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# COMMON POINT®

A MONTHLY NEWSLETTER FOR BROADCASTERS

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## NAB Convention Coverage Issue

### Firms To Manufacture Circuits For Improved FM Receivers

Dallas, TX, -- Two semiconductor manufacturers will make available later this year the integrated circuits to equip FM receivers with the new FMXTM technology, it was disclosed at the National Association of Broadcasters Engineering Conference here today.

The companies are Sanyo Semiconductor Corp. and Sprague Electric Co., Semiconductor Division.



For four days, broadcasters and other conventioners jammed the indoor and outdoor exhibits which covered more than 313,000 square feet. Nearly 700 exhibitors participated.



The FMX system is a joint invention of Thomas Keller, senior vice president of NAB and Emil Torick, formerly vice president of the CBS Technology Center. The patented transmission and reception system provides improved signal quality and increased station coverage area for FM stereo broadcasts. It overcomes the noise penalty inherent in stereo relative to monophonic reception in moving vehicles; and it permits improved stereo separation in outly-

(Cont. to page 3)

## FCC Update

### FCC Amends Main Studio Rule

FCC amended its main studio location rule for all stations Thursday to permit them to locate main studios within their "principle community contours" (city grades). Also, stations will no longer be required to originate a majority of non-network programming from their main studios "or other points situated within the station's principle community." NAB has filed FCC Comments supporting expansion of old rules. Stations with studios outside community of license must still keep public inspection files within community of license and must maintain local or toll-free phone number for listeners.

### NAB Opposes Proposed Call Letters Change

NAB submitted FCC Comments Friday expressing opposition to FCC proposal to eliminate geographic restrictions on K/West and W/East call signs (NAB Today Feb. 16). FCC contends proposal would provide stations more flexibility in choice of calls (Docket 87-11); Commission also wants to eliminate restrictions on separate licensee assignments for identical call letters within same or different market, where three different owners, for example, could hold same calls for separate AM, FM and TV stations.

However, with minor exceptions, NAB contends proposals would lead to widespread confusion and allow new licensees to take unfair advantage of established good will of existing stations in a market by duplicating signs of those stations.

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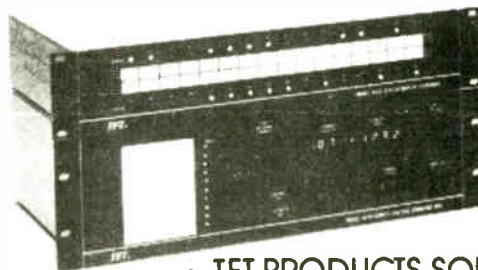
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- Complete line of accessories for transmitter and monitoring interface



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## Circuits for FM Receiver

(cont. from page 1)

ing reception areas.

Following the closing of the CBS center late last year final development of FMX is being undertaken by Broadcast Technology Partners (BTP). BTP is the first enterprise investment by the new for-profit subsidiary of NAB, NAB Technologies, Inc.

Torick disclosed the plans for commercial availability of the integrated circuits in remarks at an NAB new technology session here today.

"We are grateful for the support of these companies, which has continued during the uncertain period following the closure of the CBS Technology Center," Torick said. He added that the availability of chips will permit receiver manufacturers to market FM receivers with the FMX capability by early 1988. "There are also indications that at least one auto manufacturer will offer FMX-equipped radios in their 1989 model year," he said.

Sprague Semiconductor's Manager of Linear Products Robert F. Milewski said, in Worcester, Mass., "We anticipate quick acceptance of FMX by FM broadcasters and the receiver manufacturing industry. We think there is a sizeable market for the improved stereo reception FMX offers."

From California, Tsuyoshi Taira, executive vice president for engineering and marketing of Sanyo Semiconductor Corp., said, "FMX is an important advancement in FM receiver technology. Sanyo expects to be in the vanguard in making the necessary integrated circuits available to manufacturers."

\*\*\*\*\*

## New Technologies High On TV Stations' Future Plans

Dallas, TX, Mar. 30. -- Television general managers surveyed by the National Association of Broadcasters indicate a strong commitment to new technologies for the medium, the survey results show.

Looking ahead, 77 percent said they believe HDTV (high definition television) "very important" or "important" to the future of television. Only 14 percent said they see it as "not important"; 10 percent "don't know".

In using today's newer technologies, the managers said of their stations:

- 39 percent broadcast stereo sound;
- 97 percent have access to a satellite dish;

- 29 percent use cellular phones;
- 79 percent use microcomputers.



### Speaking for HDTV

David Nils, Studio Captain Video, Paris, France, presented "The Captain Video HDTV Production Center."

Despite their view of HDTV's importance, the television managers expect the industry will need to resolve problems with the assignment of

spectrum (29 percent) and setting technical standards (18 percent). NAB, with the Association of Maximum Service Telecasters, conducted the first North American terrestrial broadcast of HDTV in January in Washington, D.C. The demonstration in cooperation with NHK included special viewings at the FCC and on Capitol Hill.

Earlier this month, the FCC decided to delay a decision on whether to increase sharing of allocated UHF TV frequencies with land-mobile users. Broadcasters assert the success of HDTV as a new television medium in the early 1990's depends on the availability of channels within the UHF TV band.

The national telephone survey reported here was conducted on March 23-24 of a randomly selected sample of 200 commercial television stations. The survey firm was American Airlines Direct Marketing Corp./Donhue Research and Marketing of Dallas, TX. The margin of error is plus or minus 6.9 percent.

\*\*\*\*\*



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# MEMO FROM METZ



by  
David L. Metz

## "Modern Remote Control of Studio Equipment" Part III

By David L. Metz

The knotties problem in remote control is the modern microprocessor controlled cassette deck. At first glance, there is no simple way of interfacing these machines with the real world. A little digging into their circuitry shows the way.

Most of these machines use a matrix scanned control board. These work a lot like the pad on a push button phone, FIG. 1 represents the controls found in a deck. Note how the play, rewind and pause are on the same horizontal bus, and play, fade in and time/footage are on the same vertical bus.

The microprocessor drives these buses with pulses that checks to see if they are combined by having two of the buses momentary tied together (by a button pushed by you). In my case, I wanted to remote the play and stop functions. That meant that I had to trace out the buses that carried the signals for those two functions.

In this case, it was the A, # buses for play, and B, for stop. Note that the solution works equally as well for any other combination of buses or functions.

I brought out four wires from the ribbon plug that connected the front panel keyboard with the main circuit board. These leads I ran to a small piece of perf board that held my solid state switch.

My "button pushing" is done by a CD4066B quad digital switch. This handy little IC acts as four separate digital normally open relays in a single IC package. It operates off of 5 to 15 volts DC like the other CMOS (cont. to pg. 5)



## NRSC Voluntary National AM Standard

Adoption of the NRSC Standard was major focus of Radio Engineering sessions on AM technical improvement. William Gilbert, Delco Electronics, Kokomo, IN, expressed solid support for standard as a way to solve interference problem and improve sound quality. John Marino, NewCity Communications, Bridgeport, CT, said response from most station managers approached about adopting the voluntary guidelines has been positive. In a panel discussion following the presentation, engineers discussed implementation of the Standard at stations. Panelists are (l-r): NAB's Michael Rau; Gilbert; Almon Clegg, Denon America, Fairfield, NJ; Stanley Salek, Circuit Research Labs, Tempe, AZ; Alan Boyer, Sony Corporation, Kansas City; Glen Clark, Texar, Inc., Monroeville, PA; Robert Orban, Orban Associates, San Francisco.

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# Metz

(cont. from pg. 4)

IC's we have used. It can be driven directly by the debounced push button of part one or the flip flop of part two.

When the control voltage of one of the switch sections equals  $V_{cc}$ , the section behaves as a nearly linear 90 ohm resistor. When the control voltage is zero, the section has damn near infinite resistance. The small re-

sistance of the ON section has never been a problem in controlling cassette machines.

FIG. 2 shows the pin out of the IC and how it is connected to our cassette machine of FIG. 1. A momentary pulse to pin 6 starts the cassette, a pulse to pin 5 stops it.

Remember that  $V_{cc}$  to pin 14 has to be greater than the digital signal voltage the IC has to control. Pin 7 has to be at both digital and DC

ground for both the cassette deck and the remote control circuit. I'd bypass the control lines for RF where they come into the cassette deck chassis as well. one CD4066B can control four functions.

Next month another building block, the CD40106B schmitt trigger used as a monostable timer (we're going to build a skimmer)!

\*\*\*\*\*

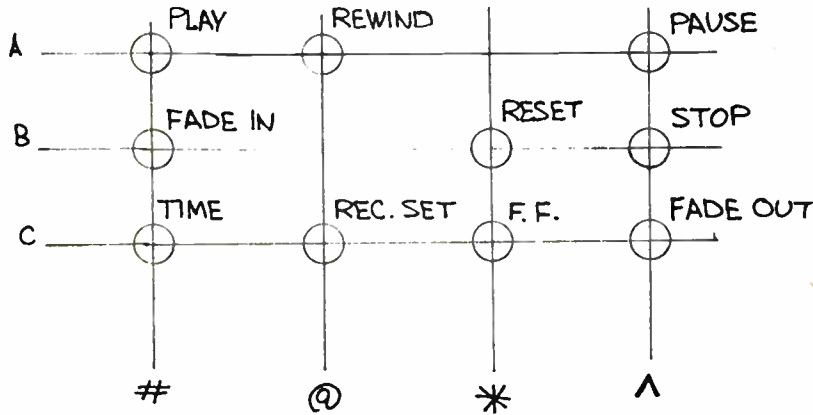


FIG. 1

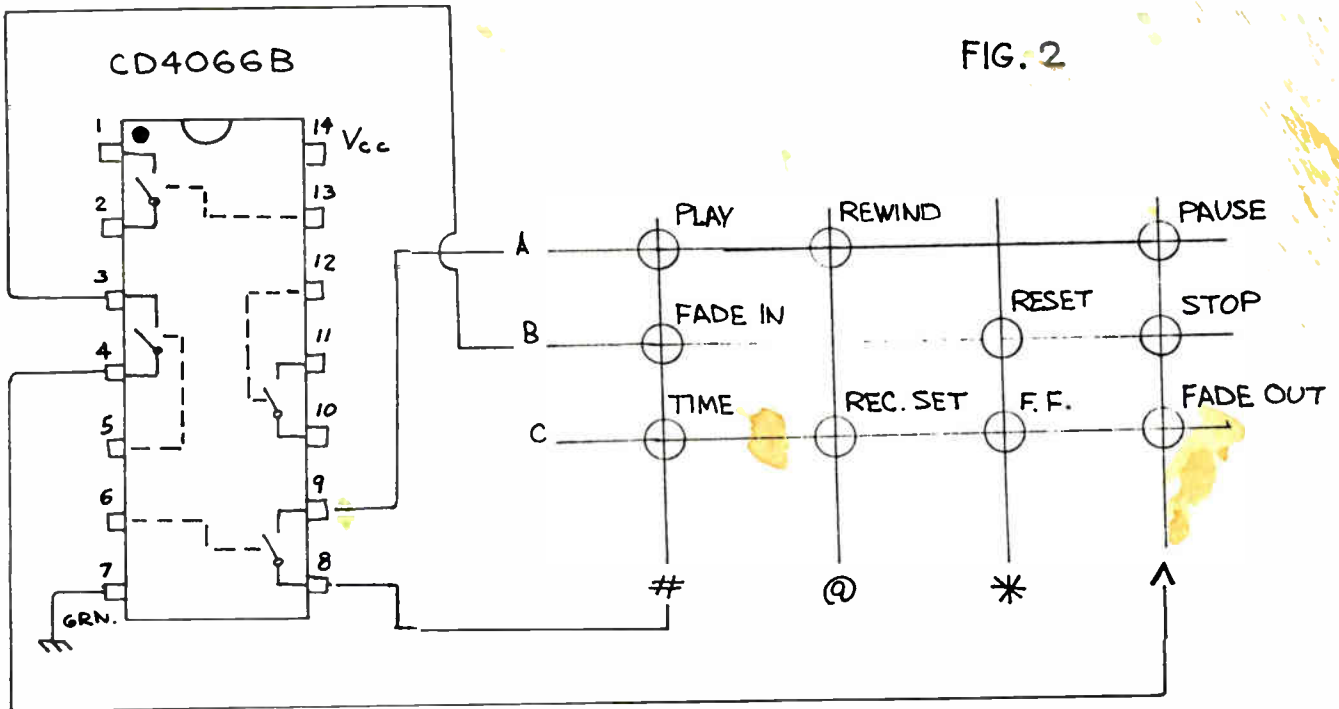


FIG. 2

# Shepler Says.



by John Q. Shepler  
Technical Consultant

## SIMPLE IS BEST

BY: John Shepler

Isn't it true that the best ideas are the simple, clever ones? How many times have you taken a close look at a new hot selling product or monitored a successful new radio format only to find that the real genius behind the success was just one or two key ideas?

This same elegance of simplicity can also be applied to engineering. For instance, nearly every station using carted music and commercials has problems with consistency. Some songs are brighter or duller than others, or perhaps the left and right channels has problems with consistency. Some songs are brighter or duller than others, or perhaps the left and right channels play back at different levels.

A lot of broadcasters think this is some inherent limitation of the cartridge tape equipment and cannot be helped. The truth is that culling out worn carts along with simple alignment procedures performed every week will keep your carted material sounding exactly the same every time it is played. If fact, if regular maintenance doesn't solve your cart problems, it's time for new machines. There is nothing complicated about this.

Let's carry the idea of simpler-is-better to your studio layout. Why do stations insist on having their on-air studios cluttered with racks of assorted patch panels, equipment of various vintages and quality, and hundreds of switches with labels that have long since faded? In the high tension of live broadcasting, the air staff has enough problems fighting off the competition without having to fight the equipment, too.

You can avoid confusion and hot tempers if your studios and control boards are as uncluttered as possible. To paraphrase Albert Einstein, "keep everything as simple as possible, but no simpler."

You need function and flexibility without confusion. All non-critical patches, controls, and wiring should be kept away from the working environment. If you need remote push buttons for your cart machines and recorders, locate them right next to their corresponding board pots. Functions that are used constantly like the main microphone, news mic, turntables, CD players, net dish, carts, and automation should have separate pots.

Start buttons can reset a timer on the board and flash to indicate that a cart has already run. One button will do everything.

Whenever you're designing a new studio or refurbishing an old one, keep the philosophy of simple operation in mind. Anything you can do to hide the complexity will be greatly appreciated by the people who run the equipment.

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## Association Forms Subsidiary To Develop New Technologies

Washington, March 12

The National Association of Broadcasters has created a for-profit subsidiary, NAB Technologies, Inc., to develop and promote new broadcasting technologies. NAB Joint Board Chairman Ted Snider, KARN/KKYK, Little Rock, AR, announced today.

"NAB Technologies will develop and bring to market new production and transmission equipment to keep broadcasters in their traditional position of technological leadership," Snider said. As NAB Board Chairman, Snider is also chairman of the new subsidiary, which he said will earn its profits from its share of royalties on products in develops. Each newly elected NAB chairman will assume the chairmanship of the subsidiary.

In addition to Snider, officers of NAB Technologies, Inc., a Delaware corporation, are: NAB President Edward O. Fritts, president; NAB Executive Vice President/Operations John Abel, executive vice president; NAB Senior Vice President/General Counsel Henry L. Baumann, general counsel; NAB Executive Vice President/Chief Financial Officer Michael S. Harwood, secretary-treasurer.

The NAB serves a membership of more than 4,800 radio and 925 television stations, including all the major networks.

\*\*\*\*\*

## 'We Are a Radio-Saturated Culture'

Quote Worth Nothing... "We are a radio-saturated culture... This comes 34 years after the president of NBC declared, 'Radio is dead.' Television had by 1952 begun to reach for its potential as the mass medium of choice. Radio's future indeed looked fuzzy. But radio has survived, and not from nostalgia. It thrives on information-sharing, specialized musical programming and the popular call-in format by which citizens at home become part of a show. And it all happens with words. Not citizens at home become part of a show. And it all happens with words. Not pictures.

\*\*\*\*\*



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### MODEL 400 MAGNETIC TAPE ERASER

## Past Eight Months Saw 40% Increase In Number of AM Stereo Stations

DALLAS, TX--The number of AM radio stations broadcasting in stereo increased more than 40 percent in the last eight months -- from approximately 446 in August of 1986 to more than 700 at the end of March, 1987, according to surveys conducted for the National Association of Broadcasters.

Among FM stations, nearly 45 percent say they intend to use the FMX™ circuitry to enhance the clarity of their stereo signals in outlying areas.

The telephone survey on technological advances at broadcast stations was conducted of a random national sample of 445 commercial stations on March 23-24, 1987. The margin of error is plus or minus 7.5 percent for AM stations; 10.9 for FM stations; 4.6 percent for statistics involving both AM and FM stations.

Other data from the survey:

- Forty-one percent of radio stations responding said they are carried on at least one cable system's audio service, up from 37 percent who responded to an NAB survey in August, 1986.

- Eighty-seven percent have access to a satellite dish, up from 85 percent;

- Twenty-five percent use compact discs on the air, up from 17 percent;

- Fifty-two percent use microcomputers at the station, up from 50 percent;

- Cellular telephone is in use at 21 percent of the stations, up from 16 percent;

- Thirty-one percent of the FM stations use subcarriers, up marginally from the August survey.

The March survey was conducted for NAB by American Airlines Direct Marketing Corp./Donohue Research and Marketing, Dallas, TX. It did not seek information on which AM stereo system stations used. The percentage figures of stations reporting they broadcast in AM stereo were 9.3 last August and 13.2 this month. These percents were multiplied by the total number of commercial AM stations (4,800) to achieve the numbers reported in the lead paragraph of this release.

\*\*\*\*\*

## TALKBACK

DULUTH, MN--There is something of value in every issue especially appreciate Dave Metz column.

GILMER, TX--As a non-engineering general manager, I appreciate being able to understand the articles. I read CP when it arrives before our engineer gets to read it.

AMORY, MS--I read it every time, cover-to-cover, line-by-line. Please don't ever stop sending it. It's worth much more than any paid for publication.

MICHIGAN, MS--Good publication. I enjoy it!!

BAD ACTS, MI--Enjoy your articles. Would Dave Metz or any others have a circuit for SCR's? Have a bunch of 30 SCR's and need to make some dimmers for a community project. Thanks!

BARTLESVILLE, OK--Most practical and readable assistance in any publication.

GRAND ISLAND, NB--Enjoyed the articles on Modern Remote Control of Equipment by Dave Metz.

OSKALOOSA, IA--Enjoy reading the articles keep them coming!

WISCONSIN RAPIDS, WI--Keep Goin'!




### Zercom Corporation



## GAIN BOX

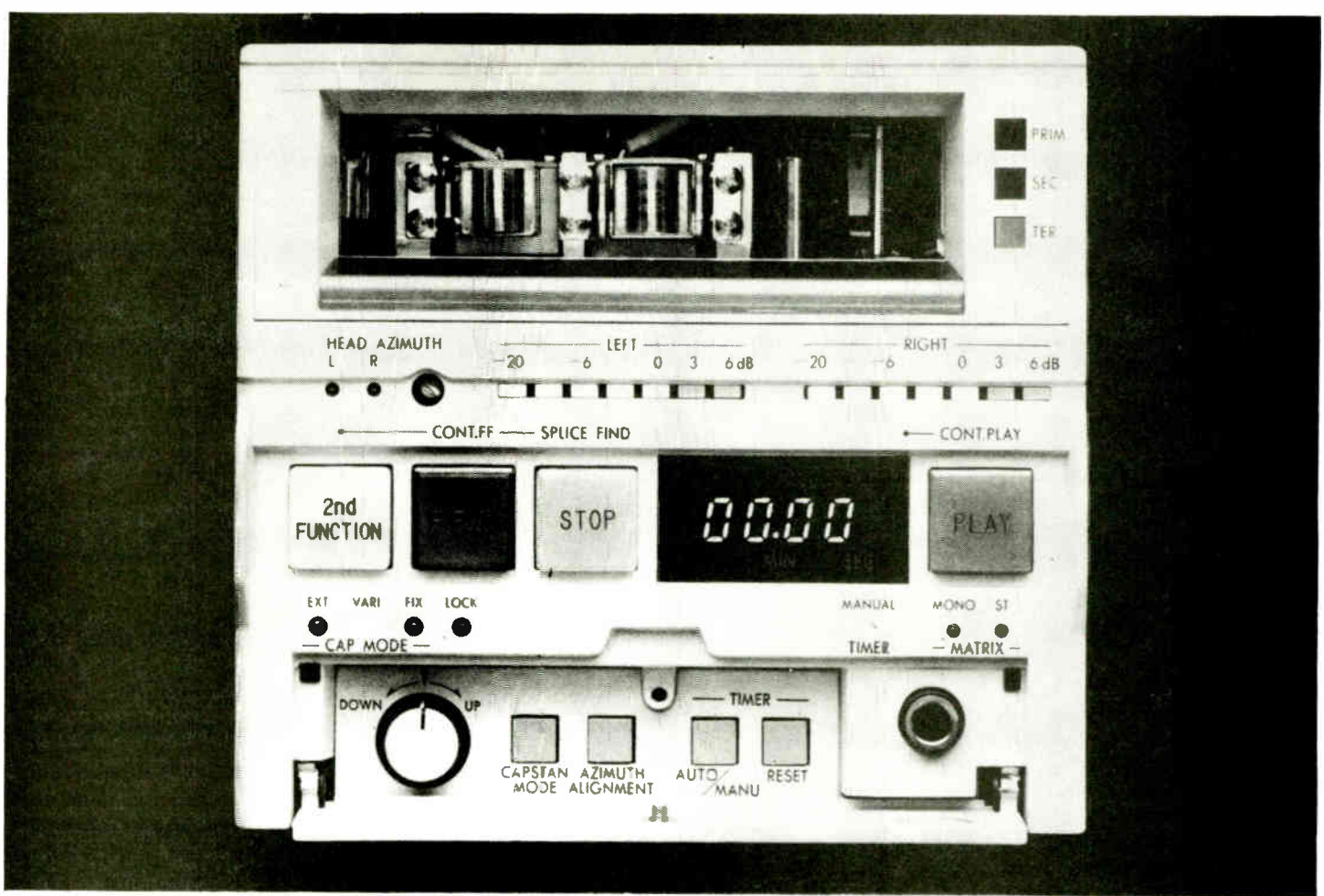
**SPECIFICATIONS:** Gain: 0 to 30 DB, Signal to Noise Ratio: 100 DB, Harmonic Distortion: Less than 0.05%, Intermodulation Distortion: Less than 0.10%, Frequency Response: ± 0.25 DB DC to 20 KHz, Channel Separation: 75 DB, Maximum Output: + 22 DBM into 600 ohms, Input: 66K ohm Active Balanced, Output: 600 ohm Active Balanced RFI Protected. The unit can be run unbalanced in and out as desired by the user. Power: 120/240 VAC 50/60Hz 10 watts, Physical Dimensions: 8 1/2" x 4 1/2" x 1 5/8". One or two Gain Boxes can be bolted to a one unit (1 3/4") high 19" wide rack plate. Potential uses include: 1. Digital compact disc audio deck to console input. 2. Cassette audio deck to console input. 3. Boosting telephone audio to console input. 4. Boosting output of consumer phono preamp to console input. 5. Converting unbalanced sources to active balanced. 6. Converting balanced sources to unbalanced. 7. Distribution amplifier. 8. Line amplifier. 9. Boost low level audition console output to line level balanced output. 10. DC meter amplifier



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## FINALLY, A CART MACHINE GOOD ENOUGH

In the tradition of the Otari MX5050 BII reel-to-reel recorder and the ARS-1000 Automated Radio Station Reproducer, Otari brings you a cart machine that may be the last you'll ever need to buy. Built with the same rugged precision, the CTM-10 is destined to take its place beside the BII and ARS-1000 as a standard in the broadcast industry. The newest audio machine technology and Otari reliability add up to a cart machine engineered for the 1980's.

The CTM-10 series of NAB audio cartridge recorders and payers consists of three models: The CTM-10SR stereo record/play deck; the CTM-10MR mono record/play deck, and the CTM-10 mono/stereo playback-only deck (field convertible to record/play). A CTM-10R record module provides metering, level controls and electronics for the record decks. All units are identical in size and can be mounted three abreast in a standard 19" rack. (Note: Though the CTM-10 features the NAB record and play track configuration, Otari offers Maxtrax™ heads as an optional retrofit).

### MULTIPLE DECKS...INSTEAD OF MULTIPLE PROBLEMS

Many broadcasters require multiple-deck cart machine operation to increase their flexibility on-air. Otari's CTM-10 offers several advantages to these broadcasters in terms of operation, maintenance, and flexibility.

For example, in a multiple installation, *fast-forward re-cue* can be used with any one CTM-10 deck while another deck is in *play*. And if maintenance is required, the CTM-10 decks can be serviced independently, still leaving the other cart machines on-line. Further, if the flexibility to

"borrow" a cart machine temporarily for another studio is important to you, the CTM-10 fills the bill. A triple deck does not provide these conveniences.

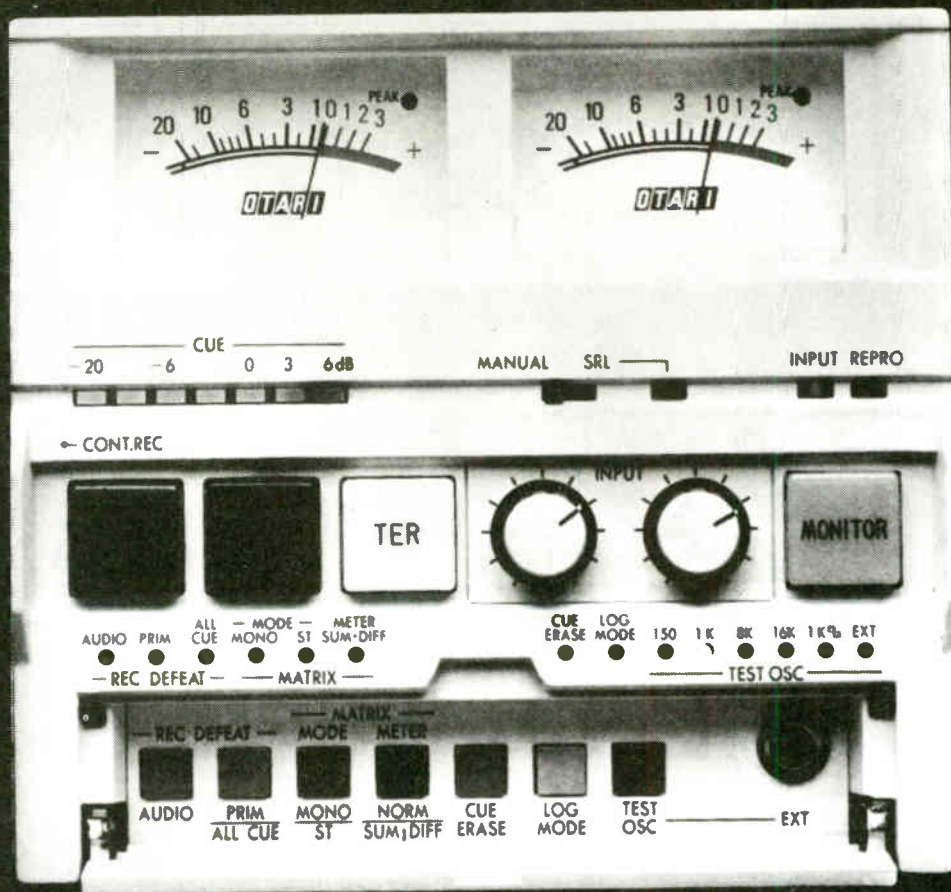
### NEW FEATURES THAT MAKE SENSE FOR TALENT AND ENGINEERING

Instead of one playback head and one dummy head, as is usually the case with playback machines, Otari's CTM-10 playback-only deck provides both mono *and* stereo heads. This makes it possible for stations to upgrade to stereo later without purchasing new stereo machines.

Three tape speeds are available, so you can either double your play time by selecting 3.75 ips, or you can opt for the extra dynamic range and high frequency response available at 15 ips. In addition, the CTM-10 record decks are equipped with HX-Pro™ bias optimization circuitry to provide increased high frequency headroom at any speed: (Please see a complete discussion of this valuable and exclusive feature later in this brochure).

The CTM-10 series also features active balanced transformerless inputs and cross-coupled outputs, plus low frequency reproduce equalization. A front panel headphone jack for cueing or testing carts off-line, and convenient front panel-mounted input level controls with SRL preset are also included.





## OUGH TO CARRY THE OTARI NAME

Two signal matrixing modes are standard on the CTM-10RS. A monomatrix provides compatibility with mono carts and machines, while a stereo matrix mode minimizes the effects of phase instability caused by cart or tape mechanisms.

### CUE TRACKS CAN BE MORE THAN JUST CUE TRACKS WITH THE CTM-10

With the CTM-10, you may assemble or alter the cue track independently of the audio tracks. This is helpful when you've mistakenly put the secondary tone in the wrong place. Instead of bulk-erasing the whole cart and re-recording everything, you can selectively erase the cue tone, and record another in the correct location.

Using the optional *log mode*, facilities with automated bookkeeping computers or time-code based synchronizers and machine controllers will find the ability to put SMPTE/EBU time-code or FSK automation data on the cue track very helpful.

### HEAVY DUTY DIRECT DRIVE CAPSTAN OFFERS ACCURACY, RELIABILITY, AND EASY INTERFACE TO STUDIO EQUIPMENT

A brushless, DC PLL capstan motor operates in a crystal-referenced servo system to provide absolute speed accuracy to within 0.1%. For operator convenience, a front panel servo error indicator monitors servo system performance and warns of off-speed conditions.

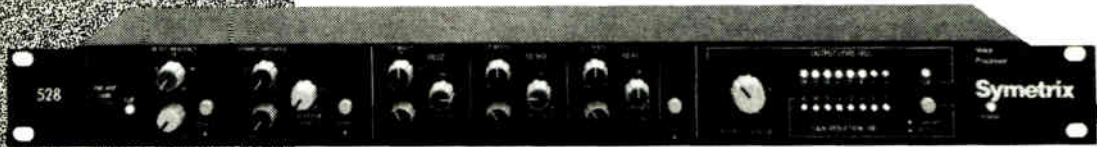
A 37 pin "D" connector on the rear panel provides for simple interface to such items as a console for fader start, a time compression device, an audio/video synchronizer, or a broadcast automation system. Vari-speed allows the operator to make a  $\pm 6\%$  speed correction directly from the front panel. If desired, the capstan speed may be externally controlled by a 9600Hz reference signal.

The one-half-inch thick, precision milled deckplate mounts a unique motor-driven pinch roller mechanism which provides long-term stability and cooler running temperatures.

### JUST A FEW OF THE CTM-10's ADVANCED FEATURES:

- Front panel record azimuth adjustment system
- Mono/Stereo heads selectable on play machines
- Primary, secondary, and tertiary cues
- Discrete or matrix stereo operation LED minutes/seconds tape time display with auto/manual reset
- Optical splice-finder, built -in
- Independent cue track record/erase
- Adjustable record phase compensation

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*The 528 Voice Processor works with any mic. It cleans up your signal by reducing control room noises from paper rattling and cart solenoids. It controls sibilance and "lip smacking," and adds just the right EQ to any mic, any control room. Get what you pay for, and then some, with the 528 Voice Processor. Call Dane Butcher for a detailed spec sheet.*

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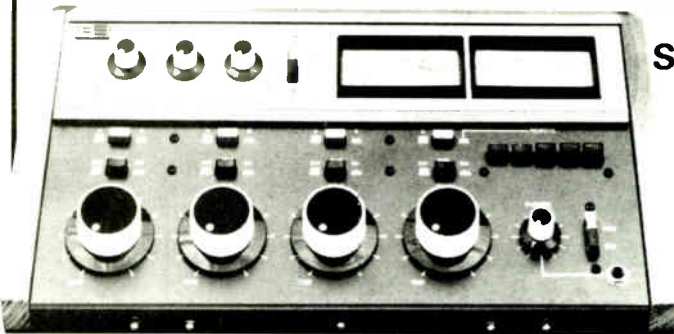
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### Tests Carts

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1976 NAB format on Audiopak AA-4 cart, mono flutter cart. Reg. \$74.00

**\$37.00**

#### AZIMATH SET TEST CART

12,500 Hz, 1976 NAB format stereo on Audiopak, A-2 cart, Reg. \$52.00

**\$26.00**

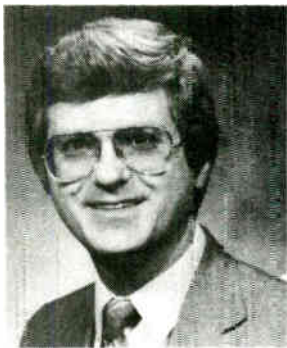
#### Q TRACK TEST CART

ON Audiopak, A-2 cart with primary, secondary and tertiary tones at standard level, 500 MS bursts, Reg. \$74.00

**\$37.00**

# PERSONS' POST SCRIPTS

by Mark Persons



I was working on an SMC 790 Cart Recorder the other day. It was one I had tuned up only a month earlier. The machine came back with two symptoms. First, the record level had dropped about 7 DB. Second, the high frequency response of recorded material was poor. It was down about 5 DB at 10 KHz.

In checking the unit, I found the record compensation (high frequency equalization) control did not function. A check of the RP-4 record amplifier card showed white oxidation on C5, which is on the negative input of the LM381N record op-amp. C5, a 15 MFD electrolytic capacitor, was open. Replacing it restored record level and high frequency response.

While we are on the subject of SMC 790 series cart recorders, there is a modification I usually make to increase headroom. It involves paralleling R3, a 10K ohm resistor in the output of the record op-amp, with another 10K resistor. To restore normal high frequency pre-emphasis, you must also put a .001 MFD capacitor in parallel. These modifications are on RP-4 record pre-amplifier cards and should be done on those that drive mono record heads. The change insures that the recording tape runs out of peak to peak headroom before the record amplifier does. You'll have to recalibrate the record VU meter and you'll want to



## FCC Engineers Q&A

(L-r): Richard Smith, Field Operations Bureau; Thomas Stanley, Office of Engineering & Technology; Jim McKinney, Mass Media Bureau; William Hassinger, Mass Media Bureau; Robert Cleveland, Office of Engineering & Technology, all FCC; James Wells, EIC, FCC District Office, Dallas.

retune the entire machine before using it again. You should see 12 DB of headroom above 0 VU (160 nWb/m) before excessive distortion becomes apparent on an oscilloscope at 1 KHz.

On another subject, I recently determined thru an informal survey that black is the most popular jacket color for shielded pair audio cable in the broadcast industry. Why do engineers order black? The best answer I can find is that engineers have always done it that way...at least for the past 20 years since insulating jacketed audio cable replaced bare braided shielded cable.

To many engineers, the cable jacket color makes no difference, especially if they do not take the time to mark each cable with routing or termination information. Black is the WORST jacket color if you use an indelible marking pen such as the black SHARPIE. I like to use grey colored cable and mark the necessary information at each end and in between as required for the situation. Markings can be removed with alcohol and re-written as necessary too.

Of course, there are other ways to mark cable. Traditional wire numbers wrapped on cables do a good job helping the engineer located a cable end, but do not explain what the cable is carrying. Wire lists are kept to cross reference wire numbers with routing information. Keeping the lists current with changes is important.

Another form of cable marking is with tie wrap labels such as the Panduit PAN-TY PLM1M. These handy markers can be attached to individual cables or cable bundles.

There is room for as many as a half dozen numbers or letters to be written on one. Use two or more if more information needs to be displayed. A Sharpie indelible marking pen is used to mark the Pan-Ty. The disadvantage of the Pan-Ty is that it is larger than the wire itself and cannot be pulled thru the same tight places that the plain cable can.

\*\*\*\*\*

## Bid to Build AM Test Antenna Approved

Approval for NAB to construct new-tech Biby AM antenna was granted Tuesday by Board of Supervisors of Loudoun County, VA, near Washington. Board approved special exception to county zoning ordinance to enable construction, following earlier rejection of NAB application. (Following extensive NAB staff lobbying, county board reversed earlier county planning commission decision.) Opposition to NAB application came from local landowners concerned about potential RF radiation and experimental antenna's aesthetics.

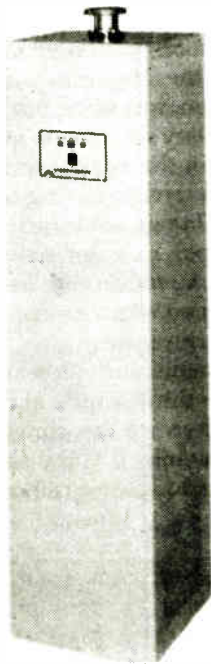
Speaking at public hearing in support of NAB were Chuck Thornton, WAGE, Leesburg, VA, and veteran AM broadcaster William Rust. Construction of antenna should be completed this summer, when testing will begin.

\*\*\*\*\*

## Next Month... Special NRSC AM Improvement Issue.

# E.I. Spot Light On New Products

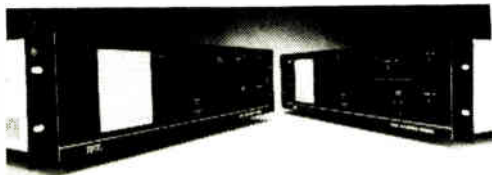
## RF coaxial load resistor



Altronic Research Inc.'s new Omegaline model 6725 RF coaxial load resistor is an air cooled termination for 50-ohm coaxial transmission line systems up to 25,000 W.

When connected, protection of equipment and personnel is achieved by the use of thermal sensor which detects the application of RF power and automatically activates the air-flow system even if the blower switch is in the "Off" position.

An over-temperature sensor is connected to an interlock switch to guard against excessive power or inadequate airflow.



## Remote control system

TFT Inc. has introduced a new generation of remotion control systems, the 8610 series. The system is an outgrowth of its 7610 series.

Several enhancements were made, including status indicators on the principal terminal units. The 8610 is expandable to a total of 112 channels.

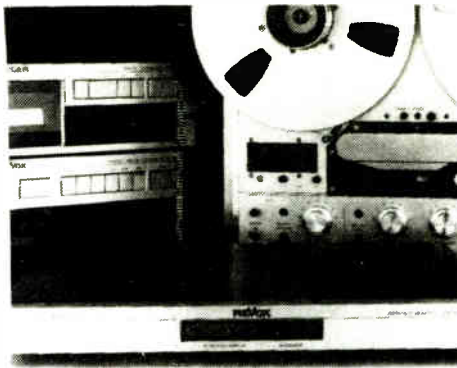
The 8610 series is easily operated by nontechnical personnel, and is easy to install, according to the company.

Existing 7610 installations can be updated and expanded using the new add-on chassis from the 8610 system

Common Point/April 1987

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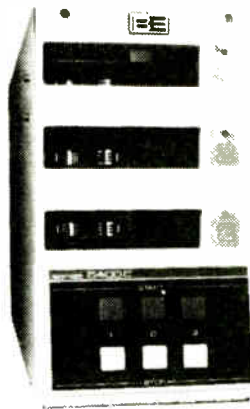
with 10 channels each of raise, lower, telemetry and status is \$3800.



## Audio source automation

Studer Revox recently introduced its new B203-I RS 232 interface/controller, designed to control eight Studer Revox audio units.

The B203-I acts as an intelligent link between the internal proprietary Studer Revox bi-bus system and a conventional RS232 port. The unit's protocol manages control and status information to and from all eight units using only one RS232 port.



## Cart machine

Broadcast Electronic's new 5400C Tape Cartridge Machine features a new Phase Lok V head assembly, as well as a new cartridge guidance system.

All its specifications meet or exceed the 1975 NAB standards. The stereo SNR exceeds 56 dB.



## Voice processor with mic preamp

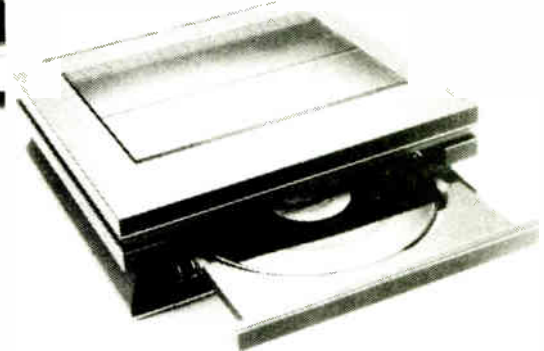
Symetrix's new 528 Voice Processor includes the control functions needed for microphone signal processing: mic preamp, compressor/limiter, downward expander, parametric equalizer and de-esser. Phantom powering is provided for condenser mics.

LED metering indicates interactive

dynamics processor gain reduction, de-esser activity and output level.

Levels are kept in check by the compressor/limiter, which responds quickly to transients and gently to normal speech level changes.

The downward expander prevents pumping, reduces noise from cart machine solenoids and paper rattling, and maintains the best possible SNR, according to the company.

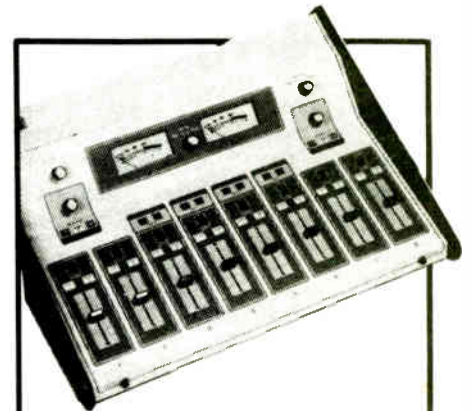


## Laser turntable for vinyl

A turntable that uses laser beams to play LP vinyl records is being developed by Final Technology. The Laser Turntable™ employs light from solid-state laser diodes to track the LP record grooves, generating a reflection containing the music signal.

Notion but light touches the vinyl record. This non-contact approach preserves LP life.

\*\*\*\*\*



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## **“His Master’s Voice Had A Mighty Big Boat”**

by *Billy Bragg*

“HIS MASTER’S VOICE WAS ELDRIDGE R. JOHNSON” is a biography by E.R. Fenimore Johnson, and it traces the history of The Victor Talking Machine Company. The company was formed by Eldridge Reeves Johnson, and his number one son Fenimore, tells the story. The older Johnson was a brilliant young machinist, and in 1891 invented a book binding machine. This was his first invention, and he formed The New Jersey Wire Stitching Company to market it. Born in 1863, he was a well respected machinist at age 28, and he soon receives a call from Berliner. The time was the early 1890’s, and Edison was selling cylinder phonographs, powered by electric motors. Berliner was selling a hand-cranked disc machine, but it was nearly as good as Edison’s. To compete with Edison, Berliner wanted to drive his disc machine with a spring motor. Because of a heavy reproducer, and the different sized grooves on a disc, no one was able to build a good spring motor. E.R. Johnson solved this problem by building the first spring motor with a governor (like the kind on a steam engine). He greatly improved the reproducer, and in 1896, he sold 200 of the motors to The Berliner Gramophone Company.

This started the ball rolling, and in 1900 he went into the talking machine business on his own. He formed The Consolidated Talking Machine Company, but due to legal problems he changed the name to Eldridge Johnson Manufacturing Machinist. His legal problems continued, and at one time he loaded his matrices on a wagon, in an effort to hide them in the wilds of New Jersey. After winning a long court battle, the name was changed one last time. Because victor means “winner”, E.R. Johnson’s company became known as THE VICTOR TALKING MACHINE COMPANY.

I’M GONNA TELEGRAPH MY BABY, by The Victor Talking Machine Company. It was E.R. Johnson’s idea to put paper labels on records, and he improved on the wax disc, thus reducing background noise. In 1904, he patented the idea of an inside horn phonograph, and call it the VICTROLA. In 1920, he came out with the slant-top victrola. The top was slanted because Johnson never wanted to see a flower vase on one of HIS phonographs. In it’s prime, the V.T.M. Company had

1,663,552 sq. ft. of factory floor space, 16½ acres of lumber stacked 20 to 50 ft. high, and 10,000 employees. The payroll came to \$300,000.00 per week, and in one year, they used 36,850,000 feet of lumber and burned 55,000 tons of coal. During WWI, when hard metal was rationed, Johnson began using tungsten for his phonograph needles. This idea proved superior to the old metal ones, and production soon rose to 25,000 needles per day.

On January 6, 1927, E.R. Johnson sold the Victor Talking Machine Company for \$22,229,960 dollars. The company later became part of RCA. One year, he gave away ALL of the income from his fortune, to what he thought were worthy individuals. This soon got out of hand, as people would line-up for blocks to get their share. Everywhere he went, people begged for money. He soon became a prisoner in his own home. There was nothing left to do, except to pursue his hobby of collecting fine art and YACHTING.

Upon retirement, E.R. Johnson went yachting. His yacht was THE CAROLINE, and with a crew of 30 men, the yearly expenses were \$52,000.00. In 1929, with an art collection valued at \$1,173,532.39, he decided to buy a letter yacht. THE CAROLINE II was launched in 1931, at a cost of \$1,567,410.90. It had a crew of 42, and to keep it in a stand-by condition, it cost \$90,000.00 per year. This yacht carried 365 tons of fuel oil, 1163 gallons of lubricating oil, and 347 tons of fresh water. It had a cruising range of 10,000 nautical miles at 12 knots. The yacht remained stable by means of a GYROSCOPE, weighing 105,790 pounds. The wheel was 8 ft. in diameter, and it’s weight was 45,000 pounds. The main dining room was 29 ft. long by 26 ft. wide. There were bigger yachts in the world, but none were as luxurious. E.R. Johnson spent many happy days on his yacht, but with the approach of WWII, it was no longer safe to sail the high seas. In 1939, THE CAROLINE II was sold for \$200,000.00 to a Mr. Leeds. In 1941, it was sold to the U.S. Navy, and commissioned “U.S.S.HILO”.

The book, “HIS MASTER’S VOICE WAS ELDRIDGE R. JOHNSON” was printed by: State Media Inc., Milford, Delaware 19963.

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## **FCC Delays Land Mobile Spectrum Decision**

FCC has decided to delay action on its proposal to share additional UHF

spectrum with land mobile users which broadcasters want for high definition television (HDTV) and FCC may seek Notice of Inquiry on HDTV in near future. FCC decision last week followed extensive lobbying by NAB, MST and other organizations, for more studies before any spectrum allocations are decided. NAB maintains that giving spectrum space to land mobile industry could seriously jeopardize implementation of HDTV system in U.S., and consumers would be eventual losers in controversy. NAB had filed comments with FCC citing what it maintained are demonstrated deficiencies in land mobile’s use of its spectrum and that further need for addition UHF spectrum by land mobile is not necessary...In wake of FCC’s latest action, sharing question has been struck from FCC March 19 agenda, although it’s still not clear when issue will be finally decided upon.

NAB has learned that the FCC may make several internal studies of land mobile’s spectrum needs and utilization available for public comment. NAB Pres. Edditt Fritts said in addition to reviewing the spectrum needs of land mobile, “We urge the FCC to give full consideration to the studies submitted by NAB and other broadcast interests which demonstrate that additional sharing as proposed by the commission would cause extensive interference to UHF TV signals.” Other NAB officials say how wisely the FCC makes this spectrum management decision will directly affect the ability of free over-the-air TV to serve the public when HDTV becomes a marketplace reality within a very few years.

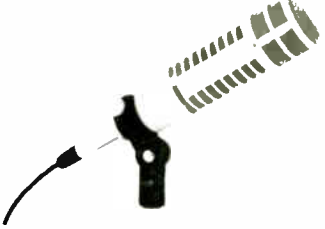



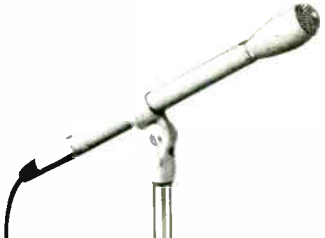




NAB TV Board Chairman Peter Kizer, Broadcast Communications of America, Southfield, MI, recently announced members of NAB-established special HDTV Task Force –formed to closely study spectrum question and other high definition issues (NAB Today, March 9)...NAB, MST and NHK of Japan recently concluded extensive successful sites at NAB Headquarters, FCC, Capitol Hill and a Washington department store.

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## **FCC Acts on RF Radiation Regs**

FCC has acted to categorically exclude certain facilities--such as cellular radio, microwave point-to-point radio and most auxiliary broadcast services--from its RF radiation regs. Citing their low power, intermittent use and general inaccessibility.

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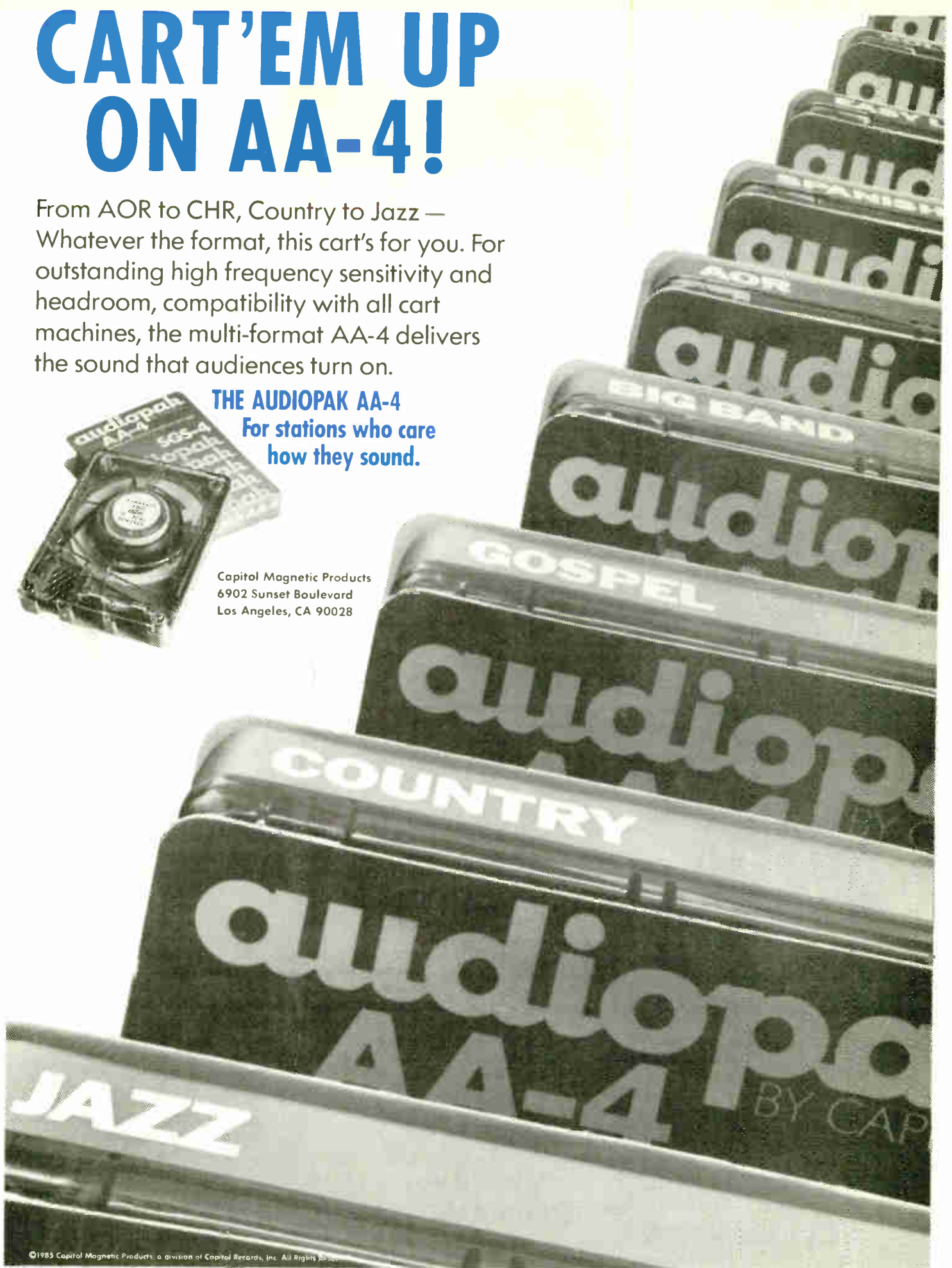
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