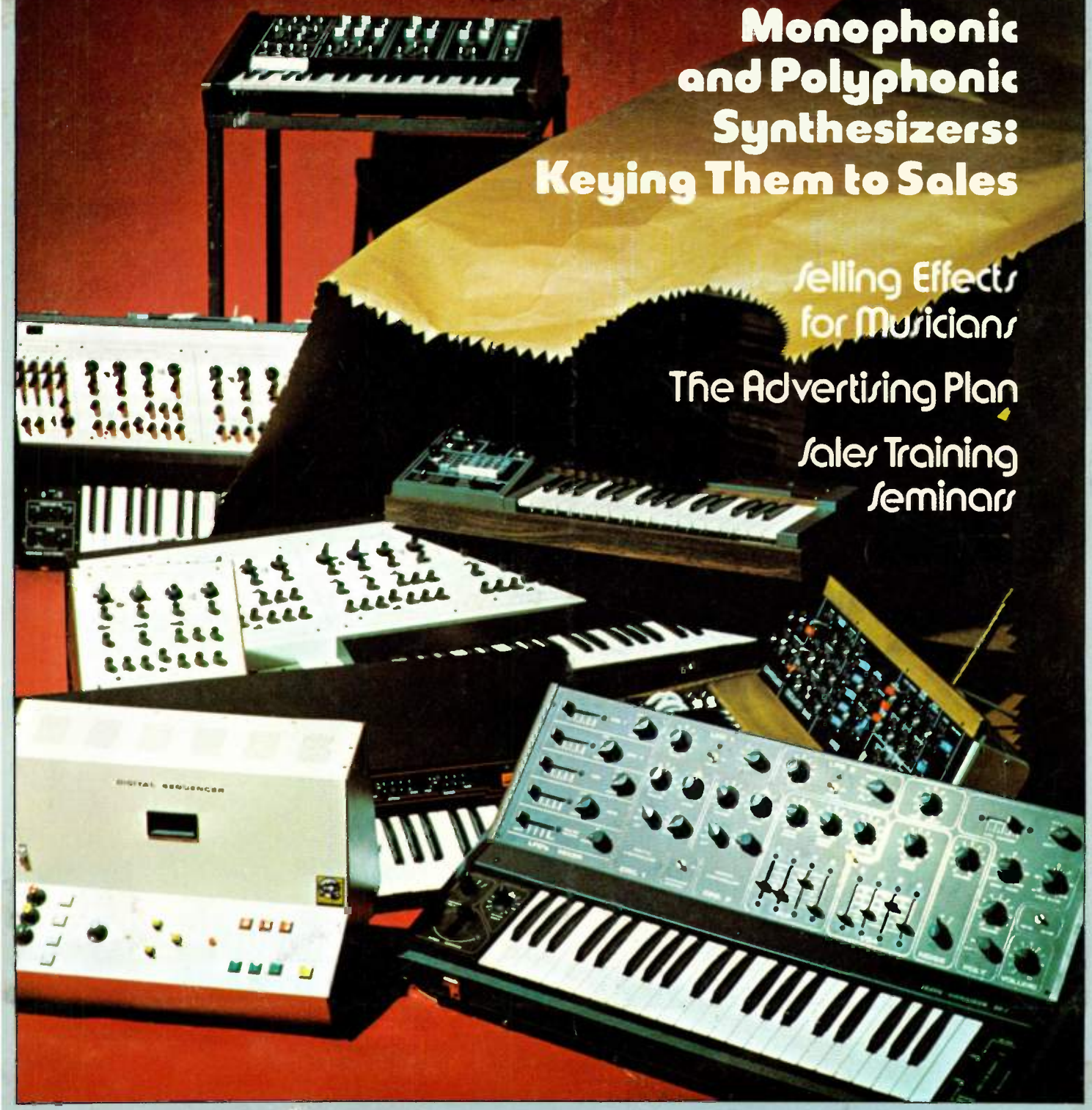
SERVING THE CREATIVE AUDIO AND MUSIC ELECTRONICS INDUSTRY

SOUND ARTS

MERCHANDISING JOURNAL

JULY 1978
VOL. 1 NO. 6

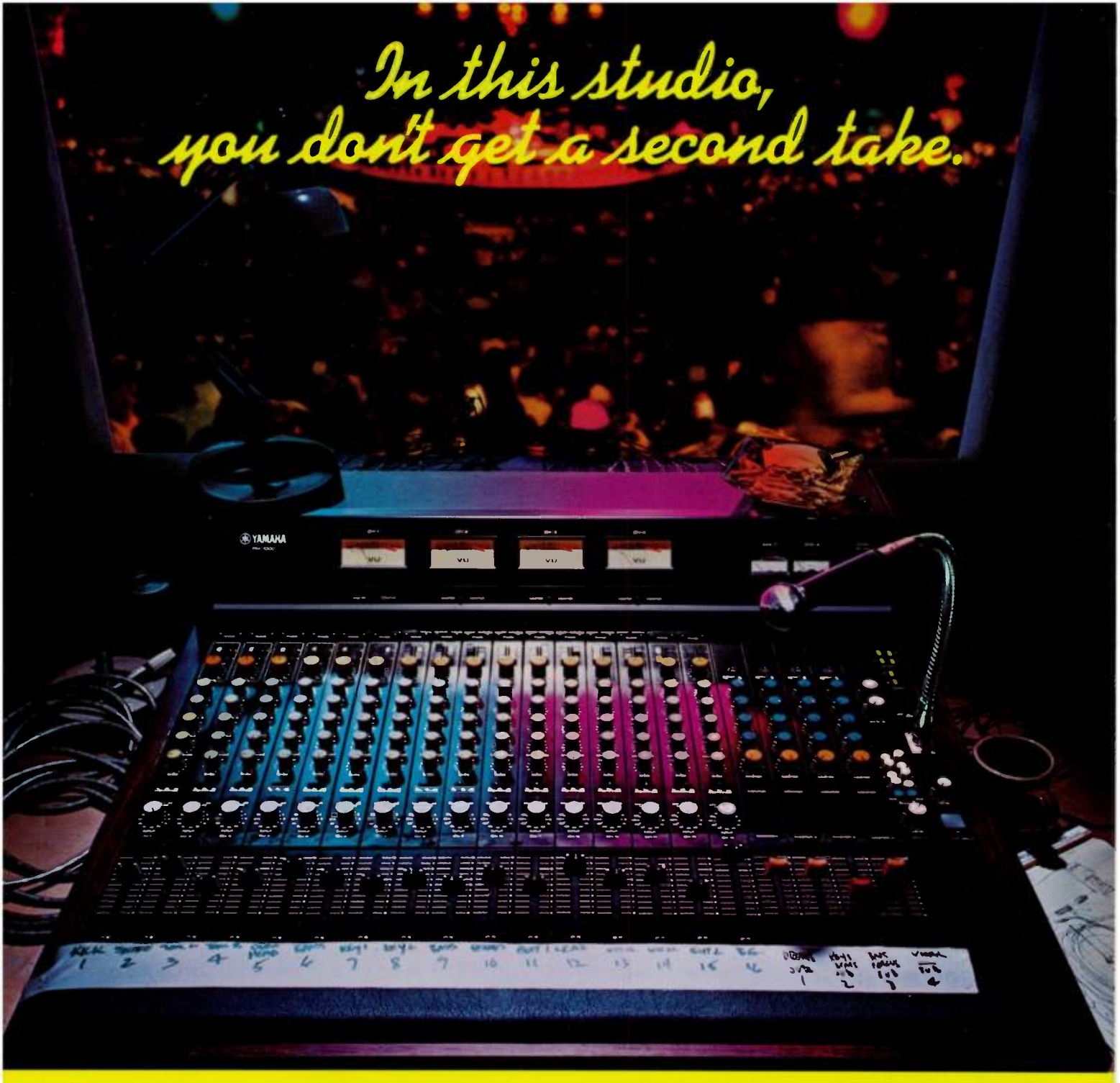


Monophonic and Polyphonic Synthesizers: Keying Them to Sales

Selling Effects for Musicians

The Advertising Plan

Sales Training Seminars



When you perform in front of a live audience, you put everything on the line.

That's why you're so careful in selecting sound reinforcement equipment. Because once the music starts, you can't afford to have it stop.

At Yamaha, we know that the show must go on. Regardless.

That's why we designed our PM-1000 Series mixing consoles to the highest standard of quality and reliability. Professional.

Whether it's our 16-, 24-, or 32-channel model, the PM-1000 Series is capable of surviving the kind of punishment and abuse that only "the road" can dish out.

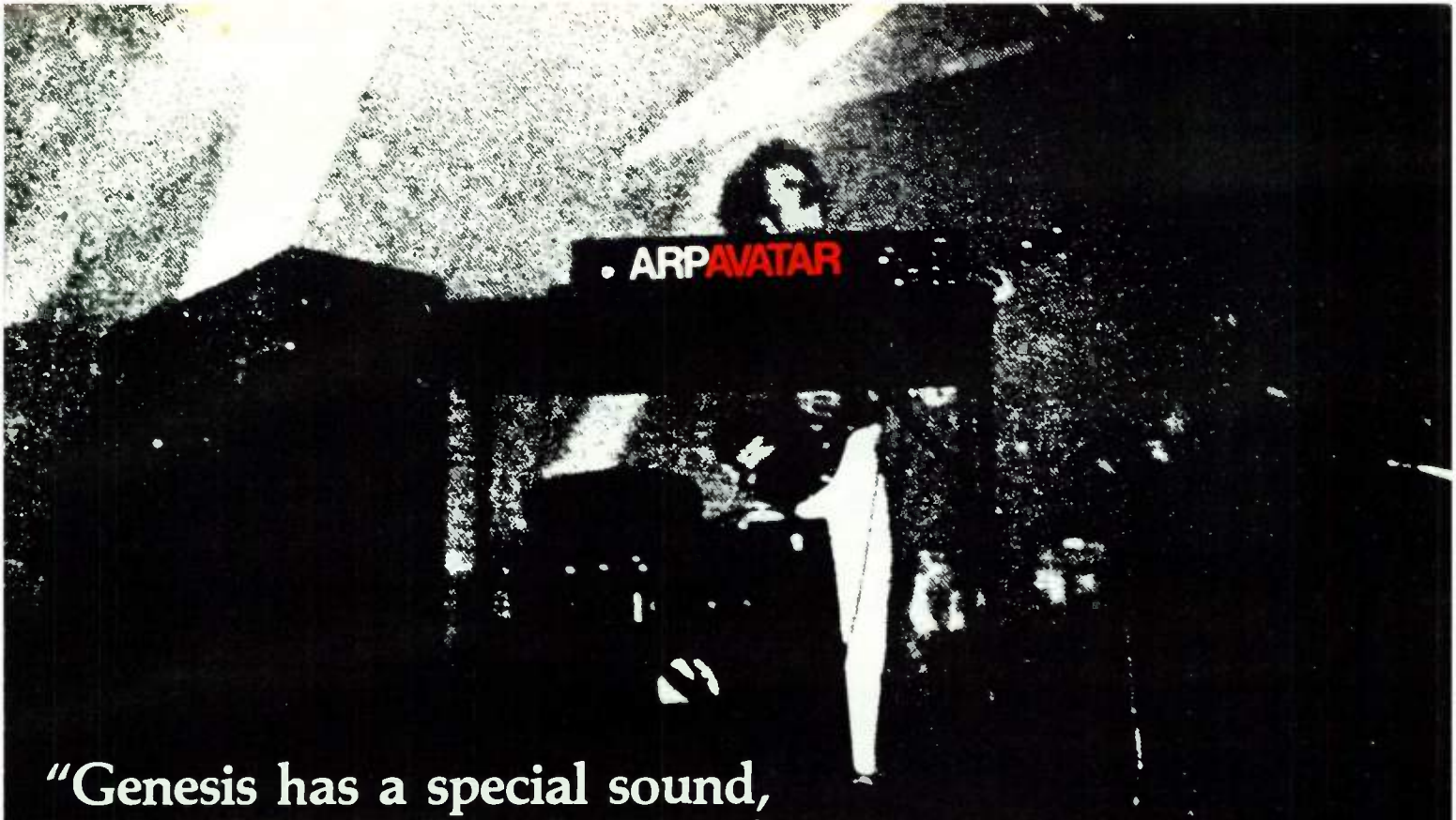
Tough isn't enough. Realizing that every job has different sound requirements, Yamaha also designed the PM-1000 Series for maximum flexibility. With features like an exclusive 4x4 matrix with level controls that allows four independent mono mixes.

There's also the complete complement of controls you'd expect to find on the most sophisticated consoles. Transformer isolated inputs and outputs. Dual echo send busses. An input level attenuator that takes the +4dB line level to −60dB mike level in 11 steps. Plus 5-frequency equalization. To give you plenty of headroom for clean, undistorted sound, the PM-1000 can drive a 600 ohm load to +22½dBm.

Get your band on the wagon. All around the world—night after night, gig after gig—you'll find Yamaha mixing consoles the choice of more and more professionals. People who don't regard professional quality as a luxury, but as a necessity. Your Yamaha pro sound dealer can give you all the reasons why you should join them.

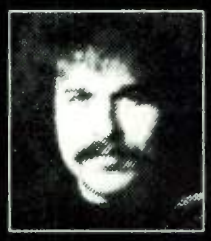
YAMAHA

CIRCLE 82 ON READER SERVICE CARD



"Genesis has a special sound, and my Avatar blends in perfectly."

Daryl Steurmer/GENESIS



Jazz-rock guitarist Daryl Mark Steurmer has performed and recorded with top artists like George Duke and Jean Luc Ponty.

Today he's touring with *Genesis*, one of rock's premiere groups, and he's playing the most revolutionary musical instrument of the decade: the ARP AVATAR guitar synthesizer.

"Using the Avatar is like having a second instrument available without changing instruments. I can play straight guitar and bring in the sound of the synthesizer just by picking harder. That's quite a powerful feeling for any musician, particularly a guitarist."

Daryl's hexaphonic pickup is mounted on a customized Hagstrom guitar with a Les Paul neck. On stage, he makes maximum use of the Avatar's multiple outputs by playing through three separate amps.

"I have the hex fuzz sound coming through a Mesa Boogie, and a warm synthi sound coming through the Sunn, plus my straight guitar sound coming out of another amplifier. It comes out really full."

The Avatar has added a new dimension to the sound of *Genesis*, as well as a new dimension to Daryl Steurmer's musical career. All the sound potential of the Avatar has expanded the range of musical expression under his control. And the challenge of mastering a new instrument —without giving up his favorite axe — has enhanced his development as a professional musician.

"Playing the Avatar has made me a better guitar player and a better musician. Going from jazz to rock was a big change for me, but going from straight electric guitar to guitar synthesizer was an even bigger change. I'm thinking in terms of bass parts, melody, mixing the synthesizer with the qualities of the guitar, now that I have the Avatar. I have to say it's made a difference in my career and my music . . . like I've broken into a whole new field."

Like hundreds of leading professionals, Daryl Steurmer is breaking new ground and creating new sound with the Avatar.

Ask for a demonstration where you see this sign,

ARP

or send $1.00 for a brochure and musical demonstration.

ARPAVATAR

It's the sound.

Send $1.00 for more information to: Dept. A
ARP Instruments, Inc., 45 Hartwell Avenue, Lexington, Massachusetts 02173

Listen for these fine artists playing the ARP AVATAR:
Pete Townshend/The Who • Jeff Lynne/Electric Light Orchestra • Roy Buchanan • Lou Reed • Bo Diddley • Jimmy Page/Led Zeppelin
Pat Metheny • Kerry Livgren/Kansas • Orville Saunders/The Blackbyrds • Walter Becker/Steely Dan • Carlos Santana/Santana • Ace Frehley/Kiss
Dominic Troiano • Howard Leese/Heart • Steve Fossen/Heart • Roger Fisher/Heart

CIRCLE 84 ON READER SERVICE CARD

ONE OF TEAC'S BEST IDEAS WASN'T A TAPE RECORDER.

It was a market.

1970 First 4-Channel Tape Recorder with Sync for less than $1,000 (TCA-40)

1972 First Mass Produced 4-Channel Tape Recorders with Sync. (A-3340 & A-2340)

First Studio Quality 8x4 Audio Mixer for under $2,000. (Model 10)

1973 First Studio Quality Recorder/Reproducer to provide 8-Tracks on Half-inch tape. (Series 70)

1974 First Mass Produced 6x4 Audio Mixer for less than $300. (Model 2)

1975 First Studio Quality Mass Produced 8x4 Audio Mixer. (Model 5)

1976 First Studio Quality Mass Produced 8-Track Recorder/Reproducer for less than $3,000. (Model 80-8)

1977 First Studio Quality Mass Produced 16-Track Recorder/Reproducer to use One-inch Tape and cost less than $16,000. (Model 90-16)

1979

When we introduced our first multitrack tape recorder in 1970, we were so far ahead of everyone else that many people thought it was a quad machine.

But the customers we built it for knew exactly what it was: a four-channel tape recorder with sync for overdubbing that cost less than $1,000.

Since then, TEAC has continued to develop new products with price/performance breakthroughs as big as the market we discovered.

In fact, multitrack products—including our TASCAM Series—make up one of the most innovative and successful lines in the history of this business judging by the number of dealers who became wealthy selling it, and the number of competitors it spawned.

Getting to the market meant breaking a lot of rules and killing a lot of sacred cows. We put eight tracks on half-inch tape, for one example. And 16 tracks on one-inch tape, for another.

Doing things like that required a profound understanding of our customers' needs and their goals. But still it wasn't easy. We invested huge amounts of time, money and manpower to develop the market.

We created software to demonstrate how the products work. We developed consumer awareness through innovative sales programs using the latest videotape techniques. We even made consumer sales easier through our unique Finance America credit program.

Today, the power of the market is being recognized at last.

As profitable as it is, though, the business may not be for every dealer. It requires commitment, skill and imagination. So if you'd like to explore your potential in this market, drop by the TEAC Exhibit at the CES or NAMM Show. It could be *your* best idea.

TEAC®
First. Because they last.

TASCAM SERIES BY TEAC®
A new generation of recording instruments for a new generation of recording artists.

TEAC Corporation of America • 7733 Telegraph Road • Montebello, California 90640 • In Canada TEAC is distributed by White Electronic Development Corporation (1966) Ltd.

JULY 1978

SERVING THE CREATIVE AUDIO AND MUSIC ELECTRONICS INDUSTRY

SOUND ARTS

MERCHANDISING JOURNAL

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THE STAPLES

COMING NEXT ISSUE!

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Crossover: The Best Way to Divide
Disco Sound Installation: Should You or Shouldn't You?

Cover Photo by
Doug Hanewinckel

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A LETTER FROM THE EDITOR

"The only *truly* polyphonic keyboard is the piano," a marketing manager told me recently. With the proliferation of synthesizers termed both monophonic and polyphonic, and with new products released regularly, there seemed to be enough of both interest and confusion around the subject to warrant an investigation by SOUND ARTS.

Monophony and polyphony, like so many electronically oriented terms of today, originate in basic musical theory: melody and counterpoint, or an approximation thereof. And, also like so much of our business, music merges with electronics to produce something new. The impetus for manufacturing a polyphonic synthesizer has its basis in musical theory overlayed with technology. Likewise, the selling of a synthesizer requires an understanding of both music and electronics.

"They're like apples and oranges," I've been told again and again by those involved in the merchandising of mono and poly synthesizers. And selling them requires an understanding of the appleness and orangeness of the classifications. While there is some lack of standardization in the field concerning precise definitions, enough can be said about them to write several books. For starters, Tom Rhea writes in this issue on the purposes of both mono and poly synths and how to sell them. It's a growing field in which the instrument and the creative urge should meet comfortably. The sound has to react to the inspiration and the merchant has to react to both.

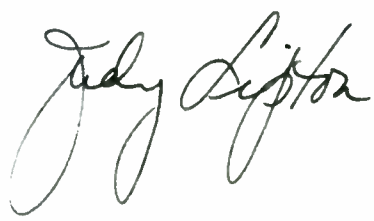
Less difficult to understand technically, but in some ways harder to sell, are effects units. They are, for the most part, small in size but large in importance and different from most other items in any MI or audio store. Ron Wilkerson has some savvy tips on selling effects and they're here in this issue of SOUND ARTS. Ron concentrates this month on performance units, although of course the effect of effects goes beyond.

The connection between synthesizers and effects units is more than electronic and more than just musical. They are both part of some pretty heavy concepts that are integral to both creative audio and electronic music in general. They are exhibits of a move from recreation of a performance to the creation itself—almost a move back in time accompanied by the technology of our own time. Or, to risk pomposity, to a *new and higher sensibility.*

It's a follow-the-muse movement and a technology that allows one to follow that muse.

End of pontification. Read on for service on music and merchandising.

Regards,



Judith Morrison Lipton

HOW MANY OF THESE FINE MUSICAL INSTRUMENTS DO YOU CARRY?

Selling multi-track tape recorders without dbx tape noise reduction is like selling electric guitars without amplifiers.

Why dbx? Why tape noise reduction at the semi-pro level?

Easy. Because dbx tape noise reduction gives even the smallest studio the potential to make master tapes with full professional quality. With a dbx 155 or 158, you sell your customer an extra 30dB of signal-to-noise ratio on even the best TEAC, Otari, or TASCAM. Plus an extra 10dB of recording level headroom. Additive noise resulting from multi-track bouncing is virtually eliminated. Only dbx makes an economically-priced, flexible series of professional tape noise reduction units for today's aspiring recording artists and smaller studios.

dbx tape noise reduction is easy to operate, too. Level calibration is unnecessary, and gain riding is seldom required to produce noise-free, full dynamic range recordings.

dbx 155 and 158 are fully compatible with the professional line of dbx equipment used by larger studios worldwide. We supply 2, 4, 8, and 16-channel versions, as well as dbx mono and stereo compressor/limiters. So now your customers can make demos and take them right to the big guys for anything from an audition to a record pressing.

Sell a key ingredient that will help today's aspiring talents to become tomorrow's recording stars: dbx tape noise reduction.

dbx

dbx, Incorporated
71 Chapel Street, Newton, MA 02195
617-964-3210

CIRCLE 83 ON READER SERVICE CARD

FORUM

Enclosed please find a subscription card for myself, Mr. Charles Alden, our president, and Mr. Richard Mann, our sales manager. We are wholesale distributors of musical and electronic instruments and accessories, including Roland, Yamaha, Switchcraft, Oaktron and others, many of which are advertised in your excellent publication. In fact, Mr. Tom Beckmen of Roland International recommended you to us.

My next request is about the availability of back issues. I notice your June 1978 issue is imprinted Vol. 1 No. 5, so would assume that you have published four previous issues. I would like to have these sent, if they are available, and will be happy to remit any charges necessary.

Richard A. Spencer
Vice President
Charles Alden Music Co., Inc.
Westwood, Massachusetts

The job you are doing with SOUND ARTS is just great and we are trying to help you in our own little way by constantly showing and discussing the publication during our dealer calls. Keep up the excellent job and continued success to you and your organization.

Herb Adler
Music Industry Products
Huntington Woods, Michigan

It's great having SOUND ARTS available — with consistently interesting articles. We just returned from our first tour of Japan and I gave the magazine "Player" a copy of SOUND ARTS. They loved it.

Rick Nielsen
Cheap Trick

In reading (from cover to cover) the May issue of *SOUND ARTS*, I felt compelled to comment on Larry Blakely's article "Noise Reduction: What is it? How to Sell it!"

The article was very well written and educational, but I feel it, as well as its presentation, suffered from a flaw.

In the explanation of single ended noise reduction systems, both positive and negative points were discussed for three of the four systems. For the fourth however, only the positive points were discussed, leading the uninformed reader to assume no negative points for this system, or find them out on their own. I feel that the negative points of this system should also have been discussed.

Combine this with the fact that nowhere in the publication is Larry Blakely's corporate affiliation disclosed, and I have to question the overall effectiveness of the article and its presentation.

I would strongly recommend that, in the future, authors be identified as to corporate affiliation.

Sincerely,

Robert E. Morrill
Director of Marketing
Phase Linear Corporation

[Mr. Blakely's corporate affiliation with dbx was prominently mentioned in the Table of Contents of our May issue. However, SOUND ARTS will now identify writers on the same page on which their articles appear — Ed.]

Our company has recently started receiving your magazine, and we have found it to be very informative and helpful. Unfortunately we missed the first couple of issues. If at all possible we would like to obtain copies of the back issues. If none are available, all I can say is keep up the good work . . . we'll be reading you every month.

Dave Beer
Northwestern Audio
Lima, Ohio

I am planning to start a sound reinforcement business for local bands. A friend of mine recommended your publication as a reference. I found it very informative and would like to continue receiving it.

Rick Kruser
Fresno CA

TERMS:

A CONTINUING INDUSTRY GLOSSARY

RECORDING

By Larry Blakely

Figure Eight: This microphone's pickup pattern is sensitive on both sides and not sensitive in the middle. This can be of real advantage when two singers want to sing facing each other using one microphone. Another application is in some on-location recording where a band may be split in half and occupy opposite halves of a stage or orchestra pit. One microphone can be used and placed near the conductor and pick up both halves of the band equally.

When one makes his selection of microphones, a knowledge of pickup patterns is most helpful and is an integral part of the essential information which insures that the right microphones are selected.

I have outlined the different types of pickup patterns for microphones along with some of the various applications for each. Another question often asked when choosing a microphone is, "What impedance do you need?"

Impedance: The opposition a circuit offers to the flow of alternating current. It is made up of resistance and reactance and is measured and specified in ohms.

It is important that the impedances of two devices either match or bridge. To explain, there exists the impedance of the source (microphone) and the impedance of the mixer input that the microphone (source) feeds the signal in to.

Matching Impedance: When the microphone or source impedance (specified in ohms) *is equal to* (not less than) the input impedance of the mixer or input it is feeding.

Bridging Impedance: When the mixer or input impedance is greater by *10 times or more* than the microphone (source) impedance.

Typically, there is no harm in the input impedance of the mixer being greater (in ohms) than the impedance

ELECTRONIC MUSICAL INSTRUMENTS & ACCESSORIES

By Mike Beigel

Oscillator: An electronic device that generates a periodic signal, recognizable by a definite "pitch" corresonding to the frequency of the oscillator.

Voltage (or Current) Controlled Oscillator (VCO): An oscillator in which the frequency of the output wave is controlled by an externally applied voltage or current, instead of or in addition to any manual controls. The "Voltage Controlled" concept, applied to all functions of the synthesizer (and introduced by Dr. Robert Moog) is primarily responsible for the versatility and present form of most available synthesizers.

Exponential VCO: A special relationship between control voltage and frequency output of a VCO which produces a linear ratio of voltage and perceived pitch. Many synthesizers feature these "one-volt per octave" oscillators. The advantage is that notes can be shifted and transposed merely by adding an extra voltage to the note-control voltage. The equal-tempered scale is accomplished merely by dividing 1 volt into 12 equal steps. Oscillators can be driven to track at fixed musical intervals with very simple interconnections.

Subtractive Synthesis: A method of tone generation in which the "source oscillator" contains many frequency components (overtones). This complex source signal is then filtered to achieve a tone with the desired overtone structure. The following wave shapes are used in subtractive synthesis:

Additive Synthesis: A complex method of tone-generation, in which individual sine waves of different frequencies are added together to construct a desired tone color. This requires one sine-wave oscillator for each overtone, or a computerized oscillator.

SOUND REINFORCEMENT

By Bob Heil

Barrier Strip: A screw or solder strip of open terminals, used for terminating incoming and outgoing circuits inside equipment cases.

Common Ground System: A single or common ground wiring system connecting several pieces of equipment together using a single ground from each chassis to actual "water pipe" ground.

Audio Frequency Sweep Generator: An audio oscillator that will automatically sweep across the audio frequency band about twenty times per second.

Beat Frequency Oscillator (BFO): An audio oscillator using two radio frequency oscillators. One will be variable and the other fixed. The variable can be "swept" or moved across the fixed frequency, giving a heterodyne or "whistle" effect.

Heat Sink: A device, usually of aluminum, used to radiate the heat from a solid state device. Its effectiveness is dependent upon the coupling between the device, the sink, and the chassis. A special silicone grease is used between each to ensure better contact, therefore better heat radiation.

Half Wave Rectifier: A rectifier circuit in which only the positive cycles of the a.c. are rectified.

Full Wave Rectifier: A circuit in which both positive and negative cycles are rectified.

Voltage Doubler: A circuit in which two rectifiers are actually used in series to produce twice the output d.c. voltage.

Axial Sensitivity (usually referred to loudspeakers): The acoustical output produced at a given distance, for a stated input power, expressed in dB referred to threshold of hearing.

Compression driver: A loudspeaker device which produces sound waves directly into a tuned horn. This horn must acoustically load the output of the driver.

TERMS: (CONTINUED)

A CONTINUING INDUSTRY GLOSSARY

RECORDING

of the microphone. However, it is not acceptable for a mixer input to be less (in ohms) than the impedance of the microphone. This would constitute a mis-match and would often cause serious frequency response errors and possible signal losses.

Impedance Is Measured in Ohms: The impedance of a microphone cannot be measured with a single ohmmeter. A typical ohmmeter measures only ohms d.c. (direct current). An audio signal is a.c. (alternating current). Measuring the resistance of an a.c. circuit requires an elaborate measurement setup; it is not done simply.

Low Impedance Microphones: Generally available in either 150 ohm or 250 ohm versions.

High Impedance Microphones: Available in 1000 ohms or higher, typically in the region of 10,000 ohms.

High impedance (unbalanced type) microphones utilize cables that have two conductors, one being a shield which is also the minus (−) conductor with an inner wire for the positive (+) conductor. The center or positive (+) conductor is normally surrounded with rubber or plastic and is then covered with a braided or spiral shield. This outer shield (the minus (−) conductor) may tend to pick up signals of radio stations and external hums and noises. These high impedance unbalanced microphones are ideal for less expensive applications where short runs of microphone cable (up to 20 feet) can be used. Long cable runs (50 feet or more) could cause serious problems with radio station interference, hums and buzzes, and possible loss of high frequencies.

Low impedance (balanced type) microphone cables have three conductors; a minus (−) conductor and a positive (+) conductor that are individually surrounded by rubber or plastic and then both covered with a braided or spiral shield. Because both the minus and plus conductors are within the shield, the low impedance (balanced) microphone is far less susceptible to picking up radio station interference.

ELECTRONIC MUSICAL INSTRUMENTS & ACCESSORIES

Synthesizer Control Signal Sources: Create the electrical signals that tell other parts of the synthesizer what to do. You never actually *hear* a synthesizer control signal, only the results of its effects on the signal generators or signal processors of the synthesizer. Control signals are generated by any interaction with the keyboard, panel controls, and often the "patches" of a synthesizer. They can also be generated automatically by sequencers or computers.

Keyboard Control Voltage: When a key is pressed on a single-note synthesizer, it usually is used to control a VCO (voltage controlled oscillator). Therefore, the keyboard control system puts out a voltage which represents the key being played, or the desired output frequency. In most synthesizers, this voltage is proportional to the *exponential* input required by the VCO. In many synthesizers, the keyboard generates a 1/12 volt step for each semitone, equalling "one volt per octave." This system makes internal transposition quite simple.

Portamento Control: The keyboard output voltage usually *steps* from one voltage to the next, providing clean transitions between tones. Occasionally, the opposite effect is desired: a gradual change or portamento (glissando) between pitches. The portamento control allows a varying rate of change between keyboard voltage outputs and the respective pitches of the notes. Generally, portamento can be varied from a barely perceptible jump between notes all the way to a slow, continuous glide over a few seconds' time length.

Attack-Decay-Sustain-Release Envelope Generator (ADSR): Puts out a more interesting envelope waveform. In addition to the attack and release curves, this generator adds an initial decay time and a variable sustain level control. All of these parameters are variable, and close approximations to many acoustical musical instrument envelopes can be obtained.

SOUND REINFORCEMENT

Bandwith: The stated frequency range of a device between the half power, or −3dB points of the upper and lower frequencies.

Bridging Input: A high impedance device used for connecting across an impedance of low value. Used primarily where a small voltage is needed for signal processing without disturbing the low impedance set-up.

Zero dB level: A reference term for power level; 1 milliwatt of power into a 600 ohm line, zero dB equals .773 volt. This is a reference of Bell Labs. Many manufacturers maintain their own power level of "zero" dB.

dBm: The level is with reference to 1 milliwatt of power into a 600 ohm line.

Line noise suppression filter: A filter used in the power line at the primary of a power transformer to prevent radio and line noises from entering the power supply circuits.

Notch filter: A narrow banded filter used for removing a specific frequency or narrow band of frequencies.

High pass filter: A filter, either active or passive, which attenuates all frequencies *below* the selected frequency. All frequencies above this selected frequency (or cut-off) are passed without distortion.

Low pass filter: A filter, either active or passive, which attenuates all frequencies *above* the selected frequency. All frequencies *below* this selected frequency (or cut-off) are passed without distortion.

Exponential Horn: An acoustical horn which maintains a constant flare at an exponential rate. The horn provides a near perfect match between the diaphragm and the air mass in the horn.

Power Doubling: When doubling the power from an amplifier to a loudspeaker, the free air acoustic increase will be only 3dB.

Polar Curve: Used in plotting radiation and pick up patterns of speakers and microphones; a circular curve usually plotted against the center point.

The sound system that raised the Iron Curtain!

Last year, under the direction of the U.S. State Department, the Nitty Gritty Dirt Band made history by being the first American band to do a tour of the Soviet Union.

From a diplomatic stand point, it would prove to be the most significant series of concerts an American group had ever played.

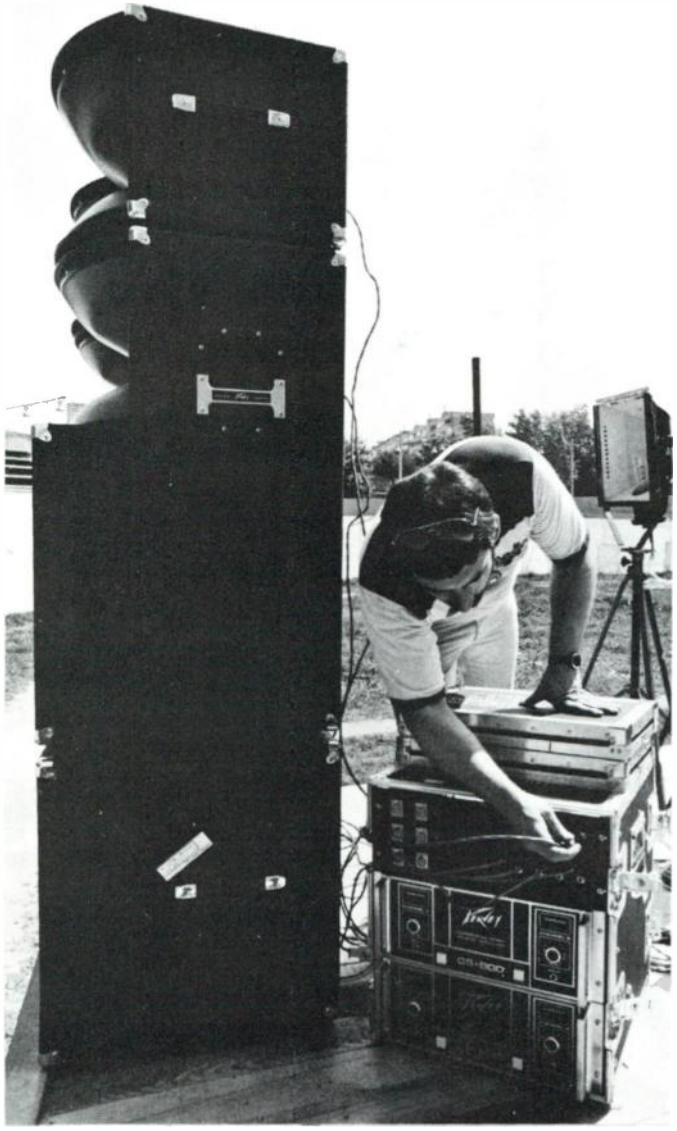
The prerequisites for such a tour were obvious. Only the most reliable, high performance sound equipment should be used. Maximum efficiency, versatility, and compactness would be absolute necessities.

The choice was Peavey. SP-1 enclosures bi-amped with CS-800 power amplifiers would create the backbone of the system. Artist and LTD instrument amps would make up the on stage gear along with Peavey monitor enclosures and a 1200 Stereo Mixing Console.

May 2, 1977 the tour began through five cities and twenty-three performances in every imaginable condition from large auditoriums to outdoor bicycle tracks.

Dirt Band sound man Gary Mullen recalls, "One of the problems we faced was severe drops in voltage. At times we were running on voltages as low as 80 volts. I can't tell you how or why, but the equipment kept on working. Not only was it loud, but through the wonders of bi-amping, it was crystal clear. In the five shows at the bicycle track, the system was left on the stage each night and two nights brought enough rain to float a barge. Each time we uncovered it for a show it worked great,...the tour was a total success!"

The folks at Peavey appreciate the Dirt Band's confidence in our equipment. We're proud to have had a part in bringing a piece of the U.S.A. to the U.S.S.R.



"The system was set up with FH-1 bass cabinets stacked two high with two MF1-X horns on top of each stack and two stacks on each side of the stage. It looked pretty small but the system totally covered the area with no dead spots and enough acoustic power to make it loud enough to wake the dead!"

Gary Mullen
Dirt Band sound man

PEAVEY

Peavey Electronics Corp.
711 A Street
Meridian, Mississippi 39301

©4-78

I'd like to know more about the Peavey line of advanced sound gear. Send me a free catalog.

Name _____

Address _____

City _____

State _____

Zip _____

CIRCLE 81 ON READER SERVICE CARD

TROUBLESHOOTERS' BULLETIN

SPEAKER CABLE

1

When a customer loses the cable to his speaker system, he will frequently go to a dealer who, not knowing what the customer plans to do with it, will hand over a regular shielded cable. Shielded cable is meant for signal. Signal voltage - even if it's used into mixers, PA systems, master units,

2

whatever, is only meant for, usually, below seven volts, sometimes higher - which isn't bad. It will carry that sufficiently. But when you go into a high powered amplifier, you are working on 35 volts out of the output.

Shielded cable is in no way meant to take that much voltage. The inner lead, which is very small on the shielded cable,

3

becomes hot. It starts melting through the insulation and you start getting a resistance short down to a dead short depending on how long the situation is allowed to go on.

The dealer should use standard speaker cables. He can even go to a hardware store and buy regular zip cord that you would use for a home lamp or something for you AC

wall socket. It usually comes in two grades. A standard hardware store carries 16 gauge or 18 gauge. It's parallel wire and it's the cheapest wire that you can buy, and it's the best - for speakers. You don't want shielded cables. Many amplifiers also get feedback and oscillation from shielded cables used on the output - which can also damage the amplifier.

Customers just starting out, buying their first high powered amplifier, are often completely unaware of the damage that shielded wire can cause; they just figure a wire is a wire. And that's where their problems start. The first time they plug it

in they have a headache, and then, naturally, they come back to the dealer, and they are irate. Naturally, if you just spent $1,600 on an amplifier and the thing burns up right in front your you, you are going to be a little depressed.

KEN FRANK
UNICORD

HIGH POWERED AMPLIFIERS

Customers are often unfamiliar with higher powered amps - especially the English amplifiers. They have very high sensitivity on the input, and you get a lot of white noise because of the gain of that front end of the amplifier. And that's normal. The customer turns the amplifier on after he's had this little 40 watt amplifier for eight

years. He hears all this hiss coming throug and he sends the unit back because he think there's a problem with noise. There's no problem. That's the nature of the ampli- fier. That's what helps give you that sound

Most major groups are using eight or 10 of these set up, and that noise does not bother them at the volume they are playing. But the customer may be used to the little

amp that he bought second hand; and it's quiet. He hears nothing. He brings a Marshall home, puts it in his 9 x 12 bedroom, turns it on and it hits the house as though it's going to blow up. The customer needs to know the inherent qualities of the unit he is buying.

KEN FRANK
UNICORD

LOOSE CONNECTION

Dealers should not be intimidated by microphones. If there is an intermittent short or no signal passing through - test it with an ohmmeter. Every dealer should have one. You don't need any expertise in using an ohmmeter, as long as you just turn it on. Just touch either side of the connec- tion and read the dial. If there is a loose

connection, or a connection that seems eroded or discolored or severely oxidized, it should generally be resoldered.

(11)

Completely disconnect everything. In electronics, there are dials which are adjustments for setting bias or equalization. Don't play around with them. Resolder, yes - a simple solder connection. But don't dive in any further unless you have a schematic and you know what you are doing.

(12)

In a solder connection, make it as small and as clean as possible. Don't just put a whole glob of solder there. On a circuit board, you will have quite a few different solder joints, and if one ever so slightly touches the other, it could short something out. It's very simple, but you have to be neat when it comes to soldering.

Many of our products now simply have removable parts in a modular setup, so

(13)

you just pull out one module and slip in another, screw it back together, and that's it. We're trying to make as many products field-replaceable as possible. The dealer stocks the module and the consumer replaces it. We're trying to bypass the soldering end of it in the field.

PETER WELLIKOFF
AKG

When should a stereo microphone mixer be used, when should a mono mixer be used?

The answer to that question lies in qualifying the customer. It all depends on where he's going to use it. Does the customer do demo tapes in a basement? Does he work in a club, a theater, an arena, or outdoors? If he's doing live tapes in a basement, he should use a stereo mixer, since he is presumably trying to sell the tapes.

If he's working in a club, the choice depends on the layout of the club. If it's long and narrow, use stereo, since everyone will be able to hear it. If the club is wide and not too deep, use mono. It has to be tailored to the individual. Questions that should be asked of the customer are: What are your needs? What are your money limitations? What are you doing?

B.J. Schiller
Showco

What is a simple definition of headroom?

Broadly speaking, headroom refers to the degree of signal amplitude an audio circuit or transducer can pass above a certain accepted or standard level without incurring serious distortion. In the case of a tape recorder, it is generally the level that can be recorded expressed in dB above the zero VU level without exceeding three percent harmonic distortion. In the case of a phonograph-amplifier-equalizer circuit it would be the signal amplitude, usually given in millivolts, that the circuit can pass without overload as compared to the rated sensitivity of the preamplifier.

Sid Silver
Technics

What is the difference between a graphic equalizer and a parametric equalizer?

The first thing that has to be explained is that in every equalizer, no matter what kind it is, there are three parameters that are available to be adjusted. These are: cut and boost, or how slowly you want to boost or cut; the bandwidth—the frequency range over which you're going to have this cut or boost occur; and where in the audible band this range of cut and boost is going to exist—the lows, the mediums, or the highs, any particular range you want.

In conventional or graphic equalizers, this is done by having a large number of controls where each takes a specific band, and you can boost or cut that band. You can control the cut or boost, but not how large a range you can boost or cut or where in the frequency range it is.

With the parametric, on the other hand, you can adjust the cut and boost and also adjust the range or the bandwidth plus the location in the audible band. The result of all this is that if you want to cut or boost a specific frequency range—let's say 67 cycles—you can take a parametric and adjust it to 67 cycles, adjust it for 1 octave or around that point, and adjust how much cut or boost you want. With a graphic you have to hope that there's a control that is near 67 that you can adjust for cut or boost.

In other words, the graphic equalizer has fixed bandwidth and frequency location and you can only adjust the cut or boost. The parametric has variable bandwidth, variable center frequency and variable cut or boost. It's more flexible and allows you to precisely determine the amount of effect that you want and where you want the effect to be.

Michael Joseph
SAE

Which microphones should be used when?

There are basically two types of pickup patterns, omnidirectional and unidirectional. Omnidirectional means all directions. In other words, an omnidirectional mic picks up sound no matter which direction the sound comes from. Reason: the omni mic only has one opening in front for the sound to enter. Hence, sound approaching from any direction only enters the front of the microphone. Unidirectional means one direction. The unidirectional mic only picks up sounds approaching in the direction of the front of the microphone. Reason: the uni microphone not only has a front sound entrance but also sound entrances to the rear of the diaphragm. Therefore, sounds approaching from the front are acceptable. Sounds approaching from the sides and the rear are attenuated, with maximum attenuation occurring when the sound approaching from tne rear arrives at the diaphragm at the same time as the sound approaching from the front, thus producing no movement and hence no output.

The human voice and nonelectronic instrument may fall within a frequency response of 100 Hz to 10,000 Hz with the extremes being 40 Hz to 15 kHz; only a large pipe organ goes down lower than 40 Hz. Most people would be hard pressed to discern the difference in response above or below these frequencies, with the possible exception of a bass guitar or pipe organ playing sustained notes at their lowest frequencies. Also minor differences in response smoothness within the range are barely perceptible to the trained ear. So that it would seem that choosing between an electret condenser microphone and a moving coil dynamic microphone is purely whimsical, and the real choice that has to be made is whether to choose an omnidirectional or unidirectional microphone. Really, the choice is quite simple. It can be for all practical purposes confined to two categories—sound reinforcement and recording. Recording:

1. Use an omni if background noise is not a problem.

2. Use a uni if background noise is a problem.

Sound reinforcement:

1. Use a uni because the mics are in the same environment as the speakers and feedback will be a problem.

Robert Herrold
Audio-Technica U.S.

Our point of view: You can't know too much about a good thing. Number 36 in a series of factual discussions.

audio-talk from audio-technica®

Basic Term No. 8
Microphone Sensitivity

The final *Basic Term* in this series is *Sensitivity*. Typically, the microphone's electrical output is stated in dB compared to a reference standard. The standard is based on a sound field of specified intensity. However, since different manufacturers use somewhat different rating methods, the specifications are not always comparable.

RATED THREE WAYS

Most manufacturers use a reference level well above the output level of the microphone, so the resulting number (in dB) will be a negative one. Thus a microphone with a sensitivity rating of -55 dB will provide *more* signal to the input terminals than one rated at -60 dB. Audio-Technica microphones are rated in three ways: 1) with a reference to 1 mW/10 microbars; 2) EIA Sensitivity; and 3) Open Circuit Sensitivity that shows millivolts output with no load on the microphone. All three measurements are included to assist in comparing A-T microphones with others and with the input requirements of your equipment.

BEWARE OF INPUT OVERLOAD

Audio-Technica microphone sensitivity is on a par with, (and in some cases slightly higher than) most equivalent high quality dynamic and electret condenser microphones. No unusual problems with either too much or too little level should be encountered with typical inputs. It should be noted, however, that using a microphone very close to an intense sound source can overload the input circuit of many mixers and tape amplifiers. Before blaming the microphone for overload distortion, try inserting an attenuator (or "pad") between the microphone and the microphone input. Readily available "pads" can reduce the microphone output by 10 or 20 dB and often solve overload problems.

With these comments on *Sensitivity*, our introduction of the basic terms needed to "talk microphones" is complete. Although our discussion has necessarily been brief, you should now be better armed to meet the questions—and needs—of microphone customers with greater assurance. And as you talk and sell microphones, your knowledge and your understanding will grow.

WHICH MICROPHONE IS BEST?

Of course, recommending specific microphones for each customer is best done if you know exactly how the mikes are to be used. The simplest choice, for excellent quality general recording, is a pair of omnidirectional dynamics. In good acoustics, this type can achieve excellent results. In noisy acoustics, or where feedback is a problem, unidirectional dynamics should be considered, although the full value of the directional characteristics can only be realized with careful use.

Electret Condenser models offer a useful alternative, especially for the serious music recordist. Their extended range and excellent transient response make them excellent choices for choral and symphonic music and are often preferred for the clarity with which they reproduce stringed instruments. But these are only general guides and we encourage personal experimentation in the field, since microphone choice is a largely subjective matter, even for professional recording engineers.

To give you a really complete understanding of microphones and their applications, the following "basic bibliography" can be quite useful. In addition, discussions of both equipment and techniques can be found in the pages of several magazines, including *Audio*, *DB-The Sound Engineering Magazine*, *The Journal of the Audio Engineering Society*, *Modern Recording*, *and Recording Engineer/Producer*.

MICROPHONES: DESIGN AND APPLICATION
Lou Burroughs 260pp.
© 1974 Sagamore Publishing Co., Plainview, N.Y. 11803

MICROPHONES—HOW THEY WORK & HOW TO USE THEM *Martin Clifford* 224pp.
© 1977 TAB Books, Blue Ridge Summit, PA 17214 #875

THE RECORDING STUDIO HANDBOOK
John W. Woram 496pp.
© 1976 Sagamore Publishing Co., Plainview, N.Y. 11803

SOUND RECORDING *John Eargle* 327pp.
© 1976 VanNostrand Reinhold Co., New York, N.Y. 10001

We hope that this series, and our line of fine Audio-Technica microphones, together will help you to take that first vital step. You'll find additional hints in the specification sheets on individual products. And for your own copy of this series, write for *A Brief Guide to Microphones*. It contains much of the same information and can be used when explaining the *Basic Terms* to your customers. And, lest you forget, the 8 Basic Terms are: 1) Dynamic, 2) Condenser, 3) Omnidirectional, 4) Unidirectional (or Cardioid), 5) Proximity Effect, 6) Feedback, 7) Impedance, and 8) Sensitivity. These are the terms you need to know to sell microphones effectively.

It's important to remember that microphones are far more than just another tape recorder accessory. They are the *key* which will open up a broad range of activities for your tape customers. Activities that lead directly to sales of a host of related equipment.

Jon R. Kelly
Vice President & General Manager

AUDIO-TECHNICA U.S., INC.
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By Craig Anderton

BASICS OF SIGNAL-TO-NOISE RATIO

Noise is an elusive concept; the tendency for musicians to identify all undesirable interference occurring in a signal as "noise" certainly doesn't help to clarify matters either. For example, one guitarist complained of a "noisy" amp. From this, I figured that he was probably experiencing severe hiss problems, so I recommended changing the preamp tubes in his amp to low-noise types. That didn't solve the problem, because the problem wasn't "noise"—it was excessive hum, due to improper cable shielding. I have also heard distortion referred to as "noise," but distortion and noise are completely separate phenomena.

The kind of noise we're talking about is perhaps more easily identified as "hiss." For an illustration, find a synthesizer that generates white or pink noise and listen to that . . . it should sound sort of hissy, perhaps like a gentle rain, a waterfall, or a beach of continually cresting waves. Next, take a tape recorder (cassette, reel-to-reel, or whatever) and record over a piece of blank tape *without* applying any input signal. Now, play that tape back at high volume and you'll hear another type of hiss. Or, take a musical instrument amplifier, remove any signals going to the amp, turn up the volume, and put your ear next to the speaker. Again, you'll hear a hissing kind of noise.

Any electronic circuit that involves amplification generates noise. There are no exceptions to this statement, simply because in electronic circuits there are a lot of electrons running around, bumping into each other; and the sound of these electrons doing their thing is what we call noise. The mechanism that causes tape hiss is not understood as well, although we have a similar situation in the sense that a piece of tape is packed with zillions of little particles, and as these particles move past the tape head you once again experience noise.

Noise is something that cannot be eliminated. Even fancy (and highly effective) noise reduction systems don't eliminate the noise; they mask it, or make it lower in level, but the noise is still there . . . it's as if another person was in an adjoining room and you closed the door; the person is still there, whether or not you can see or hear him.

Although noise is a system cannot be eliminated, it can be minimized. Part of the noise problem can be cleaned up through proper design; part of it can be cleaned up through intelligent use by the user. We can't do much about the design of a piece of equipment, but we can coax the best results out of what we have.

Probably the best way to demonstrate signal-to-noise ratio is with a tape recorder. Perhaps you've already run the experiment I suggested of recording over a piece of blank tape and just listening; if you haven't, do so now. Note that the hiss is not as uniform as electronic hiss . . . it tends to vary a bit, and you'll also hear other anomalies on the tape. For the time being, *don't* use noise reduction (if available), in order to point up the problems as clearly as possible.

Next, find yourself a signal source—something like a piano would be ideal, but an FM broadcast or whatever is also acceptable. Try to find something with a fair amount of dynamics, with a few quiet parts here and there. Now record this over a blank cassette, but record it at a very low level—so that the VU meters never get above −20 or so. Now, listen to the results.

You'll hear the music, all right, but you'll still hear quite a lot of noise. In this case, we have a poor signal-to-noise ratio (S/N ratio); that is, the music is not that much louder than the noise, so the ratio of music to noise is not all that great. Now try another recording, but this time, record the program material at a higher level—say, so that the meters read around 0 VU on peaks. When you play back this tape, you'll note that the music is much, much louder, but the level of tape hiss has remained the same. We now have music that is considerably louder than the noise, so we have a more favorable signal-to-noise ratio.

Just for kicks, let's try one more recording. This time, hit the tape with a lot of level, so that the meters are really hitting hard towards the right hand side of the meter (but be careful not to get carried away, as you could bend the meter pointer or cause other damage). Upon playback, you'll now have very good S/N ratio—but also an unwelcome guest in the form of distor-

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tion. This just goes to show that there are limits in our quest for improvement of signal-to-noise; in this case, the limit is distortion.

We can consider our lowest usable limit of sound as the place where the noise begins (after all, if the music is lower in level than the noise, we can hardly consider that recording as usable), and our upper limit as the point where distortion occurs. With tape recording, our goal is to record the music at the highest possible level short of distortion. This gives us the most favorable S/N ratio and the least number of noise problems.

Notice one important point: The noise level of our tape recording is pretty much fixed, which is why increasing the level of the music improves the S/N ratio. Let's illustrate the same principle with an electronic effects unit, such as a graphic equalizer.

Suppose our equalizer is a *unity gain* device—in other words, with all of the controls set in a *flat* position, if you put a 1 volt signal into the input, you get a 1 volt signal out at the output. Let's also say that you can measure 1 millivolt of noise (a millivolt is 1/1000 of a volt) at the output of the equalizer, and that this noise is generated inside the equalizer. Therefore, if we put in a 1 volt signal at the input, at the output we have two signals: our original 1 volt signal, plus our 1 millivolt of noise. Looking at this as a ratio of signal to noise, we have a S/N ratio of 1000:1. (This corresponds to a voltage ratio of 60 dB, by the way, for those of you who have followed the previous columns on frequency response and the dB). This is quite an acceptable ratio, and would only be considered objectionable under critical conditions.

Now, let's say we up the input signal to 2 volts. We now have a S/N ratio of 2000:1—an improvement of a factor of 2! Since we're aiming for the lowest noise possible, let's jack up the input to 4 volts . . . and we now have a 4000:1 S/N ratio, which is even better. Flushed with success, we crank the input up to 10V; only this time, the results aren't so good because the unit just doesn't have enough range to handle this much signal, and we run into the same problem we ran into with the tape recorder—distortion. However, we can content ourselves with a ratio of 4000:1, which is certainly adequate. Remember that the equalizer is flat for purposes of this discussion, since boosting the signal could easily force us to exceed the dynamic range of the equalizer and again introduce unwanted distortion.

So far, though, we have assumed an input signal capable of being raised in level. This is not always the case. Suppose we take a guitar and plug it into the equalizer. A guitar might only put out 100 millivolts (.1V), which means we only get .1V at the output. This means our S/N ratio is 100:1—not all that great. In fact, 100:1 is low, rather than high, fidelity.

Let's put this thought on hold for a second and look at a hypothetical situation in a store. A customer sees a Brand A equalizer and wants to try it out. He plugs in a guitar, patches the equalizer into an amplifier and listens. He strums a few notes, says the thing is too noisy and he can't stand that much noise . . . so he loses interest in the device. Then another customer comes in who plays synthesizer. The synthesizer is a high output device—in fact, let's say this model puts out about 3V. He plugs the synthesizer into the equalizer, listens to the output, and has no trouble with noise whatsoever. He starts playing with the graphic and likes the types of effects it can produce. The guy with the guitar is going to say that the equalizer is really excellent. Both of them are talking about the same *unit;* but not the same *application.*

The solution for the guitarist would be to add a preamp to the guitar capable of raising the relatively puny output up to a level acceptable to the equalizer. A preamp with a gain of 20 would raise the .1V signal up to 2V—just fine for the device we're looking at. You don't get something for nothing of course, since the preamp will add some noise also. But at least the noise in the equalizer won't be a problem, and the overall sound will be cleaner as a result.

Let's take another hypothetical situation. Suppose company X has designed a graphic equalizer for guitarists that has a built-in preamp to eliminate noise problems. The guitarist comes in, plugs into the Brand X equalizer, and finds it much quieter than the equalizer designed by company A. Next, the synthesizer player comes along and plugs in—but the preamp boosts his signal so much that there is a lot of distortion. Again, the unit is the same, but the application is different, giving wildly different results.

One solution to this problem is the approach taken by Moog in the design of his equalizers. There is a control that regulates the input level *as well as* the output level. The way you could use such a unit would be to set the input for the maximum amount of signal consistent with a lack of distortion, giving you the highest signal level possible and thereby overcoming any noise generated within the equalizer (thus yielding a favorable S/N ratio). Then, you would adjust the output level for the desired overall level of the unit, or adjust for unity gain. I'm sure there are other units with this type of design; I mention the Moog units because I'm aware of them. While this added sophistication can really help out in terms of sound quality, though, there is more of a burden on the salesperson. He or she must know how to adjust the input to match the instrument in question for best results, and transmit that information to the musician.

By now, you should have a pretty good idea of some of the basics concerning signal-to-noise ratio; let's sum up.

All electronic devices generate some amount of noise, which cannot be eliminated, only minimized. You want to feed in the maximum amount of signal consistent with a lack of distortion in order to obtain the best signal-to-noise ratio. If the output of the unit is too loud, then turn down the output control of the unit (which turns down the signal and noise at the same time) rather than the input (which only turns down the signal going to the unit, but not the noise generated in the unit).

Musicians are probably more sensitive to electronic noise than any other segment of population. If they complain about the noise level of a particular piece of equipment, think logically and try some of the tips mentioned above . . . you just may be able to turn "acceptable" into "excellent."

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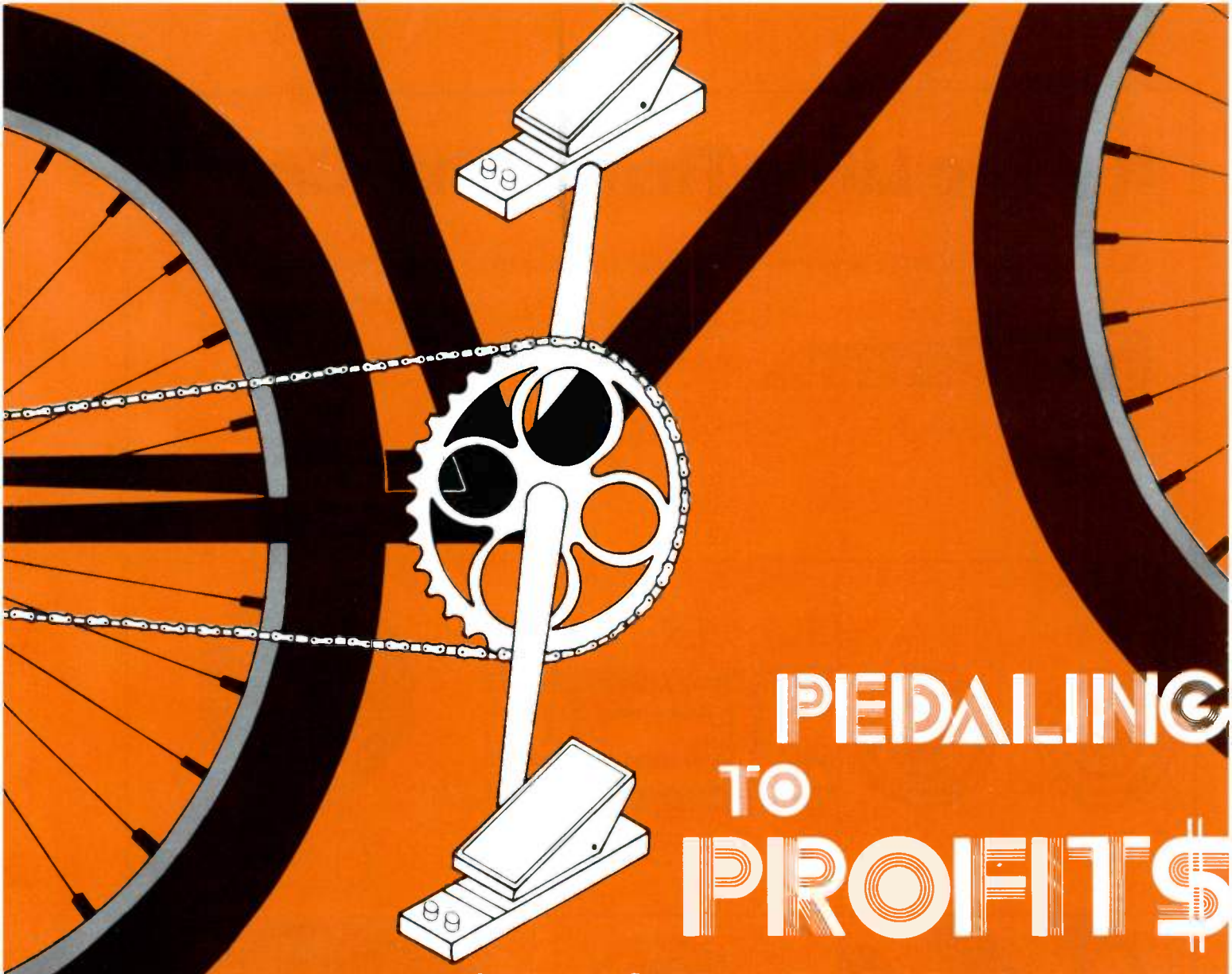


PEDALING TO PROFITS

SELLING EFFECTS FOR MUSICIANS

by Ron Wilkerson

The effects industry, while being one of the fastest growing segments of the music industry, is also one of its most confusing — for both the consumer and the dealer. It's an interesting phenomenon that the effects business has really been a viable market only for the last four or five years. Before that, the effects used in performance were limited strictly to devices like fuzz tones and wah wah pedals. Developments in integrated circuit technology, as well as the broadening interests of the musical community have literally exploded the effects industry; thereby promoting the growth of dozens of manufacturers, with hundreds of products, creating thousands of dealer headaches.

By way of definition, that which I refer to as effects encompasses those devices used by the musician for sound modification during performance. This includes all types of pedal devices whether activated by a knob, switch, or rocker pedal as well as more sophisticated devices which (while performing the same type of function) do not necessarily sit on the floor. I will not go into depth in the area of studio-type signal processors, as my primary interest in this article is to talk about those devices used by the musician in performance, and the problems the dealer encounters in selling them.

From a musical standpoint it is fairly easy to see why the effects business has developed so quickly. Guitarists (who make up over 60 percent of the buying audience) find effects virtually essential to a versatile and interesting performance. No longer are they limited to the sounds produced by their guitar and amp and they will buy effects to enhance a performance, even if they use them only for one tune. Keyboardists, bass players, vocalists, even brass and wind players as well are increasingly coming to rely on effects devices to overcome the limitations of live performance, and expand upon their own creative output.

Ron Wilkerson is marketing manager of MXR Innovations, Inc.

All of this growth sounds really terrific, and at first glance may look like overflowing cash registers for music dealers, but there are quite a few unique problems in selling effects devices. We all face these problems, and when we ignore them they have a tendency to turn into nightmares. I will not go into any detail explaining the functions of various effects (phasers, flangers, compressors, equalizers, delays). There have been several articles in this and other publications that can acquaint the reader with the plethora of devices available. A particularly good introductory article is one written by Fred Ridder, "Gadget Power," which appeared in Modern Recording's 1978 Buyers Guide.

Let's first talk about the positive aspects of selling effects for those dealers who are not yet selling them, or those who would like to expand upon this area of business. Effects, in general, are a fairly low dealer cost item. Taking on an effects line in a store can be likened to roughly one-eighth the cost of taking on a line of guitar amplifiers. Also, most effects are sold on at least a 50 percent dealer mark-up, and as the costs are relatively low to begin with, it's not really necessary to get into extensive discounting. Most manufacturers as well offer incentive discounts, based upon quantities purchased, that can be used to offset a profit loss should the line be discounted below list price. Effects also take up little floor space and are generally one of a dealer's faster moving items.

From a customer standpoint, an effect can be purchased at times when he wants to change his sound but just doesn't have the money to buy a new guitar or amp.

There is also a much stronger relationship between the actual music (recording) industry and the sales of effects, compared to other musical products. For example, the effect of the Doobie Brothers' song "Long Train Runnin" on the sale of phase shifters was simply staggering. Almost overnight, it became essential for a guitarist to have a phaser in order to perform the song in public.

On the negative side, we see almost an equal number of opposing points. Effects oftentimes can be difficult to demonstrate in stores. Quite often they require batteries to be changed, and need to be connected with guitar cords that always seem to fail at the wrong time. Also, we have too often seen the kid with the honest face disappear out the back door after being given a product to try out in the store.

The sheer number of effects on the market makes it next to impossible to carry a representative sample of what's available in the industry. Sometimes it's even difficult to carry the entire line of one manufacturer due to the number of items in the line. There is also the problem of displaying the effects in a manner which is conducive to sales. Effects have a tendency to be put in glass counters among guitar picks and straps where they are not only difficult to see, but impossible to try out. (Pheasant under glass is lovely, but the effect is lost on pedals.)

Going back to one of the reasons for the growth of this part of the industry, we sometimes see that changing technology can work against us, making current store stock obsolete through the addition of new products. Then there is always the problem of effects breaking down either before or after the sale is made.

You may be at the stage where the idea of marketing effects is more appealing than the prospect of doing without, and would like to take steps toward improving your effects business. We have seen quite a few dealers take maximum advantage of their effects business and increase overall effectiveness and sales through just a little simple planning and creative programming. Let's first look at the problem of store demonstration. Perhaps the best way to demo effects is to mount them on some sort of board (plywood or chipboard) where the customer can get his hands (feet) on them, but not walk away with them. The benefits of this simple plan can be tremendous. First, you have eliminated the problem of pilferage (as it's a lot more difficult for a shoplifter to conceal a four-foot board under his coat than an effects pedal), and you

have increased the likelihood of the customer becoming excited about the product. When the products are laid out on a display board, the customer is more likely to combine different types of effects and discover different kinds of sounds that he hadn't thought of before. So it follows that he may end up buying two or three devices rather than merely the one that he came in for.

A pedal board also obviously requires the use of a guitar and amp, so you may be able to get a customer to play with an instrument that he hadn't previously considered using, thereby increasing the associated sale of these items.

You could also consider the possibility of making one of your staff the resident "expert" in the effects area. His responsibility would be to oversee all of the demos as well as to consult with customers on the creative applications of combining different pedals to achieve different sounds (comparative brands, benefits, etc.). This person could also be responsible for holding clinics or seminars that can be put on for your customers, with a minimum of capital outlay. This could be a way to motivate one of the younger members of your staff and possibly train him for future promotion. Also, he could maintain your stock of effects, making sure that all demonstration cords work and all batteries stay fresh.

Try to maintain at least a peripheral awareness of what devices are available and what they do. This will obviously cut down on the problem of buying products that may be unsuited to your regional market. Just because a product sells in New York doesn't necessarily mean it will sell for you.

When choosing effects lines to carry in your store, be somewhat selective. As I said earlier, it's next to impossible to carry everything, so try representing two or three lines exclusively, and give them the bulk of your attention. This way you will be able to take advantage of a manufacturer's quantity discount, and you can more easily stay on top of what the manufacturer's warranties cover and don't cover. You'll also be less likely to be sitting on top of a pile of defective or questionable products that you have no idea what to do with, or for that matter, from where they came.

Probably the most important point in selling effects (and it's not that much different from selling anything else) is to work with the manufacturer. Remember that, for the most part, you are his window on the world. The feedback you give the manufacturer is crucial in his development in working with you, and your development in selling his products. The real idea is simply *increased communication.*

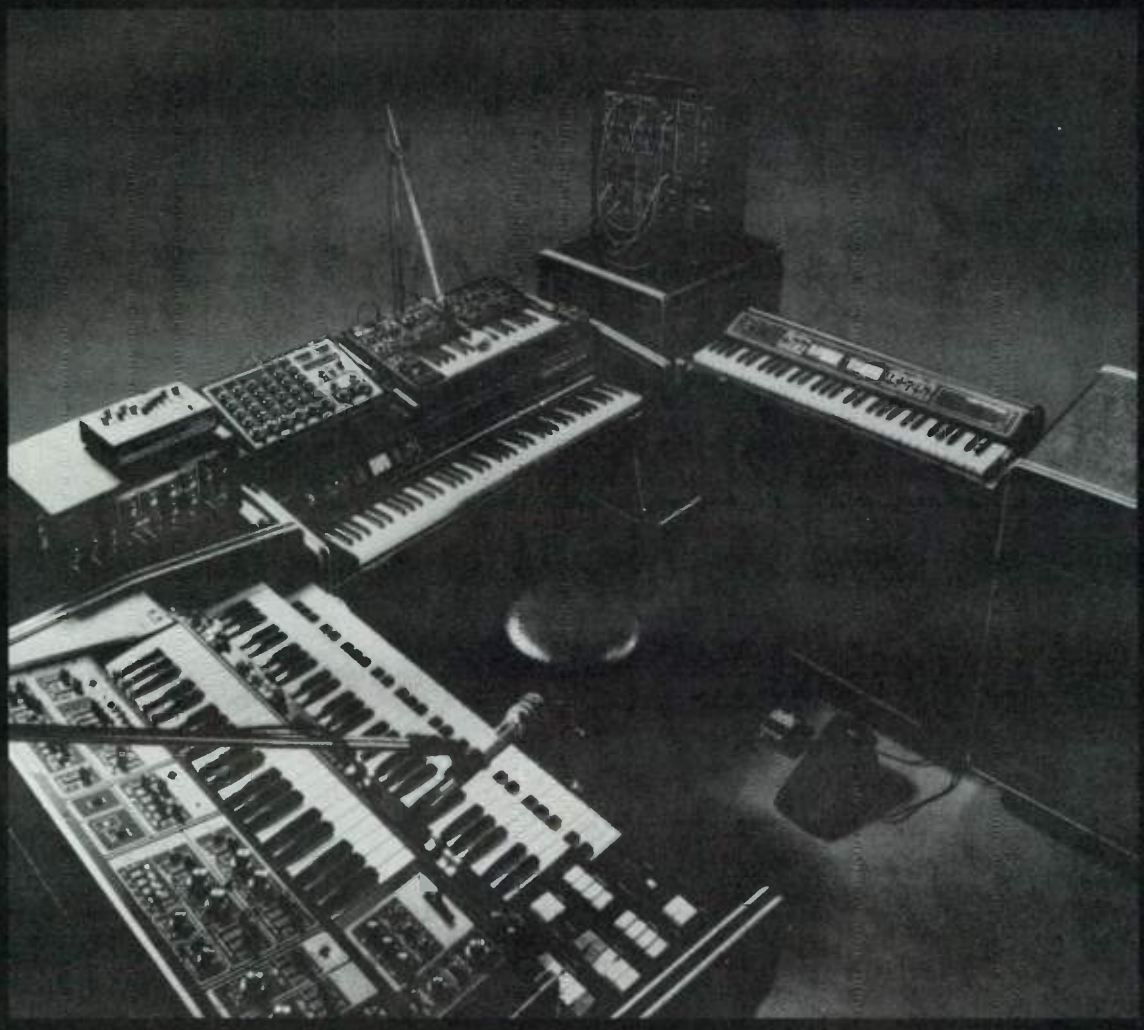
Find out which products the manufacturer will be nationally advertising, and coordinate your efforts to tie in with his. This is not as difficult as it sounds, because most manufacturers have their advertising plans set at least three months in advance, and this is certainly time enough for you to purchase the promoted product, or advertise locally in the same manner. Some manufacturers have art-work available (logo reproductions, product photographs, ad reprints) that you can use in your promotions.

Let the manufacturer in on your promotional plans. If you're planning an effects seminar maybe you'll need extra point-of-purchase materials (T-shirts, belt buckles, stickers, etc.) that the manufacturer has free for the asking. Check to see that you have plenty of product literature or information available to hand out to interested customers. If you don't have any, ask for it! (I have yet to hear of a manufacturer with a low stock of literature.)

Perhaps the manufacturer even offers a co-op advertising program, or may at least be able to do some regional advertising on your behalf, in conjunction with your seminars or clinics. You could even arrange the seminar around the visit of one of the company's representatives, thereby taking advantage of his time in your store to answer customer questions (and keeping him from merely hustling you for orders).

It's easy to see that effects devices in one form or another are here to stay. Whether you approach them as short-term quick-sale items or as a serious part of your line is up to you. Effects can be (and should be) more than the frosting on the cake. They can produce cash flow during slow business periods, as well as remaining relatively high profit items during normal business periods. Just as in playing music with effects, they can either be a source of anxiety or a source of productivity: It's all in how you use them.

ROLAND
MEANS BUSINESS.



LOTS OF BUSINESS.

All of the equipment pictured is Roland. It's part of the most impressive line of musical equipment in the world.

It's not just one line, but many lines. For example, Roland offers 12 models of guitar amps . . . signal processing equipment . . . combo organs and pianos . . . synthesizers . . . sound systems . . . Boss effect devices . . . rhythm units . . . the GR-500 Guitar Synthesizer . . . the MC-8 MicroComposer . . . you name it.

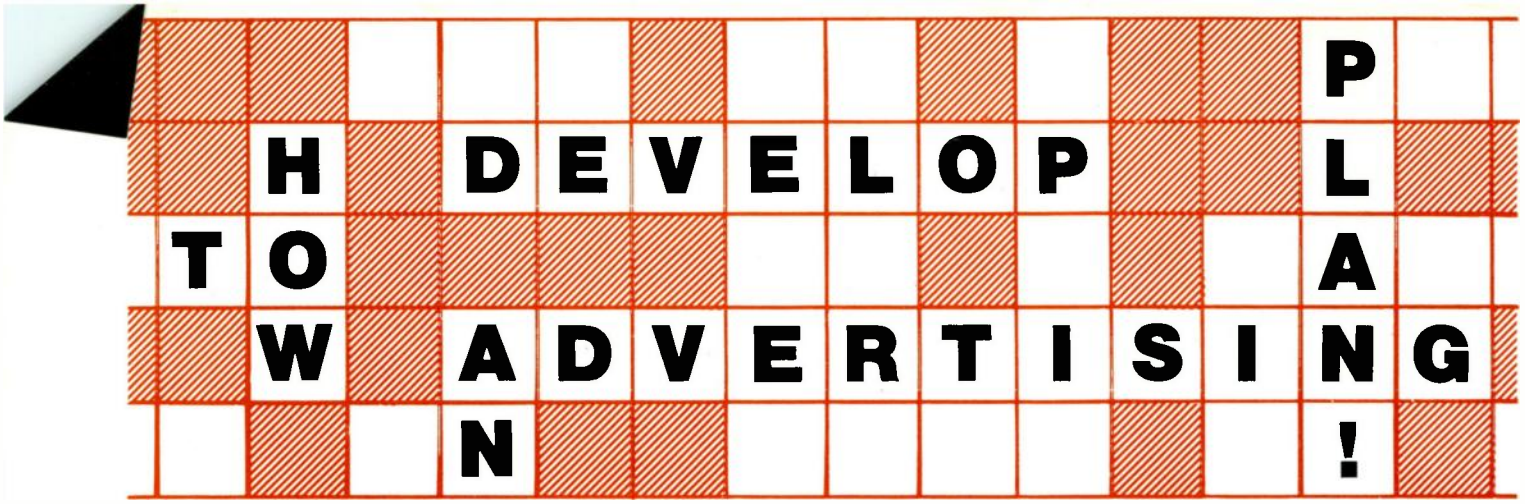
Roland is growing. And so are Roland Dealers. That's why RolandCorp US makes it easy to get started. Chances are there's a dealership plan just right for your business. After all, without your business, where would we be?

RolandCorp US
2401 Saybrook Avenue
Los Angeles, CA 90040
(213) 685-5141

For information about a Roland Dealership contact Tom Beckmen, President, RolandCorp US, 2401 Saybrook Avenue, Los Angeles, CA 90040 or phone (213) 685-5141.

CIRCLE 94 ON READER SERVICE CARD

10-102



By Eric W. Gaer

Companies *don't* write advertising plans for lots of reasons. They are tortuous to write and are often worse to read. However, to properly achieve results from your advertising investment, it is prudent to begin with a written, documented plan to achieve those results.

The details of the plan with which you end up depend on the kind of company you have, but most good advertising plans have a similar structure. This structure includes the *situation, problems and opportunities* for advertising, specific *objectives, strategy,* and *implementation* recommendations.

SITUATION

We are concerned here only with the key elements of your current situation. A common mistake is to include a complete history of the product, company, etc. Keep in mind that you are not compiling a book of facts but a plan of action. The only facts that belong are those that directly affect your advertising. Here are some of the key facts you are likely to include in this section:

Market Description and Product Position: You have to define your market and your products in very specific terms. You may wish to include volume by dollars and units of the total market and the market segments served, product substitutes, use patterns, market preferences, pricing, packaging, etc.

Current Industry Developments and Trends: Here you need to define your current customers and your future customers. You don't want to allocate dollars to a dying segment of the market. Each of the variables uncovered in this analysis will directly affect your advertising strategy.

Trade Data: You'll want to establish facts relative to distribution channels and their characteristics so that you can determine market potential.

Your Product: Briefly describe your product or service in the most objective way possible. What it is you are selling, how much it costs, what it looks like, sizes and varieties, etc. Also include characteristics that distinguish it from competitors.

The Competition: It is important to list all of your competitors, whether they are directly involved in producing the same product/service or not. You should also include some key facts about them, such as market share, promotional expenditures, corporate or product features and benefits, etc. Also include some information relative to their position in order to take advantage of the trends you have previously identified. Be brief . . . but be accurate!

Consumer Profile: This is probably the most important item in this section. Until now, all of your data have been compiled from the seller's point of view. Without the consumer information, however, the rest of your advertising plan is meaningless. Begin with demographics: age, income, education, residence, family size, key buying influences, use profiles, etc. Life-style profiles will also be critical in later decisions regarding media and message. The better you are able to recognize and define your customer, the better you will be able to communicate with him and produce advertising that sells.

PROBLEMS AND OPPORTUNITIES

Once you have collected the facts for your marketing plan, your work really begins. You now need to interpret what these facts mean.

You'll need to objectively list the problems that can significantly increase your sales or market share, as well as the opportunities that exist to do so. From this list, you'll be able to identify the best advertising opportunities. You can separate the problems with no solution from those you can do something about. What of repositioning your product? New market segments? Price changes? Premiums? This section holds the key to a successful ad campaign.

OBJECTIVES

An advertising objective is nothing more than a very clear and concise description of exactly what the advertising program is intended to accomplish. A common solution has been to assign vague objectives to advertising such as: "increase sales" or "keep name in front of public." There are two problems with these kinds of objectives.

First, they are really not advertising objectives at all. They are marketing objectives. Advertising cannot physically make a sale, except in the case of direct-response advertising.

The second problem with these objectives is that after all is said and done, there is no way of knowing if the advertising did what it set out to do.

Advertising is an investment. Like all investments it should produce a measurable return. Although this is the first and best reason for setting objectives, there are others as well. Through objectives, you can evaluate advertising as a marketing tool and define advertising opportunities. Additionally, objectives help coordinate marketing and advertising efforts.

Of course, different types of advertising have different objectives. However, when objectives are specific,

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Eric W. Gaer is president of Gaer & Associates, Inc., a Los Angeles advertising agency specializing in musical instrument marketing.

advertising results can be effectively measured.

You'll want to set goals relative to product recognition, favorable attitude, and buying action on the part of your customers.

The only additional point to stress is that you need to be careful to establish objectives that advertising *can* achieve. Orient them toward what you hope to achieve with your investment.

STRATEGY

Once you have written down your problems and opportunities plus the objectives you seek to achieve, you're halfway done in formulating your strategy.

The process of developing your strategy begins with isolating key facts that relate to advertising and then relating those facts to your objectives. If you break this task down into its simplest components, it will be easier to handle.

Important points to remember in developing your strategy are:

1. Will it best achieve objectives?
2. Is it within your capabilities?
3. Does it stay within a reasonable budget?
4. Is it based upon market/audience analysis?

IMPLEMENTATION

Implementation may amount to fifty percent of your advertising plan. All too often, it is the only part of the plan that ever gets written. However, under those circumstances, we can hardly call it a "plan," as it contains no real rationale for what is recommended.

The more thoroughly you touch each base of the plan, the more likely you are to preserve the plan's structure in this section.

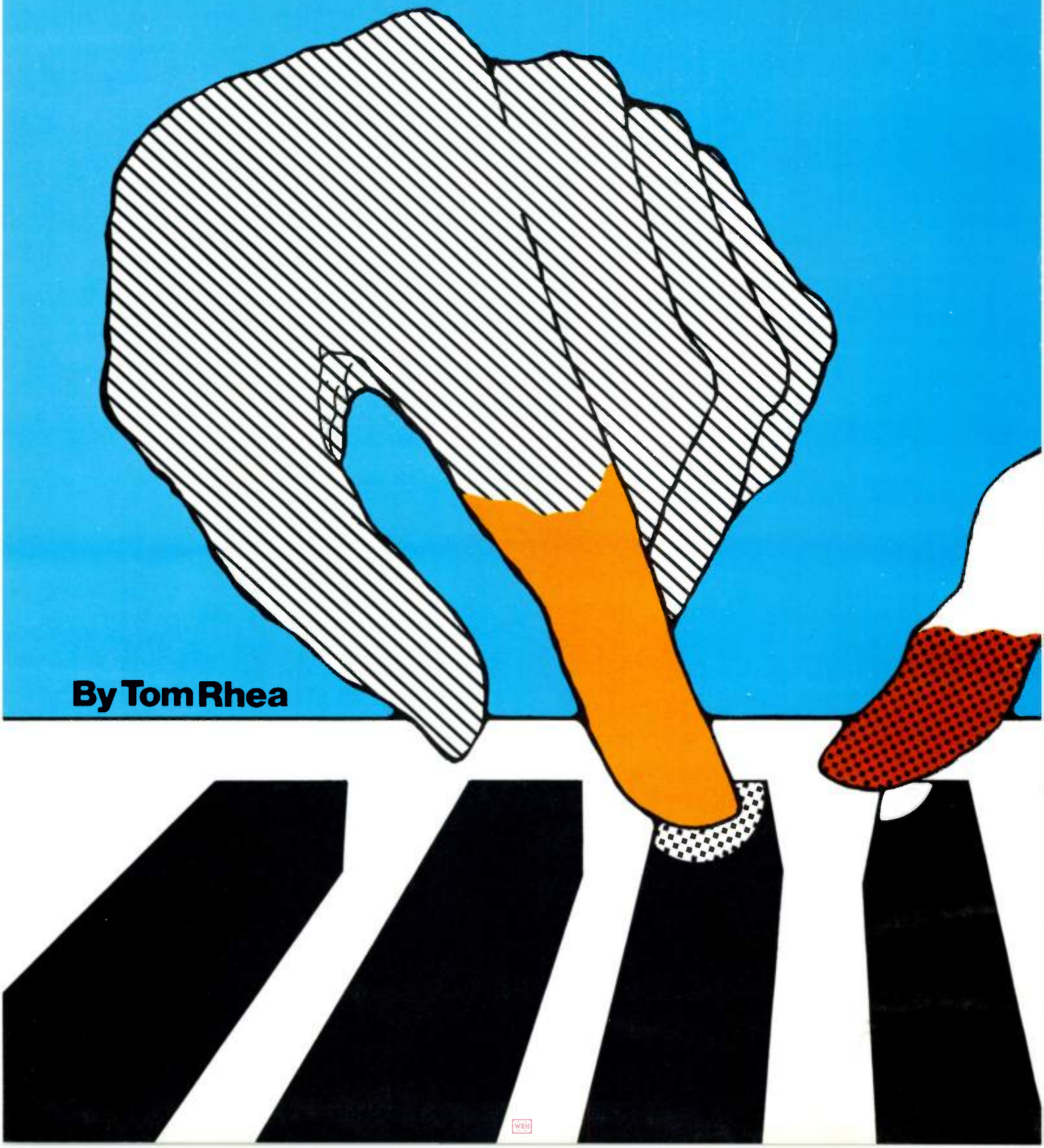
The implementation section includes creative executions (copy strategy); media plan; sales promotion and public relations; research; and budget. Each of these elements requires an additional chapter in themselves, and will be discussed in later articles.

An advertising plan should serve as a continuing source of guidance throughout the year. If it is compiled and written properly, you will refer to it constantly to remind yourself of your objectives and settle differences and problems before they arise.

Editor's Note: This is the first of an ongoing presentation of articles concerned with retail advertising. Future articles will provide in-depth coverage of specific problems and techniques. Reader input is solicited.

Monophonic & Polyphonic Synthesizers

Keying Up For Sales



By Tom Rhea

"You can send the band home—the polyphonic synthesizer player is here." The preceding sentence rings true for well-intentioned but misguided keyboardists who have come unglued from watching others hog the spotlight while they comp in the back of the band; and hyperkinetic marketing managers for synthesizer manufacturers.

Polyphonic synthesizer takeover? Don't count on it. Synthesizer takeover of any kind? Don't count on it. At least, don't hold your breath unless you look good in blue. The notion that a keyboardist can replace an orchestra is not particularly new. It's at least as old as the theater pipe organ. In 1906, some thought that Thaddeus Cahill's 200 ton (!) electric organ, the Telharmonium, might do the job. Cahill didn't, and *it* didn't. Later we had the Rangertone Organ which could play up to six lines with separate tone colors. The concept of using a keyboard as an orchestra raises some specific musical problems (e.g., what happens to individual tone colors when you cross lines?) that fall outside the scope of this article. But the general constraint is simply that one mind cannot relay enough information through ten fingers (and two feet) to do the job of an ensemble of performers.

The Harvard Dictionary defines monophony as music comprised of a single melodic line. Polyphony is defined as a combination of several simultaneous voices of a more or less pronounced individuality. The term polyphony is almost synonymous with counterpoint.

Is one-note performance a limitation? Yes, but it's only critical if you have been trained to think in terms of playing more than one note. If the synthesizer had been fitted with valves instead of a keyboard, its "limitation" would have gone unnoticed. Does polyphonic keyboard playing have limitations? Yep. But that too, is another article. In this one, we'll try to put both solo and polyphonic synthesizers into some perspective musically, categorize their types, and offer a few "practical" suggestions concerning their demonstration and sale.

The synthesizer is rightfully credited with bringing newfound superstar status to the keyboard player. The list of keyboard superstars prior to about 1970 is . . . er, ah—small! There have always been the perennial jazz giants with their select audiences, and the other players were there; but they were just waiting to be brought to the spotlight by the technology that would make them *mo*bile, *ag*ile (and sometimes *hos*tile!).

It's no accident that the keyboardist was elevated by using a "Johnny one-note" instrument. Let's see where Johnny came from. We *began* as soloists, from the time that primitive man lifted his face to the sunset and confirmed his humanity by croaking a testimonial to Mother Nature. Monophony is the oldest type of music, being the one used in ancient Greek, Oriental, and primitive music of the troubadours, trouveres, Minesinger and Meistersinger.

Most music today is made by soloists—people who play monophonic instruments. The symphony orchestra, big band, and military bands are peopled almost entirely by musicians who have learned to struggle with and love the "limitation" of producing one note at a time. Even the electric guitar didn't really take off until the soaring, bending solo style was established in the rock band. The monophonic musical line must have something going for it to exert such a lasting and pervasive

influence. It does: *nuance*—"subtle distinction or variation."

The monophonic synthesizer brought two important new powers to the keyboardist. First, it allowed him to use the sound-effects, or "sonic events" capability of the synthesizer to tickle the earbones of the music-listening public. And it made it possible to create a true soloistic voice, with the pitch bending, vibrato, and other textures that have been associated with such expression for centuries. Keyboardist Gary Wright has called this solo expression " . . . a more aggressive sound." Jan Hammer comments that the synthesizer "saved his life" musically, and goes on to say: "I personally prefer, for most of my playing, having just the monophonic keyboard. I discovered that it makes me play a certain way that I didn't know about before—prior to playing monophonic keyboards." The texture of a solo voice rivets the listener's attention to detail, with tension created by pitch bending and subtle tonal variation that go together to create nuance.

The solo synthesizer was a dramatic and radical break for the keyboard player, delivering him from his fixed-pitch keyboards into the gliding world of the soloist. Had polyphonic synthesizers come first, the synthesizer explosion would have been a muffled report. The solo synthesizer has caused the keyboardist to reevaluate his position in the musical galaxy.

The hackneyed story is that electronic musical instruments were supposed to replace acoustic instruments. They haven't. Some people think polyphonic synthesizers will replace monophonic synthesizers. They won't, for the same reason that the piano didn't replace the oboe—each does something different. The advent of polyphonic synthesizers simply focuses more attention on the requirements to improve the soloistic expression of the monophonic models.

Even the monophonic synthesizer is not a single "thing" that fulfills one well-defined purpose. By its very nature, the synthesizer is rather ambiguous in its use. Consequently a great variety of different designs have come about.

But there are two broad categories of musical use that seem to dictate design. A synthesizer may be used to create new "sonic events," or it may be used like an orchestral instrument— as a "voice under control." An example of a "sonic event" is the sound resulting from dropping a case of glass bottles down several flights of concrete stairs. Now that's a sonic event! The resulting sound is so complex that the ear loses track of specific features and perceives an "event" or unified cloud of sound. A musical voice, on the other hand, has a sense of line that is well defined by easily distinguished pitch and rhythm. Examples include playing the oboe, trumpet, or singing in the shower. Most people in "commercial" music use the synth to produce musical voices, with a scattering of sonic events. Most composers in the avant-garde have avoided using the synthesizer to make voices. Monophonic synthesizers today offer some mix of these two basic capabilities. That relative mix helps define how that particular instrument may be best used.

Growing out of the musical usage discussed, the monophonic synthesizer has grown along two basic lines—as "studio" and "performance" instruments. These distinctions break down easily under close inspection, and most manufacturers insist that all of their models are best at doing everything. The hottest issues are heard when performance instruments are compared, undoubtedly since this remains the largest market. Part of the dealer's job is to provide a selection of the various models for event-making, performance, and combination models to fulfill the musical needs of their customers. Here are some ideas of how to make some distinctions (mention of any model does not constitute an endorsement, nor does exclusion of any model constitute a negative comment):

The archetypal event-oriented synthesizer comprises a collection of individual *modules*, each of which generates or modifies an electrical signal to manipulate sound. These modules require an interconnection system, using one of several schemes, though patchcords (telephone) are still regarded by most as the most reliable, noise-free, and least expensive patching system. The modular synthesizer is typified by Moog's 900 Series Modular Systems such as the Syn 15, Syn 35, and Syn 55.

Quasi-modular instruments use a single front panel instead of individual modules, and often imply modularity using graphics. This type usually has some "hardwiring" (factory connection) to increase speed in setting up common patches. In addition, some of these models offer input/output jacks on the front panel to facilitate more flexible use by the performer/composer. Also, recent "performance" synthesizers such as the Multimoog offer enough input/output on their *rear* panels to qualify them as quasi-modular nerve centers that can interface to larger units. Examples of quasi-modular synthesizers include the ARP 2600 and the EML 101.

Studio instruments are of necessity "variable" synthesizers since one wishes to retain optimal control over sound properties. But performance synthesizers may be of the variable, or the "preset" type. In either case, patchcord or other connection schemes are done away with in order to make playing the instrument on stage easier and faster. Loss of patchcord flexibility causes some loss in overall control since each manufacturer makes decisions as to how to connect "modules" for the performer. However, variable performance synthesizers can have great power, and they range widely in cost and complexity. From a musical standpoint, complexity and wide choice of interconnection stand at the opposite pole from simplicity and unambiguous use in performance. Performers will make their own decisions as to how much they want to contend with in performance. The Minimoog is the classical variable performance synthesizer.

Another category of performance synthesizer is the preset synthesizer. Its capabilities are often restricted solely to playing voices. Panel features may be limited to no more than the means of selecting one of several "canned" voices during performance (*e.g.*, ARP Pro Soloist), or there may be means of modifying the canned voice (*e.g.*, the Minimoog). In some cases, typical of several Roland Synthesizers, a present synthesizer is incorporated with a limited variable synthesizer in an attempt to give the best of both worlds.

Finally, the variable synthesizer

Tom Rhea is a musician, a writer and a consultant to Norlin and Moog.

with memory is a concept that is emerging. This type (*e.g.*, Oberheim OB-1) is a variable synthesizer fitted with a means of "remembering" front panel setups, so that a preset panel configuration created by the musician may be selected quickly during performance.

In general, the evolution of the solo synthesizer has been from the general, complex, arbitrary, and flexible studio orientation, to the quick, simple, specific, and relatively inflexible performance oriented designs. But there is a market for each and every musical persuasion in between.

Solo synthesizers have great differences in size, cost, complexity, and function. But differences in technology are very small. Most monophonic synthesizers consist of voltage controlled elements such as oscillators, filters, and amplifiers (hence VCO is a *v*oltage *c*ontrolled *o*scillator). The use of VCO, VCF, and VCA is a prevalent characteristic of most monophonic synthesizers.

For a variety of technical reasons, and because some manufacturers like to "stretch" the word synthesizer to fit their polyphonic keyboards, "polyphonic synthesizers" do not share such similar design schemes as do their monophonic counterparts. The technical distinctions can't be explained intelligently in so short a space, but since they become apparent musically, let's approach them that way.

Several "issues" concerning the new polyphony include (1) size of keyboard; (2) method of providing articulation for each key; (3) limitation on number of notes playable simultaneously; and (4) keyboard touch sensitivity. These are important not because they derive from technological differences, but because they limit or facilitate a keyboard's use as a primary keyboard, for straight-ahead musical use.

Keyboard size is subject to easy confirmation. Just look. Then consider whether the size is adequate for user needs. Because of the nature of soloistic music, it is easy to understand why a keyboard of as few as 32 or 37 keys is adequate for a monophonic instrument. But the increased demands created by two-hand, chord-playing music dictate a larger keyboard. How much is enough? Certainly a player can learn to use a smaller keyboard, but if the instrument is to play the role of a primary keyboard, it must be played intuitively without regard to the limitations of a restrictive keyboard size. In my opinion a keyboard of fewer than 61 keys quickly frustrates the natural impulses that a keyboard player has learned on larger keyboards. Ideally, a keyboard of *more* than five octaves is desirable.

Another issue is the question of how the instrument articulates (shapes the loudness of) individual notes on the keyboard. On acoustic instruments there is no question about how this is done. There simply must be a different resonator (string, pipe) for each key of the instrument. Articulation is achieved by setting a given resonator into motion — it is apparent that the playing of one key on a piano is independent of the triggering of any other key. One might assume that all polyphonic "synthesizers" follow this model and provide individual articulation for each key. Some do. That is, some instruments have an individual articulator path (with separate VCF and VCA) for each key. Others don't. What does it mean?

When all the notes pass through a *single* articulator you're stuck with some problems. As long as you play one chord after another you won't perceive any problem. All the notes of the chord pass through the articulator and are shaped simultaneously. But what happens when you play true polyphony—*lines* of music where notes occur in a non-simultaneous fashion? A single articulator can't be both open *and* closed at the same time. Two ways of coping with this problem have been devised, the so-called "multiple" and "single" triggering modes. Suppose you have programmed a nice slow attack (beginning of a sound) and you play and hold notes successively—one after the other, typical of a string ensemble. In the multiple mode of triggering, when the second and third notes (and each ensuing note) enter, *all* the notes held down will be rearticulated—the string ensemble has only one "bow" which bows all notes regardless. If you were playing "piano" in this mode and held a chord with the left hand and played a right hand run, the whole chord in the left hand would be rearticulated each time a new note is struck with the right hand. This type of triggering and articulation scheme is exemplified by the ARP Omni.

The alternative triggering scheme supplies a realistic articulation on only the first note of a phrase—ensuing notes "pop" in organ-style with no special articulation. This setup is typical of the Omni II.

When the dictum of separate articulation paths for each key is broken, musical problems are created. Stated simply, there is a difference between a chord-playing instrument and a polyphonic instrument. This is not to say that chord-playing instruments don't have musical utility. But it is important that the musician make the distinction so he doesn't expect blood from a stone. Unfortunately for the consumer, this articulation situation is confused further by the fact that the Polymoog, which *does* have individual articulators (separate VCF and VCA) for each key, *also* has a single final VCF articulator on *one* of its five audio channels (the VCF channel). In the final analysis, though, you can easily find out which instruments offer which kind of articulation by simply sitting and playing them in all their modes. If it can be played intuitively in a pianistic sort of way, it probably has separate articulators for each key. (And, unfortunately, it will undoubtedly be more expensive because of it—no free lunch.) Remember though, not just *chords*, but *polyphony*.

Another point sometimes raised is whether the instrument is "fully" polyphonic or has "limited" polyphony. Some of the new polys use a "scanning" techniques that senses which key(s) are down and "assigns" available voices to those keys. Polyphony is limited to the numbers of voices available, typically four, eight, or ten in number. Instruments of this type include Yamaha's polyphonic synthesizer, Oberheim's Four Voice and Eight Voice synthesizers, and the Prophet, by Sequential Circuits. It might be argued that we have but 10 fingers so we need only ten notes, but consider what happens when you roll through broken chords with the sustain pedal of the piano down. Once again, this becomes an issue if we refere back to the idea of making the instrument an intuitive primary keyboard.

Finally, and most important musi-

cally, there is the availability of touch sensitivity in some polyphonic synthesizers. Like everything, it costs something, but it gives a lot to musical expression. Basically two types are available: velocity sensitivity—like an acoustic piano—senses how fast a key is depressed and creates a note that varies in brightness and loudness proportionately. Velocity sensitivity excels when used with percussive types of voices, such as piano, clavinet, etc. The Polymoog has a velocity sensitive keyboard, with individual control of each key.

Force sensitivity relates to the exertion of force *after* a key has hit "bottom." Several Yamaha models offer either a single force sensor for the entire keyboard, or individual force sensitivity for each key. Force sensitivity is more appropriate to sustained voices such as organ and wind sounds.

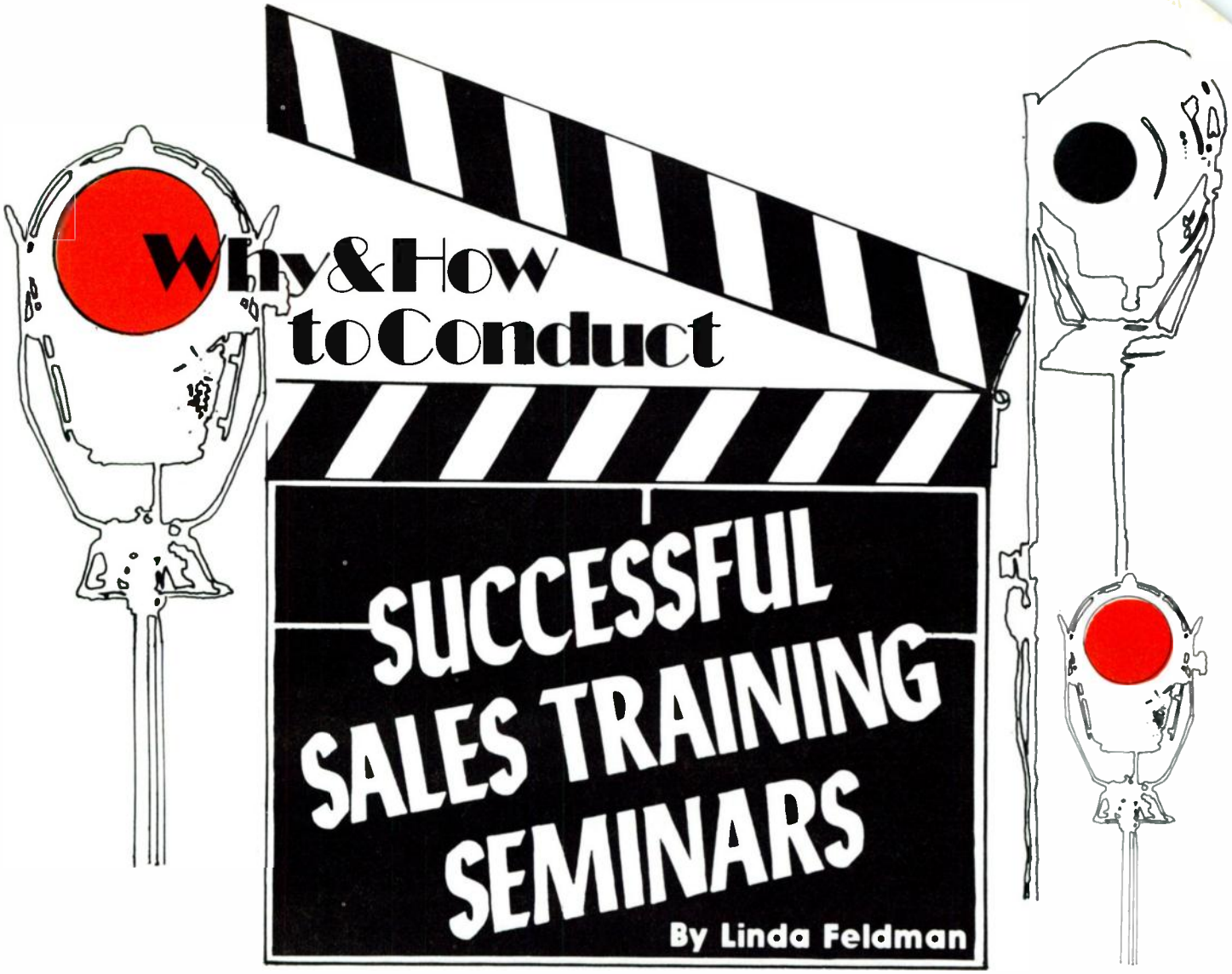
Now, once the dealer has his array of monophonic and polyphonic synthesizers on the floor, what? First, many dealers have found that it is useful to have a special "synthesizer room" to insulate young synthesists from their less adventurous counterparts. Nothing gripes a purist more than to hear the sound of 47 cows walking through five acres of marshmallows while he is doing his musical thing. If a sound room is not possible, headphones are advised.

The arrival of the new polys makes amplification much more critical. Those keyboard chords don't sound too good when massaged with the distortion typical of most guitar amps, so special attention should be given here. Moog's new Syn Amp is specifically designed for keyboards and synthesizers. It gives the kind of Mack Truck power and Rolls Royce frequency required of a keyboard amp. (It's expensive). Barring that, use a wide range P.A. system, or even a hi-fi system. Please . . . never a bass amp for anybody's poly!

Finally, when a customer walks into a store, it is most reassuring if the salesman can talk his language. If he walks in and says, "I just want to play me a synthesizer from the eyeballs down," the salesman had better whip out a model and say, "Look at this, you just push a button and boogie." But if the customer says "I am lookng for an open system with ring modulation capability, envelope follower, and a dual mode sample and hold," the salesman should counter with, "This model has complete I/O, filter modulation by oscillator for ring mod sounds, and a sample and hold with both synchronous triggering and control output modes." Ten-four?

It is also very nice if the salesman knows what he said, because it is useless to bluff a true devotee to synthesizer technology. Credibility can plummet.

As in all sales situations, the customer's needs, problems, and desires are to be catered to. There is no answer to the question, "What is the best synthesizer?" unless the salesperson asks the customer a lot of questions like: "What kind of music do you make? Do you play in a group? Do you travel regularly?" Once the customer has been qualified, if the resident synthesizer swami has done is homework, musical need and choice of instrument can be matched.



A dealer assumes that his sales people can sell. He also assumes that his sales people can sell semi-pro equipment. But sales are often lost because a sales person doesn't know the right package to sell, or the right way to close the deal.

Even if your sales staff is perfect; even if you're experiencing sales growth and profitability, sales training seminars are a good idea.

You can run a short evening gathering or you can run a regular training course. Either way, the results will probably show up clearly—in more sales, more repeat business and better customer relations. You'll also find less turnover and probably a happier staff.

Since your sales people are your company's lifeblood, you should want them to be informed. They should know the latest in product and technology. And they should have regular refresher courses on selling techniques. Because beyond all the specs and products lies the fact that you're in business to make money, and selling is your money-making tool.

PLANNING THE SEMINAR

Last month we talked about planning and executing a successful consumer seminar. The same basic facts hold true for sales training seminars. Much of the equipment needed and methods used are the same, but you'll be covering different kinds of information—marketing and sales information. And when you present product or "recording tips" kinds of information, it should always be framed around the idea of generating positive sales results.

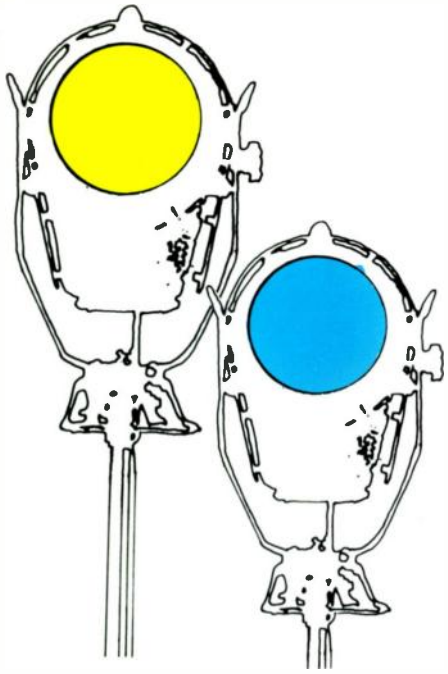
As with any other kind of seminar, start with an outline of the material to be covered. Try to ask yourself where your store is weak. Do you need a brush-up on defining specifications? Are your sales people knowledgeable about the latest products on the market? Do you have some weak closers?

When you've looked at any and all problems that you have, you'll get a pretty clear idea what to include in the seminar . . . sales, product or technical information, or "how-to" educational sessions.

Once you've decided what to cover in your training seminars, you should get a pretty good idea what kind of format to use. If you just want to brush up on some selling techniques, an informal after-hours gathering might be appropriate. But if you have to teach (or remind) a few sales people how to cut a demo tape, a full-length training course is probably in order.

With format in mind comes the old

Linda Feldman has been a recording engineer and Training Manager of TEAC. She is currently an industry consultant.



question of who shall run the seminar. Is it too technical? Should you go to an outsider? Or, can you teach the technical and recording sides of things? You might consider looking into a professional sales or motivational course if you're not meeting sales goals and you think there's a serious problem with your staff.

Don't ignore your rep. Ask him for pre-packaged courses or materials that could help you package your own seminar. Contact your manufacturers. Many have courses or materials to help you. Perhaps you can use them or adapt them to fit your needs.

Stay in touch with your suppliers.

Prepare all the in-house materials, from gathering enough chairs, pencils and coffee cups to putting together the literature packages. Of course, with this kind of seminar, you don't have to worry about promotions. That's one of the nice things about having a captive audience and being the boss. But if you want the seminar to be a valuable experience, create a positive atmosphere around it. Make it interesting enough (or fun) to make your sales people want to participate.

Then, try the old dry-run test; it's the best way to find out if you really know what you're doing. And don't forget to call on your staff for support. For example, you might want to handle the sales training portions of the seminar and let a salesman handle a specific area of technical information. That's a good way to create a positive image for someone who is knowledgeable on your staff.

WHAT TO COVER

Rather than give too specific an outline here, let's take a look at some of the general areas that can be covered effectively in most sales training sessions.

The Market. We really take the semi-pro market for granted. There aren't that many people who could define and discuss the market if asked. So prepare a short indoctrination for your staff. Let them know the way you view the market.

We usually talk about three audio markets. For the purpose of discussing recording gear, we will separate markets in terms of the rough specifications of the recorders. For example, we'll consider professional gear as 600 ohms, +4dB with balanced mic and line circuits; semi-pro as 100,000 ohms, −10dB, with unbalanced line and usually balanced mic electronics; and the consumer multitrack product as 100,000 ohms, −10dB with unbalanced mic.and line circuits. Don't get into esoteric arguments over the merits of these classifications. Sometimes it helps to compare market designations by price and track-handling capability.

Usually, we talk about semi-pro gear as products with which a musician (or engineer/producer) can make his living. Semi-pro products are used for business, not just for fun and entertainment. That's a very important distinction for the professional audio world and you might make it a key point for your sales staff to remember.

It's a good idea to talk about your customer. That includes the general pro-audio buyer as well as the specific people in your market. Who is that person? What will be done with the equipment? Will the application be music or audio-visual work, broadcast or sound reinforcement? Is your customer in business or just starting out? Will the equipment go into a studio or a garage? Then look at your customer's needs for tomorrow. Let your sales people talk about the customers they've talked to most recently. Stay in touch with everything that's happening locally—the club scene, recording and PA gigs, etc, etc.

Try to focus on the particular needs and motivations of both the brand new buyer and the experienced engineer. They will look at the same equipment quite differently. Levels of understanding in your customers must be explored and understood by your own people.

The Products. Once you've pinpointed the semi-pro customer in your particular market, take a look at the products available. You should try to present an overview of the current state of the art, and then talk about expected developments. Make sure your sales force has extensive knowledge of your competition's products, especially the products you *don't* carry. When a customer discusses these products, he'll feel more confident that you know what you're doing, since you'll know how to sell against them.

It's a good idea to talk about both function and price when discussing products. Make sure everyone knows the key features of a particular brand. And talk about the step-up features within one brand's line and step-ups from brand to brand.

If you have some particularly knowledgeable sales person, let him present an analysis of his specialty—mixers, mics, recorders, outboard equipment, alignment, etc. Every sales crew includes various specialists.

The Recording Chain. Once you've discussed the products—from recorders to mixers to mics to cables to outboard units—put everything together. Make sure your sales staff understands the overall recording chain and the basics of recording, overdubbing and mixdown.

It's an especially good idea to have several active working systems at different price points ready for hands-on demonstrations. Let your sales people record something—each other or an outside musician who needs a tape. Let them mix. And let them hook-up an eight- or sixteen-channel rig.

All this experience comes in handy when it comes time to put togother the right package for a customer. And it's all very handy as a refresher course in multitrack methods. A lot of information can be forgotten when more time has been spent in selling than in recording.

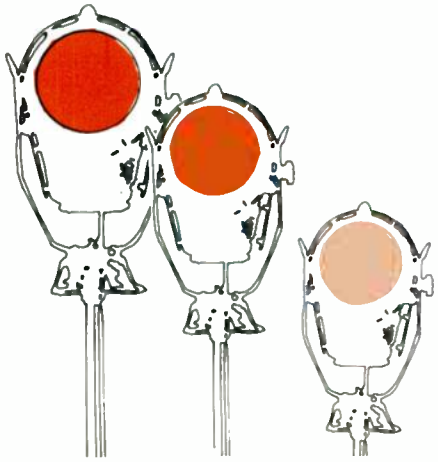
Packaging Systems. This could be a crucial area for your sales staff. Let your people know what goes into a system at given price points. It will be much easier for your salesmen to follow up with a customer on a product that he couldn't afford in that initial package-sale. Your customers may be novices when it comes to what goes into studio packages. When Tascam ran its $20,000 studio give-away contest, the response was overwhelming. Customers were trying to buy that

exact studio set-up from the manufacturer. It was the first time many people had ever seen a pre-interface studio package. So, we can say, packaged systems, along with high visibility, *will sell.* Keeping packaged systems visible gives your salesmen a place to move along with alternatives. The customer will feel he has maximum selection. And it will be easier for you to merchandise other product lines when trying to fill that picture. Don't forget to keep your sales force informed regarding "push" items and special promotions, such as trips.

Let's take a look at some standard-price packages at key price points: $3,000, $7,000 and $15,000. For illustration purposes, we'll build systems around TEAC and Tascam Series products—because they are in wide distribution and because I'm most familiar with their prices. These are current list or suggested retail prices in effect in April, 1978.

A typical $3,000 system might include: A-3340S multitrack recorder; RC-120 remote control; Model 2A six-in/four-out mixer; meter bridge; stereo cassette deck (200); 3 microphones; extra mic cables; 2 model 109A input transformers; 2 boom mic stands; one pair headphones; top quality recording tape (just enough to get him started); E-1 demagnetizer; 122A test tone oscillator; RMK Cleaning kit; and an editing kit.

We're assuming that the musician or client probably has a hi-fi system at home already, which means he'll have some kind of audio amplification and a turntable. He also has an open reel quarter track and one microphone with which he's been doing some sound-on-sound work. He'll also own some loudspeakers. Of course, if you suspect there's something missing, be prepared to sell—new loudspeakers, new amplification, etc.



At this price point, the logical next step or next equipment purchase will be extra microphones. Then, a mic stand or two. This customer might come back for a reverb or echo unit. He'll be back for cleaning supplies and, of course, lots of tape. If he's dragging the equipment around town or off to jobs, he'll need some flight cases.

At some time, he might need extra mixing capabilities, another Model 2A or something bigger. If his needs seem to grow during your salesmen's conversation with him, he might be ready to jump right into the $7,000 system. These products include: 40-4 recorder; 25-2 stereo mastering deck with built-in dbx; Model 3 mixer; loudspeakers; power amp; mono headphone amp; 2 PB-64 patch bays; patch bay cables; 5 microphones; mic cables and mic stands; a graphic equalizer; 122A test tone oscillator; RMK cleaning kits; E-1 demagnetizer; test tapes; direct box; several pairs of headphones; and an editing kit.

Right now is a good time to test your sales staff. Let them substitute products, step up to other models. Let them create new product mixes. Give some starting points—telling what a hypothetical customer already owns—then let your sales people create the right package. Mix, match, switch and change. Packaging versatility is a key talent when you're looking for new profits.

Remind your staff to remind your customers about some basic equipment—often-ignored gear like turntables, monitoring speakers, power amps, and the like. Then make sure outboard equipment is pitched— noise reduction units, echo, EQ, reverb, phasers, flangers, etc. This might be a good time to refresh everyone's memory on the operation and benefits of various outboard products. Hook some up and demonstrate them so the audio results are familiar to everyone.

Here's what we might be putting into a $15,000 system studio package; Model 5A mixer complete; 80-8 with dx8 recorder and noise reduction; 25-2 mastering recording with built-in dbx; monitor speakers; power amp; stereo cassette deck; graphic equalizer; Model 1 mixer; reverb unit; 3 PB-64 patch bays; patch bay cables and interface cables; extra mic cables and mic stands (10-15) of each; test tapes; mono headphone amp; headphones (six to ten pairs); tape; cleaning supplies; E-1 demagnetizer; 122A test tone oscillator; direct boxes; and an editing kit.

A customer at this price point is a guaranteed repeat customer. Cables, tape and microphones are the most typical repeat purchases. Then comes signal processing products.

Also, at this level, you can start training your staff to charge for interfacing, consulting on room acoustics and other services. Knowledge is a highly saleable commodity in the semi-pro market.

Now, naturally, you may not agree with the products and systems suggested here. They are only starting points for discussion. The important thing is that every system and every product that goes out your door must meet the need of your customer. Sell him the right gear so he can make money. If you make money for him, he will make money for you.

SALES TRAINING

Professional selling techniques can be learned. They exist. The methods are real.

During a sales seminar, present the basics of greeting and qualifying your customers, then present the products and how to handle objections. Then make sure your sales people are strong closers. If they don't ask for the sale they won't get it.

You should be able to present a pretty good seminar—whether you do it in one giant session, a weekend, an evening or once every few weeks. One of the best ways to teach, remind and reinforce is with regular seminars. Invite manufacturers or reps to your store to present their products. And don't forget to pin them down on points of "superiority." Make them tell you *why* their product is better than another. See what sales training programs they offer.

Continued meetings, informal and loose, are effective ways to keep your sales people motivated and well-informed. If there's a problem, treat it quickly and privately. Yesterday's problem is tomorrow's disaster.

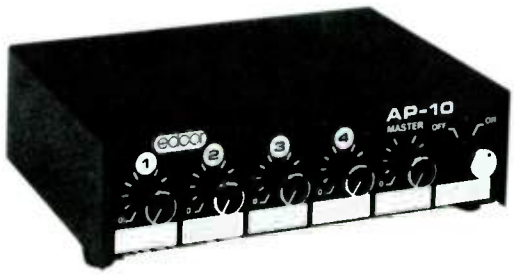
With these tips, you can get started . . . Drop us a line at SOUND ARTS MERCHANDISING JOURNAL. Tell us about your successes and failures. Maybe we can help. And, no matter what happens, keep up the seminar program. Communication is the most important ingredient in a successful sales program.

The SOUND SH

Polyfusion, Inc., has a new product, the FF-1 Frequency Follower, which can detect the fundamental frequency of any monophonic instrument (sax or trumpet, for example) or the human voice. The FF-1 is capable of producing an accurate control voltage at a ratio of IV per octave which will control the VCO's (voltage-controlled oscillators) of a synthesizer. Also contained in the FF-1 is an Envelope Follower which allows proportional control of the voltage-controlled amplifier (VCA) of a synthesizer. Horn players who are into the music of Wayne Shorter, Bernie Maupin, or Tom Scott (to name a few) will be over-

whelmed with the tonal possibilities when you present the complete package, the FF-1 and a good synthesizer, to them. The FF-1 comes equipped with an auto-lock mode which guarantees perfect racking of the external VCO whether that VCO is in tune or not. The FF-1 is mounted in a 3½" high rack chassis, and the package includes footswitch, patch cords, and a one-year warranty for a suggested list price of $995.00. Bear in mind that once you successfully convert a player to synthesis, that player is no longer confined to purchasing reeds and valve oil—now he wants mixers, amps, and effects to further enhance the sounds made possible by the FF-1. For complete information concerning the Frequency Follower, write or call Polyfusion, Inc., 160 Sugg Road, Buffalo, N.Y., 14225 (716)631-3790.

CIRCLE 1 ON READER SERVICE CARD



The **Edcor** Co., maker of some fine wireless microphones, has just marketed a handy little headphone amplifier, the Edcor AP-10. A romping 4 watts RMS on each side of 4 stereo channels into 4 ohms ought to be enough beef to suit anybody when it coes to headphones! Individual gain controls, flat response 20Hz—20kHz, mono or stereo mode, and master gain combine to make the AP-10 useful in recording studios, educational, and audio-visual applications as well. A modest list price of $149.50 is attached to the AP-10 from Edcor, 3030 Red Hill, Costa Mesa, Ca. 92626 (714)556-2740.

CIRCLE 2 ON READEH SERVICE CARD

If you are selling disco systems (and a lot of us *are* these days) you can always use an attractive, multi-purpose mixer/preamplifier that is custom designed for those feverish Saturday-Nighters who don't want the music to *ever* stop. **SHOWCO,** the highly-regarded sound reinforcement outfit based in Dallas, Texas, has such a mixer in the S-2500. Basically, the S-2500 is a six-input stereo mixer. Two phono inputs, two tape inputs, one auxiliary input, a mic input, and a headphone input are complemented by a 4-band graphic equalizer, a mic EQ, a balance control, VU meters and many more features. It's been my experience that disco DJ's are less concerned with the ultimate in state-of-the art electronics than the audiophile who can detect an 8dB

DOPPE

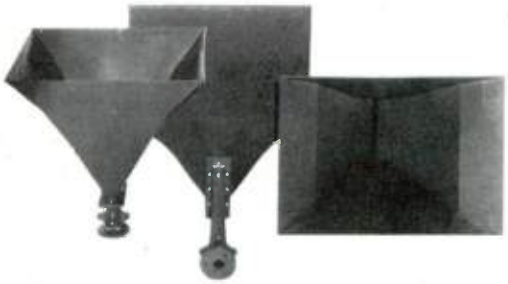
By Charlie Lawing

slew rate at a distance of three miles! All the DJ wants is something that's easy to use, that will give him good fidelity, and that makes the segue of turntables into cassettes or reels a smooth and simple transition. However, I don't mean to suggest that the S-2500 is a cheap sort of mixer—a look at the spec sheet reveals some planning and some quality. For instance, the 4-band EQ consists entirely of 12dB per octave Butterworth active filters, and offers a frequency response of 20Hz to 20kHz. Another thoughtful touch is the balance control—which does *not* increase the volume as you pan toward a channel; instead it decreases the signal in the other channel until the extreme is reached, at which point there is a slight boost added to the desired channel. This drastically reduces the chance of blowing speakers due to overload. Also provided on the S-2500 is a Talkover button that is preset at 10dB, and is user adjustable to 20dB.

I think the name SHOWCO alone will help to sell this mixer, but regardless of that, it looks like a good product for which there is a real need in small club systems and home hi-fi component systems. I've made it a point to keep such a system on display at Strings and Things, and in most cases an effective demo will sell the system quicker than spouting. Keep a clean album with a strong rhythm track handy if you want to sell components such as this—it should be easy!! For info on SHOWCO's complete line of gear, write to SHOWCO Manufacturing Co., 1225 Roundtable Dr., Dallas, Texas 75247 (214)630-7121.

CIRCLE 3 ON READER SERVICE CARD

Altec has a new line of horns, the Mantaray series, which are distinguished by their wider mouth design and the absence of curved surfaces in the throat of the horn as well. The reason for this departure from "conventional" horn design is the desire to enhance the off-axis performance of the horn at high frequency. The geometric innovations introduced by Altec are manifest in three Mantaray models which have different coverage ranges: MR-94 yields 90° × 40° coverage, MR-64 yields 60° × 40° coverage and the MR-42 provides 40° × 20° coverage. The Mantarays are usable down to 500 Hz, says Altec, but best off-axis performance is from 800 Hz to 16kHz. Large audiences should benefit most from this design, and Altec plans to expand the Mantaray horn line to include other applications in the future. Altec Corp., 1515 Manchester, Anaheim, Ca. 92803 (714)774-2900.



CIRCLE 4 ON READER SERVICE CARD

Hammond Industries, Inc. has just released its new Audiophile Pro Rack, a brushed matt-finished aluminum rack mount, 46″ high, complete with heavy casters and black plexiglass side panels. The Pro Rack is standard 19″ rack mount, but optional shelves are available for storing other gear. The 46″ high model

sells for $169.95 and should be well worth the money to the stereo buff or the studio owner who wants to keep things together. 58″ and 70″ audio racks are also available. Hammond Industries, Inc., 155 Michael Drive, Syosset, N.Y. 11791, (516)364-1900.

CIRCLE 5 ON READER SERVICE CARD

The *Altair* Power Attenuator is something no music dealer should be without, especially if he is selling electric guitars and amplifiers. At Strings and Things, our local market consists primarily of young guitarists, many of whom prefer to play loud. The problems they often encounter I'm sure are familiar to many of you: "My amp doesn't sound right unless it's cranked all the way up, but club owners tell us we're too loud," or "How can I get an authentic distorted sound in the studio without blowing up the mike?"

The PW-5 solves these problems by controlling the amount of power that actually

reaches the speakers; the amp can be turned up for full output stage distortion at any volume level desired. The power attenuator adds no distortion of its own, hence the authentic sound of the amp itself is maintained. Attenuation is calibrated in four decibel steps from 0 to −44dB; outputs for two speakers are provided; and a low impedance line out is provided for sending the attenuated signal to a slave amp, effects, a mixer, etc. I consider it an extremely useful tool for a reasonable price $99.95). For more info, write ALTAIR Corp., Box 7034 Ann Arbor, Mich. 48107 (313)663-8558.

CIRCLE 6 ON READER SERVICE CARD

3M Company has unveiled its new "Metafine" tape which uses a new formulation of fine metal magnetic particles. The tape will first be introduced as a consumer audio cassette, but will eventually be available for audio, video, instrumentation, computer and other specialized recording applications. The magnetic component in the coating is a fine metal—essentially iron. Both coercivity and intrinsic moment are higher than with any commercial recording tape in general use, according to the company. 3M figures, for instance, put retentivity at 1400 gauss for "typical chrome" 1500 gauss for Scotch "Master II" and 3400 for the new Scotch Metafine. According to 3M the Metafine cassette delivers maximum output of 5 to 10 dB greater than "typical chrome" tapes and 3 to 7 dB greater than the company's own premium cassette. Present audio cassette decks with 70-microsecond equalization are capable of playing pre-recorded "Metafine"

tapes with "resultant performance improvements." However, satisfactory recording requires new equipment. The company claims the fine metal tape has coercivity, remanence and output capabilities more than twice those of oxide tapes. The signal-packing density is claimed to be about 400 times that of the first magnetic tapes.

After 13 years of research, the Metafine tape has been deemed economically feasible for mass production. New equipment is needed for recording because of the need for significantly different recording bias figures. A stronger erase current is required for the tape's higher coercivity and remanence.

The projected price of the Scotch "Metafine" C-90 cassette, to be available later this year, will be positioned between that of the present premium audiophile cassette and open reel tapes. According to 3M, the availability of other tape formats and the dealer distribution will follow the hardware capable of using Metafine. For more information, contact 3M Company, 3M Center, St. Paul, Minnesota 55101.

CIRCLE 7 ON READER SERVICE CARD

The new **Tandberg** TCD 340 AM 3-motor/dual capstan, 3 separate head cassette deck features the new Tandberg Actilinear recording system (patent pending) and front panel bias switching for use with the new metal particle tape. The Actilinear system employs a special transconductance converter, which reduces amplifier slew rate effect and thus improves transient signal handling. It additionally reduces intermodulation interference from the bias oscillator, and results in a 20 dB improvement in signal handling capacity compared to "conventional recording systems.

The unit also features completely separate recording and playback heads and dual-gap erase head. Capability of erasure of metal particle tape is in excess of 70 dB. The recording head azimuth (10 kHz) is adjustable for manual positioning of the angle of tape-to-head contact. Other features include equalized peak reading VU meters with new graphics, variable input/output control, mode indicator lights, four Dolby B processors, tape selector switch, MPX filter, front panel elctronic editing and pneumatically damped cassette compartment. The unit is usable in both horizontal and vertical operation, and is rack-mountable with the optional rack mount kit. Frequency range is 30 to 20,000 Hz, wow is .12% WRMA for recording and playback, S/N ratio is 70 dB. Suggested retail price is $1,300. Tandberg of America, Inc. is at Labriola Court, Armonk, New York 10504, (914) 273-9150.

CIRCLE 8 ON READER SERVICE CARD

By Phillip Missimore

DEALER DOSSIER

The Express Sound Co. Costa Mesa, Ca.

It was a simple case of artistic frustration that led Jerry Smith into his current position as head of The Express Sound Co. in Costa Mesa, California. A guitarist and composer, Smith was continually frustrated in his attempts to communicate musical ideas in the recording studio and to understand the technical aspects of recording. As manager of what was then the Sound Factory, a guitar shop, Smith began to experiment with recording local groups in a room in the back of his store. Several years later, the Sound Factory has become Express Sound Co., and there's nary a guitar to be seen on the premises. The store specializes in pro audio equipment, more particularly the planning and construction of turnkey recording studios on a custom basis. From three employees in 1974, when Express Sound started, the firm now has 13 employees, and is one of only a handful of companies nationwide that is even constructing studios.

In an effort to find out more about this transition from musical instruments to recording studio, SOUND ARTS interviewed Smith at the Express Sound Co. The store itself has been tastefully decorated and built with a wood theme, much of the work done by Jerry Smith himself.

How did you get your start in the industry? What are the origins of The Express Sound Co?

Smith: I originally was a guitar player and composer. After I got out of the service, I played guitar wherever I could—as a single, in duos, whatever. Finally, I wrote all the music for the Actors' Mime Theater, and the show got some good reviews in *Variety*. Even the Los Angeles *Times*' Charles Champlin gave us a favorable review. This was in 1970. Right about that time, Coast Music Service, which is right next door to us, was finding out they couldn't sell electric guitars in a traditional music store atmosphere. This was during the consumer guitar explosion, when musicians would come in and buy two or three guitars at a crack, and it was obvious that a new approach was needed to service that market. At that time, I was working as the line foreman in a boat building firm to make ends meet, so Coast Music offered the opportunity to make the store adjacent to their main store a guitar player-oriented outlet. We started out with just a couple of rooms: one was a rare guitar room for acoustics, and the other was for the electrics, our vintage Les Pauls and stuff. We were called the Sound Factory at that time, and we were the first real musician-oriented store in the area. I was the manager and more or less the resident acoustic guitar expert. While this was going on, Bruce Marlin, who's now with Westlake Audio, and I started taking out what was at that time a massive PA system —about 5,000 watts or so—and setting it up each night at various clubs around the area, doing the sound for all the groups. Looking back, I think that experience has stood me more in good stead than just about anything else. Having to set it up new each night and adjust it to individual rooms and musicians was a key experience.

The real reason I got into the business of recording was that I was frustrated, since I was going into the studio and was unable to communicate what I wanted to the engineer, and I didn't have the capability to do it myself. I wound up getting incredibly frustrated as an artist, and I wanted to change all that. I began by adding a

Photos by Don Jackson

control room when I built a special guitar room in the back of our store, the room that now serves as a demonstration area for our pro equipment. I told Coast Music that the room was soundproofed so musicians could crank up amps while trying out guitars, but the real reason was to allow us to record groups in the evening. We had the first Model 10 Tascam in Orange County, and a 3340 deck. We just started making more and more recordings, and experimenting more all the time. With our interest in recording, Teac began to take an interest in us. John Boyle was looking for someone who could introduce and train their dealers on how to sell this equipment. So, I became Teac's training manager, working with John, who really helped me a lot. I wrote the "Tascam Book" while I was with Teac. I traveled all over, conducting seminars and getting dealers very excited about the growth potential of the semi-pro recording market.

While this was going on, the store here had begun to flounder after I had left. Coast Music wanted me back, but I was doing well with Teac and didn't want to come back unless I could own the business. After a while, Coast said they would sell it to me; I asked John Boyle if he wanted to help us, and we went in on it together. I came back because of what I call my "evangelical selling"—my belief that the more mystery we could wash away about recording, the better the industry would be.

People said we were crazy to take over the store in 1974, which was right in the middle of the recession. There wasn't much going on in the industry at that time. But we were able to stay alive, and 18 months later, we owned 100 percent of the company.

How did Express Sound's current orientation come about?

Smith: When we went back into it, we carried mostly musical instruments, with some recording gear. We had top line guitars, amps and synthesizers, trying to make a marriage of the music and recording ends of the business. We found out that the two are totally different—there are differences in profit margins, pricing structures, even salesmen's chops. There's also the difference in money. It's one thing if you sell a kid a $500 guitar he can't afford, but you can ruin a guy's life if you sell him $20,000 of recording equipment that he just can't pay for. So you have to qualify your buyer much more carefully. When we realized this, we slowly began to change our inventory and product mix. We started phasing out MI lines, and adding more audio lines. We eliminated guitars gradually, to the point where one year after we opened, we were selling only semi-pro audio gear, and now, 2½ years later, we only sell basically pro audio equipment, providing full turnkey packages to clients. In the process, we've totally altered the store's appearance. The front is now filled with offices, and we've limited our window area to show only the equipment that we want to show people. We have a small display case, again showing people what we have. We have a small but very attractive front room, where we have our home and semi-pro equipment. And we have our back room, where we have our 24-track automated boards and related pro equipment. The reason we have our offices up front is that you are dealing with a different customer from a musical instrument buyer. Our salespeople need privacy to talk to potential customers, to find out both what they really need and what they can afford. The average recording sale is $20,000 and up, versus $600 to $1,000 for musical instruments, and it's a totally different ball game. We have more invested in equipment to maintain and tweak all our pro equipment than we had in our entire selling inventory when we were selling musical instruments.

How do you find and train people who can work in this specialized field?

Smith: Everyone here has been laboriously recruited and trained. James Murray was originally with the Guitar Center in San Francisco and was their top salesman, period. By 22, he was managing their San Diego store. Steve Kampf was working up north when I was with Teac, and he was personally responsible for introducing the semi-pro revolution in the Bay area. Ross, our front salesman, also has an extensive background in music and audio sales. In terms of training, it's an ongoing thing. We have formal meetings every week and a half or so, but everybody works together on projects so everyone is constantly learning. The concentration is on the client, and ethical selling. Each person's job is to never let his ego get in the way of a client's best interest. That's a big key. On almost every project we do, everyone has some participation. If it's one of James' or Steve's projects, I will spend time looking over everything, and make suggestions. And everyone usually checks over any project I'm doing, and they also make comments and help out.

It's been difficult for all of us, however, because this is such a new field. There are maybe five other companies in the country that are doing this, and we're all learning. We've had to do the pioneering without any related history to back us up; we're essentially writing the book as we go. For example, both James and Steve are exceptional salesmen, and extremely knowledgeable about recording. But it's still taken them over a year to get to the point where they feel comfortable about closing a deal on their own. There are so many variables involved in turnkey packages, that it takes a long time to assimilate them all.

How do you evaluate all the new equipment that comes in?

Smith: Our procedure is to have the manufacturer leave it with us for 30 days, and we try to destroy it. If it lasts, we'll then call in the sales rep or sales manager, and he'll tell us all he can about it. By the time we put it on the floor, everybody is familiar with it.

How does it work if someone comes in and says he wants you to provide him with a studio?

Smith: It would work something like this. Ross would probably be the first person you'd see. He would talk to you, and initially make some judgments about you: what size of project you want, what kinds of equipment you were thinking of, etc. From there, he would make the decision as to whether to pass you to someone else, or handle the project himself. Everyone kind of has their own area: I tend toward room design, while James does a lot of discos and recording studios, and Steve does a lot of institutional work. But we all work on a variety of projects.

The key for us, though, is to never look to make a big profit on that first sale—because 80 percent of your business should be return business. That was our goal when we started, and three years later, we've just about reached that. Therefore, your first

year's going to be pretty lean, because you'll only get that 20 percent of your business. You have to be committed to a small profit on the first deal, because sales only become profitable on the second or third sale. For example, you'll have to spend a great deal of time and money shaking out the system after it's installed. I wish I had a nickel for every power switch I've turned on to get a system going after receiving a frantic call from an owner. When we say we back up our installation for a full year, it means just that: If you call on a Sunday morning at 3 a.m., we'll have a qualified technician there right away with $20,000 worth of equipment to make sure that it's repaired. All that is very expensive, and you just know there will be problems; equipment does break down. But once you get that first project done, the client will come back for microphones, our outboard equipment, whatever. And now you've pre-sold him, so there's no time or effort involved. That's where you get your 80 percent sales, and your profits.

Anyway, to get back to the initial project, there are certain steps you have to go through to make sure the

studio will be successful. The first is what I call "the money massage." You must honestly evaluate the client's financial position, to see if he's being honest with himself. If you find he's trying to kid himself, you have to figure a way to diplomatically sidestep the problem. Most people starting out tend to put all their money into hardware, and forget about the cost of construction. Also, the same rule holds true here: 80 percent of your business should be repeat business. So, a studio has to have some working capital available to get through the first year, and to pay for flyers, mailers and other promotional things that should be done. Then, there's also the "Fudge Factor," which is basically a derivation of Murphy's Law: anything that

can go wrong usually will. For example, there was a shortage of drywall last year, and it cost one client $40,000, because everything else had to wait while he waited for the drywall. Construction was set back six weeks, and he lost six weeks of potential business as well. Now that's something you have to be able to contend with. That's why I call it the money massage, because you have to intelligently and tactfully work with the client to make sure his studio is going to be well planned out. So, in most cases, you need to know what his budget is.

How long does this take?

Smith: It varies from project to project, but it can take up to a year to close a deal, from initial meeting to the completion of the studio. It's the same time, it helps to know his long range plans, because then we're able to plug in the expansion factor into the studio. If you spend $40,000 on initial construction costs, for example, but don't allow for future expansion, then it becomes very expensive to add on. It may cost $5,000 just to tear down the old walls, and another $10,000 just to redesign the studio. Therefore, if you lay out another $40,000 for expansion, you're only getting $25,000 in added value. We can design a studio so that it can be enlarged with a minimum of effort and cost. In a way, you're kind of like a Dutch Uncle through all of this—you have to examine everything very carefully and try to pick holes in it, only because you're saving the client a lot of grief down the line.

happened where I've done all the planning and research work for the guy, but I'm nervous to have to do all the work. It helps if the client has already done his homework and has a pretty good idea of what it takes. If he's done his planning properly and allows for the Fudge Factor, he'll succeed. I usually don't charge for the initial consultation, because it's here that a lot of future problems can be alleviated.

Once the customer has established his budget for construction, equipment and operating costs, then we go ahead on it. A really dynamite system is one in which there's an equality throughout the package — a balance of equipment and facilities. A guy will tend to blow it on his construction rather than his equipment. We take a systems approach to the problem. At

Was Express Sound's entrance into the studio business a goal when you started, or did it just happen?

Smith: Almost everything we've done has merely been in response to the market. We just listen to the distant drums, and adapt and adjust as we go. When we started, musicians needed a comfortable environment in which to carefully evaluate and purchase quality musical instruments. Even to this day, we've made sure there's a musical background in just about everybody we've hired. As our reputation grew, we found ourselves doing bigger and bigger recording packages, until one day we realized that we could provide full turnkey studios. And we went after that market. It's just thinking it through. For example, you have to have competent technicians and equipment. It does no good to have a great sales staff, and have a backlog of equipment repairs that you can't get to. And by the same token, your sales people have to be able to move the equipment out the door, or else your investment in equipment and technicians goes out the door. It's a balance.

What kind of applications do you do most?

Smith: Our main business is in providing full recording studios, but I'd say about 25 percent of our business is involved with disco applications. There seems to be quite a demand for them.

What are the costs of a typical installation?

Smith: For an 8-track project, the costs might run anywhere from $10,000 to $50,000, while a 16-track application would cost anywhere from $50,000 to $100,000. But we've also done installations where the gear alone ran $250,000. Of course, if somebody wants to buy a 3340 and some microphones, we can sell him that too.

How many installations have you done?

Smith: I really can't say offhand. We have five studios alone in Canada, and about 30 studios here in the southwest, both 8- and 16-track. At any one time, we've got about four projects ready for completion, four more in the planning stages and four more just getting started. We're shooting for $2 million in sales in 1978.

What type of advertising and promotion have you done?

Smith: There's a saying that you "buy the market." Well, we've done a considerable amount of advertising in the trade publications relating to the recording field. We think it helps emphasize that we're stable, that we're going to be around, that we back up what we do. We think it's a reassurance both for our clients and manufacturers to know that we're a responsible company. A lot of credit for our advertising success goes to John Boyle. Although John is no longer with us, having left us a year ago, he understands marketing and advertising very well. We decided to plow back three percent of gross sales into advertising each month. When you've just made your first $50,000, it's tough to put it back in, but we did it. And amazingly, it's worked. We've been able to meet every sales goal we've had, because we kept up our advertising. Our p.o.p. stuff is done through

mailers, however. We get most of our client response through repeat business and referrals.

Do you get any business through foot traffic?

Smith: No, but we still have a good relationship with Coast Sound next door. They have a full line of musical instruments, and are carrying PA's and related stuff, but they don't have the expertise that we have. So it's a trade off. If someone comes here, but all they really want is a good PA/mixer, we'll send them over to Coast Music. At the same time, if Coast has a customer that really needs to get more into recording, they'll refer him to us.

This leads me to a critical point, one which I feel is mostly overlooked: There is a radical transition from MI to pro audio, and most dealers may find out too late about it. The pro audio business is twice as risky as the musical instrument business, which in itself is risky. The amount of support equipment needed is greater—a magnitude greater than for musical instruments. The margins here are about half of what they are for guitars and amps. That was a real pain for us. It's a different deal altogether. A musician comes in, expecting to get 10 or 20 percent knocked off. The markups can absorb that. But in pro audio, the markups and margins are different. So you give a musician 15 percent off on a guitar, and then when he wants to buy a dbx 155 from you, you tell him, "You have to pay list for that." And he can't understand it. It's like being two people—there's a tremendous difference. It also takes a greater sophistication on the part of the salesman.

In addition, the market has changed. There's no such thing as semi-pro, at least in terms of a clear-cut boundary. Performance has become a matter of application rather than money. There's equipment that most people would term semi-pro that we include in our turnkey packages because it's the best and most appropriate equipment for the application.

My fear is that dealers will blind themselves to the differences between the two markets and go out and make the same mistakes we made. I'm not saying that a music dealer should not get involved with the audio market —

he should be well-versed on PA's, miking, and effects. What I'm saying is, he shouldn't try to go outside his market, but should take everything that's in his market—flangers, equalizers, and such. I've seen musical dealers go into pro audio in a big way,

and fall down. What happens is that usually both departments suffer. Dealers need to remember that it may take two to six months to close a profitable deal. And that the first score with a client is not going to be much of a money maker. He needs to have a sales force that can handle audio gear, without confusing the musician. There needs to be a definite demarcation, within the store, for a retailer's own protection.

And there's so much more. Financing, for example. An MI salesman needs to only know the number of the local loan company to finance a $700 guitar, but an audio salesman has to know banking. He has to be able to read profit and loss statements, be able to talk about long-term financing and mortgages, and all aspects of banking. In short, he's really a building financier. We're practically a building contractor, in terms of the services we provide. We do renderings that are not architectural grade, but can be used by builders to construct a studio. That's an area where we can save clients some money, particularly those on a limited budget.

All of these things are crucial to success in the pro audio market, and most music dealers are not aware of them. In a way, I feel partially responsible, since my own evangelical selling of audio helped to bring on some of that confusion. When I was with Teac, we began to get complaints from dealers. I'd inspired them to go out and enter this great new market, and then they came back later with complaints about how they weren't making any money. It was just that the realization that the entire retail structure was different needed to be made. The customer is the only link between the MI and pro audio markets. Other than that, they're different.

Who has bought systems from you?

Smith: Well, Ray Charles has bought a console from us, and we're currently working with Stevie Wonder on a VSO for his tape deck that will give him 100 percent faster speed than normal on the deck. However, we don't aim our marketing at the stars. The most important thing about our business is the guy who didn't know anything about the business of recording, and is now making money. Their business is recording. There's a difference between a musician who wants to buy some equipment to record his music on, and a person who wants to get into the business of recording. That's our main customer.

That relates to one of the critical factors in our success. We've been able to extend credit to people who ordinarily would never get credit, to get them started. It's a judgment we have to make. If a client has a good business sense, and looks like he'll grow, we'll take a chance with him, a chance that no one else would ever take. If we had guessed wrong, we probably would be out of business now. But we've got the kind of people that can really discern who's a good credit risk and who isn't. The same thing holds true with our purchasing. Our buyer has been with us from the start, but she never worked as a buyer until she came with us. Now she's able to handle all our projects and make sure that the equipment gets delivered at exactly the right moment. There has to be a balance between selling, purchasing and service to make a business successful. We've been lucky enough and good enough to have wound up with a good relationship among all three.

INDUSTRY UPDATE

Showco Manufacturing Corporation has appointed **Hans Neuert** as Director of Sales for its line of Pyramid speaker systems, mixers and crossovers. Neuert has previous experience in electronic sales, development, and marketing consultations.

M. Hohner, Inc. has signed **Walter Murphy** ("A Fifth of Beethoven") to endorse the Clavinet electronic keyboard. Guitarist **Bucky Barrett** is endorsing the company's Limited Edition Series of acoustic and electric guitars. Hohner is also sponsoring a series of harmonica seminars conducted by **Cham-Bar Huang**, head of the Harmonica Department of the Turtle Bay Music School, through the summer.

Fisher-Burke Professional Audio of Phoenix, Arizona has appointed **Lex Rodgers** as President of Engineering.

dbx, Inc. has named **Emil Handke** Semi-Professional Products Sales Manager. Handke is now the prime day-to-day contact for the representatives and dealers handling the dbx line. Handke has been a recording engineer, producer, studio musician, and was most recently semi-professional and professional products manager at Nashville Studio Systems. He has also served as semi-pro sales manager for Studio Supply Company.

John C. Koss, founder and chairman of Koss Corporation, has reassumed the duties of company president. He succeeds Thomas G. Needles who has resigned to pursue personal business interests, according to the company.

Michael L. Wiggins has been named National Sales Manager of the audio division of Akai America, Ltd., with responsibilities for sales throughout the United States and Puerto Rico. Wiggins was previously national sales manager of Sanyo Electric (Audio Products). Prior to that he was national sales manager for Ultralinear.

Teri Zehentner has joined the Clark R. Gibb Company as a Sales Representative in the Consumer Electronics Division, with responsibilities in Minnesota, western Wisconsin, North and South Dakota. Ms. Zehentner previously was an audio salesperson for Schaak Electronics.

Michael D. Brown has been named President of Burhoe Acoustics, with responsibilities as chief executive officer. **Winslow N. Burhoe**, the company founder, who made the announcement, will now "concentrate on corporate development, research and engineering." Brown was most recently president of Burwen Research.

BASF Systems has appointed 18 manufacturers representative firms to handle its line of audio and video magnetic products, in a move toward "reemphasis on audio specialty distribution — best accomplished by a select group of reps." Representative firms appointed are: Audio Plus, Inc., Great Neck NY; David H. Brothers Co., Inc., Baltimore MD; Legato Associates, Marlton NJ; Berberian/Patterson Assoc., Inc., Andover MA; C&W Marketing Associates, Liverpool NY; Ideal Marketing Company, Greenfield IN; Astro Sales, Cleveland OH; Lou Buch Associates, Southfield MI; Stan Clothier Co., Inc., Minneapolis MN; KSW, Inc., Kansas City MO; California Sales & Marketing, Los Alamitos CA; Sinai-Johnson Corp., Redwood City CA; Western Marketing Corp., Phoenix AZ; R&D Sales, Denver CO; Snider & Associates, Honolulu HI; Seaport Marketing, Seattle WA; Ray Taylor & Associates, Canton GA; Dobbs-Stanford Corp., Irving TX.

Audiomarketing, Ltd, in Stamford, Connecticut has named Nissho-Iwai American Corp. the exclusive representative in Japan for the company's Red Series Monitoring Systems.

Theodore Pappas and Associates have been presented with the Rep-of-the-Year award by Crown International, Inc. for their work in northern Illinois and eastern Wisconsin.

John Jackson has been named Manager, Engineering Department, at Maxell Corporation of America as part of a move toward "revamping of the entire engineering department at Maxell." Jackson was previously with Audio Magnetics and BASF. In other news, the mid-west regional office of Maxell has been moved to 3204 East Lake Shore Drive, Wonder Lake, Illinois. Each rep in the Maxell organization has been provided with his own dual trace storage oscilloscope and function generator for use in an expansion of the Maxell Tape Clinics.

Albert P. Pepper has been named marketing manager for Memorex's Consumer Products Division. Pepper was formerly a product manager for the division. Pepper replaces **John C. Rohrer**, who has become program manager for the company's entry into the home video market. In a realignment of marketing responsibilities, **James Aldrich**, product manager, will now have responsibility for all marketing activities related to Memorex's domestic consumer products market, and **Alan Davis**, product manager, will have responsibility for marketing of Memorex professional products in the U.S., in addition to marketing activities related to Memorex's international consumer markets.

Western Audio Sales had been named representatives of Maxell audio prducts in the Pacific Northwest. The rep firm is headed by **Rob Kouns**.

John M. Eargle, Vice President, Product Development for James B. Lansing Sound, Inc., was awarded an Honorary Membership to the Audio Engineering Society. The award cited Eargle for "his contributions to sound recording and reproduction and services to the Audio Engineering Society."

Audio-Technica U.S., Inc., has become the exclusive U.S. distributor for the direct-to-disc records on the Toshiba-EMI label from Japan. The discs will be nationally advertised at $14.95. Audio-Technica now distributes six record labels specially produced for audiophiles and "sound connoisseurs." Telarc Records, also

distributed by Audio-Technica, recently produced a digital recording by the Cleveland Symphonic Winds for distribution this summer. In other news, Audio-Technica has apointed **Primo Dell Angela** as Credit Manager. Dell Angela has previous credit experience with such companies as General Electric, Chrysler Corporation and International Harvester.

The NAMM Western Market will be moved to the Anaheim Convention Center beginning in 1981, pursuant to an agreement at the quarterly meeting of the Council of Music Industry Association Presidents. The Disneyland Hotel will then be used for both exhibitor and dealer housing. As previously announced, the name of the market will be changed, effective in 1979, to the NAMM Winter Music and Sound Market.

White Electronics in Canada has awarded Oakwood Audio Labs of Winnipeg a gold plate in recognition for achieving the number one sales position for Tascam series by Teac product in Canada.

Bud Barger, Division Sales Manager for TDK Electronics Corp., has been commissioned to write a series of articles on recording techniques for Keynote magazine, a controlled circulation magazine for radio station WNCN-NY. TDK has also released a 48-page handbook on cassettes and cassette recording techniques, called "The TDK Guide to Cassettes and Recording." The Guide carries a suggested price of $2.95, and is available to authorized TDK dealers, and will be included in both local and national promotions.

Barry D. Evans has been named Western Regional Sales Manager for the audio division of Akai America, Ltd., exclusive distributor of Akai audio and video products in the United States. With the appointment of Evans, Akai completes a restructuring of the firm's audio sales management team that has been in progress for several months. Harry J. Winow was previously named Midwestern Regional Sales Manager and Michael L. Wiggins was appointed to the post of National Sales Manager. Ken Van Winkle continues as Eastern Regional Sales Manager. All four managers report to Jay B. Menduke, Akai's Director of Marketing, Audio Division. Evans was previously national sales manager for Uher Corporation.

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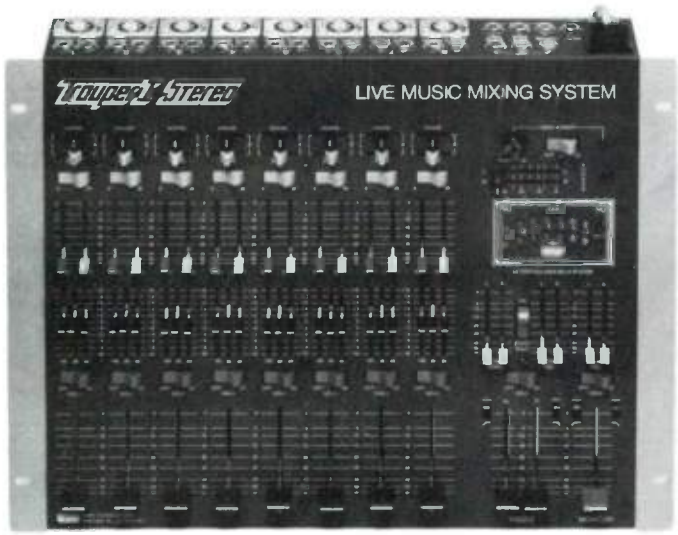

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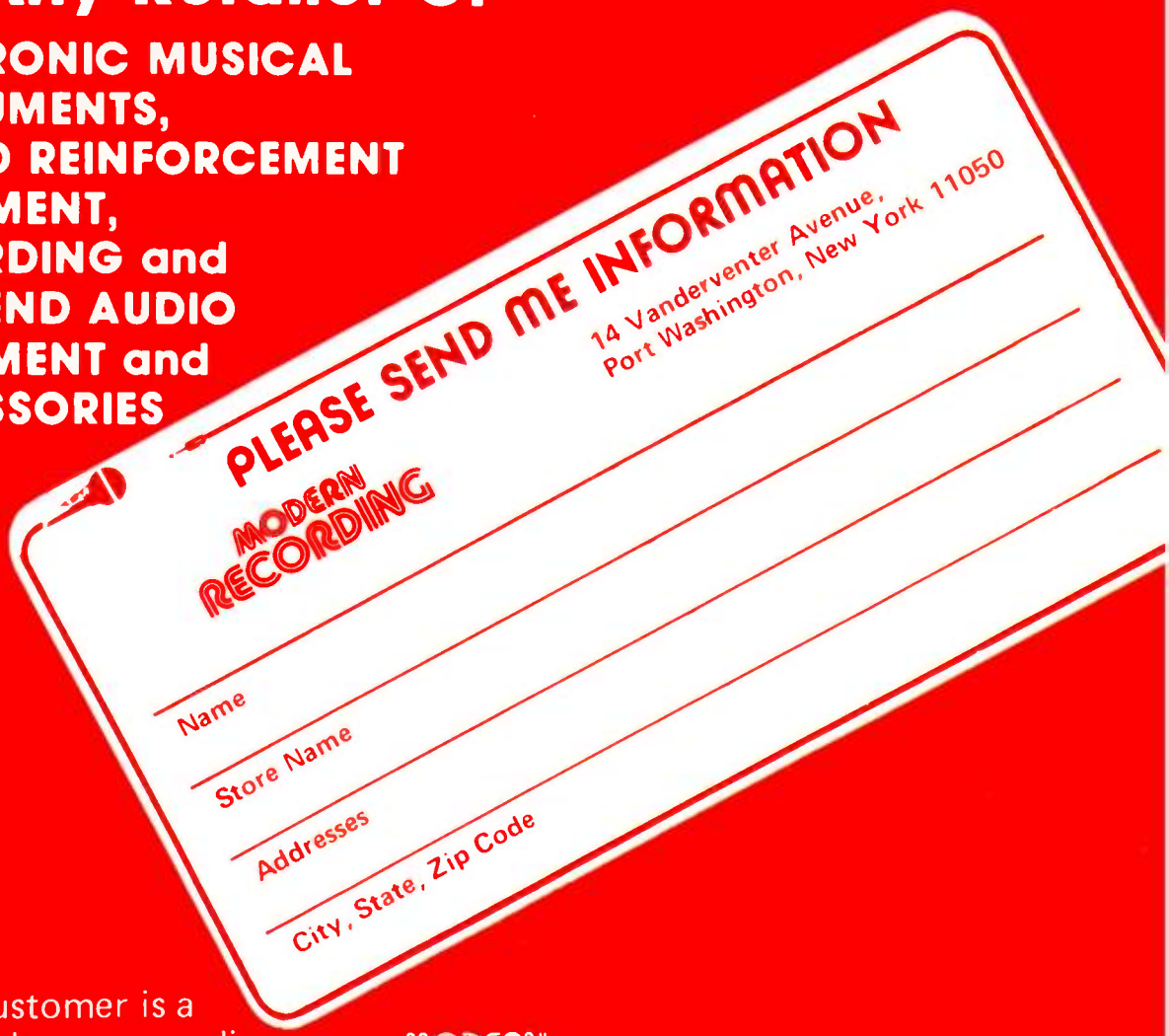

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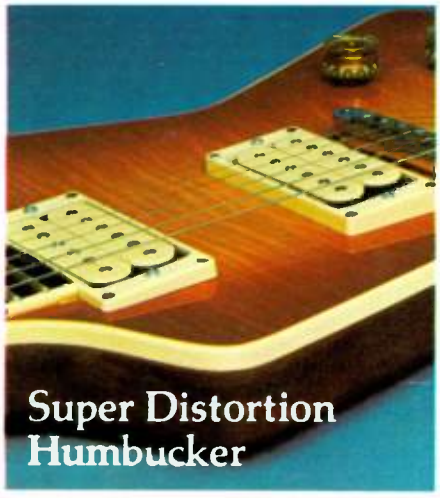

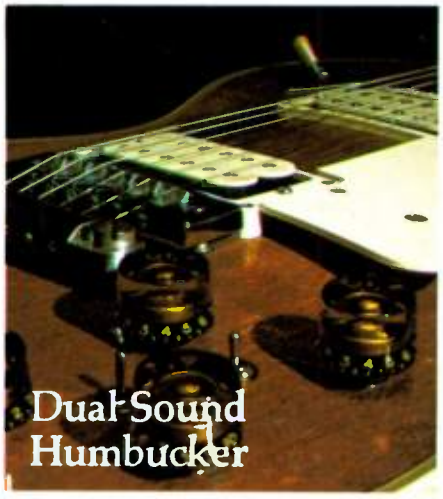

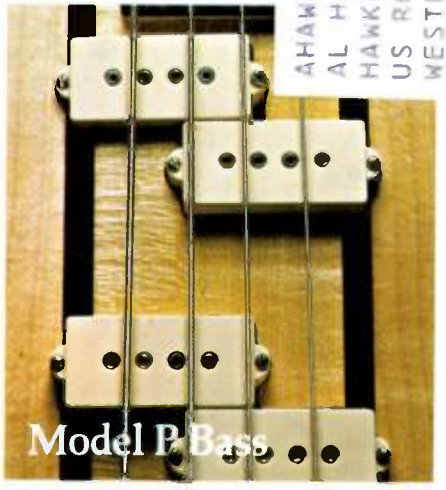

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