FCC BUREAU CHIEF . . .

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Nov. 1983

# COMMON POINT®

A MONTHLY NEWSLETTER FOR BROADCASTERS

50 cents per copy

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## WHAT'S 80-90 REALLY MEAN TO YOU?

There's been a ton of conjecture as to the real outcome of Docket 80-90. After the dust settles and the lawsuits are through, the FCC has made it clear that they will be the first ones out of the gate and will determine where the channels are to be allocated, in what form, and how they will be awarded. This will include the usual comparative preferences to minorities, women, non-broadcast licensees, etc.

What it means to an individual with no other broadcast holdings is the chance to apply, along with tens of others, for many FM licenses that otherwise would not exist. If you are a current licensee of an AM station, particularly a daytimer, you could be in for the fight of your life. If the Commission continues on its present course, the only daytimer in a particular town (only service) will get a comparative plus, but less than other potential licensees who have no other holding. This would put you on about an even footing with another broadcaster from another town, but certainly doesn't guarantee you a great or even a good shot at any new license. If you happen to be a daytimer in a town receiving a new allocation but have other competition, you can almost expect not to get the grant because of the diversity of media issue.

On the question of allocation, the Commission will be doing all the initial allocations based upon their computer studies showing the towns which deserve new or additional service. The computer will decide what classes will be placed where and how many go to a given area. After having spoken to the engineering staff and the allocations branch people in Washington, I have come away with the feeling that they will try to be flexible. But, with the computer doing the allocations, the guy with a Class A who could be a B1 or a C1, probably won't get the chance to improve. The new allocations will likely place channels near enough to preclude his improvements. The hardest hit will be the fellow with a Class A close to a major market. Here's why: The spacings to the powerhouses in the major towns will require the new stations to be 50 or so miles away (more, of course, for higher powers). If a Class C1 goes in at the minimum spacing, the guy with the Class A at 40 miles out cannot improve because of this new C1 making a power more impossible and creating new adjacent restrictions. Remember, too, that existing Class B protections were

(cont. on page 8)

DAVE SCHABERG
Midwest Radio Consultants

## DELCO GOES AM STEREO IN SELECTED '84 BUICKS

Delco Electronics announced in late September plans to introduce AM/stereo radios in selected 1984 models.

Buick's AM/stereo introduction plans are believed to be the first announced by any automobile manufacturer, foreign or domestic.

Delco Electronics General Manager Bob Schultz said the radios Delco will build for Buick will receive AM/stereo broadcast signals using a C-QUAM decoder integrated circuit.

Delco recommended this system to GM's car divisions after conducting a seven-month test and evaluation program of AM/stereo decoder system specifically for use in the automobile.

The Delco program was conducted in close cooperation with each of the three AM stereo system proponents who participated: Harris, Magnavox, and Motorola (C-QUAM system). All six leading proponent companies were invited to participate with Delco devoting the equivalent of 60 man-months of engineering work to the evaluation program.

Schultz said the Delco evaluation team concluded that the C-QUAM decoder had the best AM/stereo signal reception.

# *Editor's Notebook*

**THE GOOD NEWS** for Daytime Broadcasters finally came through in late September with the commission granting post sunset authority and an afternoon drive time all year round. It has been a long expensive fight, so if you will benefit from the DBA's effort, be sure to see their request on page 9 of this issue of Common Point. More good news for daytimers should follow probably by year end when daytimers on Canadian clears will be given PRESUNRISE AUTHORITY.

Harris AM came back in the picture after being told to shut down. Temp authority was given until problems with the FCC were resolved. It will be interesting if we eventually find out what caused the screw up.

Ye Olde Editor

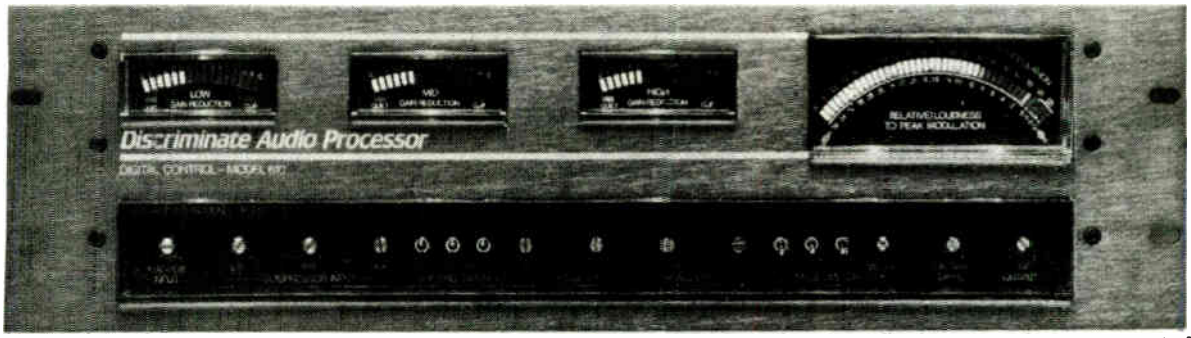
**THE BUSY SEASON** is on us again with most stations sold out two to three weeks ahead. The heavy schedules will probably continue right through January, so if you have need of carts...be sure to see the specials that are currently available in the Fidelipac 300 as well as Mastercart series. (page 12).

**SBE BACK**...After changing its name to the SBCE for a short time, a national vote found there were not enough in favor for the change with 1448 voting for the change, but 924 voting against it. Whether this will preclude engineers involved in communications but not braodcast from ever joining will remain to be seen.

## COMMON POINT READINGS



# The Dorrough Discriminate Audio Processor




Model 610

The Discriminate Audio Processor Model 610 is a digital controlled tri-band audio processor. A maximum of three channels has proved to be the most colorless and least modifying of program material. The use of gain reduction independently in the three channels eliminates the typical restrictions heard on single channel devices. It is the intention of this device by virtue of the three bands not to doctor or modify the average or peak of the program content in any way that would be offensive to the ear.

The Discriminate Audio Processor Model 610 operates in the following sequence:

Splitter,
Three Channels,
Program Equalizer,
Peak Limiter.

## *Digital Control*

The unit utilizes a frequency discriminate digital control signal, operating in real time, to control the action of analog attenuators, which are located within the discriminate path of the input audio signal. This concept eliminates the delay in attenuator action associated with standard servo approaches and their attendant action on the leading edge of the input wave. The independent channel parameters are on a programmable EPROM and TTL logic is used throughout.

## *Equalization*

A four position equalizer appears on the front panel and is electrically positioned after the three channels and before the Peak Limiter. These "pleasure" controls are provided for individual tailoring of program material. The instruction manual suggests settings with electrical explanations.

## *Peak Limiter*

The Peak Limiter is designed with a combination of soft and hard clipping, followed by 15 kHz low pass filter. Peak Limiters are available for AM, FM, and TV applications.

## *LED Metering*

LED metering is used for each of the three channels with individual LEDs for indicating quieting mode and clip level. The Output Meter enables precise setting of relative loudness levels desired to peak modulation. The large LED array is a visual display of the weighted or loudness factor of the program material.

The system is essentially free of all internal adjustments. The initial installation and setup procedure will usually require front panel adjustments only.

Entry portals are available as standard for interfacing with any of the AM stereo systems. Units track in the stereo mode with digital perfection.

## *Specifications*

| | |
|---|---|
| Input | −20 dBm at 600Ω or 0 dBm Balanced differential 10k bridging input |
| Output Level | +20 dBm |
| Output Impedance | Balanced differential for 600Ω load |
| Number of Discriminate Bands | Three |
| Crossover Frequencies | 173 kHz and 6.5 kHz |
| 15 kHz Filter Response | −34 dB at 19 kHz (FM) |
| Signal to Noise Ratio | 68 dB under operating conditions<br>75 dB under proof conditions |
| Attack Time | EPROM controlled |
| Release Time | EPROM controlled |
| Thresholds | EPROM controlled |
| Power Requirements | 110/220 volts, 50/60 Hz, 75 watts |
| Dimensions | Standard 19" rack mount, 5-1/4" high |
| Weight | Shipping weight 19 lbs. |

**$3995.00**

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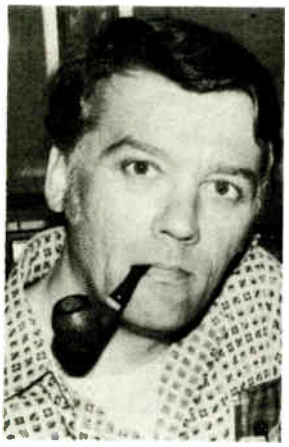
# Crosstalk...



by ED DUELLMAN

Now I am not one to grumble about something unless it bugs me or I just plain feel like grumbling...I am being bugged!!! All those blasted capitolized abbreviations NRAB, CPB, RAB, FCC, FAA, NPR, and the like. The prize in my book should have went to the people who decided to call a cycle a Hertz...They rent cars don't they? Who ever heard of riding a biHertz? Do we have an eleven year solar Hertz? Now old Heinrich was probably a decent sort of fellow and he did more or less invent radio, but didn't know it at the time. I agree we should pay him due respect in some way!!! I bet there is a school that teaches select people how to dream up a good name for something so it has a neat sounding abbreviation. Hey...I got one, we could change the name of the FCC to KC for kilocycle Cops...That Hertz!

Why all the hooting and hollering about getting rid of operating and maintenance logs. I say good riddance! I don't need someone to tell me I have to write all those meter readings down. Good engineering practice tells me that. I take the time to do it for my own benefit, not for the feds to have the evidence to arrest me if I goof up. No one said you can't keep a log, just go on as you have been. I personally don't think that log keeping is all that difficult, the hard part is to know what those readings are telling you, but then that's what we get paid for.

Now one rule I don't think that should be eliminated is the one that says you have to have a type accepted modulation monitor. Again good

(cont. on page 13)

# Letters to the Editor

Mr. Bud Tedlie
Electronics Industries, Inc.
19 East Irving
Oshkosh, Wisconsin 54901

Dear Bud:

Enclosed you will find a copy of our latest newsletter. As you can see, we try and save as much money as we can and so it is a frugal print job. I especially call your attention to the back page - "Extended Hours Pledge". I also enclose copies of our current bills from Blum and Nash, our legal counsel and Chuck Jackson, our engineer. I also must point out that each of these firms have forgiven many thousands of dollars in fees during the past 18 months.

Bud, "daytimers" have worked for years to gain some relief in the form of longer hours. While this report and order is not all we wanted, and the post sunset power levels in many cases are ridiculous, it is more than we have had in the past. I also point out that after the Canadians agree, which will be sometime soon, the 100 daytimers on Canadian Clear Channels will have PSA for the FIRST TIME EVER and will also be able to broadcast until two hours after sunset.

This crusade has been tough, for the past three years, I have been donating at least 50% of my time to the cause at great expense to my company. The out of pocket costs to our station has been in the thousands of dollars not counting the staff time, etc. We need the daytimers of this country to now come forward and PAY for this extra time. We are not asking for an arm and a leg, all we ask for is a fair share - that each daytimer who gets some extra hours, send us a check for the extra dollars he makes during those extra hours for one week in December 1983 - not too

(cont. on page 14)

# Shepler Says. .

by John Q. Shepler
Technical Consultant

## DON'T BELIEVE EVERY METER YOU READ

Not long ago, I spent a miserable night in a small transmitter shack trying to track down the cause of some mysterious distortion readings.

The distortion meter was clearly indicating 2 percent on a system that only a few weeks earlier measured less than ½ percent THD. The only change to the equipment was a new tower, feedline, and antenna. How could that be?

After much fussing and visions of disaster, I located the culprit. In trying to set up and run a quick proof, I had forgotten to isolate the power line grounds on the distortion meter and audio generator.

The result was a nasty ground loop as shown in the diagram. The extra length of wire provided by the power cords picked up just enough hum and noise to make the whole system look suspicious. Luckily, I noticed that the meter reading was modulating slightly in time with the tower lights. Otherwise, I might have spent the whole night digging into the wrong equipment.

Experiences like this make you feel a little foolish for getting tricked in the first place. It's so easy to get lulled into believing that test equipment will always tell the truth. Just when your confidence is highest, you get had.

Ground loops are a common cause of test results being poorer than they should be. Multiple grounds can also find their way into your audio chain where they will cause real trouble by adding hum and noise to your air signal. In a strong RF field, even a small loop acts like a pickup coil and can feed the transmitted signal back into the raw audio. The result is

(cont. on page 14)

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## PMD-200 PORTABLE TWO-SPEED CASSETTE RECORDER

Two Speeds 1 7/8 and 15/16 IPS

- One Touch Record
- Cue and Review
- PA/Play Mix
- Vari-Speed Pitch Control
- Record Level/Battery Strength Meter
- Auto/Manual/Limiter Record Level
- 4-Way Powering
- Volume and Tone Control
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- Auxiliary Input
- External Speaker Output
- Line Out
- External Microphone Input
- Built-in Electret Condenser Microphone
- Total Mechanism Shutoff
- Impact Resistant Lexan™ Case

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## PMD-220 DELUXE PORTABLE TWO-SPEED CASSETTE RECORDER

Two Speeds 1 7/8 IPS and 15/16 IPS

- One Touch Record
- Memory Rewind and Replay
- Cue and Review
- Separate Tape Bias and Equalization Switch
- Vari-Speed Pitch Control
- Ambient Noise Control
- Record Level/Battery Strength Meter
- Auto/Manual/Limiter Record Level
- 4-Way Power
- Tape Monitor
- Dual Flywheel Mechanism
- Total Mechanism Shutoff
- Automatic Mic/Line Switching
- Volume and Tone Control
- Built-in Electret Condenser Microphone
- Tape Counter
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- *COMPLETELY CLEANED*
- *ONLY APPROVED TAPE*
- *72-HOUR TURN-AROUND SERVICE IF REQUIRED*

| | |
|---|---|
| 40 SEC | $1.45 |
| 70 SEC | $1.50 |
| 100 SEC | $1.60 |
| 2½ MIN. | $1.70 |
| 3½ MIN. | $1.80 |
| 4½ MIN. | $2.00 |
| 5½ MIN. | $2.10 |
| 7½ MIN. | $2.20 |
| 10½ MIN. | $2.40 |

*prices shown for Audiopak A2 and Fidelipac 300 Series cartridges

*for specified lengths use next higher price shown

*add $.10 to above prices for Aristocarts - Audiopak AA3 and Fidelipac 350's and 380's

*all carts reloaded with new double lube tape per mfg. specifications

*cartridges reloaded with Fidelipac Hot Tape — add 15% to above prices

*all carts pretested under actual broadcast conditions

*like new cart 90-day warrantee with approved replacement of pad

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# MEMO FROM METZ

*by David L. Metz*

## IMPROVING THE SOUND OF OLD AM TRANSMITTERS, PART TWO

It slowly became apparent to me that the old Gates needed an overhaul. Its air sound had deteriorated even after all the work I had done to it. A building remodeling project gave me the chance to do it. The transmitter was being moved from the AM studio to the new transmitter room in the rear of the building. Since it had to be disassembled in order for it to be lifted out of a window, there was no better time to rebuild it.

Once the transmitter was set up in my shop, I had the chance to carefully inspect and test all of its components. I discovered that many of its small parts had changed value or deteriorated in some way. For example, many of the electrolytic capacitors had dried out. Having lost capacity they no longer performed properly as power supply and cathode bypasses. This resulted in feedback where it wasn't wanted and poor frequency response. Resistors were discolored, often bubbly and subject to cracking. They still worked, but for how long?

The resistors and capacitors in the feedback ladders were replaced too. That's another area where a small change in value can have a big effect on the sound.

Even after rebuilding, the transmitter still had a noticeable problem. The low frequency response was poor and distortion quite bad, below 100HZ. The problem proved to be the modulation reactor DC blocking capacitor.

In order to reduce core saturation of the modulation transformer the traditional design of the plate modulated transmitter has no DC on its output transformer secondary. The final plate supply DC is blocked by a capacitor. The AC audio component is coupled into the final by the capacitor. The AC modulation is blocked from the power supply by means of a large iron core choke.

In this case the value of the capacitor was too small. The impedance match below 100 HZ was quite bad due to the capacitors high reactance. As an experiment, the capacitor was increased in value from 1MF to 6MF. The result was lower distortion, better response and an improved air sound.

When testing the transmitter I discovered that Intermodulation is the most important perimeter to watch. Normally the I.M.D. is below 2%. Any misadjustment in tube bias or component problem will cause it to increase sharply. After I proofed the entire station I do a separate proof on just the modulator section in order to keep track of its performance and note any slow deterioration in its circuitry.

*****

## WHAT 80-90 REALLY MEANS

(cont. from page 1)

actually INCREASED under the new Docket making improvements near major cities with many Class B stations difficult at best.

Another area which will be affected negatively will be those stations in and within about 80 miles of the Zone lines betweeen Classes B and C. These areas have high concentrations of Class A stations because of the Class C stations requiring so much greater protection. Many of these will have to be satisfied with B1 assignments, assuming that the computer placement doesn't overrule it.

Remember, too, that all future allocations and permits for improvement of facilities will be done in the metric system when this Docket is fully implemented. This will help the Class A stations by giving an extra 10% on tower height maximum. Any Class A may want to check this out because the protection is basically still the same as before and you could gain two or three miles on the 1.0mV/m contour by getting up that extra 28 feet: height becomes the most critical factor once you're at the full 3.0kw. It also means that those of you with towers above the maximum may be able to increase your ERP to compensate.

The stories about consulting engineers and lawyers making a killing of this Docket are probably overstated because the FCC is trying to preclude much of the demand by placing the channels themselves. The best guesstimate is that the demand system won't likely come into play for improvements by existing stations and miscellaneous new stations until the latter part of 1985 at the earliest. If your consultant or lawyer tells you otherwise, they must know something that the FCC isn't telling the rest of us. So, the bottom line is this: If you have been waiting for 80-90 to improve your existing facility you more than likely will not get the opportunity to do so. My recommendation is to improve under the existing Rules NOW, if at all possible. Make the effort, even if it takes a mortgage and loads of inconvenience to protect yourself. You're just not going to get a break under the Rules as they are now portrayed. If you have been waiting for a new channel, check out the preliminary list that was used for study by the Commission when they approved 80-90 and see if there is one allocated where you want it to be. If not, there is a possibility of getting one placed before the Notice of Proposed Rulemaking on the new Docket comes out. We can show you how and your consulting engineer (if you want) can also likely give you the details. But you've got to move forward on these things soon, because it might be getting later then you think. Good luck and happy hunting!

– – – – –

David C. Schaberg, Lansing, MI., is president of Midwest Radio Consultants Inc., a management and technical consulting firm specializing in FM allocations, market & feasibility studies, and operations of radio stations.

*****

# More Time for Daytimers Task Force

"LOCAL" Community Radio Broadcast Service Needs "Extended" Hours For Daytimers

**DBA Washington Offices:**

Suite 408, 1015 18th Street, N.W.
Washington, D.C. 20036
Phone: (202) 857-0220
Greg P. Skall, Legal Counsel

## EXTENDED HOURS PLEDGE

IT HAS BEEN A TREMENDOUS STRUGGLE TO GET THE FCC TO AGREE TO ALLOW U.S. DAYTIMERS ADDITIONAL HOURS ON THE AIR. FRIDAY, SEPTEMBER 9TH, THE COMMISSION FINALLY AGREED TO DBA'S PROPOSALS IN PART. FOR THE FIRST TIME EVER, DAYTIMERS ON CANADIAN CLEAR CHANNELS WILL ON OR ABOUT OCTOBER 30 1983, BEGIN TO OPERATE FROM 6 A.M. UNTIL 2 HOURS AFTER SUNSET. THE POWER LEVELS WILL BE DETERMINED BY THE FCC COMPUTER. ELIGIBLE STATIONS WILL RECEIVE NOTICE FROM THE FCC WITH THE PROPER POWER INFORMATION.

ABOUT 2,000 OTHER DAYTIMERS WILL ALSO GET EXTENDED HOURS. MOST WILL NOW BE ABLE TO OPERATE FROM 6 A.M. UNTIL 2 HOURS AFTER SUNSET.

DBA AND THE "MORE TIME FOR DAYTIMERS TASK FORCE" HAVE BEEN WORKING VERY HARD FOR THIS. NOT ALL OF YOU HAVE SUPPORTED THE EFFORT FINANCIALLY. MANY PROBABLY BECAUSE THEY DID NOT BELIEVE WE WOULD BE SUCCESSFUL.

NOW WE HAVE PRODUCED THE EXTRA HOURS, BUT WE ARE STILL NOT ASKING FOR YOU TO PAY YOUR FAIR SHARE UP FRONT. WHAT WE NEED IS A PLEDGE THAT YOU WILL DONATE THE EXTRA DOLLARS YOUR STATION RECEIVES FROM THE ADDITIONAL HOURS FOR ONE WEEK IN DECEMBER 1983. THIS WILL GO TOWARDS PAYING OFF OUR UNPAID LEGAL AND CONSULTING ENGINEERING FEES WHICH AMOUNT TO OVER $75,000.00.

WE APPRECIATE ALL OF THE HELP WE RECEIVED FROM THE NAB, THE NRBA AND OTHER INDUSTRY GROUPS, HOWEVER, DBA DID THE ENGINEERING AND LEGAL WORK LEADING UP TO THIS RULEMAKING AND THE DAYTIMERS OF THE COUNTRY MUST PAY THEIR DEBTS. SO, PLEASE RESPOND AND PAY YOUR FAIR SHARE.

WE NEED EACH DAYTIMER WHO WILL BENEFIT FROM THESE LONGER HOURS TO PAY HIS FAIR SHARE OF THESE EXPENSES. YOU WILL NOT BE PAYING FOR A PIG IN A POKE, BUT YOU WILL ACTUALLY HAVE THE EXTRA TIME AND SELL IT FIRST - THEN PAY YOUR FAIR SHARE. FILL OUT THE FORM AND MAIL IT TODAY.

:::::DAYTIMERS FAIR SHARE PLEDGE:::::

COMPLETE AND MAIL TO:
JIM WYCHOR, PRES & TREAS
DAYTIME BROADCASTERS
P.O. BOX 730
WORTHINGTON, MN 56187

NAME AND TITLE_____

STATION OR STATIONS_____

ADDRESS_____

CITY_____STATE_____ZIP_____

WE PLEDGE OUR FAIR SHARE OF THE LEGAL AND ENGINEERING EXPENSES INCURRED IN OBTAINING EXTENDED OPERATING HOURS FOR OUR DAYTIME RADIO STATION(S). WE PLEDGE THE INCOME FROM THE EXTRA OPERATING HOURS FOR THE WEEK OF . 198 .


## DAYTIME BROADCASTERS ASSOCIATION

P. O. BOX 592 — WORTHINGTON, MINNESOTA 56187

JIM WYCHOR, PRESIDENT

# The Otari 5050B-II With The Proof Of Performance

## New Features.

☐ Transformerless balanced microphone inputs with switchable 20 dB pad and mute.
☐ Transformerless balanced line inputs and outputs.
☐ Variable low frequency reproduce equalization (switch defeatable).
☐ Microprocessor-controlled, real-time counter with Memory Rewind and L.E.D. display.
☐ Dual frequency oscillator (1 & 10 kHz).
☐ Front panel record level indicators (185, 250, & 320 nWb/m).
☐ Front panel equalization indicators (IEC/NAB).


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# Based On Technology You Can Trust

## 5050B-II Features.

1. D.C. capstan, servo-controlled.
2. Switch selectable 1/4 track or 1/2 track playback head.
3. Positive-locking NAB hub adapters.
4. Variable speed control (±7%).
5. Hinged head cover with integral tape splicing block.
6. Plug-in four head design; Permalloy for optimum head life and maximum output.
7. Adjustable Cue control (tape lifter defeat).
8. Microprocessor-controlled, real-time counter with Memory Rewind and Reset.
9. Reel size compensation switch.
10. Speed select (chooses high or low speed of internally selected speed pair).
11. Dump edit switch (spills tape between capstan and take-up reel).
12. Transport controls with full motion-sensing logic.
13. Microphone and Line input mixing on each channel.
14. Safe/Ready switch for each channel (with L.E.D. indicators).
15. Selective Reproduce for overdubbing.
16. Front panel record calibration adjustments.
17. Lighted V.U. meters with L.E.D. peak indicators.
18. Headphone jack.
19. Tape or Source monitor select.
20. Output level control.
21. SRL select switch with L.E.D. indicator (switchable between variable output and Standard Reference Level).


*Tape accurate at all speeds, a microprocessor-controlled real-time counter features a Memory Rewind and L.E.D. display in hours, minutes and seconds.*

## New! A Feature That Removes The Guesswork.

The new B-II now includes a microprocessor chip that accurately counts elapsed time in hours, minutes and seconds. Tape accurate at all speeds, it has a multi-digit L.E.D. display with both positive and negative domain. This feature is extremely helpful in situations such as spot production where an accurate measure of program time is critical.

When you need to play and repeat a section continuously, we've given you a feature we call Memory Rewind. You'll call it great. With the Memory button depressed, the transport will enter the Stop mode when rewinding past "0.00.00". The Reset button returns the real-time display to "0.00.00" regardless of actual tape location.

## The Electronics: New And Improved!

Now, here's where the new B-II leaps ahead of the other guys' "Hi-Fi" heritage.

Concentric Mic/Line Input level controls for each channel permit you to mix on the machine if you wish. For added versatility when using preamplifiers or high output microphones, a rear panel switch inserts a 20 dB pad on each channel.

The microphone inputs are balanced and transformerless to put as little as possible between the sound and the tape. The line inputs and outputs are also balanced and transformerless to achieve the lowest noise figures, highest fidelity and professional flexibility. Optional transformers are available should your application require them.

Next to the input level controls are two large, easy-to-read lighted V.U. meters with peak-responding L.E.D.'s. Factory calibrated to +9dB, a different threshhold may be user adjusted for this important feature. Concentric output level controls are adjacent to the meters. Below these controls is a switch for selection of Standard Reference Level (SRL) or a variable output position. Normally +4 dBm for a balanced 600 ohm line, the output of the B-II may be changed to −10 dBV by a rear panel switch to facilitate the interface with low-level mixers or peripheral equipment.

To optimize performance with tapes which have been recorded at another facility, there's a Ref Flux switch that will give you a choice of three reference fluxivity levels: 185, 250 & 320 nWb/m. (The latter being the IEC and DIN standard). This same flexibility allows you to choose how "hot" a recorded level gets put on tape. Front panel L.E.D. indicators report the selection of the chosen calibration level.

**TRIES INC.**
**, WI 54901**

**414-235-8930**

# TALKBACK

**INDIANA**...On AM stereo...all of us would like to see some HONEST specs on both transmitting and receiving AM stereo systems.

**LOUISIANA**...Would prefer to see a build up of NRBA and see NAB remove itself from radio. Need an organization more honest with, and more responsive to members than SBCE.

**MICHIGAN**...As in most stations...DJ's observe dereg of logs...Hooray they say...as did management until GM was reminded as licensee it was his butt if FCC caught unobserved infraction by some DJ. Logs will remain here as a condition of employment.

**ARIZONA**...FM boosters and translators another area unfair competition for poor old AM'ers...if engineers now running Class C want to keep it...let'em upgrade the facility.

**MICHIGAN**..."Yes" to separation of "mother medium" from the TV crowd...but alas fate and fortune would be same as for the "other" national group just made for radio...no money...no members...no clout.

**INDIANA**...How about article on tips and problems with remote bdcst...maybe tips on antenna height and types that have been successful.

**WYOMING**...Firmly believe that the "federation" concept for NAB as proposed by Peter Kenny is highly advisable. To totally split NAB into two separate entities would only divide its effectiveness.

**KANSAS**...never miss what the NAB is doing for AM daytimer...dropped membership over 20 years ago.

**WASHINGTON**...Article on EBS Alert in Persons Post Scripts was timely. Re-checked the OP logs and sure enough...no EBS receptions logged.

**KANSAS**...First response we have seen about Satcom I-R Snafu. Lost our ABC net for three days.

**IOWA**...Appreciate practical suggestions...particularly article on broadcast safety. Glad you're back.

**NEBRASKA**...Feel NAB should split to better serve both industries...probably should include National officers.

*****

CROSSTALK
(cont. from page 4)

engineering practice says you have to have a standard to go by. It is easy enough to use a scope on your AM rig with tone modulation but ever try and read average modulation when the DJ is playing the latest dirty thirty get down and boogie hit. I think the meter on the modulation monitor is better for the above stated purpose, the scope is king for proofs. Peak indicators are nice also, should hook the thing to a big klaxon, scare the heck out of the DJ. Now if you don't have an FM modulation monitor it is real simple to and take a quick reading using Bessel function under programming conditions! Here again you can tell a good engineer, he don't need the monitor, and he will probably just sort of smile and take a look out of the corner of his eye at his monitor, got to check that peak indicator. The real problem will start to show up when our present supply of monitors is gone and the Kingfish Sardine Company starts to crank one out that will measure anything and only costs $25.00.

From the mail bag...I got a little raking over the coals about my comments on AM stereo, I ain't taking nutten back, comments stand. I am not down on AM stereo, I just think it came to late. To address one comment or question, did all FM stations go stereo when that mode became available? Well I think no is the answer and all FM stations are not using stereo to this day. I think though you would agree that FM stereo has been around quite a long time now and it was really our first method of transmitting stereo sound and also our present FM stereo system was the one approved by the FCC, A STANDARD! I don't think the FCC did broadcasters a favor by tossing the AM stereo decision to the market place. FM stereo is entrenched in our entertainment devices and although AM stereo can have about the same quality, I ask why should I or anyone else go and spend big bucks for a new tuner to get AM stereo? With all the FM stations on the air now and more to come it just don't make sense to me. AM radio will find its place (I believe it already has) in the market. AM has been changing under our noses and yes it has taken a small dive, but when anything changes that may happen. AM will get on its feet and be just as strong as ever, just like it did when TV came into our homes. AM radio has tended to go to talk, information, and sports formats and FM carries the music formats. I personally think that this trend will continue, don't need to listen to a ball game in stereo, just like one fellow said; we don't have four ears and quad sort of went by the wayside.

That's enough of the grumbling and mail reading before I get into too much trouble. I'll go watch the wife rake the leaves and get my motor Hertz ready to put in the garage for the winter.

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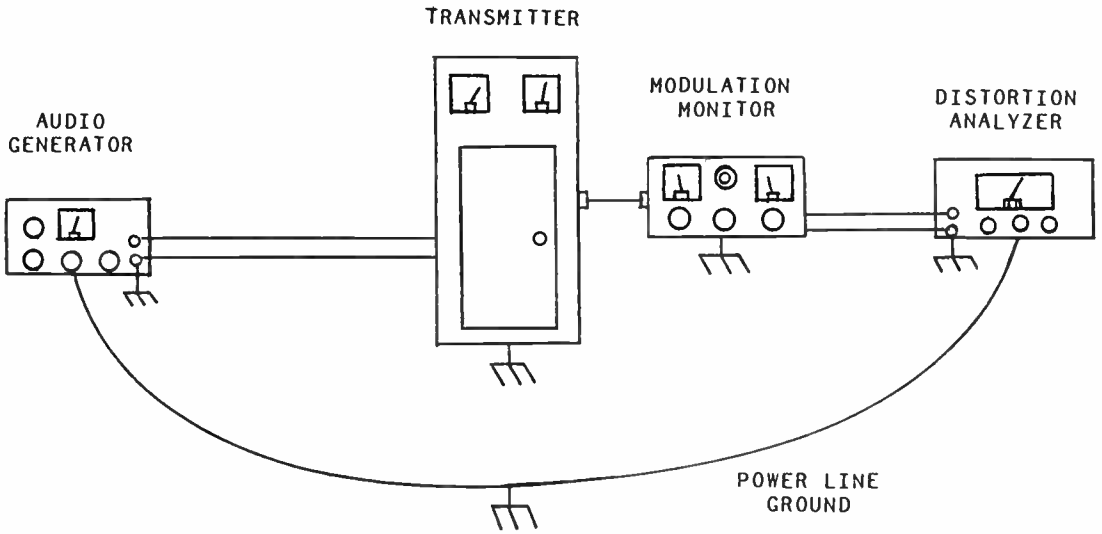
SHEPLER SAYS...
(cont. from page 6)




noise, distortion, and even crosstalk between AM and FM.

Station monitoring equipment like modulation monitors can also be affected. Equipment that is normally located in the studio may not work well at the transmitter site. Temperature changes from moving the equipment will usually affect the 100% meter and peak lamp calibration. You may also find that a high power AM signal will force its way into your FM monitor.

Some of the older modulation monitors don't like the new audio processing techniques. Passive filters in the monitor may ring when hit by sharp audio waveforms. This can cause the peak lamp to flash even when the peaks are still legal. Some AM transmitters are getting blamed for poor modulation levels that are really false indications on inadequate modulation monitors.

If you are going to be running one of those wee-hour proofs soon, you can save yourself a lot of grief by doing a few quick tests the week before. Check the frequency response, system noise, and distortion at 100 Hz and 1 kHz. This doesn't guarantee a painless proof, but it will alert you to big problems in the audio chain...or test setup.

*****

LETTERS...
(cont. from page 5)

much to ask. Many daytimers have supported us through the years with annual dues of $100 or $200. Now it is time for all of them to come through one more time as well as those who have never helped to come through and aid us in paying these bills. While the rulemaking is not all we wanted, it is as Commissioner Mimi Dawson and Chairman Mark Fowler said, "a good start".

Please daytimers, hold your head up high, pay your share so the bills can be paid and Jim Wychor, Gary Capps, Ray Livesay and the rest of our board can go about their business of running their own radio stations. Bud, do what you can. I have been pushing your black box everywhere I go.

Very truly yours,
James J. Wychor,
President
Daytime Broadcasters Association

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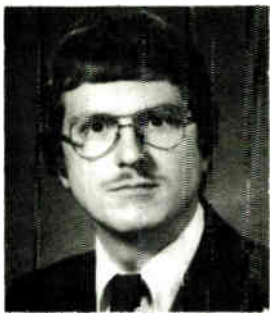

# PERSONS' POST SCRIPTS

**by Mark Persons**

I just returned from the annual Broadcaster's Clinic at Madison, Wisconsin. They had an excellent group of speakers again this year. In fact, with technology changing so rapidly, I believe the days of ho-hum conventions are gone forever. There are too many new and exciting developments to stay up on. I believe one must attend conventions in order to stay in the mainstream. Those who don't may be left behind.

As for the FCC's elimination of logging requirements, it looks like a step backwards to me. It was a step in the right direction when deregulation increased operator logging time intervals from one half hour to three hours. But, eliminating logging entirely leaves the station too vulnerable to running out of tolerence especially with respect to power. If a station has no records and is found to be overpower during an FCC inspection, who is to say that they haven't been running overpower for days, weeks, or months? The radio inspector can only assume that the station has been running overpower for an indefinite period of time unless it can be proved otherwise. I have been recommending to all of our clients that they continue operator logging at three hour intervals and continue logging weekly inspections. Remember, the FCC has deleted the requirements to log, but has not removed the requirement to stay within tolerences. Weekly transmitter checks are still required. Licensees have the option to log or not to log as they see fit. Another reason to keep good records is to aide in troubleshooting and repair of the equipment. Many times I've visited a station to repairone problem and found others hiding in the numbers on the maintenance logs. It doesn't take long to log ALL transmitter meter readings. The payoff in saved time and money can be great.

On a somewhat related subject, I recently received an excited telephone call from the engineer of a three tower directional AM station. He was calling from the transmitter site to tell me that the phase and ratios of his towers were changing as he watched the antenna monitor. The phases were drifting 20 degrees and the power ratios 10% or more. Thinking it was a bad capacitor in a network, I had him pull the jumper plug in the transmission line to one tower at a time. However, the problem persisted.

Finally, I went to the station and found it was the antenna monitor that had gone bad and not the antenna system. The monitor was a Potomac AM-19. The positive 15 volt regulated power supply output had increased to 22 volts because of a shorted transistor. This not only made the reading look strange, but it overheated at least four resistors on circuit cards in the monitor. The resistors were of a value that I do not normally carry in my toolbox. The solution was to parallel a resistor of slightly larger value with a much higher resistance. A little trial and error brought the combination of resistors to the exact value required in the circuit.

The voltage reulator was another interesting story. I replaced the shorted transistor and also checked all other transistors in the circuit. Sure enough, the series pass transistor was leaky. It probably caused the other transistor to overheat and short. The replacement for the shorted transistor would probably also have failed in time if the leaky one hadn't been replaced as well.

I've seen Potomac monitors act strangely on several occasions when a filter capacitor (C3 or C4) opened up. Here again, the bi-polar 15 volt supply changed causing the inability of the monitor to calibrate and read right.

*****

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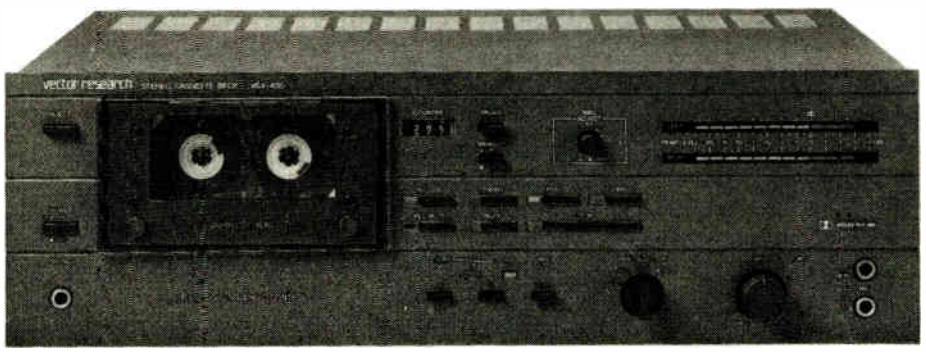

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### VCX-400 SPECIFICATIONS

| | |
|---|---|
| Track system | 4 track, 2 channel stereo |
| Heads | Record and playback head: Duralloy |
| | Erase head: Ferrite |
| Motor | EG Servo DC motor |
| Type of tape | C-45, C-60 and C-90 |
| Tape speed | 4.75 cm/s (1-7/8 ips) |
| Wow and flutter (WRMS) | 0.05% |
| Frequency response | |
| Metal | 25 Hz—18 kHz |
| CO | 25 Hz—17 kHz |
| FE | 25 Hz—15 kHz |
| **S/N ratio (A WTD, REF 3% THD, | |
| Metal tape) | 56 dB (DOLBY NR OFF) |
| Rewind/fast forward time | 100 seconds (C-60) |
| Bias frequency | 105 kHz |
| Erasing ratio | 65 dB |
| Crosstalk | |
| Track, 1 kHz | 63 dB |
| Channel, 1 kHz | 33 dB |
| Input sensitivity/impedance | |
| Line in | 60 mV/50 k ohms |
| Mic in | 0.25 mV/–72 dB (600 ohms or more) |
| Output level/impedance | |
| Line | 650 mV/1k ohms |
| Headphones | 120 mV/8 ohms |
| Power requirements | 120V AC, 60 Hz |
| Power consumption | 30 W |
| Dimensions (W×H×D) | 440×142×368 mm |
| | 17-3/8×5-5/8×14-1/2 inches |
| Weight | 6.6 kg (14.6 lbs) |
| Included accessories | 2 connection cords |

**Additional noise reduction with

| | |
|---|---|
| Dolby B and C-type NR | |
| Dolby B | Up to 10 dB above 4 kHz |
| Dolby C | Up to 20 dB above 2 kHz |

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