our products."

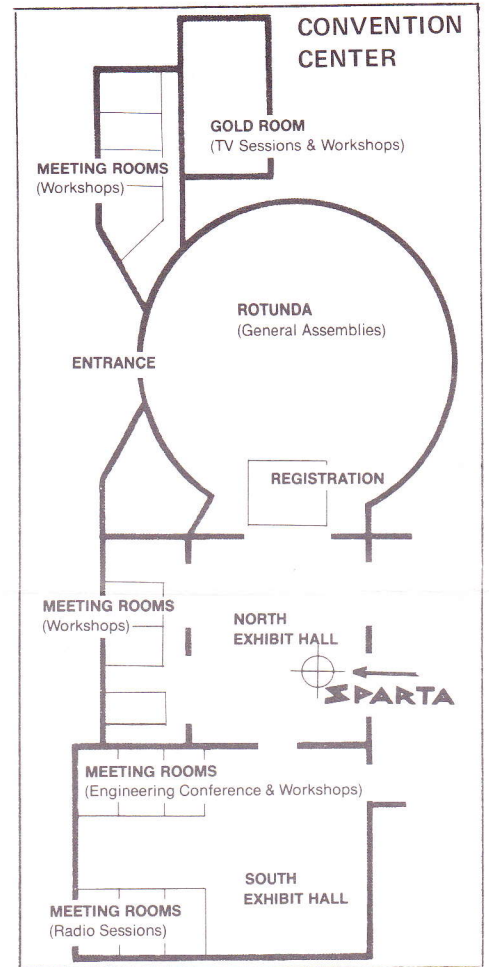
In no case has Sparta held the line on prices by incorporating lesser-quality components in an existing design; instead, efforts to hold down manufacturing costs through sophisticated high-production techniques (see Nov-Dec. "Spartan"; Ed.), although they have required high initial capital investment, have been sought after.

A letterhead request, or even a telephone call, will get a copy of the new price schedule to you by return mail. Ask for, or address, Sparta Sales Department.

# -Livingston

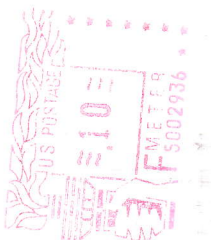
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assignments at the Sacramento area bases, they bought a house in 1969, returning to settle into civilian life here in 1973 when Bill was finally discharged (retired) at Cape Cod, MA.

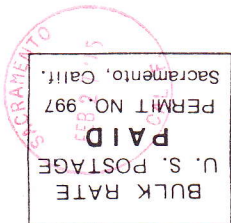


VISIT US AT THE N.A.B. ... The little floor-plan above (courtesy of N.A.B.) may serve as your first introduction to the Las Vegas Convention Center, the Nevada site of the 1975 N.A.B. Convention. Jot down the dates on your calendar, if you haven't done so already: Sunday through Wednesday, April 6th-9th. Look for Sparta/Jampro/Vega/Cetec Audio equipment, people, and information right where we've dropped in the 'bombsight'! We'll be there ... in booth 312 ... and hope to see YOU.

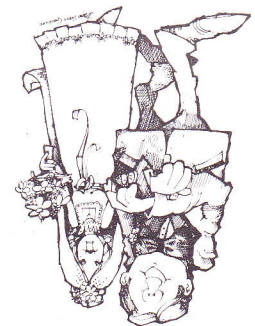
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# SPARTA ELECTRONIC CORPORATION

## WINTER CLEARANCE SALE

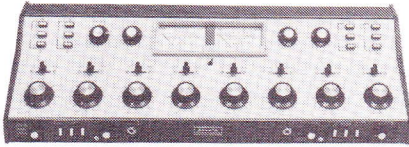
### USED, OVERSTOCKED, DEMO AND SURPLUS !

CONDITION-OF-EQUIPMENT KEY: 'NEW' indicates never-sold units, some demonstrators, all with NEW EQUIPMENT WARRANTY. 'NEW/NW' indicates never-sold equipment, but with NO warranty. 'RECOND' indicates factory reconditioned and some prototype equipment, all with 90-DAY WARRANTY. 'USED' equipment is listed as-is, NO warranty. ALL ITEMS are ONE ONLY in stock unless otherwise indicated. ALL ITEMS SUBJECT TO PRIOR SALE.

#### AUDIO PRODUCTS

##### CONSOLES

1. Sparta A15B 5-mixer mono: RECOND . . . . . \$ 595
2. Sparta AS40B 8-mixer stereo-dual, with precision step attenuators: RECOND . . . . . \$1,675
3. Sparta A16R 5-mixer dual-channel mono, rack mount: NEW . . . . . \$1,200
4. Sparta RA1 Remote Mic/Line Amp: NEW . . . . . \$ 55



##### TAPE CARTRIDGE

5. Sparta 300CP rack mount playback: RECOND, two each @ . . . . . \$ 200
6. Sparta 4610/4820 Century Series mono R/P: RECOND, three each @ . . . . . \$ 575
7. ITC SP-Series mono playback: NEW . . . . . \$ 595
8. ITC PD-II mono playback: NEW . . . . . \$ 495
9. Sparta MC104 4-deck mono playback system, in cabinet, with auxiliary cues and remote start: RECOND . . . \$ 995
10. Sparta CD15 Time Delay: NEW, four each @ . . . \$ 550

##### REEL-TO-REEL

11. Revox 1102 2-track stereo, cabinet: NEW, four each @ . . . . . \$ 825
12. Revox 1302 2-track stereo, rack mt: NEW, four each @ . . . . . \$ 825
13. Revox 1104 4-track stereo, cabinet: NEW . . . . . \$ 795
14. Metrotech 531R full-track mono, console cabinet: NEW . . . . . \$1,800

15. Metrotech 514A half-track mono playbacks: USED, four each @ . . . . . \$ 995
16. TEAC 7030GSL half-track stereo, 7.5/15 ips: NEW \$ 925
17. Sparta CORINTHIAN 14" auto-reverse playbacks: NEW Mono . . . . . \$1,275 Stereo . . . . . \$1,475

##### ACCESSORIES

18. Sparta MA25Q 25 Watt mono Monitor Amplifier, with 8 Watt cue amp: NEW, three each @ . . . . . \$ 190
19. Sparta MAS50 50 Watt stereo Monitor Amplifier: NEW . . . . . \$ 200
20. CBS 4000A AM peak limiter: NEW, two each @ . . . \$ 695
21. CBS 4300 AM peak limiter: NEW, two each @ . . . \$ 795
22. CBS 4100 FM mono peak limiter: NEW, two each @ \$ 875
23. CBS 4440A mono level controller: NEW . . . . . \$ 725
24. CBS 4500 dynamic presence equalizer: NEW, two each @ . . . . . \$ 775
25. CBS 410 Volumax FM mono peak limiter: NEW . . . \$ 725
26. CBS 4110 Volumax stereo peak limiter: USED . . \$1,300
27. Arcal AR40 stereo component 3-way speaker, 22x12x10": NEW . . . . . \$ 65
28. Marantz No. 5 2-way speakers with 8" woofer, 23x12x9.5": NEW, seven each @ . . . . . \$79.95
29. S-1000 variable delay/tape reverb; NEW, two each @ \$ 595
30. Microtrak 303 tone arms: NEW, two each @ . . . \$ 65
31. TEAC MC105 10K unidirectional dynamic mike: NEW . . . . . \$ 30
32. Shure SM56 cardioid dynamic mike, shock-mount stand: NEW . . . . . \$ 98
33. Shure SM60 unidirectional mike, windscreen: NEW, ten each @ . . . . . \$ 44

#### TRANSMITTER PRODUCTS

##### TRANSMITTERS

34. Gates BC-1T 1000/250 Watt AM, 1958, 1490 KHz, FOB Illinois: USED . . . . . \$2,750
35. RCA BTF-5B 5 kW stereo FM, 1958, 96.5 MHz, FOB California: USED, with original tube exciter . . . . . \$5,000 with RECOND solid-state exciter . . . . . \$6,000
36. RCA BTF-10 3/10 kW mono FM, 1950, 92.3 MHz, FOB California: USED . . . . . MAKE OFFER
37. Sparta 620 23 kW stereo FM, 1972, 102.5 MHz, FOB California: RECOND . . . . . \$21,500
38. Sparta 660 10 Watt FM Exciter/Transmitter: RECOND, three each @ . . . . . \$1,500

##### MONITORS AND ACCESSORIES

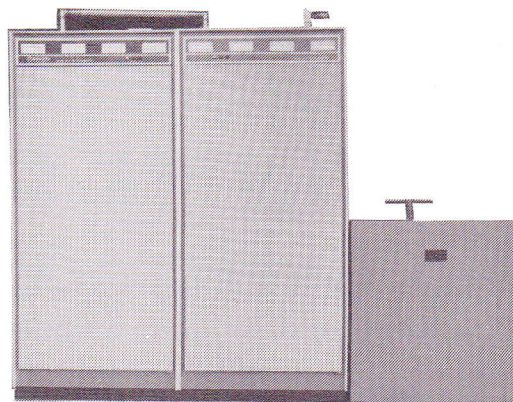
39. McMartin TBM 3700 FM mono monitor: USED . . . \$ 800
40. McMartin TBM2200A FM stereo monitor: USED . . \$ 840
41. Belar FMM1 FM mono monitor: USED . . . . . \$ 950
42. Belar FMS1 FM stereo monitor: USED . . . . . \$ 800
43. Belar SCM1 SCA monitor, accessory for FMM1: USED . . . . . \$ 750
44. Belar RFA1 FM RF amplifier: NEW . . . . . \$ 325
45. Wilkinson TRF1A AM RF amplifier: NEW . . . . . \$ 250
46. McMartin TBM1000A FM relay receiver, 95.3 MHz: USED . . . . . \$ 150
47. Yaesu YC355D frequency counter, 0-200 MHz: NEW . . . . . \$ 350
48. Eimac 4CX-5000A tube: RECOND . . . . . \$ 250

(Additional Listings on Reverse)

# WINTER CLOSEOUT SALE

## ANTENNAS AND ACCESSORIES

- 49. Jampro JSCP11, 11-bay circularly-polarized FM, power gain 6.0/6.0. 102.5 MHz frequency can be retuned  $\pm$  2MHz at a cost of \$190/bay. FOB California: USED . . . \$6,700
- 50. Andrew HJ8-50B 3" air heliax, complete with EIA flanges; insulated hangers and hanger adaptors, FOB California: USED, 575 feet, ONE LOT ONLY @ . . . . . \$4,200
- 51. RG17A/U 50 ohm coaxial cable: NEW, 200 feet, ONE LOT ONLY @ . . . . . \$ 180
- 52. Andrew FHJ4-50B 1/2" foam heliax with two "N" type connectors: NEW, 150 feet, ONE LOT ONLY @ . . . \$ 90
- 53. Hughey-Phillips PC120-1 photocell for tower lighting system: NEW . . . . . \$ 50

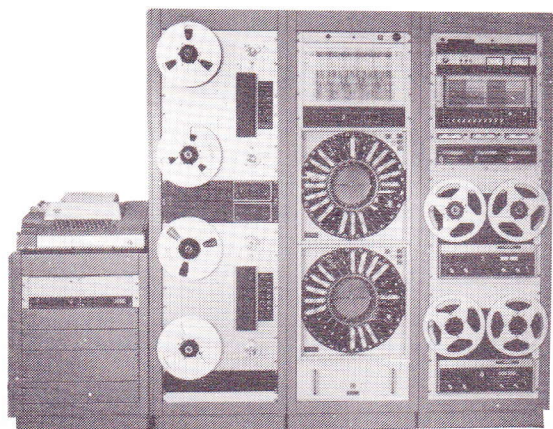


## AUTOMATION PRODUCTS

### SYSTEM

- 54. A Custom 2-rack mono SPARTAMATION system, controlled by Sparta Model 1052 using diode-pin matrix to select up to ten audio sources through 52 overlapping events. Includes :15/:30/:45/:60 timing source, silence sensor and 25 Hz sensor. A remote unit is provided to control the system from another studio. System incorporates one 10 1/2" reel reproducer and one 10 1/2" reel recorder/reproducer with 25 Hz oscillator and its own separate remote control for production of automation music tapes. Other

sources include cartridge Time Announcer and one Carousel with a 100-event Random Select Controller. Six additional audio sources may be added to this system: USED . \$6,800



### TELETYPES AND LOGGER

- 55. Model 33ASR, catalog No. 3320/55E, friction-feed send/receive set with automatic tape reader control: NEW \$ 900
- 56. Model 33RO, catalog No. 3300/3AA, friction feed, receive-only: NEW . . . . . \$ 600
- 57. N.E.S. Time Logger; electronic digital clock with BCD to ASC-II code converter. Drives teletype directly to print time in hours, minutes and seconds on command. Includes LED readout and engineering model automation reset circuit which provides switch selected one-second Form C contact closure at :12/:28/:43/:58 after hour: NEW \$1,200

### COMPONENTS AND MISCELLANEOUS

- 58. Sparta FX52 Format Expander; increases event capacity when used with 1052 Program Controller: RECOND \$ 600
- 59. Sparta TA720 Time Announcer, single cart system: USED . . . . . \$ 350
- 60. Sparta RS2100 Random Access; controls two Carousels through 100 events with 'look ahead' cueing: NEW \$1,500
- 61. Sparta 250SC mono 25 Hz oscillator: NEW . . . . \$ 275
- 62. Sparta 25SEN mono 25 Hz tone sensor: NEW . . . \$ 250
- 63. Sparta 25SEN stereo 28Hz tone sensor: NEW . . . \$ 275

## MISCELLANEOUS

- 64. Atlas SB1 mike desk stand, gooseneck mount on die-cast base: NEW/NW . . . . . \$ 15
- 65. Shure S33P general purpose mike desk stand: NEW/NW . . . . . \$ 5
- 66. Electro Voice 420 desk stand with 1" mike clamp: NEW/NW . . . . . \$ 4
- 67. R77 rack cabinet, 19" standard rack size, with side panels, split rear doors, new brown paint, 22"W x 83"H x 24"D: RECOND, four each @ . . . . . \$ 175
- 68. Mechanical digital clock movements, ideal for custom installations; NEW/NW, seven each @ . . . . . \$ 15
- 69. 3-M 10 1/2" aluminum takeup reels: NEW/NW, six each @ . . . . . \$ 4
- 70. Scotch No. 200 tape, 4800' on 10 1/2" plastic reels: NEW/NW, four each @ . . . . . \$ 15

- 71. Sparta PS5 power supply, 27 volt @ 250 MA: RECOND . . . . . \$ 25
- 72. Sparta PS6 power supply, 27 volt @ 250 MA, RECOND . . . . . \$ 30
- 73. Sparta Showcase hood with clock, fits A20 or AS40 consoles: NEW/NW . . . . . \$ 35
- 74. TEAC ER350 reel/reel remote control: NEW/NW . \$ 30
- 75. Metal carrying case with front and back hinged doors and carrying handle, 19"W x 24 1/2"H x 10"D (designed for TEAC R310): NEW/NW . . . . . \$ 65
- 76. Viking PA94 monitor amplifier, cabinet; amplifies tape deck to feed small speaker: NEW/NW . . . . . \$ 75
- 77. Esmond lazy susan cartridge rack, holds 24: NEW/NW . . . . . \$ 5

SPARTA manufactures a complete line of AM and FM transmitters and audio products. Look to SPARTA for EVERYTHING in your broadcasting equipment needs!