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AUDIO VERITY: Distortion-free audio systems can only
be afforded by those too old to hear the distortion.

World Radio History
A Change of Everything

As of February, 1982, the ownership of this publication passed to other hands. In total despair about its precarious finances, JGH accepted with alacrity an offer by Larry Archibald (an occasional contributor in recent years) to purchase the magazine. This has now come to pass, and it is because of the resulting infusion of money that you are holding this issue in your hot little hands now instead of 3 months from now (and that is probably being a little optimistic about the way things were).

As is customary when such transactions take place, we are assuring our loyal subscribers that the magazine's editorial policies will remain unchanged, except of course for the better. We've all heard that before. But in this case, it is probably true. Although he is now a publisher, Larry is not a publishing empire, with the cynical pragmatism so characteristic of so-called "media-oriented" corporations. He is an idealistic audiophile who also happens to love music (like JGH), and a shrewd businessman (unlike JGH). He recognizes what the magazine has to offer the way it is now, and hopes to preserve that by retaining JGH as Editor and Chief-Equipment-Reviewer. Larry will, on the other hand, be taking over those other aspects of publishing that JGH hated but did only because he had to. The arrangement is supremely satisfactory to both parties. And I think you'll be very happy with its effects on the magazine.

So, let us all rise and welcome Larry to the hectic field of audio publishing. May he be more successful at it than I was.

And Now, A Word...

This issue marks the first major change in the Stereophile's fiscal structure since 1962. We are hoping it is entirely a change for the better. Certainly no reader can have remained unaware of the financial troubles the magazine has been having, nor the irregularities in its publishing schedule. I have purchased the magazine from JGH and spouse MEH, and have of course the highest ambitions with regards its future publishing.

Margaret Graham...Music editor.
Alin Edelstein,
Bill Sommer-
werck...Contributing
editors.
Polly Rose.......Manuscript
preparation.

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schedule and financial stability. But in those respects I will let my actions speak for me rather than make bold promises.

My other goal is to see virtually no change in editorial policies. My own viewpoint is that JGH's comments on equipment and on the audio scene in general are the most enjoyable and reasonable to be found, and I will do what I can to further their promulgation. Additionally, I hope to see more comment in the magazine from outside contributors, many of whose published observations I have found of great interest in the past. Never fear, though; no amount of outside comment will displace those golden jewels which sparkle from the pen of JGH,* however infrequently they have come to light in the past.

Seriously though... It may be helpful for readers to know a little about my background. Following a college education in the Boston area, I entered the field of auto mechanics, apprenticing at one of the more prestigious Boston dealerships. Two years of apprenticeship, and an additional two years fixing cars abroad, led me to Santa Fe, where I've operated two auto repair businesses over the last ten years. My interest in audio harks back to the early '60s, actually from the time I walked into a store called Audio Lab in Cambridge and was bowled over by a pair of KLH Nines. My systems (until about 4 years ago) have been modest and often misguided -- Bose 901s for spaciousness, a Yamaha preamp for clarity, and that kind of thing -- so an important part of what I can bring to the magazine is an understanding of how and why many of us make buying mistakes.

The advantage conferred here is the ability to recognize in myself that rush of enthusiasm when exposed to a sound that is new and different, and being able to force myself to wait until that first blush is past before making a judgment. And although enthusiasm is certainly essential in audio reporting, I have a feeling that consumers are fed up with the repeated cries of ecstasy over products which really have nothing to offer but newness and are usually very expensive as well. I think our enthusiasm needs to be tempered by the realization that our goal is very far off and that the successful deception of our auditory faculties is still as much an unattainable ideal as it was 20 years ago (although that goal is closer now than it was then).

As JGH is wont to observe: "Yes, it's gorgeous sound, but the instruments just don't sound real," at which point I mention how rarely that happens outside of live-music situations.

Lest the question be raised about the degree of my commitment to musical fidelity, I feel that my position lies about midway between fanaticism and indifference. I enjoy superb sound and I enjoy good music, but I have little inclination to listen to either without the other. Which happens to be very close to JGH's position.

---

* Oh Judas priest! Where's the purple ink? JGH

Coming Up

In our next issue we'll have a brief rundown on the 1982 Winter CES, plus reports on (among other things) the Benchmark Acoustics Ambience Recovery System, the Acoustat Four speakers, Sony's Esprit power amplifier, a moving magnet cartridge with moving-coil performance, and the Nitty-Gritty record cleaner. And MG will be back with an update of recent recordings.
What Makes a Good Recording?

The sound, of course, but here's a checklist of 16 specifics to consider when evaluating your own or somebody else's live-recording efforts.

One major difference between the sophisticated audiophile and a critical but inexperienced listener is the former's ability to analyze reproduced sound -- to take it apart, as it were -- and listen to each of a number of specific aspects of it, rather than just to the entire fabric of sound. It is that ability to single out for aural attention certain details in the sound that gives some people what has come to be called (usually by those who don't have it) "aural memory" -- the capability of recalling, accurately, as long as six months later, what a loudspeaker or a live symphony orchestra sounded like. And it is what allows a good recording engineer to listen for a few moments to what his microphones are picking up, and spot almost immediately what is good about the sound and what needs some touching up.

Below is a list of those things to listen for, in your own recordings or in anyone else's. A perfect score on the following points means a high-on-to perfect recording. It is assumed, of course, that the system on which you listen to the recording is impeccable in every respect.

(1) Balance. Also called "weight," this is mainly a function of frequency response, and pertains to the balance of the entire range below about 1000 Hz relative to the range above 1000 Hz. Live sound is usually rather light, which is another way of saying there is no awareness of bass until bass comes along. A balanced recording sounds neither fat nor brilliant.

"Balance" refers also to the relative intensities of the sounds from the voices or instruments. Generally, these balances should be as close as possible to those heard from a good seat at a live performance, for a very small imbalance between two instruments can have a disproportionately marked effect on the tonal structure of the total sound. Correct balance is almost guaranteed when the performers are recorded with a single pair of mikes located a substantial distance from (and above) the group. With multi-miking techniques, instrumental balances are under the complete control of the mixer operator, whose judgement can make or break the recording.

(2) Distance. This, of course, is the apparent distance that a recording seems to put you from the performers. There is no "right" or "wrong" distance for a recording, only appropriateness or inappropriateness. If you are seeking a re-creation of a concert-hall experience, the instruments should sound no closer than they would from a good audience seat. If you are attempting to re-create what the conductor hears, miking should be very close -- a risky business with most mikes, as the high sound pressure levels close to the performers can overload mike preamp stages and, sometimes, the mikes themselves. A small chamber ensemble, best heard in a large room rather than a concert hall, should be miked fairly close unless, again, you wish for some reason to convey the flavor of a concert-hall performance.

(3) Lateral Localization. (Or
"stereo imaging.") This is self-explanatory. Instruments in a stereo recording should be heard from the same locations across the stereo "stage" as they would normally occupy physically during a performance. The smaller the performing group (and/or the closer the listening distance), the more specific the instrumental localizations should be. At greater distances, less specificity is observed even at live performances and less should thus be observed in the recording. Regardless of specificity, however, the localization should be stable, which is to say an instrument should stay put and not wander back and forth as it plays different notes. Neither should an instrument occupy more space than it could in reality. A five-foot-wide piano is acceptable; a five-foot-wide guitar is not.

(4) Perspective. If the musicians were placed onstage in rows, one behind another, rear rows should sound farther away than closer rows. The effect should not however be exaggerated: The front rows should not sound "right in the room" while the rear ones sound twenty feet away (unless for some reason that was the intent of the performance).

(5) Ambience. (Sometimes affected ly, or ignorantly, spelled "ambiance," which is French. The English word is just as good.) This is the sound of the acoustics of the performing environment, which gives a recording the aural flavor of a live performance in its natural habitat. The "right" amount of environmental ambience is a matter of personal taste, but there are limits in both directions which clearly spell "bad taste." A small ensemble, closely miked so as to sound as if the players are right in the listening room (which is a physical possibility), should have as little as possible of the ambience of the original performing location. An orchestra could not possibly fit into your room, and would sound horrible there anyway because of the lack of ambience; it should be recorded with enough ambience to sound neither dead (the telephone booth sound) nor like Westminster Abbey.

Excessive ambience intrudes on the music; inadequate ambience makes instruments sound raw. The "right" amount is conspicuous neither by its deficiency nor its prominence. Most so-called audiophile recordings have far too much of it.

(6) Frequency Range. The audiophile's first love, extreme frequency range on a recording, is not always an asset. Highs, of course, should give no impression of an artificially-imposed limit. Bass range should include the fundamental notes of the deepest instruments playing, but little more. The inclusion of subsonic hall noises, when the lowest instrument playing is a 'cello (lowest frequency: 62 Hz) is a form of pointless ostentation equating roughly to the use of a quarter-horsepower electric shaver. One exception: Large choral and orchestral groups and huge pipe organs, do benefit from low-end response into the subsonic, for such groups in performance produce subsonic energy -- drum-head impacts, difference tones -- which we can feel over the surface of our body even though our ears don't respond to it. Most mikes don't have adjustable low-end response; our point is that, if yours do, take advantage of it.

(7) Smoothness. Every performing hall has a multiplicity of possible microphone locations which will cause certain musical notes to be exaggerated and others to recede into the background. Some halls
have many such trouble spots, others have few. A good recording engineer chooses his recording hall accordingly if he has a choice and places his mikes carefully whether he has or hasn't. The closer the microphones are to the performers, the less the hall acoustics affect the sound. Smoothness is related also to the frequency response of the recording microphones. Inexpensive mikes color the entire sound more than do most auditoriums, and many costly professional microphones have small but audible high-frequency peaks which tend to add steeliness to violin and cymbal sounds. Microphone peaks often reveal themselves through the presence of exaggerated vocal sibilants or the tendency for all high-pitched sounds to take on the same characteristic pitch.

(8) Accuracy of Mid-range Timbre. One of the more recondite aspects of recorded sound, this has no relevance whatsoever to the person unfamiliar with the sound of live acoustical instruments. To one who is familiar therewith, inaccuracies of timbre will be heard as changes in the apparent size of instruments, which may make an English horn sound like an upper-register bassoon or a brass instrument sound as though its bell is too large or too small -- turning a trombone into a bass trombone or vise versa. The effect has also been compared with that of running a disc slightly off-speed but without the usual change in actual pitch: Sounds are lightened or made darker.

(9) Cleanliness. Freedom from distortion is easy to achieve at moderate volume levels, but clean fortissimos are another matter. Professional recording engineers developed the habit of pushing their tapes to the level limit in the days when tape hiss was the penalty for lower recording levels. With modern noise-reduction systems, recording "into the red" is no longer necessary, but is nonetheless still a common malpractice. From a tape, marginal overload is audible as a dulling of transients and, when severe, a definite sense of strain and, sometimes, audible intermodulation of highs by heavy bass information. On discs, slight tape overload can produce mistracking at levels well below where mistracking should occur with a given phono unit. On the other hand, some discs are simply over-cut, and have groove modulations so closely approaching vertical wavefronts that the stylus has no choice but to climb over them instead of following them. But if a disc will track cleanly on any cartridge, it cannot be considered overcut except on the basis of commercial practicality.

(10) Detail. Some two-miked recordings of huge performing groups have remarkable inner detail, as though instrumental (and choral) voices were in perfect focus, while others have a diffuse or translucent quality wherein details are muddled and individual voices blurred. Blurring is usually a matter of not having found the right microphone locations; more experimentation will usually cause things to fall into sharp focus. Some halls have many "right" placements for mikes, most have a few (which are thus harder to find), while a few halls seem to have none. Detail is also profoundly affected by the quality of the recording microphones. The lightest diaphragms (externally-polarized capacitor mikes) generally have the quickest transient response and, thus, the greatest detail.

(11) Transparency. No one is sure what makes some recordings sound liquidly transparent and others astringently dry, but it is a qual-
ity which makes some of them musically natural and others "mechanical" sounding. A transparent-sounding tape can give a transparent-sounding test cut and end up sounding dry on the final pressings.

(12) Ease. Another rather abstruse aspect of recorded sound, this pertains to the recording's freedom from strain or irritation. Steve Weiman of Pro Musica (an Urbana, Ill. dealer) has found that most listeners can detect the difference, not so much on the basis of conscious aural cues as by what the sound does to their muscle set. Irritating sounds tend to cause involuntary muscle tension; easy sound allows relaxation while listening.

(13) Quietness. This means freedom from distracting extramusical noises, which can range from the rumbles of air conditioners or nearby heavy traffic to hum and hiss introduced by the recording/reproducing equipment. Different people differ in their tolerance to certain kinds of noises, but the most obtrusive are usually the random variety such as traffic or audience noises. Tape hiss, for which there is little excuse in these days of effective noise reduction (dbx, for example), can be raised from an almost-subliminal rushing to an irksome hissing by upper-range frequency-response peaks in the transducers. Many professional recording engineers are, irrationally, far less tolerant of noise than they are of any other aspects of recorded sound. Some environmental noise is almost inevitable in any recording made before an audience, but tends to be less distracting to a listener familiar with the live-performance experience than to one who listens mainly to studio-made recordings.

(14) Dynamic Range. Not to be confused with signal-to-noise ratio, dynamic range is the span of volume levels from the softest to the loudest produced by a sound source. Although maximum volume levels for a full symphony orchestra have been cited as high as 120 dB (above the threshold of hearing), most observers now agree that 100 dB is a more reasonable figure. Since the softest instrumental sounds are around 25 dB in level, this means that the dynamic range of a full orchestra is around 75 dB. (Signal-to-noise ratio, on the other hand, is the range between the loudest recorded passage and the recording medium's background noise. It should be at least 5 dB lower than the dynamic range's bottom.)

It is quite possible to tape-record, without noise reduction, the full dynamic range of a large orchestra, but some hiss will be audible at listening levels approaching the originals. Dolby or DBX noise reduction will eliminate most of this. Volume compression -- "gain riding" -- is thus rarely necessary when recording with a two-mike pickup, even when "accent mikes" must be used. Balances and maximum recording level should be set beforehand and then left strictly alone. Only when recording pop groups, or closely-miked singers, is constant balance and level adjustment needed, and they word then is subtlety; the manipulations should not call attention to themselves unless that is their specific intent.

A disc, for various reasons, cannot accommodate as wide a dynamic range as an original tape, but again there should be as little awareness as possible of the volume compression. Restricted dynamic range has the effect of reducing surface noise (because signal levels never get down to near the background noise), but it tends to strip choral and symphonic music of its emotional impact. As a matter of fact, few (To page 26)
AKG C-34 Stereo Microphone

Stereo microphone system with remote polar-pattern adjustment.
Type: Externally-powered (phantom) condenser, 9 to 52 volts balanced. Nominal impedance 200 ohms. Load impedance 500 ohms or higher. Output: -133 dBm (EIA G_m). Crosstalk: 70 dB from 20 to 10k Hz, 40 dB from 20 to 15k Hz. Over-all dimensions: 1.25 inch diameter by 4.75 inch long, excluding DIN plug. Price: Microphone, remote control, shock mount: $1650. Optional N-62E phantom power supply: $95. MANUFACTURER: AKG Acoustics, 22 Selleck St., Stamford, CT 06902.

Most amateur tape recordists who have gotten into live recording discover sooner or later that, almost regardless of how mediocre their recorder may be, the quality of their recordings increases in direct proportion to the quality of their microphones. Live-recording perfectionists with $1500 recorders often find that the results they get from the most expensive professional microphones more than justify the cost (which makes us wonder why the manufacturers of such mikes don't bother to get themselves listed in the Audio Equipment directories published annually by Audio and Stereo Review). AKG microphones have long been popular with professional recording engineers because of their exceedingly low noise, high sound-level handling capability and reliability. Previous models did however have certain middle-range colorations which engineers felt enhanced the pickup of certain instruments (woodwinds, brasses) but were less flattering to others (strings, high percussion). The C-34 is one of a new generation of AKG condensers which use a very small (1/2-inch) capsule to obtain unusually linear and uncolored response throughout most of the audio band.

The C-34 is a stereo microphone, using 4 capsules in a single case (with the upper 2 in a swiveling compartment which allows the relative angles of the two halves to be adjusted from 0 to 180 degrees.) The capsules are paired so that, by suitable matrixing, each section of the mike can be varied in directional pattern from omnidirectional through cardioid to figure-8. The microphone comes with an S-42 controller which allows all three patterns, plus intermediate ones, to be selected or varied from the recorder location. There are 9 directivity patterns available for each mike independently, and adjustments can be made discreetly while recording as the changes are gradual and completely free from switching noises or signal-level changes.

Also included with the C-34 system is a very effective foam-type wind and pop screen, an elastic suspension to isolate the mike from stand-borne vibrations, and what appears to be a very durable carrying case that will accommodate everything except the separate power supply in case that should be needed.

Like all non-electret condenser microphones, the C-34 requires an external polarizing and power supply. This is not included with the microphone, as most professional input mixers have built-in phantom power supplies. (See box.) If your mike inputs don't provide this powering, you can buy it in a neat little box (Model N-62E) from AKG for $95 or, if you're handy with a soldering iron, build one your-
self. (A schematic is available from AKG.) It can be installed right in the tape recorder, and can draw its supply from the recorder's own power supply.

Although the major advantage of phantom powering (See box) is that it allows one to power a condenser mike through conventional 2-conductor-shielded mike cable, stereo mikes like this don't offer that option, as a special 4-conductor-shielded cable is needed to bring out both mike outputs in a single wire. A 54-foot length of the special cable is supplied with the C-34, and must terminate at the remote-control unit. If you wish to place that unit farther from the mike, extensions are available at additional cost. Conventional mike cables (separate for each channel) are used only between the control unit and the recorder (or mixer) inputs. Outputs from the control are standard XLR-3 types.

This is one of the smallest, lightest stereo mikes available, which means it is quite unobtrusive (particularly the dull black model) and can be boomed outwards for greater distances from the boom stand than can heavier mikes.

The C-34, like most modern condenser mikes, has much more output than any dynamic microphone. It will pick up quiet sounds with minimal noise, but is very likely to overload mike preamps when used close to a loud source unless some input attenuation is used. Suitable attenuators (10 dB should do the job nicely) are obtainable from most professional-recording and public-address equipment suppliers for around $10 each.

Like all professional microphones, these have 200-ohm balanced-line outputs, but unlike most US and Japanese mikes, their optimum termination is 500 ohms or more (instead of 200 ohms). And unlike dynamic mikes or non-phantom-powered condensers, they cannot be connected to an unbalanced input (with one side grounded). A balanced input -- transformer or preamp -- must be used regardless of the termination, otherwise the phantom-powering system will be shorted to ground on one side or the other. Suitable input-matching transformers are available from any dealer who specializes in professional recording equipment, and it usually pays to buy the best he carries. Input transformers sold for rock-performance or other public-address applications are not likely to be as good, even if they cost as much. A close look at any PA equalizer will suggest why: The lowermost octave for most rock performances is considered to be centered around 60 Hz. Input equipment designed for these applications is usually severely compromised in low-end response and overload capability. (All it needs to do is boom, man!)

The C-34 is extraordinarily quiet and extremely clean, with a liquid transparency that we normally think of only in connection with the best tubed condensers (i.e., early Schoeps mikes). Stereo imaging is superb -- pin-pointed and stable --
and the stereo spread can if necessary be changed while recording by adjustment of the polar patterns from the remote-control unit.

Our only real criticism of the mike is its spectral balance, which is noticeably crisp and rather "hot" at the high end. This is reflected in the unabashedly frank machine-run frequency-response curves supplied by AKG with each mike. Fortunately, the gradual high-end rise is easily equalized out via simple R/C circuits installed ahead of the preamp inputs, after which the unit's performance is almost impossible to fault. It has truly awesome transient response, with a delicacy and resolution of fine detail that seems to be the exclusive province of the best externally-powered condenser microphones. (No other kinds of mike that we have heard, including electret condensers, has had it to this degree.)

This is a superbly-engineered and generally superb-sounding microphone, but without EQing, it tends to put a rather noticeable edge on violins, high-percussion instruments and vocal sibilants. It is thus better suited for some kinds of sound pickups than for others, and is not what a serious amateur recordist could consider a mike for all reas-

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The Phantom of the Microphone

So-called phantom powering, used in most professional microphone applications, utilizes the signal-carrying wires in the mike cable to deliver DC power to a condenser microphone's internal electronics.

In the simplified version of a phantom power supply shown, a 9-volt battery has its negative terminal connecting to the shield of the microphone cable, and its positive terminal connected through two identical isolating resistors to both of the balanced-signal wires in the mike cable.

At the microphone, both ends of the output transformer winding which feeds the signal to the cable have the same positive DC voltage applied to them, so no DC current passes through the winding. The DC (positive) is drawn off via the center tap on the winding, DC negative is drawn from the cable shield, and the voltage goes to the mike's built-in transistor or FET or whatever.

Phantom-powering relies on the symmetry of the microphone circuit. Both wires of the microphone cable carry the identical DC polarity, with the system ground (the shield) carrying the other polarity. Thus, it is essential that the entire system be operated in the balanced mode, with both sides of the cable above ground. Grounding either one (as at the tape recorder input) will short out the phantom power source. If the recorder's mike inputs are not balanced (and the spec sheet for the recorder will tell you whether or not they are), it will be necessary to insert a pair of suitable input transformers between the recorder inputs and the mike cables.
ons. We can only wonder why AKG couldn't make available a passive EQ module that could be inserted between mike cables and preamp

The S-42 remote-control box.

when a user wished to combine the C-34's other positive attributes with a sweeter high end?

Normally, we would just dismiss any product whose frequency response is as colored as this, but the C-34 has so many other appealing attributes, and its response aberration is so easily corrected (because of its freedom from peaks), we are inclined to be a bit forgiving. With the requisite equalization (details of which we can supply on request), we would stack this mike up against anything currently available (commercially available, that is -- Sheffield's customized mikes are another matter altogether), and would not hesitate to recommend these to the most picky-perfectionist recordist. They aren't cheap, but when was excellence ever cheap?

Footnote: We bought it. JGH

Berining EA-230
Power Amplifier

An all-tube dual-30-watt power amplifier. Dimensions: 19 inch W (standard rack-mount) by 5½ H by 8½ D. Power consumption: 60 to 160 watts. Frequency response: 5 Hz to 60 kHz, +0, -3 dB. Output impedances: Strap-selected 4, 8 or 16 ohms. Main-loop feedback: 6 dB. Price: $990 list. Manufacturer: The David Berining Company, 9429 Tobin Circle, Potomac, MD 20854

Rated at a modest 30 watts per channel, the EA-230 shares with many other tubed amplifiers the ability to put out what sounds like far more than its rated power -- a result, quite simply, of the gracefulness with which most tubed output stages approach overload. If higher output is required, the amplifier is easily strapped to provide 60 watts, but the output impedance then drops to half of its nominal value, which means the amp cannot be properly matched to a 16-ohm load (of which there are very few these days).

Sonically, there is little to characterise the EA-230. It has truly awesome detail, a low end with the kind of punch and tautness that we rarely encounter from tubed amplifiers, and a high end that is both very, very quick and yet open, airy and exquisitely sweet. On a dynamic speaker system, this high-end delicacy translates into softness which sounds rather dull and closed-down. But on good electrostatics (and there are some around which aren't), the high end from this amplifier must be heard to be believed!

As we have pointed out many times, most audiophiles demand more high-frequency response from their system than one normally hears in live music. The reason for this is really quite simple: Most speaker systems are deficient in transient response, tending to round-off the steep wavefronts produced by hard percussion instruments like castanets, triangle and tambourine. A tipped-up high end improves apparent transient response, but it also exaggerates the overtone
content of other instruments, yielding the kind of super-hyped steeliness that musically-oriented listeners think of as "audiophile-type sound."

The mark of a truly fine high end is warmth and softness from blown and bowed instruments, combined with razor-sharp attacks from instruments which produce hard transients. To hear both from one system is a rare experience.

Two versions of the EA-230 are available: One with a black-anodized front panel (shown) and one with a natural brushed-aluminum panel.

Like Berning's TF-10 preamp, the EA-230 is almost perfectly neutral in perspective, having neither the forwardness of typical tubed equipment nor the slightly laid-back character of good solid-state amplifiers. Because of this, it avoids one of our major criticisms of most audiophile-type audio systems: Their tendency to sound recessed and more distant than most recordings are supposed to sound (in view of their miking). That same characteristic of reticence (audiophiles call it richness) is also often accompanied by a certain darkness or heaviness -- a common criticism of the Acoustat Fours and many other large electrostatic systems.

In other words, this is THE amplifier of choice for driving electrostatics. Without strapping, the EA-230 delivers just the right amount of output to drive the original Quads to full output.
without danger of overload damage. Strapped, it will allow the Acoustats (or Audio Labs or Trans-Statics) to fill a large room cleanly at very respectable (up to around-97-dB levels) levels. And a single EA-230 provides the best driving amplifier we have ever encountered for use with the Rogers LS-3/5A speakers.

Finally, parenthetically, we should add that, despite its much-lower power capability, the EA-230 has finally unseated our long-time favorite power amp: The Infinity HCA. We feel almost disloyal about having to say that, for the HCA has been a joy to listen to for a number of years. But times change and technology does sometimes move ahead, so it had to happen eventually. We just never expected the massive, 80-pound HCA to be outperformed by a pair of relatively-diminutive 28-pounders.

Sony/Esprit XL-88D

Moving-Coil Cartridge

Moving-coil cartridge with one-piece diamond stylus/cantilever. Output 0.4 mV; Response 10 to 50kHz; DC Resistance 40 ohms; Recommended load 100 ohms; Tracking force 1.2 to 1.8 grams, 1.5 recommended. Price $1000. Manufacturer: Sony Corp., 2300 Peachford Rd., Suite 2131, Atlanta, GA 30338.

In a more-perfect world, a cartridge's cantilever would be absolutely rigid and completely free from resonances. In the real world, cantilevers do flex to some extent, and do exhibit modes of resonance along their length. The problem is that stiffness and internal damping are diametrically-opposed parameters. The stiffer something is, the more it is inclined to resonate. Yet, the more flexible the stylus cantilever is, the less accurately it will convey stylus motions back to the transducing elements. So, as usual, cartridge design must be a compromise between two conflicting requirements.

The first attempt to produce an almost-perfectly-rigid cantilever led to the Dynavector Ruby and Diamond cartridges, both using hard crystalline materials for the cantilever. Since resonances were inescapable, Dynavector made the cantilevers as short as possible, in order to move those resonances as far up in frequency as possible. Those cartridges set new standards for detail in reproduced sound.

The XL-88 is Sony's bid to outdo Dynavector, this time with a truly virtuosic feat of technological achievement: The cantilever and stylus are laser-carved out of a single piece of diamond. But the cantilever is fully 3 times longer than that of the Dynavectors! Which means approximately three times the mass, and a much lower range of resonances.

My present reference cartridge is the Dynavector Ruby in the Sig-net XK-50 arm (with lateral damping). The Sony was installed in a spare XK-50 arm tube and audition-
ed, alone, for several weeks before comparisons were made. On every single point of performance, the Dynavector clobbered the Sony. And although this is purely speculative and slightly more alive-sounding than the Sony -- and this despite the fact that, although both exhibit a 2-dB treble rise, the Ruby's starts at 12 kHz and the Sony's starts at 6! The Karat has better focus and detail, while the Sony is somewhat brasher-sounding, with a noticeable loss of detailing and separation during

Reprints and Back Issues

We still have on hand a limited number of the soft-bound reprints of our first and second 12 issues. If you're curious about how, and why, this whole business of perfectionist audio got started (It was all our fault, remember?), these two reprints are a not-too-compact history of the whole sor-did affair.

Volume 1 contains 240 pages and covers the years 1962 to 1966, and Volume 2 has 290 pages and covers up to Spring of 1971. Both are 8½ by 11 size (That's the way we were then!), and the price is $25 each.

Also available in rapidly-dwindling quantities, for $4 each, are original copies of back issues numbered (Volume and Number) 3-3, 3-3, 3-5, 3-6, 3-7, 3-9, 3-11, 3-12, 4-1, 4-3, 4-5, 4-6, 4-8 and 4-10.

See the subscription coupon on page 18 for ordering information.
loud passages. The Ruby "holds together" much better.

The Sony is substantially less compliant than the Ruby, moving the system resonance to a slightly higher frequency. The result is a somewhat thicker-sounding mid-bass and a muddying of lower bass. On Telarc's infamous 1812 Overture, the Sony added a "firecracker" attack to the cannon blasts, and actually skipped grooves a couple of times, while the Dynavector sailed through it all with only the barest hint of strain. In addition, the Ruby gave a slightly more-precise stereo image.

In short, the Sony is good, but is no match for the Ruby which costs about 70% less. A disappointment.

EDITOR'S ADDENDUM: While I do not much care to see unresolved disagreements in this magazine, I must on this occasion differ with Mr. Sommerwerck on several points about the XL-88D.

I too found a disparity between the measured and perceived spectral balance of the XL-88, but (1) I measured a 4-dB rise at 15 kHz, and (2) I found the sound to be more neutral (i.e., more like master tape) than that of the Dynavector Ruby (which, although measuring much flatter, strikes me as a rather cold-sounding cartridge). Also, contrary to Mr. Sommerwerck's observations, I felt that the XL-88D had quite extraordinary detail, and did not notice any loss of separation or detail during loud passages. I am usually acutely aware of detail, but tend to be less conscious of separation and imaging than some audiophiles, so the latter could have escaped my notice when I auditioned the cartridge.

I have also heard a number of discouraging reports about the cantilever suspension in Dynavectors folding up, so that the stylus will no longer hold the cartridge above the record. When asked about this, a Dynavector spokesman simply said there were new models now and, of course, they don't have that little problem.

I do however concur with Bill's observations about the XL-88D's tracking ability. That was in fact my major criticism of the cartridge, because it strikes me that a $1000 cartridge should be at least as good in all respects as anything costing significantly less. Both the Dynavector Ruby and the Shure V-15-IVG have better tracking capabilities at much lower prices.

JGH

Quickies

Sonic Developments D-235 Amplifier (Revisited)

We reviewed an early version of this in our Volume IV Number 8 issue, and found it to be an excellent buy as well as an admirable driving amplifier for Quad ESLs and Rogers LS-3/5s. We had one misgiving: A somewhat grainy high end which, although by no means irritating as the typical solid-state edge, was nonetheless something which did not belong.

We have since had an opportunity to audition a later version of the same amplifier, and are pleased to be able to report that the graininess has been virtually eliminated. We also found that, within its modest power rating (which actually sounds more like 50 than 35 watts per), it makes large electrostatics like the Acoustat Four perform better than do most amplifiers costing twice as much or more. The high end becomes sweeter and the mid-bass boominess that some critics have complained about simply disappears.
It should be mentioned that this amplifier does not measure well. With typical harmonic distortion figures approaching 2% at half power, it is an amplifier that Stereo Review would probably not even listen to, and would feel they were doing the manufacturer a favor by declining. But here is yet another instance where measurements give little clue as to a component's sound. It would appear that most of that harmonic content is even-order (even multiples of the fundamental) rather than odd, for all it manages to do is give the amplifier a rather forward sound with a slight loss of inner detail. The distortion does not add the usual solid-state edginess at the high end, and the result is an over-all sound very much akin to that of a well-design-ed tube amplifier, but with much of the low-end beef and impact of a good solid-state amp.

**Bill Reed Speaker System**

This is the cheap speaker system we referred to in our last issue as "rivaling the Acoustat Four and clobbering the Sequerra 7." That was perhaps an overstatement, in view of the superior performance we have obtained from the Acoustat with the Berning power amps, but these $250-per-pair speaker kits (that's right, you assemble them yourself!) have, to my ears at least, a more-natural spectral balance than the Sequerras and an over-all sound that is similar enough to that of the Acoustat Fours that one is not moved to derision when the two systems are A-B'ed.

Space didn't permit us to run the full report on the Read speakers in this issue, but since we are now coming out every four weeks, it won't kill you to wait until the next issue for that report, will it? JGH

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**Recommended Systems**

After much soul-searching, we have decided to change the Class ratings of our two top systems. We had originally intended to list both as Class-A systems -- the best available regardless of cost. Since however we are recommending two top systems, both of which sound quite dissimilar, it is obvious that neither can be The Best. They can only be equally good in different ways.

And what about the other, costlier systems which are better in certain respects than either of these but not as good in others? Those too belong in the same Class as these, and would be listed here too except that, in truth, their
higher cost buys little in terms of listening pleasure.

On the other hand, we cannot claim for the listed two that they are The Best available for the money; only that they deliver about as high a level of performance as that kind of money can buy. So...

We are taking the coward’s way out right now, and dropping both of them by one notch to Class B, which Class may be defined as Best Sound Available for a Reasonable Amount of Money. Neither of these systems is perfect (Surprise!), but each excels in those qualities that are deemed most important by the kinds of buyers we recommend them for.

Class B
The Music-Lover’s System
For the person who values accurate reproduction of instrumental timbres above all else, but deems the else to be important too. This will play effortlessly at levels of up to around 97 dB unless there is a great deal of deep-bass energy (as on some audiophile recordings), in which case it is limited to around 90 dB -- loud enough for most symphonic listening. The sound is neutral in perspective (neither forward or laid back) and quite startlingly alive and natural.

Oracle turntable, SME 3009-III arm, Shure V-15-IVG cartridge (spherical tip), Berning TF-10 preamp, two strapped Berning EA-230 power amps, 8-ohm output taps (effective 4 ohms), Acoustat Four speakers.


The Audiophile System
Unsurpassed imaging and inner detail, excellent transient response and low-end range and detail, very high output-level capability. Slightly laid-back middle and surpassed tracking ability (cartridge), unctuously rich, sumptuous sound.

Why Not?

You could of course continue to borrow your issues from a friend, but we haff wavs of making you regret that you did so. You will find out about them in the due course of time. (Ever hear of da-coits?) Meanwhile, the worst that will happen if you don't support us in a tangible manner is that it will take longer for this magazine to grow as fat as it was before the lean years.

So if you're still stealing what our loyal supporters are paying for, make an honest person of yourself. Subscribe. There’s a subscription coupon on the back of this shamelessly commercial pitch. Clip it out, fill it in, and send it our way with your check for the ordained amount. Or, if the owner of this copy doesn't want you to scissor it apart, you can accomplish the same thing by sending merely a check and a mailing address. We'll start you with the current issue unless requested to do otherwise.
Sony/Esprit: XL-88D cartridge, TA-E900 preamp, TA-N900 power amps (two mono); Infinity RS-4.5 speaker systems.

Accessories: FMI interconnects, FMI Cold speaker cables.

**Class C**

Not terribly cheap, and certainly no pretender to a SOTA rating, this is nonetheless an eminently listenable system for the serious record collector who would prefer to put most of his disposable income towards records, but wants a system that will get 90% of their sound out into the room relatively unscathed.

Excellent balance, slightly reticent middle range, sweet but not extraordinarily detailed highs.

Audionics LK-1 turntable, SME 3009-IIIS arm, Shure M-95-EJ cartridge, Audionics BT-2 preamplifier, Audionics CC-2 power amp, Mordaunt-Short Pageant 2 speakers.

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**Recommended Components**

We have of late been getting increasingly dismayed by the failure of so many "Class-A" components to mesh properly. The fact that, in 1982, one can still mate a top-rated cartridge and a top-rated preamp and end up with mediocre sound has been forcing us to the view that it is irresponsible to recommend individual components without also specifying the components they should be used with.

If we were to follow our science on this, we would abolish our "Recommended Components" department forthwith, and stay with the "Systems Approach" that we initiated several years ago. We are acutely aware though that most audiophiles -- regardless of what they profess -- care more about whether a system sounds "good" to them than whether it is an accurate reproducer. And here is a distinction we are forced to recognize, like it or not (We don't.): Audiophiles like

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to spend most of their time diddling with hardware; music-lovers prefer to install a good system and then listen to music on it. Thus, our integrated-systems approach is likely to appeal far more to the so-called serious listener than to the audiophile.

So, we will not make a final decision about our Recommended Components section at this time. To guide us in our decision though, we would appreciate hearing from you about it. Do you want to continue seeing lists of Recommended Components from time to time, or do you agree with us that System recommendations make more sense?

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**Miscellany**

**The Winter CES**
We attended the Las Vegas CES en masse* this year, and a more-detailed rundown will appear next month. Here, however, were the highpoints:

The first moving-coil cartridge from WIN Labs, the MC-10, to sell for around $400.

A $1500-per-pair full-range electrostatic speaker system (the A-2) from Roger West's Sound Lab. It sounded excellent, with superb low end.

A cheaper-than-ever PCM audio adaptor (for use with any VCR) from Sony Corp. The PCM-FL is slated to sell for $1,900.

The Nitty-Gritty, a wet record-cleaning machine that does what the Keith Monks does for less money (ca. $400) and a little more effort. (You rotate the record by hand and hand-hold the cleaning brush.)

Components most in evidence at this show: Acoustat Fours, Bedini and Berning power amps, Oracle 'tables.

Santa Fe Opera for '82
This summer, the SFO will stage "Fledermaus," "Figaro," "Mignon,"
R. Strauss's "Die Liebe Der Dane," and Rocheberg's "The Confidence Man." The Strauss is a Santa Fe premiere, the Rocheberg a world premiere.

For a schedule and ticket information, write SF Opera, P.O. Box 2408, Santa Fe, NM 87501.

**Bose Wins Suit**
A few of us may recall Consumer Union's unflattering review of the Bose 901 many years ago, and the libel suit that resulted. (Bose charged bias due to conflict of interest, as the chief tester was claimed to be in process of designing his own system.) Well, Dr. Bose won his case -- after 11 years of litigation!

The news item reporting this did not mention the amount of the settlement but, after 11 years, we wonder if it was worth the effort (except to the lawyers, who always come out ahead).

**Infinity Parts**
Ever since Infinity Systems discontinued their SS-1A electrostatic speaker system, we have been getting letters from SS-1A owners asking where they stand in terms of replacement parts for that rather unreliable system. (Why they write us instead of Infinity is something we don't understand, but that's not important.)

Anyway, we checked with Infinity, and were told that their policy is to supply replacement parts for all their products for at least five years after a product

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* On location were JGH, Larry Archibald (our new publisher), and Dick Olsher, a Los Alamos (NM) physicist and high-end audio dealer. (Tst tsk! Conflict of interest!)
is phased out of the line. Our recommendation to all SS-1A owners whose systems are more than a few years old is to order a few replacement mid-range panels from Infinity and put them aside just in case your system decides to break down a week after the last replacement is sold. You can estimate better than we can how many replacements you should be hoarding, on the basis of how many breakdowns you've had in the past.

Dubious Pleasures

We have noticed for some time, without comment, that EMI in England issues a line of records called "Classics for Pleasure." We can no longer refrain from observing that most classical-music listeners have labored for years under the delusion that pleasure was their sole reason for listening to classical music. It appears that there are people in the record business who view it instead as somewhat of an odious duty -- a small personal sacrifice, as it were, to be offered up at the Altar of Cultural Appreciation.

We thought that kind of it's-good-for-your-character attitude died out years ago along with the mandatory-attendance Children's Concert.

Sheffield Superiority

Some things which are self-evident have a habit of creeping up on us from behind so that, when we finally notice them, we have the feeling they've been there all the time. Such is the feeling of many audiophiles about the quality of Sheffield's recordings.

In recent months, we have taken to stating, flatly, in the company of audiophiles, that Sheffields are now the best recordings being made anywhere. No one has disagreed. Yet we have never seen any such statement in print, and are now moving to remedy that oversight.

Sheffield's last few recordings (dating from the L.A. Philharmonic discs, which weren't the greatest) are the most natural-sounding of any discs being made by any record company.

Now, it has been said. (And you can quote us on that, Andy.)

Our Definitive-Disc Award

We have never before bestowed an award on anyone for anything. We felt obliged to do it on Mobile Fidelity for their remastering of the EMI Elgar "Falstaff" recording because it is the first time to our knowledge that a single classical release has combined a

For an unassailable recording of an unassailable performance, stereophile presents the Definitive Disc Award to for their recording of

Our Definitive-Disc Award: A first for us and for classical recording. performance and a recording which are both good enough that neither need be done again.

Our congratulations to MF's Gary Giorgi. Now, let's have some more, from MF or any other source. We have more awards to hand out when and if.

LATE NEWS BULLETIN

Kloss Video Corp. has announced its intention of purchasing Advent Corporation, which recently filed for bankruptcy.
AR Tone-Arm Mod

We read with much interest your article on "Replacing the AR Tone Arm" in your Vol. 4 No. 7. We have been performing a similar modification in which we install the latest JH product, the Audio-lab, by boring out the bearing well and using a set screw to hold the Audiolab bearing cylinder, and to adjust its height. The disadvantage of your system is that it weakens the subchassis and risks an increase of resonance.

If your readers are interested we can supply the arm and do the modification for $270. Our service includes a heavy plexiglass hinged lid.

Dee Condon
Sound Aids
395 Riverside Drive
New York, NY 10025

IMF and Fried

In Ralph Hodges' overview of the Summer CES (Volume 4 Number 10 of Stereophile), reference was made to IMF and its separation from myself, Irving M. Fried. What actually occurred is that a court decree permitted the English Company, IMF ELECTRONICS, to continue to market under the IMF trademark as long as that was used in conjunction with ELECTRONICS, for so long as that company continues to market loudspeakers. The trademark is however still owned by me.

Meanwhile, I continue to design and market loudspeakers under the trademark FRIED, and I enclose data sheets on our two newest systems, both using the new "magic" material, polypropylene. I note Mr. Sommerwerck's comments about this material and wish to add the following: (1) It must be properly handled, terminated and, in strictly upper-mid-range applications, also coated and damped, otherwise it too will break up and add its own characteristic sound to the reproduction. (2) It is also a superior material for low-frequency applications. It has faster attack and decay, so that if a very-high-quality bextrene driver from one of our subwoofers is replaced with a newer polypropylene one, the improvement in sound is -- to quote one of our dealers -- "little short of incredible." (3) Properly designed and damped, a system with polypropylene drivers does get rid of as most of its nonlinearities. To characterize the difference, I use the term "bextrene buzz."

Irving M. Fried
Fried Products Company

Polarity Reversal

I was impressed with the skill and thoroughness with which you shot down the idea that human ears are responsive to polarity reversal (absolute phase), and my first reaction was to write and tell you that YOUR ears may not be polarity-responsive, but mine sure as hell are.

I tried your suggestion, using two of the headphones you suggested, and I could CLEARLY hear the sound receding and become veiled when the polarity was wrong.

My brother, however, does not seem to be able to hear it at all, and he is in other respects a more critical audio listener than I am.

Could insensitivity to polarity be a defect of some kind in certain hearing mechanisms, akin to color blindness in some seeing mechanisms? This could explain why some people hear phase reversal while others do not?

H. C. Schulze

Another reader came up with the
same thought, but he was a little more cautious about which condition might be the "defective" one: The ability to hear polarity reversal or the absence of that ability.

Unlike full-color vision, which has for many years been known to be the "norm" among humans, polarity sensitivity has never been subjected to a large-sample testing program. Thus no one knows whether that sensory ability is present in a majority or a minority of people. And without that knowledge, it is impossible to call either a defect in the hearing mechanism. (And what if the population splits down the middle on it?)

Finally, consider this: Of all the human sensory perceptions, polarity-reversal detection would seem to be the only one having absolutely no survival value.

Silicone Solvents

With regard to John Cameron's request for a method of removing silicon damping fluid from unwanted locations (Volume 4, No. 5): The common organic solvents tetrahydrofuran (THF) and chloroform will both dissolve laboratory-grade silicon oils and greases. I suspect that either of them will do the same to silicone damping fluid. Since I don't have any of this oil on hand I can't try this out, but it would surprise me if they proved ineffective.

I would prefer to use the THF, but it may be slightly harder to obtain. Any organic chemistry laboratory would be likely to have either or both of these solvents on hand. Lacking some place to mooch a few milliliters, one might try to purchase some from a pharmacy or (more likely) from a chemical supply house, of which there are many. Both of these solvents should be used with good ventilation, and both will attack most kinds of paint and many plastics, so discretion is recommended during their use.

An alternative would be ethanol/potassium hydroxide solution, but this has many of the same drawbacks as the hydrofluoric acid "remedy."

It has been my experience that soaps and detergents don't remove silicone oils very well. However, it may be worthwhile to try a strong soap solution (like an automotive degreaser) first, since soap and water are less likely to damage the equipment.

No guarantee, implied or implicit.

Chris Osuch

Assorted Kudos

I subscribe to 10 other audio publications, but yours is the only one that inspires me to write.

Some of the reasons:

You make more sense more often than any of the other undergrounders I subscribe to.

Margaret Graham continues to amaze me. Her reviews tell me more about the sound and the performance than any other record critic, in ways that relate to my own experience with recordings she reviews.

Your trouble-shooting tips are invaluable. After a year of endless aggravation with a hum problem, your phono hum article pointed me to the problem. Now the hum is all gone!

Jerry Roemmelt

Static Charges

In dry winter weather, my Revox A-77 builds up static charges on the takeup reel during fast rewind, and the sparks jumping from the reel to the metal motor board make such loud pops through the system I am worried about blowing my tweeters. Any suggestions as to what I might do to eliminate this?

Tom Haig

That's a simple one. Take an ordin-
The Sony ESPRIT APM-8, the world’s only multi-point drive speaker system, as well as the entire innovative Sony ESPRIT Line, is now on display at:

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ary paper clip and use diagonal wire snippers to cut off and trim the outer loop as shown in Figure 1. Remove the right-hand top-panel screw from the A-77. This is located directly to the right of the editing lever (which pulls the tape against the heads while in Stop or Fast modes).

Wrap the large loop of the paper clip around the threads of the panel screw, and twist until the fit is snug but not tight. It will now look like Figure 2.

Pass the screw through the wire loop and replace the screw. The loop will now be between the lock washer and the top panel. Loosen the screw slightly, and bend the end of the wire downwards enough that, when the screw is tightened, the wire will be pressing firmly against the metal top plate. Finally, tighten the screw, using no more than fingertip force on the screwdriver. The final installation will look like Figure 3.

The bottom of that screw connects electrically to the record-er's main frame, which is connected to the turntables which hold the tape reels. The connection to the top plate will drain off any static-electricity potential that might otherwise build up between the reels and the top plate.

Van-Alstine Products

Your use of a letter from George B. Moser in issue IV-9 of Stereophile as a vehicle for you to "warn" your subscribers about our products astonishes me. I am very disappointed that that you did not bother to check on the facts regarding our equipment before running us down. You owe us an apology and a retraction.

Fact: The letter from Mr. Moser was written in early 1979, over two years ago. Do you save uncomplimentary letters on purpose, or is your own internal system so screwed up you don't know what you are doing?

Fact: The equipment mentioned in Moser's letter was sold to him on a written 30 day satisfaction guarantee or his money back -- no questions asked. Dr. Moser kept the equipment, so maybe it wasn't so bad after all.

Fact: Since January, 1980 our SUPER-FET preamplifier (remanufactured PAT-5) MOS-FET 150 amplifier (remanufactured Dyna ST-150), SUPER-TUNER (remanufactured FM-5 tuner), MOS-FET 120 amplifier (remanufactured Dyna ST-120) and several other products have been in production essentially unchanged, either in electronics or in price.

Fact: We do not "modify" Dyna products, we use the chassis of the units to build-in complete new circuits, new PC cards, new quality controls, all circuits of our own design. My electrical engineer is Aado Perandi who is near a master's degree in electrical engineering.

Fact: I have been in business since 1965 and we have always serviced what we sell. Our warranty is one year parts and labor on everything we do. Obviously we want...
Over the years, our retail dealers and customers have asked us why we did not produce a step-up device for moving coil cartridges. We explained that with so many such products available, we saw no reason to simply produce another product and would not do so until we could offer a product with significant improvements in a number of critical areas at a reasonable cost.

The Audionics of Oregon model ET-1 offers substantial advances in several problem areas. The ET-1 is compatible with virtually all low-output moving coil phono cartridges. It is as quiet, both measureably and subjectively, as any electronic product yet offered. It features Pure Class A circuit operation, direct-coupled design, with no 'front-end' negative feedback. The ET-1 eliminates interaction with your phono cartridge as well as offering low-distortion and high overload capabilities. In the past it has been difficult, if not impossible, to obtain such performance from a moderately priced unit. The ET-1 retails for a suggested $250.00.

The ET-1 is supplied with an external power supply. The active circuitry is housed in a cast aluminum enclosure fitted with gold plated input/output jacks. The ET-1 is reliable and offers outstanding sonic performance...in fact we're willing to bet the ET-1 may be the last moving coil step-up device you'll ever need to purchase.

If you want out of the 'headamp or transformer of the month' routine, the ET-1 is an affordable alternative offering state-of-the-art performance for now and the future.

For more information regarding the ET-1 as well as our other new products, send a stamped, self-addressed envelope to AUDIONICS of OREGON for a reply by return mail. Thank you.

**SPECIFICATIONS**

THD & T3M Distortion: 0.05% or less at 5 mV output
Signal-to-Noise: -90dB, wideband, unweighted ref. to 0.2mV input
Frequency Response: Within ±3 dB from 10Hz to 20kHz
Power Supply Source: ±15 vdc, ½ampere, regulated

AUDIONICS of Oregon
P.O. Box 969
University Station
Portland, Oregon 97207
to see back any units we have built for service if necessary, either in or out of warranty. Obviously Dyna cannot service them as they are basically out of business, and the chasses no longer contain any Dyna circuits. We are supplying complete schematics and parts lists with our products to enable any competent repair agency to service them if the owner so desires (warranty work must be done by us) but from the number of "basket case" original Dyna units that come in here for rebuilt, it is evident that there are very few competent repair shops around anywhere. We strongly urge any owner of our products to return them to us for service. Our service and rebuilt turnaround time is usually less than 30 days.

Fact: It might be somewhat more ethical of you, and more productive to the end user, to refer any complaint letters you receive about us to us for action rather than just report on unsubstantiated complaints from readers and hurting our reputation unjustly. We will take action on any complaint you refer to us and report back to you on our action. Then you can report on it as you see fit.

What really pains me, Mr. Holt, is that you shot your mouth off in print, damaging our reputation, hurting our sales, without any objective investigation on your part at all.

You have not requested any of our products for review in many years. You have no first hand knowledge of their values (or flaws). You do not know that we design and install our own circuit designs and PC cards in many Dyna chassis. You do not know that our products have stable production life as long as any other so called "high end" products. All of the questions raised by you in Stereophile could have been answered, objectively, if you would have investigated before printing.

Again, your magazine unjustly and unfairly damages both our reputation and income. I suggest you immediately publish a retraction and apology and send same to your subscribers, with a copy to us.

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**Good Recording** *(From page 6)*

things are as frustrating to classical-music listeners as a crescendo which builds towards a climax, then "crests out" before it gets there. One technique for avoiding this -- and one that more commercial recording companies should consider -- is to have the conductor raise the level of the quietest passages, while allowing crescendos to go to full volume. This effectively holds dynamics to within a practical range without putting a cap on the crescendos.

(15) The Gestalt. Again, this is directed at listeners familiar with live music. Does the recording convey the feeling of a live musical experience, or doesn't it? If it doesn't, can it then be high fidelity?

(16) Performance. Finally, was the performance worth recording in the first place? A fantastic recording may be able to sustain itself for a few listenings, but even the best recording soon palls if the musical execution was sloppy, eccentric, or -- worst of all -- just downright dull. (How many of those supersound Telarc do you listen to for enjoyment of the music?) Fortunately, there are few performing groups bad enough that they can't turn in an occasional hair-raising performance, but you may have to record a whole season of indifferent performances before it happens. But when it does, you'll have a tape to treasure.
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Bowling Green Audio Ctr. – Bowling Green
High Fidelity – Louisville

LOUISIANA
Alterman Audio – Metairie & New Orleans

MARYLAND
Audio World – Cumberland
Bay Country Electronics – Annapolis

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Tech HiFi – All Locations

MICHIGAN
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MISSOURI
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Stereo West – Omaha

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THE NEW LOUDSPEAKER.
Any delay in your part may result in legal action. I value my reputation, have worked hard for years to build it, and will not stand for inept, unsubstantiated doubts being raised by you in print, damaging us unfairly.

Please understand that we have no cause to comment on any subjective evaluation of our equipment that was actually evaluated by the publication and subsequently reported on as long as the equipment was properly installed and used within its capabilities. Beauty is in the eye of the beholder. Our objections to your comments, Mr. Holt, are because you are reporting without observing, an absolutely unethical and unfair situation. You have no right to do this.

Frank Van Alstine
Owner, Jensen's Stereo Shop

We were guilty of a botch by printing any letter as antique as Dr. Moser's. Since typed copy, ready for magazine pasteup, is not dated, we usually, routinely, throw out all timely material if it doesn't get into the next issue that goes to press after the copy is typed. Evidently that failsafe system failed us this time, and for that we apologize.

We do not however see anything else sinful about our printing that letter and our reply, as we had nothing derogatory to say about Mr. Van Alstine, his products, or his professional integrity. We have always been hesitant to recommend modified products to our subscribers, for the reasons given: The original manufacturer won't touch them with a ten-foot pole, and if the modifier goes out of business or drops dead of an unscheduled heart attack, the product is likely to be instantly orphaned.

Whether or not Mr. Van Alstine is "modifying" Dynacomponents is moot, for the precise point at which a redesigned component ceases to be a modification and becomes a completely new design has never been established and probably never will be. Some well-known "modifications" of Dyna Stereo 70s used nothing from the original design except the chassis and the transformers, while some "new" designs from well-known manufacturers have been nothing more than slightly modified versions of their previous model with a cosmetic face lift and a different model designation.

Many years ago, we despaired of ever doing a meaningful report on any Van Alstine design because of the frequency with which they were obsoleted, updated, and modified. Many of the letters about V-A products that we received through the years expressed dissatisfaction, not with V-A's service (which most felt to be good), but with the fact that they were politely informed that they now had an outmoded model and should shell out additional moneys for the latest updatings. That is why we never bothered to request any of Van-Alstine's products for testing. We should also add that Mr. Van-Alstine has not for many years approached us about testing any of his products either.

It is not quite true that we were "reporting without observing." What we have been observing is the reactions of some of our readers who are also Van-Alstine customers. Many were very happy with all aspects of their dealings with Van-Alstine. Many others were not so happy, but not for reasons that could be laid to rest by a letter to Van-Alstine. It would, for example, have served no purpose to inform him that someone who had just bought a Super-FET preamp preferred that its design be frozen so his would not become obsolete.

The "stability" of some Van-Alstine products is a recent de-
To fully appreciate the design advantages of our headphones simply put on a pair and listen. The AKG K340 is truly unique. Each earpiece contains an electrostatic high frequency transducer, shown here, a moving-coil, dynamic low frequency transducer, and AKG patented passive diaphragms. This combination of components allows the full spectrum of sound to be reproduced with unequalled detail, clarity and realism.

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velopment, but one which, in our opinion, makes his designs much more attractive to a prospective buyer, particularly in view of their ridiculously (in these days) low prices. As for their listening quality, we have had very mixed reactions from his customers through the years -- one reason, in fact, why we had assumed he was still playing the modification games. But based upon Mr. Van Alstine's assertion that some of his designs have been finalized, at least for the foreseeable future, we would be more than happy to test some of them for Stereophile reports. If products which are that reasonably priced can also be sonically excellent, we'd like our readers to know about it.

Record Washing

I have recently made a very interesting discovery. For years I have had the idea that the only thing safe for cleaning records is tap water. I have often cleaned older records with ordinary tap water and maybe a little facial-soap lather, followed by a rinse. This has always done a pretty good job.

Now that I have moved outside of Chicago, I have begun to notice that cleaning does not help. I borrowed a Telarc disc from a friend who said it was very dirty and dusty, and I washed it in the usual way. To my surprise, it was far noisier than before. I am beginning to wonder if the high mineral content of my local well water may be the cause. Is there anything you people have tested that really cleans records and possibly might also remove mineral deposits from them?

Mike Stosich

There are such record cleaners: The Keith Monks, and the recently-introduced Nitty-Gritty. Both will remove from a disc everything that doesn't belong there except for wear and scratches. No hand-laundering technique can reduce surface noise to as low a level as can those devices, but if a disc is so dirty as to be unlistenable, it is better to do half a cleaning job than none at all.

Most of the surface noise from hand-washed discs comes from mineral deposits in the rinse water, which are left when the water evaporates. This problem is avoided by the Monks and the Gritty through their use of suction to draw off most of the liquid that remains after washing. Without such suction removal, the best approach is to sop up as much moisture as possible before setting the disc out to dry. It is particularly important that no droplets or bands of liquid be left on the record prior to drying, as these will concentrate whatever minerals there are in the water and leave them in the grooves as relatively thick deposits which are audible on playback as thumps and swishes.

Here then is a wet-clean technique that works reasonably well regardless of the mineral content of the rinse water: Take a pint of tepid water and dissolve a level half-teaspoon of dishwasher detergent in it. Add a capfull* of Kodak Photo-Flo Solution (available from any professional camera-equipment supplier).

Spread several sheets of fresh newspaper on a flat surface and put the disc thereon. Use a small wad of folded velvet or velour to apply the cleaning liquid, gently scrubbing the entire grooved area in the direction of the grooves. Flip the disc over and repeat.

Rinse both sides thoroughly under cold water from a faucet, turn the newspaper over (to get a dry surface), lay another dry

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*NOT a cupfull, but enough to fill the PhotoFlo bottle's own cap.
paper on top, and sweep your forearm across it to press both disc sides against the papers.

Finally, lean the disc on edge in a dust-free spot to dry. Dust particles left on it after drying will be nonabrasive paper particles, easily removed with a conventional preener like the Decca Brush or the Discwasher. If the disc is valuable, you might also wish to finish off with a treatment of Last. (Which will get a very favorable report in our next issue.)

A word of caution. Any wet-wash procedure causes a small amount of damage to the topmost molecules of the groove walls, so if you value your records, don’t use wet washing to maintain them on a day-to-day basis.

Audio Mart

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After a prolonged period of inactivity, due to several things including our near-bankruptcy, we are more than pleased to announce that Stereophile Record Service is once again processing orders and delivering records. Those who have been waiting for longer than we care to think about may expect to receive their records in the near future (all, that is, except what had to be back-ordered).

The name of SRS will be changed in the near future, as it was not sold with the magazine, but it will continue to carry all the audiophile and collector labels it has offered in the past. Meanwhile, you can address inquiries to URS (Un-named Record Service), 1008 Paseo de la Cuma, Santa Fe, NM 87501.
stereophile
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