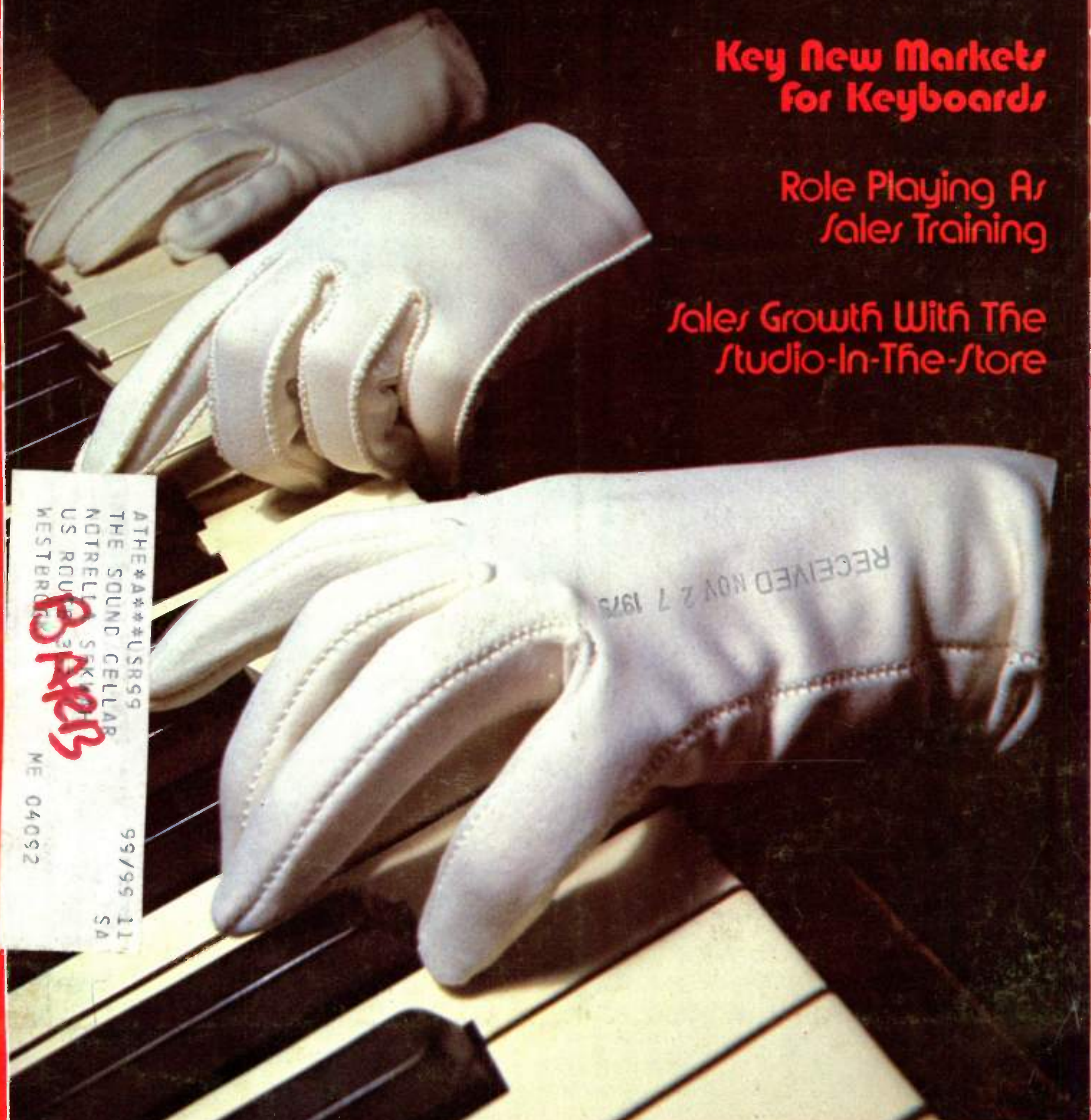
SERVING THE CREATIVE AUDIO AND MUSIC ELECTRONICS INDUSTRY

SOUND ARTS

MERCHANDISING JOURNAL

VOL. 2 NO. 10
NOVEMBER 1979



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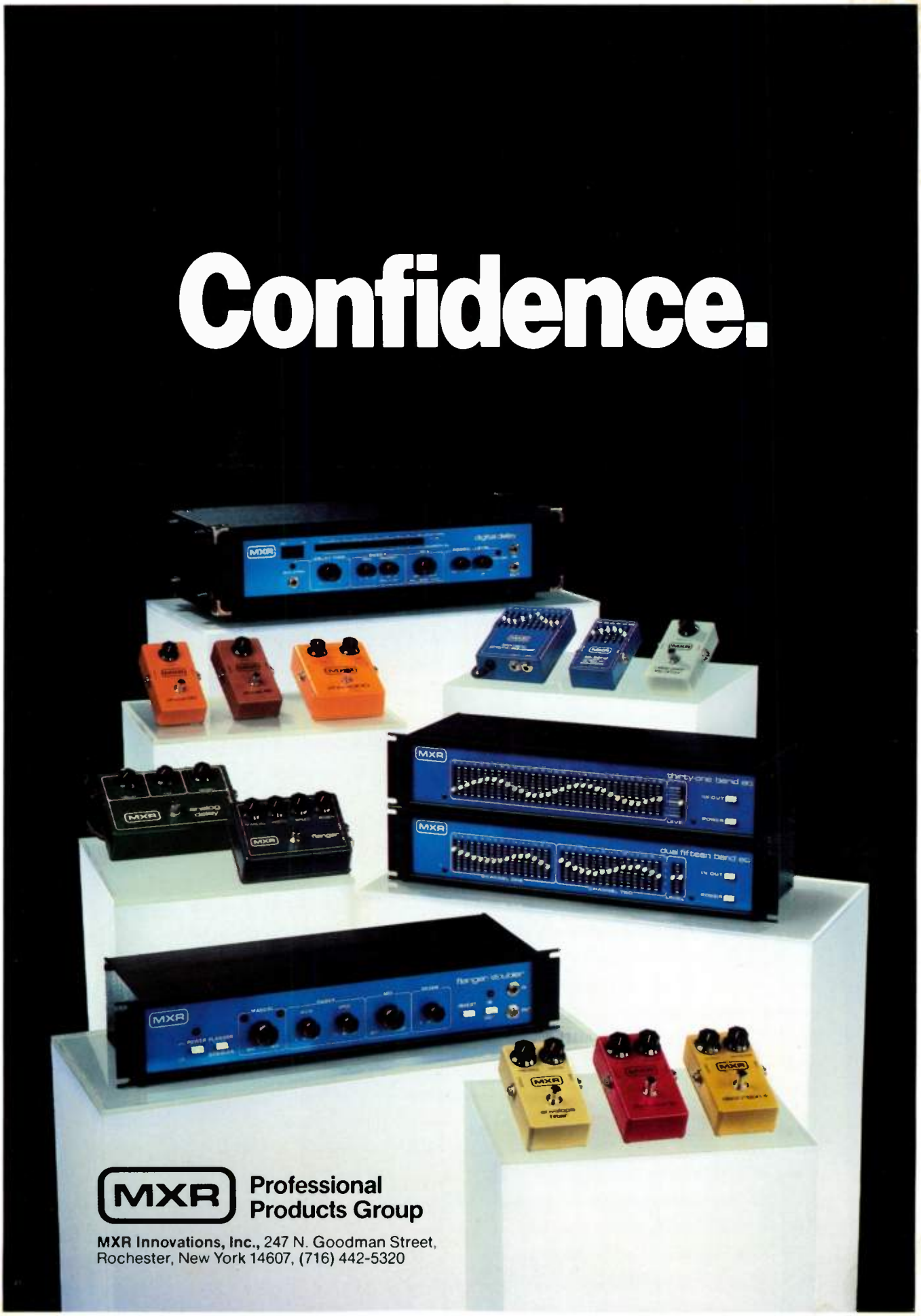

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CIRCLE 81 ON READER SERVICE CARD

VOL. 2 NO. 10

SERVING THE CREATIVE AUDIO AND MUSIC ELECTRONICS INDUSTRY

SOUND ARTS

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NOV. 1979

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Cover photograph by Jim Richards

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SOUND ARTS
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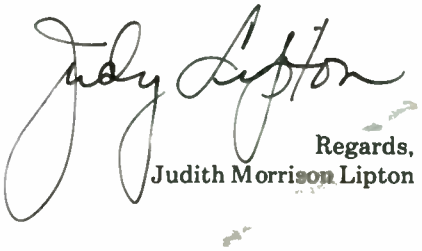
A LETTER FROM THE EDITOR

Last Labor Day I was peripherally involved in the annual migration of college students across this land just in time to avoid late registration fees. It was U-Haul City from coast to coast, when the belongings without which one cannot live are toted on the trek to the dorm. Being congenitally nosy, I checked each car in the lot at each turnpike stop to identify those goods without which one cannot live. There were no big surprises. Most cars looked exactly like the one in which I traveled, with the two points of confluence being—you guessed it—the popcorn popper and the "stereo" (and a goodly number of guitars.)

This commonality of consumerism crosses classifications of the consumer himself—or herself. Which brings me to the point of this missive. Several retailers have brought up to me the subject of "the women's market" both in creative audio and in musical instruments. A recent IHF management seminar focused on "selling to the women's market" and produced a sprightly controversy. A general consensus seemed to appear, however, over the statements that, "A hobbyist is a hobbyist, male or female," and "tastes are not generically different between male and females." However, the irony was that one speaker at this supposedly non-sexist gathering addressed us as, "Gentlemen," and proceeded to speak of women as "them."

While all participants agreed that it was in their best interests to attract the female purchaser, an underlying assumption was made that women were the *other*, a species other than the general population. While I could go on for pages on the false assumptions made by some manufacturers in their sell-through advertising and promotions, it's more to the point to talk to retailers. The fact is that when I do some business-related shopping, unless I identify myself, I am frequently ignored by salesmen, allowed to browse, and even walk out of the store—an infrequent event when I am accompanied by a man. The experience does not run across the board, and does not happen in all stores; but many retailers, as the participant in the IHF seminar, make the assumption that women are an alternative market—to go after or not as business dictates. I'm not pleading here for non-sexist attitudes (I think those will come in time). But I think that it is to the economic advantage of retailers to treat prospective purchasers as just that and not close off sales or make them harder by substituting false sociological assumptions for correct business assumptions.

In this issue of SOUND ARTS, Tom Piggott has, happily, not included the women's market as an alternative market. But he does deal with the tactics of building alternative markets for keyboards to enhance sales. One of these alternatives is the creation of church sales. For those of us who keep up with Dear Abby, the quality of church music has reached mass controversy proportions. Grab the moment. At least read Tom's article and see if the moment is for you.



Regards,
Judith Morrison Lipton

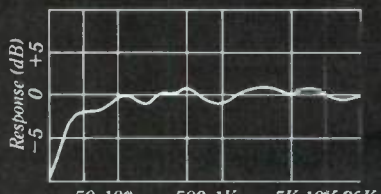
WHY JBL FLATTENS THE COMPETITION.

INTRODUCING THE 4313.

Flat frequency response. It means accuracy. Naturalness. Reality.

JBL gives it to you without the bigger box that you'd expect along with it, since the 4313 only measures about 23" by 14" x 10"!

This new, compact professional monitor produces deep, distortion-free bass. And does it with a newly developed 10" driver. Its massive magnet structure and voice coil are equivalent to most 12" or 15" speakers. Yet it delivers heavy-duty power handling and a smoother transition to the midrange than most larger-cone speakers.



On-axis frequency response. 4313 monitor.

The 4313's edge-wound voice coil midrange accurately reproduces strong, natural vocals and powerful transients.

Up top, a dome radiator provides high acoustic output with extreme clarity and wide dispersion. A large 1" voice coil gives it the ruggedness needed in professional use.

Working together, these precision-matched speakers offer superb stereo imaging, powerful sound levels and wide dynamic range.

Audition the 4313 soon.

We think you'll agree that its combination of flat response, power and moderate size flattens the competition.

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Latest sales figures show that Maxell is the fastest-growing brand of recording tape in the country today.

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Our open-reel and eight-track tapes have been accumulating some great performance records of their own.

Call your Maxell representative for an audition.

You'll find he, like our tape, is really worth listening to.

maxell

TEAR HERE

TERMS:

A CONTINUING INDUSTRY GLOSSARY

RECORDING

By Larry Blakely

Oxide: Small metal oxide particles that are coated on the recording tape base or backing.

Chromium Tape: A type of magnetic recording tape that is coated with chromium dioxide particles. This type of recording tape is very popular for cassette tape recording and provides lower noise and an extended high frequency response over that of the standard metal oxide type magnetic recording tapes. Chromium tapes are not currently available for reel-to-reel tape recorders.

Drop-Out: A momentary loss of signal (usually milliseconds in length) that is caused by an imperfection in the coating or surface of magnetic recording tape. For example, a very small bump on the tape surface can cause the tape to lift from the tape head slightly as it passes (causing a momentary signal loss). Drop-outs can also be caused by other types of imperfections in the surface or coating of magnetic tapes.

Raw Tape: A term used for unrecorded or blank tape on which no signal has ever been recorded. This term is often used interchangeably with the term *virgin tape*.

Bulk Erased Tape: Tape that has been recorded and then erased on a bulk eraser or tape degausser to remove the previously recorded material. Such bulk erasing should remove all recorded signals from the entire tape. When tapes are erased using an actual tape recorder, sometimes portions of the previously recorded material are left due to improper tape head alignment. This will not usually cause any problems with the tape being recorded and played on the same tape machine. However, if the tape is to be used for recording or playback on another machine, it is possible that there may be some unwanted (un-erased) previously recorded material that may be heard, due to the slightly different tape head alignment of the two machines. One should

ELECTRONIC MUSICAL INSTRUMENTS & ACCESSORIES

By Wayne Howe

Effects Box: A device that alters the input waveform so that the output waveform has a different harmonic, timbre, wave shape, or other sonic difference.

Passive Effects Box: A device that requires no external power source or battery to alter the sound quality, *e.g.*, some tone controls, filters, equalizers.

Active Effects Box: A device that uses a power supply or battery to power the circuitry that modifies the original input waveform.

Bass Control: A tone control that alters the level of the lower or bass frequencies of the music.

Midrange Control: A control which alters the level of the middle or vocal range frequencies of the music.

Hi-Pass Filter: A filter which passes the frequencies above a certain frequency and rejects the frequencies below that certain frequency. For example, a high-pass filter set at 500 Hz would pass frequencies at 1000 Hz and reject frequencies at 250 Hz.

Low-Pass Filter: A filter which passes the frequencies below a certain frequency and rejects the frequencies above that certain frequency. For example, a low-pass filter at 500 Hz would pass frequencies at 250 Hz and reject frequencies at 1000 Hz.

Cutoff Frequency: The frequency at which the low-pass or hi-pass filter stops passing and starts rejecting frequencies. Most low-pass and high-pass filters have a variable cutoff frequency that extends through the entire audio frequency range.

Bandpass Filter: A filter which passes frequencies at or around a certain range of frequencies and rejects the frequencies above and below that range of frequencies.

Band Reject Filter: A filter that passes frequencies above and below a certain frequency band, but rejects frequencies in that frequency band.

Notch Filter: A band reject filter with a very sharp slope so that its range of rejected frequencies is very

SOUND REINFORCEMENT

By Glen E. Meyer

Bi-directional Microphone: A microphone which picks up equally well from two directions. Its polar response pattern would be in the shape of a figure eight. Two well-matched cardioid or super-cardioid microphones may be placed with their heads close together side by side, facing opposite directions and wired out-of-phase to produce a bi-directional pattern.

Hi Z Cable and Inputs: High impedance microphone cables are single conductor shielded. The output of the microphone is carried by the inner conductor and the shield, which also acts as a ground shield to prevent hum. High impedance preamplifier inputs have two connections, with the shield going to the preamplifier's ground. Because one of the microphone voice coil leads is connected to ground in such an input, the inputs are called unbalanced. Mixing board Hi Z inputs are generally characterized by the use of 1/4-inch phone jacks.

Lo Z Cable and Inputs: Low impedance microphone cables have two inner conductors and a shield. In such low impedance cables, the microphone output is carried on the two inner conductors, while the shield acts only as hum and noise protector. This configuration is termed *balanced line*, since neither voice coil wire is connected to ground. The balanced line arrangement provides a hum and noise protection superior to the unbalanced lines used with high impedance microphones. Low impedance microphone preamplifier inputs are generally characterized by the use of a three-pin connector.

Occasionally, preamplifier inputs for Lo Z microphones will have two connections like typical Hi Z inputs. Such Lo Z inputs are unbalanced similarly to their Hi Z counterparts. In order to use an unbalanced input with a standard Lo Z microphone cable, one inner conductor must be connected to ground before the system will work. This should be done at the preamplifier

TERMS (CONTINUED)

A CONTINUING INDUSTRY GLOSSARY

RECORDING | ELECTRONIC MUSICAL INSTRUMENTS & ACCESSORIES | SOUND REINFORCEMENT

always use either bulk erased or virgin tape for making master tape recordings.

Virgin Tape: Tape that is brand new from the box and has never been recorded on. Most recording engineers will not record master tapes on tape that has been previously used even though it may have been bulk erased. Most feel that master tape recordings should only be made on virgin or raw tape. This practice is one of caution that will provide an engineer with one less thing to worry about going wrong.

Leader Tape: A special tape that is made of paper or plastic that is used to splice in at the beginning or end of a tape or between selections. This provides a simple means of identification for the location of various selections on a reel of recording tape.

Tape Slitting: A process that takes place during the manufacturing of magnetic recording tape. Tape is manufactured on wide rolls of plastic backing. It is then cut or slit into the ¼", ½", 1", or 2" standard tape widths. If the blades that are used for slitting become dull they will sometimes cause a stretching of the tape on one or both sides. Improper tape slitting can cause the tape to track improperly on the recorder transport. An easy procedure to check tape slitting is to hold a reel of tape slightly above your head and unroll about five feet of tape and let it hang to the floor (but not touching the floor). If the tape twists more than one full turn, there may have been a problem with the slitting of the tape. Ideally there should be no twists made by the tape at all; it should hang straight down. One full twist is okay, but if the tape has several twists in a five foot, free hanging segment, there has been some definite problem with the slitting of that tape and you would be wise not to use it and return it to the manufacturer for another roll.

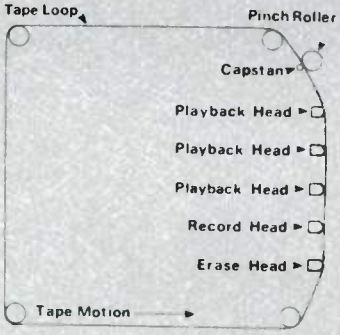
Bouncing Tracks: A term that is used interchangably with "ping-pong."

narrow. A notch filter is often used if one instrument or an entire PA system has a lot of 60 Hz hum. In the case of a noisy instrument, the notch filter would be placed between the instrument and its amp or between the instrument and the mixer. In the case of a noisy PA system, the notch filter would be placed between the mixer and the power amplifier. In both instances the filter would be tuned to 60 Hz so that the least amount of hum was audible.

3 dB-Down Point: The frequency at which the filter begins to roll off and the volume level drops to 3 dB les than its maximum level. Also called the cut-off frequency, turnover frequency, or half-power point.

Delay Line: Any device which, by several different methods, delays a signal by a determined time interval. The output waveform consequently lags the input waveform by the predetermined time interval.

Tape Delay: A mechanical delay line using a tape recorder that has one record head and one or more playback heads and usually a continuous tape loop. By using a device such as this, discrete echo effects can be obtained. The length of the delay time can be varied by changing the position of the playback heads and varying the speed of the tape. Some of the problems attributed to these devices have been the quality of the tape recorder, mechanical wear-out, tape breakage, and tape hiss. Noise reduction devices, when used in conjunction with tape delay lines, can significantly improve tape hiss characteristics.



input only, by connecting either one of the inner conductors to the shield at the preamplifier input.

Acoustic Phase Cancellation: Acoustic phase cancellation is one of the most common causes of distortion. It is caused by the improper placement of microphones such that a given sound arrives at two or more microphones at about the same level but at slightly different times. (See *Three-to-One Ratio.*)

Three-to-One Ratio: The shifting voids in frequency response that occur when the outputs of two microphones are combined (acoustic phase cancellation) can be avoided if the microphones are at least three times as far apart as either microphone is from the user. The three-to-one ratio is illustrated in figure 1.

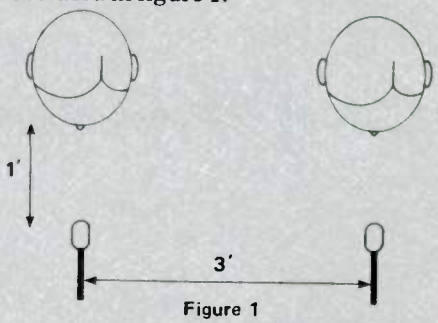
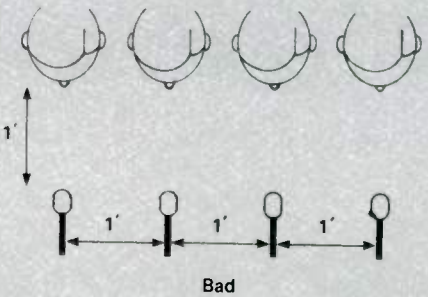


Figure 1

The ratio is frequently violated in stage performances and is often the culprit for strangely inadequate sound system operation. Some illustrations of "good" and "bad" multiple microphone placements are shown in figures 2, 3, 4, and 5. The "bad" placements can ruin the performance of an otherwise excellent sound system.

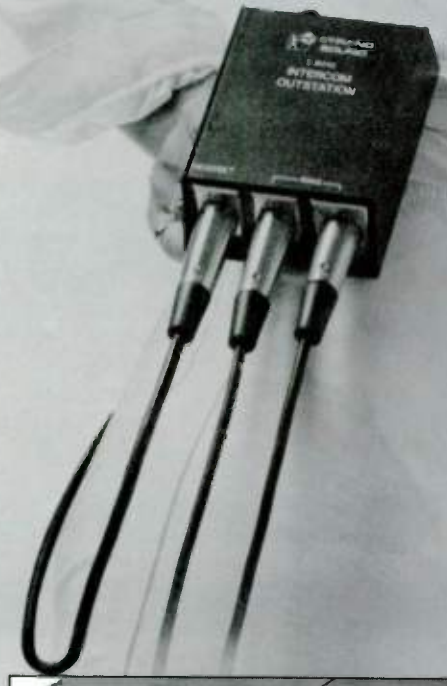


Bad

Figure 2

(continued next month)

The new Strand Sound Intercom System



Strand Sound has it—a rugged, high quality, low noise, closed circuit intercom system designed expressly for the theatre and entertainment industries. The new Strand Sound Intercom can withstand tough treatment on the road—foolproof inter-connection of components assures quick and easy setup.

Master Power Unit serves as the main control station and drives the entire system—up to 50 remote stations per ring. (inset)

The new Strand Sound Intercom is compatible with components of the major intercom system in most common use today.

Belt Pack—lightweight, rugged construction specially designed to protect control switches from damage when dropped or severely knocked. Headset connector is at base of pack to keep controls clear and minimize excessive wear.

Mini Power Unit—the high quality Strand Sound Intercom alternative where 5 or fewer stations are needed.

The new Strand Sound Intercom—a complete system for touring or permanent installation. Lend us your ears—you'll like what you hear.

STRAND SOUND

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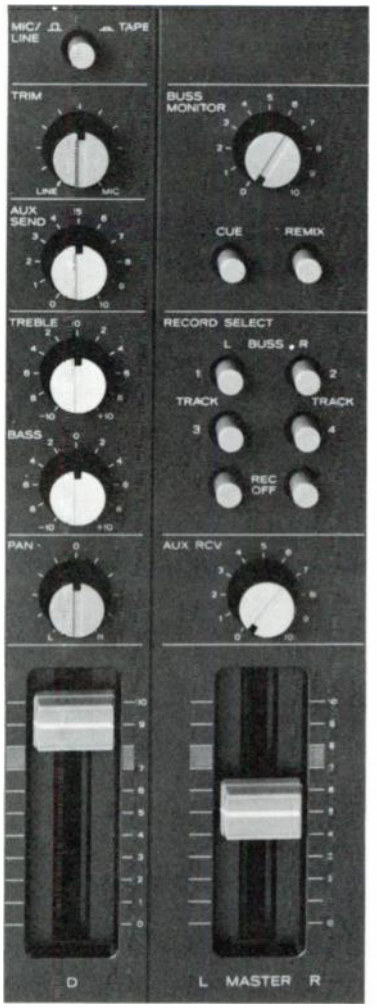
CIRCLE 74 ON READER SERVICE CARD

INTRODUCING THE FIRST 15" X 18" STUDIO.

Now you can have the essential functions and flexibility of multitrack recording in one compact, self-contained unit. It's called the Model 144 Porta-Studio™ and it lets you record basic tracks, overdub in sync and remix to stereo. On standard cassette tape.



TEAC engineers created a totally unique format for Porta-Studio. Four tracks in sync on cassette tape at 3-3/4 ips. It's fast, simple, reliable and economical. Rehearse on it. Learn on it. Create on it. Just plug in a microphone or instrument and go to work on it.

Porta-Studio's versatile 4 x 2 mixer section gives you mic/line/tape switching, trim control, high and low EQ, fader, pan and Aux Send for each input. The failsafe group switching matrix lets you record on up to two tracks at the same time. And there's a master fader that gives you overall level control during recording and mixdown.

The full-logic cue system in Porta-Studio lets you hear everything you're doing all the time. Input and tape cueing, monitoring for recording or mixdown are all available. And every signal can be metered. Coming or going.

Porta-Studio's drive system is built specifically for the rugged needs of multitrack recording. Transport controls are all solenoid-operated for faster, easier switching. And you get a built-in variable speed control that lets you add special effects, fix a flat note or solve timing and cueing problems.

You can work with Porta-Studio using nothing more than headphones. Or send the output through your home audio system. You'll also find the patch points and controls that let you use Porta-Studio with equipment like echo or delay units, equalizers and additional mixers.

So see your dealer for a demonstration of the very affordable Porta-Studio. Nothing else in the world puts so much multitrack function into so small a package.

TASCAM SERIES

TEAC Professional Products Group

CIRCLE 73 ON READER SERVICE CARD

TROUBLESHOOTERS' BULLETIN

MORE EMERGENCY REPAIRS

(1)

Most rips and tears in cone loudspeakers can be repaired as long as the speaker hasn't been operated extensively with a bad tear. If the speaker is ripped but in alignment, and the voice coil is intact, it's a piece of cake.

Take a section of cone from a similar type of speaker (there are always some you can't save) that will cover every separate tear line with at least a half inch on

(2)

either side, and coat liberally with re-cone cement or a plastic type of glue. Place this patch on the back side of the cone (for neatness) or front side if you are in a hurry. Apply a bead of glue along the tear line, and let it set for at least four hours without being disturbed. You may have to patch the surround in a similar fashion, but never patch a spider in this way; just use a small bead of glue after lining up the edges. A ripped spider will likely require eventual

(3)

reconing anyway, due to its direct influence on voice coil alignment.

If you have a speaker that is out of alignment but still functions (and isn't on warranty), you may want to try a last ditch salvage attempt. Remove the dome using the first method described (in an earlier issue).

Look at the coil in the gap, find out where it is rubbing and how out of alignment it seems to be. If the coil seems to

WRH

be only slightly off center, place eight shims of the type supplied with new cone kits into the voice coil gap. Using the heat gun, heat the interior of the coil form evenly until you can hear the glue crackle a bit. You will probably scorch the shims in doing so. Let it set and cool for about 15-20 minutes. Take the shims out and see if the speaker is now in alignment. This method has only about a 30 percent success rate, but if you happen to be one of the 30 percent, you can now put the dome on and put your speaker back to work.

4

If the speaker is badly out of alignment, some more drastic alterations may be necessary. Remove the dome as above. Using a small brush, apply a solvent such as acetone or methyl ethyl ketone to the gluejoing between the spider and the frame. Give the solvent time to work; apply it several times if necessary. Lift the spider off the frame. Allow all the solvent to evaporate from the spider before allowing it to contact the frame again. Place the alignment shims in the voice coil gap. (You might want to look at the windings

5

on the voice coil before doing this to check for scuffing or rubbing.) Now, glue the spider down to the frame with the appropriate recone cement. Then, after letting it set for four hours or so, check the alignment. If the voice coil was round and the windings were not scuffed, this method is about 80 percent effective. If the magnet structure has shifted or there is foreign material in the gap, however, this won't help.

BARRY MCKINNON

6

When and why should I use a stereo mixer for live performance?

Stereo mixers may be used for a live performance sound reinforcement situation for several reasons, but in most cases, delivering true stereo program material to the audience is not one of the reasons. The first indication that a stereo mixer is needed for live performance is usually when vocals and several instruments are being miked through the sound reinforcement system. At this point, the program material has usually become so intense that a submaster capability is necessary to perform the proper mix under rapidly changing conditions. A properly designed stereo mixing system offers at least two submixes that may still be summed into a monaural output for the audience, thus giving the sound mixing engineer the capability of having instruments on submaster "A" and vocals on submaster "B." This submix capability that we have just described normally appears on typical stereomixers as the left and right channels or "A" and "B" channels.

There are, however, many stereo consoles on the market today that do not have a sum monaural output, and in this case, the left and right or "A" and "B" channels must be connected together in parallel to provide only one signal to the power amp/speaker system. Be careful when attempting to "Y" two channels of a stereo mixer because many systems available on the market today do not have build-out resistor circuitry and cannot be paralleled without distortion or damage to the unit. When a system does not include these build-out resistors on the outputs from each channel, there are only a few choices left:

You may run the system in stereo with the right channel feeding the right bank of speakers and the left channel feeding the left bank of speakers (back to a basic stereo set-up).

You may have a qualified technician add these build-out resistors to the mixer and then "Y" both channels together.

Purchase another mixing console with build-out resistor circuitry or a summed monaural output.

Obviously, from our opening statement, we do not recommend stereo sound reinforcement for most normal situations because the entire audience would like to hear the whole program. There are situations where a stereo drum mix can produce interesting effects by panning certain components to the right side and other ones to the left. The problem that exists here is the stage left audience will only hear portions that are assigned to the left speakers, and the stage right audience will only hear portions that are amplified through the right side. The center audience will obviously listen to a beautiful stereo mix. We do not, in general, recommend this set-up because the most complete mix is reaching approximately one-third of the audience.

We do highly recommend stereo mixers for sound reinforcement when operated properly and allowed to deliver a monaural mix to the entire audience. A typical set-up would be: vocals 1, 2, 3 and 4 on channels 1, 2, 3 and 4 and panned to the "left" or "A" channel. The remaining channels could then be panned to the "right" or "B" channel for guitar, keyboards, bass, percussion, drums or whatever. The net result of this set-up would yield the most control with the two channel output capability used as subs for vocals and instruments. A step further with three channels out would allow control over percussions and the drum kit separately, but this is one jump from the normal stereo mixer.

Hollis Calvert
Promotional Director
Peavey Electronics Corp.
Meridian, MS

Should I use a graphic and parametric equalizer together in recording? What should I know about combining them? What advantages, or disadvantages, might there be?

To best answer this question we must view the respective roles of the parametric and graphic equalizers.

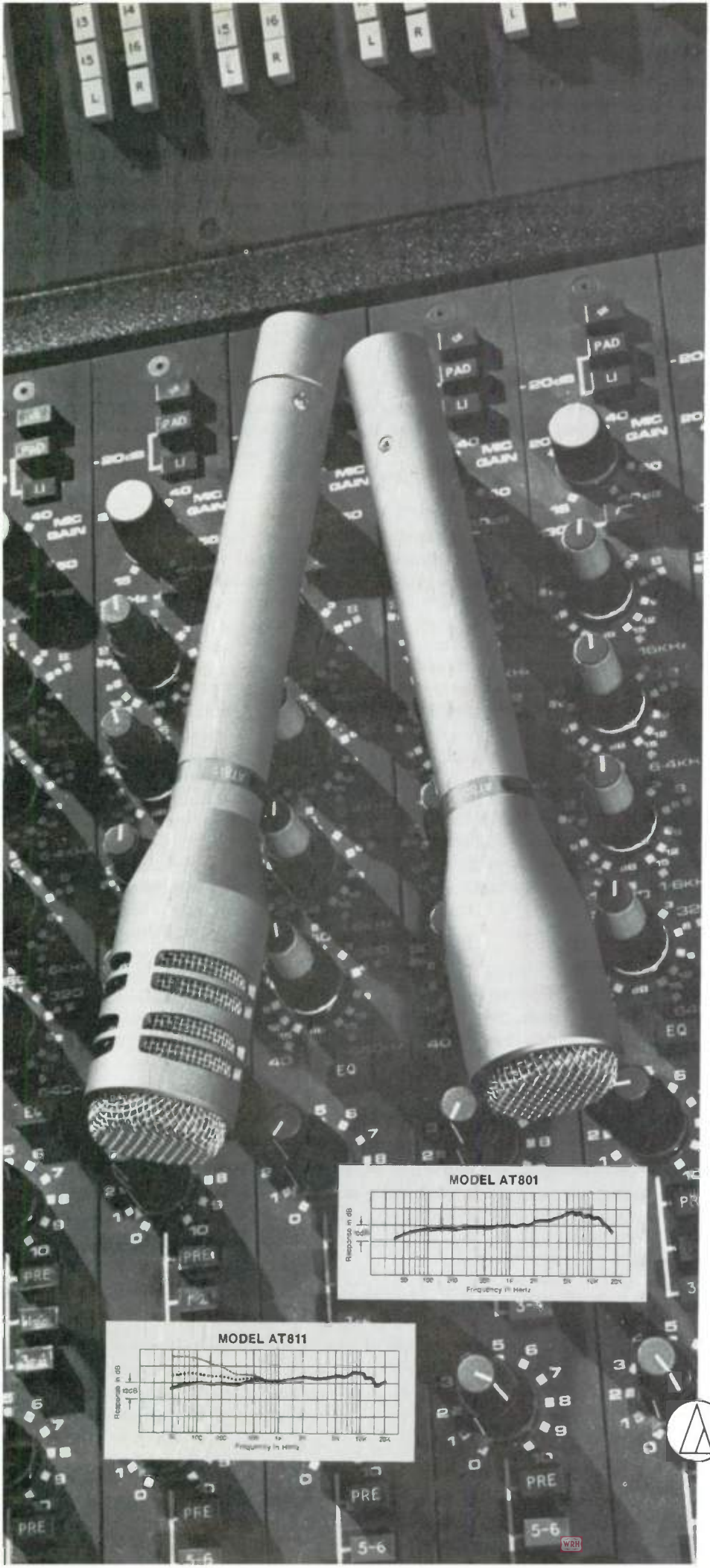
The graphic equalizers most often consist of a variable level control with fixed bandwidth and frequency. Each control covers a specific segment of the audible band. Therefore, the number of controls is directly proportional to the equalizer's precision and flexibility. However, the toll for control is increased complexity (high quality equalizers may use as many as 30 controls per channel!). Because of this, the graphic equalizer's role has evolved into that of the equalization of fixed-state frequency aberrations.

The parametric evolved from the need for equalization that could be adjusted to the variety of instruments and vocals involved in music (i.e., variable bandwidth and variable frequency). This is an approach that would overcome the limits of approximation (fixed audio segments) imposed by graphic equalizers. The current parametric design meets this need by providing several bands of interdependent control groups with adjustments for level, bandwidth and frequency. The resulting flexibility of this approach has made the parametric the mainstay of the recording studio and ideal for variable state frequency aberrations (song to song).

Therefore, unless there are certain aberrations in the tape recorder's play/rec response or the room acoustics that would benefit from a graphic, you will find the parametric, by itself, the most effective for program equalization.

If you do decide to combine them, the only major pitfall would be signal overload, since both equalizer systems are capable of +12 to +16 dB of boost. It is possible that the output of the first in line could overload the second or that the combination (+24 to +32 dB) could overload the recorder.

Michael Joseph
SAE
Los Angeles, CA



The Audio-Technica philosophy:

EQ should be used to improve the sound... not to fix the mike!

Introducing affordable smooth sound. The remarkable AT801 and AT811 Electret Condensers. With curves so smooth it would take a bundle to match them anywhere else.

Response like this has a number of benefits. First, mixer EQ is used only to touch up the sound, not to correct built-in errors of the microphone. Which leaves more leeway to control the overall sound.

And without unwanted peaks there's more usable headroom. That's vital when working near the dynamic limit of a preamp or line amp. Sound stays clean and sharp. Compressors or limiters sound less forced, because they are controlling peaks in the *sound,* not peaks in the *mike!*

But perhaps the biggest advantage is the versatility of these A-T condensers. Because they have just the right amount of presence for today's recordings, they're not limited to just one kind of instrument...just one type of voice. Put them *anywhere* in the mix: brass, reeds, percussion, chorus, or strings. Then listen. What you hear in the studio you'll hear at the console. Which is a great place to start in miking any session.

At their highly affordable prices, these are two of the best bargains you can offer your customers. Reliable, clean-sounding, and the most predictable microphones they can use. Your Audio-Technica rep has all the details. Call or write today.

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CIRCLE 98 ON READER SERVICE CARD

By Craig Anderton

Now that our series on synthesizers has run its course, I'd like to cover some highly practical topics to balance out all that theory. This month, let's examine how you can be a hero to your clientele by repairing a musician's special effects box in almost no time.

At one point in my checkered career, I worked behind the counter of an electronics store. One of my favorite pastimes was to repair a customer's piece of equipment in less than five minutes while the customer was browsing around the store; not only was it equivalent to performing a magic trick as far as that person was concerned, but the goodwill it generated for the store was immeasurable.

Now before you jump to the conclusion that you have to be a technical wizard to repair stuff, a few words. Out of 100 typical repair jobs I would encounter, I'd say the majority were very simple problems that could be diagnosed by the naked eye and repaired in a matter of minutes. The remaining repairs required a certain amount of electronic expertise, and a small number were best left to those who make a living from doing professional level repairs. I suggest you not concern yourself with the tough jobs for now; if something doesn't look like you can fix it after you've read this article, then leave it alone. Getting in over your head can sometimes damage a unit beyond whatever its original problem was in the first place.

OK . . . so a good customer of yours has walked in. He's holding the Superwammofuzzphaser he bought from you yesterday, and has a crestfallen expression that you can immediately recognize as saying "this thing doesn't work." This is your cue; open up the case to look at the innards, and check for the following problems.

Batteries: An amazingly large number of units returned to companies have nothing wrong—repeat, nothing wrong—except for dead batteries. The customer's response is usually, "But I just bought new batteries yesterday." What he doesn't know is that batteries lose their potency after a while, even if they're *not* being used. So, the poor guy who buys a 10-cent battery on special at the local drugstore doesn't realize that the reason it's only 10 cents is that it sat in the hold of some ship during a dock strike or the like, and is just about useless—and the store wants to sell it before it gets any more useless. He puts it in the effect; the effect works for a couple of hours, and then mysteriously dies. It's always good practice to substitute for the suspected battery with a quality alkaline type, and see if the box springs back to life. While you're doing this, tell the musician that batteries do in fact age, and that alkaline batteries are the most reliable over a long period of time. Or better yet, do him a big favor and sell him an AC adapter.

Fuses: Fuses don't necessarily blow because a piece of equipment is bad; it could be a momentary power surge, or mechanical vibration could cause a fracture of the fuse element. If you find an AC powered effect with a blown fuse, replace it with another of the same rating. Leave the box on for about five minutes and see if the fuse blows again. If it doesn't, consider the unit fixed. If it continues to blow fuses, then the box should be returned to the manufacturer for repairs.

Battery connectors: An effects box can be built like a tank, but will still use those universally flimsy battery connectors. In my perhaps cynical opinion, if someone has changed the battery in his box more than a dozen times or so you should definitely inspect the battery connector. The way I do this inspection is to gently tug on the end of the leads going to the circuit board, and on the ends of the leads that terminate in the connector itself. Many times a wire can be pulled loose from the connector, but appear to be held in place since it is partially crimped into the connector; a gentle tug will uncover this problem. The solution is to solder a new battery connector in place. If you're not into soldering, maybe the guy who does guitar repair work in the back of the shop can do it for you.

Loose jacks: This is more of a problem with effects boxes that have had a long life, especially those boxes that don't have lockwashers around the jack collars. Jiggle the input and output jacks and see if they move. If they do (even a little bit), tighten the mounting nut. A loose jack can cause problems ranging from snaps, crackles, and pops to complete non-functionality.

Bent jack contacts: Another easy-to-diagnose problem. Stick a plug into each jack, and make sure that the tip of the plug comes into actual contact with the jack contact. Sometimes after repeated plugging and unplugging, the jack contact will become bent away

from the plug, producing a poor connection.

Scratchy pots: This means that turning a control produces a static-like sound. While sometimes this is caused by bad design, the problem is more than likely dust and dirt caught in the pot. Go to your local TV service place and get a spray can of *contact cleaner* that is specifically indicated as being safe for plastics. Now, note that the pot has a section with three terminals sticking out, and that there will be a space above the three terminals where the dust and crud gets into the pot. Spray some contact cleaner into this space, directing it towards the center of the pot, and work the control vigorously. This wiping action distributes the contact cleaner evenly throughout the pot. Chances are when you're done, the pot will sound like it's brand new; if not, repeat the application. If this doesn't do it, the pot needs to be replaced with one of the same value. Incidentally, the contact cleaner treatment often works on scratchy guitar controls, some types of switches, and the like. Contact cleaner only costs a couple of bucks for about a year's supply, so it's a worthwhile investment for your store.

Bad solder connections: Not all companies have top notch quality control, and occasionally a bad solder joint will slip through. What's worse is that this bad solder joint will not usually manifest itself immediately, but only after being transported and shaken around for a bit. To diagnose the problem, carefully scan the circuit board. If a connection looks dull, if it looks like the solder hasn't flowed smoothly over a connection, or if you can pull a wire out of a connection (solder connections should be mechanically strong as well as electrically conductive), then reheat the connection using a low power (no more than 40 watt) soldering iron. Do not heat up the connection any longer than necessary, and if possible, feed in a little bit of new solder to help clean up the connection.

Loose or broken wire: Sometimes you'll encounter an effect which has a wire inside that only connects at one end. The problem here is to figure out where the other end is supposed to connect. Look over the board carefully, and see if you can find a connection that has a few strands of wire coming out of it, or perhaps some leftover insulation that looks like it may have once been part of the loose wire. Once you're reasonably sure you know where the wire was supposed to go, resolder it.

Bad footswitches: For some reason, footswitches seem to be prone to failure. If the footswitch works intermittently (and contact cleaner doesn't help), solder in a replacement. It's worth it to keep a few spare footswitches around for such occasions; they're about $3 to $4 each from distributors.

You'll note that so far, we've managed to cleverly avoid the subject of voiding the warranty of the unit. Well, if the device is out of the warranty period, you have nothing to worry about; and as far as the musician is concerned, he or she will be even more grateful that you managed to prevent a possibly expensive trip back to the factory. With units that are under warranty, it's still worth checking for battery problems, bent jacks, and the like.

I hope that the above tips are useful; if you come up with any more, why not send them to *SOUND ARTS* for possible publication in the trouble-shooter's bulletin board section.

Role Playing As Sales Training

By R. Timothy Rooney

If you've ever played cowboys and Indians—or cops and robbers—you're familiar with the basic concept of role playing as a sales training tool. Aggressor vs Defender—that's what it's all about. There is one major difference between these childhood games and role playing for sales, however. Aside from the fact that the rules are a little more complex, you will find that the cops and cowboys don't always win the battle in role playing. No more than you or your salespeople are guaranteed, in the real world, a walk to the cash register with an order in hand. For the purpose of this preliminary discussion, though, we will assume that the salesman (agressor) will always win. We'll save the finer points of strategy for a later article.

Role playing differs from other types of sales training in that it requires a reasonably structured environment. The standard manufacturer- or sales rep-sponsored sales meeting consisting of a brief sales pitch and distribution of new literature, followed by a product demo, three six-packs, and two large sausage mushroom and pepperoni pizzas will not provide the proper environment. Role playing is serious business. Egos will be bruised, feelings hurt and confidence in established selling skills seriously questioned.

Let us set up the training environment. First, at least until basic skills are mastered, isolation from the work situation is required. Get out of the office, away from the phone or any other sources of possible interruptions.

Tim Rooney is Director of Advertising and Sales Promotion at Electro-Voice.

Second, plan on scheduling at least two to three days to cover the basics. These do not necessarily have to be consecutive days, but should be no farther than a week apart. Otherwise, the amount of time reviewing previously learned material will become cumbersome. Third, each session must have a leader. Preferably, the leader will retain this responsibility through these and all subsequent sessions. He is responsible for ensuring that the sessions are structured properly and conducted in an orderly fashion; for ensuring that knowledge is absorbed by the participants; that the material is put into use by the participants; and that follow-up sessions are scheduled as needed. The leader cannot be "one of the boys," as this often causes a breakdown during the sessions. Neither is it best to have a high-level

company executive handle the sessions. This often restricts open participation by the attendees. Their fear of showing their errors in front of their superiors will inhibit their ability to absorb the information. An ideal situation would be to have someone in authority conduct the meeting, but not someone in a direct supervisory role over the participants. Examples would be to have a store manager conduct the sessions for the salespeople at a store other than his own, *e.g.*, XYZ chain has three stores; manager of store A conducts the session for employees of store B, manager of B for salespeople in store C, etc. Similarly, the manager of the accounting department in a one-store operation could conduct the meeting for the salespeople. The leader, of course, *must* be thoroughly familiar with the material and concepts being presented.

The size of the group involved in the training is not critical. However, at least during the initial learning sessions, a minimum of three and a maximum of eight should be satisfactory. This does not include the instructor. With three, the instructor will probably have to play an active role in the session. Any more than eight and the group becomes too large to manage.

Besides being away from the day-to-day workings of the store, the location of the sessions should have several other features. The room should be large enough to allow the larger group to split up into pairs during practice sessions without disturbing other pairs in the room, yet small enough to allow all participants to converse with one another without yelling. A large room with a conference table set up at one end would be ideal.

The current availability of videotape equipment has given rise to the question, "Should the one-on-one practice sessions be videotaped?" The answer is not an easy one. During the initial sessions, the participants may find themselves under a reasonable amount of pressure—pressure to perform well in front of their peers and pressure to perform successfully in front of the session leader. The additional pressure to perform well "on camera" might cause the sessions to lose their spontaneity. Videotaping may be of benefit during future follow-up sessions. By that time, techniques hopefully will have become second nature, and the ability to critique oneself via the instant replay on a VTR might be valuable. At the start, leave the videotape equipment in the store.

There is one exception to the suggestion to leave the VTR at home. If there are individuals available who are familiar with role playing and with the sales techniques to be described later in the article, you may wish to have them act out several "ideal" sales situations—from the simplest sales through more complex situations. Having these available on tape during the session may help the participants progress through the sessions more easily. At each stage of their progress, the tapes would give the participants a level of expertise to strive for.

So much for the background information on the situation setup. Now for definitions. What is role playing and what are your salesmen supposed to get out of it? Role playing is a technique used to allow your salesmen to recognize customer attitudes, needs and objections while they are away from the pressure found on the selling floor. It is a technique that will allow them to hone their skills in changing attitudes, filling needs and overcoming objections without the pressure of having to make the sale. By "without the pressure," I mean giving the participant the freedom to make mistakes while ferreting out additional information. The pressure to make the sale on the floor might cause the salesman to walk to the cash register with a sales slip for two reels of tape, when further investigation would have uncovered the fact that the customer was realy considering replacing his tape deck. Mistakes are bound to be make. Better they be made in private until the techniques are brought under control.

Starting with the basic premise that any customer who walks through the door has a need, the main objectives of the salesman will be to uncover the customer's need; get the prospect to recognize the need; put together a product package to fill the customer's need; get the prospect to admit his needs are filled; close the sale. Regarding the customer's need, he either knows about it (*e.g.*, "I need a microphone!") or he doesn't (*e.g.*, "Just looking."). We'll break this down a little farther. The customer may come in and specifically request a microphone by brand and model number, or he may just express an interest in microphones in general. The former obviously presents no problem, the latter presents a specific need that simply requires clarification. The "just looking" examples can be similarly broken down. He may be just looking, but as you watch him walk through the store you notice he is "just looking" at tape decks. This is an entry for further investigation. The individual who does in fact look at everything may be considering building a small studio in his basement to record the band his son plays in. Or maybe he just received a tax refund and honestly doesn't know what he wants to buy. Further probing can develop a need he didn't know he had, *e.g.*, to add a piece of equipment to his stereo system.

The above may seem a little heavy-handed. It is true that you won't always make a sale to every person walking through the door. This year's baseball batting champ may have "failed," *i.e.*, not had a hit approximately thirteen times out of every twenty times he came to the plate. To expect yourself to do much better on the sales floor would be a little ridiculous. However, for the training exercises, we will allow the salesman to bat 1000.

Unless the customer comes in and actually states his need, as in the first example, *probing* will be required. Probing is simply the term that will be used to describe the technique of uncovering a customer's need. Essentially there two types of probes, or questions, that can be asked to uncover a customer's need. One will steer a customer down a restricted answer path—usually allowing him only a short specific answer, like "yes" or "no." The other allows the customer to expand his answer to give the salesman more information. Both are used, in no specific sequence, depending on the amount of information required to allow the salesman to recognize and fill the customer's need. Let's take a very simple sample scenario of the use of the two probe types.

Situation: Customer in store is studiously reading literature on a specific microphone.

Salesman: I see you're interested in the XYZ microphone. Did you have a specific application in mind?

Customer: Yes.

Salesman: What application?

Customer: I need a condenser microphone for close miking of a kick drum, so it has to be able to withstand high sound pressure levels.

Salesman: The XYZ will fit the bill. The new electronics will withstand 140 dB, so you won't have to worry about electronics overloading with this piece of equipment. Sound as if this is

exactly what you need doesn't it?

Customer: Yes it does.

Salesman: How many XYZ's will you be buying today?

The close comes as soon as the customer admits his need has been satisfied with the product or service offered by the salesman. Notice in the scenario that the salesman observes an interest. In other cases he may, through research, already be aware of an interest. He uses a probe requiring a short, specific answer to confirm the interest. The longer, open-ended, probe is used to allow the customer to expose his need. The salesman describes the features and attendant benefits that fill the customer's needs, then uses the short probe again to confirm the customer's satisfaction. ("Sound as if this is exactly what you need doesn't it?") The affirmative response asks for the close. Note that needs are satisfied by benefits and not by features. The fact that the XYZ microphone has new electronics will not satisfy the customer's needs. The fact that it will handle 140 dB sound pressure levels and will free him from the worry of overloading the electronics does satisfy his needs.

It should also be obvious that this type of question and answer process will require the salesman to have a thorough in-depth knowledge of his product. The above scenario was a simple example that required the salesman to satisfy only one need to close the sale. Often times many needs must be satisfied to close the sale. An example of this, while staying on the level of simple probing, would be if the customer's response to the second to last question had been "No" or "Not quite." In that case the scenario would have continued:

Salesman: Sounds as if this is exactly what you need doesn't it?

Customer: Well, I'm not sure.

Salesman: Why not?

Customer: Well, I've got some other condenser mics and, even though they're pretty reliable, when something *does* go wrong, it sometimes takes up to six months to get them repaired.

Salesman: So you're worried about excessive downtime if your mic needs some service work?

Customer: I guess so.

Salesman: So then if I could show you that the XYZ is not only more reliable than other condenser mics but has a considerably better service record, you would then agree that is the mic you should buy, right?

Customer: I suppose I would.

Salesman: Well the XYZ microphone offers an unconditional two-year warranty. Even if you run over it with a forklift truck, just return it and it will be repaired or replaced free. Plus, average turn-around time on out of warranty service is now less than ten days. That should take care of your service worries shouldn't it?

Customer: It sure seems like it.

Salesman: Now how many XYZ's did you want to take with you today?

Here is a situation that required additional probing of various types, plus one proof statement to make the sale. The customer rejected the first close, so an open-ended question asked the customer to define his secondary need. The secondary need, his need for good service, was restated in the form of a short probe to ensure that both customer and salesman understand the need clearly. The simple "yes" response invites the salesman to come up with an additional feature/benefit statement to satisfy the need and then, a short probe determines whether the need, in fact, has been satisfied. An affirmative response is the invitation to close the sale.

In a seminar or role playing situation, it is often best to write out a list of probe-type statements, maybe twenty. Have the participants identify what kind of probes they are—short answer or open-ended. Similarly, a list of customer statements can be presented. The seminar participants should either write or respond verbally to these statements, making either a short answer or open-ended probe, depending on what is required. Then, after reasonable proficiency at identifying the types of probes has been developed, you are prepared to get into the first simple role playing session.

The salesman in a role play should have access to any necessary information on the product he is trying to sell, along with some competitive product information. Quite often it is advisable to start these sessions using imaginary products, or at least products the participants are not familiar with selling. This forces the participants to concentrate on the skills, instead of relying on established, and sometimes unorthodox, selling techniques. The customer's role is always partially scripted. The customer's script determines things like how many open-ended questions will be asked before he reveals a need, how many needs must be satisfied before he submits to a close, whether he will accept the initial closing effort and the like. All of this material, as all material presented after this, must be prepared by the session leader in advance. Attempting to prepare the material "on-the-spot" will lead to confusion.

Sample scripts for the same background information might go as illustrated.

BACKGROUND INFORMATION

Company Name: Alpha Microphone Company
Product being sold: XYZ Condenser Microphone

Features	*Benefits*	*Competition*
Turned steelcase 2-year warranty	Less prone to damage. Extended freedom from repair costs.	Unable to withstand high sound pressure levles above 1000 Hz; tends to overload electrically, causing distortion. Has long service times. Parts are expensive to replace.
10-day repair turnaround	Gets expensive equipment back on the job fast.	
New diaphragm mechanism	Able to withstand high SPL's at all frequencies; lower distortion.	
Modular assembly	Less expensive to replace parts.	

CUSTOMER'S SAMPLE SCRIPTS

1. Require salesman to probe until he finds out your dissatisfaction with repair parts costs. (Need to reduce repair costs.) Require an open-ended probe which will require you to explain your need to him (or your dissatisfaction with current equipment). Once he has determined your need, require him to satisfy it with benefits of product he is selling. Accept first attempt at a close after your need has been satisfied.
2. Require salesman to find and satisfy a need as in the above. Reject first attempt at closing. Divulge no further information until salesman makes open-ended probe requiring you to specify your second need. Require salesman to satisfy second need. Accept second attempt at closing.

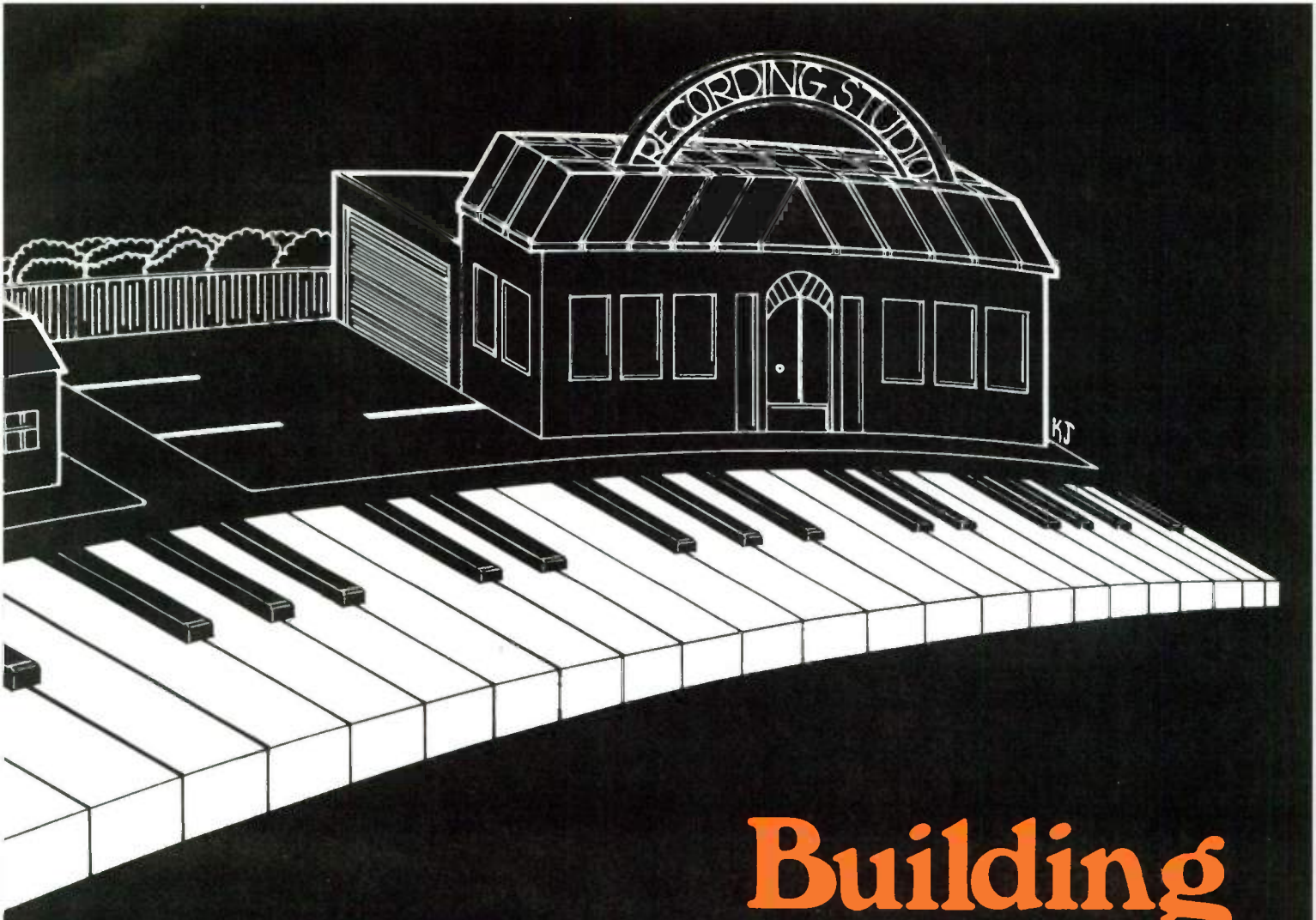
These exercises can be expanded to require any number of needs. However, it would be wise to limit the maximum number to three in the beginning. More than that usually requires the use of additional skills which are unfamiliar to the participants. A word of caution: The salesmen have to work at these skills to become proficient enough to use them without thinking. This proficiency does not come if the customer makes it too easy. There is a tendency towards a "you make me look good/I'll make you look good" attitude. Choose role players at random to eliminate some of this. Avoid having the same pairs always participating. The leader should insist that the customer require performance of all that is laid out in the customer script.

Each role play should be followed by a critique session. The critique can be supplemented by the session leader, but primary feedback should come from the other members in the group. It is not necessary for the group members to be familiar with the customer's script in order to critique the role play. Things that they should look for are how many, and in what sequence, open-ended and short probes were required to uncover the customer's needs. This will be of value in increasing their ability to recognize probe types. Also, did the salesman use the right type of probe in a given situation? For example, if a customer stated he had a need, did the salesman try to get a specific response, or did he allow the customer to explain the need via the use of an open-ended probe? Did the salesman successfully satisfy the need with a *benefit*, or did he try it with a feature? Did the salesman recognize an opportunity to close the sale? Did he attempt to close? If the close was rejected, did the salesman use an open-ended probe to find out why not? Similarly, the critique should include commentary on how well the customer role was played. Was the customer too easy a sale?

This first part has dealt only with probing to find customer needs, followed by short probing to elicit a closing acceptance. In the future, we will expand upon this to encompass customer attitude recognition and the techniques involved in overcoming a customer's objections to your products. Note that the exercises just completed only contain hints at objections, and those refer to competitive products.

Say you have a music store which offers a wide selection of the most popular keyboards. You have a well planned display area which houses the keyboards in such a way that any of them can be demonstrated to customers. You have plenty of literature on the various models, which range from electronic pianos, synthesizers, string and brass keyboards to portable organs that offer everything from synthesizer bass sections to digital presets. You offer keyboard clinics on various brands, presented by the manufacturer or distributor, and feel as though you know most of the keyboard players in your store area. Your business sense has told you that the economic climate favors cutting back on the expensive models and keeping a supply of less expensive equipment. You (or your keyboard specialist) have studied the keyboards you carry, so you can provide interested musicians with as much information and as many comparisons as possible. You believe you are doing everything right. Every person who is interested in a keyboard should check your display out, and chances are you will make the sale. Right? Wrong.

There are alternative markets to which you can sell keyboards, if you take the time to realize that despite all the correct things you've done *inside* the store, there are plenty of potential keyboard buyers *outside* the store whom you never have met. The reasons are varied and numerous, and don't really matter. What matters is that there are markets right around you that can be excited and turned into dollars if you take the time to go after them. Some dealers have used these alternatives to re-stimulate their



Building New Markets For KEYBOARDS

By Tom Piggott

keyboard business during a sales slowdown, while others have added the business because of a need to grow and generate more profits.

ALTERNATIVE 1

Religious organizations are using music more and more to generate interest in their messages and teachings. Especially popular in these markets are portable string keyboards and portable organs. There are two kinds of organizations here: the church itself and the "gospel groups" that perform both inside and outside the church itself. In both cases, funds to buy the equipment are often donated by a churchgoer, or are supported by a healthy music budget that is very much a part of today's church emphasis.

Strings always complement vocals. The majority of church music is vocal music which complements the scriptures or spreads the gospel. There are few groups that are not elated at the new dimension provided to their music by violins and brass, which are usually part of the string keyboard. Most string keyboards sound terrific in churches and halls, because they are usually large enough and hard enough to provide lots of natural reverberation. (As a side note: If you have any guitar amps around that you have had a hard time selling because they lack the reverb feature, a church could be just the place to sell them, since churches don't usually need the feature in the first place.)

How do you generate the leads?

Tom Piggott is Product Manager for Music Technology Inc.

First, take the phone book and make a list of all the church addresses and phone numbers.

- Set aside two times a week when you or your keyboard person can visit the choir director or performing group, either during practice or before a church service.
- Call and make appointments for bringing over a string keyboard for them to try. Make it a "special" appointment just for them.
- If the church or group has its own PA system, use it.
- If they have no amplification, bring a small amp they could afford, and that you would like to sell from your existing stock. (Don't bring the models that sell the day they hit the floor; bring the models that move slowly, but which may fit the needs of your new clients.)
- Invite the clergy (including nuns and other workers), and supportive organization heads—people who are involved with church social activities.
- Stick to making one or two calls per week and keep track of all the names of those who will be responsible for the purchase.

How can you afford the time? You'll be paid back not only in sales. You will find far less bargaining for lower prices. You can make your required margin by offering your normal services to the church. A dropoff and setup policy is better for both you and the church, which would often rather pay a few dollars more for the service and not have to go shopping at other stores. Don't forget to bring literature with you (at least three copies for the church) and any demo records that may exist. Churches also buy speaker systems, portable PAs, organs, microphones, and sometimes pianos. If you are able to offer a church-music ordering service, let them know that too. You could see all the churches in a year if you go a bit out of your area, especially when most dealers don't take the time to even approach the church in their back yards. Twenty-five churches times 500 people per parish equals a lot of exposure for your store and your products, and good potential for new sales.

ALTERNATIVE 2

Schools have either become a major source of your business or no source at all. Another dealer may have it all locked up, may have a lot of band instruments with which to draw the schools, or you just never have figured out how to make the right inroads to the schools so you can do some business there. Filling in a bid form now and then will get you very little of that business. The trick to building up some great dollars from that market takes one thing: communication. Here are a few ideas that could give you entry to this important source of dollars, or give you alternatives if you *have* been trying to sell to schools and are not happy with the results.

- Send all the school system superintendents, music directors and music teachers a letter which introduces you as now being a specialist in "Electronics in Music Education." On it, provide a list of the areas you represent, such as keyboards, PAs, etc. Then provide a place where the teacher or director can fill in his needs for information or literature.
- Offer school demonstrations on products (e.g., synthesizers) that are of special interest to schools. Offer the use of a string keyboard to the choral teachers for one day. Their piano players will be able to add a new dimension to the choirs which seldom have string players in concert, let alone in rehearsal.
- Find out which manufacturers or distributors have the ability to assist you with educational clinics, educators shows, school visits with the manufacturers rep (a prestige factor for the teacher) or just multiples of promotional literature, records or wall posters.
- Offer your store as a "place to visit" or a field day visit (very popular today) on a class by class basis. You can describe the music store business, the departments, the career opportunities, and expose your products at the same time, along with your teaching programs and services.
- If it takes you some time to get returns, it doesn't matter. You now have access to a market that can provide you with additional profits.

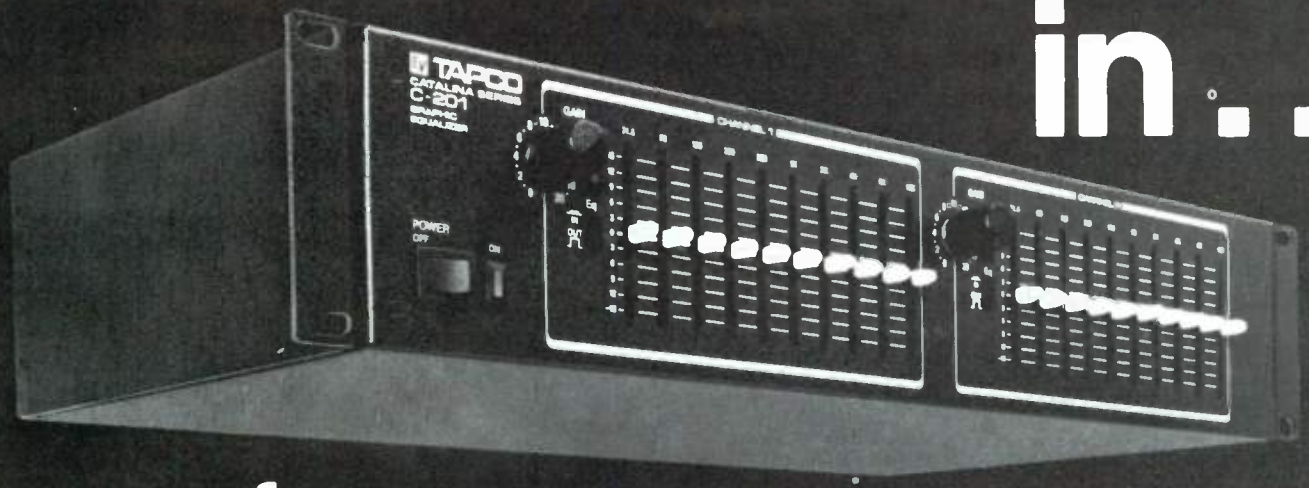
There are a few wise dealers who reap the benefits of selling to the schools. These benefits include involvement with the communities' schols, exposure to students who are developing buying patterns, and direct dollars from sales made. String keyboards and synthesizers are getting very popular in schools. Guitar programs are flourishing, and marching bands will never die. Just in case you think schools have no money, ask yourself why some stores work primarily for school business. A great source of exposure, schools can generate unexpected dollars for you.

ALTERNATIVE 3

Look at anything that has do with music, and you can see a source of customers. If you feel as though you know every recording studio in town, every YMCA that uses a PA, or every music store around your area, ask yourself if you have ever specialized and concentrated on getting some business from them, instead of waiting for them to come into the store. Recording studios are, of course, springing up all over. They can all use equipment of some kind. They may be interested in renting from you. Here a few ideas that could help you generate some additional business from studios:

- Send all recording studios in your area a list of equipment they might be interested in owning, with the offer to bring some there for an on-location try. Especially successful products are string keyboards. Be sure you understand how the product sounds best in studio applications by contacting your representative or the manufacturer's product specialist.
- Make a separate list of products you would be willing to rent to the studio or the musicians who attend. Work out an arrangement with the studio that lets them encourage renting, and allows them to take a percentage on each rental they arrange for you.
- Offer a service to the studio. For example, you can write Washington D.C. for copyright forms for both the written song copy and the recorded demo copy. Ask for them in multiples (because Xerox-type copies are invalid) and keep them on hand in the store. They are free from the Bureau of Patents and Copyrights. Once you have them, you can offer them as a free service to your recording studio customers. They may send people to you to find out about that type of information, and therefore generate new potential customers. You might offer a service of helping the customers fill them out and send them in for a fee.
- You might, as a public service, offer your store as a place to present information about all the studios in your area, including rates and features. If you advertise this service, mention that you also provide information on obtaining copyrights, and information on recording some of the

the Ultimate in....



performance...

C-201 the choice for all phases of professional sound reinforcement and record ng that demand the highest quality in sound. • two channel • 10 band • very low noise and distortion • "O" detented sliders and output gain controls • overload LED indicators • EQ in/out switches • inputs and outputs have both XLR and ¼" phone jacks • AGLC™ (Automatic Ground Loop Compensation) • turn on/off power transient suppression • 3½" × 19" rack mount package

...and value.

2202 is tailored for economy yet does not sacrifice quality, performance, and ease of operation. This new model boasts features and performance typically found only on expensive equalizers. • two channel • 10 band • low noise and distortion • "O" calibrate position on sliders and output gain controls • overload LED indicators • EQ in/out switches • inputs anc outputs have ¼" phone jacks • 3½" × 19" rack mount package

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CIRCLE 61 ON READER SERVICE CARD

products you offer.

• If you are a music dealer who has taken on a line of semi-pro or pro recording equipment, this should help you too. Be sure to be able to demonstrate the recording techniques you use when demonstrating the product.

Before you decide to try to implement any of the alternatives, consider these points: If you concentrate on only one of these markets, you will have a better chance of success than if you try all of them. As you approach each one, be sure to keep accurate records of who, what and when, so you can measure the sales results against the time you are putting in. Be patient, since these markets sometimes take time to penetrate. Once you are into the programs, keep them going for a year. That should give you a good representation of the possibilities. Any less than a year's work will probably not help a great deal.

If you choose one area of concentration, stay with it and let the customers know that you are into it for keeps. This will make the offerings more appealing to the institutional customers. Once you have appointments set up, be sure you arrange another meeting after the first one. You can use it to help move the sale to a close, or just to show another product that is of interest to the customer.

You might try a monthly or bimonthly visit with specific themes that let you concentrate on one type of product at a time. For example, one month might be on electronic keyboards, which would consist of one or two string instruments and a synthesizer. The following month might be on portable organs and portable organ speakers. If you are lucky enough to have three specialists in your store, have each one of them specialize in the alternative markets. Then they can reach all the markets by rotating their abilities to each of the markets. The school will get as professional a demo as the church group, because your keyboard specialist will always be the demonstrator.

Finding time for developing new markets can be difficult. If you are always busy, it is even more difficult. There are a few ways you can get into the markets without disturbing your existing business. You can hire someone outside the store who is competent and interested in earning a few extra dollars. Many schools can be visited on your way to work, since they usually get started before store hours. If you have a particular day of the week on which either the morning or the afternoon is really slow, use this time to make your on-road visits. Try to balance the visits you make with the invitations to these groups to visit you at the store itself. If a manufacturer's rep is coming to give a clinic, find out if he would be willing to visit a nearby institution too, or if he would like to offer a special session for teachers, churches or studios, to get into new dimensions for his products. Clinics that are offered for special groups will often draw more people than a general clinic.

Keyboards are universal in their appeal to many markets. You can generate business in all areas of your store. There are many other products that can be used to gain entry into schools, churches and studios. Keyboards seem to be the best choice to initiate the first contact. Other departments will be easier once you are established in your new market. With little money, a different use of your time, and the sense to concentrate on one field at a time, your keyboard business and overall store business will grow in sales and profits.

100% PROFIT ON BEYER'S BEST SELLER

A free M500 when you buy twelve M400's

The M 400 is Beyer's newest microphone. It's a highly directional dynamic with the features, construction and marketing support that make it an easy sale for almost any professional application.

Its pickup pattern fights feedback in live performance. And its carefully contoured frequency response provides a superbly clear and intelligible sound from vocals and instruments on stage and in the studio.

There's a built-in blast filter and humbucking coil to knock out noise. And it's ruggedly built, and comes with a protective carrying case.

We're launching the M 400 with a hard-hitting ad campaign, and backing it with a full range of collateral material for in-store support.

The M 400 is a sure seller at $119. And to help you make even more money, we're offering an unheard-of special: buy 12 M 400's by November 30, and get an M 500 free. The M 500 "ribbon for the road" is Beyer's best seller. Its suggested retail is $199.95, and this month every penny is profit.

That's our way of thanking our fine Beyer dealers for their wonderful support and cooperation while Burns Audiotronics has been getting established as the new exclusive Beyer distributor.

You're really something! So we're going to give you something for nothing.

Beyer Dynamic

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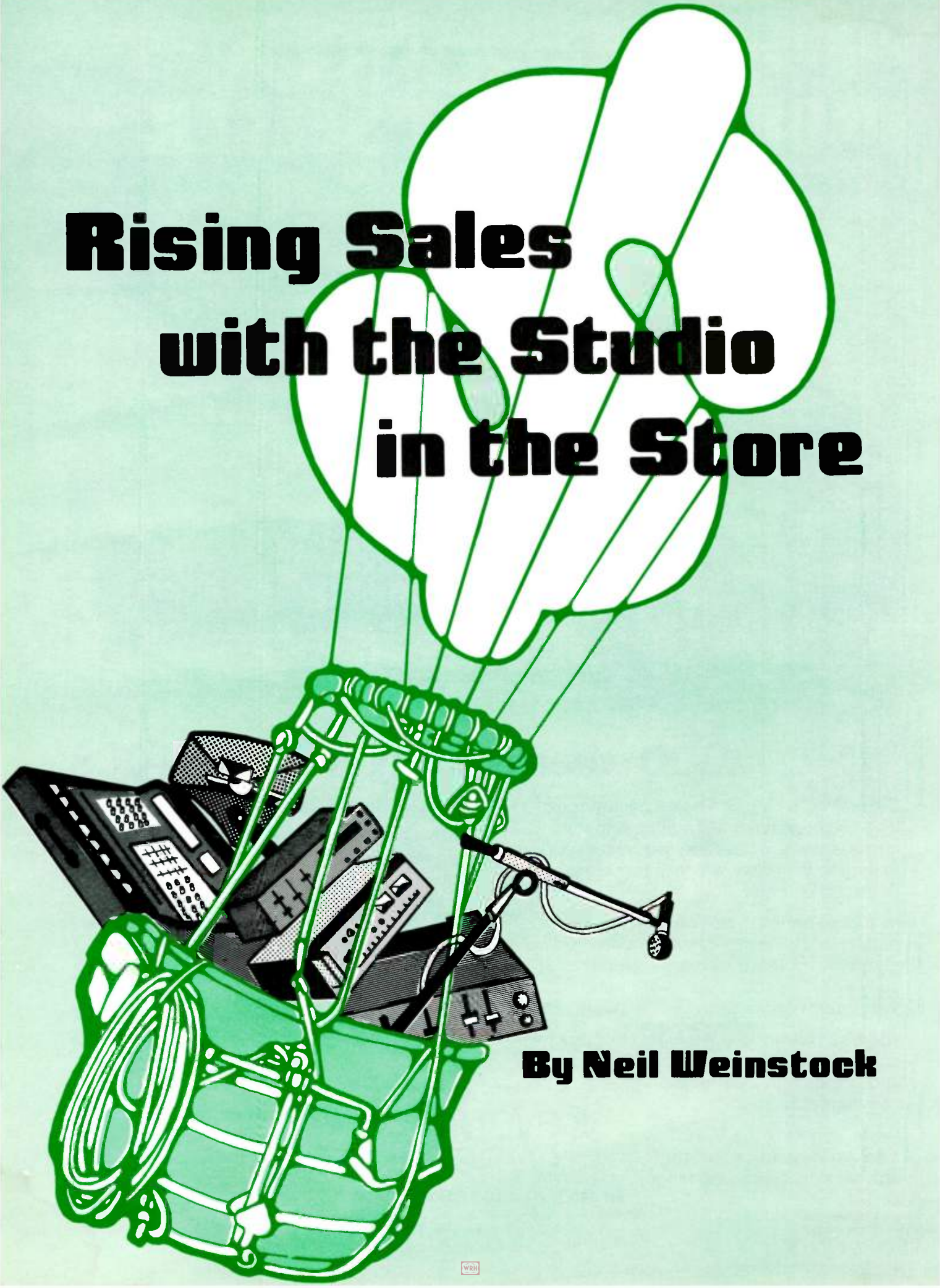
CIRCLE 77 ON READER SERVICE CARD

Rising Sales with the Studio in the Store



By Neil Weinstock

Whether you're a retailer of creative audio gear, electronic instruments and accessories, or home high fidelity systems, a studio setup within your store can be of great profit in a variety of ways. Most likely, if you sell professional or semi-pro audio equipment, you already know that. If you're retailing instruments, accessories, or hi-fi, there's more to be gained by having a studio than simply branching into creative audio. Your current products will sell better, as the retail store with a sound studio becomes more than a retail store.

A music shop becomes more than a warehouse through the provision of service as well as product. We'd like to detail in this series the benefits, the how-to's, and the costs of a *flexible* in-store studio.

First, the benefits. If you have or can acquire the space of an extra listening room, think of the additional reasons for building a studio . . .

The immediate one is as a showcase for the eqipment in it. It's true, a high percentage of customers already know what they want as they walk in the door. But for the rest, equipment can be most efficiently sold if the customer can hear it in action. This writer's retail experience with and without a demo studio showed a much higher incidence of high-priced purchases among first-time visitors when a studio was involved, and more repeat visits to that studio as well. Questions that floor personnel may find hard to answer can be answered by customer and salesman together, and a healthy and profitable relationship can be built up.

"Why doesn't this sound right?" is probably a most often heard demand on your sales floor. Words alone often can not express an answer that will satisfy the client. Then other customers often become irritated at the screaming and howling of someone else's rock guitar (whether it's a live or taped performance), but it's easy to offend the original questioner by asking him to turn down the gain. For demonstration of new products as well, the studio serves the function of a separate, sound-proofed room. But it is a sound-proofed room which allows for adaptability.

To meet our first purpose, the studio and its control booth must be as large as possible. Depending upon whether the emphasis is on instruments or recording equipment, there must be either many more pickups. mics, mic stands, instruments and chairs in the studio than one might generally wish to use in one session, or much more in the way of recorders, mixers, equalization units, and seating capacity in the booth than is necessary for a professional mixdown. The studio must be able to function as something of a classroom, something we will expand upon later. It must also function as a display.

"Adaptability" seems like it can easily become our buzz word. There must be a large and well organized plug-in spaghetti board in the control booth for fast switching of components. Folding chairs are probably best for the booth, so as to squeeze as many as possible in, but be able to get them out fast. However, in the studio, the furniture should help absorb stray sound, and fluffy stuff is the order of the room. Along with sound-proofed (against outside noise) and sound deadening (against the inside noise) walls of irregular shape (to deflect sound waves away from each other), the studio must stock plenty of 'gobos,' or movable sound deflecting panels. With these, drums particularly and all other instruments can be isolated just to the mics they were meant for. If your gobos are good and plentiful, it is possible to record a couple of different things at once for demo purposes only.

In the future parts of this series we will detil some construction ideas for all that we're discussing now.

A final function of the studio as showcase, and not to be overlooked, is that it forms a perfect spot for a manufacturer's rep to show store personnel his latest equipment, and the perfect spot for company meetings to figure out that equipment, plan sales policy, et cetera. Simply because the studio is such a large investment of space, it can be useful in lots of ways.

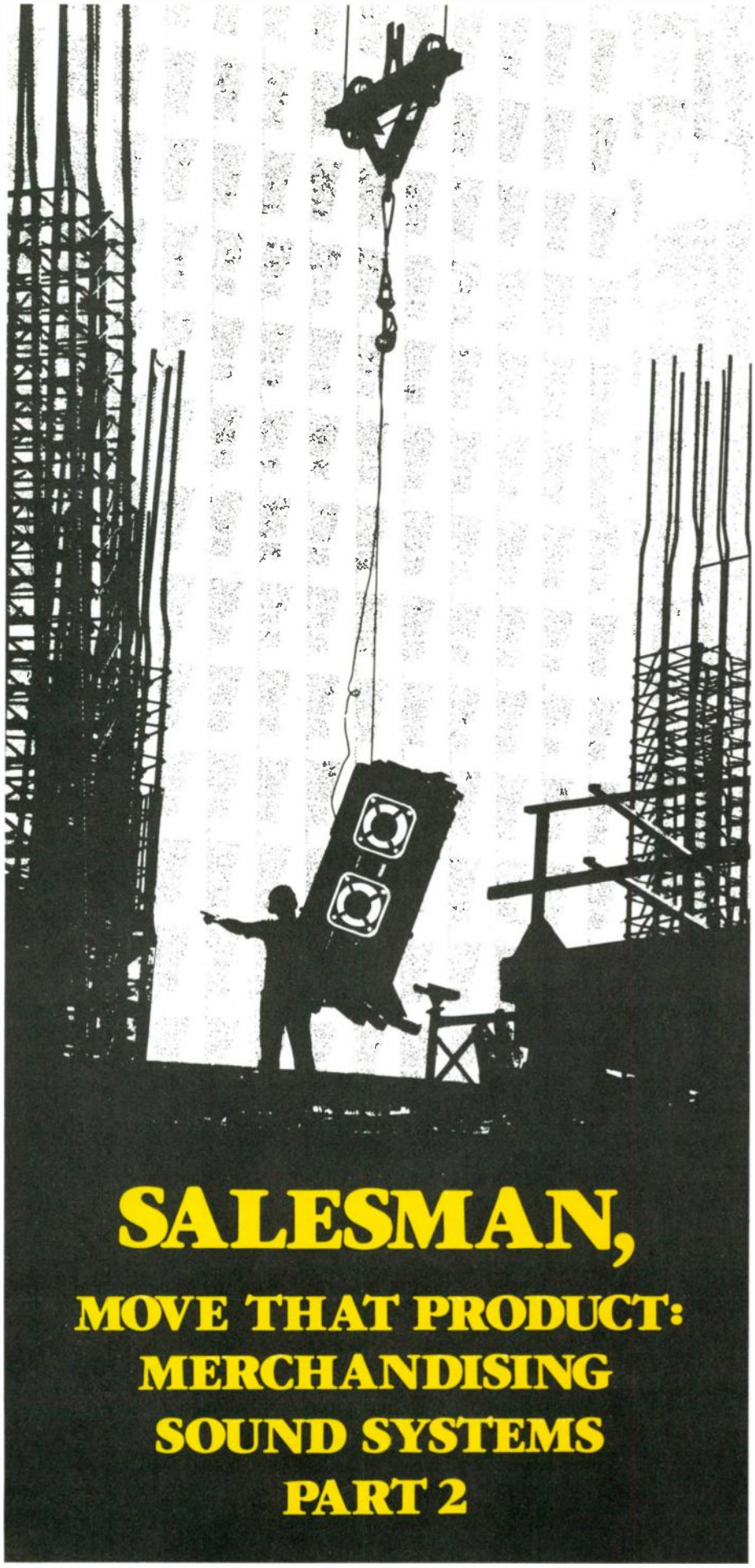
How much is this large investment of space? We've had to work in what turned out to be a pretty effective studio built out of only about a hundred-fifty square feet. Optimally, you could use a couple of thousand square feet of floor area. Your budget and location will decide, but here are more reasons not to stint if you've got the choice.

The studio can be used as a laboratory in a couple of ways immediately relevant to the retail store. Performance tests on new products can be run by store personnel, written up and kept in a public file. A reputation for honesty and attention to the consumers' needs is what insures repeat buying and high end buying, and publicly done lab reports publicize your staff's ability and integrity as little else can. There's no reason interested customers shouldn't join the staff in checking the new stuff out. The schedule for such tests can be advertised—within the store or in the window, if you don't wish to budget this highly—and public demonstration/testing of new products can be done in front of an audience, economizing on salemen's time and maximizing sales. (If your sales force is already in the habit of sending notes to repeat buyers or potential repeat buyers to publicize new equipment, so much the better. This system can work well as an invitation to group demonstration of new equipment in the studio.)

Inevitably, the studio can serve also as a clinic, on an organized level. Just as old Mom and Pop's music store used to give lessons on the side, the modern electronic instrument and electronic sound production dealer can—and is indeed in the best position to—do the same. This can be done for a fee, or for the less immediate profit that good public relations brings.

Low or no fees can be charged for recording demo tapes of small neighborhood performers, and the good will might work wonders for profits in the long run. However, with the wear and tear your equipment will get in all this studio work, these units won't be much good for profitable sales themselves. You can rent such equipment out to local semiprofessional producers. This writer has worked with two different stores that expanded in just this manner into large corporations. A sound studio on the premises helped create the opportunity for growth and expansion.

Equipment rental, location sales and setup to corporate clients is a huge business. But not everyone wants to change the emphasis of their business away from retail service. But if you care about quality retail service, a sound studio can become imperative as well as profitable. You can call in an on-location studio setup firm to design and build it all for you. Or, with a little self-reliance, a little less money, and perhaps a little help, you can do it all yourself.



SALESMAN,
MOVE THAT PRODUCT: MERCHANDISING SOUND SYSTEMS PART 2

By Bob Heil

It is easy for us to get lost in today's world of highly sophisticated sound equipment. Some of the setups and connections are enough to cause us to look the other way and hope we don't get involved, yet if you *are* involved, your sales can definitely get a big boost.

The cardinal rule is to *not* try to become super star engineers knowing all there is to know. We are *sales* people, trying to attain enough knowledge so that we can be aware of what really is happening. It has been successfully proven that sales can be increased just by having the *right* kind of equipment on your floor, so that most needs of your customers can be answered. Notice, we didn't say *brands*, we said *the right kind*. Many times, dealers sign up a big opening order contract just to get a name product, and after it arrives, it sits and sits, not moving or making any profit.

Select the products for your store. Learn enough to be able to select equipment that works together, is priced right and makes you a good profit margin. The best plan for you is to actually study the sound system evolution and try to understand what the goal is and how it is achieved with various system arrangements.

It would be well worth your time to go back in time, to see how the evolution process actually started and to try to understand how these massive systems actually came to pass, and why.

EVOLUTION

Since the early thirties we have had sound systems for voice reinforcement purposes. These systems worked fine for VFW halls, church basements, etc., as long as they were used for speech reinforcement. Until the sixties they were quite adequate for even some low level music reinforcement.

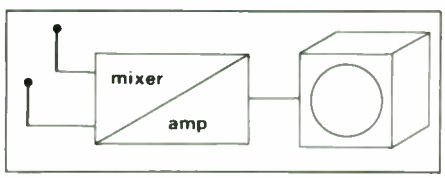
These simple systems usually consisted of a passive mixer capable of mixing up to four microphones into a single stage 20 watt amplifier, which drove one or two speakers. During the early sixties, popular music demanded increased volume, and the simple "speech only" sound systems weren't loud enough.

Musicians were doing anything to get systems to work for them, as time

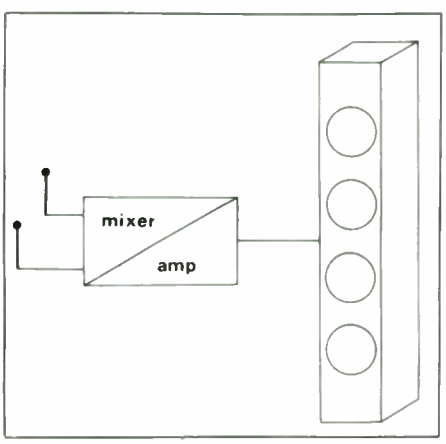
was against them. As usual, the manufacturers really didn't understand what the demand really was. Many systems that were put together didn't work much better than the "public address" speech systems.

A first stab at making the musicians happy was to use existing equipment with increased speaker efficiency. Back in the late twenties we had a similar situation—talkies came to the motion pictures! Electronics had only progressed to a 20 or 30 watt amplifier back then. Theaters had 20 watts to fill a 3,000 seat theater with *lots* of sound! Great technical moves were on with Bell Labs, RCA Labs and many engineers working on highly efficient speakers and enclosures. What they achieved with speaker enclosures was more than adequate. Sound pressure levels of over 110 dB were achieved with only 20 watt amplifiers!

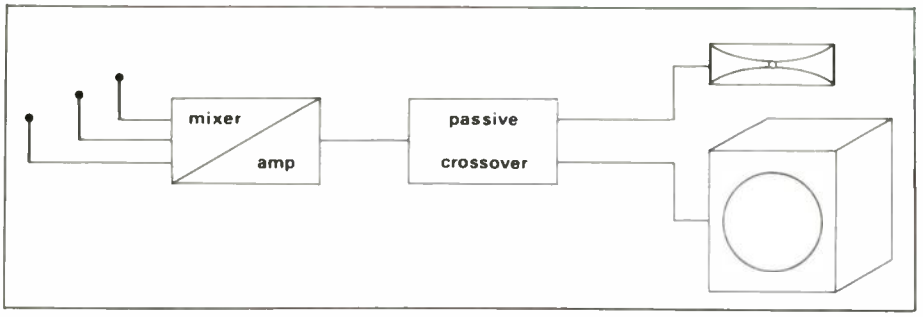
This same achievement in the sixties helped to get sound systems off and running. Since most of the mixer-amplifier combinations of the sixties were around 50 to 100 watt, coupling them with the very efficient speaker systems would give us the added volume needed. This, of course, was true—for awhile. Music kept getting louder and louder.



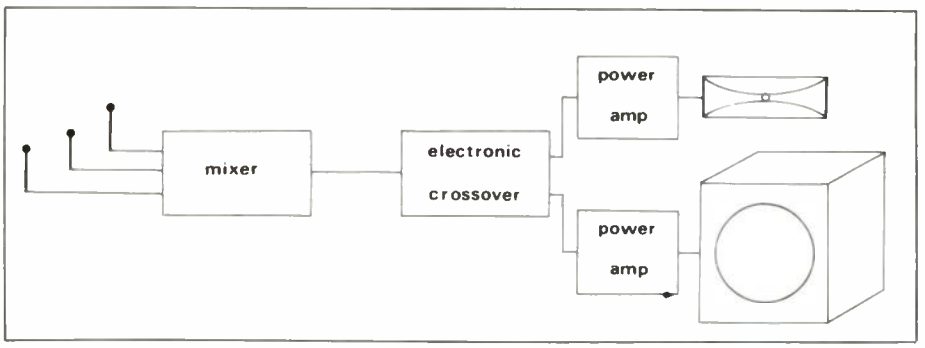
The basic beginning. A mixer-power amp driving a simple 12-inch open baffle speaker. Usually two speakers folded together with the amp inside for easy carrying. The system was strictly designed for speech. We created our own problems by trying to use them for music.



Hoping for more efficiency, the column array was added. It helped, but it didn't really answer our entire needs.



Trying for more efficiency, the two-way passive theater systems of the thirties were called upon. It seemed so easy to use existing gear and try to patch it together. Our losses were in interfacing, speaker efficiency, etc. and cost the musicians money.



A common state of the art system using efficient electronic crossover with two power amplifiers, one driving the high frequency horns, the other driving the bass system.

Many pioneers in the field of loud rock music worked very diligently to design a system to be used exclusively for rock music. Rock festivals demanded loud music to be fed acoustically to hundreds of thousands, concert halls were being jammed by tens of thousands, and we needed a type of sound system which would give us sufficient volume, as well as special effects, for the musical groups.

The late sixties saw great advances in this field. Using some equipment from the recording industry and the high fidelity world gave us a much closer feel of what we were trying to achieve earlier. It still didn't get us all the way home, but the groups could at least perform without too much distortion and at a volume level they desired.

The late sixties saw the birth of a new kind of equipment. It was state of the art in quality, but yet was geared especially for the touring musician. Some guitar amp manufacturers gave us their attempt, but it still didn't have the correct functions and most important, they neglected the packaging. Studio equipment was too fragile and too costly. Public address speech equipment lacked the functions and fidelity. We saw a new manufacturing industry for what was named "pro-sound." The biggest problem is that just about any piece of gear with a 19" front panel, on an extra heavy duty handle, gets tagged "pro" by some over enthusiastic marketing ad-man! Beware—not all gear so classified even could attempt the league!

As in any industry, new desires and needs bring with it new decisions and new problems. For the rock musicians, it brought the huge problem of transporting the tons of equipment it would take to properly fill the concert hall. This problem was multiplied by often tight schedules and sometimes physical impossibilities.

By properly packaging the equipment and designing systems that can be repaired on the spot as well as keeping the human element of easy operation foremost, the problems really can be conquered!

THE BASICS

We have seen "how" the equipment arrived on the scene, but we must understand what each piece does and does *not* do. Many of the manufacturers can be of help, but of course it is up to you to research each piece of equipment, hook it up and experiment with its capabilities—good, bad, or whatever. Learn what to expect from the equipment operation. Here is some very simple information with some guidelines.

MIXERS

Number of inputs: Determines number of microphones or programs sources you can use at once.

High, unbalanced: High impedance allows only short runs of microphone cable without signal loss.

Low, unbalanced: Low allows long cable runs without signal loss, but unbalanced can allow interference problems such as CB radios, neon lights, etc.

Low, balanced: Best of all. No signal loss. Protected from interference (CB radios, neon lights).

Variable input pad: Allows strong vocals to be adjusted for minimum distortion. Lowers gain of input stage.

Input overload indicator: Tells when too much input signal is present. Correct by lowering input pad level.

Number of equalization controls: 2-way (bass-treble), 3-way (bass-mid-treble); may have 4- or 5-way EQ sections.

Pan pot (stereo only): Allows panning of a particular mic to the left or right side of the system.

Equalization activity: Amount of effect the EQ presents. Standard is about plus 12 dB and minus 12 dB. More is better.

Echo send: A separate volume level not affecting the main house level. Used for driving reverb or echo.

Monitor send pre: A separate volume level feeding monitor systems. Main house volume does *not* affect the *Pre*.

Monitor send post: Same as monitor pre, but house volume *will* affect the monitor level. This is really not acceptable. Monitor pre send is what is needed.

EQUALIZERS

Number of frequency divisions: Usually one octave bands; ten bands or controls. Fewer bands are useful as tone controls. More are too difficult to adjust without test gear.

Type of controls: Rotary or slide (graphic type).

Adjustment range: ±12 dB is common. More would be better.

Signal-to-noise ratio: −60 dB is common but usually enters hiss into the system. −80 dB is better but costly.

ECHO UNITS

Type of delay: Most units still use magnetic tape or disc. New developments in digital delays are becoming popular.

Distortion factor: The most important factor is that the recovered program comes back *without* distortion or tonal changes.

Control ease: Some echo devices are very difficult to connect and operate properly.

ELECTRONIC CROSSOVER

Number of filter sections: Two-way filters allow one crossover point. Three-way allows two points, and four-way allows three crossover points.

Filter slopes: Rate of filter roll-off. −12 dB per octave is usually standard. Any less doesn't allow enough control. More doesn't sound natural.

Frequency of crossover points: Standards are 800 Hz for two-way. 800 Hz and 7 kHz for three-way and 250, 800, and 7k for four-way.

Variable or fixed frequency filters: Fixed frequency filters are very easy to set up and operate. Variable frequency filters are difficult for the average person to adjust and operate, but do solve some systems' problems if properly used.

POWER AMPLIFIERS

Number of output channels: Not to be confused with simple output jacks on one amp. Here we look for two separate amps in one case—dual channel or stereo amplifiers. You get much more amp, per dollar, this way.

Actual RMS continuous power output: Can be *very* misleading. Compare amps rated with FTC ratings: 8 ohm loads, @ .1% distortion 20-20 kHz, for one hour. Be certain ratings compared are into the same load; all 8 ohm, all 4 ohm, etc.

Input characteristics: Some amps are set up for balanced or unbalanced. Some need transformers, which add to the cost. Some are not capable of balanced line without extensive rewiring.

Sensitivity controls: Make sure controls vary only the sensitivity of the input level. With control wide open, it should take 1 volt input to achieve maximum power output. With control half closed, it may take up to 4 volts to get full power output.

Type of construction: Some amplifiers are sold complete with case, fan, etc. Others are standard 19″ rack mountable. Some are strictly meant to be set on a shelf. Some are constructed so that entire output sections can be interchanged quickly, should technical problems arise.

Protection capabilities: The ideal is an amplifier that can withstand total shorts without failing; input could be connected to output with no harm. Some amps have DC protection; many have no protective circuitry.

We could write an entire book which would outline the ideal characteristics for choosing equipment. The best equipment for you to select is the equipment which *you* understand and can operate. It becomes very important that you learn each piece of equipment's limitations and characteristics. Most important is that the gear can be sold and make a nice profit as well as keep your customers happy and returning to your store for more advice and sales.

CORRECT CONNECTIONS

After you have selected the varying pieces of equipment, it is vital that the correct connections are made so nothing gets overloaded or mismatched.

Here's a simple basic chart covering the majority of the connections used with today's systems. *All* of the power amplifiers are dual channel or "stereo," so if you specify single channel or "mono" amplifiers, you will need two of them to give you the proper number of output program channels.

A common misconception is to use dual channel amplifiers for more power, when actually, we are using them for the necessary output channels. In the stereo two-way electronic crossover system, we need four output channels (five or more, if we add a monitor system). So the biggest, most powerful power amplifier for that system will not necessarily work.

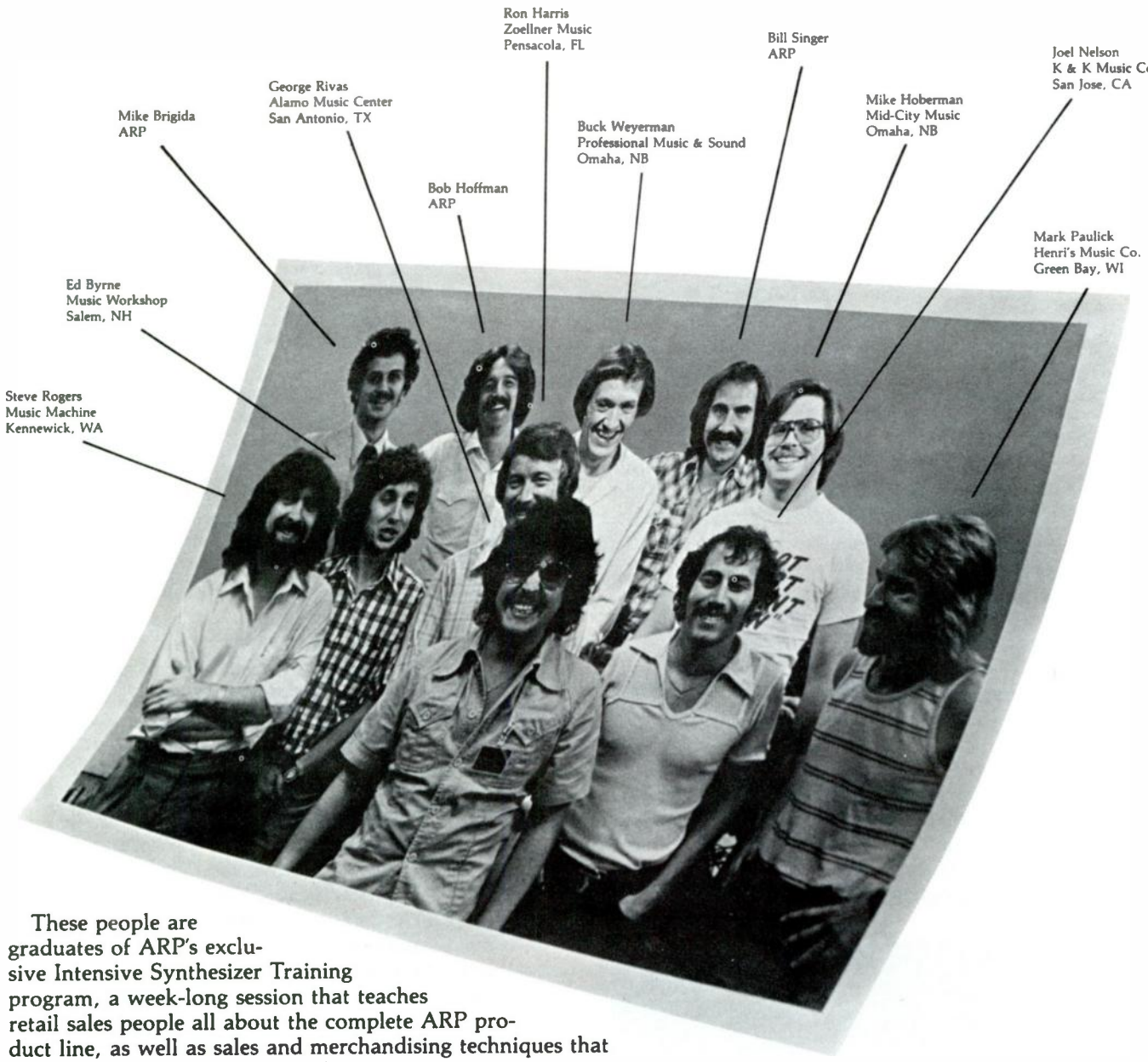
SPL NOT POWER OUTPUT

We are interested in one thing—how loud is the system, *not* how much power is in the system. You could sell the band a system using huge power amplifiers; however, if the system is not loud enough, it will not satisfy their needs.

Some systems are horribly inefficient, requiring many hundreds of watts to produce 120 dB at 10 feet in front of the speakers; whereas other highly efficient speakers and enclosures can produce 120 dB at 10 feet with less than 100 watts of power!

Become aware of these facts. Experiment with the equipment you sell. Stay very alert for new additions or methods of connecting and adding to the system. We aren't trying to become electrical engineers, just trying to become very familiar with the products we sell so that our customers will return and look to your store for their audio needs.

A profit picture by ARP.



These people are graduates of ARP's exclusive Intensive Synthesizer Training program, a week-long session that teaches retail sales people all about the complete ARP product line, as well as sales and merchandising techniques that result in immediate profits for their respective stores.

ARP Intensive Synthesizer Training. Just one more way ARP can improve *your* profit picture.

ARP. It's the sound. And a whole lot more.

Selected dealerships available.
Contact: National Sales Manager,
ARP Instruments, Inc.
45 Hartwell Avenue,
Lexington, MA 02173
(617) 861-6000

CIRCLE 78 ON READER SERVICE CARD

The SOUND SH

There has never been any question, at least in my mind, about the quality of BGW amplifiers. Having owned and used them myself, and having sold many of them to customers who were completely satisfied, I feel safe in saying that they are just plain good—outstanding, in fact. Likewise, I felt that the price one pays for a BGW is reflective of the guaranteed quality: high, but worth it.

Now we have the option of buying the new BGW Model 600, an amp that BGW calls "the first in a series of economical, basic power amplifiers from BGW."

BGW designers aren't out to eliminate the basic features of the existing line, but rather to eliminate some of the appearance and convenience features that aren't really essential. The Model 600 still has a high-speed 15 mHz op-amp front end and redundant output stages that utilize ten 150-watt complementary transistors each. Also, the modular design with massive heat-sink assemblies is retained.

The Model 600 has a continuous 175 watts of power per side with a THD of no more than 0.1% (at 8 ohms, 20 Hz-20 kHz). Take it down to 4 ohms and you get 250 watts per side with no more than 0.15% THD. In the mono mode, the Model 600 delivers 500 watts of power (0.15% THD, 20 Hz-20 kHz, 250 milliwatts to rated output).

Independent front panel gain controls, separate signal and chassis grounds, and loss-of-feedback clipping indicators are all retained as on the earlier models.

So, with a few of the frills trimmed off, the Model 600 should maintain the integrity of the BGW line and at the same time offer the consumer a better buy for his hard-earned bucks. I'm sure that musicians in the field are hoping that this trend will continue throughout the industry.

CIRCLE 1 ON READER SERVICE CARD

The Schaffer-Vega Diversity System has long been recognized as the industry standard when it comes to wireless guitar and vocal systems. Over 200 top-name groups (whose names need not be dropped here) are currently using such systems, and anyone who has ever been to a concert and seen the SVDS in use knows its value. Anytime you can suspend your bass player from the coliseum ceiling while he takes a solo, you can rest assured that the audience will be captivated!

However, the big problem for the "average consumer" has been the prohibitive cost of the SVDS ($3,450). Other lower-cost wireless units are available from several manufacturers and have achieved some measure of popularity. Now we have the new B&T Wireless from the **Ken Schaffer Group.**

By the Schaffer Group's standards, the B&T system is a low-cost alternative, with a price tag of only $2,150. The performance of the B&T is said to be identical to that of the more expensive system with one exception: In order to avoid "dead spots" in the wireless system, some care must be taken to place the antenna properly to get an optimum performance. Other features such as signal-to-noise ratio (better than 90 dB), crystal-controlled stability, and interference-proof performance are common to both systems.

Schaffer notes that their SVDS is a true "diversity" system, since it employs two receivers to prevent "drop-outs," whereas

OPPE

By Charlie Lawing

other systems use only two antennas. However, the B&T system can be upgraded to a full "diversity" system with the additional purchase of another receiver.

Whether a dealer can sell such systems depends on that individual dealer's clientele, but one thing is certain: Any dealer who goes to the trouble of setting up such a system in the store can be assured of a great promotional tool. As an eye-opener, the wireless is the hottest thing since Little Egypt!

CIRCLE 2 ON READER SERVICE CARD

Nakamichi has a new cassette deck on the market that will do everything but make your morning coffee and fetch the newspaper! Unless you have customers in your area who would sell their immortal souls for an extra dB of frequency response, you needn't read any further!

The Nakamichi 680 is a two-speed cassette deck (I'll have to admit, I don't know of another one that runs at 15/16 ips!), which is loaded with other features as well.

The normal speed of the 680 is 1-7/8 ips, and it will operate at half-speed, thereby stretching the recording time of a standard C-90 cassette to three hours.

Naturally, the first question that comes to mind is the fidelity of the recording at half-speed. After all, with the tape crawling along at a snail's pace, aren't those little electrons going to be as crowded as the Santa Monica freeway on a Monday morning?

Not so, says Nakamichi, because the 680 has some "highly advanced" magnetic heads. The 680 claims a frequency response of up to 30 kHz at 1-7/8 ips! This remarkable achievement, which means that all the dogs in the city pound will be able to hear music from three miles away, is accomplished through the use of a micro-precision Crystalloy playback head which has a 0.6 micron gap. In addition, the record and erase heads are compatible

with the new metal-tape format.

Another space-age feature of the 680 is a thing called RAMM (Random Access Music Memory). A built-in microprocessor can be activated in the cueing mode which will automatically search out and cue up the selection of your choice on a tape. All you have to do is indicate the number of silent spots on the tape (periods between songs) before a certain song, and the RAMM circuit will cue it up. Shazam! And it works in either forward or reverse modes, too.

CIRCLE 4 ON READER SERVICE CARD

The CT-3 Microphone Cable Tester by **Altair Corporation** is six inches long, ¾ inch in diameter, made from epoxy fiberglass, weighs four ounces, and is equipped with a pocket clip. The CT-3 has an XLR-type connector in each end and is switched on by pushing in on the cable's female connector. All three of the cable's conductors are tested simultaneously and continuously. The CT-3 checks for "all the common wiring faults": shorts, open circuits and cross wiring (including reverse phase). The CT-3-½ Remote Testing Accessory allows a mic cable to be tested without bringing its ends together, thus allowing permanent wiring or a snake cable to be tested after setup. The CT-3 is powered by a mercury battery.

CIRCLE 5 ON READER SERVICE CARD

The Phase Checker set, by **Sounder Electronics**, consists of two separate units—the Pulse Generator for exciting the system, and the Phase Detector which determines the polarity of the component or system connected to its input. The Pulse Generator is comprised of a circuit which creates an electronic pulse, and an amplitude control in conjunction with a mic/line level output switch, allowing it to be plugged into any system at any point. It also has an enclosed speaker for phasing microphones. The output of the pulse generator can drive speakers directly without an amp (up to 17 volts into 4 ohms).

The Phase Detector determines the phase polarity (or "acoustic pressure field" polarity) through its own internal microphone or external connectors, and lights either a green or red L.E.D. to indicate normal or reverse phase. Phono, phone and cannon jacks, a three-position input select switch, and a sensitivity control allow direct input at either mic or line level, balanced or unbalanced. The units can also indentify "unusual" pressure variations (acoustic "dents") around dead speakers. Both the Generator and Detector use standard 9 volt batteries. Price is $495.

CIRCLE 6 ON READER SERVICE CARD

An already super-efficient speaker has been given the "hot-rod" treatment by its manufacturers, resulting in something that even the most destructive rock musicians will have trouble tearing up.

The **Cetec Gauss** company recently announced that they have been able to double the output of their loudspeakers. Hey, that's great, but the best thing is that the price stays the same. Now that's what you call an innovation!

All 12″, 15″, and 18″ loudspeakers have

been upgraded to handle twice the power in RMS watts of the existing units. For lead guitar speakers (12″), the new power rating is 300 watts RMS, and for the bass and low frequency units (15″ and 18″), the new rating is 400 watts RMS.

In order to achieve this wondrous feat, the engineers at Gauss came up with some modifications in their existing design. In the new speakers, the voice coil is wound directly on the voice coil support for improved voice coil roundness and uniformity. The ceramic magnet in the new speakers weighs in at 4.75 lbs., and the entire magnet assembly weighs 20 lbs.

The dissipation of the extra heat generated by the increased power is achieved in several ways. First of all, the engineers used anodized aluminum for the voice coil support, to help absorb some of the heat. Also, additional "breathing holes" were put in the voice coil support to assist in convection cooling the voice coil. Another heat dissipation device is the magnet assembly, a specially designed cast bottom plate and die-cast finned aluminum structure that provides additional area for heat to escape from the speaker.

The second best thing about this new design (The first is the absence of a price increase!) is that the speakers retain the same outward appearance and design that older speakers had. Overall height and weight is the same, and the factory recone kits will work with the new speakers.

CIRCLE 7 ON READER SERVICE CARD

As I have said before, the trend among musicians, both on the road and in the studio, is toward the smaller amplifiers. As music has grown up in the last decade (at least in technical areas, if not in musical content), musicians have realized that they don't necessarily

need the big stacks of amps that were once prerequisite to a concert appearance in even the smallest of halls.

Nowadays the guys on the trail to glory and the Grammy Awards understand the necessity of a professional quality sound system and a person who can operate the system. Musicians today would rather spend their money on new components for their sound system, but on the other hand, guitar and bass players don't want to give up the sounds that are indigenous to what has come to be known as "rock guitar."

Thus we have seen a number of things taking place in the industry which are aimed at fulfulling the needs of the musician who is tired (for whatever reason) of lugging a huge amp around. Several companies that manufacture pedal-type effects have come up with electronic signal-processing devices that offer the player the "classic sound of tubes," and so forth; more and more mid-sized and pint-sized amps have been introduced, replete with features such as "overdrive" and "master volume" which purportedly provide the big amp sound, and a vast array of replacement pickups has flooded the market, all waving the banners of "increased output, greater sustain, hotter solos, and a place in the charts," on and on ad infinitum.

So it was with some measure of skepticism that I viewed the introduction of yet another munchkin-sized amplifier, this one from **Roland**, but I have to admit that the Cube-60 is as good a small amp as I've ever seen. It is not too small to be used on a live date (I mean, it's not one of these things you can carry in your coat pocket), yet it is small enough to be considered a real compact.

The Cube-60 has one 12" speaker and packs a 60 watts RMS punch. It has two input jacks, three-way EQ, overdrive, pre-amp in, main out, external speaker jack, headphone jack and reverb.

You can use the Cube-60 by itself, in which case it can hold its own with similarly-powered amps of much bigger size, or you can use it to pre-amp another cabinet. In the latter case, the Cube-60 really comes on strong with a good, crunching rock guitar sound. It has better tone controls than most any small amp, and a wide variety of sounds is available. Reverb is still a useful feature for a lot of musicians whose musical tastes are not dictated by what they hear on the radio.

Best of all, the Cube-60 is priced within reach of the average working musician. However, at first glance the customer may not realize how versatile and how powerful the Cube-60 really is, so I would advise that if you put one on display, keep it ready to rock and have a good guitar player demonstrate it. Then the customer will see what the Cube-60 has to offer.

CIRCLE 8 ON READER SERVICE CARD

Those of you in the disco market these days will want to know about a device made by **Polyfusion, Inc.** The Model QP-4 Quadraphonic Panner is capable of creating a "moving sound" effect that should be a delight to disco crowds everywhere. All four channels of a quadraphonic signal can be shifted in straight lines, patterns or circles. This wondrous feat can be done either manually with a joystick (standard equipment on the QP-4) or automatically. In the automatic mode, both the panning speed and the depth can be controlled remotely. The unit is

particularly well-suited to the disco environment because it has a frequency response of 30 Hz-28 kHz. Pan speed range is from .015 to 6.0 revolutions per second. The QP-4 will accept a signal level of up to +15 dBm, so even the most aggressive disco deejay should have trouble trashing it. Rack mountable, limited one year warranty.

CIRCLE 9 ON READER SERVICE CARD

By N.I. Weinstock

DEALER DOSSIER

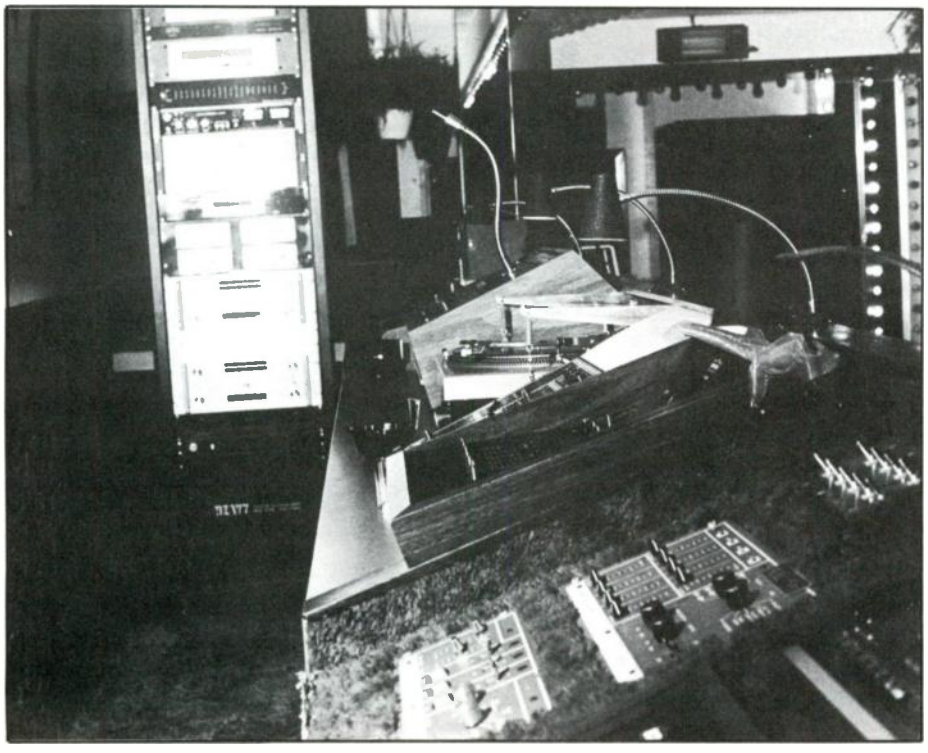
Heavy Custom Sound Brooklyn, New York

Heavy Custom Sound and Light is a four-year-old business that's sinking its teeth into a big and growing market. They call themselves the country's only total disco supply store. Located in Brooklyn, New York, president Rick Coscia began the company upon getting out of the service, and Gene Scuteri has been with him all the way as chief engineer. Now the company has about 15 employees, distribution rights to the products of 43 companies, a well thought out marketing system, and rigorous quality control. Rick and Gene demonstrated for us a huge array of audio equipment and lighting effects in their club-like showroom, then answered a few questions.

How did Heavy Custom Sound and Light get started?

Rick: Years ago, I was a disc jockey in a club. I've always been interested in electronics. I went to Bell and Howell's school, I did a lot of radio repair in the service, the army. And I've always wanted to be in my own business. When discos got very big, I tried playing around at being a disc jockey, and did very well at it. Having an electronics background, and several friends with similar backgrounds, we decided to open up the first disco store in the country, which is what we are. Over the years, with people saying disco was never going to last, all of that, we stuck with what we are, till we've reached this size.

This used to be a bowling alley and pool hall. So now we set up our own cabinets, and whatnot, in the back. We also have a lot of mail order business, as you can see from our catalog.



Now the other stores that wouldn't carry this stuff see all the discos around, and they're all trying to jump on the bandwagon and make some extra money. I don't like how it's being done at some of the stores that are selling it. They're discounting and saturating the market with so much garbage . . . But we handle just top name, professional products, and nothing else.

Let's talk a bit about your layout.

Rick: We'd been after this size building for some time. As you'll notice, we're below ground, in an office building. Reason number one for this is security. We're surrounded by solid concrete. There are no windows on this level. There are only two ways to come in the building. We have a sophisticated alarm system that Gene designed for the place, which is practically undetectable. There's closed circuit in here, monitoring everything. We have attack dogs that aren't here right now because of your presence.

Have you ever been robbed?

Rick: No. But I don't believe in installing an alarm system after you've been held up twice.

The second reason for placing the store below ground is that we don't need the kind of baby carriage, walk-in business that wants to just see how much this is, and have the store cluttered. Because we don't cater to that.

Do you have a lot of neighborhood kids coming in to have a look?

Rick: They hardly even know we're here. Our ads go into only a few magazines. If you're into photography you'd buy a photography magazine; if you're into disco, there are just a few that the mobile disc jockeys, et cetera, read. So we cater to club owners by

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As our featured cassette this fall, TDK D offers co-op and promotional opportunities unprecedented in the history of premium cassette merchandising. Tie-in with TDK advertising and take advantage of special promotions including TDK D in multi-packs. Remember, with hardware sales slowing down, tape has never been a more important profit-center. And economical TDK D has never been a more attractive value. Your customers recognize TDK quality, and the D cassette delivers it consistently. Watch for Stevie Wonder and TDK D this fall. Millions will.

TDK

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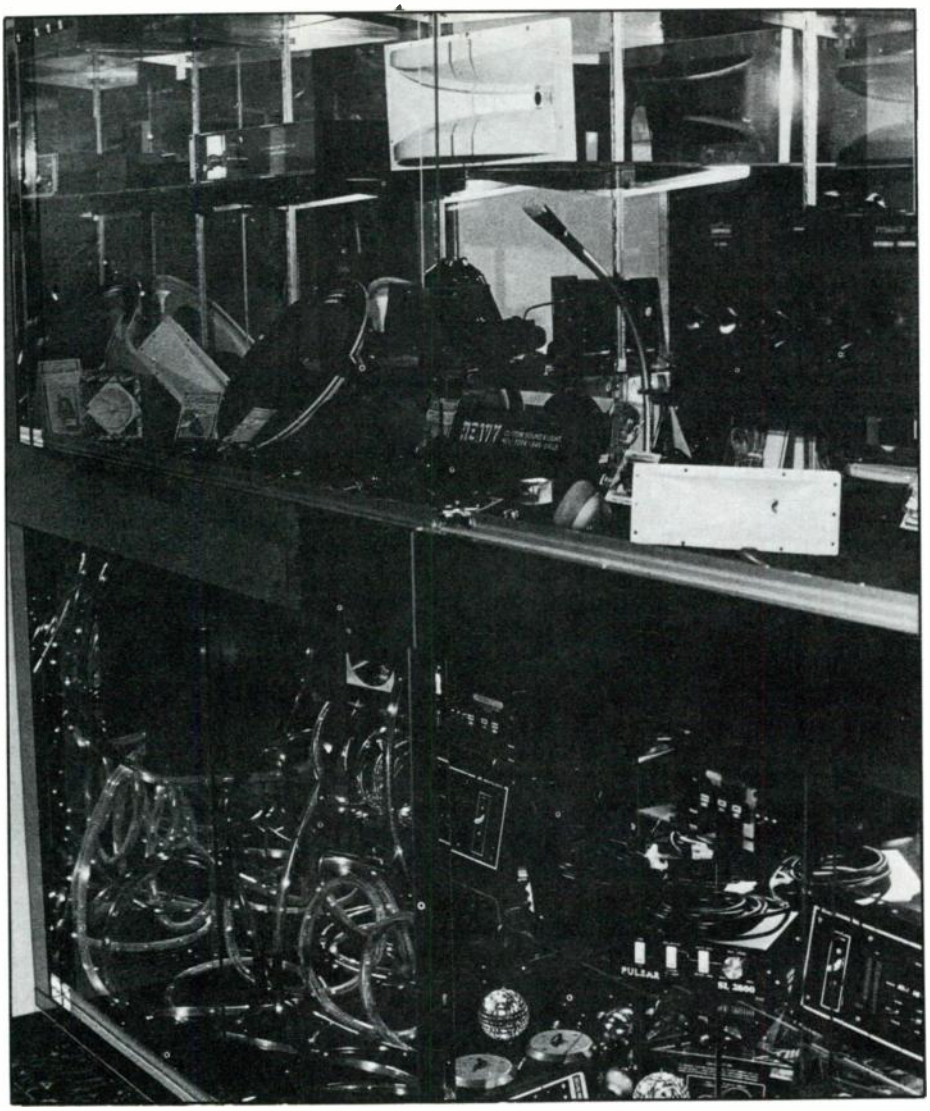

appointment all day long. Whatever we sell, we completely install. Whether it be sound, lighting, or anything for a disco at all. We're now redesigning a sound and lighting system for a club here in Brooklyn that holds eleven hundred people a night.

Do you mostly design new clubs starting out, or redesign old ones?

Gene: We prefer to do new clubs from the start. Because one thing I don't like is going into something designed by someone who didn't know what he was doing, designed incorrectly. And a club owner doesn't understand. He thinks this stuff has worked for so long, why can't we use this—and he pulls an old speaker out of a closet, covered with dust.

Rick: Most club owners are not knowledgeable. In fact I had an argument with one the other day. He went to another store, a discount store, and got a price for a sound system. Now our price was double what this other store would charge him. Yes, we said, it's a lot of money when you put it on the table, but understand the amount of equipment, and the value for your dollar. Is he giving you X amount of speakers, are they capable of handling this size place? There's so much involved in it. Each sound system is designed for that particular club. The average club owner who says, "He's cheaper, so I'll go with him," winds up becoming an average club, that dies within a year. The success of a club is directly related now to its sound system. People don't come there to drink anymore. They go there to dance.

We do a lot of teen discos. And I had one club owner in the other day. He picked out the cheapest pair of speakers and said, "They'll never know the difference." But these kids are not stupid. They know exactly what they're getting, and they know better than a lot of adults that go to clubs. They're more involved than anyone else. So, when you get someone that talks like that, you know they're just in it for quick money. We're here to make a living, but we're also concerned. We'll sell you another piece of equipment, or take something off, and give you the right product, rather than just sell it to make a sale. None of my people work on a commission basis. I do not like forcing a cutthroat sale on anybody. I don't like being pressured when I go into a store. Let's face it, ninety-nine percent of the people that walk down to this store come here to buy something. They don't come in to look around; they don't come in and say, "Let's see what you have," because they don't hear of us till they're involved.

Normally we'd think of that kind of dedicated customer being peculiar to a discount store.

Rick: Well, how have they decided? They've seen it in an ad or at another club and fallen in love with it, and it's in their budget. We have exclusives on Showco products for the New York area. Other than that, we keep it on a JBL, Gauss, and Altec level. We're also the totally franchised dealer for Media Light and Sound products. We carry everything of quality. American Acoustic, in Chicago . . . the complete franchised setup. We can open other dealers. I carry forty-three different companies. For a small company we carry quite a bit of product. A lot of it cannot be displayed, for cost reasons as well as time and space. As you glance through our catalog you'll get an understanding.

You say you don't put salesmen on commission. How do you find competent salesmen?

Rick: It's not easy. A lot of the people that work here have been friends over the years. Some may be related, and we pay them nice money in order for them to stay. The biggest problem with me is I don't like anyone that steals from me. A lot of that goes on nowadays in this business. I will not tolerate it, in any way—whether it's a bulb or a piece of wire. Ask me, and you can have it. I feel very confident with the help that I have. I trust them, and that's more important to me than having someone who is very knowledgeable as a salesman. Because I don't want them to be salesmen. I want them to present the facts, and let the product sell itself.

Gene: You see, when we get sales personnel that work on a commission basis, that's how they have to make

fact: the "Shure Sound" can help you make it!

Take it from Professionals Who Wouldn't Settle for Less

From rock to country, jazz to rhythm and blues, pop to gospel, professional entertainers are finding a Shure microphone that perfectly complements their way of making music. Performers from every corner of the musical world are adding their special sound to the list of great "Shure sounds." And, the Shure mike is giving them everything they put into it.

When the Rolling Stones go on tour, the stage becomes a dramatic scene, filled with equipment, musicians, singing, and strutting. Above all, there is the presence of a superstar, a professional performer who knows exactly how to get his special sound across to the audience: the dynamic Mick Jagger, who does it with a Shure microphone.

Eddie Rabbitt uses Shure for a country performance that's second to none.

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And Shure microphones are a critical part of the sensational, sensual performances of Marilyn McCoo and Billy Davis, Jr.

Take a lesson from each of these performers and hear what the sound of the professionals can do for *your* act. If you have questions about which Shure microphone is best for your specialty, ask your dealer, or call the professional microphone specialist at Shure.

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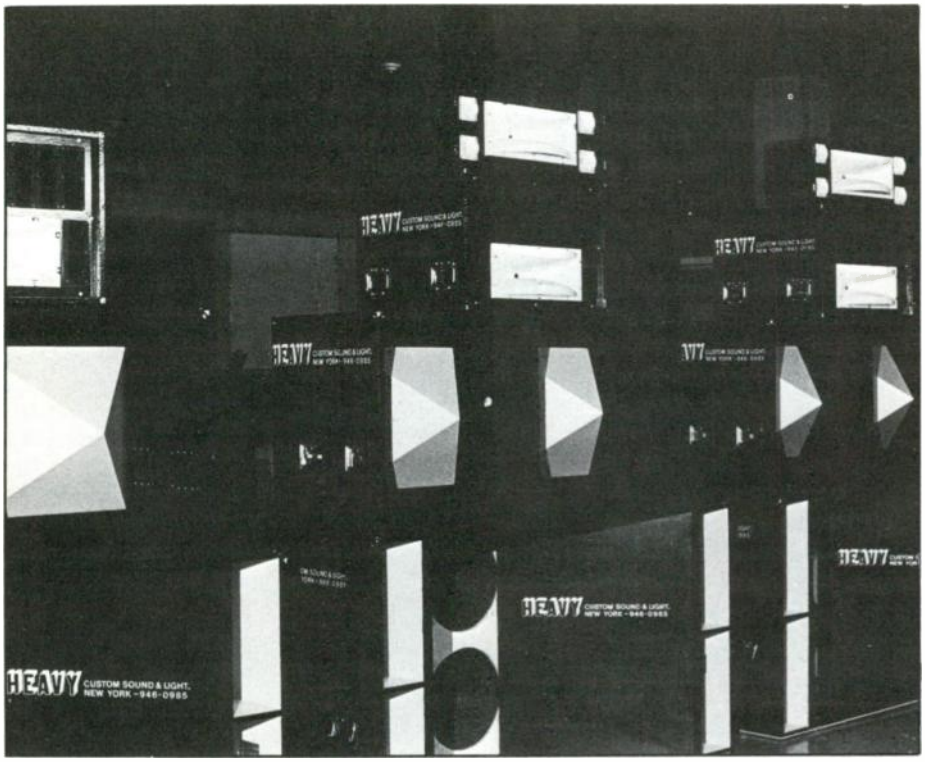
Manufacturers of high fidelity components, microphones, sound systems and related circuitry.

CIRCLE 66 ON READER SERVICE CARD

WRH



their living. And they will not take into consideration where we want the hooks to be. They're more interested in making the sale. We have an established reputation, and a certain repertoire we'd like to keep on a commission basis.

You must do a lot of out-of-store sales, as well as location planning.

Gene: Yes. We make a lot of trips out to clubs—even clubs that we don't get. It's better than having a salesman. Salesmen never really get under them like an engineer. The salesman goes out there, he'll know a little bit about the product. If the customer knows more, it makes us look bad.

Rick: We have two guys that go out and visit clubs, and tell them about our business. They work on a commission basis, because they're out on the road all the time. They go into the clubs, give the owner the knowledge that the store is in existence. But when the customers come down here they still make their own decisions. And we give the two salesmen a percentage of the sale they have made.

Gene: But they don't really know what they've sold, because we're designing the system. They get the customer in touch with us, and we'll do all the technical aspects of it.

Rick: You'd be surprised how many geniuses there are out there, that always want to challenge you. And sometimes we can get stumped. We get many wise guys who think they know everything, and they say, "This speaker's no good," because they haven't seen it flashed in front of them in advertisements. You know, there are a lot of products on the market, that just because of the name brand, have to be good. Well, we've run some tests on equipment, and it's not as good as they claim.

Are tests done on all products you sell?

Gene: Well, we'd only sell products that meet our approval. We do tests for reliability, general construction; you can tell when an amp has a lot of effort in its design engineering, or when it's been put together very cheaply. Now, every time I turn around I see a new amplifier on the market.

Rick: Then I do my kind of test, which consists of hooking it up, and trying to blow it up. And we have got permission from all the lines we carry; look, before we take the line on, we want to test this amplifier.

Gene: What he likes to do is hook up the amp to our switching panel, and put it into twelve speakers . . .

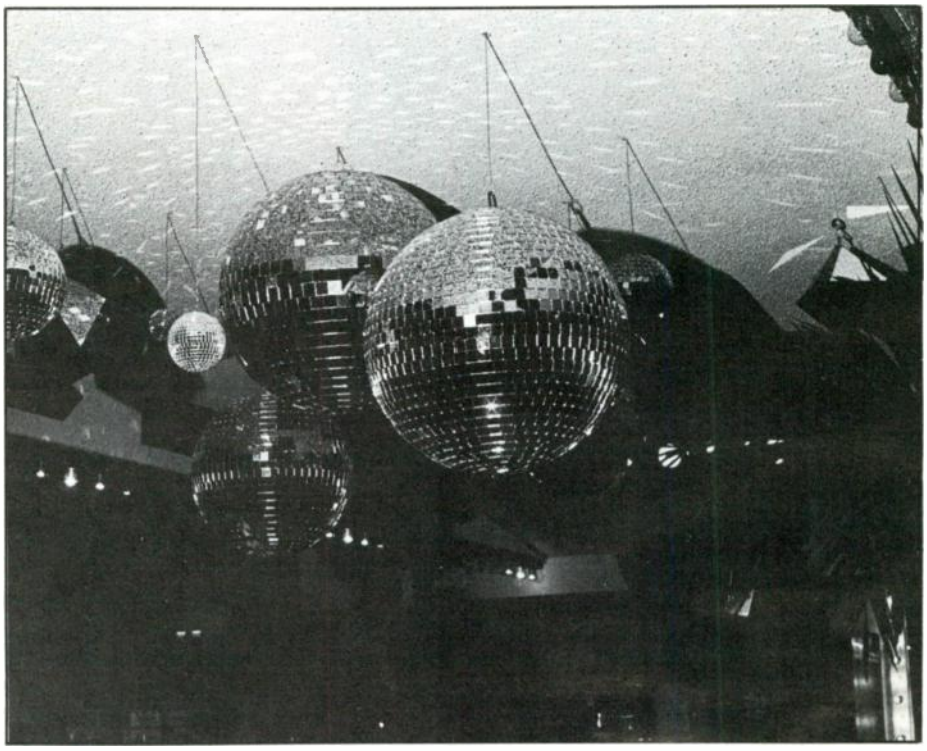
Rick: And if the amp stands up to that peak volume for an hour, it's got to be good. We have burnt many amplifiers. We've seen them fry right in front of the salesman.

Do your neighbors like you less or more than the bowling alley?

Rick: It's not really so bad, because in the course of the day you may have ten appointments with ten club owners, and no club owner wants to listen to that for more than five minutes. We do all our own testing at night. We've been here four years now, and no one's ever really complained.

Gene: I don't think they actually hear it; they feel the building shake.

Rick: The shoe store on the next corner had shoes falling off the rack, and the candy store down the street had nuts rolling over the floor.



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The dbx 208 tape noise reduction system is a new product that will impress both your engineering staff and your accountant. The 208 features 8 channels of simultaneous noise reduction on plug-in modules, plus a spare, all in a compact 5¼" rack mount package.

dbx noise reduction is rapidly becoming the new industry standard because it provides 30 dB noise reduction and 10 dB headroom improvement, from 20 Hz to 20 kHz, without the problems of other systems. The dbx system does not require critical and time-consuming level-match adjustments. Its true RMS detectors are not sensitive to tape recorder phase shift. Its voltage-controlled amplifiers (VCAs) operate over a 100 dB range. Overall the dbx system provides a level of performance and a simplicity of operation that is unsurpassed.

But the 208 is also a great value. It is priced at $3300. That's $6600 for your 16-track and $9900 for your 24-track.* And no matter how complex the future becomes, the 208 system expands simply and economically.

The dbx 208. The easy solution to your noise problems, today and in the future.

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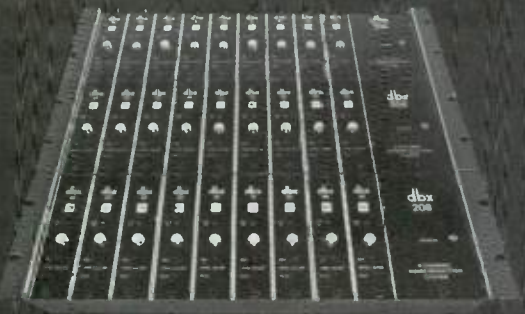
Making Good Sound Better



*Nationally advertised value. Actual prices are set by dbx dealers.

Customers have come running down, saying, "We thought there was an earthquake in the building!" I guess we do run them quite loud. But to show our appreciation—every year they have an annual block party here, and we bring out our huge sound system. And last year we had about ten thousand people, we closed down the street and had a party.

Gene: We had nerf ball cannons, snow machines—for outdoor installations it was unsurpassed.

Rick: We've formed another company now, called "On the Move Systems," and we're the largest disco concert people now. We rent out sound and lighting, to handle at least eight or ten thousand people. Rock concerts are big, but disco concerts are getting even bigger, because everybody's participating. It's not like you're sitting around looking for what you can destroy. No one's thoughts are into doing something nasty.

Gene: We've done a lot of these outdoor disco concerts, and I've never seen any trouble. All everyone wants to do is dance.

Where does your market come from, mostly from the Brooklyn area?

Rick: No, I would say seventy-five percent from the New York area, with a lot in the suburbs. The other twenty-five percent from all over the country. Of all of it I'd say maybe twenty-five percent goes to mobile deejays. Only two percent goes to home installations, and these are not your normal home setups.

Do you find any problems peculiar to this area?

Rick: The only thing I see is that a lot of people are lured into certain name brands because of advertisement. I wish more people would come down and ask, "What do you feel is the best equipment for my money?"

Gene: Everything is disco now, just slap a name on it and watch it sell.

Rick: Disco jeans, disco shoes, disco sweaters. There's a lot of garbage. What you get with our custom design is something that's right for your own setup.

What do you think of the state of the market?

Rick: It hasn't even reached its peak in disco. I've noticed that we're doubling every year. And there's always going to be a need for sound, whether they are called discos, bars, lounges, meeting places. Everything's getting so sophisticated . . . So, it's always going to be there.

PORTABLE PRO POWER

The Peavey International Series offers you many of the features of the best of the big sound reinforcement systems, without putting a strain on your backbone.

The 112, 115, and 118 International all utilize a premium Peavey Black Widow® speaker in a ported, direct radiating, low end enclosure, with a Peavey Model 22A Driver coupled to a Peavey CH series horn for the high end. This adds up to high efficiency, superb response, and a walloping 300 Watts of power handling capability. Impressive.

Traditionally, smaller sound systems have been characterized by narrow bandwidth and low efficiency, requiring lots of headroom-robbing equalization for passable response. But we're changing all of that. Because we want you to sound your very best...while we're sounding our very best.

THE PRO SOUND SERIES

PEAVEY

PEAVEY ELECTRONICS CORP.
711 A Street/Meridian, MS. 39301

CIRCLE 91 ON READER SERVICE CARD

INDUSTRY UPDATE

Beatrice Foods Co. has signed a letter of intent to sell James B. Lansing Sound, Inc. and several overseas distribution units of Harman International Industries to **Dr. Sidney Harman** and a group of associates. Dr. Harman, of course, is the founder of Harman International, which was purchased by Beatrice in August 1977. Terms of the transaction were not announced.

Sid Silver has been appointed Public Relations and Show Manager, Technics. Silver joined Panasonic in 1972 as Sales Promotion Coordinator and most recently served as Merchandising Coordinator.

Paul Foschino has been appointed Assistant National Sales Manager, Technics Tape Recorders. Foschino was previously with Sam Goody, Inc.

Richard Del Guidice has been appointed Assistant National Sales Manager, Electronics and Speakers, Technics. Del Guidice has been with Panasonic since 1977; prior to that he was with Sam Goody, Inc.

Kenneth R. Wipler has been appointed Assistant National Sales Manager, Technics Turntables. He was previously with the Harvey Group.

Margaretha E. Bystrom has joined the Magnetic Tape Division at Fuji Photo Film U.S.A., Inc. as Advertising Manager. She was previously Advertising Manager at Sony Industries. In the newly created post at Fuji, she is in charge of advertising, public relations and promotion for the firm's audio and video tape.

J. D'Addario & Co., Inc. has moved its headquarters into expanded facilities in East Farmingdale, New York. The manufacturer of acoustic and electric strings reports that its new facility has a total of 25,000 square feet of working space.

RolandCorp U.S. has assumed world distributions rights to the Ultimate Support Systems line. The agreement covers all products currently marketed as well as those designed in the future.

TDK has found counterfeit SA-C90 audio cassettes surfacing in the New York metropolitan area through a mail order ring operating out of New Jersey. The company wishes dealers to be alert and warn their customers. The counterfeits are reportedly of much lower quality.

James B. Lansing Sound, Inc.'s International Division has undergone a "major expansion." **Randy Patton** has joined the division as Sales Manager, Consumer Products; **Ruth McNevin** has been promoted to Operations Manager; **Garry Margolis** has been promoted to Sales Manager, Professional Products.

West LA Music is opening a new Hollywood Blvd. store claimed to be the largest in southern California, occupying 30,000 square feet, and the firm's second southern California location. **Don Griffin** established the first store 12 years ago.

John Bubbers, previous president of Celestion Industries, has joined Dynaco, Inc. as President. Dynaco was purchased by ESS Inc. last spring.

Jeanne C. Oakley has been appointed Advertising and Public Relations Manager for Road Electronics. Oakley was previously with Music Man, Inc.

Otari has moved to an expanded location in San Carlos, California, allowing, according to the company, for 50 percent more office space and 100 percent more lab space.

Clarence Domingo has been appointed Controller at Shure Brothers. He was previously Controller of Searle CT Systems.

Axiom Acoustics, Ltd. has been named the exclusive Canadian distributor for Aurora Sound International.

A new marketing and sales management team has been appointed at Analog & Digital Systems, Inc. **Bill Duvall** has been appointed Sales Manager in charge of the eastern United States and Canada. He was previously with Jensen Sound. **Harron K. Appleman** has been named Marketing Manager after 4½ years as Technical Director of Nakamichi USA. **Chris Browder** has been named ADS Sales Manager, directing distribution and sales in the western half of the country. He was previously with dbx.

The Professional Products Group of Scientific Audio Electronics has appointed a nationwide network of independent sales representatives. Sixteen rep firms have been appointed.

An infrared sound system developed by Sennheiser Electronic is in use at the production of "Peter Pan" on Broadway. The system uses infrared light to transmit sound through the house from the theater's master sound system.

Visonik of America has purchased the L.T.L. trade name from L.T.L. Electronics, the Washington manufacturer of speaker drivers. **Bill Pendergast**, L.T.L. Vice President has joined VOA.

Don Ludwig has joined The Irv Rose Group in Northbrook, Illinois. Ludwig will concentrate on professional and sound reinforcement equipment.

Ronald A. Fuller has joined RTS Systems, Inc. Fuller was previously Marketing Manager of Northwest Sound.

Tandberg of America has appointed Goodman Marketing their rep for Illinois and Wisconsin.

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"Unbelievable!" "Demo it, and it sells!" "We cranked it up, and smiles were everywhere!" "I never heard high SPL's sound so clean!"

No wonder dealers telling the VMR story have made the Electro-Voice S15-3 one of the best selling single-enclosure PA systems in the country. Instrumentalists, vocalists and sound men all have learned that a VMR in their system means incredibly clean midrange reproduction. Dealers displaying the bold VMR baffle are getting attention – and plenty of it.

The massive 16-lb magnet structure found in the VMR reproduces unmuddied midrange frequencies with the efficiency you would only expect to find with a horn. Plus the integral Thiele-aligned VMR enclosure rids systems of the "honky" sound typical of small horns. Maybe that's why companies like ARP, Oberheim, Moog and Crumar have used the S18-3 stage keyboard

system to demonstrate their synthesizer products.

The VMR is the speaker that has made the B215-M and B115-M bass guitar systems *the* bass systems to own. No wonder companies like Gibson and Kramer have used these systems to demonstrate their basses at trade shows and seminars.

The VMR's basic accuracy is the reason you see the FM12-3 floor monitor so often on television musical broadcasts. When artists hear themselves accurately, they perform better. That's why FM12-3's sell.

If you're one of our dealers who has made VMR-based enclosures sell so well, give yourself a well deserved pat on the back. You've earned it. If you're one of our dealers who is not fully benefiting from this great opportunity, you should learn more about the VMR story. You're missing some great opportunities.

If you're not currently selling Electro-Voice VMR-based speakers, maybe you should be. They're the hottest selling systems around.

For further information about getting on the VMR bandwagon contact Chuck Gring, Music Products Sales Manager at Electro-Voice.

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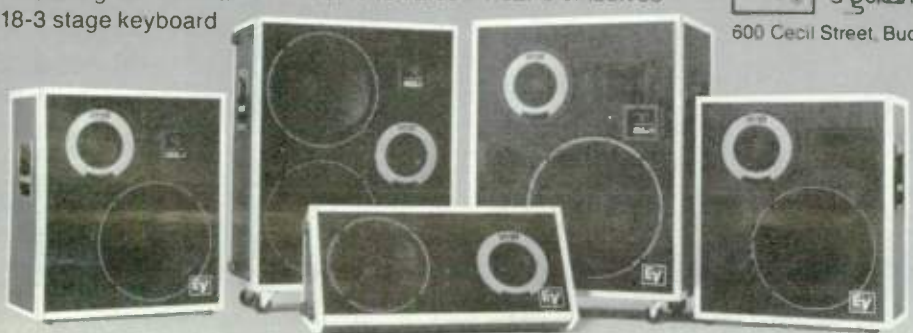

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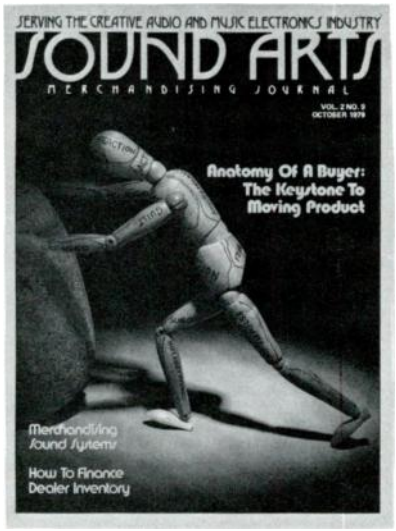

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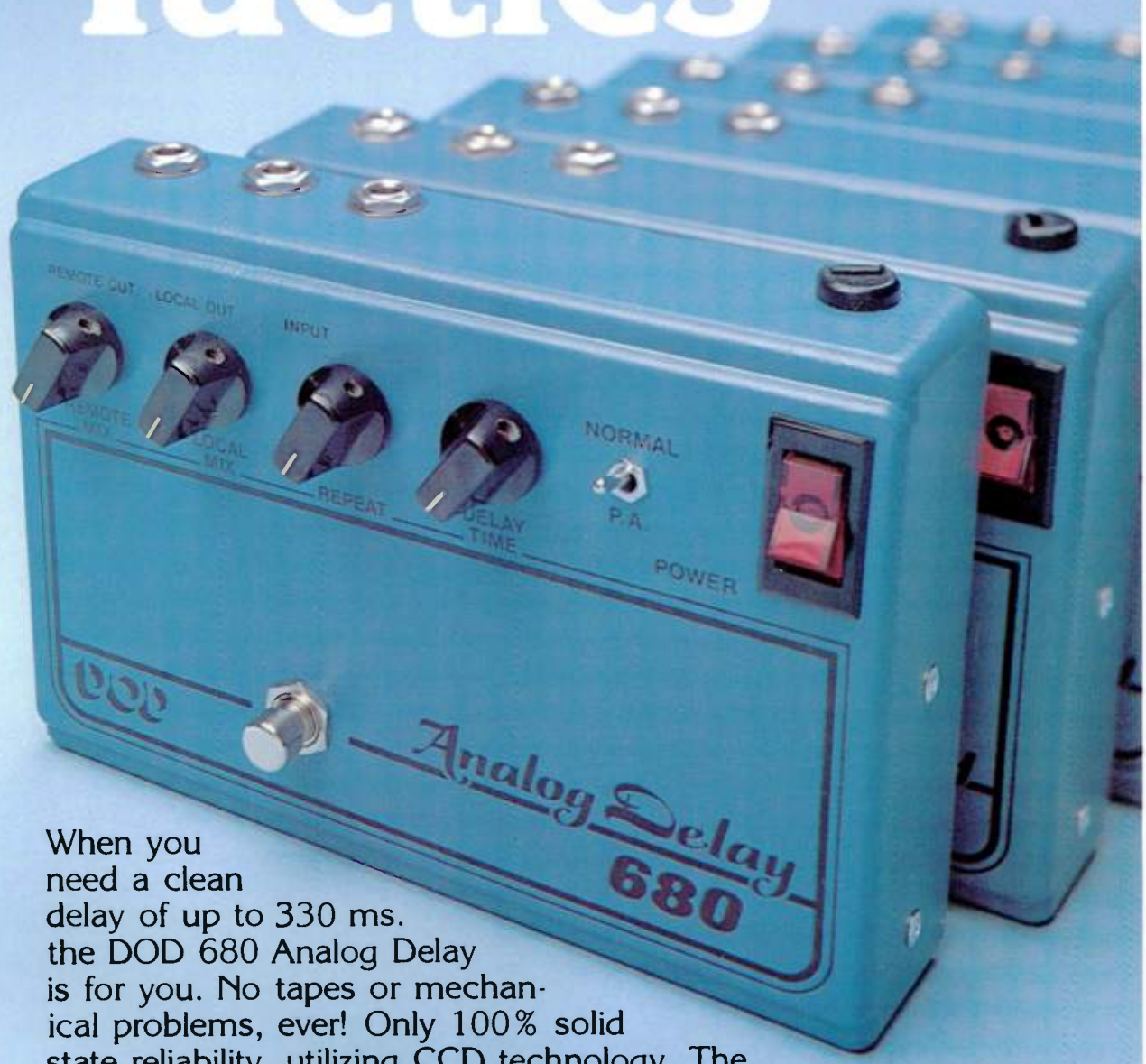

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