

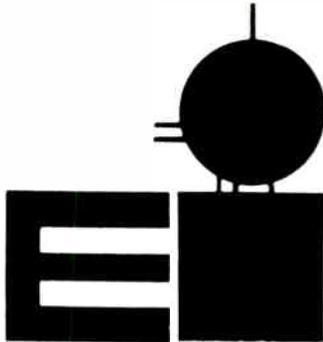
May 1981

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# COMMON POINT®

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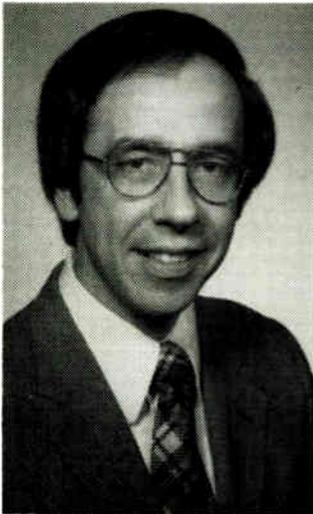
A MONTHLY NEWSLETTER FOR BROADCASTERS

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

414-235-8930

## NEW HEAD FOR FCC

**MARK S. FOWLER.** Born Toronto, Canada October 6, 1941 of Canadian father and American mother. Under the law, regarded as American citizen from birth. At age 17, became a part-time radio announcer, Station WABR, Winter Park, Florida and then at Stations WHOO-AM-FM, Orlando. After graduating from high school, Fowler enrolled at the University of Florida, Gainesville, in the fall of 1959. At the same time, commenced employment as announcer at Station WDVH, Gainesville.



Mark Fowler

In 1963, interrupted education to work as full-time announcer at Radio Stations WKEE-AM-FM, Huntington, West Virginia. From 1964 to April, 1965, worked as announcer and full-time sales representative at Radio Station WMEG, Melbourne, Florida. Returned to University of Florida in April 1965 to continue education, while rejoining Station WDVH as a part-time announcer, eventually working as program director and sales representative as well. Graduated from the University of Florida College of Law in late 1969.

In January, 1970, joined Washington, D.C. communications law firm of Smith & Pepper as an associate. In 1975, formed the Washington law firm of Fowler & Meyers, P.C. with David Meyers, and practiced communications law from 1975 to present. Firm represents broadcast and private radio licensees before the Federal

(cont. on page 2)

## The Loyal Opposition

A Texan Talkback to Ray Livesay —  
9KHz and Daytime Broadcasters

Raymond O. Creely  
KPSO Radio  
Falfurrias, Texas

I am one of those that say "no" to 9KHz as the only, and best method for region II AM. 9 KHz would be the bull of not only the fulltimer, the small daytimer, and some equipment manufacturers, but most importantly the public would be "gored".

I think that we all realize the problems of any attempt to expand the band upward, but few want to realize the problems of squeezing it closer together. Has it occurred to anyone that with a move to the newly created "fulltime channels", that present "daytime" channels will still exist, on which new stations will spring up.

I feel that there is nothing wrong with new competition in our free enterprise system, but with all of these new "daytime" stations, the "daytime" only problem will still remain unresolved. From all of this will come a host of new "daytime stations" wanting somehow to become "fulltime stations". What we don't need is more of a basically bad system. I ask — why inconvenience listeners — or broadcasters — at all by squeezing the stations closer together on the dial. Fulltimers should not be required to re-engineer their directional antennas.

To some, a shift of a few KHz, might be economical, but to the many, many daytime stations in the small towns across America, such expenditure of \$48,813., I think would be out of the question. Again, with present daytimers remaining daytimers, we have still not solved the problem. I should hope that in the case of directional antennas that "only" "re-adjust-

(cont. on page 4)

# Editor's Notebook

**FIRST, AN EXPLANATION.** We have been promoting the NAB Convention because we think it's important to broadcasters. Our use of their logo in that promotion was for promotional purposes only. Later in the year we will be telling you about the NRBA. There is no connection between **Common Point** and those organizations except a common interest in Radio.

**UNHAPPY BOOKKEEPERS??** . . . I think so, but it doesn't have to be that way. Each month the **Common Point** goes to each station free. There is no charge, no strings attached. For those who did decide to subscribe, a little "C.P.S." (**Common Point** subscriber) showed up on the corner of their account card. This means they

paid their \$6.00 . . . a token fee . . . which meant they were entitled to a 2% discount if they paid their account according to the statement printed at the bottom of this column. There were a lot of accounts who would have their \$6.00 back the very first month. What do you think? a gimmick? Not exactly. It's just our way of saying we take you seriously and appreciate your business.



YE OLDE EDITOR

**THE S.B.E.** . . . Society of Broadcast Engineers . . . and in the time ahead, we will be talking about all the reasons to be a member. But let's hear from you . . . the reason you are a member . . . the reason you are not a member. Our first column will tell about the SBE and how it got started and some of the problems. Let's hear from you.

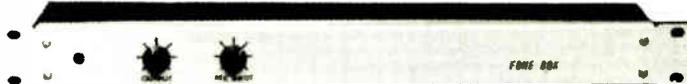
**WINNER OF THE MONTH** . . . a new month and a new winner. This month it's WKXL Radio in Concord, New Hampshire. Their acknowledgement card was drawn which gives them \$100.00 to spend anyway they wish here at Electronic Industries. You could be a winner. Just return your card which means you have received **Common Point**.

**9 KHz SPACING** . . . pardon the pun, but this issue of **Common Point** starts its long awaited classifieds and in order to make room we had to go to a smaller type. Can we sell something for you? Call us!

**COMMON POINT** is a publication of the Broadcast Division of Electronic Industries Inc., an independent distributor. Michael Gerth, owner and W.P. Tedlie, editor. Annual subscription rate - \$6.00 payable in advance. Subscribers qualify for 2% discount on all invoices during subscription period if payment is made by 25th on invoices dated 1st thru 15th or by 10th on invoices dated 15th thru month end. An additional one-time discount of up to 10% is available on specified lines during subscription period.

ELECTRONIC INDUSTRIES HAS IT . . .

## THE ALLIED FONE-BOX

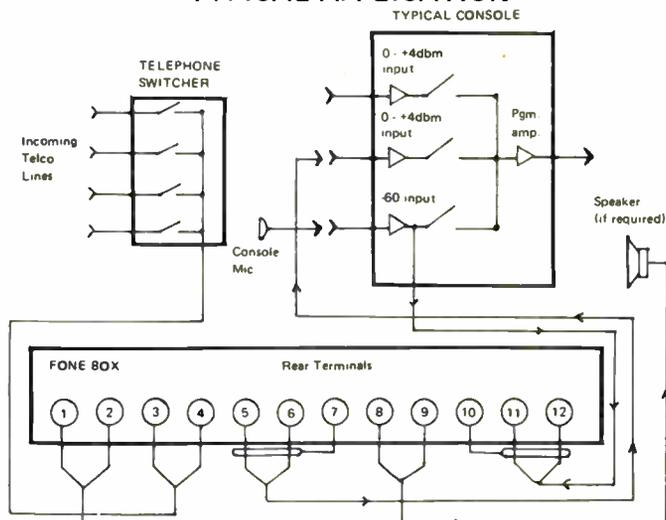


For the first time, here is a device that will adapt easily between telephone circuits and broadcast consoles, allows you to control the levels of both the incoming call and the interviewer's microphone, and permits you to hear the incoming call without fighting feed-back. The use of an integrated band pass filter helps to eliminate hiss, hum and extraneous noises. The Fone-Box gets the best sound possible from available telephone circuits, recorded at a level which doesn't suck you into the speaker, or drive you out the door.

And there is nothing complicated about its installation - no special amps or circuits.

So you get it all . . . isolation, ease of installation, and low cost. A unit that is comparable or equal to the Fone-Box is priced at nearly \$2,000.00.

### TYPICAL APPLICATION



C.P.S. Discount - \$13.90  
**FONE-BOX** Mfg. suggested list price . . . . . \$695.00  
 110 vac to 18 vac transformer (included)

FCC  
 (cont. from page 1)

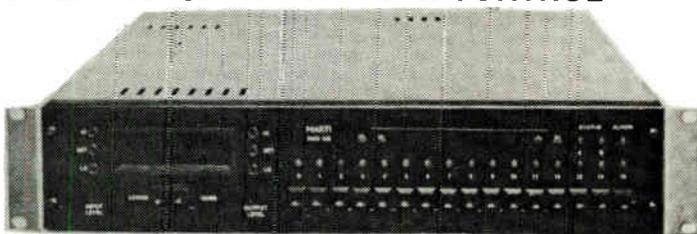
Communications Commission. Fowler has been counsel to the Virginia Association of Broadcasters since 1978, and has been a featured speaker at numerous state and national broadcaster conventions over the past ten years.

In 1975-76, Fowler represented then Governor Reagan and the Citizens for Reagan campaign committee as communications counsel, a post he held again with the Reagan For President and Reagan/Bush committees in 1979-1980.

Fowler is married to the former Jane Yusko, a Virginia real estate broker. The Fowlers have a son, Mark Jr., age 16, and daughter, Claire, age 11, who attend public schools. The Fowlers reside in Arlington, Virginia.

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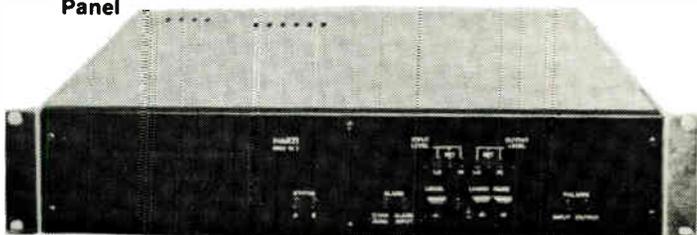
# MARTI RMC-15 DIGITAL REMOTE CONTROL



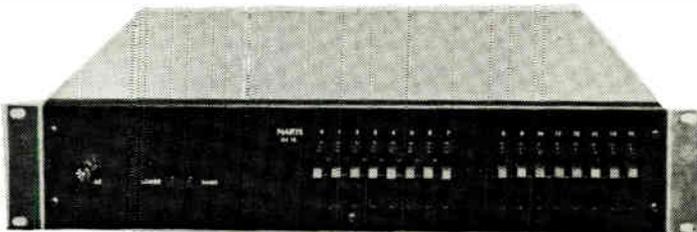
RMC-15S Studio Unit

## FEATURES:

- Fully Digital Command and Telemetry (FSK)
- Single Push-Button Channel Select
- Telemetry Accuracy 0.1% for Directional Antenna Monitoring. RMC-15S Does Not Require Operator Calibration
- Channel Capacity 15 Channels. Expandable to 30 Channels by Optional RMC-30 Units
- Quartz Crystal Synthesized Frequencies
- Radio Link or Wire Line Operation
- Large Digital LED Readout at BOTH Studio and Remote Unit
- Decimal Point Location Can Be Selected for Each Channel
- Communication Level Adjustments and Indicators on Front Panel



RMC-15T Transmitter Unit



RY-15 Relay Control Panel

**TIRED REMOTE CONTROLS CAUSE PROBLEMS AND COST MONEY. GET ALL THE DETAILS ON A NEW MARTI "TAKE CHARGE" DIGITAL REMOTE CONTROL.**

C.P.S. Discount — over \$65.00

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## PRACTICAL PROBLEMS-

# Hunting the Wily Subsonic

Reprinted courtesy  
of Kansas Chapter  
Society of Broadcast Eng.



Society of Broadcast Engineers

by **Chris Downing**  
**Transmitter Engineer,**  
**KANU (FM)**

The solution to one problem may generate one or more **other** problems --- a conundrum which has plagued scientists, technologists, and philosophers for eons. The new breed of broadcast audio equipment is an example of a problem-breeding solution.

The author recently became aware of the susceptibility of state-of-the-art consoles, signal-processors, and AM transmitters to subsonic transient overload. In this particular instance, a Harris MW-1A solid-state AM transmitter was popping off the air intermittently due to overloading of the final amplifier power supply. The Harris technical rep suggested that subsonic signals were tripping the DC overload protection circuit.

Many equipment manufacturers are eliminating from contemporary broadcast audio designs the subsonic signal's worst enemy --- the audio transformer. Active circuitry frequently replaces input and output transformers; a balanced differential input contributes less noise to the signal and is not susceptible to induced hum signals. When properly designed, the common-mode rejection of an active input is quite good even in heavy RF fields. Active output stages achieve greater headroom without distortion and eliminate the cost of a good transformer which will operate at +20 dBm. Active circuits can have a frequency response right down to DC, a plus for the designer trying to eliminate low-frequency phase shifts. There are, of course, many instances where nothing but a transformer will do the trick, but active circuitry is increasingly popular.

Recently-designed AM transmitters are capable of incredibly good modulation. The plate modulated tube designs of the late 1950's were capable of average modulation levels of about 30%, and distortion rose rapidly with modulation. Inadequate or overdamped power supplies were partially responsible, and the substantial reactance of the power supply and of the modulation transformer or choke created a "bouncy" response to low-frequency signals.

In contrast, new transmitters with pulse-duration modulators or the patented Harris Progressive Series Modulation use switching techniques to achieve high average and peak modulation. The extended low frequency response of the MW-1A eliminates phase shifts and bounce. The MW-1A is capable of extended operation at high modulation levels even with very low frequency signals.

There are two undesirable effects of subsonic signals. The first effect is transmitter overload. A subsonic

(cont. on page 4)

**OPPOSITION**

(cont. from page 1)

ment" would be necessary.

I would hate to think of the cost of re-orientation. It seems that the daytimer is faced with spending some money to keep what it has now, or spending a lot of money to go fulltime — what a choice, for the numerous stations just getting along in the small towns of America.

Again, we will be left with the same problem — lots of daytime only stations. Perhaps 94.62% of the stations in the survey were willing to spend an average of \$48,813. to become fulltime stations — but I would venture to say that more like 100% would rather be able to do it for little or no cost.

All of this could be accomplished if all (or practically all) present daytime stations were allowed to operate at night with reduced power, either non-directional or with their daytime pattern. This has been done for years, rather successfully I might add, during the pre-sunrise hours. I admit that it is not the "perfect" solution, but no such "perfect solution" exists. It would eliminate the interference which would be created during the period of changeover between stations on the 9KHz and 10KHz spacings. Has anyone thought of that problem? (10KHz whistle is enough that most narrow-band receivers will not reproduce it, and those that will, are usually equipped with a 10 KHz notch filter.)

Now--how about 1KHz, 2KHz, 3KHz, etc. whistle — are set manufacturers going to include "temporary" filters to kill those birdies — or will the listener with all present sets just give up and switch over to the "other band".

On another matter — just how will separation requirements be met for the daytimer to move onto these newly created channels to operate fulltime, since it has been found that there is a very limited number of new stations which can be assigned because of the many daytime stations scattered throughout the United States which are adjacent to these new channels. Sure — we can move the daytimers over to the new channels — but it would appear that they could **all** have to go at once to beat the separation problem. Surely we will not be expected to make the change on the same night. In the meantime — utter chaos. But the listener still has FM.

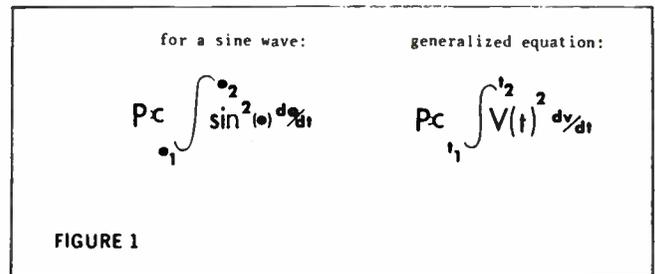
In conclusion, I really wonder how many daytime stations in small towns across America will really pick up and move — sometimes across the dial — losing and confusing their listeners in the process — while spending an average of \$48,813. for the privilege of doing it, when they realize that in many cases with a flip of a switch they could become a fulltimer, in their present location on the dial, with adequate power to serve their local community, without the cost of a directional antenna, and with acceptable interference to other stations on the same and adjacent frequencies. The method works, works well, has been thoroughly proven over many years, could be implemented at each station for little (and in most cases no engineering cost). If such a method were approved by the FCC, fulltime operation for almost all daytime stations, could become a reality literally overnight.

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**SUBSONIC**

(cont. from page 3)

signal contains more energy **per cycle** than a sonic waveform. Power from a signal voltage is proportional to the square of that voltage (see figure 1). Over a single cycle, a low frequency waveform will produce more **power** in a given load than will a higher frequency waveform. Over the same period of **time**, the power developed will be the same regardless of frequency. A subsonic waveform may last for several hundred milliseconds or more, and even though its amplitude is low compared to a program-level sonic signal, the **duration** of the waveform causes the transmitter to develop and sustain considerable **average power**.

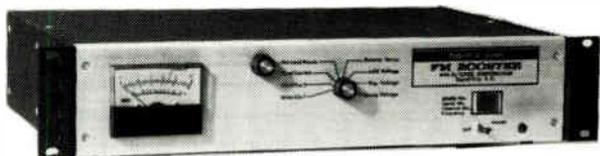


The distinction between subsonic waveforms and sonic waveforms with respect to power is important. In most AM transmitters, the DC overload protection for the final state is "damped" somewhat to prevent tripping on transient **high** frequency waveforms. The transmitter can probably carry a brief burst of a high energy waveform because, while the instantaneous magnitude of the waveform is large, the power is quite small because the time is short. The filter capacitors in the transmitter power supply can usually supply enough energy to keep things going for the few hundred microseconds required. A subsonic waveform quickly drains the supply capacitors and starts to demand extra power from the power transformer and rectifier. This condition is a genuine overload condition. Older transmitters used relays with dashpots to slow down response to overloads; modern design employs an R-C network with a time constant to allow sustained low frequency modulation but not overloads of a longer duration. In the MW-1A, the DC overload is set to trip at 100% modulation with 20 Hz; many older transmitters will trip with sustained high modulation at frequencies above 50 Hz.

The second undesirable effect of subsonic modulation is intermodulation distortion. High amplitude subsonic signals can shift the operating parameters of many audio circuits into the regions where distortion occurs. This distortion "comes and goes" at the subsonic frequency, and is intermodulation distortion. In addition, most subsonic waveforms encountered in broadcast audio are not continuous sine waves --- many are not even periodic! A low frequency impulse may contain many higher-order harmonics, some of which may be audible.

Where are all these subsonic waveforms coming from? They're coming from the same places they always have, but because of improvements in circuit design, they're getting farther. Turntable rumble is a prime source of subsonic noise. Figure 2 shows a recording of turntable rumble from a turntable at KANU. This rumble is 35 dB below reference level at

# Robert A. Jones J-318 FM BOOSTER



The Robert A. Jones J-318 FM Booster is used by FM broadcasters to bring program service to a community which lies within the FM station's 1. mv/m signal contour but may be denied reception because of topographical profile.

The booster's 10 watt output can be significantly multiplied to an ERP of 160 watts or more by using directional high gain antennas, providing listeners with a good signal every day, year after year.

The low initial and operating cost of a J-318 system yields a high investment-to-return ratio for all FM broadcasters who are conscious of audience rating and bottom line operating statements.

- Positive muting of output in absence of primary signal.
- Adjustable, regulated RF output.
- Metering of important stages.
- Protection against RF load loss.
- May be used in 1 watt areas.
- May be used with 10 watt multiple output amplifiers.

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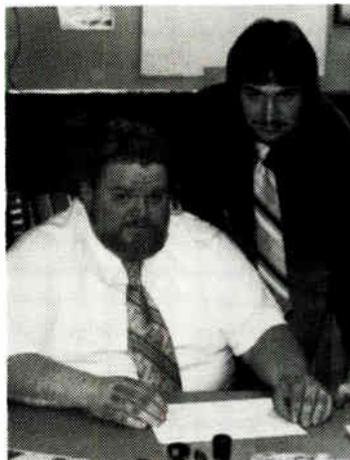
## ELECTRONIC INDUSTRIES INC.

19 E. Irving-Oshkosh, WI 54901  
414-235-8930

## Feature Line for May — KUSTOM KRAFT

Kustom Kraft, Inc. was founded by Larry L. Levy in 1978 to supply furniture and storage cabinetry for commercial and industrial applications. Because of Mr. Levy's 22 years in the broadcast engineering field, the demand for broadcast cabinet construction soon shifted the emphasis of manufacturing to that line.

Growing rapidly, Brent Moore joined Kustom Kraft the following year, becoming vice president in charge of customer service this past January.



Larry Levy (left) and  
Brent Moore

Kustom Kraft Products Company came into being in January of 1979 with a line of manufactured cart racks, record racks, turntable bases, and console desks, soon adding tape deck cabinets, equipment rack cabinets and complete control room complexes.

Today Kustom Kraft is involved in every aspect of commercial and industrial applications. However, broadcast cabinetry still remains by far the major portion of their business. One of the latest to be added to the Kustom Kraft line is the "round talk table", specifically designed for stations with programs where many people, including outside guests can participate without the old "off mic" problems. All mic cords come up through the table which protects mic cords and eliminates the problem of tripping over mic cords.



"Round Talk Table"

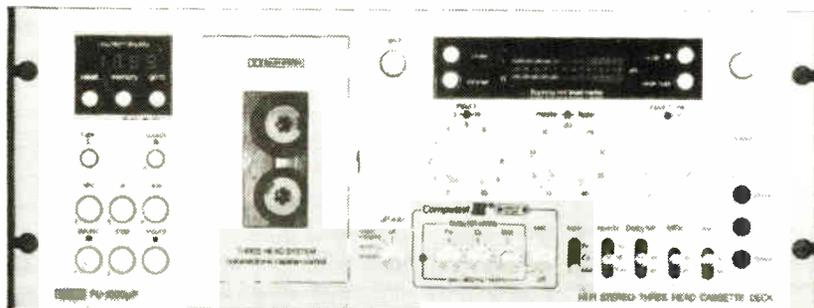
In a conversation earlier this year, **Common Point** asked about the carpenters now working at Kustom Kraft. Larry Levy laughed but was quick to correct me . . . the staff at Kustom Kraft are "cabinet makers" . . . not carpenters. When you see the work . . . the precision of their work . . . you, too, will agree . . . only a cabinet maker could make this.

When you make plans for your new control room, be sure to include Kustom Kraft in the search of that "just right" arrangement. Put years of experience to work for you. Remember, you can pay more, but you can't buy better . . . make it Kustom Kraft.

\*\*\*\*\*

**EXCELLENCE BOTH IN ENGINEERING  
AND STYLING COMBINED**

**EUMIG FL-1000 CASSETTE DECK**



**\$1550<sup>00</sup>**

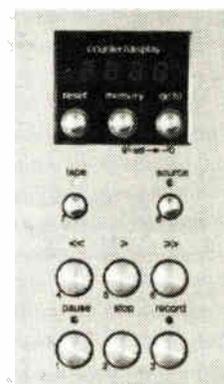
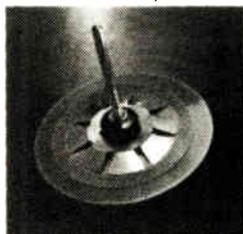
C.P.S. Standard Discount —  
**\$31.00 or O.T.O. \$155.00**

Excellence both in engineering and styling combine in the Eumig FL-1000 to create a cassette deck with unexcelled performance, versatility, and elegance.

The front-loading, microprocessor-controlled tape transport features Eumig's exclusive opto-electronic servo system and a sophisticated 3-head design that lets you monitor directly from the tape as it is recorded. Built-in test facilities permit optimizing performance for every tape type and brand, including the new metal-alloy formulations. Microphone and line-level mixing provisions are comparable to those found in studio recording consoles, and a multi-segment fluorescent peak-level display assures positive, easy-to-read indications.

**ELECTRONICALLY CONTROLLED CAPSTAN**

Eumig innovation developed the opto-electronic capstan servo-control system used in the FL-1000. Traditional flywheels respond slowly and may induce rumble. The lightweight Eumig disc, with its 2500 precisely-spaced, photo-etched radii, on the other hand, produces 15,000 pulses per second as the capstan rotates. By comparing the counted pulse-rate against a fixed reference, instantaneous speed-correction signals can be applied to the capstan within microseconds, helping lower the wow and flutter to a mere 0.035% WRMS.



The tape counter of the Eumig FL-1000 is electronic rather than mechanical. This not only eliminates the usual imprecision caused by belt slippage; it also contributes significantly to the extraordinarily

low wow and flutter. And, it allows the same touch-buttons used for transport control to serve a second function, like that of the keys on a calculator.



**Eumig FL-1000 computer interface with multi-machine control for principal use in commercial broadcast automation systems — the second difference approach.**

No matter where you are in a tape, by pressing the "go to" and "memory" buttons simultaneously, then punching in any selected counter reading, the FL-1000 will

automatically advance or return to that exact location, slowing down as it nears it, and automatically recovering any slight overshoot. When the end of a side is

reached, the word "End" is displayed, as is a "t" (for "test") when the Computest<sup>®</sup> bias/sensitivity mode is entered.

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*THE FINAL CHOICE WHEN IT COMES TO PROFESSIONALS*

# Kustom Kraft

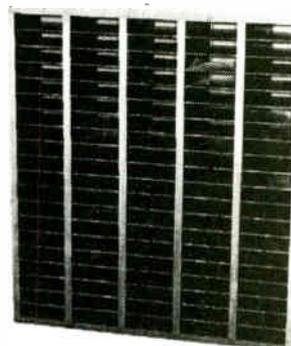
**“The Broadcasters First Choice In Studio Furnishings”**

**KUSTOM KRAFT CARTRIDGE RACKS**

MODEL NO.	CAPACITY	DIMENSIONS		ROWS	SUGGESTED RETAIL PRICE *
		Wide	High		
KK 20	20	20 1/4"	8 3/8"	4w x 5h	18.00
KK 40	40	20 1/4"	14"	4w x 10h	36.00
KK 50	50	25 1/8"	15 1/4"	5w x 10h	45.00
KK 60	60	25 1/8"	18"	5w x 12h	54.00
KK 100A	100	25 1/8"	29"	5w x 20h	79.00
KK 100B	100	50 1/4"	15 1/4"	10w x 10h	79.00
KK 150	150	50 1/4"	22 1/8"	10w x 15h	118.00
KK 200	200	50 1/4"	29"	10w x 20h	158.00

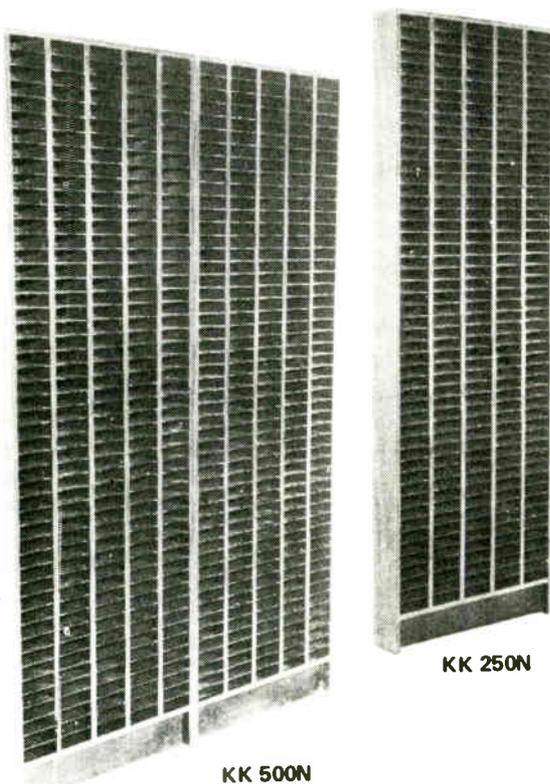


KK 20



KK 100A

\* Prices include crating.



KK 500N

KK 250N

**KUSTOM KRAFT N SERIES CARTRIDGE RACKS**

MODEL NO.	CAPACITY	DIMENSIONS		ROWS	SUGGESTED RETAIL PRICE *
		Wide	High		
KK 100N	100	10 1/2"	74"	2w x 50h	79.00
KK 150N	150	15 5/8"	74"	3w x 50h	118.00
KK 200N	200	20 1/4"	74"	4w x 50h	158.00
KK 250N	250	25 1/8"	74"	5w x 50h	203.00
KK 300N	300	30"	74"	6w x 50h	237.00
KK 350N	350	34 1/8"	74"	7w x 50h	282.00
KK 400N	400	39"	74"	8w x 50h	316.00
KK 450N	450	43 7/8"	74"	9w x 50h	361.00
KK 500N	500	50 1/4"	74"	10w x 50h	406.00
KK 600N	600	60"	74"	2,300N's	456.00
KK 800N	800	78"	74"	2,400N's	608.00
KK 1000N	1000	100 1/2"	74"	2,500N's	800.00

All Kustom Kraft cart racks are normally supplied with walnut laminate. However, they are available in any standard laminate on special order. (add 12%)

Special size racks are available — call or write for pricing.

Represented by **Allied Broadcast Equipment**

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# COMMON POINT CATALOG

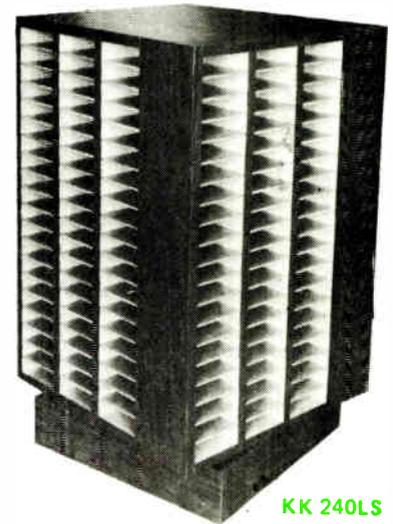
## KUSTOM KRAFT LAZY SUSAN CARTRIDGE RACKS

MODEL NO.	CAPACITY	DIMENSIONS		TURN DIA.	SUGGESTED RETAIL PRICE*
		Square	High		
KK 100LS	100	12 5/8"	40 7/8"	18"	149.00
KK 160LS	160	15"	32"	22"	229.00
KK 240LS	240	19 3/4"	32"	28"	269.00
KK 400LS	400	29 1/8"	36"	42"	469.00
KK 800LS	800	29 1/8"	64 1/4"	42"	799.00
KK 1000LS	1000	29 1/8"	78"	42"	1199.00
KK 1200LS	1200	29 1/8"	84 1/2"	42"	1399.00

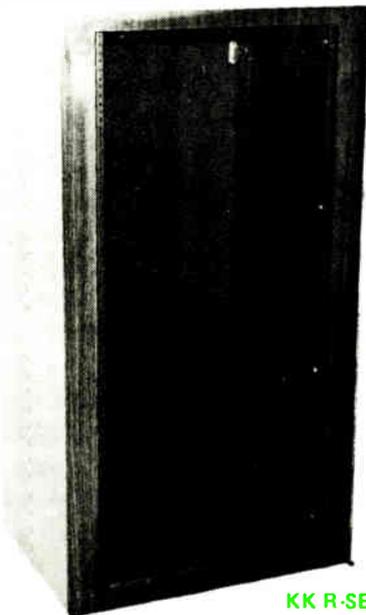
These Kustom Kraft Lazy Susans normally are supplied with our standard four inch base. However, any size base up to 30" is available. Call or write for pricing on other sizes.

Special size racks are available – call or write for pricing.

\* Add \$12.00 to each Lazy Susan for crating.



KK 240LS



KK R-SERIES

## KUSTOM KRAFT 19" EIA EQUIPMENT RACKS

MODEL NO.	RACK PANEL HEIGHT*	SUGGESTED RETAIL PRICE**	
		18" Depth	24" Depth
KK R100	7"	75.00	79.00
KK R101	8 3/4"	82.00	86.00
KK R102	10 1/2"	88.00	94.00
KK R103	12 1/4"	101.00	107.00
KK R104	14"	114.00	121.00
KK R105	15 3/4"	126.00	132.00
KK R106	17 1/2"	139.00	155.00
KK R107	19 1/4"	156.00	162.00
KK R108	21"	165.00	169.00
KK R109	24 1/2"	168.00	176.00
KK R110	31 1/2"	178.00	185.00
KK R111	35"	184.00	191.00
KK R112	42"	195.00	206.00
KK R113	52 1/2"	215.00	220.00
KK R114	61 1/4"	230.00	239.00
KK R115	70"	238.00	258.00
KK R116	78 3/4"	253.00	275.00

All Kustom Kraft rack cabinets are made of 3/4" luan plywood – void free and covered with walnut formica. However, any color or wood grain laminate is available – add 12%. Backs of all Kustom Kraft equipment racks feature an exclusive snap-out panel for easy access to equipment.

Casters – \$35.00 set of four.

\* For Overall Dimensions: Height – add 4" to rack space above.

\*\* Prices include crating.

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**ELECTRONIC INDUST**

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DISTR

# COMMON POINT CATALOG

## KUSTOM KRAFT 201 SERIES TURNTABLE BASES



KK 201A

MODEL NO.	DESCRIPTION STANDARD	DIMENSIONS	SUGGESTED RETAIL PRICE*
KK 201A	Single turntable base	22" x 24" x 29"	210.00
KK 201B	Double turntable base	42" x 24" x 29"	320.00
KK 201C	Triple turntable base	62" x 24" x 29"	410.00

Kustom Kraft turntable bases are constructed of 3/4" high density particle board covered with walnut plastic laminate. Tops are 1 1/2" thick. Turntable bases are normally supplied with rack rails constructed of 11 gauge steel, tapped to accept 10 - 32 standard E.I.A. rack panels.

\* Prices include crating.

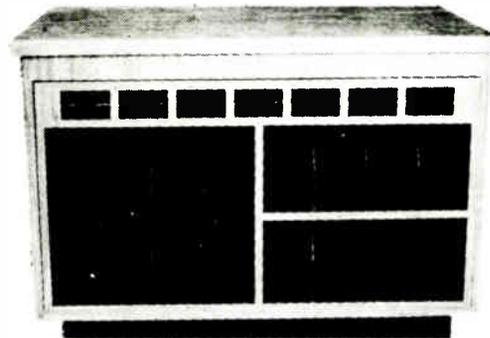
## KUSTOM KRAFT 201 SERIES TURNTABLE PEDESTALS

Single, Dual (shown) and Triple Bay Cabinets of conventional design permit the user to facilitate turntables and tonearms up to a total of three. Standard pricing includes rack rails in the vertical portion of the cabinet beneath each bay facing the operator. These rails and spaces come with integrated cover plates finished in the same laminate pattern as the remainder of the cabinet.

As shown in the illustration, custom record, tape and storage slots are available at additional charge. These storage compartments can be customized to your needs. The 201 Series perfectly complements the KK 230 Broadcast Desk.

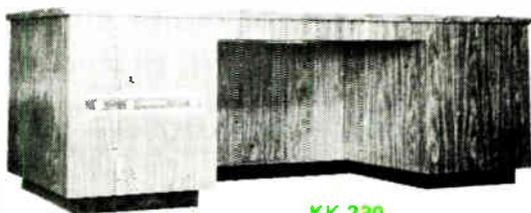
Turntable Cutouts at no additional charge as desired.

Walnut, pecan, black or adobe gold laminate standard. Various colors, color combinations and patterns of laminates available at additional charge.



KK 201B CUSTOM

## KUSTOM KRAFT STUDIO FURNITURE



KK 230

KK 202	Console Table Top	36" x 96"	144.00
KK 1111	Legs for Top consisting of 4 base panels		set 180.00
KK 2222	Modesty Panel		18.00
KK 230	Console Desk - laminate covered (without drawers)		575.00
KK2300	Console Desk with 2 drawers in bridge		625.00

\* Prices include crating.

## KUSTOM KRAFT STANDARD BROADCAST DESK MODEL KK230

A heavily-built, "real" piece of control room furniture. Standard in 29" height with a tabletop of 36" x 96", this unit can be varied in size to meet your precise needs. Shipped modular for rapid assembly.

A pull-out kneewell back affords easy access to hidden wiring compartments.

(Amplifier is extra and shown to illustrate possibilities)

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# COMMON POINT CATALOG

## KUSTOM KRAFT RECORD STORAGE CABINETS

MODEL NO.	RECORD SIZE	STORAGE CAPACITY	DIMENSIONS			SUGGESTED RETAIL PRICE*
			Width	Depth	Height	
KK 1000A	7"	1000/45's	24"	7 1/2"	84"	200.00
KK 1500A	7"	1500/45's	36"	7 1/2"	84"	240.00
KK 3000A	7"	3000/45's	48"	7 1/2"	84"	290.00
KK 750B	12"	750/LP's	24"	12 3/4"	84"	205.00
KK 1000B	12"	1000/LP's	36"	12 3/4"	84"	241.00
KK 1500B	12"	1500/LP's	48"	12 3/4"	84"	299.00

\* Add \$15.00 for crating.

## KUSTOM KRAFT TAPE STORAGE CABINETS

MODEL NO.	TAPE SIZE	STORAGE CAPACITY	DIMENSIONS			SUGGESTED RETAIL PRICE*
			Width	Depth	Height	
KK 300TA	5"	300	24"	5 3/4"	84"	199.00
KK 500TA	5"	500	36"	5 3/4"	84"	229.00
KK 750TA	5"	750	48"	5 3/4"	84"	259.00
KK 100TB	7"	100	24"	5 3/4"	84"	149.00
KK 250TB	7"	250	24"	7 3/4"	84"	169.00
KK 500TB	7"	500	36"	7 3/4"	84"	279.00
KK 750TB	7"	750	48"	7 3/4"	84"	339.00
KK 200TC	10 1/2"	200	24"	11 1/4"	84"	189.00
KK 400TC	10 1/2"	400	24"	11 1/4"	84"	239.00
KK 540TC	10 1/2"	540	36"	11 1/4"	84"	289.00
KK 750TC	10 1/2"	750	48"	11 1/4"	84"	349.00

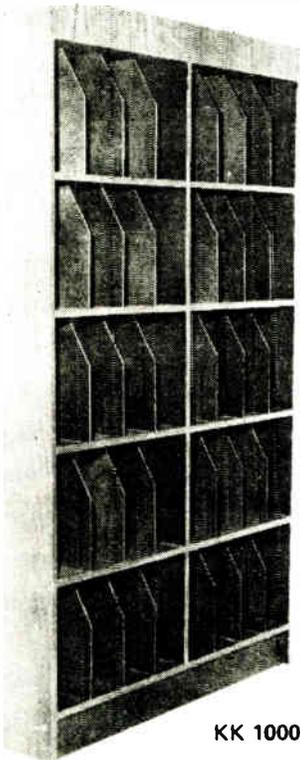
All Kustom Kraft record and tape cabinets come with walnut laminate sides and solid walnut trim on exposed edges.

\*Add \$15.00 for crating.

- \* Prices are FOB Mansfield, Ohio.
- \* Prices are subject to change without prior notice.
- \* Walnut, Pecan, Gold and Black Laminate Finishes are provided at the standard Kustom Kraft prices.
- \* An additional 12% charge will be applied to orders specifying a particular manufacturer's laminate such as "Formica".
- \* Custom orders must be confirmed in writing with the manufacturer and are non-returnable.
- \* Kustom Kraft, Inc. reserves the right to change design or style of standard units as availability of materials dictate.



KK 1500A



KK 1000B



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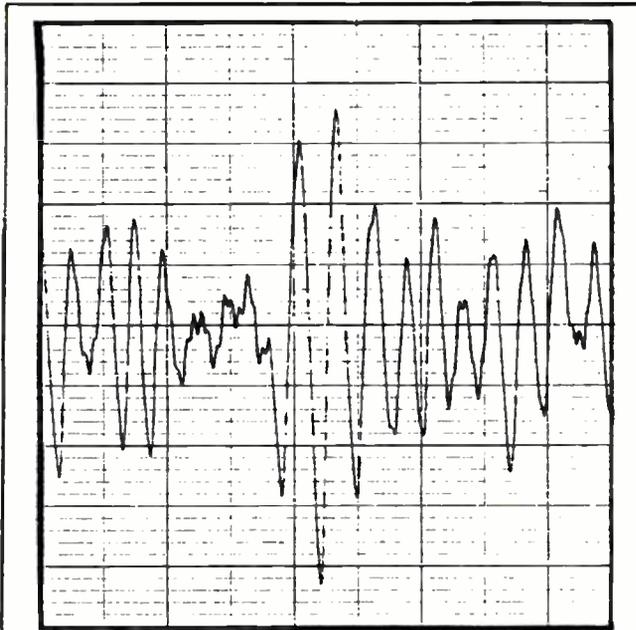
# ELECTRONIC INDUSTRIES INC.

19 E. Irving — Oshkosh, WI. 54901

**SUBSONIC**

(cont. from page 4)

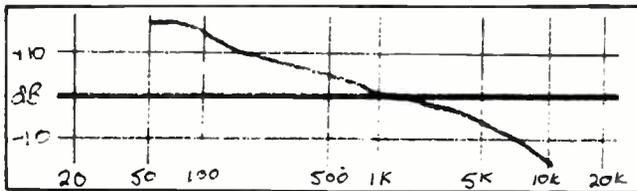
33.3 rpm. This example is by no means extraordinary, and the rumble you measure on your turntables may exceed the manufacturers specs for a very good reason:



**FIGURE 2**

1 sec/div  
50 mV/div

the turntable preamp. The RIAA reproduce curve for phonograph discs is shown in figure 3. The specification details the shape of the high-frequency roll-off curve, but makes no mention of what is to happen as the curve approaches 0.0 Hz! In fact, many preamplifiers of recent design keep responding right on down to DC! The better consumer preamps will have a rumble filter to get rid of subsonic noise which can be caused by record warp, turntable design, type of drive, and tonearm design. A tremendous menace is found in the



counter-top mounted, direct-drive, typically-inexpensive broadcast-control room turntable. The author personally believes that any engineer who mounts a QRK turntable by screwing it down to a Formica-covered plywood board should be stripped of his rights to ever enter a radio station again. Subsonic and low frequency feedback through the control room monitors and the physical implications of placing a Coke bottle on the counter next to such a turntable threaten any good transmitter.

Low frequency transients also develop in tape cart machines. A poorly erased tape cart retains "spokes" of the original recording. Figure 4 shows the effect of poor erasure on a tape cart which was recorded with a reference level 1000 Hz tone. In this particular instance, 1000 Hz tone bursts about 100 milliseconds in

(cont. on page 12)

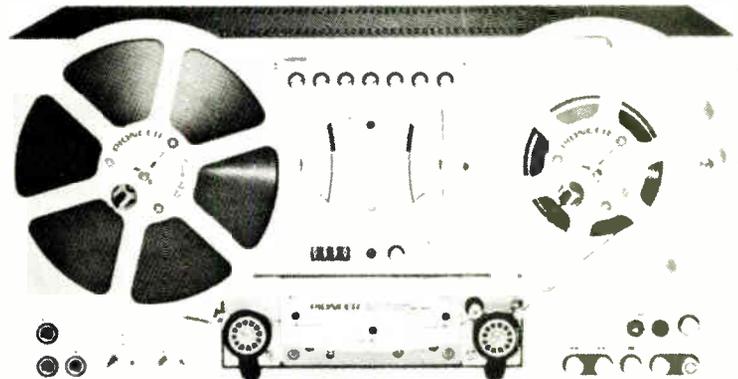
# Put More Muscle in Your Production Room with a Pioneer Tape Recorder

## RT 909



RT 707	1/4 Track	<b>\$625.00</b>
	1/2 Track	<b>\$1179.00</b>
RT 909	1/4 Track	<b>\$725.00</b>
	1/2 Track	<b>\$1275.00</b>

## RT 707



Sold and Serviced by  
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# TALKBACK

The Talkback column has been like a flood gate for our readers but because it is confined to just one short column, we have been unable to keep up with all the cards. Please bear with us. We try to print a cross section of replies, not just those agreeing with us. The first ticket problem brought a deluge of cards with 98% saying we should keep it.

Ed.

**Oregon** . . . problems with old Bauer 5kw. No VSWR indication on power monitor. New sampling diodes recently installed. Also need to keep replacing 3 pole contactors in bottom. Suggestions??

**Kentucky** . . . more articles like "Workbench" great help.

**Nebraska** . . . Does anybody still have an ITA AM-1000A? Does anyone know of modifications they worked out that improved it?

**Iowa** . . . love **Common Point** (even air and sales staff are interested in 'Talkback' pages re controversy about first tickets, 9 KHz, AM stereo, etc.) Look forward to seeing you every month. Keep it going.

**South Dakota** . . . Too bad all equipment can't be idiot proofed for operators who mis-use or abuse everything.

**Kansas** . . . I like the 'receipt' for voting idea.

**Ohio** . . . Like the tax deduction idea. Like the 'none of the above' idea, too. Afraid we'd never elect another president unless candidates change.

**Missouri** . . . Let's start using our FCC license for more than just transmitter logs and maintenance logs. Great issue to start 1981 with.

**No Name** . . . Having a broadcaster head FCC would be like having president of gas or light company head up public utility. Result . . . chaos and completely unregulated operation.

**Michigan** . . . 1) Keep the 'first' and update the tests. 2) I like 'The Workbench'. 3) How about an article on telephone interfacing (i.e.) call in shows, etc.

**Wisconsin** . . . I'm confused . . . **Common Point** comes free . . . why subscribe?

(Ed. note: **Common Point** will continue free. Subscribers qualify for a 2% discount on any purchase except cases where special arrangements made. Subscribers also qualify for once a year big discount, too.)

**Nebraska** . . . thanks for **Common Point** \$100 credit. Will be getting back to you on how to spend it.

**Iowa** . . . can you publish more articles about AM audio?

**Ohio** . . . 1) Excellent idea on 'voting'. 2) For a 'quick fix' on a remote line or such, a distortion analyzer can be easily used to notch out a tone.

**Texas** . . . think you have right idea on elections. Really like 'tab break' for voters.

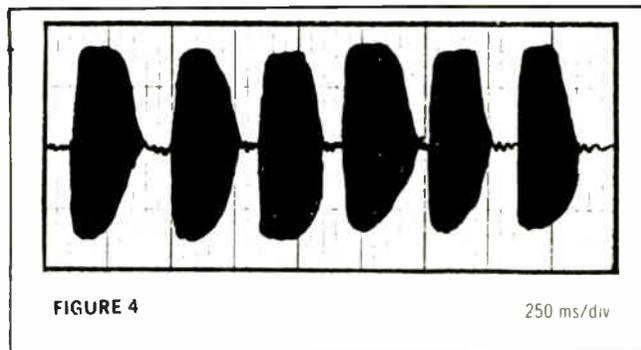
**Alaska** . . . send more info on Superscope C207LP . . . good news for gathering. Say hi to Karl Luft.

**Minnesota** . . . commentary on FCC chairmanship well put. I believe Livesay would be a good choice.

\*\*\*\*\*

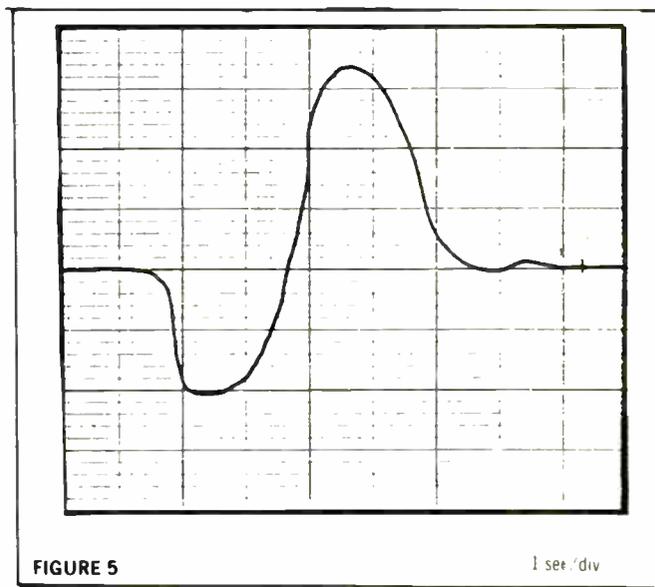
## SUBSONIC

(cont. from page 11)



duration appeared at the rate of about 6 HZ. These were only 25 dB down from reference level. The subsonic envelope spells trouble for a transmitter. Cart reproducers can also produce transients when a cart is inserted or removed, or when the pinch roller solenoid engages or disengages. Figure 5 is a reproduction of the waveform seen on an oscilloscope when a popular cart machine started and then stopped. The peak level of this waveform is only 30 dB down from reference level.

New audio consoles with electronic signal switching may also cause problems. Typically, a CMOS or FET transistor will be controlled by a DC voltage and will



switch program audio onto a common bus. The DC control voltage isn't **supposed** to get in with the audio --- but sometimes it does. Newer devices have very good isolation between the control signal and audio, but a damaged or defective device will still cause problems.

(Future issue, some solutions to the problem of subsonic noise will be presented.)

# COMMON POINT CLASSIFIEDS

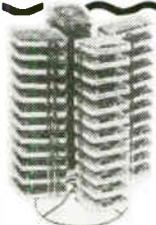
**BLANK-IT** The multi-format magnetic tape eraser



**FEATURES:**

- Greatest magnetic field strength of any hand-held eraser.
- Longest on-duty cycle of any hand-held unit — permits continuous erasure of more tape.
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- No-Mar work surface — won't scratch items being erased.
- Human engineered for proper balance and ease of operation.

**Common Point Special — SAVE \$10.00**  
Just — **\$49.95**



MODEL TR-48

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Now Just — **\$49<sup>95</sup>**

Storage for 48 cartridges. Four separate removable racks store 12 cartridges each. Outside diameter when fully loaded is 15" (381 mm); height is 20" (508 mm). Racks are chrome plated welded steel. Base is black japanned steel. Shipping Weight: 11 lb (5 kg). Shipping Volume: 1.84 cu. ft. (0.05 cu. m)

**SSAC**

**B-KON-FLASH Tower Flasher**

**\$39.95**



FS155-30T

**THE ANSWER TO MECHANICAL FLASHER EXCESSIVE COSTS!**

**FOR SALE:** Russco Cuemaster turntable, display model, fully warranted. Reg. \$376.00. Now \$324.00. Contact Electronic Industries.

**WANTED:** Northern Wisconsin & U.P. Michigan . . . broadcast engineers for new S.B.E. Chapter. Contact Steve Brown, WHBY Radio, Appleton, WI.

**WANTED:** Information — manuals — parts for REL 518B-DL 1 kw FM transmitter. Contact Dick Van Zandt, Jr., at WEMI Radio, 360 Chute St., Menasha, WI. 54952.

**WANTED:** Schafer 800 parts or systems. Will consider exchange or purchase. Have in stock parts for Schafer 800 (tube type) and 800T (transistor) automation systems. Contact Cliff Groth, mgr., Broadcast Electronic Service, 414-563-7236.

**Have the time of your life!**  
for less than **\$100<sup>00</sup>**



**\$95<sup>00</sup>**

**FOR SALE:** Gates FM-1B 1 kw transmitter, currently on air at KORT-FM in Grangeville, Idaho, was purchased in fall of 1979 from college in Florida; engineer has completely gone through and brought to first class condition; comes with exciter and stereo generator. Also Electronic Research Labs 10 kw Isocoupler, new in November 1979, going off AM tower so no longer required. Contact Gene or Mike 208-743-2502.

**WANTED:** Used 160' AM tower preferably in northwest, prefer lightweight. Send pricing and availability and Polaroid shot is and availability and Polaroid shot if possible. 4-K Radio, Inc., Box 936, Lewiston, Idaho 83501.

## RADIO TO TELEPHONE / TELEPHONE TO RADIO

ELGIN ERC-19522-21 and ERC-19522-22

Elgin's 19522-21 & 22 are expressly for use with your automatic answering devices in conjunction with concert lines, weather lines, news lines, etc. Useful with answer-only and answer-record message situations. A beep tone is provided to inform the caller when to leave his message on the 2W models.

The -21 model is self-powered.

The -22 is self-powered and includes a VOX card which automatically disconnects the coupler from the line after 12 seconds of dial tone or no audio. Central office action as described for model 20721 must occur with model -21. If no battery reversal or momentary open is provided by the exchange, model 22 should be ordered. If only an answer function is required, the -21 will be sufficient. The associated customer provided machinery must supply the end signal with the -21 model if no open or reversal is available.



Note: All telephone line connected equipment should be thoroughly protected against lightning and surges!

Telco Jack No. RJ11W or RJ32X\*

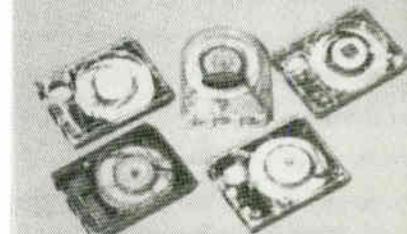
19522-21 RDL .....	\$237.00
19522-21-2W RDM .....	\$210.00
19522-22 RDL .....	\$301.00
19522-22-2W RDM .....	\$264.00
If multi-pin connector is required for connection with your equipment — 43F250 + 29F2663 .....	
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### USER'S MANUAL FOR CARTRIDGE (NAB) SYSTEMS

**\$2.00** plus postage



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**ATP-1** REGULAR PRICE ...  
\$17.00  
**2/\$17<sup>00</sup>**

SIMILAR TO THE STANTON 500AL  
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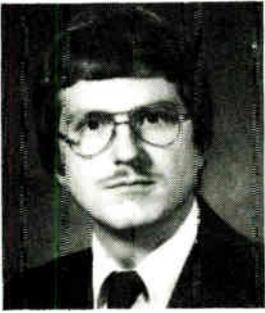
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All information should be in our hands seven to ten days prior to month end.

Space for Common Point classifieds is provided as a service for our readers. All information and claims are the sole responsibility of those providing information and not Electronic Industries.



# PERSONS' POST SCRIPTS

by Mark Persons

## A.B.E.S.

The time is nigh, indeed here, for the introduction of Regional Radio Broadcast Technicians. There is a growing need for hundreds of these people to service from three to twelve radio stations in their area. I'd like to call them "A.B.E.S." standing for "Area Broadcast Electronic Servicemen", or if you insist . . . "Service People". Most large stations hire a full time engineer. However, many smaller stations don't have anyone qualified enough to do more than change a tube. It is a sin, I believe, for a station's DJ-Engineer to call a Chicago or Washington engineering consultant for detailed information on how to troubleshoot and repair an off-the-air transmitter. Consultants are usually busy people concerned with interference contours and license applications. They don't need to get a panic call from a station they haven't done business with for two years asking "What should we do now?" This kind of troublecall should be directed to the ABES who services the station on a weekly or monthly basis and is completely familiar with the setup. Furthermore, he is probably less than 60 miles away and can be there quickly.

Because the ABES does broadcast electronic repair fulltime, he should have the equipment and experience to make quality permanent repairs. Equipment should include a good dual trace oscilloscope, audio oscillator/audio analyzer, AM field intensity meter, AM RF bridge, 1 GHz frequency counter, and a healthy assortment of good tools. Much more is needed including many spare parts to take care of emergency situations. The ABES should be an independent businessman deriving his income from the many stations he services on a regular basis. He should also be able to service more than one broadcast facility in the same town. There should be no political hassles when it comes to engineering services. I myself service two stations in each of two towns without problems. Every ABES can and should, too. He should charge on a time and material basis. I shy away from maintenance contracts as they can often be a "can of worms". Payment for exact services rendered seems more equitable to both parties. Of course, it depends on the people involved and the situation. Workman's comp, liability and complete operations insurance are a must for this kind of work though.

I feel that with less emphasis on having an engineer on duty and more emphasis on complex electronic equipment, the day of the Area Broadcast Electronic Serviceman has arrived. He is needed NOW to service and maintain the many small to medium stations in America's hinterlands.

\*\*\*\*\*

Now a  
**\$50**  
**REWARD!**

for stories of interest or your unusual experience that would help other broadcasters. Join the many broadcasters who have already sent us stories that you have enjoyed reading. For complete details, call Spokeshaven collect.

## Stanton Model 310 Professional Phono Preamplifier/Equalizer



Reg. \$240.00

STILL **\$195<sup>00</sup>**

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### C-207LP Professional Three-Head Portable Cassette Recorder

The Superscope C-207LP three-head portable recorder is your personal information-processing tool. Combine its compact size and sophistication in features with its two-speed capability and you have the ideal recorder for broadcast journalists and others who demand outstanding sound reproduction and dependable performance of true broadcast quality.

The C-207LP's two-speed function lets you record at 1 7/8 ips, or for twice the recording time on your cassettes use 15/16 ips mode, cutting cassette expenditures in half.

The C-207LP has separate record and playback heads so you always hear exactly what's going on the tape as you record - there's no guesswork, and you can instantly check recording progress any time. Three-head design also means each head is designed specifically for its function - record, playback/monitoring or erase - without sacrificing any performance for sake of compromise.

That's just for starters... check out all the other features that make the C-207LP the choice of so many people who demand professional quality and performance.

- Super-hard permalloy record and playback heads ensure a wide frequency response, low phase distortion and up to ten times longer life than ordinary heads.
- Memory Rewind/Replay works in conjunction with the 3-digit tape counter to replay any selection on the tape automatically. Just reset the counter to "000" at any point on the tape. Later, simply hit rewind. The tape will rewind to "000" and immediately start.
- One-touch record allows instant recording with one-button ease, and lets you go directly from play into record mode.
- Cue and review helps you find any point of sound on a cassette by enabling you to hear the tape while it's being advanced in fast-forward, or in rewind.
- Automatic-manual-limiter record level switch provides the option of setting record levels manually, or using the built-in automatic record level (ARL) circuitry. The limiter automatically protects against high input signals, so sudden volume increases won't cause distortion or tape saturation.

- Vari-speed pitch control lets you compensate as much as  $\pm 15\%$  for a cassette recorded slightly off speed.
- DC servo-controlled motor electronically regulates motor speed to reduce wow and flutter and to improve speed stability.
- Total mechanism shut-off (TMS) turns the recorder off in any mode when tape ends, or if the tape is defective and accidentally breaks.
- Bias and tape equalization adjustments ensure optimum performance from either standard or CrO2 tape formulations.
- Dual flywheel mechanism maintains a stable tape speed in any operating position.
- The ambient noise control circuit functions like high and low filters to cut down background noise. Especially important when recording voice.
- Four-way powering (AC, DC, optional car battery adaptor DCA-6, optional rechargeable ni-cad battery pack RBD-1)
- Automatic mic/line switching
- Separate record and playback volume controls
- Built-in condenser microphone
- Record level/battery strength meter
- Tone control
- Locking pause control allows momentary shut-off in both record and play with touch-of-a-switch ease. Invaluable when presetting record levels.
- 4-inch full-range speaker, plus an external speaker jack that allows playback through an external speaker system. A speaker monitor switch allows monitoring through the built-in speaker.
- Additional features include 1/4-inch headphone jack, adjustable carrying strap, line output jack, and input jacks for auxiliary source, telephone pick-up, external microphone and remote control stop/start switch.

#### Optional accessories

CLC-330 Vinyl Carrying Case . . . . .	<b>\$25.00</b>
RBD-1 Rechargeable Battery Pack . . . . .	<b>\$25.00</b>
EC-3S Stop/Start Microphone . . . . .	<b>\$22.95</b>
DCA-6 Car Adaptor . . . . .	<b>\$35.00</b>



**SUPERSCOPE**

BY ELECTRONIC INDUSTRIES INCORPORATED

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