

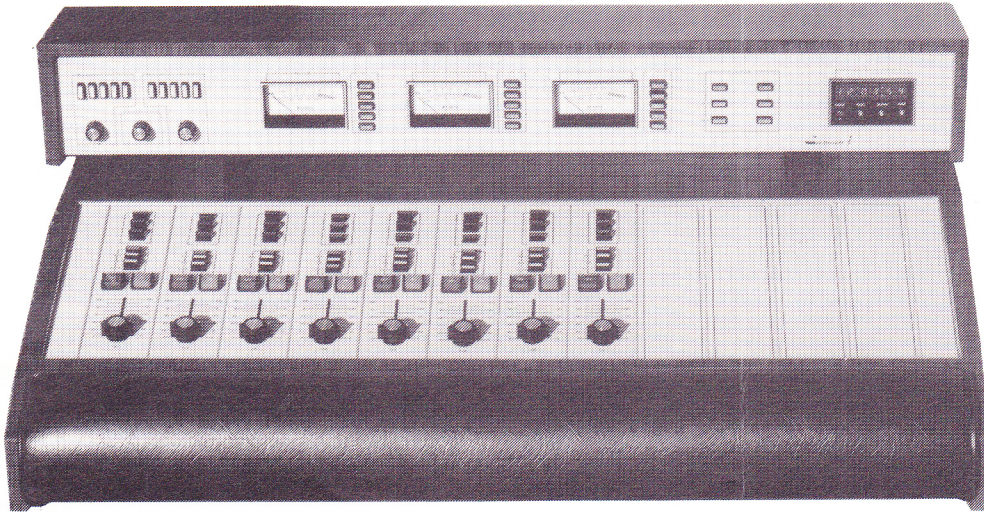


The

SPARTAN

VOL. III • NO. 2

MARCH - APRIL 1974



CENTURION I . . . 8-mixers, slide attenuators, with optional digital clock. This is the basic 8-mixer configuration with four blank panels to right of board. Also available: copy holder instead of three of the blank panels.

Here's The Entire Centurion Story — See Them All In Houston!

The Sparta Centurion Series audio mixing console line has been presented in these pages before. But not in its entirety, as it will be shown at the N.A.B. annual convention in Houston, TX, March 17-20.

Underlying the design for the Centurion consoles was the need throughout the broadcast industry for quieter, more flexible and less complicated mixing equipment. The concept included separate mixing modules which should be interchangeable . . . which could be added one-by-one to a basic design as control room needs demanded . . . which would be switchable for microphone or equipment level input individually . . . and which could be replaced in a moment if the need arose.

Elimination of hard-wired harnesses and their attendant problems was another aim of Centurion console design, to free the console of crosstalk problems in any situation and make use of the most up-to-date methods of electronic linking. And, of course, Spartan economy was to be practiced throughout, to enable stations everywhere to benefit from the most modern equipment available.

Needless to say, such stringent design requirements took massive effort to achieve in practice.

Some requirements were, at first glance, mutually exclusive. But the entire aim has been fully realized in five basic pieces of mixing equipment which, among them, provide flexibility of use that could have been accomplished in no other manner.

Let's introduce you to the Centurion I, II, III and IV individually . . . and to the Centurion Extender Panel.

CENTURION I

It's monaural, 8-mixer standard; 9-, 10-, 11- or 12-mixers optional. Slide or rotary attenuators, optional at the same price. Digital clock mounted in hood optional . . . with full reset functions. Intercom standard. Both Centurion I and II are full three-channel consoles, feeding Program, Audition and Utility busses individually from each mixer module. The Centurion I is particularly well suited for master control room and TV operations; each channel buss is push-button selectable to feed audio to any of five locations. Each module is internally switchable for input level choice of 55 db, 20 db or unity. Input impedance switchable from 150/600 ohms. Mixer control circuitry is two-way so that electronic on/off mixer control buttons (silent operation) may also start tapes or turntables and

Circle Of Sound In Houston NAB Debut

A handsome and unusual new Sparta concept has sprung from the "Showcase" custom control room furniture-and-equipment package series.

It is to be the focal point at the NAB convention in Sparta's Booth 211, East Hall, in Houston.

Termed the "Circle of Sound," it is an entirely self-contained standup operator's center.

Eight-mixer console (stereo AS40B or mono A20B), twin GT12 Custom Turntables and twin Century Series desktop tape cartridge dual playbacks are accommodated along with tape and record storage and lights in a circular area less than 6½ feet in diameter!

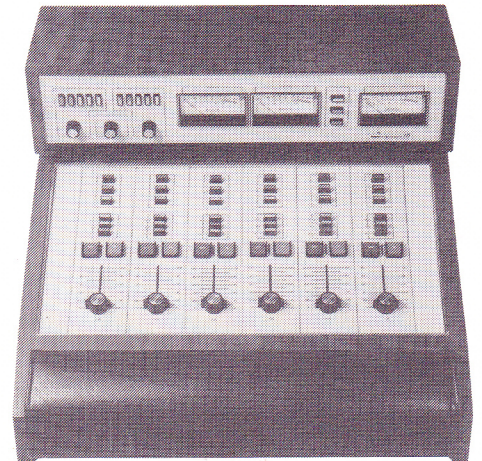
Although designed primarily as a display spot for the show, (featuring a charming young woman "director" to inform visitors about the equipment), the "Circle of Sound," with slight modifications, may be offered for sale in the near future.

Pictures next issue of The Spartan.

mixers may be turned on from an external signal. Muting is supplied on all mixer modules.

CENTURION II

Stereo, quadraphonic capable, 8-mixer standard with same mixer number option as Cen-



CENTURION III . . . shown here with slide attenuators; either slide or rotary may be chosen for the 6-mixer Centurion III or IV.

ture I. Slide or rotary attenuators. Mixer modules are as flexible in their operation, and as quiet, as Centurion I. The Centurion II provides a

(continued on page 4)

SPECIAL NAB CONVENTION ISSUE

Sparta Tests New Paints

FCC Spells Out Approved Methods

EDITOR'S NOTE: Following is the complete text of a January 1974 letter to Paul Gregg, Sparta transmitter products manager, from Neal K. McNaughten, Chief, Rules and Standards Div., Broadcast Bureau, FCC, Washington, D.C. It is presented as a clear and concise exposition of a remote metering problem common to many broadcast installations.

"Dear Mr. Gregg:

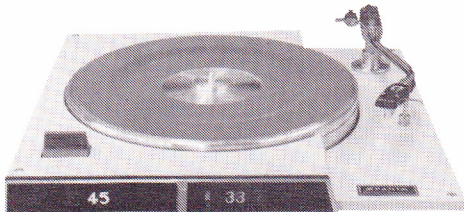
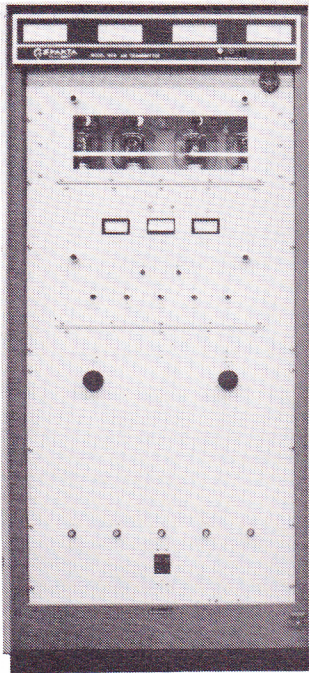
This is in reply to your letter of January 3, 1974, inquiring as to methods acceptable to the Commission for determining at the remote control point plate current of type approved broadcast transmitters which do not provide facilities for reading plate current alone, but instead utilize meters reading cathode current (which is essentially the sum of plate and screen currents) and screen current. At the transmitter, the plate current for entry in the operating log is determined by subtracting the screen current indication from the cathode current indication.

"Assuming that it is not practical to extract a plate current sample for monitoring at the remote control point, there are at least three methods for determining plate current at the remote control point, any one of which, if properly accomplished, is acceptable to the Commission.

"The first, and obvious method, is to remote both cathode and screen current indications, and to follow the same procedure to determine the plate current as would be employed at the transmitter.

"The second, is to determine, at the transmitter, the values of a screen current, for various values of cathode current over the normal operating range of the transmitter, and to use this information to prepare a calibration chart for posting at the remote operating point. From this chart the operator may determine the appropriate value of screen current to be subtracted from any cathode current indication to obtain the plate current.

"Thirdly, the cathode current sample voltage can be so adjusted at the input of the indicating meter at the remote control point that this meter provides an indication corresponding to the value of the plate current. It should be pointed out, however, that unless the screen current varies in direct proportion to the plate current, a meter calibrated in this manner can be adjusted to read correctly for only one value of plate current. As a practical matter, since the screen current is only a fraction of the plate current, and because the range of plate currents observed in normal operation is quite small, the errors involved in determining plate current by this method may be well within acceptable limits. It goes without saying, however, that a broadcast station operator undertaking to observe transmitter plate current at a remote control point by such a method should carefully ascertain that acceptable indicating accuracy will, in fact, result."



—Sparta Photos

Sparta is testing a new type of paint which should enable both transmitter and audio products to be finished in the same color, while extending to all products the immensely tough finish now applied to transmitter exteriors! At present somewhat different paint colors are noticeable across the equipment line because of fewer color choices in the weather-and-abrasion-resistant paint used for transmitter cabinets.

The Sparta Model 703B AM Transmitter (above) shares with the GT12 Turntable (also shown above), and other audio products, the lightest color visible: Light Smoke a pale neutral gray. The darkest tone on the meter panel of the 703B, and on the face plate and cartridge shell of the GT12, is likewise shared: Leatherette Brown. But the middle tone in the photo of the 703B cabinet represents the extremely durable paint in Olive Gray. The middle tone in the GT12 Turntable picture is actually Burnt Orange, a subdued and rich, warm color.

Sparta products managers Paul Gregg and Dave Evans are hopeful that the new paint products they are investigating will provide wide enough color choices for full coordination throughout Sparta transmitter and audio products.

First test results are reported to be very satisfactory so a color facelifting may be in the offing for the complete Sparta broadcast equipment lineup!



Product Of The Month

This is the changed CE-3 Tape Eraser. If you've missed a closeup of this item, it incorporates an indicator light. If the switch ever does stick, you'll have a warning that power is still on; thus Sparta's CE-3 will never burn out. For cassettes, carts and reels up to 10½ inches. Switch position allows the operator to push straight down, rather than skidding the eraser around the desk top while playing quoits with reel and moving center pin! "Why didn't someone think of this before?," you'll exclaim.

—Sparta Photo

a little of . . .

EVERYTHING

Two months ago, in this space, we sounded a note of optimism concerning the business prospects for broadcasting during this year. At this writing, the forecasts are still mixed and the reports coming in are confusing. But our Sparta bet stays on the table!

The NAB convention in Houston will see a personally satisfying project unveiled . . . a standup style "Showcase" control room center which is unlike anything Sparta has offered before and certainly unlike anything now offered by any other manufacturer! In addition, our staff of engineers will have a great array of the most modern, sophisticated, practical and economical equipment for the broadcast industry we have ever offered before.

Some of these developments are so recent that we cannot even picture them in these special pages, so you can be certain that Sparta stands behind that earlier promise . . . business as usual and even BETTER this year.

See you March 17-20, Booth 211, East Hall, Houston Convention Center! You'll be happy you dropped by!

BILL OVERHAUSER
President
Sparta Electronic Corporation

Yakima's KMWX Modernizes — In New Home

A momentous event occurred last September in Yakima, WA, when KMWX and KFFM-FM moved into their modern and efficient 5,200 sq. ft. studio and office building at 4th Street and Lincoln Avenue in downtown Yakima. The occasion marked nearly 29 years of continuous broadcast activity at their old location on Terrace Heights.

As Central Washington's only full-time 5000-watt radio station, it was decided early last year to completely upgrade KMWX with the latest broadcasting equipment, from transmitters to tape recorders, when they moved into the new location. To accomplish this more than \$100,000 was invested.

Today KMWX boasts the first transmitter of its kind in the world. Instead of just one 5000-watt transmitter they now utilize TWO solid state 3000-watt Sparta transmitter, operating through a ferrite combiner for complete redundancy of transmitting facilities. This makes it almost impossible for KMWX to ever be off the air due to transmitter failure.

There are two completely equipped production studios and the new KMWX is wired to make possible live broadcasts from any room in the building. The control room is custom built with much of the latest Sparta equipment. The announcer also has facilities to remote control the KMWX transmitter three miles away and the KFFM transmitter nine miles distant. A fleet of six cars, equipped with the latest two-way radios can report directly to the station from where the news is happening.

KMWX's new building is also the home of their FM Stereo Station, KFFM, the state's most powerful radio station (100,000 watts).

KMWX and KFFM are owned by the Northwest Broadcasting Company, Thomas C. Bostic, president. Its other holdings include KONA and KONA-FM serving Tri-Cities, WA.

(Additional Photos on Page 7)

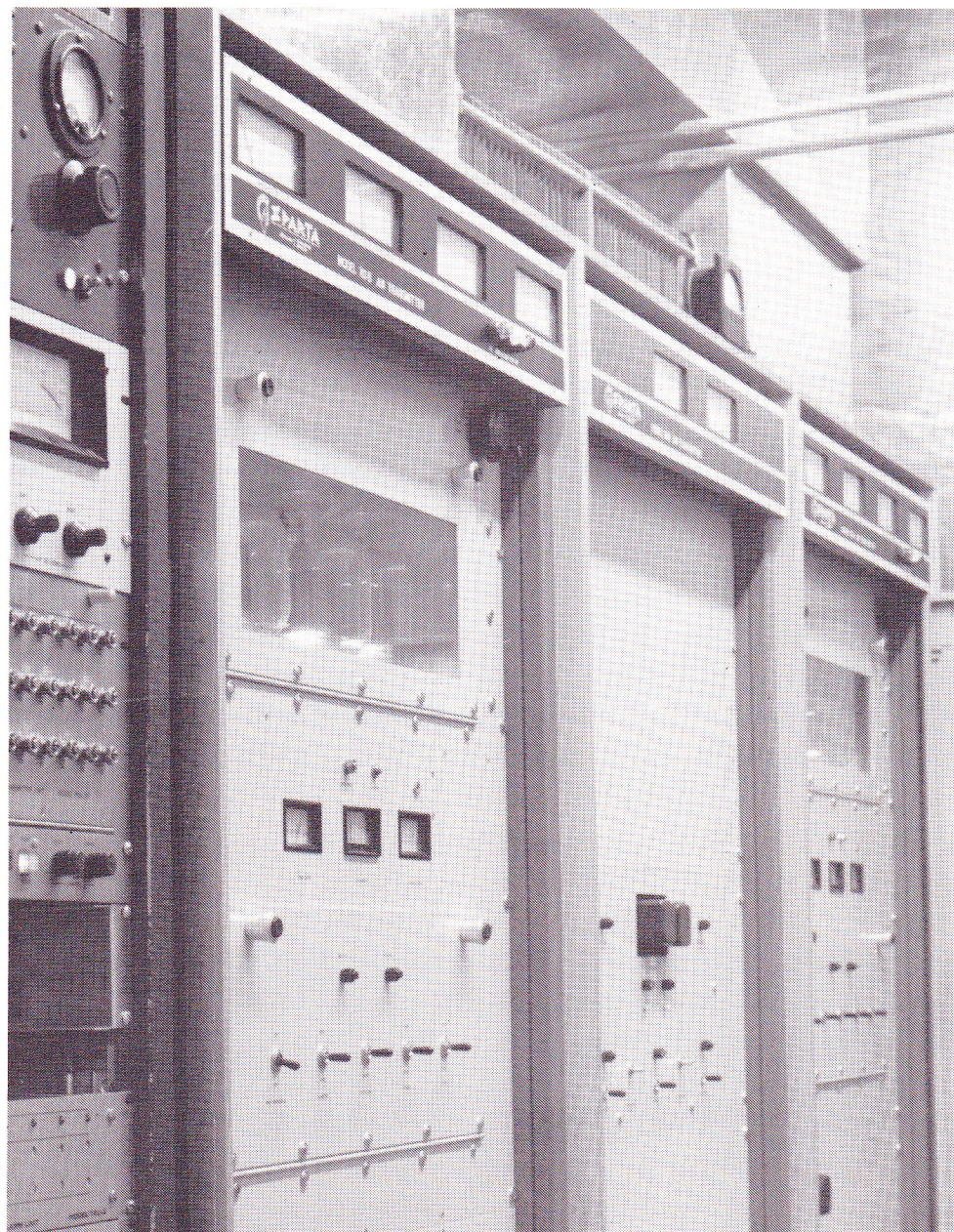
New Spartamation Tone Generator And Tone Sensor!

The Spartamation Tone Generator TG25 (shown at top, right) and the Spartamation Tone Sensor TS25 (at bottom) are designed for putting 25 Hz end-of-message signals on automation tapes and detecting them when in use.

The TG25 contains notch filters to remove 25Hz program material, a low distortion 25 Hz oscillator and line amplifier. It also serves as a remote control for the tape recorder used with it; the start button closes a relay which can be used to start the recorder. An indicator lights when program material should begin, after an adjustable pause to insure that tape motion is stable.

The button which inserts the 25 Hz tone at the end of the segment, when released, closes a relay which will stop the recorder if desired. These automatic start and stop features assure that each recorded segment of material will be equally spaced and have identical pre-roll timing.

The TS25 has a highly selective bandpass fil-



SPARTA MODEL 705D (DUAL) AM TRANSMITTER at the KMWX site. Twin 703B Transmitters of 3kw each are ferrite combiner operated for redundancy at 5,000 watts. Installation shows exacting attention to detail of CE Mel Burrill, which is evident in entire operation.

ter, and notch filters to remove 25 Hz from outgoing program material. Left and right stereo channels are separately filtered to maintain phase relationship. During sensing of 25 Hz tone a Form C contact closure is made, and an indicator lights.

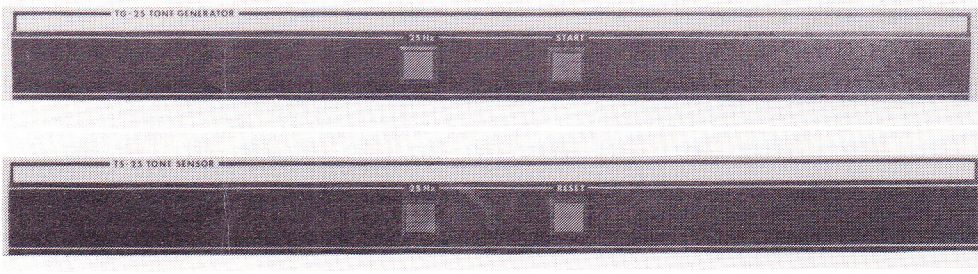
A stop relay provides Form C for a half-second, between zero and ten seconds (adjustable) after the tone. After eight seconds of continuous tone a Form C contact is closed and indicator lamp locks; this condition must be reset from the front panel switch or an external con-

tact after the nature of the alarm is determined.

A manual end-of-message tone is also available, activated by an external contact closure.

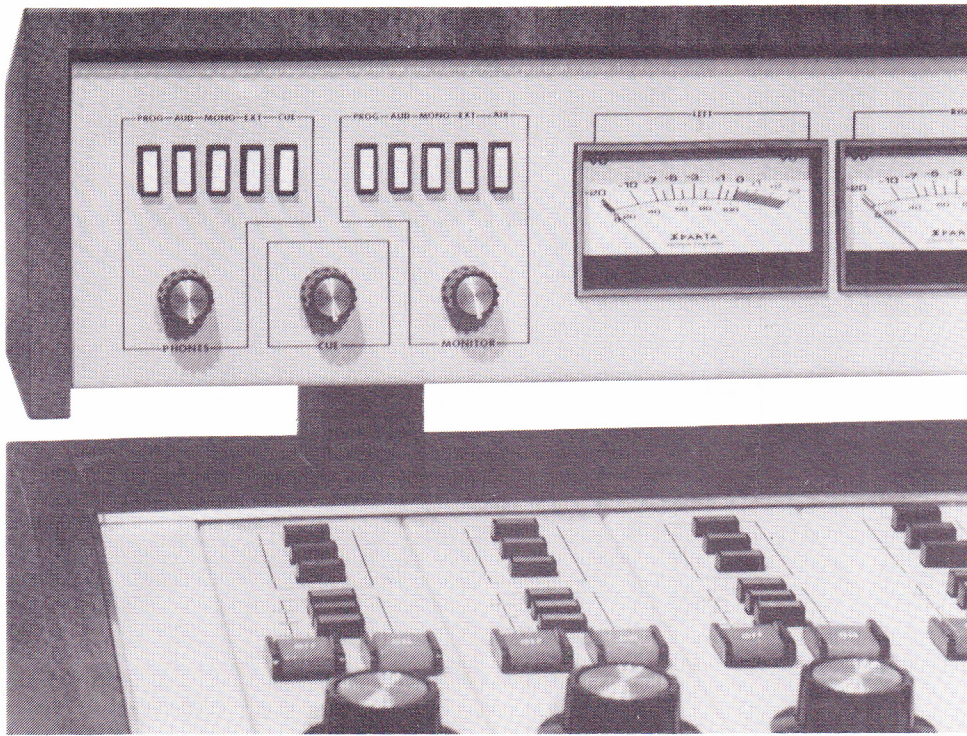
HAVE YOU READ?

"FM Stereo . . . A New Look at an Old Subject" in the January issue of "Broadcasting Engineering"? It was authored by Dick Johnson, Sparta transmitter engineer. Well worth your time!

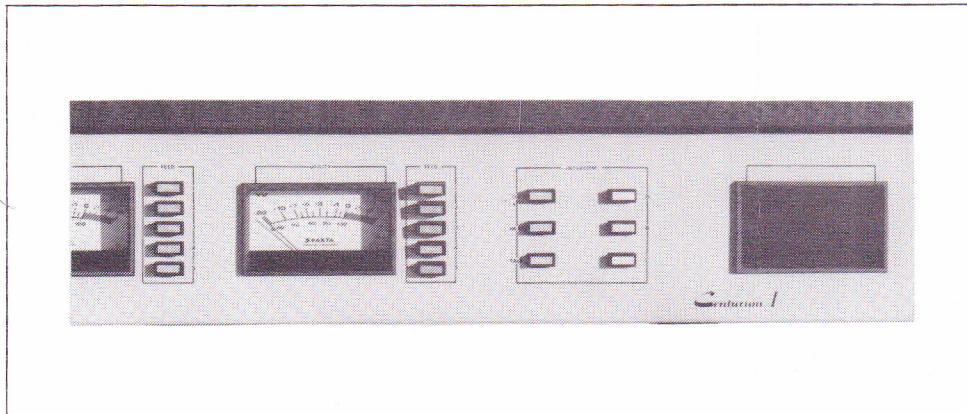


-Centurion Story

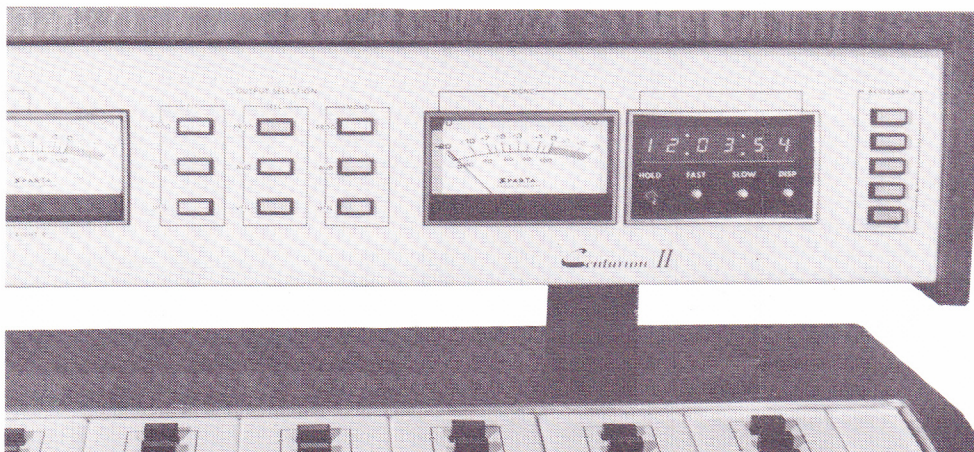
(continued from page 1)



CENTURION IV . . . actually similar to the entire Centurion Series for earphone, cue level and monitor selection. Centurion Series phone connection is 1 watt per channel to 4 ohm headset, with high impedance phones also useable. Cue is 1 watt to internal speaker. Monitor is 25 watts per channel RMS.



CENTURION I . . . showing standard speaker grill instead of digital clock. Note intercom pushbuttons, meter for Utility output as well as Program and Audition, "Feed" buttons beside each meter direct that audio buss to any of five locations.



CENTURION II . . . mono feed is independent of stereo channels and separately controllable. Controls for digital clock allow exact time setting. LED readout unit is adapted from DC24 Spartamation digital clock.

metered Mono Feed output in addition to the stereo outputs of Program, Audition and Utility. The Utility Line may be used to set the level of an incoming remote before it passes through a mixer, or actually feed a separate program independent of material on Program or Audition.

In the entire Centurion Series amplifier response is \pm db at rated output, 20-20,000 Hz. Distortion (20-20,000 Hz) less than 0.5 per cent. S/N 65 db below +8 dbm output (referenced to -55 dbm in). All in all, the Centurion Series consoles are quite likely to be THE outstanding broadcast console for many years to come!

CENTURION III

This is the "little brother" to the monaural Centurion I. It comes with 6-mixers standard, 23" wide. In all respects it matches the Centurion I in performance, using exactly the same components and mixers, but fewer of them for production room or smaller control room applications.

CENTURION IV

This is a 6-mixer version of the Centurion II stereo. Not available with digital clock option. Other than clock option, Centurion III and IV are half-size models of Centurion I and II, respectively.

CENTURION SERIES EXTENDER PANELS

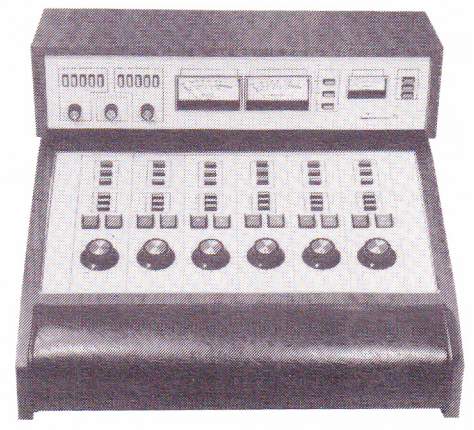
These provide 6-mixer, unmetred add-on capability for ANY of the Centurion Series consoles. Using Extender Panels gives a maximum of 18-mixers, 48-inputs with Centurion I or II. The Extender Panels are identical in all performance specs, components and finish with their matching parent consoles.

The Centurion Series consoles do not yet have their own Sparta "Showcase" furniture grouping designed around them, as do the 8-mixer Models A20B and AS40B. Dimensions of the 8-to-12-mixer large Centurions are 41" wide, 24" deep and 15" high. Finish is walnut grain laminated plastic for utmost durability. Armrest is brown Naugahyde, paint finish is Light Smoke gray.

More Centurion Series Pictures On Opposite Page

(All Photos By Sparta)

CENTURION IV . . . rotary attenuators, stereo.



New FM Stereo Limiter Checks Out 100 Percent

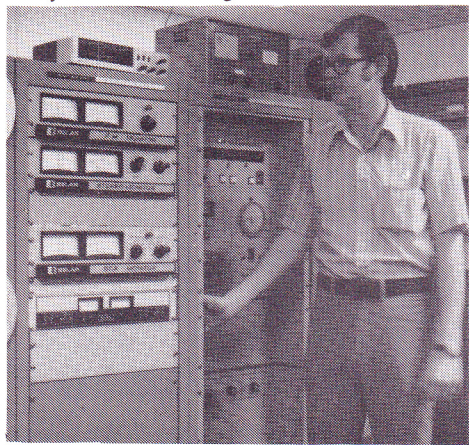
A prototype of the Sparta Model 900 FM Stereo Limiter has been undergoing on-air testing for some time at Radio Station KEZS, Sacramento.

Paul Black, chief engineer (below), KEZS, reports that the equipment has operated exactly as specified and all checks by Sparta engineers during the field testing have been absolutely positive.

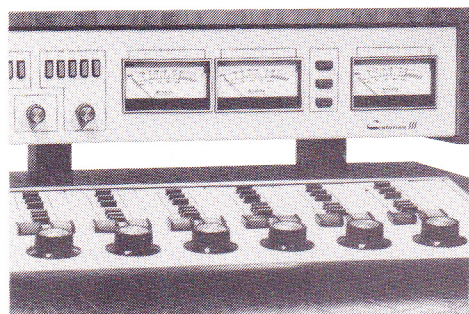
Three models of the 900 Series are planned, all of which operate by limiting negative peaks without clipping. Recovery time is variable in any of the three models: FM Stereo, FM Monaural or AM. Noise and distortion are very low: -70 db or better noise; with distortion 0.1 per cent below limiting to 2 per cent at full limiting.

In addition, the FM models of the 900 Series will be selectable to either "flat" or 75 micro-second.

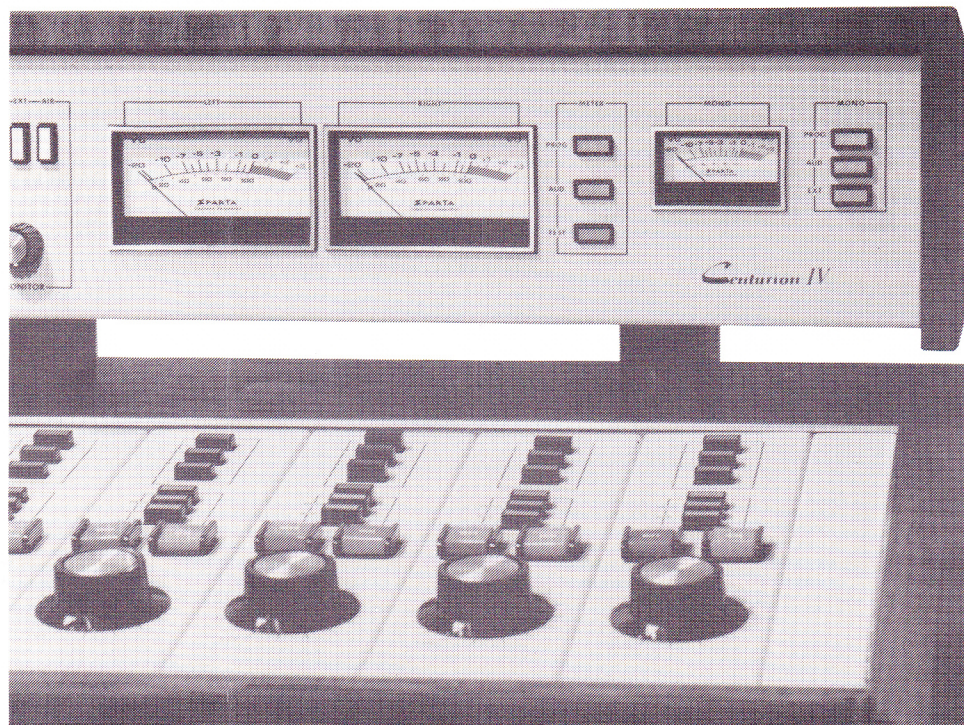
The AM model is selectable for symmetrical or asymmetrical limiting.



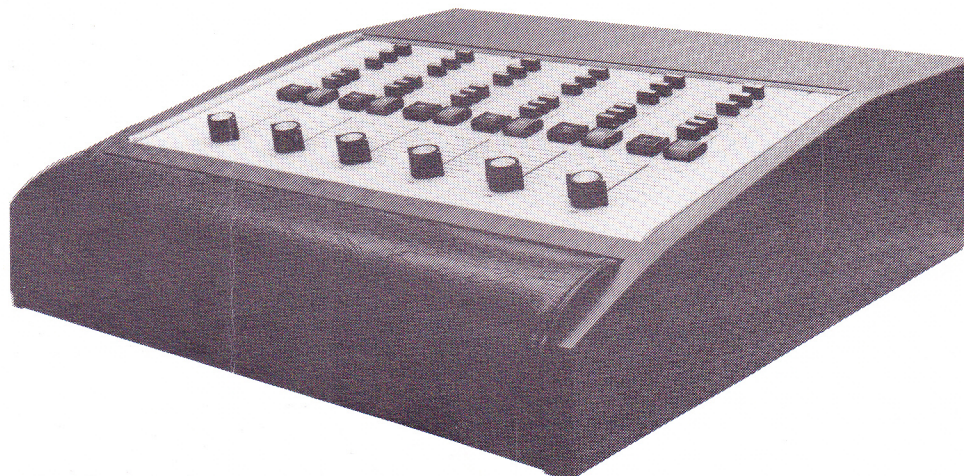
CENTURION III . . . provides utility metered channel as the mono Centurion I does (below).



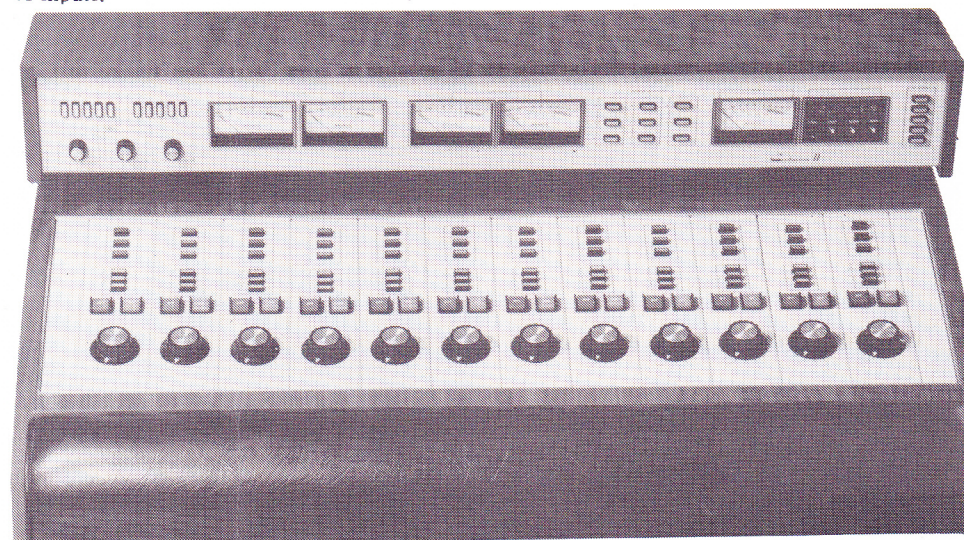
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CENTURION IV . . . showing mono feed control.

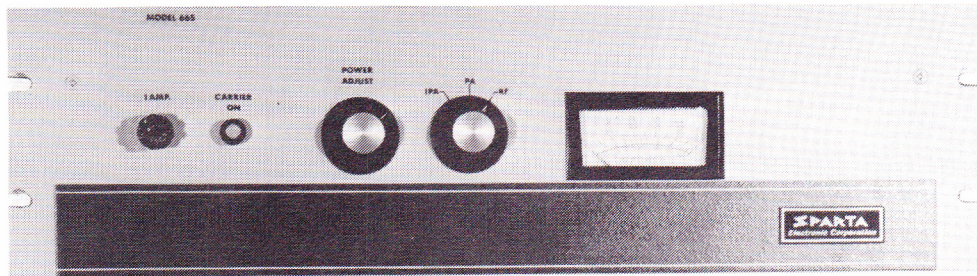


CENTURION SERIES EXTENDER PANEL . . . adds exactly matching 6-mixers to any of the Centurion Series consoles. Added to a full 12-mixer Centurion I or II, the full capacity becomes 18-mixers, 48 inputs.



CENTURION II . . . 12-mixers, rotary attenuators, with optional digital clock. When Centurion II is used for quadrasonic instead of stereo broadcasting, Program meters become "left front" and "right front" while Audition meters become "left back" and "right back."

Type-accepted Sparta 665 FM Booster Can Fill Those Shadows!



MODEL 665 FM BOOSTER (above) represents the prototype model approved by the FCC early in 1973. Current production models are slightly different. The map shows Gordon Zlot's problem at KZST, Santa Rosa. How he solved it, and increased his revenues, is told in accompanying story. The other drawing depicts area of terrain problems faced by Fred Hall, owner of KOVA, Ojai. The 665 is designed and licensed to FILL-IN primary coverage area where natural obstructions create a "shadow" . . . not to increase coverage area. —Sparta Photo

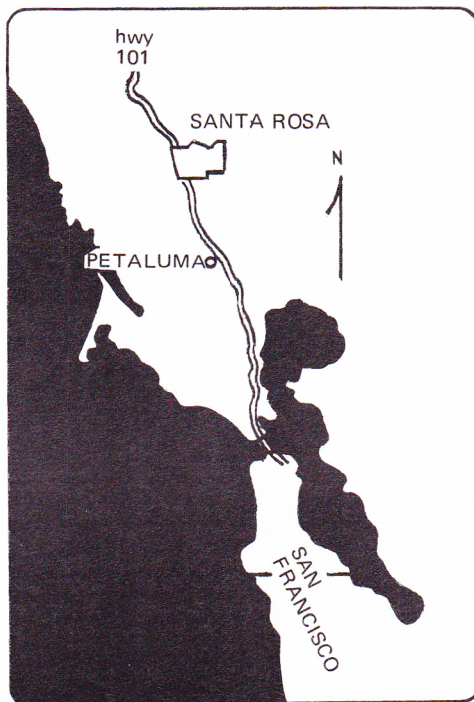
Here are the case histories of two widely separated California FM stations both faced with the same problem . . . "listener shadow" which was robbing them of potential audience . . . and profits!

First let's take the case of Gordon Zlot, owner of Spartamated KZST, Santa Rosa.

Petaluma is a charming community located some 40 miles north of San Francisco. A line drawn between San Francisco and Petaluma, extended north another 11 miles, will bisect Santa Rosa. This region is one of the most beautiful in California, with ranches tucked into green valleys and glimpses of the Pacific Ocean between gaps in the quite steep coastal hills.

The listening audience of a powerful station in Santa Rosa could perhaps number 250,000 if it weren't for those pesky (but beautiful) hills!

Zlot had a problem, in spite of an excellent transmitter and antenna location, and excellent equipment including a Sparta 602 FM transmitter, Spartamation system, and audio equipment. But also running on a line-of-sight between



Santa Rosa, Petaluma and San Francisco was one of those beautiful hills! And, on the south side of the hill there was NO KZST signal for Petaluma listeners, much less those in San Francisco.

Zlot brought his problem in to Sparta and together a way was found to give KZST the Petaluma listeners who properly fell within its primary coverage area . . . the "way" was the Model 665 FM Booster which was submitted to the FCC in the fall of 1972 and approved . . . which Zlot calls "a fantastic boon to Class A FMers." Both Zlot and Sparta are quick to point out that the Model 665 is not intended, or licensed, to do anything more than FILL IN THE PRIMARY COVERAGE AREA where a "shadow" exists.

It is a re-broadcasting system, picking up the station signal off the air (or off cable, but more about that later), and re-transmitting the signal with 10 watts TPO and proper beam tilt (if needed; it was no problem for KZST), from, around, or over the natural obstruction into the shadow area.

Zlot's experience with the 665 Booster had more than technical problems. Environmentalists insisted that KZST camouflage the site, thus eliminating full protection for the off-air receiver and booster equipment from vandalism. No problems in that regard at the moment, however. In fact, Zlot says that he hasn't even visited the site for ANY reason for three or four months . . . and the booster equipment has been snowed in during that period and subjected to heavy rains and wind!

Considerations facing the FM broadcaster with a hill-shadow problem are several, both Zlot

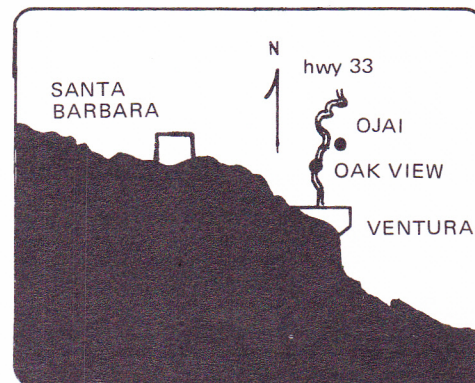
and Sparta's transmitter design engineer, Dick Johnson, agree.

Where, first of all, is the shadow area in relation to the main transmitter? And where, in relation to each of these, is a hilltop site which will cover the shadowed area? The receiver for re-broadcast should be in 90 or 180 degree relation to the main transmitter for best signal strength. Then, from that point, can the 665 cover the shadow area efficiently, given beam-tilt problems, choice of antenna polarity, environmental and other problems beyond control of the broadcaster?

Screening between the off-air receiver and booster may be critical, also, depending on hill-top distance between them.

Are the results worth the six months of effort and many dollars invested in research? Gordon Zlot answer an emphatic "yes!" KZST now shares in Petaluma's area listenership of 50,000 and is rated in Petaluma where before it was not received at all. As a result, Zlot points out, revenues are up because sales efforts are paying off. As a bonus, KZST is sometimes received in San Francisco . . . 60 miles to the south!

Now down to a southern part of California which is home for the California Condor, just about the world's largest bird with recorded wingspans of 11 feet and more. It's also one of the rarest birds in the U.S.: only about 40 are known to remain. This bird depends on steep

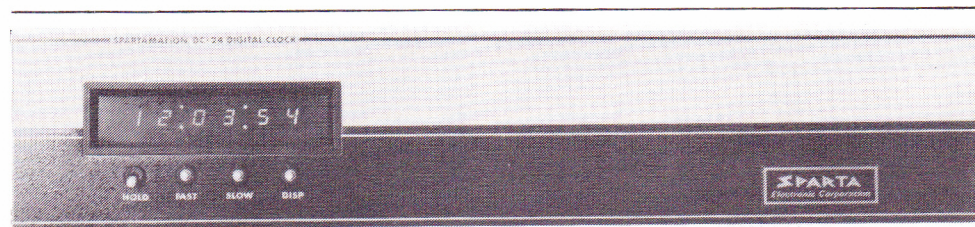


cliffs to become airborne each morning and to guard its nests against predators. The Condor's last sanctuary (Sepe Refuge) is only some 10 miles east of Ojai in the Sierra Madre Mountains . . . as the Condor flies.

Does that give the reader an inkling about a real terrain problem for FM broadcasting?

It's just that terrain that KOVA, Ojai, attempts to cover. And, a Sparta Model 665 FM Booster added an estimated 8,000 to its listening audience last January. Another similar one is planned to bring the entire 200,000+ population of Ventura out of a KOVA listening area shadow

(continued on page 7)



THE SPARTA MODEL DC24 DIGITAL CLOCK (above) is the answer to a bright visual display of correct time and Form C contact closures to perform timing functions in broadcast or other automation systems. It is standard 19" rack mount width, 3 1/2" high and 10" deep. Options for the DC24 include Reset Board (approximate time corrections up to four times per hour), Net Join Board (exact time corrections either once or twice per hour, as for joining network news in broadcast applications) and Oscillator Time Base and Battery Backup Board. Controls on the panel enable the operator to halt the clock altogether . . . advance the second counter rapidly . . . advance the minute counter rapidly or light the LED display momentarily when operating the unit on battery. Reset time switches are on the rear of the chassis. —Sparta Photo

==Tech Tips==



Here's a suggestion from Dan G. Peluso, manager, Sparta Customer Service:

"When mailing an order to Sparta, please be as exact as possible to insure receipt of what you want. Use our seven-digit part numbers if available, the model number and such specifications as

might be printed on the part. Often the best, quickest and surest service on small parts is possible when customers mail us the defunct part for replacement."

If customers will take a few extra minutes to double-check orders it might make the difference between receiving the needed part right away and eliminate 'phone calls and longer waits to get the equipment back in service. "We want to ship the right one to you the first time and we're sure that's what you want, too. I've been in your shoes so I know both sides of the replacement problem," Peluso added.

EDITOR'S NOTE: Peluso will pass along tips in these pages regularly. Customers having either a problem OR solution of general interest to Sparta, and through Sparta to other engineers, are invited to send them along to Peluso for inclusion here. Thanks!

-665 FM Booster

(continued from page 6)

in the near future. Both areas are within KOVA's licensed coverage area, but were inaccessible without the 665 FM Boosters.

Fred Hall, KOVA owner, uses a rather different approach than that of Zlot in Petaluma. His KOVA 665 Booster, instead of having a receiver pick up the signal off the air, taps a CATV cable carrying the FM at the same frequency as the parent station. Fortunately for Hall's plan a cable runs directly up and over a 700-foot high hill from which the Model 665 and antenna (vertically polarized for car and small home FM radio reception) is able to pick up the shadowed area of Oak View on Highway 33 between Ventura and Ojai. (Zlot found vertical polarization to best fit his Santa Rosa/Petaluma problem, too.)

The off-cable lashup is very stable, according to Hall, but he would happily use off-air pickup if he could find a strong signal on a hill in *exactly* the right place! The site of the hill's the thing, both broadcasters agree, to meet the requirements for good booster action.

The ideal site, then, seems to be a hill overlooking the shadow area which has enough room at the top to isolate the off-air receiver and 665 Booster transmitter from each other . . . at either 90 or 180 degrees line-of-sight relation to the parent transmitter. High front-to-back ratio is vital in the antenna used.

The Off-CATV-cable arrangement is an alternative, but proper location of a cable would be even more rare than good off-air receiver position.

The first application to the FCC for FM booster fill-in of primary coverage met with some hesitancy because of the newness of the concept. The FCC now has a booklet, "A General Guide for FM Radio Translator Applications," which, Hall says, should serve as full reference for the process for some time. Application form is No. 349-L.

At this writing, The Sparta 665 FM Booster is the only type-accepted device available to accomplish the fill-in of shadowed areas. Inquiries should be directed to Paul Greg, Sparta's transmitter products manager. Dick Johnson's design for the Model 665B, which will prove even more flexible and dependable than present models, is on the drawing board right now!

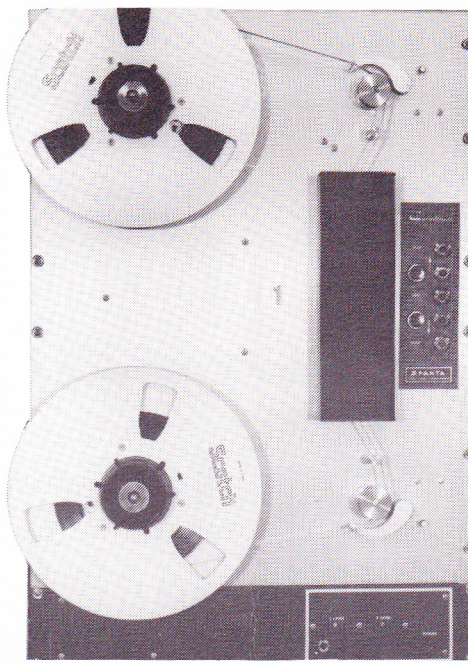
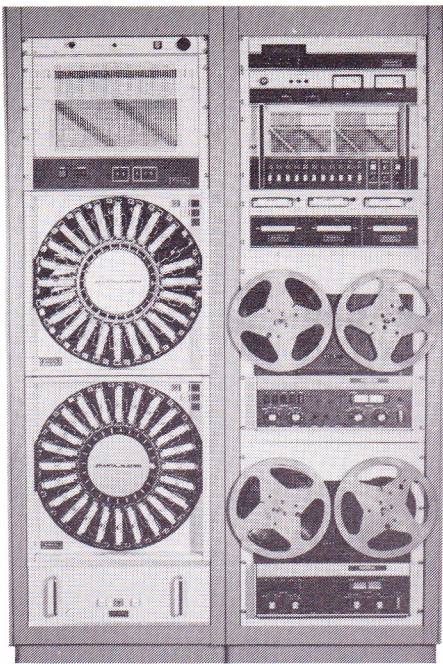
Yakima's KMWX In New Home



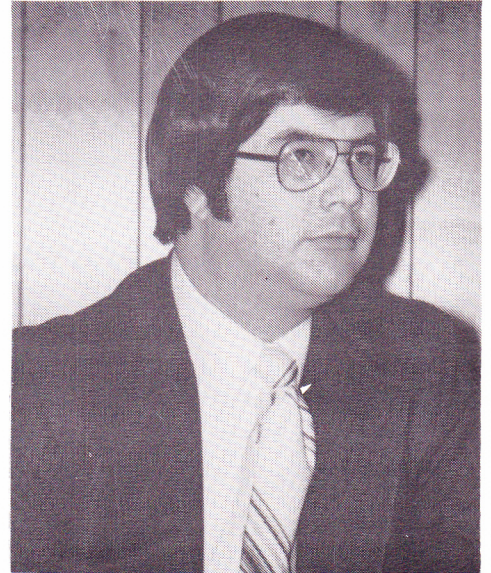
MOST BEAUTIFUL RADIO BROADCAST FACILITY in the Northwest? We're inclined to think so until readers convince us otherwise by sending in photos! KMWX is heavy on local news and area sports, only NBC affiliate between Seattle and Spokane. On air 1944 as KIMA, grand opening of this new facility was held September, 1973.

KMWX CUSTOM CONTROL ROOM . . . Sparta A20B 8-mixer console with dual meters is complemented by 5-mixer EP20B Extender Panel with pushbutton input controls. A20B's 22 inputs became total of 47 with the addition of the Extender Panel! Console and three Sparta GT12 Turntables with ST220 Tone Arms here are matched in production studios by other Sparta audio equipment.





Charles Rockhill Joins Sparta — Sales Engineer



Charles (Chuck) Rockhill

—Sparta Photo

THE SPARTAMATE II (above, left) . . . basic full-service Spartamation System for moderately long periods of unattended operation. The Sparta Corinthian reel/reel tape deck (upper right) has a capacity of up to 16-inch reels! Playing time of 14-inch reel of 1-mil tape, at 7.5 ips, is six hours. Level control is front-panel adjustable with screwdriver.

—Sparta Photos

'74 Spartamate II To Be Featured At NAB

The 1974 Spartamate II will be among the functional displays at Sparta's booth 211E this year when Houston hosts the NAB convention.

The Spartamate II is the basic full-service Spartamation system with Network Join and AP2 Alarm Panel. It features the RS250 Random Access unit which selects 50 cartridge "events" from two RS124 Monaural Carousels. The RS250 has skip and "search ahead" features; its LED readouts indicate the Carousel and tray number

which will play next in sequence. Audio-switching is built in so the RS250's selection from among 50 "events" consists of only one input for the Model 1052 Program Controller.

Three Century Series tape cartridge playbacks are rack-mounted for news, ID or other special repetitive announcements. Two Revox A77 Mark III tape recorder /playbacks, and the TA581 dual cartridge Time Announcer complete the audio package. The DC24 Digital Clock corrects program time; LAM1S Line Amplifier and Monitor Panel is switchable from Program to Audition for cueing.

Not part of the Spartamate II basic package is the Sparta Corinthian 16-inch reel/reel deck. It provides half- or full-track monaural, or half- or quarter-track stereo tape playback for long periods of unattended Spartamation operation. Foil reversing ensures maximum use of tapes. Capstan is direct drive with dual speed hysteresis synchronous motor.

The appointment of Charles F. (Chuck) Rockhill, 28, as sales engineer, has been announced by Bill Overhauser, Sparta president.

After a stint operating a winter-sports oriented business in the Sierra, Rockhill returns to his first love . . . the field of broadcasting.

His major at Ball State University, Muncie, IN, was Radio/TV. While yet in high school he gained major market announcing experience in Indianapolis.

Rockhill's primary territory comprises California, Arizona, New Mexico, Kansas, Missouri and Hawaii. Currently, he is on a wide swing throughout his territory.

Married, he and his wife, Linda, plan on establishing a home in the area in the near future.

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