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September 1981

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COMMON POINT®

A MONTHLY NEWSLETTER FOR BROADCASTERS

Distributed by Electronic Industries, Inc., 19 E. Irving Ave., Oshkosh, WI. 54901

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THE ONE IN '81

NRBA CONVENTION

September 13-16, 1981

It's no wonder we're calling the NRBA Convention and Exposition THE ONE IN '81. Nowhere else will you find a program so well designed to address the issues and areas that concern you most in today's competitive radio world. We're intent on arming you with the moneymaking and cost-cutting management ideas you need for a profitable future.



SIS KAPLAN
President
NRBA

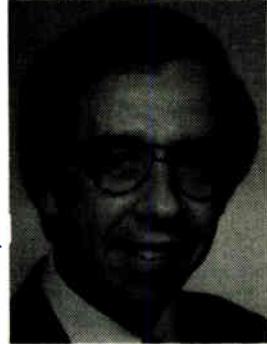
NRBA '81 is all radio and only radio. Every workshop, every exhibit, every person you talk with will be radio-oriented. Every minute spent at NRBA '81 will be an investment in the success of your station...an investment you can't afford to miss!

THE FONTAINEBLEAU HILTON



Information-packed seminars and round-tables have been planned by active radio broadcasters like you, so you know the subjects are timely and relevant. You'll get new ideas to help you fine-tune the nuts and bolts aspects of your operation and you'll get information you need to help you prepare for the future...a future that is fast approaching!

— NRBA Convention Brochure



MARK FOWLER
Chairman
FCC

SUNDAY, SEPTEMBER 13

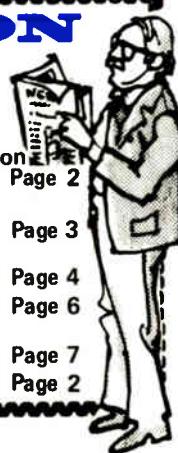
- GALA OPENING RECEPTION
- EXPOSITION OPENING
- SEMINAR PROGRAMS

MONDAY, SEPTEMBER 14

- OPTIONAL BREAKFAST AT THE EXPOSITION HALL
- ALL-DAY EXPOSITION HOURS
- SPOUSE ACTIVITIES
- KEYNOTE ADDRESS

COMMON POINT. READINGS

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TUESDAY, SEPTEMBER 15

- OPTIONAL BREAKFAST AT THE EXPOSITION HALL
- ALL-DAY EXPOSITION HOURS
- SPOUSE ACTIVITIES
- SEMINAR PROGRAMS

WEDNESDAY, SEPTEMBER 16

- IDEA EXCHANGE BREAKFAST
- SEMINAR PROGRAMS
- POST-CONVENTION VACATION AT THE FONTAINEBLEAU HILTON OR IN THE BAHAMAS

Letters to the Editor



RE: COMMON POINT

In order to insure accuracy of information in your publication "Common Point" with regard to the Society of Broadcast Engineers, we request that any references to the SBE be cleared in writing through the Editorial Committee before publication in your newsletter.

We have a great interest in promoting factual information of the SBE activities in publications in addition to the "Signal" and this can easily be accomplished by proper clearance. When you request comments for your publication about the SBE, what are your intentions? Are you sure the comments you print are accurate or perhaps those of one disgruntled member out of 4,000 who might be unhappy about something? Similarly, for example, we do not believe it is SBE business to request and print positive or negative comments about Electronic Industries, Inc. Again, we are primarily interested in accuracy of information and generally this means printing both sides of the story, pro and con.

We therefore request that references or inferences by your writers to the SBE, be first addressed to our Editorial Committee Chairman, Mr. Brad Dick, KANU Radio, Broadcast Hall, Lawrence, Kansas 66045, for clearance. Mr. Dick can respond quickly and perhaps add further meaningful information for your publication in a routine manner.

R. L. Arendall, President
Society of Broadcast Engineers

Editor: . . . Sorry Ron. No can do. You call it "clearance" . . . when we showed your letter at a local SBE meeting . . . they used the word "censorship".

THE SERIES 2100 CART MACHINE



- * Top Quality at Economical Prices
- * Accepts A, B or C size Carts
- * Two Cue Tones Standard (1 kHz and 150 Hz)
- * Exclusive Mono/Stereo Switch
- * Direct Drive Transport
- * Modular Construction
- * Nortronic Heads
- * Low Voltage Air Damped Solenoid
- * Heavy ½" Aluminum Deck

Built by

BROADCAST ELECTRONICS

Distributed by
ELECTRONIC INDUSTRIES INC.
19 E. Irving, Oshkosh, Wisconsin

Editor's Notebook

Never in all the years I have been involved in commercial broadcasting have I seen or heard the anger . . . the frustration . . . as shown this past few months by Broadcast Engineers. Because the FCC without explaining their plans, let the First Class License die this past month, many engineers who had devoted their lives to broadcasting felt absolutely betrayed by a group of political brown nosers whose ability to earn an honest living in the world of free enterprise was sharply questioned. The SBE, like the old ladies sewing circle, waited until the last minute before they wrote in to say "they didn't think they liked the idea" . . . and the NAB and NRBA, both afraid they might lose their place in line at the commission, came out in favor of the action.

Not unlike many we elect to represent us in government, they decided they know what is best for us and do what they want and not what we want. Is this the way it was?? Is this the way it's going to be??

You may know the complete story by now, but here it is as we were told . . . a new general radio telephone operator's license (RTO) is now in the works. Those presently holding a first ticket will be grandfathered into the new license (unless the FCC changes its mind again). A new test will be developed sometime this fall or winter. The new RTO Test is supposed to be much more difficult and will eliminate the "license mills" who watered down our present license 'til it meant nothing.

QUESTION OF THE MONTH . . . (1) Who do you think should set up the new RTO examinations? (2) Should the new license be based on a written AND an apprenticeship? (3) Did you learn about the new RTO from the SBE . . . the NAB . . . the NRBA . . . from Common Point or other publication??

SEPT. COMMON POINT WINNER . . . is WFMS Radio, located in Indianapolis, Indiana. To review this with our new readers . . . you don't have to buy to be a winner. Just acknowledge this issue of Common Point with the enclosed card. We draw one card each month, and the winner gets a credit of \$100.00 to spend here as they see fit.

USED EQUIPMENT . . . we currently have one Pioneer RT 707 reel-to-reel recorder, completely cleaned up to meet original specs and priced at \$495.00.

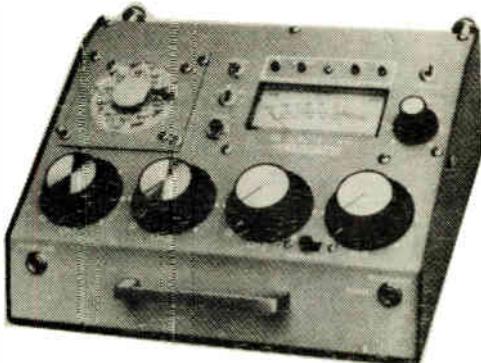
REBUILDING . . . our service department, presently consisting of three full time technicians, has been kept busy. Many stations, not having the time or the personnel, are sending in reel-to-reel recorders, cart decks and consoles for rebuilding. It has proven a real money saver. Can we help you? Give Jim a call!



YE OLDE EDITOR



THE GREAT FALL MONEYMAKER . . .



**T411
TEL-E-MOTE**

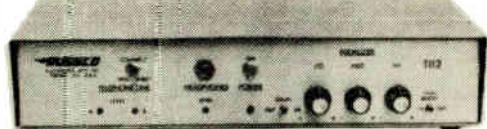
\$650⁰⁰

Here's the sportscaster's dream machine! The T411 is a small, light and portable remote mixer that originates your broadcast from dial phone line or wire.

Great Features:

- Built-in rotary dial
- Three mike channels #3 switches to spot operation

- Channels 2 & 3 switch to phono equalization
- Switchable line equalization improves audio response from phone or wires
- Built-in 9 volt battery pack backs up 115 Volt power source
- Headset amp drives up to 4 headsets
- Built-in test oscillator
- Carrying handle & feet



**T112 TELEPHONE TO STUDIO
EQUALIZER/COUPLER \$325⁰⁰**

The Russco T112 will greatly improve the voice quality of your talk show and the on-air sound of remotes. Designed as an interface amplifier/equalizer, it works between the standard dial telephone line and your studio console. The T112 is the perfect companion unit to the Russco T411 TEL-E-MOTE mixer. Features:

- 2 separately adjustable 600 ohm balanced outputs feed the console and

- a recording line simultaneously
- Separate 2 Watt headphone amp with jack provides local monitoring without loading the line
- You can correct line frequency response by switching in a 3 band equalizer
- 60 Hz notch filter reduces hum in the phone line
- Cabinet with rack mount optional

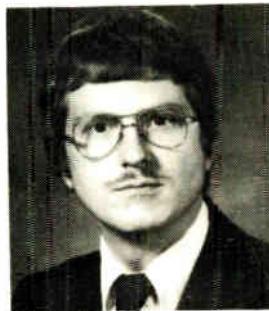


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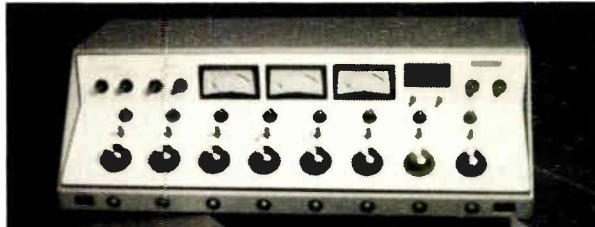
PERSONS' POST SCRIPTS

by Mark Persons

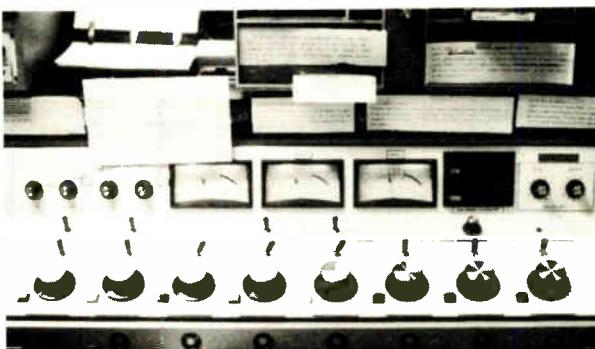
AUDIO CONSOLES (Part I)

There are many factors to consider when it comes time to select a new console for a radio main, production, remote, or news studio. Consoles are the "hub" of audio activity in any studio with many inputs and sometimes many outputs. In determining console requirements, it is important to list all inputs, outputs and functions required now and in the future. Leave plenty of capability for future additions. After you've done this, a quick check of manufacturers' catalogs will reveal it'll cost about \$25,000 to do the job. Now that we're back to square one, we might use some innovative approaches to accomplish about the same thing for a lot less money. I generally like to use the KISS (keep it simple stupid) principle. Besides, if it's simple, it's usually reasonably priced.

A straightforward console with as few knobs and switches as possible is also easy to learn to operate.



AUTOGRAM AC-8 BEFORE . . .



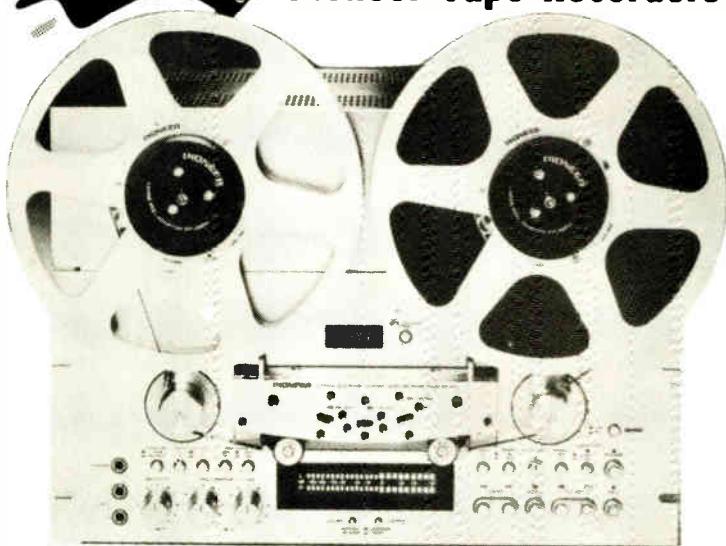
. . . AND AFTER.

New operators won't be nearly as confused. Many consoles in operation today in main studios have two very dangerous switches. (Dangerous to the airsound, that is.) One is an output selector switch that feeds audio to the transmitter, when in one position, and to another location in the other position. This should be hard wired to feed the transmitter at all times. The (cont. on page 9)



**JOIN OTHER STATIONS NOW
— FIGHT RISING COSTS
AND GET THE MOST
FOR
YOUR MONEY!**

Pioneer Tape Recorders



RT 909

1/4 Track R/PB

\$725.00

1/2 Track R/PB

\$1275.00

1/2 Track R/PB

with 1/4 Track PB capability

\$1325.00

RT 707

1/4 Track R/PB

\$625.00

1/2 Track R/PB

\$1179.00

1/2 Track R/PB

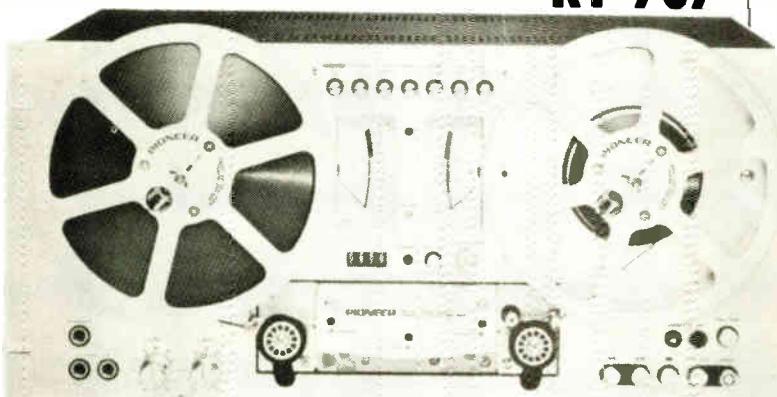
with 1/4 Track PB capability

\$1229.00

RT 909



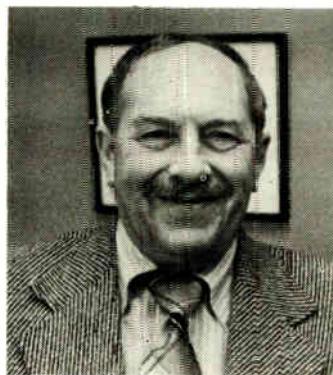
RT 707



Sold & Serviced by

ELECTRONIC INDUSTRIES INC.
414-235-8930

Birth of The Society of Broadcast Engineers



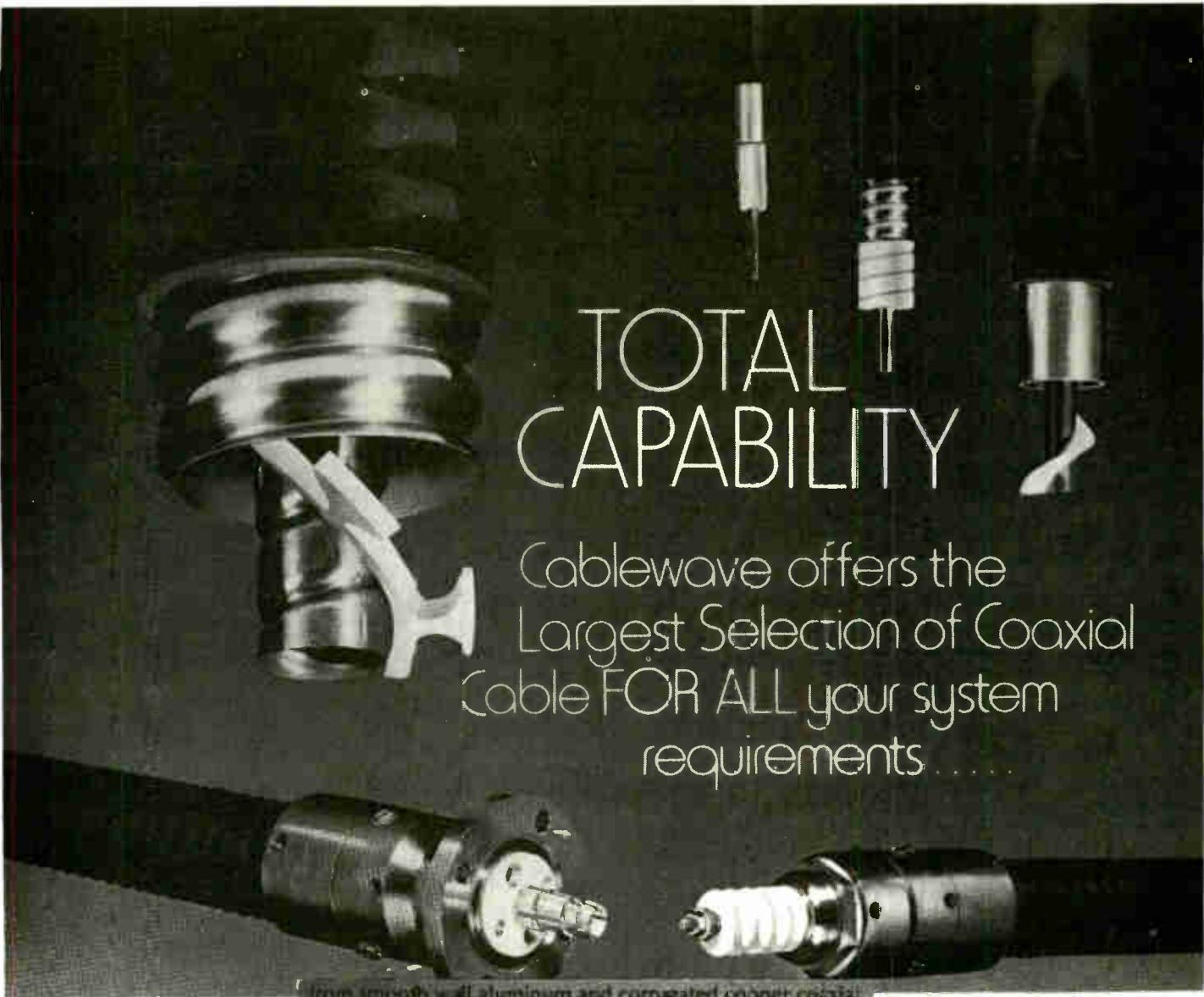
By:
John H. Battison
Founder & First President

In 1962, when I was the consulting editor of Broadcasting Engineering, I wrote an editorial bemoaning the fact that the Institute of Radio Engineers had become defunct with its absorption by the Institute of Electrical Engineers. The new organization, the IEEE, had very little interest in, or for, the average broadcast radio engineer. To my surprise I received over thirty letters applauding my sentiments. A year passed while I thought about it -- and in 1963 I acted.

I prepared a letter addressed to the chief engineer of every radio and television station in the country outlining the idea of an Institute of Broadcast Engineers and inviting them to join me in forming such an association. Broadcast Engineering also ran application forms. I set down two of my children with a copy of Broadcasting Yearbook to address envelopes at \$.02 each! Between us we sent off approximately 6,000 first class letters. The response was fair and by the time 1964 NAB convention rolled around we had approximately 100 members. The NAB very graciously lent us the "Willford Room C" at the Conrad Hilton hotel in Chicago and the Institute of Broadcast Engineers had its first meeting. Many of our members, and even more prospective members, attended and it was decided at by popular vote at the meeting to change the name to the Society of Broadcast Engineers. At this meeting I was made Chairman of the Steering Committee; and for the following year we worked hard at increasing the membership and publicizing the society.

During this year also the Journal of the Society of Broadcast Engineers was born; originally it was a tri-monthly publication. Once again, my long suffering children were pressed into service addressing the wrappers for 6000 of each issue. The first issue contained a message from the Honorable E. Henry, Chairman of the FCC. I solicited articles from members and the response was surprisingly good. Much of the content centered around the use of the word "engineer" and its implications. It also offered a strong insight into the strongly felt need of most of the broadcast engineers for some kind of recognition. This is what eventually led to the SBE Certification Program which became so successful under the chairmanship of John Wilner.

A very active group in the Binghamton, New York area resulted in the formation of Chapter I. This (cont. on page 9)



TOTAL CAPABILITY

Cablewave offers the
Largest Selection of Coaxial
Cable FOR ALL your system
requirements . . .

From smooth wall aluminum and corrugated copper coaxial cables in foam and air dielectric . . . to matching connectors for most standard interfaces . . . to hardware and installation accessories. All cables are jacketed for mechanical protection, and you can specify either standard or phase stabilized versions. There's a full line of field assembled matching connectors, or if you desire . . . Cablewave will provide the completed cable assembly manufactured to your specific requirements. Most of your system requirements will be available from stock . . . all are fully tested, conservatively rated and backed by our field service organization.

Whether you require a single component or a complete system, rely on the TOTAL CAPABILITY of Cablewave!



Bill Meola



Marjorie Barneschi

Be sure to stop by the Cablewave Booth # 102 at the NRBA Convention. Any order placed thru Electronic Industries with Marj or Bill saves 10% with shipping charges paid to any state (except Alaska or Hawaii).

Cablewave Systems

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NRBA

THE ASSOCIATION OF RADIO PEOPLE... FOR RADIO PEOPLE... AND BY RADIO PEOPLE.

In an industry loaded with trade associations and professional organizations, one to watch is the growing National Radio Broadcasters Association (NRBA).

With a full-time staff of only six people, NRBA has added well over 600 new members in just the past 18 months, a 50% increase in total membership since January 1980.

The reason? NRBA represents radio only and is run by its Board of Directors--active radio broadcasters from small, medium and major markets.

Unencumbered by television interests, NRBA has been able to speak out for radio well ahead of its larger and older rival, the National Association of Broadcasters (NAB). Shortly after the FCC proposed switching AMs from 10 to 9 kHz, the NRBA Board of Directors strongly opposed this technical monstrosity. Prodded by NRBA's vocal objects, NAB followed suit.

NRBA was also the first to propose separate radio deregulation legislation. In fact, Senator Harrison Schmitt (R-NM) introduced S.270, "The Radio Deregulation Act of 1981," which closely parallels a paper submitted by NRBA to the House and Senate Communications Subcommittee two years ago. At that time other broadcasting organizations were willing to settle for much less, provided that television also benefited.

NRBA has consistently maintained that true deregulation can be attained only through legislation and its members are working diligently to achieve that goal this year.

For the serious radio broadcaster, NRBA's publications and conventions serve as practical tools for increasing sales and profits, yet keeping up with the latest technology and their implications.

Owners, general managers, programmers, sales managers and engineers will find workshops at NRBA conventions attuned to their radio problems and to their market size.

The whole atmosphere of NRBA meetings is broadcaster-to-broadcaster, sharing common problems rather than consultants pitching possible clients. The latest in radio equipment and radio-related services is on display in the radio-only exhibit hall.

This year's annual NRBA Convention and Exposition will be held at the Fontainebleau Hilton in Miami Beach September 13-16, 1981. If you are interested in attending a serious radio-only gathering, write or call Lisa Friede, Vice President, NRBA, 1705 DeSales St. N.W., Washington, D.C. 20036 (202) 466-2030.

Put Time on Your Team . . .

Cut Production Room Time
With This Studio Timer!



\$95⁰⁰

PRESENTING a Production Studio timer that is truly cost effective. When it is connected to a production cartridge recorder it will automatically start counting time when the cart starts, and stop when the cart stops. Put it in "manual" mode and use it to time copy, or anything that takes time to do. You'll wonder how you ever got along without it!

Features

- Times to 9:59, then resets to zero and continues count.
- Interfaces easily with any piece of equipment that outputs a positive 6 to 40 volts DC. The unit draws less than one milliamp from the controlling equipment. (Connect it to the "RUN" light on the tape machine)
- Automatic or Manual modes
- Bright, red, 4-digit, 0.7 inch-seven segment LED display; non-glare face.
- Only three controls for easy operation: POWER, RESET, AUTO/MAN mode.
- ONE YEAR LIMITED WARRANTY, Satisfaction Guaranteed!!

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WHA... Radio Pioneer

Some three years ago I received an invitation from Don Borchert, Director of Engineering for WHA Radio and TV in Madison, Wisconsin, to attend their annual broadcasters clinic. On the back of the invitation was a copy of the marker in Madison saying WHA was "the oldest station in the nation". This can't be, I thought at the time. Everyone knows KDKA in Pittsburgh was first with Broadcasting Yearbook showing a sign on in November 1920. Going through my files the other day, I came upon this old invitation with my notes still attached, to call Don and ask about this "oldest station" claim . . . possible story for **Common Point**. When I called Don, he referred me to Harold McCarty, one of the men who were so responsible in making WHA the success it has been.



9XM-WHA

"The Oldest Station in the Nation"

On this campus pioneer research and experimentation in "wireless" led to successful transmissions of voice and music in 1917, and the beginning of broadcasting on a scheduled basis in 1919.

Experimental station 9XM transmitted telegraphic signals from Science Hall until 1917 when it was moved to Sterling Hall. In that year Professor Earle M. Terry and students built and operated a "wireless telephone" transmitter.

In 1918, during World War I, when other stations were ordered silenced, 9XM operated under special authorization to continue its telephonic exchange with U.S. Navy stations on the Great Lakes. After the war, programs were directed to the general public.

The WHA letters replaced the 9XM call on January 13, 1922. Thus, the University of Wisconsin station, under the calls 9XM and WHA, has been in existence longer than any other.

Marker Erected 1958

The following is taken from "A Tribute to Earle M. Terry" by C. M. Jansky, Jr., Jansky & Bailey Inc. of Washington, D.C., and from "The First 50 Years of University of Wisconsin Broadcasting" book. We would like to extend our appreciation to Mr. McCarty and Mr. Borchert for their cooperation in making available a story many broadcasters will enjoy.

- WT, Editor

Most claims to extreme old age are based on human memory, scanty records, mighty legends, and good publicity. So it is in radio.

To the earnest question, "Whose station is the oldest in the nation?" comes a many-voiced reply: "Mine is." To judge which reply is to be favored with the label of absolute truth, one must answer such questions as "Has the station been in continuous operation since the beginning?" and "Has the station been licensed to the same party, remained in the same approximate location, and on the same frequency?" Even if one could decide that these questions are relevant, the most controversial puzzles still remain: "When does an experiment become a broadcast?" and "What do the words regularly scheduled mean?"

Since so much concerning the beginnings of American broadcasting is obscure, the answer to our initial question has become a matter of pride and of choosing sides. The marvel that is radio began as the enterprise of numerous "experimenters in bedrooms, attics, shacks, and rooftop laboratories." They were the beginning.

From 1915 to 1920, a number of experimental transmitters were intermittently on

the air throughout the country. Most of them were ordered to shut down operations for the duration of World War I, and since then many have gone off the air altogether.

WHA is among those pioneer stations whose descendants still exist today. Our claim as "the oldest station in the nation" does not diminish the achievements of others, nor do their claims diminish ours. We were all responsible for the birth of broadcasting.

Historically, broadcasting activity on the campus of The University of Wisconsin had its inception in a physics laboratory under the direction of Professor Earle M. Terry. Professor Terry and a group of enthusiastic students including Malcolm Hanson, Grover Greenslade, and C. M. Jansky, Jr., used makeshift equipment and handmade tubes to put together a transmitter which in 1917 achieved its first "successful" transmissions of voice and music. Previous to that time, code transmissions over a spark transmitter had been taking weather forecasts, crop reports, and similar information to homes and business places in the state via wireless telegraph over experimental station 9XM.

The first transmissions using the homemade triode tubes were feeble and halting. Tube failure was frequent and there was little

(cont. on page 8)



A device of this caliber doesn't come about by luck or chance. The Audio-Metrics turntable preamplifier is a product of intense research and thoughtful, careful design. And these are not empty phrases - we set out to make the best.

A true commitment to superior performance demanded a survey of existing turntable preamplifiers with a re-evaluation of the preconceptions concerning phono preamplifier design. Our research told us both what a preamplifier should and should not do.

WHAT IT DOES

NOISE - A combination of discrete and integrated circuit components in the input gain stage and low noise resistors, hold noise to near theoretical limits.

TRANSIENT RESPONSE - The realization of the importance of dynamic distortion figures is so recent that a rating standard is yet to be agreed upon. Yet, audiophiles attest to the significance of these factors for accurate reproduction. Uniformly high speed circuit design with response up to the mHz range, insures this unit's capability to reproduce even the fastest music peaks. Therefore, slew induced distortion and transient intermodulation are virtually non-existent.

INPUT OVERLOAD - With second stage equalization, the first stage gain block effectively buffers the cartridge from loading changes and provides broadband high input overload protection.

AUDIO TRANSFORMERS - The challenge was to eliminate the transformers and their inherent audio distortion, and still maintain RF protection and balanced outputs. The technical answer to the problem involves the use of state of the art integrated circuits, ground plane circuit boards and input and output RF suppression. The practical side of the story is simpler and more important. Tests in ultra high RF environments have proven the unit to be RF interference proof.

SPECIFICATIONS:

INPUT - 47k Ohms Parallel 180 pf.

MAXIMUM INPUT - 350mv Any Frequency

MAXIMUM GAIN - 5mv at 1kHz = + 5dBm Single Ended Out

= + 10dBm Balanced Out

MAXIMUM OUTPUT - +22 dBm Single Ended Into 600 Ohms

- +27 dBm Balanced Into 600 Ohms

OUTPUT IMPEDANCE - 100 Ohms Single Ended

- 200 Ohms Balanced

FREQUENCY RESPONSE - ± .25dB RIAA (using new curve, specifying low end roll off)

THD - .03% + 18dBm Into 600 Ohms

IM DISTORTION - .04% + 18dBm Into 600 Ohms SMPTE

SIGNAL TO NOISE - 80dB Relative 5mv at 1kHz

Input Terminated 620 Ohms

Measured: Unweighted - Broadband

- 96dB Relative 12mv at 1kHz

Input Shorted

Measured: A Weighted

CHANNEL SEPARATION - 90dB

CONNECTORS - Input - Phono Jacks

- Output - Barrier Strip

Represented by

Allied
Broadcast
Equipment

\$250⁰⁰

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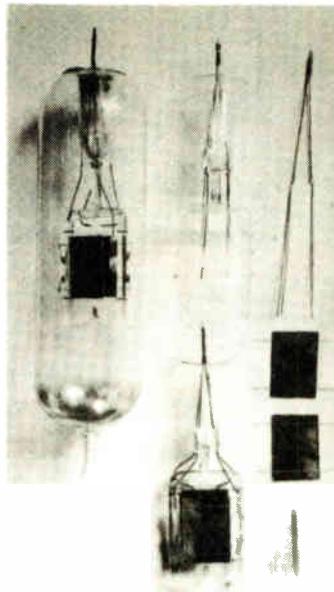
WHA

(cont. from page 7)

certainty that any program would be completed. Students often worked through the night to have a broadcasting tube ready for morning, only to see their work lost when the tube burned out after a few minutes on the air. Such success did they achieve, however, that their tubes were eagerly sought by other institutions and laboratories.

By 1919, after 9XM had spent the war years cooperating with the U. S. Navy in wireless transmissions between the Great Lakes Naval Training Station, other Navy installations, and Navy vessels, a regularly scheduled broadcasting service was offered. Previously the transmitter had been operated on an experimental basis without much regard for program content.

The call letters WHA were assigned to the University station on January 13, 1922, by the U. S. Department of Commerce, which then controlled wireless. Also that year, Professor William H. Lighty was appointed program director for the station, and the emphasis shifted from the development of the science of signal transmission to the technique of using the instrument for taking the University to the people.



Historic transmitter tubes used by station 9XM (which later became WHA). These tubes were designed, constructed, and tested by Professor Earle M. Terry and a group of his students, including Malcolm Hanson and C. M. Jansky, Jr.

Radio developed rapidly in the middle twenties when businessmen sensed its potentialities as an advertising medium. At this time, despite many efforts, WHA was unable to get a good spot on the dial and the power that it needed to serve the entire state. It was relegated to daytime-only broadcasting with low transmission power.

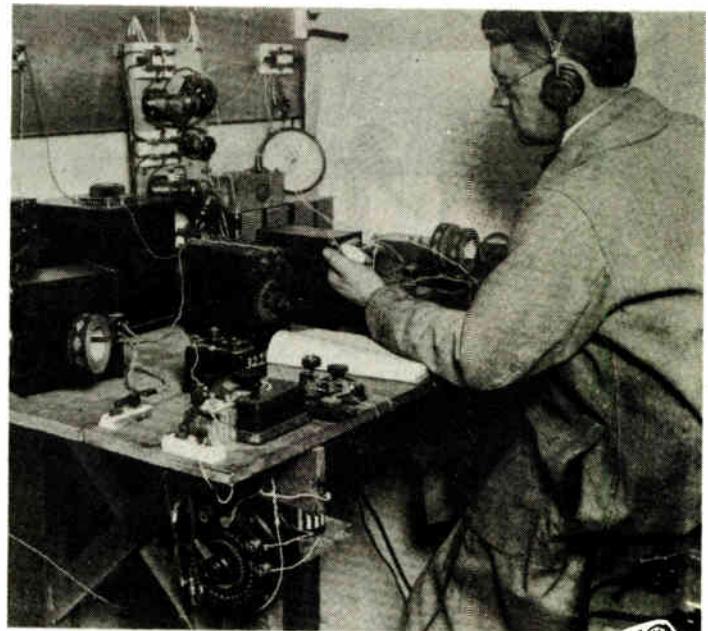
In the early thirties, following the appointment of Harold B. McCarty as director of the station and Harold Engel as assistant director, radio had a renaissance on campus. In addition to the farm and homemaker's programs which were already mainstays of the service, the "Wisconsin School of the Air" and "College of the Air" began. The "Political Education Forum," offering free time on the air to all qualified candidates for statewide elective office, took its place on the schedule. Radio drama became a familiar feature.

In 1934, WHA moved to Radio Hall. During the next few years the hours of operation expanded and the power and attendant wider coverage were increased.

In the forties and fifties WHA developed a statewide FM network designed by Glenn Koehler and Jack Stiehl. Television was added in 1954, and 1965-1966 marked the beginnings of the Subsidiary Communications Authorization (SCA) and the Educational Telephone Network (ETN).

As WHA's service and coverage have increased over the years, so have the number of persons responsible for the countless programs broadcast and the untold number of loyal listeners. It is to them that we dedicate this short record of the highlights in WHA's first 50 years — the pioneer era.

Professor Terry at work on 9XM-WHA equipment of the early 1920s.



THE NATION'S OLDEST BROADCAST STATION

This Radiotelephone Station at the University of Wisconsin was Used for Experimental Transmissions and Broadcasts in 1918 and for Regular Broadcast Schedules beginning January 3, 1919



SBE

(cont. from page 4)

spurred the growth of more chapters in other parts of the country. By the end of 1965 we were up to more than 15 chapters, and we had the first election of officers. I was honored by being elected as first president of SBE and Charles Hallinan of Binghamton of Chapter I became the first Vice-President.

During 1965, the Journal increased in frequency to become a bi-monthly publication, and already members were contributing many interesting articles. The "Engineer" controversy continued unabated. During the first part of this period my children continued to address Journals, which were being sent not only to members but to non-members as well in the hope that they would be interested in joining. Each Journal also contained an application form. Finally, we were able to afford some addressograph plates and this relieved the load on my children--although it decreased their pocket money!

By 1966, the Journal was being printed on coated paper with saddle binding, and 24 pages and four colors were available. We also had eight sustaining members.

Later in the year, we concluded an arrangement with an outside publishing company to take over the publishing and distribution of the Journal. In retrospect this seems to have been a mistake because the personal touch was lost. However, until the beginning of the 1965-66 year I had been running and promoting the Society, as well as producing the Journal, singlehanded. This meant that from 4 a.m. to 7 a.m. six days a week plus most of my weekends I spent on SBE business. I was becoming pretty tired because this SBE work was in addition to my regular job!

We attempted to set up an SBE net in the 7 Mcs band with Ken Benner as coordinator, or net control, but at that time it was not successful. Later in the year, we suffered a grievous loss with the passing of Ambrose Kramer our treasurer. He had worked hard and long for the Society.

The end of my term as President saw us with around 400 members and a feeling that the SBE was well on its way to success. Since then, of course, it has grown to nearly 4,000 members and has become the professional force that I hoped it would be when I founded it 18 years ago. Now the SBE has shown its mettle in the recent filings with the Commission and our President's letter to the U.S. President. It is truly a professional organization.

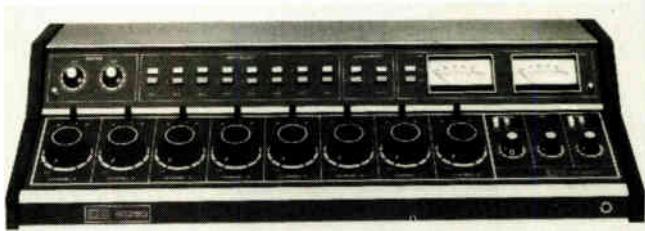
The Certification Program took a long time to complete, but it was well worth the wait, and the hard work and long hours that John Wilner's Committee put into it. I strongly recommend every broadcast engineer to qualify under it. I accept it as proof of proficiency for engineering jobs at Ohio State University stations.



AUDIO CONSOLES

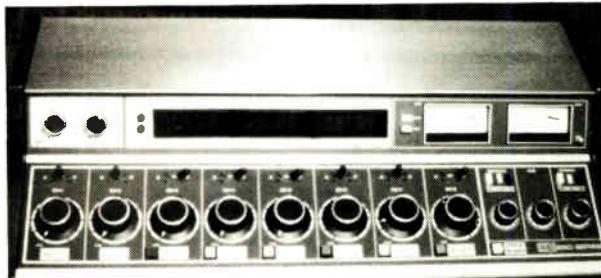
(cont. from page 3)

other is a pre-selector switch used to select either the main announce microphone or nothing. This switch is always in the main mic position except on the weekend when a part-time announcer comes in and can't get his microphone on the air because he has accidentally flipped the switch to the wrong position. The engineer is out of town, the manager is fuming, and the announcer is having fits. This switch should be hard wire jumpered to put the main microphone into that particular channel at all times. The same may be true of other inputs. In fact, I recommend that all but two console channels be "dedicated" to one input each. The remaining two can be utility channels with twelve inputs each. I call these "multiple input" channels and are wired to accept audio from a remote pickup receiver, EBS Receiver, EBS Encoder, cassette player, FM tuner, miscellaneous phone lines, and feeds from other studios. I like to wire them so that the same twelve sources appear on both multiple input channels so that one can be auditioned while the other is on the air.



BE 8S250 BEFORE . . .

"Before" and "After" photos of two consoles I modified recently show dramatic improvements in operator convenience. I put square lighted pushbuttons on each channel of both consoles that can be connected for almost any purpose. I like to build an alternate action CMOS logic circuit to turn the main microphone on and off from one of these silent operating push buttons. The logic converts the normally open spring return contacts of a push button to an electrical push-on push-off configuration. Digital timers for carts and turntables were installed in both units. In addition, a time of day digital clock was mounted in the BE console. Extra mix busses were installed. All mono audio was fed thru a stereo synthesizer and then back to the console for mixing with the stereo audio. In this manner, 100% of the station's audio is stereo.



. . . BE 8S250 AFTER.

Part two of this article next month will get into the "How To" aspect of modifying audio consoles.

TALKBACK

OHIO . . . new station . . . one of ten in U.S. to share time and frequency. 'Hot Line' hot idea . . . why don't you organize?

NEW MEXICO . . . don't think enough done on 9 kHz effects . . . wouldn't give up 5 Kw daytime for 1 Kw day/night.

WASHINGTON . . . like you to add my newest baby 250 two tower to mailing list. Say hi to Mims.

TENNESSEE . . . 'Hot Line' good idea . . . guy snapping article timely . . . had this problem few weeks ago.

OREGON . . . re First Ticket elimination . . . how about sample test for job applicants so manager will know they're qualified for directional? Yes to 'Hot Line'. Want to know more about standard patterns.

NEBRASKA . . . re 'Hot Line' . . . with FCC to abolish first, would seem climate more favorable for arrangement . . . would favor if enough stations interested . . . SBE should administer.

IOWA . . . 'Hot Line' excellent idea . . . having two or three heads is better than one no matter what time of day. Many problems are unique but common sense and language can solve problem . . . more than willing to help set up and help staff.

ARIZONA . . . liked article "the guy snapping phenomenon" by Lightning Elimination Associates.

ALABAMA . . . enjoy newsletter . . . technical articles good idea . . . help us who haven't been around that long. Would like to see technical articles more in depth of problems stations have and how corrected.

TEXAS . . . enjoy each issue of **Common Point** . . . keep up the good work.

IOWA . . . pleased to see article on guy snapping . . . occurs here quite often before summer storms . . . stops as soon as rain begins.

INDIANA . . . Bob Orban has done it again with Optimod 8100A . . . great sound . . . all formats.

TEXAS . . . thanks for pleasant surprise of \$100 credit . . . news actually made G.M. smile. Would like to order SESCOM Compressor Modules and 10k pots . . . that plus shipping should about soak up credit.

OHIO . . . newsletter and articles much appreciated here.

MINNESOTA . . . good article on FCC head. Enjoy 'Post Scripts' on A.B.E.S. . . . much needed.

OHIO . . . agree with Tim Metzger on A.B.E.S. . . . my experience like his. Presently chief at one station and trying to maintain two others.

OREGON . . . could go for 'Hot Line' but on pay as you go basis so that it is not abused.

WASHINGTON . . . 'Hot Line' great idea . . . SBE should coordinate and stations pay as they go.

TEXAS . . . favor 'Hot Line' . . . put it with SBE . . . would assume good engineer would be helping . . . insurance type would be best.

MICHIGAN . . . 'Hot Line' is good idea administered by SBE . . . NAB or NRBA.

NEW YORK . . . re SBE . . . wonder what % of 'firsts' fail certification exam . . . little nervous about G.M. reacting to failure . . . re 'Hot Line' . . . support pay as you go . . . admin by NRBA . . . SBE. Expand Talkback!

(cont. on page 16)

**NOW AVAILABLE!
NEW DESIGN!
Built to Rigid Specifications!**

The AUDIOPAC Electronics'

Telecoupler



The Telecoupler is designed to interface the telephone to an audio console during two-way conversation such as telephone interviews, telephone talk shows or "on-the-spot" news coverage.

- *Cost effective - facilitates high quality telephone news interviews
- *Hands off after initial setup.
- *Makes possible high quality transmission of telephone material while causing NO degradation to normal programming.
- *Optimum intelligence made possible by equalization of telephone audio.
- *No additional inputs are required on the console, thus relieving the usual overcrowding of console inputs.
- *There is no possibility of audio feedback and coloration due to hybrid circuits.
- *An accessory may be added to allow two-way "on-the-scene" communication to remote transceiver in lieu of phone line (Eng. interface).
- *By simple connection outside the audio console the Telecoupler is in operation.
- *On telephone remotes it removes the need for a second telephone for communications by feeding Program material back down the line during Commercial Breaks.
- *Removes necessity for headsets on Television Call-in talk shows.
- *RF proofed for greater reliability.
- *Status Lites to indicate condition of phone line.
- *Makes possible "Shouting Match" conversation on the air.
- *May be used in teleconference applications (closed circuit, Two-way - TV)
- *May even be used without an audio console to perform high quality news telephone interviews.

*Reasonably priced at **\$895⁰⁰**

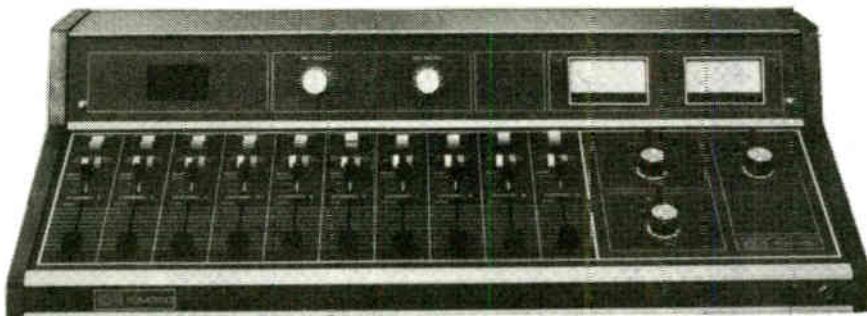
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AUDIO CONSOLES

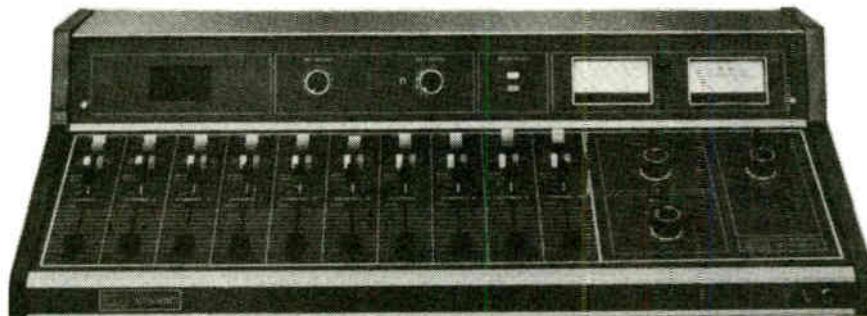


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10 MIXING CHANNELS. Vertical conductive plastic attenuators. Quiet, contactless FET bus selection. Built-in intercom. 22 inputs. Low level balanced microphone or line level input selection. Field-proven 3600 Series, plug-in modular electronics. Multi-channel muting. Superb audio performance.

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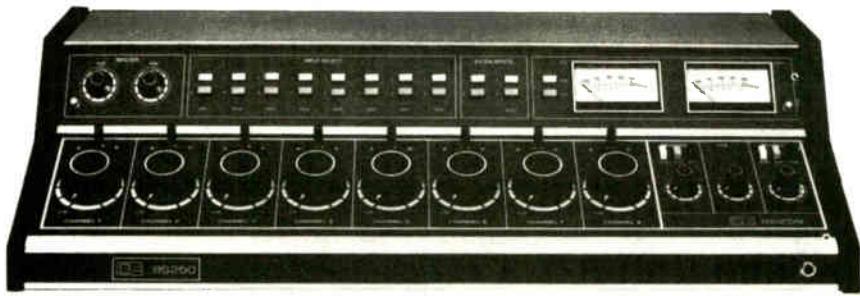
For demanding control room or producti

The Deluxe 250 Series Rotary-Mixer Consoles. Featuring ladder-type maintainable step attenuators with cue bus switching, telephone-type channel keys and contact-free FET bus selection. Separate monitor, headphone and cue channels. Field proven 3600 Series modular plug-in electronics. Two-input pushbutton preselection and microphone or high level capability for each mixing channel. Mono/stereo mode switching optional on stereo models. Front panel graphics are under a laminated polycarbonate overlay for maximum durability.

**DELUXE
8-MIXER
DUAL-CHANNEL
STEREO**

(with mono-channel
option)

Model 8S250



**DELUXE
5-MIXER
DUAL-CHANNEL
STEREO**

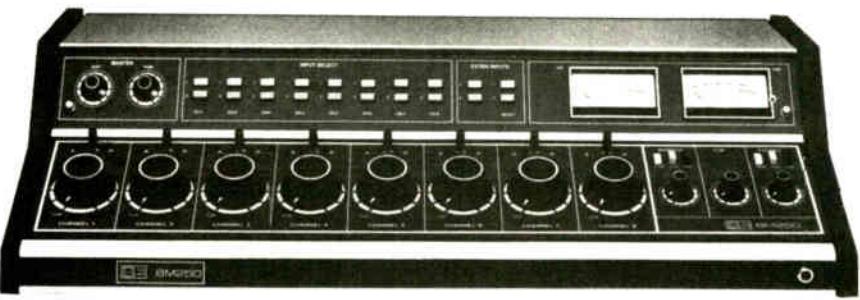
(with mono-channel
option)

Model 5S250



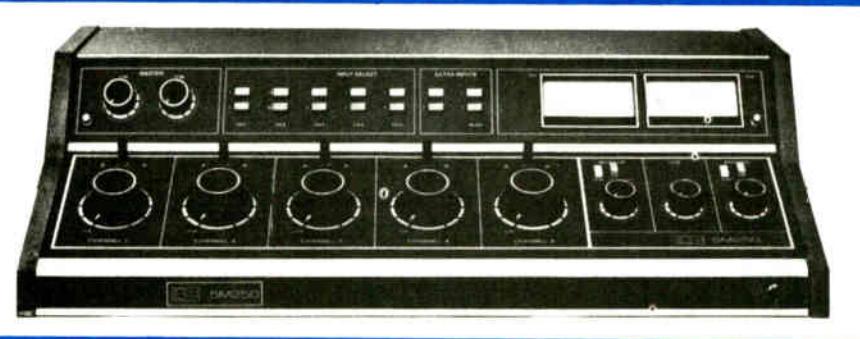
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DUAL-CHANNEL
MONO**

Model 8M250



**DELUXE
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The 150 Series Rotary Mixer Consoles. Mixing controls are of sealed potentiometer, high-reliability, long-life design, each equipped with cue bus switches. The 150 Series features contact-free FET bus selection and field-proven 3600 Series plug-in modular electronics. Each mixing channel accommodates two pushbutton-selected inputs, and may be preset for either microphone or high-level service. Mono/stereo mode switching optional on stereo models. Monitor, headphone and cue amplifiers insure full monitoring capability. Professional performance at a reasonable price insures the broadcaster of a console tailored to his needs.



8-MIXER STEREO

(dual-channel and/or mono outputs optional)

Model 8S150



5-MIXER STEREO

(dual-channel and/or mono outputs optional)

Model 5S150



8-MIXER DUAL-CHANNEL MONO

Model 8M150



5-MIXER DUAL-CHANNEL MONO

Model 5M150

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INCORPORATED

414-235-8930

COMMON POINT CATALOG

Condensed Specifications

PROGRAM/AUDITION CHANNELS	MODELS 10M350 (Mono) 10S350 (Stereo)	MODELS 150 & 250 SERIES MONO & STEREO
MIXING CHANNELS	10 Vertical	5M/S-150/250: 5-mixers 8M/S-150/250: 8-mixers
Type Attenuation	Conductive Plastic Slide Control	150 Series: sealed potentiometers w/cue position 250 Series: step-type ladders w/cue position.
Inputs per Mixer	Channels 1-8, 2 ea. Channels 9 & 10, 3 ea. Total Inputs: 22	150 Series: 2 each mixer 250 Series: 2 each mixer, plus 4 unwired
VU Meters	10M350: 2 meters; Mix 1 & Mix 2 10S350: 2 meters; L & R switchable to mix 1 or mix 2	150/250 Series Mono: 2 meters; Audition and Program 150 Series Stereo: 2 meters; L & R 250 Series Stereo: 2 meters; L & R switchable to Audition and Program
Plug-in Amplifiers	10M350: 10 preamps; 2 line amps; 1 monitor amp; 1 cue amp; 1 headphone amp 10S350: 10 stereo preamps; 4 line amp; 2 monitor amp; 1 cue amp; 1 headphone amp	150/250 Series Mono: preamp for each mixer channel; 2 line amp, 1 monitor amp, and 1 cue/headphone amp 150 Series Stereo: preamp (stereo) for each mixer; 2 line amp, 1 monitor amp, and 1 cue/headphone amp 250 Series Stereo: preamp (stereo) for each mixer; 4 line amp, 2 monitor amp, and 1 cue/headphone amp
Mono Matrix	10S350: Mono Matrix Module 918-3602 Optional	150/250 Series Stereo: Mono Matrix Module 918-3602 Optional
Input Impedances & Levels	Microphone Mode: 150 ohms balanced, -65 dBm minimum to -38 dBm max. High Level Mode: 54kohms balanced bridging, -20 dBm minimum to +20 dBm max.	Microphone Mode: 150 ohms balanced, -65 dBm minimum to -38 dBm max. High Level Mode: 54kohms balanced bridging, -20 dBm minimum to +20 dBm max.
Frequency Response	±0.5 dB, 30 Hz-20 kHz	±0.5 dB, 30 Hz-20 kHz
Distortion	.05% IM and THD 30 Hz-20 kHz, at +18 dBm output	.05% IM and THD 30 Hz-20 kHz, at +18 dBm output
S/N Ratio	70 dB below +18 dBm output with -50 dBm input, 20 kHz Bandwidth	70 dB below +18 dBm output with -50 dBm input, 20 kHz Bandwidth
Output Impedance/Levels	600 ohms balanced. +8 dBm for zero VU meter reading. +18 dBm capability.	600 ohms balanced. +8 dBm for zero VU meter reading. +18 dBm capability.
MONITOR AMP		
Frequency Response	±0.75 dB, 50 Hz - 20 kHz (1 kHz reference)	±0.75 dB, 50 Hz - 20 kHz (1 kHz reference)
Distortion	0.75% or less, 30 Hz - 20 kHz @ rated rms output and load	0.75% or less, 30 Hz - 20 kHz @ rated rms output and load
Output Impedance/Power	8 watts rms per channel/8 ohm load	150 Mono, 250 Mono & Stereo: 8 W rms, 8 ohms 150 Stereo: 1.5 W rms, per channel, 8 ohms
HEADPHONE AMP	1.0 W rms per channel. Front panel jack and input select switching	1.0 W rms per channel. Front panel jack and input select switching
CUE AMP	1.0 W rms to integral cue speaker. Also functions as intercom amplifier	1.0 W rms to built-in cue speaker
MUTING RELAYS	2 relays standard. Assigned to Mixers 1 & 2. Other combinations readily field modified.	150 Series, 1 relay std. Second optional; 250 Series, 3 relays standard.
DIMENSIONS	36"W, 10.75"H, 19"D	5M150: 29"W, 15.75"D, 8.25"H, 49 lbs. 5S150: 29"W, 15.75"D, 8.25"H, 54 lbs. 8M/S-150: 33"W, 15.75"D, 8.25"H, 55 lbs. 5M/S-250: 29"W, 15.75"D, 8.25"H, 55 lbs. 8M/S-250: 33"W, 15.75"D, 8.25"H, 60 lbs.
SHIPPING WEIGHTS (PACKED)	10M350: 80 lbs. 10S350: 85 lbs.	
POWER REQUIREMENTS	105-125V, 50/60 Hz (210-230V, 50/60 Hz optional)	105-125V, 50/60 Hz (210-230V, 50-60 Hz optional)

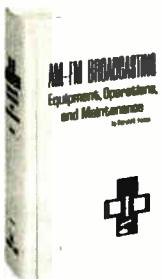
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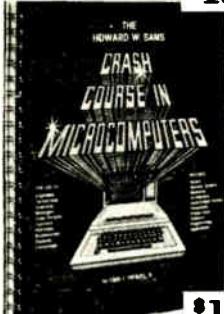


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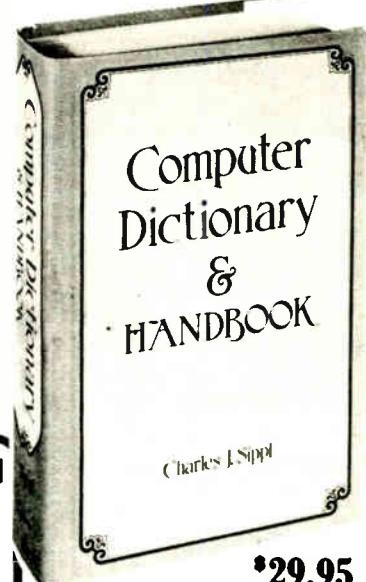


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TALKBACK

(cont. from page 10)

IOWA . . . 'Hot Line' idea is fantastic I think thru NAB or NRBA. A direct pay as you go would be simpler . . . someone with lots of trouble would make out like a bandit . . . others would foot the bill.

NEBRASKA . . . re SBE . . . have been member 2 years now . . . don't know which chapter I belong in much less when or where meetings are. I still feel that I owe it to myself and to my profession to be a member simply because I feel that I have a voice in something that is supposed to be for me. It sure would be nice to feel more wanted, however. The only time I hear from anyone is asking for more dues.

NEW JERSEY . . . 'Hot Line' sounds interesting . . . especially if you have equipment no longer supported by manufacturer. As far as paying . . . the fairest way is pay when needed.

KENTUCKY . . . elimination of first is a cheap trick by FCC so inspectors can gain FCC a wealth of money due to increased fines for violations.

MICHIGAN . . . very much in favor of engineering 'Hot Line' . . . insurance type payment program sounds best to me.

VIRGINIA . . . re First Class . . . the consultant who designed our directional did not have a First . . . the engineer who set it up and got it working did not have a first . . . the engineer that inspected it to see that it was right did not have a first. I've had one for over 40 years. Now, what do I do with it???

OHIO . . . yes to 'Hot Line' administered by SBE . . . backed by insurance. Great idea for those of us working several stations and types of equipment.

TENNESSEE . . . what if we trade 9 kHz spacing for unlimited hours at low power night time? Sounds like a good trade off . . . they get more stations . . . we get more hours.

ILLINOIS . . . very much in favor of engineer support program. Would be willing to be support engineer. Could be done through SBE. I'm personally member SBE and NAB.

MASSACHUSETTS . . . re First Phone . . . FCC should upgrade the exam . . . make it a "killer" and re-write it every three months and change theme often. This puts 'answer mills' out of work.

MISSOURI . . . re 'Hot Line' . . . I would support as both owner and engineer . . . sounds like ideal project for SBE.

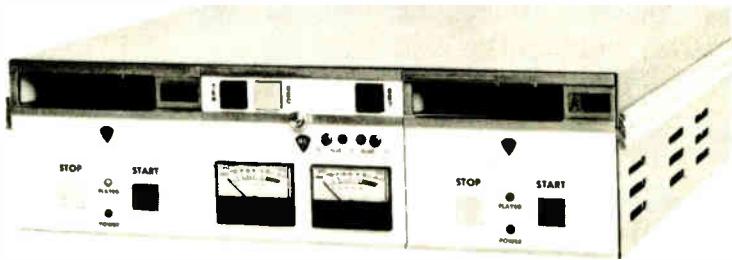
TEXAS . . . thanks for mag . . . need standard for AM receivers . . . they vary too much . . . how do you tell somebody that his \$1000 stereo has a poor AM radio.

Bulletin Board:

$$E = MC^2 (\pm 3db)$$

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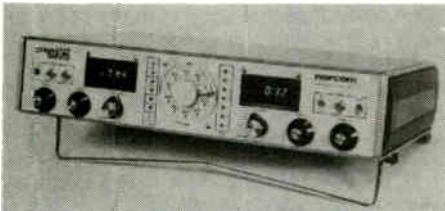
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Simply load the cartridge and push the buttons. How many times have you needed two copies? This is now possible with the Audi-Cord Twin Transport Record-Play.
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maxi-tel



\$795.00 YOU SAVE \$100.00!

FOR SALE: McIntosh MR-78 tuner, 4 yrs old. I'll take \$300.00 less. Contact C.E., WDST, Woodstock, NY.

FOR SALE: Two Marti CLA-40 A/N limiters \$300 ea. Two EV RE-51 microphones. Hickock 123A tube tester \$60. 24GA Telco quad cable with grey jacket \$15/500 ft. 22GA shielded pair similar to 8451 \$60/1000 ft. Gates M4990 AM frequency monitor \$25. Mark Persons, Route 8, Box 406, Brainerd, MN 56401 218-829-1326.

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FOR SALE: Visual DFM 20KB 20kw FM transmitter, with 3 sets of spare tubes, plus other parts valued at \$7,000.00. Includes Mosely Stereo Generator, Mosely SCB Generator, Kintronics harmonic filter. Purchased new in 1969. All in excellent condition. Removed from Service Mid-March. Buy it all for best offer over \$18,000.00 Call Jim Wychor at KWOA FM, Worthington, MN 56187. 507-376-6165.

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FOR SALE: Four year old Russco console: 505S stereo, \$800.00; two Cuemaster turntables, \$15.00; two CBS Volumax at \$200.00; one SMC TG 25, \$125.00. Contact Vern Schmitt thru Common Point.



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FOR SALE: Demo Revox A77 2-tr stereo, metal cage, mint condition, \$1150.00; 1000-ft 50 pair 24 ga. telephone cable with gray jacket, \$420.00; Sparta A-15 five-channel mono console with new PGM and mon amp boards, \$500.00. Mark Persons, Rt 8, Box 406, Brainerd, MN 56401. 218-829-1326.

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FOR SALE: Two 200-ft. towers, \$10,000., galvanized, 30" wide tubular steel, guys, insulators, one lapp insulator, one tapered section. Contact C. R. Murray, 503-484-4304. On the ground, ready to ship.

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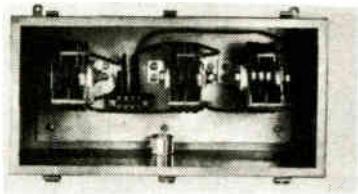
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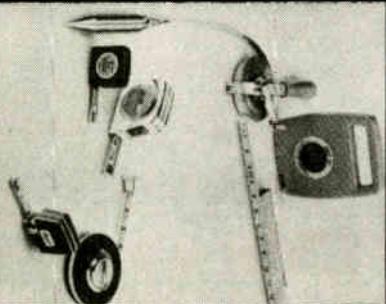
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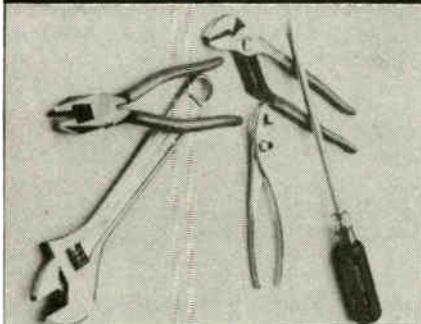
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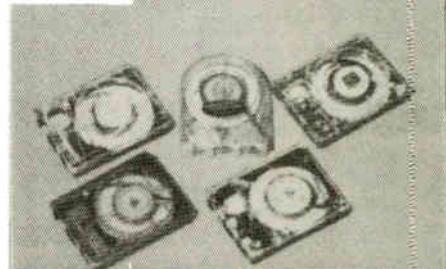


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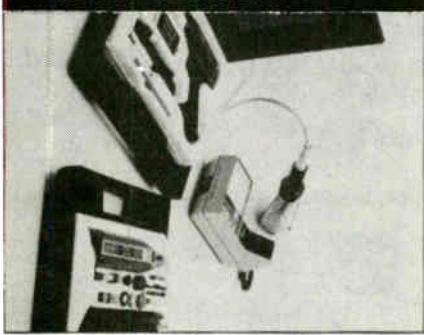


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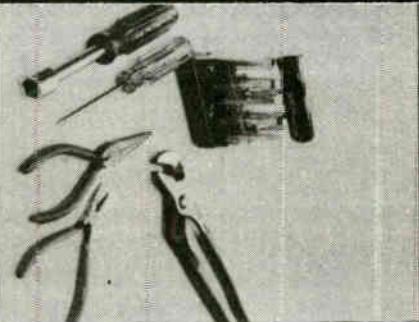
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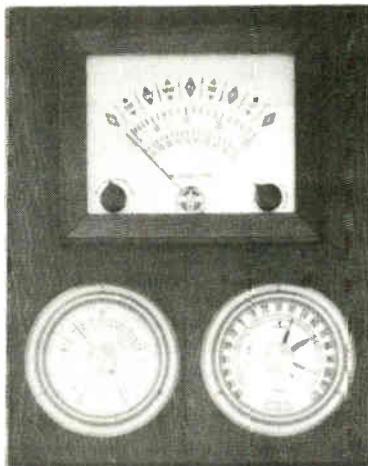
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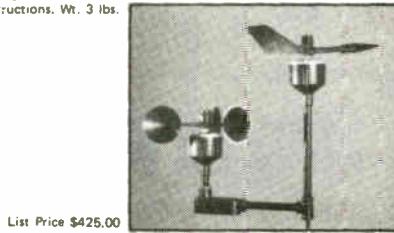
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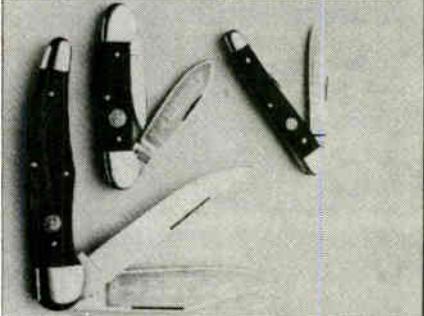
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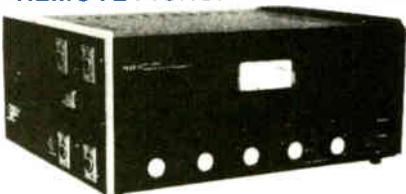
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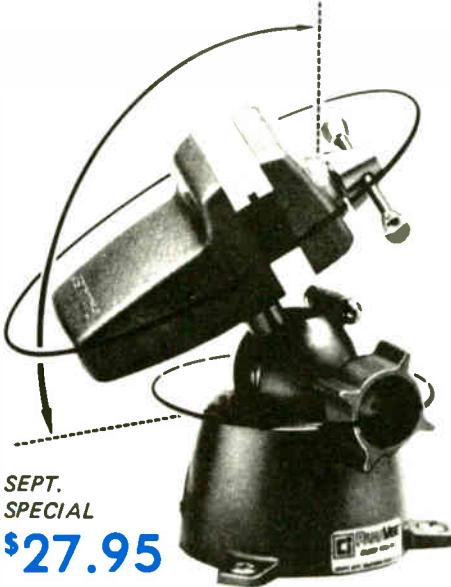
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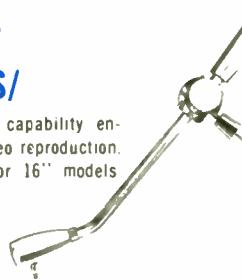
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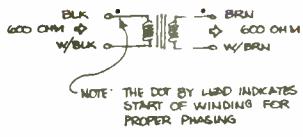
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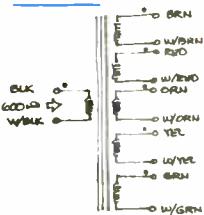
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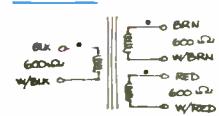
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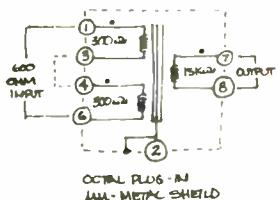
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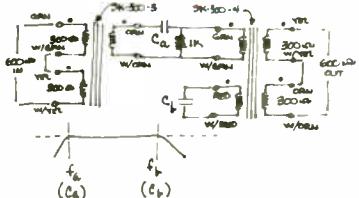


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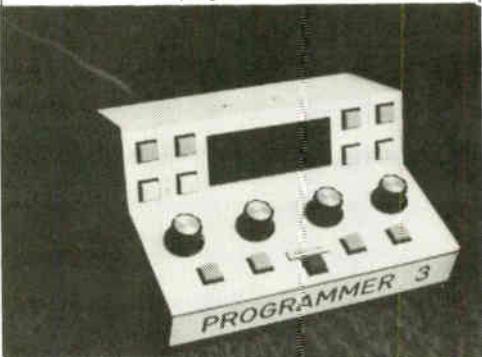
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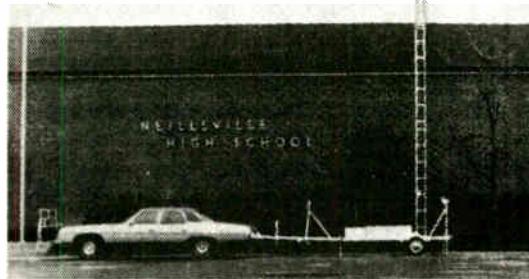
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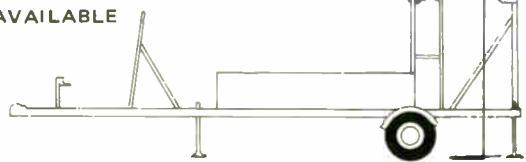
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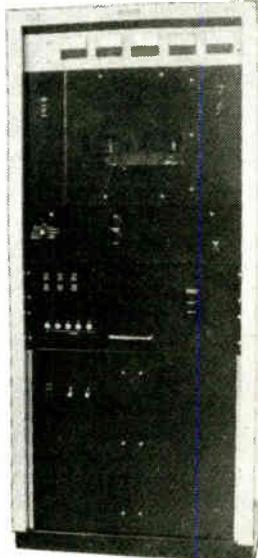


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