

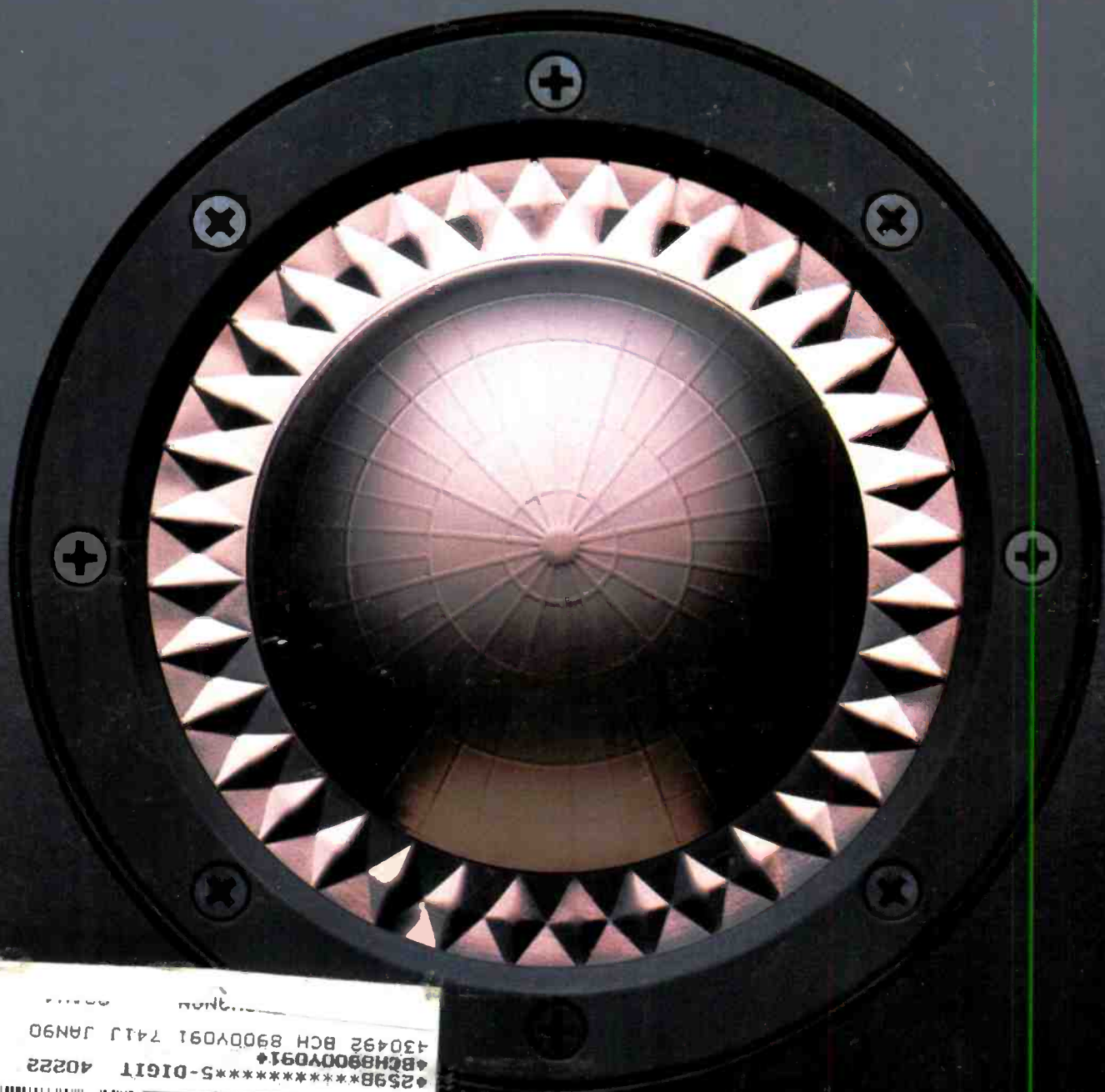
Stereo Review

SEPTEMBER 1988 ● \$2.25

SPEAKER SCIENCE • THE SUBWOOFER BOOM

AN INTERVIEW WITH THOMAS DOLBY

TESTED: CAMBRIDGE SOUNDWORKS SPEAKERS, KENWOOD RECEIVER, BOSTON ACOUSTICS SPEAKERS, AND MORE...



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polk audio

SDA SRS 2.3
\$1099.95 ea.

The Polk Revolution Continues!

"Polk reinvents the loudspeaker"

High Fidelity Magazine

Nearly six years ago the audio world was stunned by Matthew Polk's introduction of revolutionary SDA technology. While other designers had been concentrating on small refinements to existing loudspeaker technology, Matthew Polk opened the door to new frontiers of exciting realism in sound.

True Stereo SDA technology maintains stereo separation all the way to your ears, something which no conventional speaker can achieve. Conventional speakers make it sound like the musicians are trapped in the speaker boxes or in the small space between them. Polk's patented SDA speakers fill the entire width of your listening room with sonic images so breathtakingly real that it's just like having the musicians in the room with you. They must be experienced to be believed!

Introducing the SDA SRS 2.3

Introduced two years ago, the flagship SDA Signature Reference System (SDA SRS) is the ultimate expression of loudspeaker technology. A two-time winner of the prestigious Audio Video Grand Prix Award, the SDA SRS was recently chosen by the editors of Stereo Review magazine for their ultimate dream system.

Now being introduced, the SDA SRS 2.3 offers all of the benefits of third generation SDA technology in a slightly more modest package. It is the perfect speaker for those listeners who demand the best and most exciting listening experience but who cannot accommodate the larger SDA SRS.

Words can never fully express the thrilling experience of listening to the new SDA SRS 2.3. Effortless reproduction at live concert levels, distortion free, body-tingling bass and room-filling stereo imaging are executed so flawlessly that when you close your eyes you'll forget that you are listening to speakers at all. Visit your local Polk dealer and experience them for yourself.



Matthew Polk's award winning SDA SRS 1.2 and the SDA SRS 2.3.

polkaudio
The Speaker Specialists®

5601 Metro Drive, Baltimore, Md. 21215

CIRCLE NO. 90 ON READER SERVICE CARD

Where to buy Polk Speakers? For your nearest dealer, see page 120.

"Polk Has Triumphed."

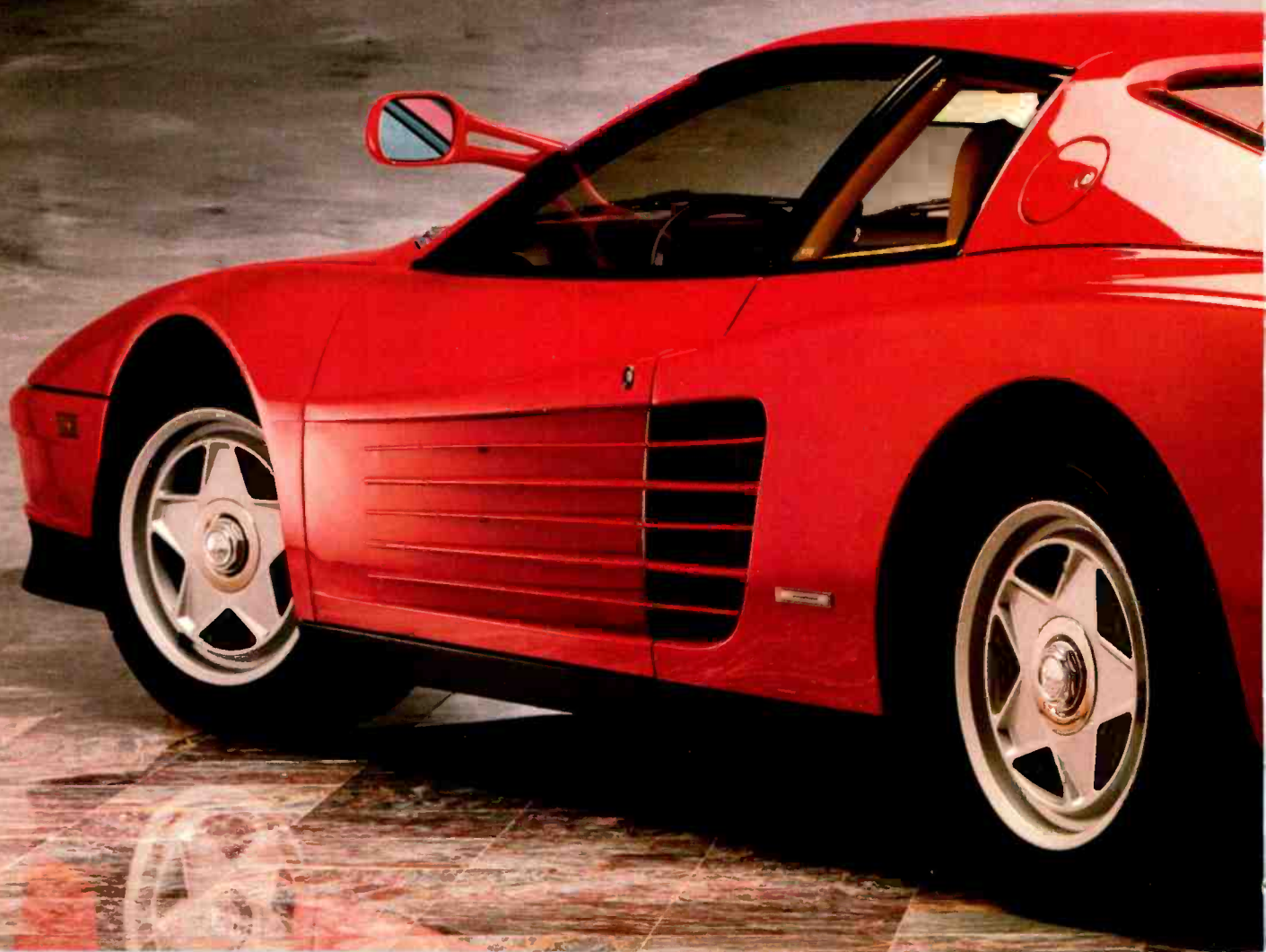
CAR STEREO REVIEW

Introducing Matthew Polk's New SDA Mobile Monitor Systems

Matthew Polk has a passion for perfection in the cars he drives, and the speakers he creates. His astonishing new SDA Mobile Monitor Speaker Systems combine the awesome sonic benefits of his revolutionary SDA True Stereo technology with the superior sound of his Grand Prix award winning Mobile Monitor loudspeakers. Car Stereo Review, the definitive authority on the state-of-the-art in autosound, raved, "It's like jumping into hyperspace."



Complete systems (front and rear speakers plus an SDA Automotive Crossover Matrix) begin under \$500.





Mustang 550

polkaudio
The Speaker Specialist

The world's finest automobiles deserve the world's finest sounding automotive loudspeakers.

CIRC_E NO. 90 ON READER SERVICE CARD



The Ultimate Audio/Video Marriage

The First Receiver to Combine AM/FM Stereo, MTS and Programmable Cable/FM Simulcast Tuning With a Control Center for an Entire A/V System!

Engineered and manufactured by Radio Shack, the Realistic® AV-900 has everything it takes to be the heart of your sophisticated audio/video system. It provides convenient remote control while eliminating the expense of switchboxes, multiple components and a tangle of patch cords. It makes even the most complex operations easy.

Features include a 140-channel cable-compatible TV tuner that receives MTS stereo, SAP and VHF-UHF broadcasts, plus an exclusive system that not only delivers TV/FM simulcast programs, but also stores four cable channel/FM stereo frequency "pairs" in memory so you don't have to tune FM and cable separately. You also get a digital-synthesized AM/FM tuner with search mode and presets for 16 stations, and a powerful amplifier rated 35 watts per channel, minimum rms into 8 ohms from 20-20,000 Hz, with no more than 0.3% THD.

The AV-900 is also a complete stereo audio/video control center with connections for two VCRs, surround sound and video processors, tape deck, CD, turntable, TV, baseband monitor, speakers, plus FM, cable and broadcast TV antennas. Dub from VCR to VCR, CD to VCR, turntable to cassette, or put your favorite music from any source onto the soundtrack of a video. A fluorescent display shows mode and status at a glance.

Come in to see and hear the ultimate audio/video receiver. The Realistic AV-900. Only \$599.95

VCR, speakers and TV/monitor not included

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The Technology Store™

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Stereo Review

LETTERS.....	8	TECHNICAL TALK.....	27
BULLETIN.....	13	POPULAR MUSIC.....	91
NEW PRODUCTS.....	17	CLASSICAL MUSIC.....	107
AUDIO Q&A.....	24	THE HIGH END.....	127

EQUIPMENT

HIRSCH-HOUCK LABS EQUIPMENT TEST REPORTS	33
Kenwood KR-V127R Receiver, page 33	
Cambridge SoundWorks Ensemble Speaker System, page 38	
Soundcraftsmen Pro-CD750 Compact Disc Player, page 46	
Boston Acoustics Model 360 Speaker System, page 53	
SPEAKER SCIENCE	58
Or is designing a loudspeaker more of a black art than a science? <i>by Ian G. Masters</i>	
SUBWOOFERS	65
The low life of hi-fi <i>by Thomas R. Gillett</i>	
CES SHOW STOPPERS	71
Fifteen outstanding new products from the Summer Consumer Electronics Show	

MUSIC

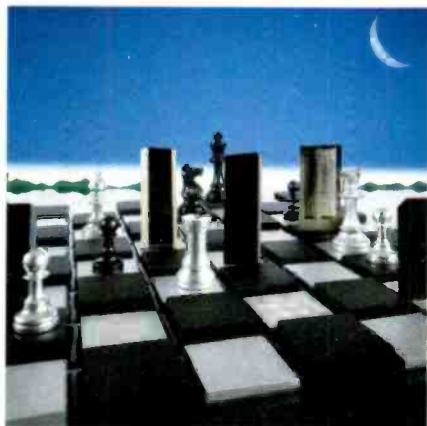
THOMAS DOLBY	76
"I've never treated my listeners like morons." <i>by Mark Peel</i>	
BEST RECORDINGS OF THE MONTH	81
k.d. lang, Schubert and Schumann piano sonatas, Marti Jones, and Puccini's <i>La Bohème</i>	
RECORD MAKERS	86
The latest from Dave Brubeck, Keith Richards, Faith Esham, Don Dorsey, the Tokens, and more	

Cover: One of the titanium midrange drivers used in the JBL Cascade speaker system; see page 74.
Design by Sue Llewellyn, photo by Aaron Rezny.

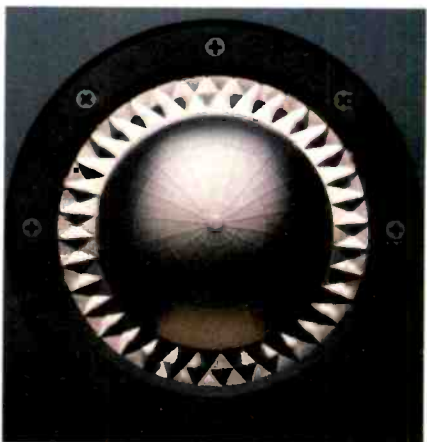
STEREO REVIEW BUYER POLL. SEE PAGE 111
Please fill in if you bought equipment in the past thirty days.
READER SERVICE INFORMATION CARD, FACING PAGE 111
Circle the items you want to know about.



PAGE 76



PAGE 58

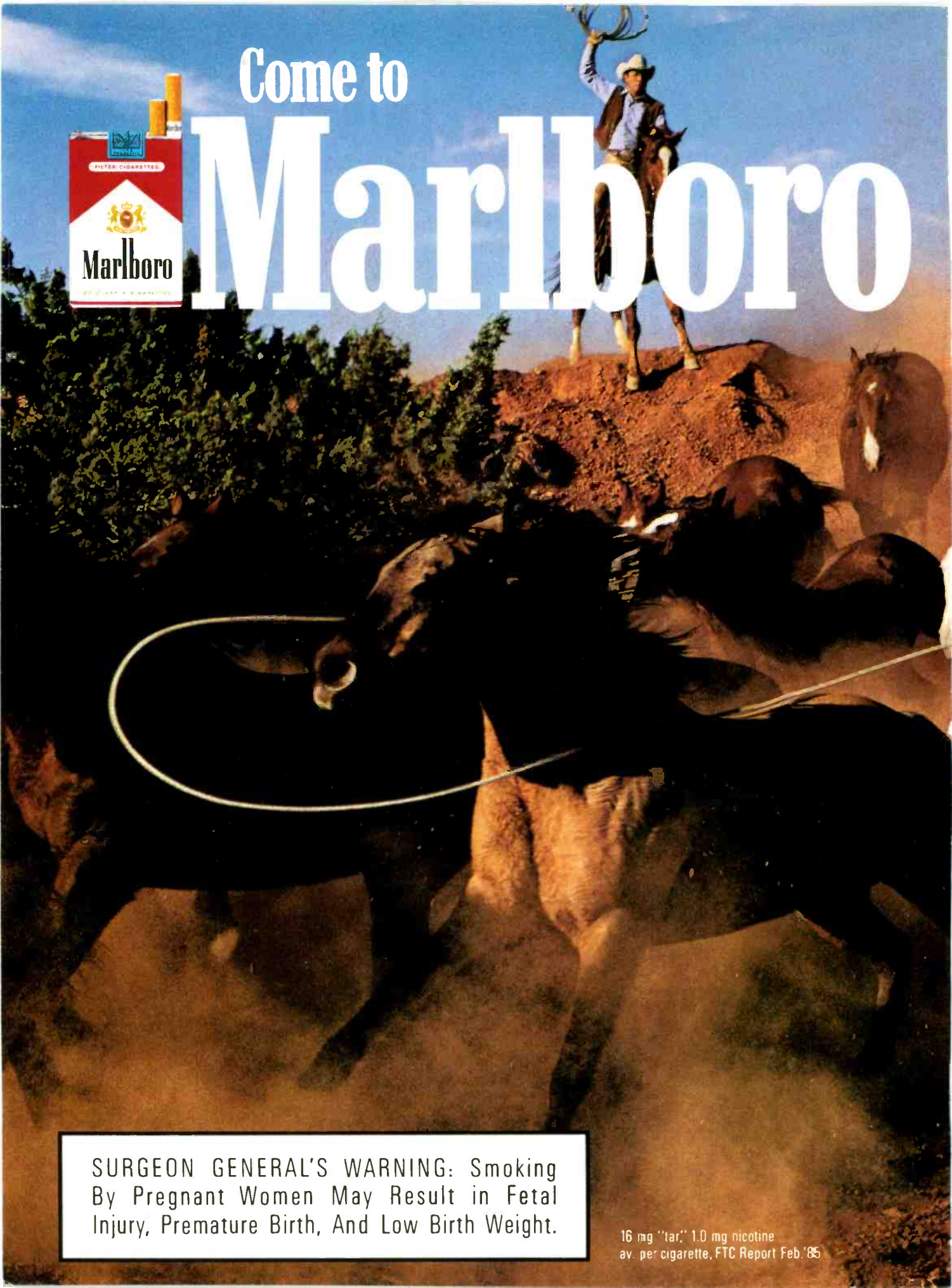


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Come to

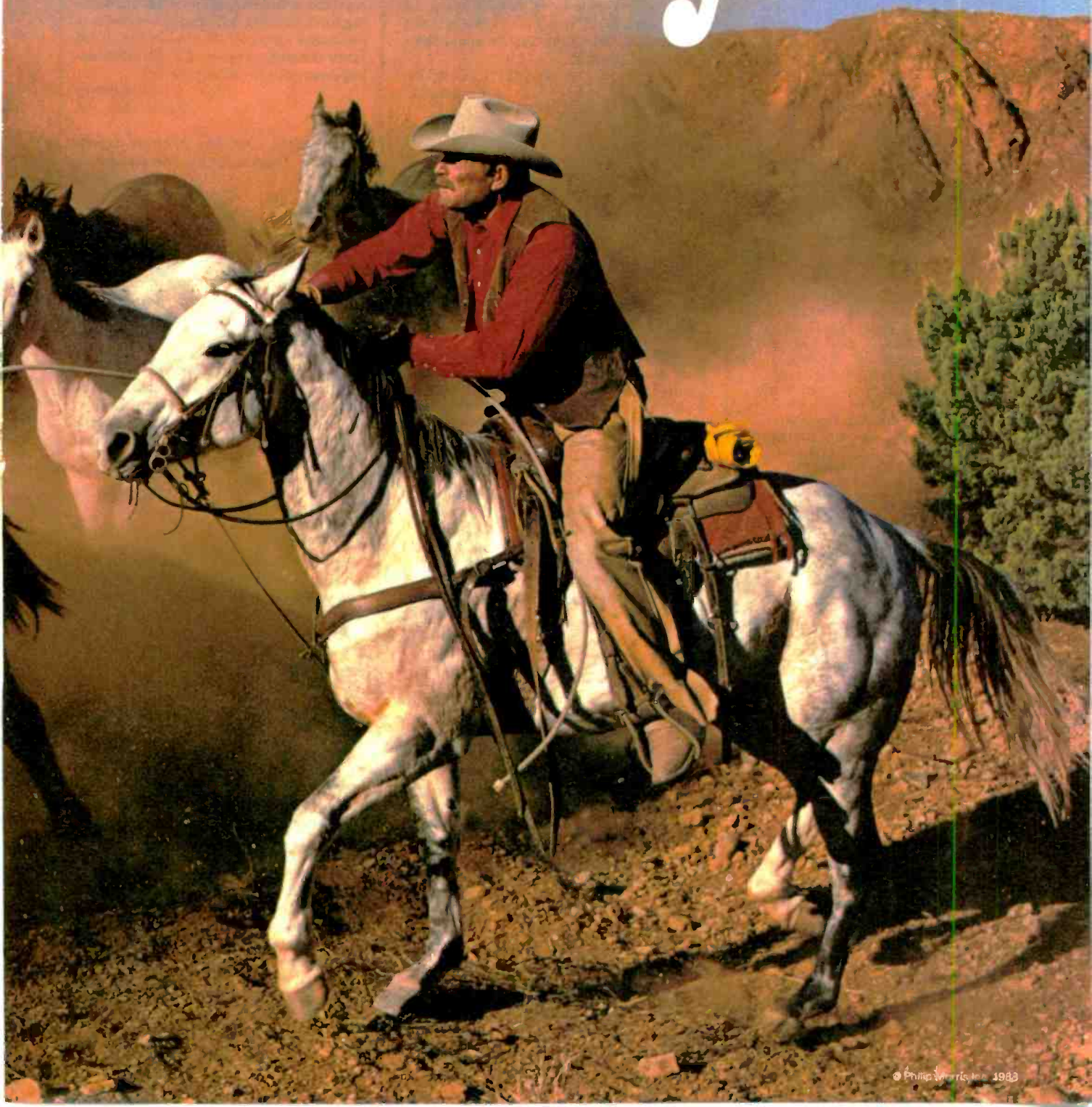
Marlboro



SURGEON GENERAL'S WARNING: Smoking By Pregnant Women May Result in Fetal Injury, Premature Birth, And Low Birth Weight.

16 mg "tar," 1.0 mg nicotine
av. per cigarette, FTC Report Feb. '85

Country.



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LETTERS

Stopping Traffic

Concerning Jack Hancey's letter in July, where he said that when he stopped at a traffic light in Salt Lake City last summer he heard the guy in the car next to him listening to Beethoven—I would like to learn what kind of a stereo system the other guy had in his car. I have been in Salt Lake City in summer, and while nothing is certain, most folks enjoy air conditioning in their cars. So if both had their windows shut, that other guy's system must have been out of sight.

NEWELL E. COX, JR.
Enoree, SC

Speaking the Language

The section on "Speaking the Language" in Bryan Harrell's July report on Japanese audio reminded me of my experience fifteen years ago in a technical seminar put on by a Japanese company for users of their television cameras. As we were being taught the daily setup procedure, the Japanese engineer made repeated reference to "my nice screwdriver" and something he called a "Prussia screwdriver."

Now, I also had some nice screwdrivers and felt that wouldn't be a problem, but I had no idea where or how to obtain a Prussia 'driver, or even just what it was. After the training session I buttonholed the instructor and asked him to elaborate. His first reaction was disbelief at my ignorance of such an elementary fact. After being convinced of both my intelligence and sincerity, he laughed and, pulling the instruments in question from his tool kit, showed me how to tell the "Prussia" (+) screwdriver from the commoner "my nice" (-) variety by noting the shape of the tip!

GARY FISHER
Allendale, MI

Record Re-Makers

Two minor points regarding your little blurb on Leslie West in July's "Record Makers": First, you say that on West's new album guest artist Jack Bruce "for the first time on record gets to sing his own *Theme from an Imaginary Western*." I believe that Bruce sang it on his 1969 solo album, "Songs for a Tailor." Also, as witty as West may seem, his comment that "Rock and roll is like high school with money" is a direct steal of Martin Mull's quip that "Show business is high school with money."

ARMANDO DAVIS
New Preston, CT

Many readers wrote to us about Jack Bruce's earlier recording of the song,

which is correctly titled Theme for an Imaginary Western, not Theme from.

Record Groove Wear

I hate to upset Ian Masters's theory regarding record groove wear in the "Crackling Vinyl" item in July's "Audio Q&A," but the inside wall of the groove is *not* the right channel—it's the left. This, in effect, reverses his line of reasoning: Instead of too little antiskating force causing left-channel noise, it is *too much* force, which makes the stylus favor the right groove wall while bouncing destructively along the left.

MACON STEPHENSON
Richmond, VA

You're right, and Mr. Masters regrets the error. Thanks for the correction.

The Byrds

As a long-time fan of the original Byrds, I felt compelled to express my appreciation for Steve Simels's excellent feature review in June of the Byrds collection "Never Before." I agree with him on almost all counts, particularly that the Byrds were the "premier American band" of their day.

Like Mr. Simels, I hope that a second volume of previously unreleased Byrds cuts can be made, but I've heard rumors that some of the songs that could have been issued have already been vetoed by the Byrds.

DON RICHMOND
Smyrna, GA

Errata

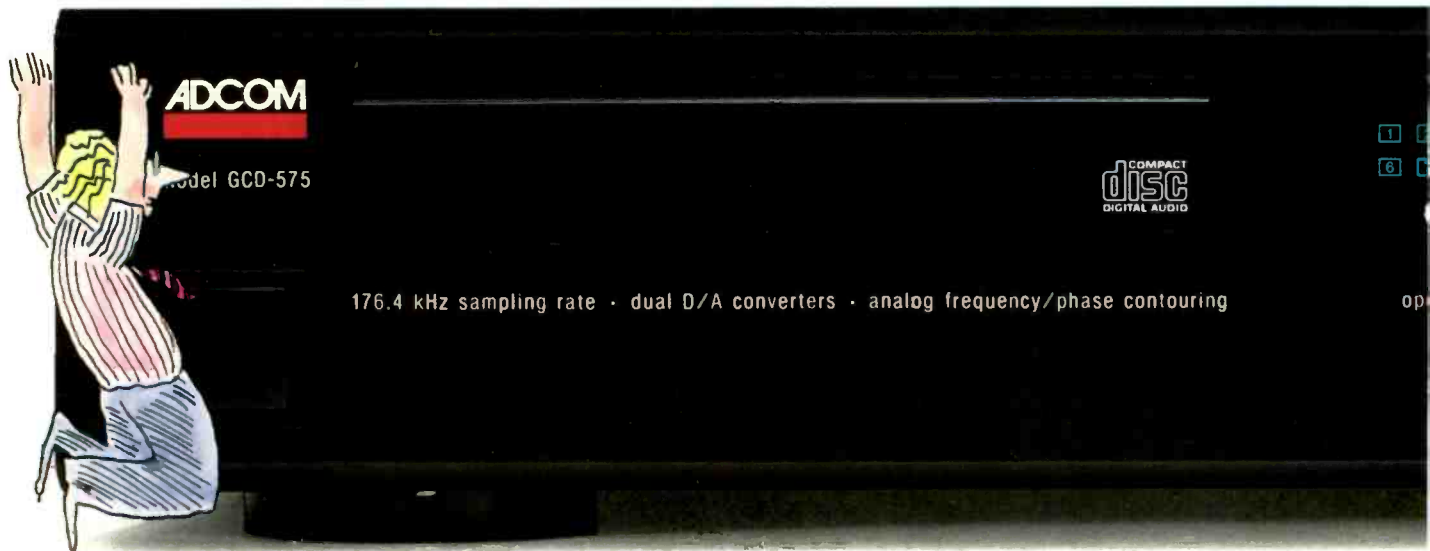
In "Magic Space" (August), the article on digital sound processors from Lexicon and Yamaha, two lines at the end of page 60 were dropped during the printing process. The first sentence of the paragraph continuing on page 63 should read: "From an engineering point of view, however, doing A/D or D/A conversion merely to store and retrieve data constitutes technological overkill."

In the same article, on page 66, it was stated that "Both of the Yamaha components [the DSP-3000 and the DSR-100] have rotating volume controls with motor drives." The DSR-100 has two level knobs, one for each channel, but the DSP-3000 has none. Finally, the article mentioned that the DSP-3000's subprograms have names that "are well chosen to evoke specific visual images"; we should have pointed out that the subprograms using proper names of particular performance locales, such as the Anaheim Stadium and the Village Gate, are, in fact, based on acoustic measurements taken at those locales. □

All good things come to those who wait.



Finally. A that reproduces not just bits a



Adcom's new GCD-575 Compact Disc Player has been worth waiting for. Now there's a CD player with analog audio circuits as technically advanced as its digital stages.

Since the human ear can only appreciate musical sounds in their analog format, Adcom began with the objective of producing the first affordable CD player whose direct-coupled audio output would deliver the long anticipated technical benefits of digital sound.

Class "A" Makes A Difference

Designers and engineers usually use Class "A" audio circuits where price is no object. In its purest form, Class "A" offers a highly sophisticated level of audio amplification, often demanded by those who can distinguish outstanding sonic performance from the merely average. Adcom's GCD-575 employs a no-compromise, Class "A" analog audio amplifier section which provides superior resolution by more clearly defining low-level information.

CD player all of the music, and bytes of it.



This higher resolution makes an audibly dramatic difference in the musicality of CD reproduction. To achieve this result, the analog audio circuits in the GCD-575 were based on the same proprietary high speed linear amplifiers used in Adcom's GFP-555 preamplifier, universally recognized for its outstanding musical integrity.

No other CD player at any price uses these superb audio components.

Digital Sound At Its Best

Adcom's selectable analog frequency/phase contour circuit enhances the musicality of CD's which have been poorly mixed, or digitally over equalized. Subtly contoured by the AFPC, many of these CDs become more listenable, with much of the fatiguing harshness and "glare" reduced. In addition, the stereo image and sound stage becomes more focused allowing for a more natural sonic presentation.

(Over please)

The Adcom GCD-575

Details You Can Hear

Importantly, Adcom's CD player is designed with a low output impedance (100 Ohms) so that it can operate up to its maximum capability with a wide variety of associated equipment. It is not only compatible with virtually all input stages of amplifiers, preamplifiers, tuner/preamplifiers, etc., but also permits the use of longer interconnecting audio cables, when required, with minimal signal deterioration.

Additionally the GCD-575 is supplied with a high quality, low-loss audio cable to prevent the sonic smear that conventional audio cables tend to cause. The use of this special cable and the 100 Ohm output impedance permits the GCD-575 to be used with Adcom's SLC-505 passive straight line controller. If no other source equipment will be used, the variable output (front panel controlled) can be used directly into your power amplifier, bypassing the preamplifier circuits normally required by other CD players.

A multi-winding power transformer, connected to three separate tightly regulated power supplies for the audio, digital and display circuitry, insures isolation of the different functions and optimal operation of each without interference.

The four special heavy feet installed on the GCD-575 are reversible metal castings. On one side, the flat surface insures a wide contact area. The reverse side is cast with built-in "Iso-points" which, when used in a three-foot configuration, operates as a "tripod" support system.

A special polarity-inverting switch permits you to reverse the normal positive polarity to negative (inverted) polarity. This corrects playback of CDs in which the polarity was incorrectly recorded (inverted), or for use in systems in which one of the components causes a reversal of correct polarity.



Full Function Remote Control

Specifications

Frequency Response: 5Hz - 20kHz, +0.1, -0.5dB

Signal-to-noise Ratio: 105dB

Dynamic Range: 98dB

THD: 0.0025%

IMD (70Hz difference): @ 5kHz
0.00018%

Channel Separation (1kHz): 95dB

Interchannel Phase Shift:

@ 20kHz Less than 1.8°

Output Impedance: Fixed 100Ω/
Variable 100Ω/Digital 75Ω

Output Level: Fixed 2.5V RMS
Variable Greater Than 4.5V RMS
Digital 0.5V peak-to-peak

Sampling Rate: 176.4kHz

Quantized Bits: 16-bit linear

Power: 120VAC/60Hz
(Available in 220/240V, 50Hz)

Dimensions: 17" (430mm)W ×
11-1/4" (285mm)D ×
3-7/16" (87mm)H

Weight: 12 lbs. (5.5 kg.)

Optional: Model RM-3 rack mount
adaptors. Available with white front
panel.

*Specifications subject to change
without notice.*

More Features For Better Value

Other features include a full function remote-control system with random access track capability; low group-delay digital and analog filters; triple-beam laser format; a direct digital output; playback of 3-inch discs without an adaptor; and a very-high-quality headphone output.

The GCD-575's advanced facilities include:

- Programming of up to 24 tracks
- Programming of any phrase
- Audible fast forward and reverse
- Adjustable introscan
- Auto space

Display functions include:

- Elapsed time on track or disc
- Time remaining on track or disc
- Programmed tracks
- Track being played
- Number of tracks up to 20

Why Should You Listen To Us?

Over the years, Adcom has earned a reputation for delivering superb performance at a modest price. The GCD-575 keeps faith with this tradition.

Once again, Adcom clears an innovative path through the jungle of confusing claims about "digital" sound, and provides a logical and direct path to musical purity.

If you've been waiting for a CD player which faithfully reproduces all of the music, not just bits and bytes of it, you'll want to visit your nearest authorized Adcom dealer right now... because while it may be true that all good things come to those who wait, you've waited long enough for a CD player this good.

ADCOM[®]
fine stereo components

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CIRCLE NO 60 ON READER SERVICE CARD

by Christie Barter
and Michael Smolen

JACKSON THE BADDEST

Michael Jackson's "Bad" is the first album in the history of pop music to generate five No. 1 hits on *Billboard's* Hot 100 chart. The latest is *Dirty Diana*, which climbed to the top in its ninth charted week. Jackson's other four best-selling singles off the album were *I Just Can't Stop Loving You*, *Bad*, *The Way You Make Me Feel*, and *Man in the Mirror*.

DAT UPDATE

Threats by the Recording Industry Association of America to sue any company that sells digital audio tape recorders in this country before the issue of home copying is resolved have made Japanese companies reluctant to market DAT recorders here. The Consumer Electronics Group of the Electronic Industries Association has established a six-figure legal defense fund to be made available to the first member company sued for selling DAT recorders. . . . Ford is market-testing its optional DAT player (\$1,540) for 1988 Lincoln Continentals in New York, Chicago, Dallas, Miami, and Los Angeles. . . . Fuji has made its digital audio tape available in this country, and Shape Inc. has become the first U.S. company to make blank DAT cassettes.

NO-NOISE CLASSICS

Philips Classics is one of the first labels to make extensive commercial use of a new digital noise reduction system called NoNOISE. Developed by Sonic Solutions, a San Francisco-based company, the new system removes unwanted surface noise such as tape hiss, clicks, and pops from analog recordings being transferred to compact disc, and it does so, according to Philips, "while completely preserving the original sound."

The NoNOISE restoration process has also been used by RCA Victor in CD reissues of jazz classics in its Bluebird series, by

MCA in reissues of recordings by the Doors and the Andrews Sisters, and by Disneyland/Vista in a compilation of music taken from Disney film tracks.

EQUIPMENT NOTES

Sharp's tubeless LCD projection TV, previewed at the Summer Consumer Electronics Show, will be available next spring. . . . Canon has introduced a compact 8mm VCR with PCM digital stereo sound; the ES-100 will list for \$1,000. . . . Mitsubishi has begun testing home-automation systems in ten states. The system can control audio and video equipment and security, lighting, energy, and communications devices as well as many home appliances. . . . To promote its CD cleaning products designed for both 5- and 3-inch CD's, all Discwasher CD cleaners will be packed with a free 3-inch modern jazz disc while supplies last.

NEW BOOKS

Behind Closed Doors: Talking with the Legends of Country Music by STEREO REVIEW Contributing Editor Alanna Nash is due for September publication by Alfred A. Knopf. The book is a compilation of over two dozen conversations with top country artists, from Roy Acuff to Tammy Wynette. Nash is also the author of *Golden Girl, the Story of Jessica Savitch*, a biography of the late network-news anchorwoman being published in September by E. P. Dutton. . . . Music-trade journalist Roman Kozak and photographer Ebet Roberts have collaborated on *This Ain't No Disco—The Story of CBGB*, published under the Faber & Faber imprint, to mark the fifteenth anniversary of the lower Manhattan rock club.

CONSUMER AIDS

Three free pamphlets designed to help consumers enjoy and use their home electronics products have been made available by the Consumer Electronics Group of the Electronic Industries Association. The first discusses the care and maintenance of TV

sets, home computers, audio equipment, and similar products. Another deals with such accessories as audio cartridges, mikes, and remote controls. The third explains how to hook up audio and video systems as well as telephones and TV sets. To order single copies, send a self-addressed No. 10 envelope with appropriate postage to Electronic Industries Association, [Name of Pamphlet], P.O. Box 19100, Washington, DC 20036. The required postage is: Care Products, 25¢; Accessory Products, 45¢; Hookup and Expansion, 65¢.

MUSIC NOTES

Bruce Springsteen, Sting, and Peter Gabriel head the artist roster for Amnesty International's worldwide Human Rights Now! tour beginning September 2 in London. The two American concerts are set for September 19 in Philadelphia and September 21 in Los Angeles. . . . Early this summer teen star Debbie Gibson became the youngest artist to write, produce, and perform a No. 1 single when *Foolish Beat*, from her Top 10 debut album, "Out of the Blue," went to the top of *Billboard's* June 25 Hot 100 chart. On June 26 Gibson graduated from high school. . . . Cyndi Lauper officially graduated from New York City's Richmond Hill High School, where she started her secondary education some years ago.



TERRY ALLEN

ES

After inventing
the Digital
Compact Disc
we weren't about
to entrust its
reproduction to
anyone else.

The New Sony ES Series: Superior Audio Components To Which We Proudly Entrust The Reproduction Of Digital Sound.

As the inventor of the Compact Disc format, Sony continues to expand the limits of digital reproduction. Yet, while proudly leading this revolution, the Sony ES engineers have been equally conscientious about designing analog components that fully realize the potential of the digital era. This uncompromising commitment defines the entire ES Series.



The CDP-707ESD:
Simply stated... "the reference against which to judge" others.—*Len Feldman, Audio Magazine.*

Historically, Sony ES Compact Disc players have been the benchmark for advancing the state-of-the-art. The CDP-707ESD is no exception. As the world's first CD player to incorporate dual 18 bit linear D/A converters, along with a proprietary 8X oversampling digital filter, it brings the listener closer to the theoretical limits of Compact Disc performance. This advanced technology provides greater low level signal resolution and improved linearity, for more faithful reproduction of musical depth and detail.

And there's more to the ES Series than the CDP-707ESD, and its host of sophisticated features. You'll find our advanced 8X oversampling filter technology in the less costly CDP-507ESD, as well as the CDP-C15ESD, which combines 18 bit linear D/A converter performance with 10-disc changer convenience for the very first time.



The STR-GX10ES:
The quality of separate components
in a fully integrated design.

Traditionally, few receivers have offered the performance necessary to meet the demands of digital sources. These demands on receiver technology come at a time when the requirements for total audio and video integration have created more compromises than ever before.

To avoid those compromises, Sony created the STR-GX10ES, with 150 watts-per-channel. It, along with our

full line of receivers, achieves unsurpassed musicality, thanks to a unique Spontaneous Twin-Drive amplifier stage that eliminates power supply fluctuations, regardless of current demand. Add to this such refinements as discrete outputs and a non-resonating G-Chassis™ design, and you have accurate reproduction of music detail and dynamics even under the most demanding speaker load conditions.

Yet the STR-GX10ES also brings you the convenience of total integration with a supplied Remote Commander™ unit that allows for control of virtually any infrared audio or video component, regardless of brand. And with its special high resolution S-Video circuitry, the STR-GX10ES is compatible with components you might buy in the future.



The TC-WR11ES:
Finally, a level of performance never before
achieved in a dual-deck design.

Accurate reproduction of digital source material has placed a heavy burden on the finest analog cassette decks. A burden compounded in dual-deck designs, where compromises are often made for operating convenience.

The uncompromising new Sony TC-WR11ES is a magnetic and mechanical accomplishment that rises to the digital challenge by combining superb music reproduction with ultra-sophisticated operations. A unique 210 kHz Super Bias™ circuit extends frequency response, without the beat frequency noise that's typical of high speed dubbing decks. Even at normal speed, the TC-WR11ES, like all ES cassette decks, achieves clean, transparent recordings, plus an astoundingly uniform 20-20,000Hz (+/- 3dB) frequency response. Add to this the patented Laser Amorphous heads and 4-motor transport, and the TC-WR11ES indisputably demonstrates the technical refinement needed to triumph in the digital age.

The Sony ES Commitment.

The Sony ES Series is a skillfully crafted line that not only includes the finest Compact Disc players, but superb analog components as well, all doing full justice to the ES engineers' exceedingly high standards. Further expression of this excellence is reflected in the 3 year limited warranty that backs each and every model (see your authorized Sony ES dealer for details).

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NEW PRODUCTS



NEC

NEC's CD-720 compact disc player features twin 16-bit, quadruple-over-sampling, high-speed digital-to-analog converters and optical coupling between the digital and analog circuitry. Other features include programming for up to twenty-four tracks, favorite-track memory for up to ten discs, scanning of up to 60 seconds of each track, and a three-way edit function. The player has digital output terminals and both variable- and fixed-level analog outputs, all gold-plated. Other functions include repeat play of an entire disc, individual track(s), or a selected portion and two-speed forward and reverse search. Frequency response is rated as 5 to 20,000 Hz ± 0.1 , -0.3 dB, dynamic range as 98 dB, and total harmonic distortion as 0.0025 percent. A remote control with direct track access is supplied. Price: \$579. NEC, Dept. SR, 1255 Michael Dr., Wood Dale, IL 60191.

Circle 120 on reader service card

Carver

Carver's Model 6250 AM/FM stereo receiver employs the company's Magnetic Field Amplifier circuitry, which provides high dynamic headroom by modulating rather than storing power, in effect driving speakers directly from the AC power source. The preamplifier section contains the company's renowned Sonic Holography ambience-enhancement circuitry, and the tuner's Asymmetrical Charge-Coupled FM Detection circuitry is said to reduce noise

and distortion greatly. The tuner's FM signal-to-noise ratio is given as 78 dB, capture ratio as 1.5 dB, and AM suppression as 62 dB. The amplifier is rated for 125 watts per channel into 8 ohms from 20 to 20,000 Hz with no more than 0.1 percent total harmonic distortion. Other features include video-input switching, tape-dubbing facilities, jacks for two pairs of loudspeakers, twelve station presets, and a remote control. Price: \$899. Carver, Dept. SR, P.O. Box 1237, Lynnwood, WA 98046.

Circle 121 on reader service card



Aiwa

Aiwa claims that its HS-J800 is the first portable autoreverse cassette recorder and AM/FM tuner to feature digital-synthesis tuning and an LCD function readout. The HS-J800 records in stereo and comes with a detachable one-point microphone. Other features include Dolby B noise reduction, metal/normal tape selection, a built-in clock, a 1-hour quick-charge battery (3 hours playing time), and an AC adaptor. A carrying case and headphones are supplied. Price: \$240. Aiwa, Dept. SR., 35 Oxford Dr., Moonachie, NJ 07074.

Circle 122 on reader service card

NEW PRODUCTS



Akai

Akai's AM-93-B integrated amplifier has four digital inputs for the direct digital outputs of CD players and DAT decks. The amplifier incorporates dual digital-to-analog (D/A) converters and linear 18-bit, eight-times-oversampling digital filters. It also employs a Super Active low-impedance power supply and oversized filter capacitors to handle the wide dynamic range of digital sources. The Zero Drive DC Servo circuit is said to aid in bass reproduction by maintaining an effective output impedance of zero.

The AM-93-B is rated to deliver 120 watts continuous output per channel from 20 to 20,000 Hz into 8 ohms with no more than 0.05 percent total harmonic distortion. Other features include three analog tape loops, record-out selectors, Source Direct switching to bypass all tone and tape-monitor circuitry, a moving-coil phono input, and a switchable subsonic filter. Price: \$1,099. Akai, Dept. SR, 225 Old New Brunswick Rd., Piscataway, NJ 08854.

Circle 123 on reader service card

Hitachi

Hitachi's CLU-4901R Intelligent Remote Control can memorize the infrared commands of other wireless remotes, allowing it to operate a VCR, a videodisc player, a CD player, a cable-TV decoder, and a TV set. Its twenty-two buttons are coded in two colors and can each control two different functions. The CLU-4901R is included with certain high-end Hitachi TV sets and is also available separately for \$99.50. Hitachi, Dept. SR, P.O. Box 92232, Los Angeles, CA 90009.

Circle 124 on reader service card



Hyman Products

Inflatable speakers from Hyman Products, called Airwaves, come in numerous shapes and in sizes said to be suitable for use with sources ranging from personal portable stereo players to full home music systems. The Micro Airwaves, shown in the jukebox-shaped version, use single full-range drivers and are sold in pairs for \$30. Other styles include miniature palm trees, guitars, and geometric shapes—cones, spheres, and cubes; most are no more

than 12 inches tall or wide, but the spheres are 16 inches in diameter. The larger Max Airwaves also use full-range drivers and are rated for 25 watts input. Geometric shapes and a 5-foot-tall palm tree are available for \$30 per speaker. The Ultra Max Airwaves are two-way speakers also rated for 25 watts. There are two styles, a 4 x 3-foot replica of a conventional speaker and a 3½-foot-tall jukebox. Price is \$80 each. Hyman Products, Dept. SR, 2932 Grissom Dr., St. Louis, MO 63146.

Circle 125 on reader service card

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8H51

NEW PRODUCTS



AudioSource

The AudioSource EQ Ten is a twelve-band graphic equalizer that uses soft-touch controls instead of the usual sliders for greater adjustment precision. It comes with a calibrated electret condenser microphone and has a built-in pink-noise generator and a microcomputer to calculate the optimal equalization curve for flattest response in a given listening room. Alternative curves can be manually set by the user, and up to four

curves can be stored in memory. A Reverse-EQ function enables equalized tape recordings to be played back without equalization for A/B comparisons of the effects of different curves.

The EQ Ten's center frequencies are 25, 40, 63, 100, 160, 250, 500, 1,000, 2,000, 4,000, 8,000, and 16,000 Hz. A full-function wireless remote control is included. Price: \$399.95. AudioSource, Dept. SR, 1327 N. Carolan Ave., Burlingame, CA 94010.

Circle 126 on reader service card



Luxman

Luxman's D-112 compact disc player features a double-oversampling digital filter and a 16-bit digital-to-analog (D/A) converter, and it also has a coaxial digital output for connection to amplifiers having digital inputs and their own D/A converters. The three-beam laser pickup is isolated from shock and vibration

by what is described as a unique viscous-elastic, resin-bonded steel sub-chassis with special dampers. Up to sixteen tracks can be programmed, and the player can be operated by a Luxman unified remote control (not supplied). Dimensions are 17 1/4 x 3 3/8 x 12 3/8 inches. Price: \$550. Luxman, Dept. SR, 19145 Gramercy Place, Torrance, CA 90501.

Circle 128 on reader service card



Marantz

The CDC-320 remote-controlled compact disc changer from Marantz can be programmed to play up to fifteen selections in any order from a maximum of six CD's. Repeat of one disc or the entire six-disc magazine can also be programmed. The changer has a three-beam laser pickup and utilizes full 16-bit linear digital-to-analog conversion. Frequency response is rated as 5 to 20,000 Hz, and total harmonic distortion is given as 0.008 percent at 1,000 Hz. Dimensions are 16 1/2 x 3 1/2 x 13 inches. Price: \$369.95. Marantz, Dept. SR, 20525 Nordhoff St., Chatsworth, CA 91311.

Circle 129 on reader service card

Revox

The Revox Power Cube active woofer incorporates a 150-watt amplifier for its 12 1/2-inch bass driver and two additional 100-watt amplifiers for a pair of satellite speakers. The woofer, mounted in a rigid die-cast chassis, has a rated frequency response of 35 to 90 Hz \pm 3 dB. A panel at the rear of the Power Cube contains rotary switches for regulating bass output and power mode, including manual on/off, automatic power on when a signal is present, and bypass of the subwoofer's own amplifier. The cabinet dimensions are 14 1/2 x 15 1/2 x 16 1/4 inches. Price: \$1,600. Studer Revox, Dept. SR, 1425 Elm Hill Pike, Nashville, TN 37210.

Circle 127 on reader service card



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MIND



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CIRCLE NO. 22 ON READER SERVICE CARD

by Ian G. Masters



Bad AM Sound

Q *The AM section of every tuner I have listened to is mediocre, hardly better than a pocket radio. Even the advent of stereo AM hasn't changed this. Why aren't AM tuners better?*

THOMAS W. ENGLAND II
Richmond, IN

A Some are not bad, in fact, but I agree that most are atrocious. To some extent this is a result of the broadcast system's inherent limitations: At its best, AM is noisy and limited to a decidedly narrow bandwidth. The problem has been compounded by the broadcasters, who typically cram as much into the signal as possible by limiting the bandwidth even further and compressing the signal sharply—an AM rock station usually has a dynamic range of about 3 dB!

Faced with this situation, audio manufacturers have never considered AM to be high fidelity, so they have lavished almost no attention on the AM sections they include in their receivers and tuners (they almost always do include them as a convenience). Since the component makers don't think there is a demand for good AM performance, and since broadcasters operate in the knowledge that virtually all of their audience listens on terrible radios, there doesn't seem to be much hope for improvement. The advent of AM stereo might help matters eventually, but the continued existence of several incompatible systems has made for slow progress.

Peak Recording Levels

Q *When I set the recording levels on my cassette deck so that the signal peaks at 0 dB, the output is very low and very noisy. To achieve a level approximately the same as the source, I have to set it to peak at +7 to +10 dB. This doesn't seem to result in high distortion levels, but something is obviously wrong. Is it my deck, my ears, or something else?*

ROE E. WALKER
Eden, UT

A I suspect that miscalibrated meters are at fault. If so, you could simply continue to make recordings that peak at +7 dB, but I wouldn't advise it. The cassette system works within fairly close tolerances, and ideal recordings require levels to be set as high as possible to achieve maximum signal-to-noise performance, but not so high as to introduce gross distortion. It's a delicate balance at the best of times; in your case, reliance on guesswork and "earballing" may produce recordings that are acceptable, but they're unlikely to take full advantage of your deck's capabilities. A trip back to the manufacturer may be necessary, but it should pay dividends in better recordings in the future.

Unbalanced Phono Output

Q *When I installed my new phono cartridge, I immediately noticed a major level difference between the left and right channels. When I fed the signal to my tape deck, I could see by the meters that the left channel was about 6 dB higher than the right. I substituted the old cartridge, and everything was fine. When I called the store where I bought the new one, the owner said "that's what balance controls are for." What do I do?*

C. TODD BRASHEAR
Bloomington, IN

A First, try to get your money back. Second, find a dealer who knows what he's talking about. If the first proves to be difficult (which sounds like a real possibility under the circumstances), at least send the cartridge back to its manufacturer for repair or replacement. No cartridge should exhibit this sort of imbalance; there is definitely something wrong with it.

As for your soon-to-be ex-dealer's comment about balance controls, they are certainly *not* provided to compensate for gross misbehavior of source components but rather for making fine adjustments to overcome slight acoustic anomalies in listening rooms. In any event, even if you were to use your balance control to offset the cartridge's

imbalance when listening directly, it would have no effect when you are dubbing to cassettes; your tapes would still have that 6-dB channel imbalance.

Volume-Control Settings

Q *With most preamplifier/amplifier combinations I have ever tried, turning the preamp's volume control up more than a third of the way drives the power amplifier into clipping. Why are such controls designed so that only the lower portion of their range is useful?*

BERNIE GALLAGHER
Middletown, NY

A Such settings are arbitrary and can be inconvenient in some systems, but the manufacturers of preamplifiers have no way of knowing what sort of sensitivity a system's power amplifier or speakers will have, so they provide a considerable range of adjustment to take care of most eventualities. Many power amplifiers have their own input-level controls, however, and these can be set so that the normal operating range of the preamplifier's volume control is in a convenient part of the control's total range. Failing this, you might consider wiring a second level control between the preamplifier outputs and the power-amplifier inputs. The possible ill effects of having another circuit element in the audio path may well be offset by the increase in operating convenience.

Linear Stereo

Q *I am considering buying a VCR that has MTS stereo but not hi-fi sound. Since the machine has only two heads, I am worried that I may not obtain stereo sound from the linear audio tracks of commercial videotapes that contain hi-fi audio. Do such tapes have stereo only on the hi-fi tracks and mono on the regular track, or will I be able to hear stereo?*

MARC SHECHTMAN
Belmont, MA

A Fear not. The "two heads" you mention are for *video* only. The VCR manufacturers often add extra video heads to improve special-effects performance, and designating their machines as, say, "four-head" units is simply a convenient way of alerting buyers to the features the extra heads provide. Such terminology ignores the audio record/play and erase heads. Producers of prerecorded videocassettes with hi-fi soundtracks know that many of their customers own machines that only contain conventional (or linear) audio capability, so the hi-fi sound is basically duplicated on the linear track—stereo, Dolby Surround, and all. □

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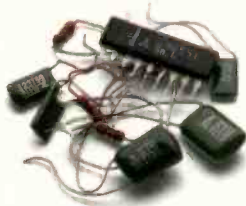
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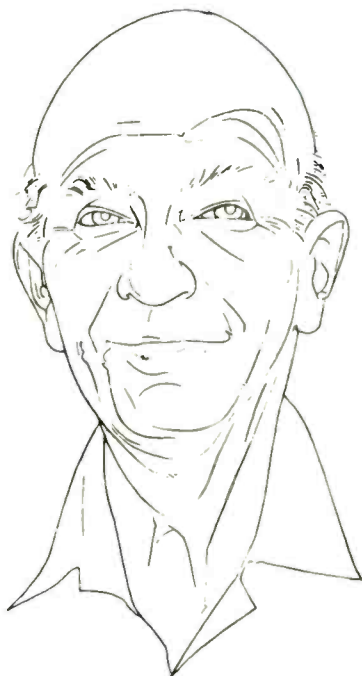


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by Julian Hirsch



Guessing Games

THE subject of this month's column has long been a source of annoyance to me, but it is likely to be even more of a problem to most readers and the public at large. I refer to inadequate or incorrect technical information or instruction manuals, skimpy or erroneous performance specifications (or none at all), and similar examples of a communications gap between a manufacturer and his customers.

I am specifically referring to consumer electronic products, although this is a universal problem. A few instruction manuals I have seen were models of clarity—written in plain English, organized logically, and leaving no loose ends to confound the user. When I encounter such a manual in the process of testing a product, I tend to give more weight to it than to the mere measurements or the technical sophistication of the product. I do this because I believe that the most advanced, "state-of-the-art" product, if its operation cannot be un-

derstood by the buyer, is less desirable than a simpler one with less impressive specs and features that deliver its full performance to the greatest number of users.

Most manuals achieve a moderate level of success in telling the user what a product does and how to make it do it. Sometimes, however, things are left to the imagination, or hidden away in an unexpected portion of the text, or even described incorrectly, all of which can cause endless confusion. Until a few years ago such problems were rare in audio, since there was little about a typical integrated amplifier or receiver that exceeded the technical or linguistic understanding of the average informed user. A minor difficulty might arise from the use of unfamiliar acronyms such as SEPP, OCL, OTL, MOSFET, and others, but since these were used in engineering circles, they were not entirely arbitrary, and in any case they rarely had much practical significance to the user (as opposed to the designer) of the equipment.

In recent years the proliferation of such complex products as computers, audio-video receivers, and digital signal processors, combined with a much broader and less knowledgeable user base, has raised the issue of "user-friendliness" (a term I loathe, though it is probably the best available for this purpose). To me, "user-friendly" products are simply those that are *easy* to use; *unnecessary* difficulty in use is associated with "user-unfriendliness." User-friendliness has little to do with complexity per se. A logically designed control system can make the most complex instrument easy and

straightforward to use. Conversely, an illogical control layout, poor markings, excessive use of unfamiliar acronyms, and similar design gaffes can result in a product that gives no pleasure to the user.

A good part of the problem—but by no means all of it—arises from translation difficulties. An operating instruction that might make perfect sense as originally written in Japanese can become hopelessly garbled when it is translated into English unskillfully. I think it is important that the translator actually *perform* the indicated operations on the equipment as he follows the original text. I have no idea whether the better manuals are translated in this way, but I suspect that they are. Unfortunately, a poorly designed control layout or procedure cannot be improved much, if at all, even by the most skillful translation.

My own problem is rarely one of inability to use a product, although that does happen from time to time. I am sure I have had much more experience with all kinds of hi-fi equipment than most people, and unless a product is truly revolutionary, the chances are good that I can operate it with reasonable success. Nevertheless, there is always the chance that some features, either unique to the product or misleadingly labeled, will defy my understanding. It is important that I use all the features of a product under review in order to verify their function and potential value, but from time to time I find something whose purpose evades me.

When, as happens too frequently, I receive a new product for testing with little or no "documentation" (an impressive bit of jargon meaning "specifications and instructions"), I know that I am about to waste a lot of time trying to deduce the meaning of some of its features. In other words, I am playing a guessing game with the manufacturer, and I really do not enjoy that pastime. It is difficult to wax enthusiastic about something whose full function is effectively an enigma wrapped in a riddle, even if it *is* worthwhile once you figure it out.

One of the worst-offending product categories is the loudspeaker. I can obtain little or no useful infor-

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Cambridge SoundWorks

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CIRCLE NO. 154 ON READER SERVICE CARD

TECHNICAL TALK

mation from an external examination of a speaker cabinet and its drivers (assuming they are visible, which not all are). Unlike electronic components, a speaker's real value and novelty (if any) cannot be deduced from external measurements alone. Listening is the ultimate test, but unfortunately it may not be very useful to anyone but the listener.

You might be surprised to learn how many speaker systems reach me without a shred of information about their design, special driver characteristics, size, weight, cost, or anything else. The percentage is large, and it seems to be growing. I can measure the dimensions and usually weigh a speaker unit (if it is not unreasonably large or heavy), but *everything else* I learn about an undocumented speaker system must come from my own electrical and acoustical measurements and listening experience. Some of these speakers may have novel design features that would be of interest to some readers, but if the manufacturer does not see fit to tell me about them, they must go unmentioned.

One of the most important specifications of any product—but most especially of a speaker—is its suggested retail price. Price is not a minor consideration when you attempt to judge the value of something. A speaker that is a reasonable value for \$500 a pair would be below consideration at five times that price—and a fantastic bargain at half the price. My own reaction to any product is based in good measure on its price, its value per dollar spent. Lacking that information, I can only guess, and although I am fairly adept at judging the price of many standard components, speakers are much more difficult.

There is sometimes a good reason for the lack of price information. Many of the products we test are newly introduced to the market, and their prices have not yet been set when I receive them. The price is added before the review is printed, but that does not help me in my appraisal. The result is sometimes a bland, lukewarm conclusion to my report, unless the product is so good that I feel it would be a good value at almost any price. Not many rate that judgment. □

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ACCURACY IN AUDIO

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CIRCLE NO. 51 ON READER SERVICE CARD



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"The opportunities presented by the T1000 were the most interesting of my entire career. For one thing, the tower shape was ideal for the three-way, four-driver system we had in mind. For another, since the T1000 was to be our top model, we had more design flexibility than with our other systems.

"For the best possible stereo imaging in real-world conditions, it's important to place the mid and high-frequency radiators at the ear level of a seated listener. The 42-inch height of the tower-shaped T1000 cabinet does this very effectively.

"Our best tweeter, the ferrofluid-cooled one-inch soft dome CFT 5, was perfect for the upper frequencies. A subtle but important touch: the tweeter is mounted flush with the baffle (not even a screw head projects). This insures that the smooth frequency response of the tweeter is not degraded by the effects of diffraction.

"The middle frequencies are most critical, because they contain the human voice—the range in which the ear is most discriminating. We kept this in mind when designing the new 6½-inch mid-frequency driver for the T1000. Among its special qualities: lower distortion than possible with smaller units, and the ability to deliver very high transient levels without the slightest strain. The internal frequency-dividing network uses this driver down to 300 Hz, to take full advantage of its strengths. To our knowledge, there isn't another mid-frequency speaker designed like it, or used like it.

"For the bass, we designed a new 8-inch woofer system, with a 1½-inch diameter long-throw voice coil operating in a high-flux magnetic field. Each T1000 uses two of these special drivers, each in its own subenclosure, for a total radiating surface equal to a 12-inch woofer. This dual woofer system delivers superior power handling capability and faster, tighter response than a single larger woofer.

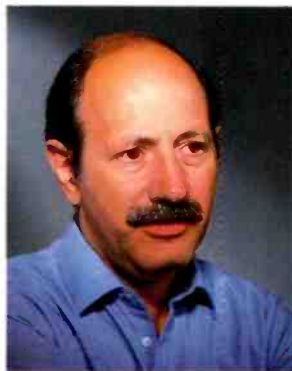
"All the elements of the T1000 combine to provide uniform frequency response throughout the audible spectrum, with bass that is full, clean and solid, down to the lowest frequencies of musical interest.

"What's more, the T1000 occupies less than one square foot of floor space—less than most 'book-shelf' speakers require. And its tall and slender shape contrasts handsomely with the usual bulk of conventionally designed cabinets.

"To sum up, the T1000 is our best speaker system, and we believe it is the best speaker available for the serious music enthusiast. Ask to hear it at a Boston Acoustics dealer, and see if you agree."

BostonAcoustics

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**"There's more
to the new
T1000 than meets the eye...
much more!"**

Andy Petite, chief designer, Boston Acoustics



The T1000 Series II. Available in hand-finished furniture-grade oak and walnut veneers, or black ebony vinyl veneer. Even the back is finished, allowing the cabinet to be placed where all four sides might be visible. The wiring connections are hidden beneath the cabinet to keep them inconspicuous. Dimensions: 42½ × 10¼ × 12¾ inches (H × W × D).

To ensure optimum loading and balance of this three-way system with four active drivers, each of the two woofers and the midrange operate from their own sealed subenclosures.



KENWOOD KR-V127R RECEIVER

Julian Hirsch, Hirsch-Houck Laboratories

THE Kenwood KR-V127R is a relatively compact, powerful stereo receiver with video switching capability and built-in amplifiers for driving surround-sound speakers. It includes audio matrixing and time-delay circuits for decoding Dolby Surround soundtracks or enhancing ordinary stereo programs.

The feature-laden KR-V127R also has a seven-band graphic equalizer in lieu of conventional tone controls, and its display serves as a real-time spectrum analyzer during normal operation. Five equalization curves of the user's choice can be entered into memory in addition to five factory-set curves. The equalizer can be used either to modify a program signal before it is recorded

or to modify the playback from any signal source.

The digital-synthesis AM/FM tuner can be manually stepped in single-channel increments or scan continuously. Up to twenty station frequencies can be stored, in two banks of ten, for instant recall. The same ten pushbuttons can also be used to key in any frequency directly.

The input source is selected by a row of buttons along the bottom of the front panel. The selection is identified in large characters in the fluorescent display window. In tuner mode, the frequency and preset channel number are also shown, and up to four call letters can be memorized for display with each preset frequency.

When one of the volume buttons

is pressed, the relative gain of the amplifier section (in 2-dB steps from 0 to -76 dB) temporarily replaces the call letters or source identification in the display. The level is also displayed as a series of lighted vertical bars of different lengths. Other indications in the display window show the operating status of the various front-panel controls, including balance and 20-dB muting.

The audio inputs of the Kenwood KR-V127R include phono (MM or MC), CD, tape 1, and tape 2 (monitor). It can also control the recording and playback functions of two VCR's, including dubbing in either direction, and playback from a third video source (a VCR or videodisc player). The surround-sound function is controlled by two buttons, which turn it on and off and select one of its three operating modes: Dolby, Theater, and Stadium. The volume of the surround channels can be varied in 2-dB steps over a range of ± 20 dB.

The KR-V127R's audio section is rated for 130 watts per channel, in

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FEATURES

- Digital-synthesis AM/FM tuner with twenty presets
- Up to four call letters storable with each preset frequency
- Auto-scan or manual tuning (switchable threshold level for auto scan)
- Direct keypad access to any FM frequency
- Connections and dubbing facilities for two audio tape recorders and up to three video recorders
- Can control compatible Kenwood source components
- Input for MM or MC phono cartridge
- Fluorescent display window for program source, operating status, and control settings
- Seven-band graphic equalizer with center frequencies of 60, 150, 400, 1,000, 2,400, 6,000, and 15,000 Hz, adjustment range of ± 12 dB
- Equalizer display usable as spectrum analyzer with peak hold
- Five user-programmable and five factory-set EQ curves
- Equalizer switchable for tape recording or playback only
- Inputs for 75-ohm FM antenna, 75-ohm CATV source, furnished AM loop antenna or wire
- 20-dB audio mute
- Connections for two pairs of front speakers, one pair of rear (surround) speakers
- Main amplifier rated for 130 watts per channel into 8 ohms, surround amplifier 10 watts into 8 ohms
- Dolby Surround decoding, additional surround modes for Theater and Stadium acoustics
- Wireless remote control for most front-panel functions; can also operate compatible Kenwood components and be programmed to replace other remote units
- Three switched AC outlets

LABORATORY MEASUREMENTS

- Tuner Section** (all figures for FM only except frequency response; measurements in microvolts, or μV , referred to 75-ohm input)
 - Usable sensitivity (mono):** 11 dBf (1 μV)
 - 50-dB quieting sensitivity:** mono, 14 dBf (1.4 μV); stereo, 37 dBf (19.5 μV)
 - Signal-to-noise ratio** at 85 dBf: mono, 83 dB; stereo, 75 dB
 - Harmonic distortion** (THD + noise) at 65 dBf: mono, 0.057%; stereo, 0.071%
 - Capture ratio** at 65 dBf: 0.9 dB
 - AM rejection** at 65 dBf: 60 dB
 - Image rejection:** 39 dB
 - Selectivity:** alternate-channel, 60 dB; adjacent-channel, 4.5 dB
 - Stereo threshold:** 16 to 21 dBf (1.75 to 3.1 μV)
 - 19-kHz pilot-carrier leakage:** -68 dB
 - Hum:** -80 dB
 - Stereo channel separation** at 100, 1,000, and 10,000 Hz: 43.5, 51, and 46 dB
 - Frequency response:** FM, 30 to 15,000 Hz ± 0.3 , -0.6 dB; AM, 25 to 2,500 Hz ± 1.2 , -6 dB.
- Amplifier Section**
 - 1,000-Hz output power at clipping:** front channels, 162 watts into 8 ohms, 150 watts into 4 ohms, 206 watts into 2 ohms; rear channels, 15 watts into 8 ohms
 - Clipping headroom** (relative to rated output, 8 ohms): front, 0.96 dB; rear, 1.76 dB
 - Dynamic power output** (front channels): 196 watts into 8 ohms, 145 watts into 4 ohms, 162 watts into 2 ohms
 - Dynamic headroom** (front channels, 8 ohms): 2.38 dB
 - Harmonic distortion** (THD + noise) at 1,000 Hz into 8 ohms: front, 0.026% at 1 watt, 0.0086% at 10 watts, 0.0087% at 130 watts
 - Maximum distortion** (20 to 20,000 Hz into 8 ohms): 0.069% at 130 watts, 20,000 Hz
 - Sensitivity** (for a 1-watt output into 8 ohms): CD, 20.7 mV; phono (MM), 0.29 mV; phono (MC), 0.028 mV
 - A-weighted noise** (referred to a 1-watt output): CD, -76.5 dB; phono (MM), -79.2 dB; phono (MC), -70 dB
 - Phono-input overload:** 84 to 92 mV, 20 to 20,000 Hz
 - Phono-input impedance** (MM): 49,000 ohms in parallel with 183 pF
 - RIAA equalization error:** ± 0.3 , -0.05 dB from 20 to 20,000 Hz
 - Surround-channel frequency response** (relative to 100 Hz): Dolby, -3 dB at 30 and 7,500 Hz; Theater, -3 dB at 20 and 7,500 Hz; Stadium, -3 dB at 20 and 1,100 Hz
 - Slew factor:** greater than 25

normal stereo two-channel operation, into 8 ohms from 20 to 20,000 Hz with no more than 0.008 percent total harmonic distortion. In four-channel (surround) operation, the front channels are rated for 140 watts per channel into 8 ohms at 1,000 Hz with no more than 0.008 percent distortion, and the surround (rear) outputs are rated for 10 watts per channel into 8 ohms from 70 to 20,000 Hz with no more than 0.9 percent distortion.

The rear apron of the KR-V127R contains the audio and video input and output jacks, an output for a video monitor, inputs for a 75-ohm FM antenna and for an AM wire antenna or the furnished loop, and coaxial input and output jacks for a cable TV source, which can be selected by a front-panel button, replacing the regular FM antenna. A System Control jack is used to connect the receiver with compatible Kenwood turntables, cassette decks, and CD players so that the input buttons on the receiver also switch the power to the other components. A rear-apron switch sets the amplifier's operating voltage according to the speaker impedance: for 8 ohms and higher or for lower than 8 ohms. There are spring-loaded output connectors for two pairs of front speakers (they are connected in series when both are selected) and the rear speakers. The receiver is equipped with three switched AC outlets.

A wireless remote control duplicates almost all of the KR-V127R's front-panel functions as well as many controls specific to the TV, CD, and tape sources that might be used in the system. The remote also switches the AC power for the stereo system and an associated TV set, and it has thirty unmarked keys that can be programmed to duplicate the controls of other remote units.

For all its complexity and power, the Kenwood KR-V127R is surprisingly compact, measuring 16½ inches wide, 14½ inches deep, and 5¼ inches high. It weighs about 25½ pounds. Price: \$699. Kenwood, Dept. SR, 2201 E. Dominguez, Long Beach, CA 90810.

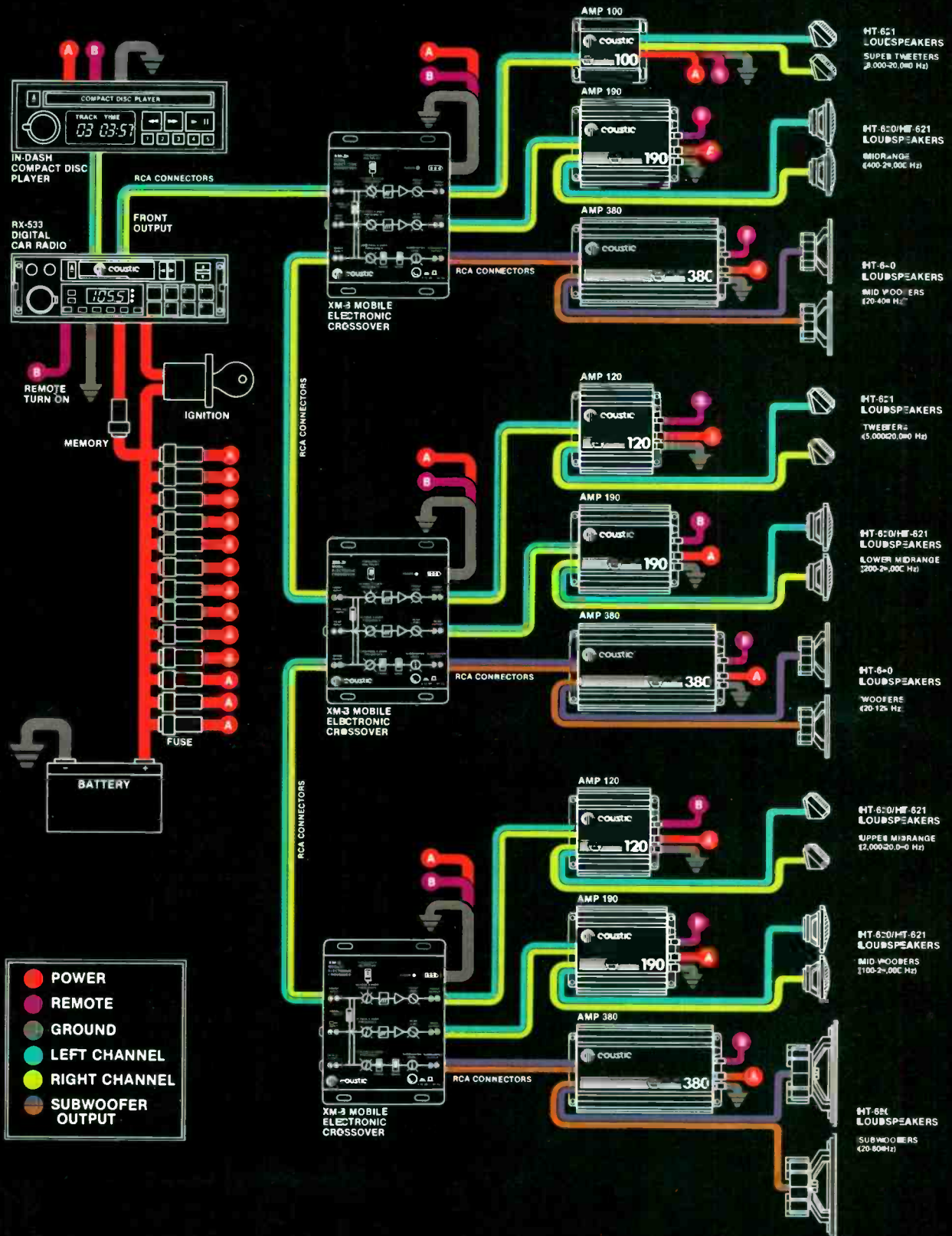
Lab Tests

Although the top of the receiver became quite hot during its 1-hour

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...simple as plain vanilla.



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preconditioning period, it was no more than mildly warm during normal operation. Into 8-ohm loads, the front outputs clipped at 162 watts per channel. The 4- and 2-ohm clipping outputs (with the rear-apron switch set to 4 ohms) were 150 and 206 watts, respectively. The surround-channel outputs clipped at 15 watts into 8-ohm loads. The slew factor exceeded 25, and the amplifier was stable with reactive simulated speaker loads.

With the receiver driving 8-ohm loads at maximum rated power, the distortion of the front channels was just under 0.01 percent from 20 to 1,000 Hz, increasing smoothly to 0.07 percent at 20,000 Hz. At half power and one-tenth power the characteristic was similar, with generally lower distortion readings. At 1,000 Hz into 8 ohms, the distortion decreased from 0.02 percent at 1 watt to 0.0055 percent at 50 watts before rising to 0.009 percent at 150 watts. Into loads of 4 and 2 ohms the curves were similar, with somewhat higher readings.

The built-in graphic equalizer performed as expected, although each of its individual controls affected the response over a three-octave range. Nevertheless, with a moderate amount of patience and practice it should be possible to obtain almost any response modification that would be required from a tone control. In the Dolby mode, the frequency response of the surround outputs conformed to the general requirements of Dolby Surround, dropping to -3 dB at 30 and 7,500 Hz. The Theater mode yielded similar results, with slightly less low-frequency rolloff. Response in the Stadium mode was at its maximum between 50 and 500 Hz, falling off at higher frequencies to -10 dB at 5,000 Hz.

The RIAA equalization error was less than 0.1 dB from 20 to 2,000 Hz, reaching a maximum of $+0.3$ dB at 8,000 Hz and returning to zero at 20,000 Hz. The phono input (MM) termination was 49,000 ohms in parallel with 183 picofarads. The phono input overloaded at levels from 84 to 92 millivolts (mV) between 20 and 20,000 Hz. The high-level input sensitivity, for a reference output of 1 watt, was 20.7 mV,

and the phono sensitivities were 0.29 mV (MM) and 0.028 mV (MC). The respective A-weighted input noise levels, referred to a 1-watt output, were -76.5 , -79.2 , and -70 dB.

The FM tuner section was quite sensitive, with a usable sensitivity of 11 dBf in mono and 50-dB quieting sensitivities of 14 and 37 dBf in mono and stereo, respectively. Except for image rejection, which was rated as 43 dB and measured 39 dB, all of the FM measurements we made matched or surpassed the manufacturer's ratings. The AM tuner section's frequency response was $+1.2$, -6 dB from 25 to 2,500 Hz.

Comments

Like most products, the Kenwood KR-V127R has a number of strong points mixed with a few weaknesses. Unlike most others we have tested, however, in the KR-V127R the gap between the two extremes is considerable.

First, the good news! The KR-V127R was a topnotch performer, one of the very few receivers in our experience to meet or surpass virtually all of its tuner specifications. In contrast with the many FM tuners whose antenna inputs are a poor match for our signal generator's output impedance, which leads to "hot" coaxial cables and poor repeatability of measurements, the KR-V127R was totally unfussy and gave the same excellent readings no matter how the cables were dressed.

The amplifier section was also very good, with a remarkable power capability for its size and weight. Even if its noise and distortion did not approach unmeasurable levels, they were well below audibility. And, like the tuner, the amplifier had a rock-steady output and never showed any instability, regardless of the input and output signal grounds. Its protection relay acted when we tried to drive it to clipping into 2 ohms (which is specifically *not* recommended), and after a period of high-power testing the thermal-protection circuit shut the whole receiver off for about half an hour while it cooled down. But nothing blew—not even a fuse—or suffered any other damage.

We could only judge the surround-sound operation of the receiver subjectively. We felt that the circuits did enhance the overall sound to a worthwhile degree, though not as much as we have experienced from Dolby Pro Logic decoders or digital ambience synthesizers. In general, the Theater mode sounded best to us; the Stadium mode sounded worst because of its lack of high frequencies in the rear speakers.

Now for the "not so good" news. The receiver's relatively small front panel contains some *seventy* (!) pushbuttons, which are mostly quite small, close to their neighbors, and nearly the same color as the panel. All are identified by markings, some in white but many in a light gray against a darker gray background. The crowded panel necessitates small lettering for these markings, and, frankly, it was a challenge even to *find* certain controls! A strong light and eye-level placement are needed for this receiver to be fully usable.

The supplied remote control could—and should—have been an ideal solution to the ergonomic problem, since it can be viewed under more ideal conditions. Unfortunately, the unit, about twice the size of most wireless remotes, contains no fewer than ninety-three buttons! And, what is worse, all ninety-three are identical in size and shape, and most of them are the same color as well. Doing something as basic as turning the radio on or off, or adjusting the volume, took real study of the controls to achieve.

What it comes down to is that the Kenwood KR-V127R is a first-class receiver, with more features, power, and just plain good performance than most of us will ever need, at a very reasonable price. But it also has the most complex control system I have encountered in a stereo component. I never did figure out how to use several of its features, and the manual's instructions sometimes seemed to have little relation to what happened on the receiver itself. If you enjoy puzzles, however, the KR-V127R might be a challenge worth accepting.

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CAMBRIDGE SOUNDWORKS ENSEMBLE SPEAKER SYSTEM

Julian Hirsch, Hirsch-Houck Laboratories

CAMBRIDGE SoundWorks is a recently established speaker company, but it actually provides a direct link to the earliest days of the high-fidelity industry. One of its principals is Henry Kloss, who was a co-founder some thirty-five years ago of Acoustic Research and later went on to found such well-known companies as KLH, Advent, and, most recently, Kloss Video.

Given Kloss's technical expertise and distinguished record in designing high-quality speakers that could

be sold at affordable prices, we were especially interested in hearing and evaluating CSW's initial product, the Ensemble. It is a four-piece system in which two small satellite speakers reproduce the frequencies above approximately 100 Hz and a pair of separate bass modules roughly cover the octave from 120 to 50 Hz. Since each module contains its own crossover components, system wiring requires only simple parallel connections from each satellite to its bass section and from each bass module to the amplifier.

The satellites measure only 8 1/8 inches high, 5 1/4 inches wide, and 4 inches deep and weigh 5 pounds. Each contains a 3 1/4-inch low-/middle-frequency driver and a 1 1/2-inch cone tweeter (these dimensions are approximate). Heavy-duty multi-way binding posts are recessed into the rear of the fully sealed enclosure, which also has a keyhole slot for wall mounting and a threaded bushing compatible with camera tripods and related devices. These features make the Ensemble satellites adaptable to a wide variety of mounting requirements. The cabinet is covered in a dark-gray flocked material (Nextal) and has a black metal grille.

Each bass module contains an 8-inch acoustic-suspension woofer protected by a metal grille. The enclosures measure 21 x 11 3/4 x 4 1/2

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crossover points for the front and rear outputs and a low-pass (32-400 Hz variable) crossover point for the sub-woofer output, Woofer/Enclosure Equalization engineered for optimizing bass response, Phase Inverter allowing the sub-woofer output to be shifted 180 degrees out-of-phase to compensate for in-vehicle acoustical abnormalities and Frequency Multiplier Switch which, by multiplying crossover points for the front channel, transforms the XM-3 from a **BI-AMP SYSTEM** to a **TRI-AMP SYSTEM**, etc., all contributed to create the **PRISM EFFECT** and make the XM-3 the most versatile electronic crossover ever manufactured for automotive use.

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inches and weigh 16 pounds. They are finished in flat black. Multiway binding posts are recessed in one of the narrow sides of each module, near a corner. The bass modules can be mounted in any position or location as long as there is at least 1 inch of clearance in front of the grilles. Their shallow depth allows them to be placed under furniture or otherwise concealed from view. Short rubber mounting feet are supplied to raise the grille about an inch from the floor if the box is mounted with the speaker facing down. Smaller rubber feet are supplied with the satellites to protect furniture.

Because of the Ensemble system's low bass crossover frequency (about 120 Hz), the bass modules cannot be localized by a listener and can therefore be placed almost anywhere in the room. To facilitate installation and experimentation with speaker placement, CSW provides 20- and 30-foot lengths of 18-gauge speaker cable with the system.

The extensive owner's manual for the Ensemble provides considerable guidance for the nontechnical user in placing the system components as well as in connecting them to an amplifier or receiver. The manual includes few performance specifications, which are rarely of much value in judging the worth of a speaker system. CSW also has toll-free phone lines in the United States and Canada, with knowledgeable experts available to answer customers' questions and help solve any problems that might arise.

The somewhat unusual design features of the CSW Ensemble are matched in novelty by the manner in which it is sold. The Ensemble is not available from dealers and must be ordered directly from the factory. Direct distribution contributes to the speaker's low price—only \$499 complete. The Ensemble system carries a five-year limited warranty covering parts and labor. Cambridge SoundWorks, Dept. SR, 154 California St., Newton, MA 02158; (800) 252-4434.

Lab Tests

The room-response curve for the Ensemble system was unusually smooth and uniform over its entire frequency range. We made this

measurement with the satellites placed about 4 feet from the floor, 6 feet apart, and 2 feet from the wall behind them. The bass modules were placed upright on the floor, close to the wall, with the drivers near the bottom.

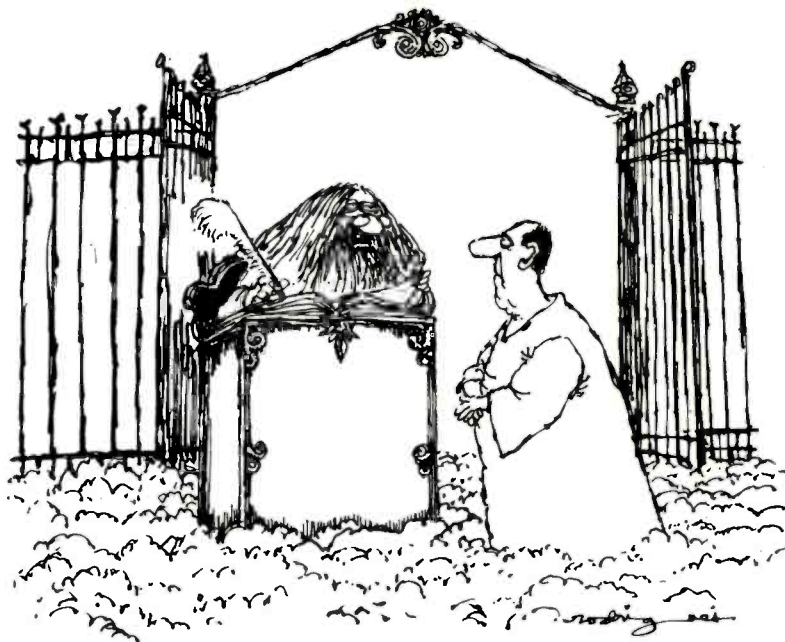
The close-miked response of a single bass module resembled a tuned circuit's resonance curve with its maximum output centered at 75 to 80 Hz. The output at lower frequencies fell off at about 15 dB per octave and at about half that rate at higher frequencies. The bass curve spliced easily to the room curve, resulting in a composite frequency response that varied only about ± 3 dB from 50 to 20,000 Hz. Close-miked measurements of a satellite unit indicated that its larger driver operated from approximately 120 Hz (the crossover frequency from the bass module) to 1,200 Hz, where the crossover to the tweeter took place.

Our quasi-anechoic FFT response measurements confirmed the close-miked characteristics. The on-axis tweeter response was very flat from 2,000 to 10,000 Hz, with a moderate irregularity at higher frequencies

(which is typical of small-cone drivers in that frequency range). The horizontal dispersion was excellent up to about 6,000 Hz, above which the response measurements on-axis and 45 degrees off-axis began to diverge (though not severely under 15,000 Hz). The group delay of the satellite varied less than 0.1 millisecond overall from 4,000 Hz to over 20,000 Hz and was less than 0.4 millisecond down to 200 Hz.

The system's sensitivity, measured 1 meter from the satellite with a 2.83-volt input of pink noise, was a rather low 83 dB sound-pressure level (SPL). Its impedance was about 3 ohms from 80 to 150 Hz, considerably below the rated 6 ohms, and reached a high of 13 ohms at about 5,000 Hz. With the bass module disconnected, the satellite's impedance increased below 250 Hz, rising from 6 ohms at 120 Hz to 50 ohms at 20 Hz because of the high-pass crossover within the satellite.

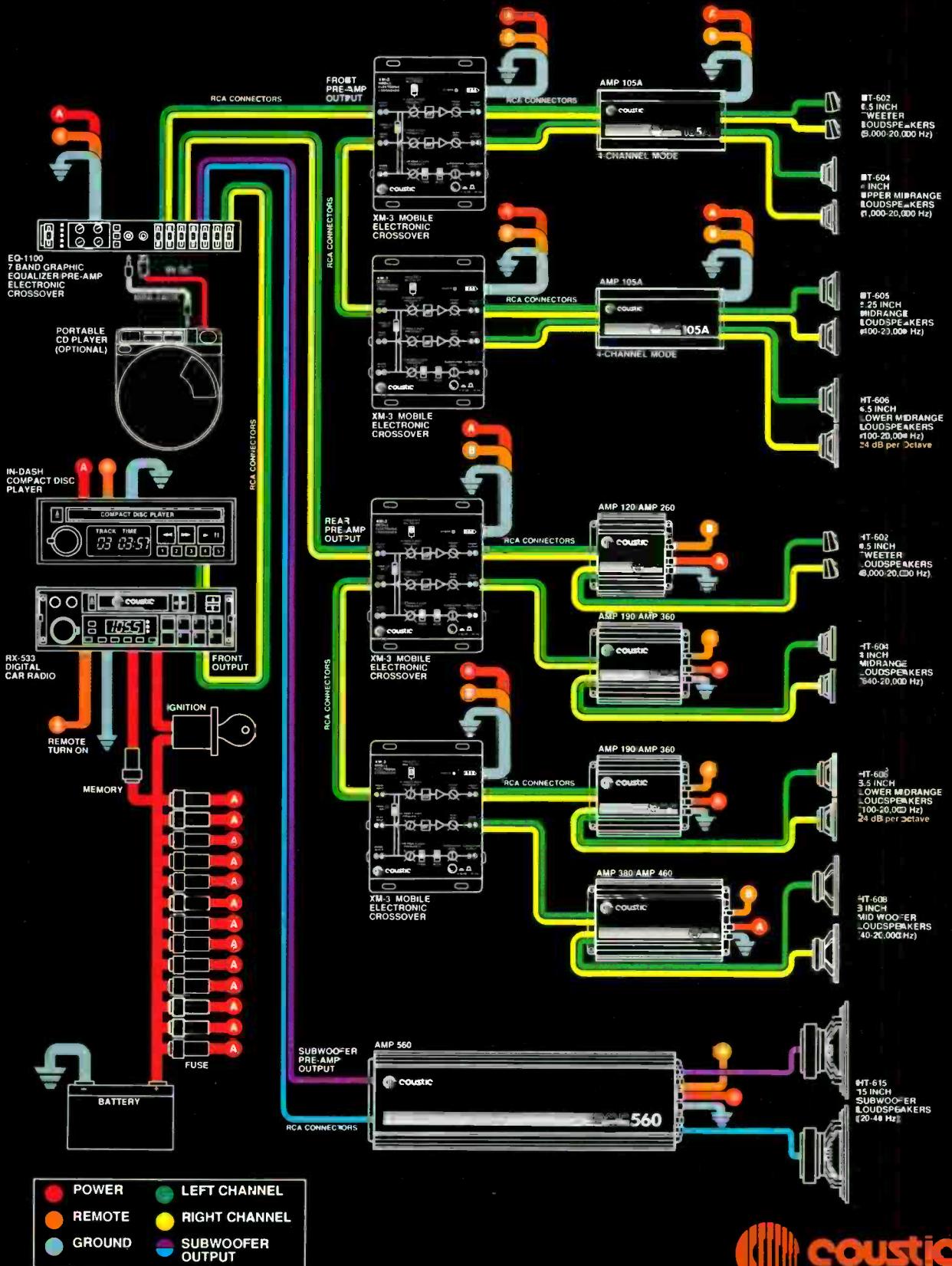
The distortion of the bass module at a constant drive level of 6.3 volts (equivalent to a 90-dB SPL at 1 meter) decreased from 1.7 percent at 100 Hz to 0.6 percent at 65 Hz, and it rose to only 2 percent at 50 Hz



"... So you're Joseph Paul Carruthers and you were president of Audivex speakers. You made many claims for your speakers. Tell me, Joseph, what is 'flux impulse driver'? And 'no-lag midrange crossover'? What about 'vectored ubiquitous maxi-woofer,' what is that, Joseph?"

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and 4.5 percent at 40 Hz. High-power pulse tests showed that the woofer cone began to rattle with a 100-Hz input of 1,900 watts into its 3.2-ohm impedance. At 1,000 and 10,000 Hz, our amplifier clipped, at 900 and 500 watts, respectively, before there was evidence of speaker overload.

Comments

Although systems combining minispeaker satellites with separate bass modules are not new, and are currently enjoying renewed popularity, the CSW Ensemble is an exceptionally effective execution of the basic concept. The most obvious departure from similar products is the use of two separate bass modules. More commonly, two bass drivers are combined in a single enclosure or the low frequencies are electrically combined and used to drive a single woofer. Aside from any acoustic advantages it might have, the Ensemble's configuration does provide more options for installation, since its shallow bass units can be located in places where thicker modules might not fit.

From our first hearing of this system, we had no doubt of its quality. There were no auditory clues to the locations of the woofers, whose output was subjectively linked firmly to that of the satellites. The effective lower limit of the bass speakers' response is not much below 50 Hz, but it was sufficient to provide a good "floor" for the very smooth and balanced output of the satellites. Over most of the audible frequency range, the Ensemble satellites delivered a smoother output than many larger and more expensive speakers. Although nowadays small-cone drivers have been largely supplanted by dome radiators, these speakers provide convincing evidence of the capabilities of a well-designed cone. We noted a tendency toward a slight brightness at times, compared with some other speakers, but that may simply reflect the Ensemble's very flat, extended high-frequency response.

We did not pamper the Ensemble speakers in our tests, driving them from a high-power amplifier and sometimes playing them at unreasonably high volume levels. Neither

the speakers nor the listeners suffered unduly from the experience. Overall, the speaker system acquitted itself admirably. Few speakers we have seen in the Ensemble's price range can offer it any serious competition. One of the only criticisms that might be leveled at the system concerns its low sensitivity, which is not uncommon in very small speakers. On the other hand, these are not the sort of speakers that most people will use to simulate jet planes or cannon shots; they were designed to play music—and to make it sound like music. This they do very well, in a most unobtrusive way, and at a bargain price.

The CSW Ensemble's four-piece configuration provides many installation options, since its shallow bass units can be located where thicker modules might not fit.

The only mention of power requirements in the owner's manual for the Ensemble indicates that amplifiers rated from 25 to 120 watts per channel have been found to be satisfactory. Our own experience confirms this advice, as well as CSW's statement that the system is unlikely to be damaged by any higher-powered amplifier designed for home use (we used a 350-watts-per-channel amp without problems).

Normally, we recommend that a speaker be auditioned before purchase, preferably in your own home. Obviously, this is not possible in the case of the CSW Ensemble unless you have the opportunity to hear it at a friend's home. On the other hand, Cambridge SoundWorks offers a thirty-day trial period during which the speakers can be returned for a full refund. Moreover, toll-free customer-support phone lines and the modular design of the system, together with the many suggestions in the manual for optimizing its installation, greatly improve the likelihood of satisfaction. It is hard to imagine going wrong with the Ensemble system.

Circle 141 on reader service card

Old Records, New Life

I wanted a better cassette deck. So one Saturday I dropped by a hi-fi store. The salesman took me into one of the sound rooms for a demonstration. Racks of equipment were everywhere. He started to make a recording and I immediately fell in love with the music. It was so clean, so rich, so dynamic.

"What CD is that?" I asked.

He didn't hear me over the music but it didn't matter because I quickly saw that I wasn't listening to a CD at all. It was a record.

I made quick mental notes of the system I was hearing. I walked over to the wall of speakers and discovered that KLIPSCH® kg4s® were playing. That was the first time I had truly heard *wide* dynamic range.

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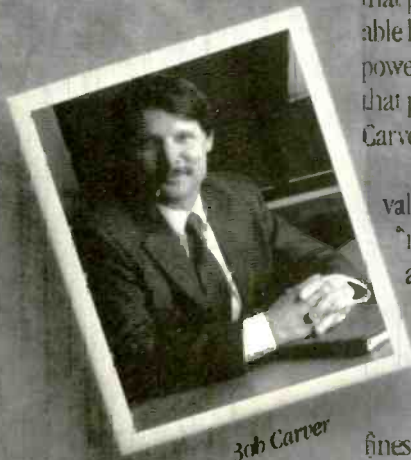
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“Because I wanted to have the world’s finest amplifier and the world’s greatest transfer function, I built the astonishing Silver Seven.”

The Silver Seven, finest power amplifier in the world. \$8,750 each. Two required for stereo. Tube counters note: The 15th KT88-6550A is a voltage regulator.



Before you meet the new A-4.0t, Bob Carver wants you to meet its inspiration, the money-is-no-object Silver Seven.



Bob Carver

“One of my important design precepts is that power amplifiers should be easily affordable but last year, when I began designing a powerful new amplifier, I temporarily set aside that precept of affordability. The result is the Carver Silver Seven Mono Power Amplifier.”

Destined to redefine ultra-high-end values forever, the Silver Seven is truly a “money-is-no-object” design. In fact, just a single pair of its fourteen KT88/6550A Beam Power output tubes cost more than some budget amplifiers.

The Silver Seven employs classic, fully balanced circuit topology and the finest components in existence.

A-450 Ultra Linear output transformers with oxygen-free primary leads and pure silver secondaries.

- *Wonder Cap capacitors throughout.*
- *Interconnects are Van den Hul Silver.*
- *Internal wiring is pure silver.*
- *Wonder Solder throughout.*
- *Gold input connectors and high current gold output connectors.*

The Silver Seven’s polished granite anti-vibration base floats on four Simm’s vibration dampers. The separate power supply’s power transformer end-bells are machined from a solid block of high-density aluminum.

Capable of an astonishing 390 joules energy storage, the Silver Seven delivers *a conservatively rated 375 watts into 8 ohms from 20Hz to 20kHz with no more than 0.5% distortion.* On the 1-ohm tap, peak current is in excess of 35 amps!

Sonically, a pair (for stereo) of the flawless Silver Sevens almost defies description.

Powerful

Distributed in Canada by: **evolution technology**

"Because I wanted to share its magnificent sound with you we built the new Carver M-4.0t."

The M-4.0t, identical transfer function and 375 watts rms/ch. at 8 ohms 20-20kHz with no more than 0.5% thd. Total maximum output current is 60 amperes.



Superlatives are insufficient.

What does this have to do with the new M-4.0t?

Everything. Because the M-4.0t precisely duplicates the transfer function of the Silver Seven.

Ever wondered why two amplifiers of identical wattage can sound different? Or why two designs with different output ratings can sound much the same? In many cases, it's because each power amplifier exhibits a unique relationship between its input and output signals. Like human fingerprints, this *transfer function* is subtly distinct, defining much of the sonic character of the design. Bob has not only perfected the art of measuring an amplifier's transfer function, but is able to duplicate it in a completely dissimilar amplifier design! That's how he invested his solid state M-1.0t with the

transfer function of a set of \$5000 esoteric tube amps several years ago.

This time he's gone one better. Or two.

He's used this powerful scientific method to duplicate the transfer function of the Silver Seven in the new M-4.0t (now you know what the "t" signifies). Mind you, we are not saying the M-4.0t is *identical* to a pair of Silver Sevens. An M-4.0t weighs 23 pounds versus the Silver Seven at 300 pounds a pair. The Silver Seven stores 390 joules of energy while the M-4.0t stores none. As a Magnetic Field Power Amplifier the M-4.0t instantly draws the power it needs directly from the AC line.

Though in choosing the M-4.0t you may miss the warm glow of the Silver Seven's silver tipped vacuum tubes reflecting in polished black lacquer, be assured both amplifiers are the most musical, effortless, and open sounding you have

ever heard. Bass is full and tight, midrange is detailed, treble is pure and transparent.

Each can float a full symphony orchestra across the hemisphere of your living room with striking realism.

Bob Carver developed this incredible design for one reason: to bring you the best the world has to offer and the best amplifier value ever, and he has succeeded handsomely.

Listen to the new, incredibly affordable M-4.0t at your nearest Carver dealer. Or write us for more information. We'll even send you data on the Silver Seven. After all, if you ever want to move up from the M-4.0t, there's only one possible alternative.

CARVER



JOOK LUNG

SOUNDCRAFTSMEN PRO-CD750 COMPACT DISC PLAYER

Julian Hirsch, Hirsch-Houck Laboratories

SOUNDCRAFTSMEN'S Pro Series audio components are intended for use in high-quality home systems, but their construction standards are closer to those of professional equipment than of typical consumer products. In styling and finish, the Pro-CD750 compact disc player resembles its companion preamplifier, the Pro-Control Four, which we reviewed in July, and it has several operating and control features not usually found in CD players.

Most of the controls on the Pro-CD750's satin-gray panel are soft-touch pushbuttons; two small knobs control headphone volume and "Spectral Gradient." The latter feature is actually a specialized treble control designed to compensate for some of the qualities of CD sound that have aroused objections among some listeners. Specifically, some CD's, especially early releases, occasionally have harsh, unpleasant

high-frequency characteristics. Although such qualities probably result from less-than-optimum recording techniques, they have often been cited as weaknesses of the digital recording/playback system itself.

Most conventional tone controls are unable to correct the so-called "CD sound." The Spectral Gradient control provides just that function, leaving the amplifier's tone controls to deal with more general frequency-balance problems. With its knob at the clockwise limit, the control is effectively out of the circuit. Counterclockwise rotation modifies the high frequencies in a subtle manner, removing the harsh "edge" from the sound without audibly affecting the overall quality of the program.

The second unusual control of the CD750 is a button marked DIFFERENTIAL COMPANDER. The compander is designed to fit the extended dynamic range of the CD medium

into the limits of "real-world" home listening conditions. It is also extremely useful when taping a CD for playback in a car audio system, where the high noise "floor" of the mobile environment makes it impossible to appreciate the full dynamic range of most CD's. The Differential Compander reduces the level of loud program passages and raises the level of soft passages, leaving the *average* level nearly unchanged.

The basic controls of the CD750 are quite conventional, including play/pause, forward and reverse track skipping, fast search with audible sound, and repeat and programming controls. The machine can be programmed to play back up to fifteen selections in any order, and the repeat button can be used to repeat the programmed sequence, the entire disc, or any selected portion of it.

The small display window provides only the most basic information. Normally it shows the current track and index numbers, and the TIME button switches it to a display of the elapsed time in the current track. While the search functions are in use, the display automatically switches to its time mode. When the

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TEST REPORTS

pickup is between tracks, a blinking triangle appears in the display.

The player is supplied with a compact wireless remote control that duplicates most of its front-panel functions as well as providing direct access to any track through its numbered keys (not present on the front panel).

The Soundcraftsmen Pro-CD750 uses double oversampling at a frequency of 88.2 kHz and 16-bit linear quantization. Its ratings include a dynamic range of 95 dB, a signal-to-noise ratio (S/N) of 99 dB, and a frequency response of 5 to 20,000 Hz ± 1 dB. The channel separation, at an unspecified frequency, is rated as 86 dB. The player measures 19 inches wide, 11 $\frac{3}{4}$ inches deep, and 3 $\frac{3}{8}$ inches high, and it weighs 12 pounds. Price: \$599. Soundcraftsmen, Dept. SR, 2200 S. Ritchey St., Santa Ana, CA 92705.

Lab Tests

Although the open-circuit output voltage of the Soundcraftsmen Pro-CD750 was exactly 2 volts, it decreased to 1.69 volts when the player was terminated with the EIA standard load of 10,000 ohms in parallel with 1,000 picofarads. The outputs of the two channels were

identical. The frequency response was well within the ratings, varying only +1.5, -0.3 dB from 20 to 20,000 Hz. The 1,000-Hz distortion was somewhat higher than rated, ranging between 0.045 and 0.09 percent at outputs from 0 to -20 dB; it consisted almost entirely of second and third harmonics.

The measured S/N of 107 dB handily surpassed the rating, as did the dynamic range of 96.8 dB. Channel separation was not as great as that of most home CD players, varying from 84 dB at 100 Hz to 48 dB at 20,000 Hz. The interchannel phase shift at 20,000 Hz was 40 degrees, indicating the use of a single double-oversampling digital-to-analog (D/A) converter for both channels. The low-level linearity of the D/A converter was better than average, with a maximum error of 2.7 dB at a -90-dB level.

The player's cueing accuracy was excellent, and it was not affected by any of the calibrated defects on the Philips TS5A test disc. A strong slap on the top of the cabinet was needed to induce momentary mistracking. Its slewing time and general track-to-track access times were considerably slower than we have seen in many current CD players, however;

several seconds elapsed between selecting a track and hearing the first sounds from it.

We were especially interested in the effects of the Spectral Gradient and Differential Componder features. The former had a very subtle action over most of its control range, although a moderate reduction in highs was plainly audible

The Soundcraftsmen Pro-CD750's Spectral Gradient Control was surprisingly effective in taming some of the harsher compact discs we tried playing on it.

when the knob was fully counterclockwise. Our test measurements showed a slightly sway-backed high-frequency response dip, about 0.7 dB with the control almost fully clockwise, that deepened gradually to a maximum depth of only 2.5 dB at 7,000 to 8,000 Hz when the control was nearly at its counterclockwise limit. At the limit, however—which, strangely, was marked “+” on the panel—the entire shape of the response curve changed, dropping off steeply about 2,000 Hz. But since the response was down only 3 dB at 8,000 Hz, the audible effect was very mild even at the control's limit.

The Differential Componder effectively tilted the input/output transfer function of the player around its -24-dB point. In normal operation, playing test tones whose level decreased from 0 to -90 dB produced output signals with corresponding levels. With the compander on, a 0-dB signal was reproduced at -10 dB, and the output from a -90-dB tone was boosted to -70 dB, leaving the levels between -20 and -30 dB almost unaffected. Thus, a 90-dB dynamic range on the disc was effectively reduced to a 60-dB range, which is fully compatible with any home or car components and probably easier to live with in most home environments. There were no deleterious effects on the sound. Finally, we found the headphone volume to be very good, suf-

FEATURES

- Double oversampling with 16-bit quantization
- Programmable for playback of up to fifteen tracks in any order
- Track skipping in either direction
- Fast search with audible sound
- Repeat function for entire disc, programmed sequence, or any selected portion
- Wireless remote control; includes keypad for direct access to any track or index point
- Headphone jack with volume control
- Spectral Gradient control to modify high-frequency response for reduced harshness in some recordings
- Differential Componder to reduce dynamic range for background listening or taping
- Display switchable between track/index numbers and elapsed time in current track

LABORATORY MEASUREMENTS

Maximum output level: 1.69 volts
Total harmonic distortion at
1,000 Hz: 0.45% referred to 0
dB, 0.09% referred to -10 dB,
0.047% referred to -20 dB
Signal-to-noise ratio (A-weighted):
107 dB
Channel separation: 73 dB at
1,000 Hz, 48 dB at 20,000 Hz
Frequency response: +1.5, -0.3
dB from 20 to 20,000 Hz

Dynamic range: 96.8 dB
Maximum phase shift (from 100
to 20,000 Hz): 40 degrees at
20,000 Hz
Cueing time: 4.5 seconds
Cueing accuracy: A
Impact resistance: top, B;
sides, B+
Defect tracking: tracked
maximum-level defects on
Philips TS5A test disc



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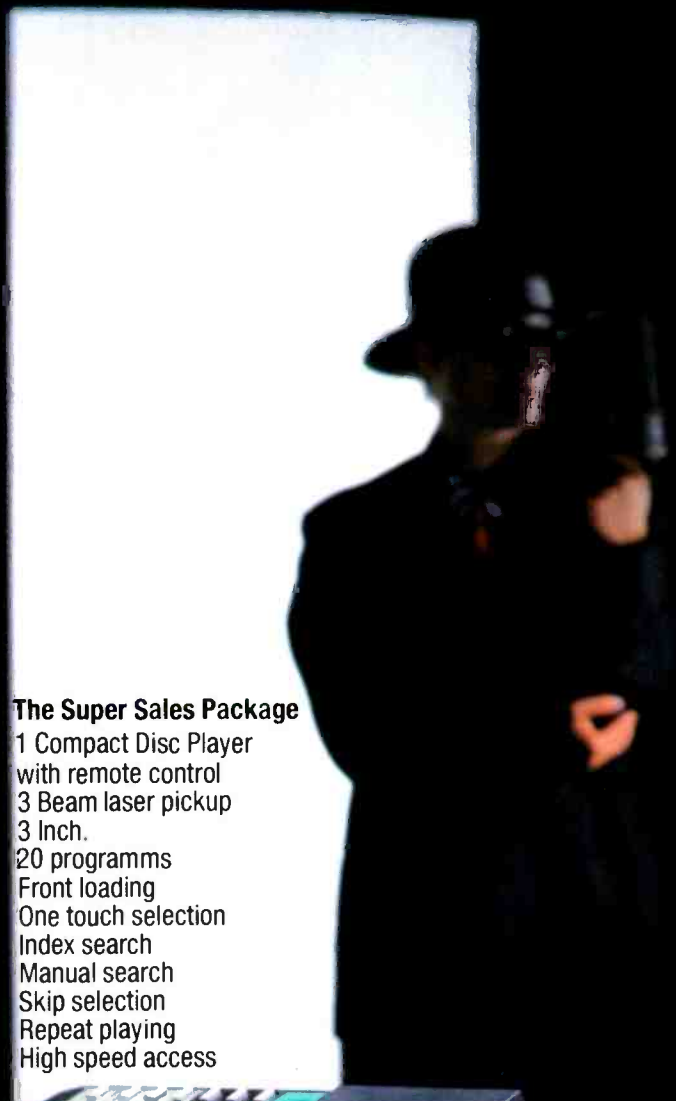
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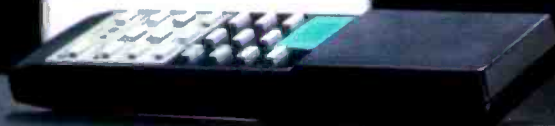


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TEST REPORTS

ficient for serious listening even with moderately high-impedance phones.

Comments

The sound quality of the Soundcraftsmen Pro-CD750, with or without using its special features, was excellent. The Spectral Gradient control was surprisingly effective in taming some of the harsher CD's we tried; it took the unpleasant high-frequency hardness away with no detectable loss of music content or subjective balance. Best of all, perhaps, the feature *cannot* be misused—there is no way it can make a recording sound dull or otherwise unlistenable.

The Differential Componder also worked well. Its name accurately describes its function: It compresses the high-level signals and expands the low-level signals, retaining a linear overall input/output characteristic while substantially reducing the dynamic range.

For the most part the CD750 was very easy to use, and certainly enjoyable to hear, but I found some of its human-engineering features less impressive. Surely there is a happy middle ground between its minimal display and the garish, "tell them more than they want to know" displays of some other players. I would prefer to see both the track number and the playing time without having to push a button to select only one of them. I would also prefer a faster response to track-selection commands. Incidentally, track selection with the remote control has its own peculiarity. After the player has cued the right point, it switches into pause without any indication except the absence of the triangular play/pause symbol on the display. In fairness, I must say that the manual does state that direct track and index selections can be made only in the stop mode.

Nevertheless, the CD750 is a fine CD player, and my criticisms should be assessed in the context of its overall performance. In practical terms, the useful and well-executed Differential Componder and Spectral Gradient features more than compensate for the player's minor quirks.

Circle 142 on reader service card



BOSTON ACOUSTICS MODEL 360 SPEAKER

Julian Hirsch, Hirsch-Houck Laboratories

WHILE most dyed-in-the-wool audiophiles are willing to accept the necessity of large, highly visible, and often expensive speaker systems for high-quality home music reproduction, there are many situations in which such speakers are unacceptable. Obviously, many people cannot afford to spend thousands of dollars for their speakers, a small room cannot accommodate a pair of bulky speaker enclosures, and even though a number of very compact speaker systems are available, they are not always compatible with a room's decor—or capable of the desired quality of reproduction.

A somewhat similar situation exists in commercial establishments such as restaurants and stores. Here, high fidelity is rarely a requirement, since the speakers are used only for background music, but physical unobtrusiveness is likely to be even more important than in a home

environment. The usual solution is flush-mounted ceiling speakers. Even reasonably satisfactory listening quality, let alone a semblance of high-fidelity sound, is uncommon in such installations.

In the last couple of years, several hi-fi speaker manufacturers have announced "decorator" lines of speakers designed for flush mounting in walls or ceilings. Though conceptually much like their commercial counterparts, they provide a sound quality that will not offend the sensibilities of any but the most critical listener. The Boston Acoustics Model 360, part of the company's Designer Series, is a good example of the genre.

The Model 360 is a two-way system with a 6½-inch woofer and a 1-inch copolymer dome tweeter—a new version of the tweeter used in the finest Boston Acoustics systems. The drivers and crossover are mounted on a rectangular plate designed to fit into a cutout in a wall



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TEST REPORTS

or ceiling. Mounting hardware is supplied. The external trim plate, which contains a removable perforated-metal grille, measures 12 x 8 inches and is $\frac{5}{8}$ inch deep; the depth of the woofer behind the wall is only $3\frac{1}{4}$ inches. The shallowness of the speaker allows it to be installed in any standard wall built on 2 x 4-inch studs.

The physical characteristics of the Model 360's woofer were chosen to provide satisfactory bass performance when the driver is enclosed in the volume between the studs of a typical wall. Of course, the final bass response will also be affected by the placement of the speaker on the wall relative to other room-boundary surfaces. The diaphragms of both drivers are waterproof, so that the speakers can be installed in moist environments such as kitchens and bathrooms or even on boats. The grille and trim of the Model 360 are finished in matte white, but they can be painted any color to suit the room decor.

The specifications of the Boston Acoustics Model 360 include a frequency response of 48 to 20,000 Hz ± 2 dB, a nominal impedance of 8 ohms, and a sensitivity of 90 dB sound-pressure level (SPL) at 1 meter with a 2.83-volt input. It is recommended for use with amplifiers rated between 5 and 60 watts per channel. Price: \$350 a pair. Boston Acoustics, Dept. SR, 247 Lynnfield St., Peabody, MA 01960.

Lab Tests

For our tests, the Boston Acoustics 360's were mounted in simulated walls, each 24 inches wide and 72 inches high, constructed of plywood on both sides of a framework of 2 x 4-inch studs. These walls approximated the acoustic properties of a room-wall installation. Each speaker was located 60 inches from the floor and near the left edge of its enclosure, and the two enclosures were about 48 inches apart. The enclosures were built by Boston Acoustics for its demonstration room at the 1988 Summer Consumer Electronics Show in Chicago.

The averaged room response of the two speakers was smooth and flat, with a total variation of ± 5 dB from 600 to 20,000 Hz. The close-

miked woofer response was flat within 4 dB from 62 to 1,000 Hz, and it spliced easily to the room curve to form a composite frequency-response curve varying ± 3 dB from 55 to 20,000 Hz. Although the crossover frequency is not stated in the specifications, our measurements suggest that it is in the vicinity of 2,000 Hz.

The minimum system impedance was 5.5 ohms at 200 Hz, with a maximum of 18 ohms at 70 and 2,200 Hz. By the usual criteria, the speaker's nominal impedance should be rated at about 6 ohms instead of 8 ohms. The measured sensitivity was 87 dB SPL at 1 meter. The bass harmonic distortion with a 4-volt input (equivalent to a 90-dB SPL) was just over 1 percent at 100 Hz and rose smoothly to 3.2 percent at 70 Hz and 9.7 percent at 50 Hz. The distortion was almost entirely third-harmonic. In our pulse power tests, the woofer began to emit rattling sounds with an input of 72 watts (at 100 Hz). Although some waveform distortion was visible on an oscilloscope when the input reached about 25 watts, the effect was not always audible.

Our quasi-anechoic FFT response measurements confirmed the smoothness and range of the system's frequency response. On the speaker's axis, a sharp 6-dB dip in output was evident at 8,000 Hz, although this was virtually unde-

tectable in the room response. The group-delay variation was less than ± 0.2 millisecond from about 500 to 23,000 Hz.

Comments

The flat, wide-range frequency-response rating of the Boston Acoustics Model 360 led us to expect a musical, reasonably uncolored sound from the test units, and we were not disappointed. Comparisons with conventional speakers, all of them far more expensive, confirmed that the Model 360 is a high-quality speaker. Granted, it cannot match the low-bass output of most good component speakers, but down to 60 or 70 Hz it holds its own with many of them. Furthermore, the flatness of its bass response, with a rise of only about 2 dB around 150 Hz, made its sound pleasantly free of tubbiness or boominess on voices, one of the most common speaker aberrations.

The spatial qualities of wall-mounted (or ceiling-mounted) speakers are quite different from those of free-standing models, especially those designed to be placed several feet in front of a wall. Nevertheless, these Boston Acoustics speakers make it possible to have high-fidelity sound in rooms where conventional speaker cabinets are undesirable. Furthermore, their near invisibility can be a major advantage in many installations. \square



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Although recognized as a true breakthrough, most critics agree that CD technology has not fully translated into increased musical performance. Two aspects of conventional CD player design are responsible for this: integrated circuits (IC's) in the analog section and excessively steep analog filters. While desirable from a pure cost consideration, analog IC's have very narrow bandwidth and require huge amounts of negative feedback which creates, among other things, the TIM (Transient InterModulation) distortion responsible for the harsh, metallic sound that is a common complaint of the CD format.

The other widely recognized criticism of the CD format is a lack of spatial perspective ("depth") in the sound field. This is the result of the very steep filters (typically 60dB/octave or more) required in conventional CD circuit design.

Harman Kardon both addresses and solves these problems in the HD200, HD400 and HD800. Our analog section is constructed entirely of precision discrete components (no IC's) and has Ultrawide-bandwidth of 0-250kHz and no negative feedback

at all. This all discrete circuit is completely free of the harshness of TIM and does not require the steep filters which destroy spatial perspective. The result is the clear, clean, stunning musical realism lacking in other CD players.

Taking the ultimate format even further, Harman Kardon's HD800 introduces the Charge Coupled Interface (CCI, patent pending). This circuit is placed between the D/A converters and the analog section so that they are electrically completely isolated, preventing noise from being passed out of the digital circuitry. Increased dynamic range, maximum phase coherency and greatly improved small signal resolution are also enhanced by dual 16-bit linear D/A converters operating at 176.4kHz (four times oversampling).

Harman Kardon's CD players are equally advanced when it comes to convenience. The HD400 and HD800 feature wireless remote control with 10-key random access programming. All models incorporate 36-track program memory, track/index search and audible two-speed cue/review, as well as a multifunction front panel display.

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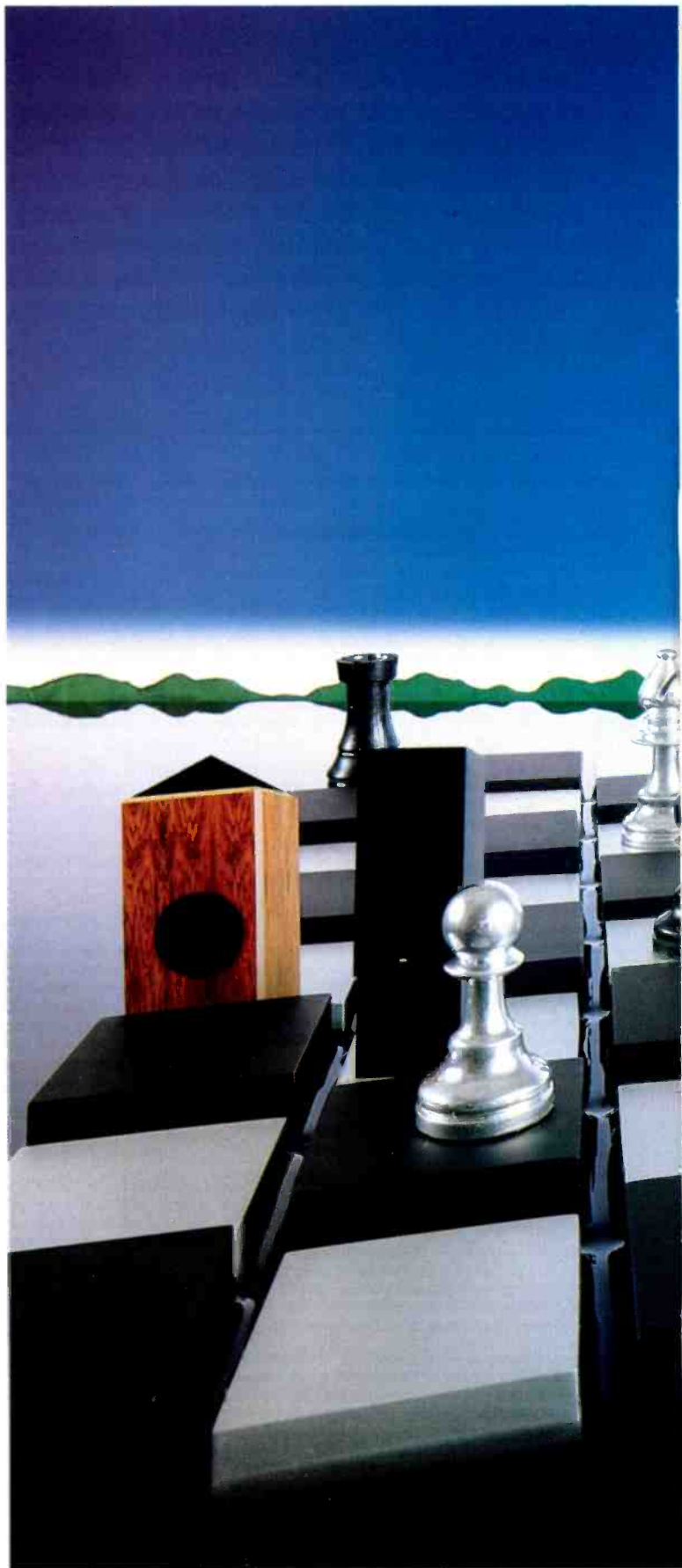
OR IS DESIGNING A LOUDSPEAKER REALLY MORE OF A BLACK ART THAN A SCIENCE?

BY IAN G. MASTERS

HI-FI loudspeakers are a lot like cars: Most of us remember, usually fondly, the ones we grew up with. Unlike cars, however, many of those early speakers are still around, relegated now to our family rooms or simply gathering dust in attics. More for nostalgia than for any technical purpose, I recently delved into my own audio past and set up a group of speakers that had been important to me at one time or another.

There were four in all, representing about thirty years of development. The oldest was custom-made for my father in about 1954, and it was designed as much for visual appeal as for sound quality. It contains a 12-inch woofer with a truly massive magnet, a horn midrange, and a horn tweeter. In a day when 20 watts was considered high power, speakers had to be efficient, and this one certainly was. The second speaker I built myself in about 1960 from plans published by Wharfedale in Great Britain. It consists of a coaxial two-way driver in a vented enclosure. The third was a true classic, the Acoustic Research AR3a, circa 1968. Finally, to give a modern perspective, I included one of my current everyday speakers, a conventional two-way with a passive radiator, which happens to put out an exceptionally balanced sound.

When I fired all of these up in sequence, several things became very apparent. First, while the older speakers predictably suffered in comparison with today's model, the difference was not all that great. In fact, it would be a simple matter to find speakers being sold today that would be outperformed by even the oldest in my informal sample. Even more striking was the realization that the basic techniques used to design these speakers had changed hardly at all over the thirty-year span.





ROBERTO BROSINI

Technology and Art

On average, speakers have become better during that time, of course. Designers in Europe, Japan, and North America have expended a lot of effort to improve the state of the art, and the best products of today are much closer to a theoretical ideal than they were even a few years ago. The areas of concern for any speaker designer are well known, but the ways they choose to solve them vary widely.

Technology is the application of scientific principles to specific practical problems, in this case the realistic reproduction of sound. Speaker designers have always been hindered by a lack of agreement as to what constitutes "realistic" reproduction and by the lack of much hard scientific knowledge about what actually happens to sound as it travels from a reproducer to a listener's ears. Because of these limitations, audio designers have usually had to take a trial-and-error approach to speakers, with the result that no two speakers sound alike. Hence the idea that speaker design is a sort of "black art."

The root of the problem, according to one industry executive, has been the small number of scientists willing to make a career of audio investigation. "In the 1930's sound was *hot* because of the novelty of radio and sound movies," he explained. "Considerable effort was expended to understand some of the basics of audio at that time, and much of our scientific understanding of the subject dates from that period. But after the war, much of the best talent was directed to nuclear and military research; only now, with the decreasing fashionability of war and weapons, are good brains applying themselves in any numbers to peaceful subjects, such as computers and—more and more—audio."

All speakers produced in the past half-century have thus shared the same incomplete technological base. Lacking adequate knowledge, manufacturers can hardly be faulted for producing speakers "on spec" and waiting to see what happens in the marketplace. By the same token, the

many different ways designers have found to apply the technology to particular products, either by using unusual transducer configurations or materials or by making different assumptions about the acoustic objectives of their products, have resulted in some remarkable speakers. In seeking to solve some of the well-known problems, designers have advanced the state of knowledge to a considerable extent.

Problems and Solutions

Strictly as a transducer—a device that takes one form of energy (electrical, in this case) and converts it to another (mechanical or acoustic)—the loudspeaker has come a long way. It is rare these days, even in quite modest speakers, to find the gross colorations and distortion levels that were common a decade ago. The ability to develop and combine drivers that behave themselves technically has meant that designers now work from a basic quality "floor" that is substantially higher than in the past.

As a result, speaker manufacturers are able to tailor their products to specific ends without sacrificing basic performance. An example is in the area of spectral balance, where it has become routine for designers to gain essentially flat response, at least on-axis. That is a matter of choice, however, for there is still an element of the audio community that rejects on-axis linearity as an ideal. Just as the Sixties and Seventies saw a proliferation of regional "sounds"—West Coast, New England, British, and the like—a number of companies today shape the response of their speakers to suit specific sonic tastes.

Whether or not a given company

chooses to produce a speaker with a flat response on-axis, at least that's fairly easy to achieve, and the majority of designers do strive for linearity as a starting point. Low coloration is another aim of virtually all designers, and many techniques have been applied to the task of taming these physical anomalies. In the forefront is the use of specialty materials in the drivers themselves; metal domes for tweeters and, in a few cases, midrange drivers; advanced substances to tame coloration in the bass such as the polypropylene first used by the British speaker companies or Altec Lansing's carbon-fiber cloth. Other manufacturers choose to approach acoustic problems (and, incidentally, gain distinctive marketing advantages) by using exotic devices: Infinity's EMIT tweeter, for instance, or the old ESS Heil air-motion transformer. Slightly more orthodox, but still fairly rare, are ribbon tweeters and flat honeycomb woofers.

Enclosure resonances have been attacked in a number of ways as well, either by elaborate bracing, such as that used in B&W's Matrix Series, or simply by making massive boxes. Edge-diffraction effects are often dealt with by flush-mounting drivers and rounding the enclosure edges. And sometimes the visible enclosure is completely eliminated, as in the in-wall speaker systems available from companies like Boston Acoustics, Sonance, and KEF. These "architectural" or "2 π " systems can provide large amounts of bass from small drivers by using the air space within the walls as large enclosures. And they are unobtrusive, a particular advantage in systems that contain more than the traditional pair of stereo speakers.

Phase linearity in two- or three-way systems has occasionally been achieved by electronic delay lines, but it is more commonly accomplished by "stepping" the drivers so that their acoustic centers are in line. Britain's KEF has come up with an ingenious alternative to stepping by mounting the tweeter in the dust cap of the woofer. This design achieves phase coherence at virtually all listening angles, whereas the con-

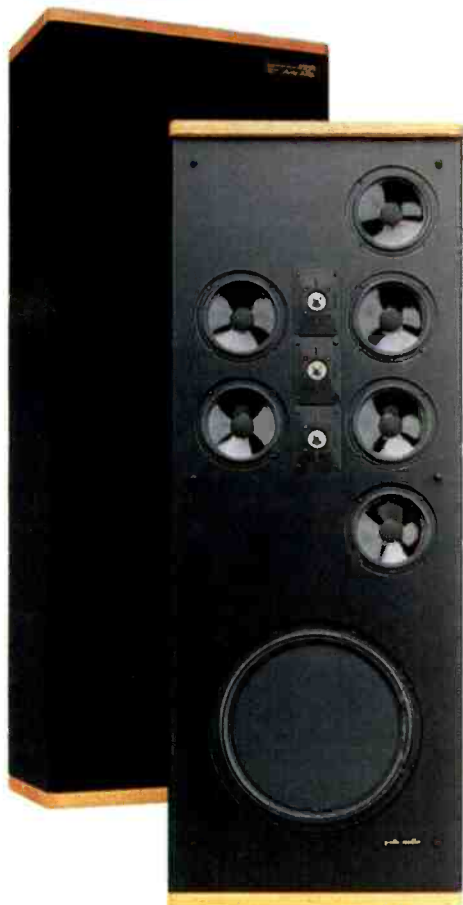
Thirty years of advances in speaker technology have brought us many outstanding examples of the designer's art, including (left to right) the Shahinian Obelisk 3, a hybrid transmission-line system; the a/d/s/ L990, which uses Kapton voice-coil formers; JBL's Cascade, with the world's first titanium midrange drivers; the Mirage M1, which has a rear-firing midrange and tweeter; the electrostatic Martin-Logan CLS; and Canton's traditional three-way bass-reflex CT 80.



New to the Polk Audio line of Stereo Dimension Array (SDA) speakers is the SDA-SRS 2.3 (\$2,200 a pair). The 55-inch-high system features many design improvements over its predecessor, the SRS 2, including a new Isophase crossover network that enables even modestly powered receivers to drive the speakers, a ribbon-wire, edge-wound voice-coil former for deeper bass with improved detail, and a smoother system impedance.



Magneplan's MG-11c is a floor-standing two-way electrostatic system with Magneplanar woofer and tweeter panels and oak side rails. Its frequency response is rated from 40 to 18,000 Hz ± 3 dB, and the crossover points are at 400 and 1,600 Hz with 6-dB-per-octave slopes. Power-handling range is 40 to 200 watts. Standing 71 inches high, the MG-11c retails for \$1,195 a pair.



Next to the top of Infinity's renowned Reference Series is the Beta, a two-piece tower system with four 12-inch polypropylene/graphite woofers, two upper-bass/lower-midrange planar drivers acting as a push-pull dipole, Infinity's low-mass EMIT drivers, with neodymium magnets, for the upper midrange and lower treble, and its new SEMIT driver, which extends high-end response beyond 44 kHz. And all that's for one channel! The \$10,000-a-pair Beta operates in biamp mode and includes the same servo-control unit as Infinity's \$45,000 IRS Series V.



ventional stepping approach offers linearity only at certain positions.

One task of speaker manufacturers has always been to extend their speakers' range, primarily at the low end. A large enclosure, like Altec Lansing's huge Model 550, is one brute-force solution; another, popular briefly in the Seventies, is motion feedback, whereby the speaker's actual low-end performance is monitored and any spectral weakness is offset electronically. More popular today, however, is the separate subwoofer (see page 65).

The Main Challenge

All of this effort has been aimed at creating flatter, cleaner, wider-bandwidth speakers, and designers have achieved notable success in all these areas. But that's the easy stuff—the improvements that have been made over the years have basically been engineering ones, and their results have been predictable. The difficulty begins in the listening room.

However good a transducer might be, it is only half of the electro-acoustic reproduction system. The other half is the listening room, and designers have no way of predicting where their products will be used. Room dimensions and construction, speaker positioning, listener positioning, room furnishings, and a host of other factors all affect dramatically how a speaker will sound in any given acoustic environment. And while everybody accepts that these factors are important, nobody really knows the exact nature of their effects. Consequently, it is in the area of speaker/room interaction that designers take their most empirical approach.

The vast majority of speakers sold are conventional dynamic units in boxes. Their makers recognize that the signals a speaker radiates to the sides, and up and down, can have a profound effect both on the quality of sound itself and on the nature of the sound stage. How any one designer chooses to deal with off-axis radiation is mostly dependent on what assumptions he makes about his speaker's objectives.

For many listeners, imaging—the ability to locate specific instruments in the sound field—is of primary importance. To satisfy this desire for clear imaging, most speakers are “point source” systems: They simulate as closely as possible a device in which sounds of all frequencies emanate from the same point in

space. The difficulty with this approach in ordinary speakers arises in controlling the frequency spectrum of the off-axis sound, which is at least as important as the on-axis response. At the high end of the price scale, companies like Infinity, Carver, and JBL have produced columnar speakers that radiate a cylindrical wavefront. This not only promotes wide horizontal dispersion but also inhibits vertical dispersion, irregularities in which, some observers feel, are more likely to disturb the apparent overall response. In the case of JBL's new Cascade speaker, the midrange column is equalized to vary its dispersion according to frequency.

Manufacturers like dbx and Polk have taken the quest for proper imaging a step further. By using a technique known as “time-intensity trading,” the dbx Soundfield models manipulate horizontal response to provide a stable center image even for off-axis listeners. The Polk SDA Series speakers use electronic phase cancellation to offset the blurring effects of left-speaker information reaching the right ear, and vice versa (an effect known as interaural crosstalk). Carver's Sonic Holography preamplifier circuitry achieves much the same thing.

Other companies—notably Bose, but also makers of dipole speakers, such as Magnepan, Carver, Quad, and Martin-Logan, and makers of true omnidirectional speakers, such as Ohm and Magnat—intentionally bounce sound off the walls to create a wider sound stage and a more spacious sound. That a sizable number of listeners desire this effect is shown not only by the sales of these speakers but by the increasing popularity of electronic spatial-enhancement and surround-sound devices.

But however strongly the advocates of all these techniques may defend their design principles, the truth is that they are all attempting to hit upon what *might* sound “real” in an “average” room. Failing sure scientific knowledge about the acoustic properties of small rooms, and of how they react with speakers, the manufacturers are likely to continue experimenting indefinitely. Fortunately, though, some answers may be around the corner.

Enter the Scientists

Laurie Fincham is director of research and development for KEF in

Thiel's new CS3.5 Coherent Source speaker is a dynamic, floor-standing system, 42 inches high, that achieves time coherence by having its drivers positioned along a sloping baffle. For phase coherence, a special crossover network synthesizes gradual, first-order acoustic rolloff slopes for each driver. Price: \$2,450 a pair.





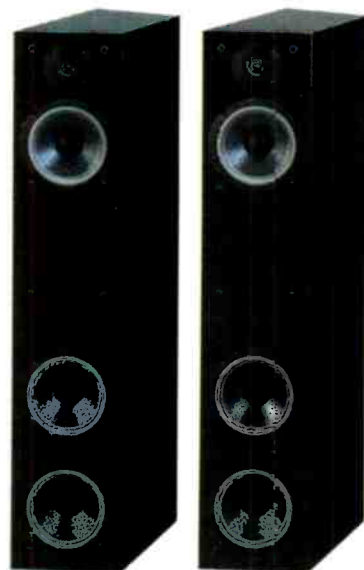
KEF's 34-inch-high C95 occupies less than a square foot of floor space. The \$1,290 (a pair) system features KEF's new Uni-Q coincident two-way driver, which has a 1-inch tweeter mounted on the same axis and in the same acoustic plane as an 8-inch midrange. Bass is handled by an 8-inch woofer mounted vertically inside the cabinet and front loaded by a tuned cavity with a port below the Uni-Q driver.

Ohm's Coherent Audio Monitor (CAM) 16 speaker (\$300 a pair) allows the listener to adjust the imaging "sweet spot" by rotating the egg-shaped tweeter located on top of the system's cabinet. Specifically tuned for bookshelf and not floor placement, the three-way CAM 16 has a rated frequency response of 46 to 20,000 Hz and a sensitivity of 89 dB.



In its Monitor 9 loudspeaker, retailing at \$660 a pair, Precision Acoustic Laboratories uses an 8-inch woofer coupled to a 10-inch passive radiator for the bass and midrange frequencies and a 1-inch soft-dome tweeter for the high frequencies. A layer of damping material around the tweeter reduces reflections from the enclosure. Dimensions are 11½ x 28½ x 12¾ inches.

The NHT Model II tower speaker (37 inches high) uses the company's exclusive Focused Imaged Geometry design, which is claimed to prevent excessive wall reflections, maintain the stereo sound stage as the listener moves around between the speakers, and minimize "interaural cross-correlation" for centrally located listeners. Price is \$800 a pair.



England. His view is that today's speakers, at their best, are very good indeed. "But there's a lot of thrashing around in speaker design because, at present, there is no truth," he told me. "I will defend anyone's right to produce a speaker and observe what it does, but what we really need to do is *understand* what's going on. Otherwise, when there are more than three or four variables, as there are in speaker/room interactions, we're just guessing."

KEF has joined with Bang & Olufsen and the Technical University of Denmark in a \$3 million research program to investigate the specific effects of room reflections on what a listener hears from his speakers. The project, nicknamed Archimedes, is funded by the European Community under the Eureka banner, a program designed to build up a fund of technical knowledge developed in Europe. "Until now, few companies had the time, money, or facilities to undertake such a project," Fincham said. "More to the point, the lack of adequate digital processing equipment made such efforts almost impossible."

The Archimedes project is expected to last from three to five years and should add significantly to basic audio knowledge. The aim is to discover precisely what part room reflections play in overall sound quality. "We know that side reflections can affect spatial perception, and that may be good," Fincham said, "but they can also affect musical timbre—enough, in some cases, to change the rank ordering of a group of speakers—and that's bad." The ear is less forgiving of problems from vertical reflections, according to Fincham, because dissimilarities between left and right can be used by the brain to process out bad sounds, and that won't work in the vertical plane.

"But beyond such generalizations, we don't know what really matters," he said. "We want to find the thresholds, to find out at what point the ear no longer cares." To do so, the group will set up a large number of speakers in the Technical University's massive anechoic chamber at Lingby, Denmark, each speaker representing one reflection. "Ideally, we should use something like ninety-nine identical speakers," Fincham said, "but by combining some functions, we may be able to reduce this to about thirty." The project will use matching 5-inch

coaxial speakers, individually equalized to be flat within 0.3 dB from 50 to 15,000 Hz.

Once this array has been set up, a combination of equalization and digital delays can be used to simulate any acoustic environment. The intention is to learn enough to be able to predict the specific reflectivity of walls, to assess what is important in the hearing process, and to determine the optimum directivity characteristics of speakers.

Smart Speakers

According to Dr. Floyd Toole of Canada's government-owned National Research Council in Ottawa, "The Eureka effort is addressing major questions, and the world is waiting for the answers." Toole is watching closely, because he is spearheading what may be an even more ambitious Canadian project, called Athena after the Greek goddess of wisdom. The Canadian effort is a joint venture between the National Research Council and eleven Canadian manufacturers, the majority being makers of audio products.

Toole agrees that fundamental research into the interrelation of rooms and speakers has only now become a practical matter. "Bob Berkovitz did some landmark work at Acoustic Research in 1982 with his Adaptive Digital Signal Processor," Toole observed, "but the available technology of the day was not far enough advanced to let him solve the equations. And the resulting product was not economical."

Athena's purpose is to develop the basic technology for a "smart" speaker, one that can assess its acoustic surroundings and adapt to them. "The main challenge today," Toole said, "is to produce a speaker that a user can place where it happens to fit conveniently and still get good sound. High-end buyers are often willing to rearrange their rooms and their lives to accommodate their speakers, and often they achieve very fine sound indeed, but these people do not make the loud-speaker market."

The difficulty, as always, is that all rooms are different, so speaker designers must build products that will work acceptably in a wide range of environments. As Toole pointed out, "All manufacturers share that constraint. In spite of the immense range of products on the market, everybody's working from the same

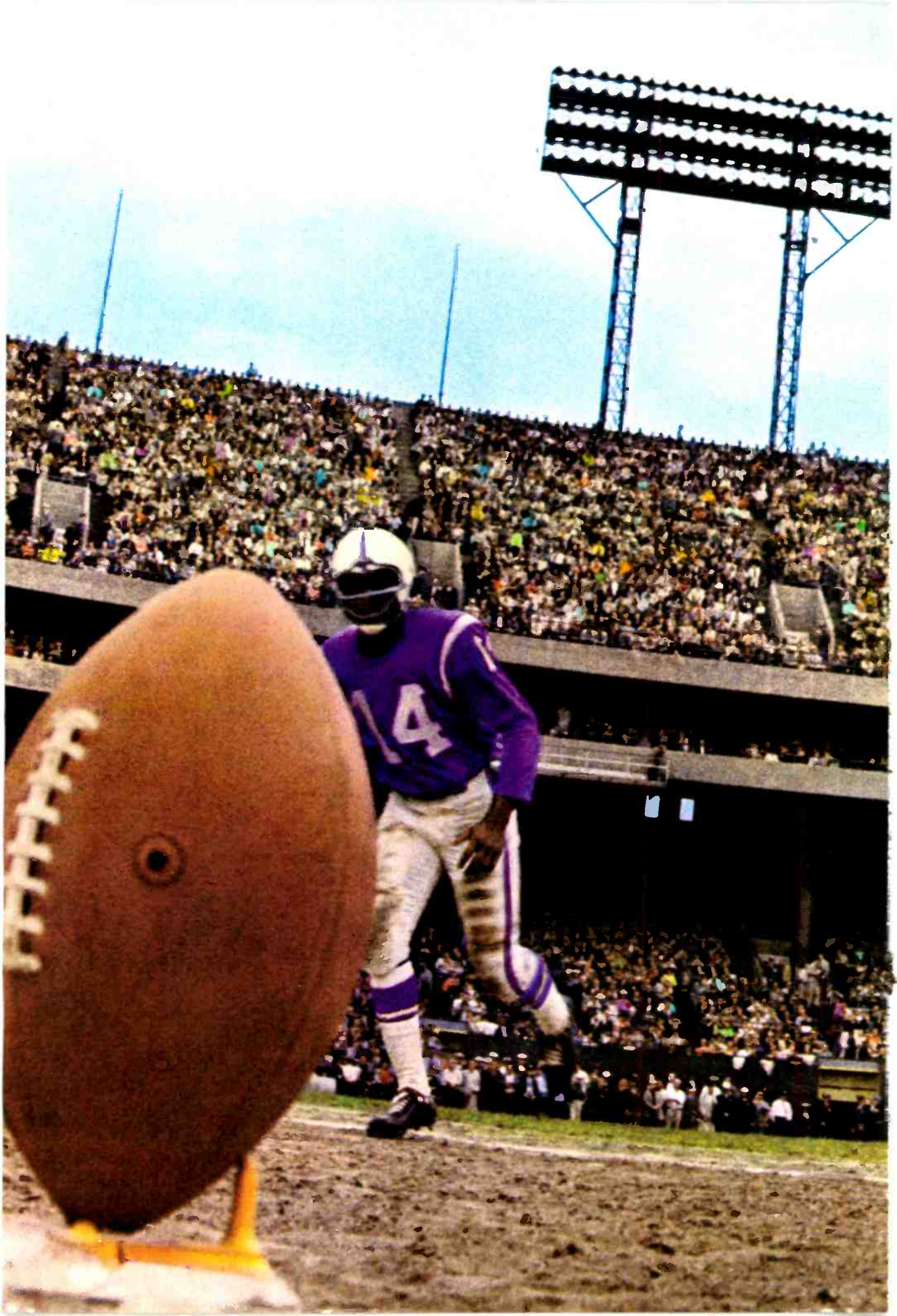
technological base. It's the intention of Athena to move the common technology one step upwards."

The group is shooting for a truly adaptive speaker. As Toole explained it, "First, we must find out, in order of importance, the significance of the sounds that arrive at our ears after they are radiated from the speakers and reflected from surfaces and objects in the room. Then we can work backwards to the transducers to discover the directional characteristics they must have. But in reality, rooms are so variable that the problems can't be solved in the transducer itself; we must deal actively with the room *after* the buyer takes his speakers home and sets them up. There must be some way to interrogate the sound path and exorcise factors that interfere negatively with the quality of the sound the listener hears."

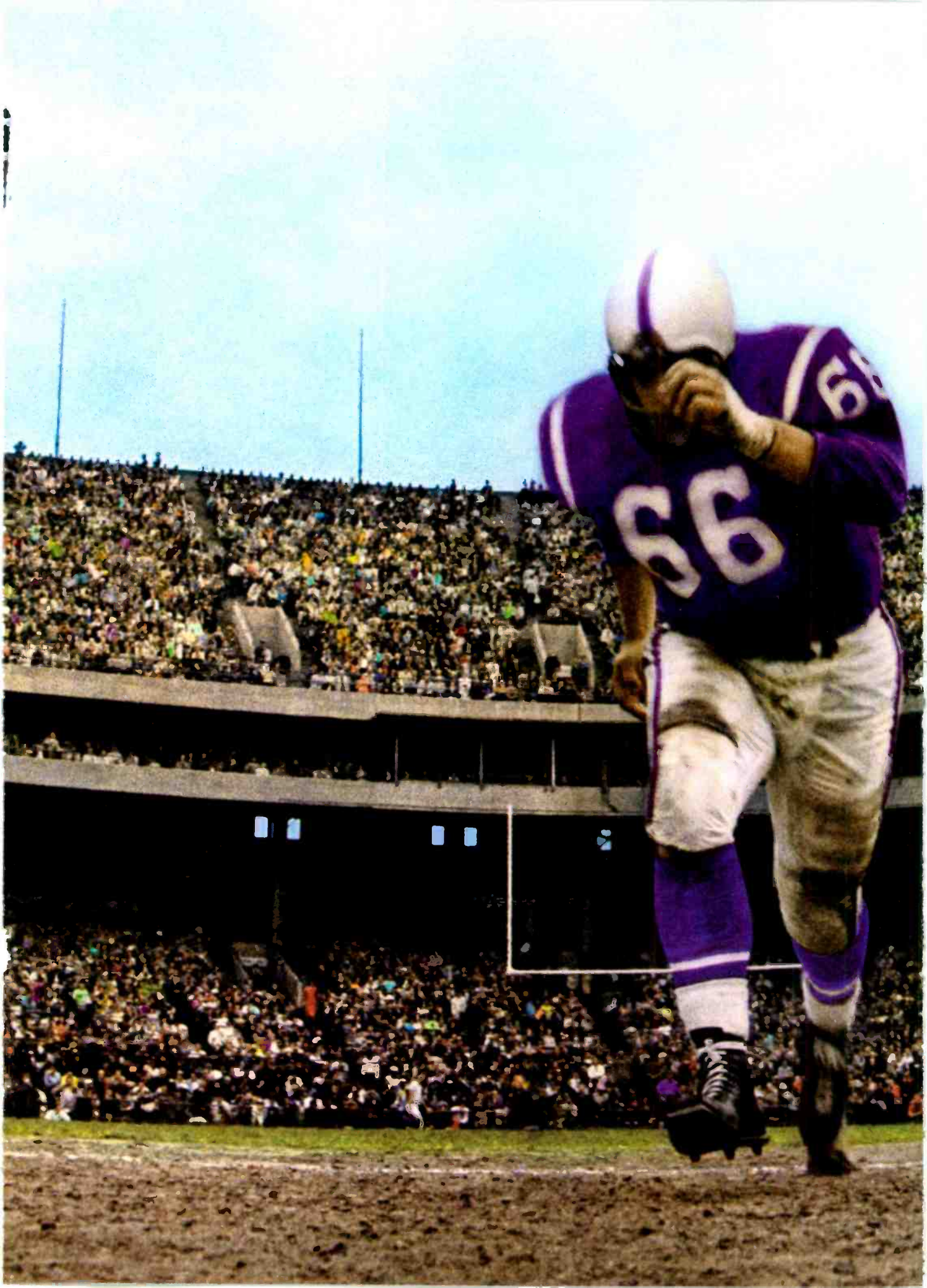
Exactly how the Athena consortium will attack this challenge has not yet been announced. According to Toole, the scientific motivation is to gain a thorough understanding of the importance of the physical sounds that reach our ears. But there's a direct commercial application as well: "Our group is interested in more than just science; the industry members of the consortium are contributing to the project's funding, and they are entitled to the first crack at the results." For that reason, Toole and the other Athena participants are being closed-mouthed about the specifics of the project.

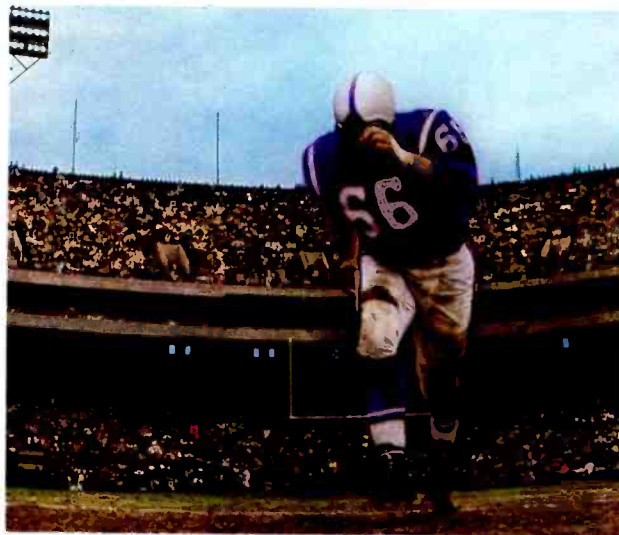
But the three-year effort is likely to result in a marketable product long before the final results are in. "This might be an entry-level product that requires some initial measurement by the user or his dealer in order to set the system up," Toole said. "Eventually, however, we can see a version that continuously adapts to changing room positions and conditions—a remote control containing a microphone that recalibrates the system whenever a button is pushed is a real possibility."

Simple or complex, a transducer that is able to adapt to any acoustic surroundings can safely be considered a *major* advance, one that overcomes the biggest stumbling block for speaker designers since the very first dynamic speakers were produced more than half a century ago. As Floyd Toole says: "If the system works well, it will be its own best spokesman." □



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football on the new Toshiba televisions with
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SUBWOOFERS

The Low Life of Hi-Fi

BY THOMAS R. GILLETT

“IT’S not just a matter of deep bass,” said Michael Goldfield. “Subwoofers can improve the sound of your entire system in terms of dynamics and detail.” As the owner of Euphonic Technology, a manufacturer of compact disc players, Goldfield has a lot to say about subwoofers. That’s not surprising. The recent boom in subwoofers has come about, in part, because of the digital revolution. It’s possible to put much more deep bass on a compact disc or digital audio tape



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ltec
Lansing's PSW-10 is an \$800 powered subwoofer with a 250-watt amplifier, selectable crossover point (50, 80, 100, or 150 Hz) with a choice of an 18- or a 24-dB-per-octave slope, and a volume control. Other features include overdrive protection, a subsonic filter, automatic on/off switching, and a reverse-phase switch.





Phase Technology's PC-50 subwoofer (\$330), shown here with the PC-60 two-way satellite speaker, uses a 10-inch woofer to reproduce frequencies from 30 to 150 Hz ± 3 db. Its power-handling range is 25 to 200 watts.

Jamo's \$500 SW-50 has a 10-inch downward-firing woofer, a built-in 50-watt amplifier, a continuously adjustable crossover (between 50 and 150 Hz), and a gain control. The seamless laminated cabinets come in black or white.



Velodyne Acoustics' powered ULD-18 (far left) has an 18-inch driver and a 350-watt amplifier (\$1,850); the ULD-15 has a 15-inch driver and the same power (\$1,350); and the ULD-12 has a 12-inch driver and a 100-watt amp (\$950).



T

he NEC SWO-300BU (\$299) is a magnetically shielded bass-reflex subwoofer with a 12-inch driver, a built-in 60-watt amplifier, and a choice of three crossover frequencies (70, 100, or 150 Hz).

**C**

anison's \$2,000 Plus Beta features three discrete amplifier stages with digitally controlled active filters, thermal-overload and short-circuit protection, a level control, an adjustable crossover, and an input-sensitivity control.



than it was ever possible to put on an LP record.

"One of the things you should expect from digital sound, compared with analog, is improved dynamics," said Goldfield. "Adding a subwoofer to your system is one way to be sure you get it. At the same time, a subwoofer can enhance the spatial resolution of your system—more depth, more air, more ambience. A subwoofer is not just a frequency-range extender; it's a perspective enhancer."

Other manufacturers have a similar view of subwoofers: It's more than just a matter of bass, it's a matter of midrange, too. Richard Vandersteen, president of Vandersteen Audio, sees bass extension as being only a "slight advantage." More important, he says, is that with a separately powered subwoofer "you alleviate the load on your main amplifier." The amplifier no longer has to deal with the demands of producing deep bass, so it will tend to sound better throughout the rest of the frequency range.

"A lot of good things happen when you remove low-bass energy from the main speakers," Vandersteen said. "It will improve the sound and allow your mids and highs to become clearer, crisper, and cleaner."

Goldfield agrees. "In a speaker that operates over the full range, there is a tendency for the low-frequency driver to interfere with the reproduction of slightly higher frequencies in the critical midrange area. By isolating the low frequencies in a driver designed to deal with the range from 80 or 100 Hz on down—that is, a subwoofer—you allow the midrange driver to perform to the best of its ability."

◆ Turn It Down ◆

There is a tendency for dealers to turn up the level of subwoofers when demonstrating them. "Ask the dealer to turn it down," suggests Rudy Kothe, owner of Definitive Hi-Fi, a retail store in Mamaroneck, New York. "You want the subwoofer to enhance rather than to obscure detail. If it doesn't, something's wrong."

Subwoofers are often used with small speakers, which, because of their size, are incapable of producing a great deal of low bass. Kothe, for instance, frequently sells subwoofers in systems with the Wilson

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udio
Pro's B1-45 (\$875)
has a 10-inch driver
and a built-in 40-watt
amplifier. Frequency
response is rated as
30 to 200 Hz \pm 1.5
dB, and the cabinet is
available in walnut,
black ash, and white
lacquer finishes.



C


elestion
matches the
sensitivity of its
System 6000
subwoofer (\$1,500)
with that of the
SL600 two-way
satellite speaker
shown on top. The
System 6000 is based
on a double-dipole
low-frequency array
using two 12-inch
drivers.



M

iller and
Kreisel's new Video
Subwoofer is a
powered system with
a beautifully sculpted
piano-lacquer base on
which you can place
your television set.





Audio Tiny Tots (WATT's)—small, stand-situated speakers that retail for what at first seems an immodest \$5,200 a pair. Appearances can be deceiving.

It's not that the WATT's are incapable of reproducing deep bass. As their designer, David Wilson of Wilson Audio Specialties, points out: "Small speakers can produce small quantities of good bass, but not large quantities. Meanwhile, efforts to make small speakers appear to produce large quantities of good-quality bass have tended to compromise midrange quality."

Some otherwise fine-sounding speakers are incapable of producing loud, deep bass, and these speakers are ideal candidates for use with subwoofers. I had a dramatic demonstration of the improvement a subwoofer can make at the home of Randy Patton, vice president of Sumo Products Group.

Patton uses a pair of the classic, long-discontinued KLH Model 9 electrostatic speakers along with a pair of Sumo's Samson subwoofers (\$650 each) and its Delilah electronic crossover (\$550). The KLH Model 9's are renowned for their midrange clarity and detail—and notorious for their inability to play both loud and low. Freed of the necessity to deal with deep bass, the KLH 9's could play very loud indeed without the slightest hint of distortion or strain. Other outstanding electrostatic speakers, such as the Martin-Logan CLS (\$2,490 a pair), also sound better when they are matched with a single subwoofer or subwoofer pair.

◆ Powered or Unpowered? ◆

Subwoofers come in two basic flavors—powered and unpowered. Powered subwoofers contain their own built-in amplification. Unpowered subwoofers, like the Sumo Samson, require an additional, separate power amplifier.

The line-level audio signal goes from your preamplifier, or the pre-amplifier-out jacks on your integrated amplifier or receiver, to a crossover, which may be inside the subwoofer or in an outboard chassis sold with the speaker or separately. A low-pass filter sends low frequencies to the subwoofer, while a high-pass filter sends higher frequencies to the main speakers, sometimes called satellites.

But there's more to it than that.

Both the low-pass filter and the high-pass filter will be sloped. The slope can be steep—rolling off at, say, 12 dB per octave—or it can be shallow—rolling off at, say, 6 dB per octave. Even with a steep slope, some bass information will be sent to the main speakers while some high-frequency information will go to the subwoofer(s). The steeper the crossover slope, the less overlap.

"I favor shallow crossovers," said Richard Vandersteen, who manufactures the Vandersteen 2W powered subwoofer (\$1,200), which has a built-in 300-watt amplifier. With a shallow crossover, the main speakers produce more low bass than if the crossover slope were steep. If you have a single-subwoofer system, a shallow slope means you'll lose less stereo bass localization—a real benefit.

◆ One Subwoofer or Two? ◆

Why should you want to buy a pair of subwoofers when "everyone knows" that there is little localized deep-bass information in most recordings?

It is true that with LP records, most bass below 80 Hz, if there is much deep bass, is mixed down into mono—it has to be in order to cut the record! But with digital sources such as compact discs, there can be stereo bass down as far as you can go. Therefore, with these sources a stereo pair of subwoofers will give you more bass localization than a single subwoofer. And a stereo pair will give you more overall output: Two speakers can play louder than one. Many buyers start with a single subwoofer and later upgrade to a pair.

"It is not just a matter of reproducing musical information," according to David Wilson, whose own subwoofers—the WHOW (Wilson High Output Woofer) and the POW-WHOW (powered version)—will shortly be available, retailing at \$10,250 and \$13,250, respectively. "Musical information from acoustical instruments stops at 32 Hz," he pointed out, "but synthesized music, of which there is more and more, can go much lower.

"But even with acoustical instruments, there can be information on a recording below 32 Hz—room rumbles and the like—that psycho-acoustically conveys to the listener something about the size of the room or the hall where the record-



Y

amaha's \$249 NS-W2 Super Woofer, magnetically shielded for video use, has a 10-inch driver and a built-in 40-watt amplifier. Frequency response is rated as 30 to 100 Hz, sensitivity as 91 dB SPL with 1 watt at 1 meter.



ing was made." Such audible "cues" can make reproduced sound seem more lifelike, and this is a good part of what serious, high-end audio is about—spatial realism.

◆ Bass for Every Budget ◆

If the WHOW and the POW-WHOW, with their rosewood veneers, marble tops, and built-in 400-watt Rowland Research amplifiers, represent the top of the line and the state of the art in subwoofers, more modestly priced options are also available. Powered subwoofers are available for as little as \$269, the price of the Yamaha NS-W2, which has a built-in 40-watt amplifier. And Velodyne Acoustics' 100-watt ULD-12 is \$950. Manufacturers such as Velodyne, Audio-Pro, Entec, and Miller & Kreisel specialize in subwoofers and offer a wide range of models. M&K offers satellite speakers, too.

More money will get you more power, or higher power-handling capability in unpowered models, and consequently the ability to play the speakers louder without strain or distortion. More money will also generally get you better sound quality overall—tighter, better-defined bass. It is particularly important in listening evaluations to check how well the subwoofer "lets go" of the notes—this is what is meant by "tight" bass. In addition, you should listen for how well the timbres of different bass instruments are differentiated.

The consumer today has a far wider choice of subwoofer models than ever before, not only because of digital source material but also because of the popularity of high-quality video sound. Some subwoofers are marketed primarily for video systems—the Miller & Kreisel Video Woofer, for instance, with a built-in 200-watt amplifier—but there is no reason why they cannot be used in audio-only systems as well.

If you're choosing a subwoofer for an audio/video system, there is one thing to watch out for—the subwoofer's powerful driver magnet can interfere with your video monitor or television set, particularly if the monitor or set is placed on top of the subwoofer, using its cabinet as a base. Models designed for video applications, such as the M&K Video Woofer and the Yamaha NS-W2, incorporate magnetic shielding to

eliminate this potential problem.

It may not be a trend—yet—but subwoofers are finding their way into some very modestly priced systems. For instance, the speaker company NHT (Now Hear This) is offering a \$230 "bass extension model," called the Octave, for use with a pair of its Model 1 speakers. The Octave is said to augment bass output in the 40- to 80-Hz range while preserving a precise stereo image and proper tonal integrity. Even though NHT isn't calling the Octave a "subwoofer," the company's executive vice president, Ken Kantor, said that "The Octave puts out just that, an octave of energy, which blends acoustically with the natural response of our Model 1." The three-piece system retails for just \$530.

◆ Hooking It Up ◆

It is much easier now to add a subwoofer to a surround-sound system, thanks to surround decoders, which generally provide an extra line-level mono output especially designed for use with a powered subwoofer. Meanwhile, amplifier manufacturers are also doing their part to give us more flexibility. An increasing number of mono amplifiers are available, such as the Denon POA-4400, as well as stereo amplifiers that can be easily bridged for mono operation, such as the entire line of power amplifiers made by Rotel.

Most high-quality integrated amplifiers and receivers today have preamplifier output jacks. If yours does not, you will be limited to subwoofers that can work from the powered signal to your regular speakers—such as the Velodyne ULD-12, which can work either from the speaker output or from the lower-level, preamp-out signal. "If you own an older receiver or amplifier without preamplifier-output jacks, it might be appropriate to upgrade your electronics first," suggests John Anning, vice president, sales and marketing, of Velodyne Acoustics. That would give you the flexibility of being able to choose a larger subwoofer such as Velodyne's ULD-15 or ULD-18 (\$1,500 and \$1,800, respectively).

◆ Room Placement ◆

A knowledgeable dealer can always help you choose and install

equipment, and that is particularly true with a subwoofer. For instance, the crossover frequencies may have to be adjusted so that the subwoofer blends smoothly with the main speakers and there is no dip or bump in the overall frequency response.

Room placement is critical, too. "I prefer to deliver and set up the subwoofers myself," said Kothe of Definitive Hi-Fi. "That way I know they will be situated properly."

It's often said that you can situate a single subwoofer virtually anywhere in a room. You *can*—but some areas of the room will be much better than others. For instance, the best spot for a single subwoofer is usually between the two main speakers and close to a wall, for bass reinforcement. But what if there's a door or a fireplace between your two main speakers? That's when you start running into placement problems.

If you place a single subwoofer off to the right or left, you tend to create an imbalance of sound: One side of your system will sound louder than the other. Difficulties with placing a single subwoofer often lead listeners to purchase a subwoofer pair. A pair usually sounds best when each subwoofer is placed close to a rear wall, behind one of the two main speakers.

The difficulties of proper placement may lead you to wonder whether it's worth the bother. But there is a plus side that's often overlooked. As David Wilson explained:

"Each point in a room has its own sonic signature, its own combination of standing waves. Some areas of a room are better for the mid-range and highs—generally, out in the open, away from the walls—while other areas are better for the bass—close to the walls and to room boundaries such as floors and corners. With separate main speakers and subwoofers, you can place each speaker in its own 'sweet spot,' the place where it performs best."

Whatever you decide to buy—a single subwoofer or a pair, powered or unpowered models—you can be sure that a carefully selected and properly installed low-bass system will enhance your listening pleasure throughout the audio range. Full, clean, accurate bass response is no gimmick—it's the foundation for any system that deserves to be called "hi-fi." □



SHOW STOPPERS

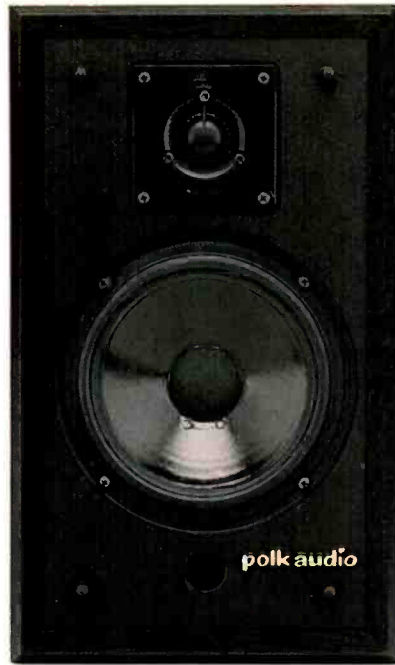
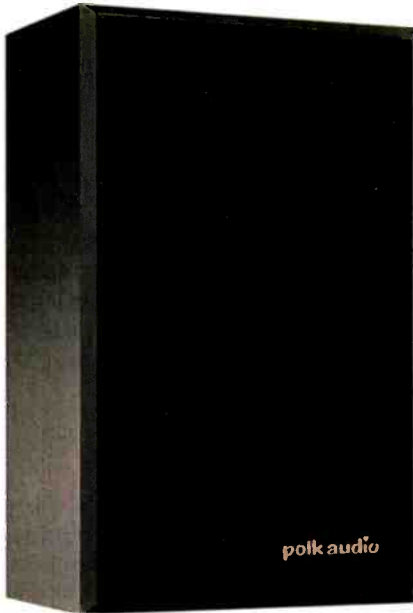
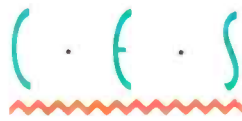
AS usual, the Windy City played host to the Summer Consumer Electronics Show in June, and as usual it was an exciting place to be. Audio and video manufacturers large and small displayed and demonstrated their latest, fanciest equipment to retailers and the press. Nearly every product line boasted a "high end," and equipment for audio/video installations abounded, looking and sounding better than ever thanks to developments in surround sound and advanced television technology. Here's a preview of some outstanding products that were introduced at the show. They should be showing up on your dealer's shelves this fall, and we'll have more detailed coverage in the months to come.



For making those ultimate party tapes, the remote-controlled Vector Research VCD-650CX combines a six-disc CD changer and an autoreverse tape deck with full synchro-dubbing facilities. Retail list price is \$599.

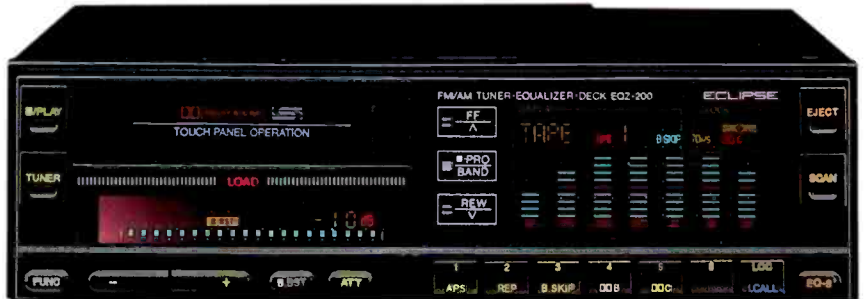
The latest example of "analog excellence" from Sota is the Cosmos turntable (\$4,000 as shown), successor to the Sapphire. It has a new acrylic record mat and redesigned motor subassembly, platter block, arm-support system, and bearing.





Polk Audio has made it easy to add rear-channel surround sound to a hi-fi system. Polk's new Stereo Dimensional Surround SDS-1 bookshelf speakers connect directly to a power source's secondary stereo outputs and include circuitry to provide an ambience-extracting L - R signal for one speaker and an R - L signal for the other. These signals can be cross-blended through the midrange while maintaining true stereo separation below 150 Hz for a strong, smooth bass response. Price: \$300 a pair.

The Eclipse EQZ-200 car cassette tuner (\$1,350) features a CD/DAT input, a seven-band equalizer, and a spectrum analyzer with full-band automatic compressor. Its buttonless, knobless "human tech" panel allows every function, including EQ, to be controlled by touch alone.



With ten audio and six video inputs (including S-VHS), eight digital surround programs, four amplifier channels (two 65-watt and two 14-watt), a system remote control, four tone controls, A/V mixer functions, video title editing and enhancement processing, and on-screen operational display, the \$700 Yamaha AVX-100U is an unusually complete master control center for any A/V system.

(. E . S)



Sony's GV-8 goes beyond the Watchman by adding an 8mm VCR to its tiny color TV set. Just 5 x 8 x 2½ inches and only 2½ pounds, it includes a telescoping antenna, high-speed search, programmable timers, built-in speaker, and connections for use with home equipment. List price is \$1,300.

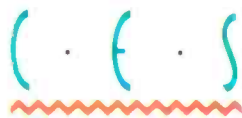
Alpine's Model 7907 Flagship Reference head unit (\$900) is the first quadruple-oversampling car CD tuner. It also features a highly legible display, a rugged disc and laser transport system, twenty-track CD programming, and twenty-four tuner presets.



Audio and video enthusiasts alike will appreciate the Akai VS-A77U VHS Hi-Fi VCR (\$779), the first such product with a built-in Dolby Surround decoder and stereo amplifier. It has two other surround-sound modes, Concert Hall and Ambience Recovery, and also features Akai's Quick-Start transport, video noise-reduction circuitry, parental lockout, and dark-screen video mute.



Whether it's audio, video, or both, and whatever the diameter—from 3 to 12 inches—if it spins and can be read by a laser, the Sony MDP-200 (\$950) can play it without an adaptor. Also impressive are its dual quadruple-oversampling D/A converters and antiwarped disc support.



A tower of midrange drivers is not uncommon in genuine high-end speaker systems, and JBL has entered these waters with the unusually smooth-sounding, 5-foot-high Cascade (\$3,600 a pair).

Between a 1-inch titanium tweeter at the top and a 14-inch Aquaplas woofer at the bottom is a vertical array of four 3-inch titanium midranges, which are fed staggered signals to avoid cancellation effects.



ROBERTO BROSAN



The Cambridge Audio CD1 Series 2 CD player, a two-piece system that isolates the laser/disc transport from the D/A converter, is the first player with sixteen-times oversampling and 32-bit digital filtering. It also features a dual suspension, multiple isolated power supplies, and digital polarity (phase) switching. Price: approximately \$4,000.



Philips entered the IDTV (improved-definition TV) arena with two monitor receivers that feature noninterlaced scanning (twice the normal rate), digital noise reduction, and comb filtering. The 27-inch model lists for \$1,500, the 31-inch set for \$2,600.



The Monitor 7 from Precise Acoustic Laboratories, designed by recording engineer Keith Johnson, stands 28½ inches high and has an 8-inch polymer-doped woofer, a tuned port, and a 1-inch soft-dome tweeter. Price: \$460 a pair.

The C35 (\$440 a pair) is a bookshelf speaker featuring KEF's new "Uni-Q" driver, which combines an 8-inch woofer and a 1-inch tweeter in one chassis for consistent imaging and time-domain behavior.



The Hifonics Doubleplay (\$90) allows a removable car stereo unit to be used as the program and power source for a secondary home or office system. The head unit slides into the Doubleplay, which plugs into a wall outlet and includes an antenna and built-in 4-inch speakers.

THOMAS DOLBY



**« I've never treated my listeners like morons.
I've never written an 'Ooh, baby.' Every lyric
has an idea behind it. »**

BY MARK PEEL

WHAT makes an artist disappear at the pinnacle of success? In the fall of 1984, twenty-five-year-old Thomas Dolby stood on top of the pop music world. He had just completed a four-continent tour for his album "The Flat Earth." His EP "Blinded by Science" had reached No. 5 on the *Billboard* chart. His videos were the brightest on MTV. The whiz kid of synth was profiled in *Down Beat*, hyped in *People*, trumpeted in the *Times*. His music pumped energy through the heaving PA's of the hottest dance clubs. Thomas Dolby was riding the crest of a new British invasion: synth pop.

"The standard industry formula would have been to crank out a few more hits and really capitalize on the publicity," Dolby said on a recent layover in New York. "But I didn't need the money and I didn't want my life style to be invaded any more than it already was. What I really wanted to do was stretch out musically."

It would be four years before he would record another "Thomas Dolby album," this year's "Aliens Ate My Buick." During that time, he set out on a series of temporary jobs—as producer, sideman, and soundtrack composer. As a producer, he worked on recordings for artists as diverse as Joni Mitchell and the British pop band Prefab Sprout. Those who listen for a "Dolby sound" will have to rely on their imaginations.

"I hope there isn't one," he said. "I don't really go in for that 'Get me Dolby' attitude. What I try to do as a producer is bring out and enhance the artist's own objective."

With Prefab Sprout, Dolby gave the band's second album, "Two Wheels Good," a largely acoustic sheen rather than an electronic feeling. By contrast, for Joni Mitchell's "Dog Eat Dog" he produced a range of synth effects. "When I'm in the studio, I like someone there to prod me, someone who'll say, 'Well now, this isn't so good, is it?' Then I take a walk around the block until I come up with something better. As a producer, I've tried to do the same for the artists I've worked with."

Stretching out also meant writing music for the ill-fated George Lucas film *Howard the Duck* and Ken Russell's *Gothic*. If there isn't an identifiable Dolby "production sound," there is even less a Dolby

"soundtrack sound." *Howard the Duck* is pure power pop (and the first hint of the Dolby to come in "Aliens"). *Gothic* is another story. Like Russell's movie, in which Mary Shelley, John Keats, and Lord Byron embark on a decadent weekend of drink, hallucinogens, and debauchery, unleashing a satanic demon in the process, Dolby's music is sinister and archly melodramatic. Although both of his soundtracks contain some of his best music, virtually no one bought the records.

"A lot of good music gets overlooked in soundtracks," Dolby said. "One of my favorite composers is Bernard Herrmann. Now, ask the man in the street about Bernard Herrmann, and you're apt to get, 'Who?' But say, 'Well, he did the music for most of Hitchcock's films, his first movie was *Citizen Kane*, and his last was *Taxi Driver*, and people begin to get the idea."

Doing soundtracks forced Dolby to extend himself technically as well as artistically: "There are all sorts of tools of the soundtrack writer's trade that, as you get experienced, you learn to apply." He created the dark, brooding themes of *Gothic* by working from visual cues, establishing a leitmotif for each character. "Mary Shelley has a theme. The monster has a theme. During the storm scene, Ken was able to suggest the presence of the monster without ever showing him, by playing the theme. Of course, the best example of the technique is [John Williams's] *Jaws*. If it weren't for the music, you'd find that big rubber shark laughable. The music is more sharklike than the shark."

Dolby's soundtrack work led him to re-evaluate his approach to pop music as well. "Film writing was refreshing. When you make a record you want to get on radio, you have to deal with a whole set of restrictions that are not very welcome. For instance, you're almost obligated to have that snare drum going every second and fourth beat. Half the volume on many of today's records is that snare drum. And it's not even a real drum. It's on a microchip somewhere. That sound drives me completely up the wall."

In many respects, "Aliens Ate My Buick" is a reaction to what Dolby calls "that digital, turbo-charged sound" that dominates the airwaves. "Airhead [the album's second track] is a good example. We kept the sound very, very pure. I sat



in front of the speakers and said, "I want this to sound like a drum, not a milk bottle crashing."

The flesh-and-blood funk sound of "Aliens" is a departure, too, from the old-model Thomas Dolby. A contributing factor in Dolby's retreat from the pop scene was his growing concern over his image as the Nutty Professor of rock. That character, and the hit single that launched it, *Blinded by Science*, were never really representative of his larger body of work, which was more introverted and cerebral. Still, the image of Dolby as eccentric tinkerer stuck. "Once people think of you in a certain way, it's hard to change it."

One way to change it, though, is to wait four years between records, then release something completely different from anything you've done before. "Aliens" finds Dolby exchanging his white laboratory smock and vacuum tubes for California sports cars, leggy blondes, and a big, decidedly unscientific, boombox sound. Ironically, the swaggering, irreverent funk of "Aliens" is much more like the Dolby of *Science*, a song he has called "frivolous," than the introspective Dolby of the earlier *Airwaves* or *Mulu the Rain Forest*. The paradox isn't lost on him, but the music of "Aliens," for now anyway, is the "real" Thomas Dolby.

LAST year, Dolby moved from his native London to Los Angeles, which may have had something to do with the sound of "Aliens." If "Flat Earth" was the product of the damp, gray English city, "Aliens" is a reflection of the material world of Southern California—loud, gaudy, obsessed, and oversexed. "It's sort of a journal of a Brit in Los Angeles," Dolby said. He rejects the notion that British pop music is less commercial than America's or that the British economy, for all its troubles, provides a more fertile environment for rock, one that encourages innovation rather than conformity.

"That's very much a myth. It's true, the Smiths never would have happened in America. But England is an oppressive place to live as an artist. There's no funding. To be successful, you've got to pander to twelve BBC One producers who control the British music business. And the music press is savage. Covering rock music has replaced hunting grouse as sport. When I started



working with Prefab Sprout, they were the critics' favorites. 'Oh, you've never heard of Prefab Sprout—they're an obscure band from Newcastle.' Then, when they made the charts, the same critics said, 'I never really was into them.'"

Here in the States, *Airhead*, the first single off "Aliens," has gotten a lot of attention in the music press. Lyrics like "She thinks the fighting in Central America's easily solved, but what to wear to Bel Air premières is a problem she could never resolve," Dolby noted, have led people to ask if the song isn't "a bit sexist."

"A friend in England sent me a version of the song with the lyrics flipped around called *Bonehead*, about a guy who wears tight-fitting clothes and gold medallions. It had me in fits. And I thought to myself, now, is this abusive towards me as a man? Of course not. It's a stereotype. And that's what *Airhead* is. It's not about women, it's about airheads."

Dolby continued with a persuasive defense of his lyrics in general: "One thing about my songs is that I've never treated my listeners like morons. I've never written an 'Ooh, baby.' Every song has a lyrical point to it. Every lyric has an idea behind it. I feel I'm pretty responsible for that way."

Certainly no one can accuse Dol-

by of being predictable. Take his association with George Clinton. Dolby helped produce "You Shouldn't Nuf Bit Fish." Clinton reciprocated with *Hot Sauce* for "Aliens." The collaboration between the British, middle-class techno-boy and the Cosmic Patriarch of Funk is an unlikely one. But Dolby's first professional job was touring with a Jamaican r-&-b band. "I always enjoyed rhythm-and-blues," he said. "But it seemed like the mainstream devoted all its energies to finding the perfect groove, while the lyrics were unambitious—always about boys and girls, but unable to focus on other aspects of living on this planet." That wasn't the case with Clinton, however—"George doesn't even confine himself to this planet."

Working with Clinton gave Dolby-the-loner insight into other, freer ways of recording, and that free-wheeling style is everywhere in evidence in "Aliens," not just in the heavy-funk groove and spaced-out spaghetti-western guitar of *Hot Sauce* but in the careening, 90-mph squeal of *The Key to Her Ferrari*, the loose, reggae shuffle of *Pulpculture*, and the cool bop of *Ability to Swing*.

Still, with Dolby there's always a good deal of premeditation. The guitar in *Hot Sauce*, for instance, was no afterthought. "It's from the video—which I haven't made yet. In it I'm a correspondent for the *London Times* in a tropical country. It's hot, everybody is sweating, and I'm covering a rally at which the Presidente is giving a long, droning speech. Meanwhile I'm watching a woman, an Eva Peron type, and having a fantasy that she's throwing me around in a tango in a hot, smoky café. That's the guitar."

DOLBY'S approach to music video is one of the most sophisticated in the field. Does that point to a new career? "My appetite for filmmaking was whetted by videos and by working on soundtracks. But it was also dampened by seeing how people get beaten up in Hollywood. It made me appreciate the freedom I have to record the songs I want with the musicians I want, to release an album or not release it, [to decide] what the cover is going to look like. The product I put out is entirely my own. There aren't many filmmakers who can say that." □

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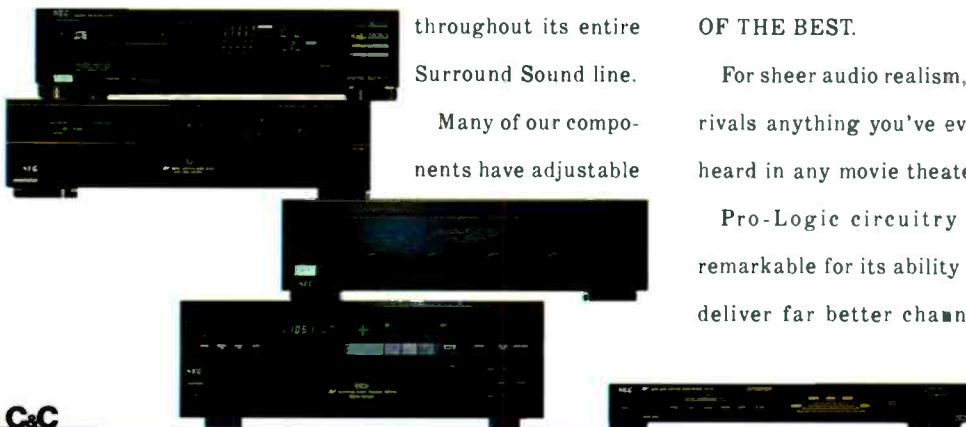
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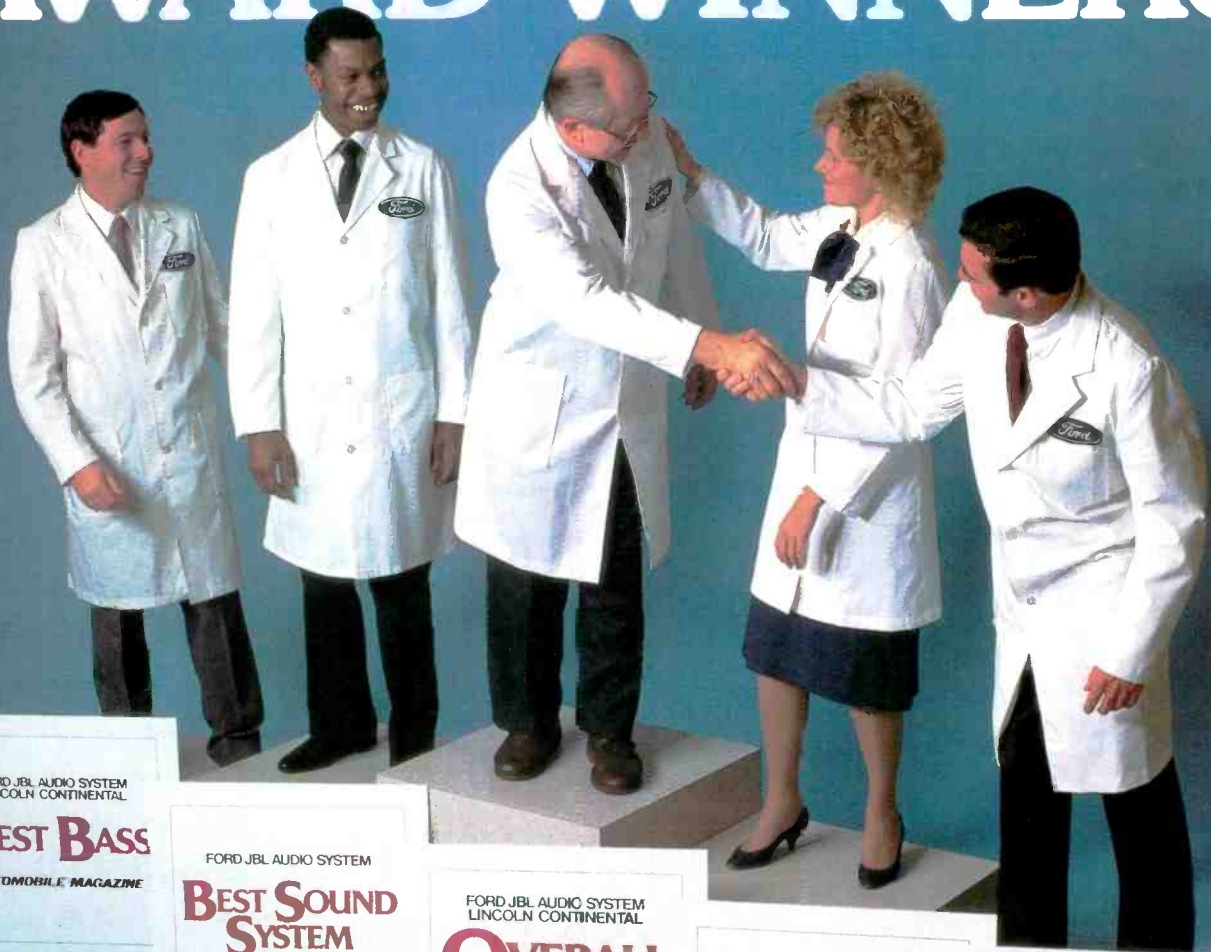
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AUDIO SYSTEMS

BEST RECORDINGS OF THE MONTH

Stereo Review's critics choose the outstanding current releases

K.D. LANG'S ROMANTIC "SHADOWLAND"

IT is an irony of sorts that the most androgynous performer in country music has recorded the most lushly romantic album to come out of Nashville this year. The singer is, of course, k.d. lang, and the album is "Shadowland," an Owen Bradley-produced throwback to the Jo Stafford era of the early Fifties and the Nashville of the early Sixties, when Bradley, Patsy Cline, and others conspired to wed country and pop with orchestral sweetening and a rounding off of country's rougher edges.

A Canadian eccentric who subscribes to the e. e. cummings style of lower-case proper names, lang is the same progressive-country artist who made her debut in the United States last year with the roots-rock-oriented "Angel with a Lariat," produced in England by Dave Edmunds. While that album reflects one side of lang—who calls her style "torch and twang"—she has a number of other facets to her personality, including a campy one that inspires her to dress in traditional western garb and look like a cross between Dale Evans and Keith Richards. There's another one, too, that sometimes impels her to lie prone on stage while she's singing.

No less interesting, however, is the k.d. lang who believes she's the reincarnation of Patsy Cline, a theory that moved her to name her stage band the reclines (get it?) and to record an album with Patsy's legendary producer.

All that might be enough to get lang dismissed as a fruitcake of the first order were it not for her extraordinary voice—a dazzling combination of emotion, range, and control that so impressed Owen Bradley that he came out of semiretirement to fulfill lang's dream.

The resulting album is a delightful oddity, a collection of jazzy standards and antiques (*Black Coffee*, *Shadowland*) rounded out by a novelty number or two, a little Bob Wills (*Sugar Moon*), a little-known Roger Miller tune (*Lock, Stock and Teardrops*), and the first-ever vocal gathering of Bradley's three other *grande dames*—Loretta Lynn, Brenda Lee (who almost steals the show), and Kitty Wells—in *Honky Tonk Angels' Medley*.

The word most frequently used to describe lang is "quirky," and that certainly applies to the program in "Shadowland," although not to the performance. She doesn't sing this material so much as she inhabits it, especially the anguished *Too Busy Being Blue*, which she delivers with an explosion of emotion. To say that lang is compelling is only to scratch the surface.

Therein lies the problem, however. While "Shadowland" is a fascinating glimpse of a remarkable talent, it showcases only one tiny part

of what she's about. There is none of lang's own wonderful, offbeat writing, and, without the reclines on hand, there's none of the zaniness that marks her stage performances. But then perhaps this record is only a side excursion from what promises to be a certain, if also circuitous, trip to the top. If, as the years go by, lang releases only one recording for each aspect of herself, her catalog should be a very full one indeed. *Alanna Nash*

K.D. LANG: *Shadowland*. k.d. lang (vocals); vocal and instrumental accompaniment. *Western Stars; Lock, Stock and Teardrops; Sugar Moon; I Wish I Didn't Love You So; (Waltz Me) Once Again Around the Dance Floor; Black Coffee; Shadowland; Don't Let the Stars Get in Your Eyes; Tears Don't Care Who Cries Them; I'm Down to My Last Cigarette; Too Busy Being Blue. Honky Tonk Angels' Medley: In the Evening (When the Sun Goes Down)/You Nearly Lose Your Mind/Blues Stay Away from Me.* SIRE 25724-1, © 25724-4, © 25724-2 (36 min).

k.d. lang: a different kind of honky-tonk angel



VICTORIA PEARSON/WARNER BROS. RECORDS

BEST RECORDINGS OF THE MONTH

PERAHIA PLAYS SCHUBERT AND SCHUMANN

SOME fifty years ago, when Arthur Schnabel was almost the only pianist playing the big Schubert sonatas, he spoke of them as "a safe supply of happiness." The situation is much different today, of course; Schubert's major piano works are as abundantly available in recorded form as Beethoven's. But anyone familiar with Schnabel's lovely phrase will surely think of it after hearing Murray Perahia's new recording of the A Major Sonata (D. 959), which CBS has packaged with the Sonata No. 2, in G Minor, of Schumann.

The A Major is Schubert's penultimate sonata, the second of the three "grand sonatas" he composed in September 1828, two months before his death. It is a somewhat sunnier work than the C Minor Sonata, which preceded it, and the great B-flat Major Sonata, which followed—though in the slow movement a tragic character does overtake the prevailing gentle melancholy or nostalgia. Perahia, unlike some other very persuasive Schubert players, does not probe for the dark side or try to turn the lyric gestures into stark images. He allows the music its inherent radiance, its innate lyric pulse, and it seems to find its own level. In this respect his performance may recall Schnabel's own playing as well as his words, but Perahia, while showing no less warmth of heart and no less natural momentum, produces more tonal beauty and more subtle magic in his

Murray Perahia: subtle magic



phrasing than Schnabel or any other pianist who has recorded this work in the intervening decades.

It was to Schumann that the publisher of Schubert's valedictory sonatas eventually dedicated them in 1839, just after Schumann had unearthed Schubert's then-unknown final symphony and given it to Mendelssohn to perform. Schumann's own sonatas continue to be performed and even recorded very infrequently, and the G Minor is a fine choice here for the energetic contrasts it provides. Perahia brings it to life, and CBS has come through with a recording of demonstration quality.

Richard Freed

SCHUBERT: *Piano Sonata in A Major, Op. posth. (D. 959)*. **SCHUMANN:** *Piano Sonata No. 2, in G Minor, Op. 22*. Murray Perahia (piano). CBS ◉ M 44569. © MT 44569, © MK 44569 (54 min).

MARTI JONES'S ROMANTIC "USED GUITARS"

FEW things are as exciting as watching talent reach its potential. In "Used Guitars," her third album, Marti Jones has fulfilled the promise of her two previous solo efforts and her work as lead singer of Color Me Gone. "Used Guitars" showcases an incomparable voice—thick and sensuous on the bottom, clear and silvery on top—and an incurably romantic personality.

Jones has done very good work before. "Unsophisticated Time" and "Match Game"—her two previous records—worked the familiar ground of folk-pop with quiet grace. "Used Guitars" goes beyond them, however, in a couple of ways. The stylistic range of the material has been expanded: Jones gets to rock, to carry a torch, to come within a ponytail of rockabilly. At the same time, the musical arrangements have been pumped up a little with a few strings and horns, and some heavy-duty guest performers—Marshall Crenshaw and Mitch Easter among them—make it snappy.

"Used Guitars" is a catalog of love and its afflictions. On *Back of the Line*, co-written by Jones and producer Don Dixon, the narrator is only one of many objects of her lover's affection. She compares the situation to taking a number in a



Marti Jones: a catalog of love

crowded store: "Got a ticket/Standing single file/Got a feeling/I'll be here for a while." A Jackie DeShannon tune, *Each Time*, describes how "Like a fool/I keep forgiving you each time." And David Enloe's *I Don't Want Him (Anymore)* takes the perspective of the woman who was two-timed while she was gone. She tells her man's new love, "Go ahead, take him, that's okay/I don't want to be you when you're away." Of course, love also has its healing side for Jones. Maybe. Like the desperate, undeniable passion of *Keep Me in the Dark*, co-written by Janis Ian and Kye Fleming, or the salvation offered in John Hiatt's *If I Can Love Somebody*.

If it isn't clear by now, Marti Jones is a romantic's romantic. In "Used Guitars," she's got the right material, the right musicians, and the right voice. What more could you ask for?

Ron Givens

MARTI JONES: *Used Guitars*. Marti Jones (vocals, guitars); Don Dixon (guitars, background vocals); vocal and instrumental accompaniment. *Tourist Town; Wind in the Trees; The Real One; Ruby; Back of the Line; Twisted Vines; Keep Me in the Dark; You Can't Take Love for Granted; I Don't Want Him (Anymore); Each Time; If I Can Love Somebody*. A&M SP-5208, © CS-5208, © CD-5208 (39 min).

BEST RECORDINGS OF THE MONTH

A BEAUTIFUL, BELIEVABLE "LA BOHÈME"

THE new Erato recording of *La Bohème* is actually the soundtrack of a feature film due for theatrical release in the U.S. sometime this fall. While the Puccini opera has, on occasion, enjoyed more opulent vocal performances, I doubt if many of them have been imbued with greater credibility. Much of the credit for the success of this realization belongs to conductor James Conlon, who holds everything together nicely yet allows his singers room for self-expression and personal inflection. As a result, I often felt that I was hearing a given phrase for the first time, or that a moment of drama or of characterization was newly revealed.

Barbara Hendricks, who sings Mimi, has a voice ideally suited to the role—clear, limpid, unforced, and “meaningful”—but she never overplays it. Instead, she illuminates the youth, the lightheartedness, and the vulnerability that are integral to her character. And José Carreras, who was unable to portray Rodolfo in the film for reasons of health, here turns in his best recorded performance in years. There is much less forcing at the top in forte passages, and his control of pianissimo high notes is indeed remarkable. Like Hendricks, he brings to his assignment strong conviction, without exaggeration, and is always true to the dramatic need of the moment. The unadorned simplicity in the work of these two artists when they sing together lends a moving realism to their scenes.

As Marcello, Gino Quilico is also fine. His clear, youthful, robust voice clearly delineates the enthusiastic good humor and deep feeling that inform Marcello's character. Musetta, on the other hand, is shrewish, bossy, forward, but also “buona,” as Mimi says of her. It's not easy to convey all of this vocally without stridency or what may sound like a lack of vocal discipline. Angela Maria Blasi does not wholly

succeed, but she comes as close to doing so as any recorded Musetta I have heard.

Richard Cowan's Schaunard and Francesco Ellero d'Artegna's Colline, both richly sung, show the same characteristics as the leads: musical accuracy and a sense of dramatic truth. Indeed, there is no weak link in the cast. And there are many high points in the performance. To pick one: The vignette with Benoît in Act I is played with somewhat more restraint than usual so that you can readily see the Bohemians' landlord as greedy, lonely, henpecked—a comic figure, but not a cardboard cutout.

The chorus and orchestra perform with verve, and the recording itself is clear and well balanced. Here is a *Bohème* that, for both listening enjoyment and communication of Puccini's melodic love story, I can gladly recommend. *Robert Ackart*

PUCCINI: *La Bohème*. Barbara Hendricks (soprano), Mimi; José Carreras (tenor), Rodolfo; Angela Maria Blasi (soprano), Musetta; Gino Quilico (baritone), Marcello; Richard Cowan (baritone), Schaunard; Francesco Ellero d'Artegna (bass), Colline; Federico Davia (baritone), Benoît/Alcindoro; Michel Sénéchal (tenor), Parpignol. French Radio Chorus; Orchestre National de France, James Conlon cond. ERATO ◉ NUM 75450 two LP's, © MCE 75450 two cassettes, © ECD 75450 two CD's (101 min).

Barbara Hendricks: moving realism



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by *Christie Barter*
& *Ron Givens*

IF you loved the musical version of *Les Misérables*, you'll want to check out *Miss Saigon*, a new work in progress by the French team of Claude-Michel Schönberg and Alain Boublil, who created the current international stage success based on Victor Hugo's novel. A double-disc "concept" version will be released by Geffen this fall even though the musical itself won't be staged until sometime next year.

Miss Saigon tells the story of a young Vietnamese girl who falls in love with an American GI just prior to the fall of Saigon in 1975. Schönberg has written the music, Boublil and Richard Maltby, Jr., have written the lyrics, and **Frances Ruffele**, who won a Tony Award for her performance in *Les Misérables*, sings the title role in the album. **Peter Kingsbery**, lead singer of the rock group Cock Robin, performs as the soldier, with support in other roles from British pop star **David Essex** and American singer **Laura Branigan**. □

OPENING the PBS network's 1988-1989 Live from Lincoln Center season on September 21 is the New



Estefan: around the world

Duke. **Elio Boncompagni** will conduct the performance, which is being telecast from the New York State Theater.

Esham is also featured in the forthcoming Glyndebourne Festival recording of Mozart's *Le nozze di Figaro* on Angel, in which she sings the role of Cherubino, with **Felicity Lott** as the Countess, **Gianna Rolandi** as Susanna, **Claudio Desderi** as Figaro, and **Richard Stilwell** as Almaviva. This *Figaro* completes Angel's new recorded cycle of the three operas Mozart composed to librettos by Lorenzo Da Ponte—the other two being *Don Giovanni* and *Così fan tutte*—all deriving from recent Glyndebourne productions and all with **Bernard Haitink** conducting the London Philharmonic. □

second album, "Let It Loose," came out in the summer of 1987, the band has scored five straight Top 40 singles, including the No. 1 *Anything for You*. They've also toured around the world, including an appearance earlier this year at the Prince's Trust Concert in London.

This fall the band is scheduled to participate in Amnesty International's Human Rights Now! tour on a limited basis and will begin work on their next LP with Emilio Estefan, Gloria's husband and a former band member who produces their records. □

ONE bit of Western technology that's made it to the top in the Soviet Union is the CD player. Mikhail Gorbachev has one, we hear, as do several of his associates, and they all now have a new CD to play on them, courtesy of jazz pianist **Dave Brubeck**. Brubeck took copies of "Moscow Night," his latest recording for Concord Jazz, with him on Air Force One this summer when he was invited to play for the Reagans, the Gorbachevs, and other dignitaries attending the summit in Moscow.

A Russian-American collaboration, "Moscow Night" was recorded live at a sold-out performance given by the Dave Brubeck Quartet in the Russian capital last year as part of a thirteen-concert tour. This year, the quartet played a number of its own standards and others, among them Duke Ellington's *Take the "A" Train*, which may have been familiar to the Russians as the theme music for the Voice of America's daily jazz program. At one point Nancy Reagan was heard to ask Mr. Gorbachev if he liked jazz. The Soviet leader reportedly replied, "I like good jazz, and this is good jazz." □

Brubeck: to Moscow and back



CONCORD JAZZ



Esham: live, from New York

York City Opera's new production of Verdi's *Rigoletto*, with **Brent Ellis** in the title role, **Faith Esham** as Gilda, and **Richard Leech** as the

IT'S been a whirlwind year for **Gloria Estefan** and the **Miami Sound Machine**—and it's not over yet. Since their



FOR many people, Keith Richards's stinging guitar work defines the sound of the Rolling Stones. And, with Mick Jagger, Richards has written nearly all of the songs recorded by the band. But un-

FOR his hit cross-over album "Beethoven or Bust," synthesizer artist Don Dorsey decided to score the last of the Seven Bagatelles, Op. 33, as if it were a film soundtrack. Specifically, he tried to depict a car racing a train to a railroad crossing. Parts of the Seventh Bagatelle, he thought, really do sound like car horns, so he scoured Hollywood's junk yards and assembled a contraption he calls his "horn-o-plenty," ten car horns powered by a 12-volt car battery and controlled by a bunch of pushbuttons and toggle switches. Anyone who's owned a mid-Sixties Ford pickup, says Dorsey, or a Volkswagen Beetle or a Toyota 4 x 4 truck, might hear a familiar honk among the bagatelle's opening flourishes in "Beethoven or Bust" (Telarc CD-80153). At press time, the compact disc was in the No. 1 spot on *Billboard's* Classical Crossover chart for the sixteenth consecutive week. □

The title "Re-Doo Wopp" refers to four medleys of old hits sung in contemporary pop arrangements. The title track, for example, uses an uptempo dance beat for a medley of *Little Star*, *Hush-a-Bye*, *Little Darlin'*, *Sorry (I Ran All the Way Home)*, *Do You Wanna*

performance conducted by Pierre Boulez at the same theater in 1963, under considerably calmer circumstances, celebrated the work's fiftieth anniversary, and a recording of that performance was released in France by Disques Montaigne in the spring of this year, the seventy-fifth an-



Richards: on his own

til his new solo album on Virgin, Richards had never ventured out on his own. For the new record he used studios in Memphis, Montreal, the West Indian island of Montserrat, and the Bahamas. Among the musicians who worked on the studio sessions were guitarist Waddy Wachtel, horn man Maceo Parker, bassist Bootsie Collins, and vocalist Sarah Dash.

Fans of the Rolling Stones should know, however, that the Richards solo record doesn't signal the end of the group. This summer, band members discussed recording and touring together again. If everything goes according to plan, the Rolling Stones will record early in 1989 and tour that summer. □

ATENTION, all fans of sweet rock-and-roll harmonies: **The Tokens**, known for their No. 1 hit of 1961, *The Lion Sleeps Tonight*, have put out a new album, "Re-Doo Wopp" on *RBI International*. Actually, to be precise, the record is by a group called the Tokens featuring Mitch Margo, which also includes his brother Phil Margo. Both Margos were original Tokens; another group currently performing as "the Tokens" includes only one original member.



The Tokens featuring Mitch Margo: sweet harmonies

Dance, Twist and Shout, *Do You Love Me*, and *La Bamba*. The record also includes a couple of full-length oldies and a few originals—and the CD version has an instrumental-only track so you can sing the vocals yourself. □

STRAVINSKY'S *The Rite of Spring* caused a riot at its first performance, at the Champs-Élysées Theater in Paris, in 1913, but it went on to change the course of twentieth-century music. A special

anniversary of the première. Despite the work's tumultuous beginning, it seems record buyers today can't get enough of it. Boulez's historic recording, imported by Harmonia Mundi USA, joins more than twenty other versions already available on compact disc, including a couple of others by Boulez. And we're still counting. □

Dorsey: Beethoven with horns



GRACENOTES. Alto saxophonist **Frank Morgan's** new record on Contemporary, "Yardbird Suite," is a tribute to Charlie Parker. . . . Avant-garde rocker **Brian Eno** has a new label, *Opal Records*, which is being distributed by Warner Bros. The first releases should be in stores any day now. . . . **Tom T. Hall** has aimed for a younger audience with his new Mercury record, "Country Songs for Kids." . . . *Telarc* is releasing an all-inclusive version of Rodgers and Hammerstein's *The Sound of Music* that contains everything written for Broadway as well as material cut prior to the show's opening and new music written for the film. □

ANGIE COQUERAN/LONDON FEATURES

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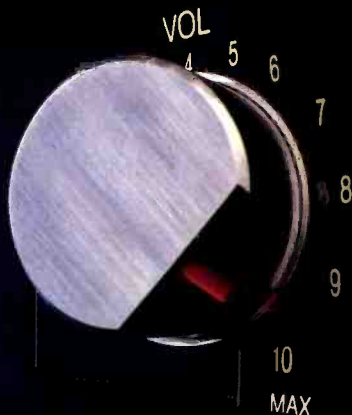
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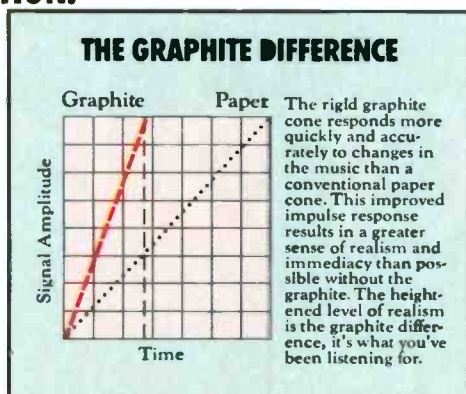
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CIRCLE NO. 85 ON READER SERVICE CARD

Discs and tapes reviewed by Chris Albertson, Phyl Garland, Ron Givens, Roy Hemming, Alanna Nash, Mark Peel, and Steve Simels

GREGORY ABBOTT: *I'll Prove It to You.* Gregory Abbott (vocals, keyboards, drums); vocal and instrumental accompaniment. *Back to Stay; Prisoner of Love; I'll Prove It to You; Runaway; Unfinished Business;* and five others. COLUMBIA FC 44087, © FCT 44087, © CK 44087 (39 min).

Performance: *A smoothie*
Recording: *Good*

In his debut album, "Shake You Down," Gregory Abbott, a handsome former college teacher, showed that he sounds as good as he looks. On this second outing, which he also produced, he demonstrates staying power with suavely smooth interpretations of his own high-quality songs. Abbott brings to his work a solid sense of the tunefulness and restraint that marked black popular music of earlier decades. The songs flow with ease and grace, and he even reaches back for a touch of the blues in a number like *Prisoner of Love*, with its vintage guitar licks. But Abbott is also quite contemporary, mingling elements of these earlier styles with modern production techniques. As in his first album, there's one dazzling ballad here, the title song, *I'll Prove It to You*. Overall, there is enough variety and just plain good singing to yield abundant satisfaction. *P.G.*

JAMES BROWN: *I'm Real.* James Brown (vocals); Full Force (instrumentals and background vocals); other musicians. *Tribute: I'm Real; Static (Parts 1 and 2); Time to Get Busy; She Looks All Types a' Good;* and five others. SCOTTI BROS./CBS FZ 44241, © FZT 44241, © ZK 44241 (45 min).

Performance: *Caricaturing himself*
Recording: *Unsatisfactory*

Some have said that James Brown has been singing the same song for the past twenty-five or thirty years—he just changes its name from one album to the next. "I'm Real" only serves to reinforce that myth. Brown, who long ago dubbed himself the Godfather of Soul,



CAMPER VAN BEETHOVEN

IN case you hadn't noticed, that long-threatened Sixties revival is upon us. Or maybe it just seems that way if you listen to the kind of music popular on college radio. What with REM recycling Byrds licks over Michael Stipe's psychedelically vague lyrics, or 10,000 Maniacs waxing pastoral while lead singer Natalie Merchant makes like some hippie manqué, not to mention Tracy Chapman and Suzanne Vega making the world safe for solo folk singers—well, suddenly it does seem that a lot of younger musicians are really bugged that they were born too late to play at Woodstock.

Still, the award for the Best Sixties Album Made in 1988 by a College Radio Band has got to go, hands down, to "Our Beloved Revolutionary Sweetheart," the major-label debut of a group called Camper Van Beethoven. What's ironic—and refreshing—about it is that, for a change, the Sixties parallels seem unconscious rather than calculated. What with the group's reliance on violin, mandolin, and other distinctly unfashionable instruments and lead singer David Lowery's reedy, boy-next-door vocals, Camper Van Beethoven doesn't sound like the Sixties icons you might expect—the Airplane, say, or the Doors—but rather like the thoroughly obscure Kaleidoscope, a group that hardly anybody remembers except perhaps as Jackson Browne sideman David Lindley's first band. Now, the likelihood that these guys actually set out to be a Kaleidoscope clone seems to me to be on the order of winning the lottery three times in a row. Which is to say that Camper Van Beethoven probably happened on their sound by accident, but they wear it well.

In fact, the record is thoroughly charming on its own terms, and it's fairly radical stuff in this era of cookie-cutter synthesized pop. There's the bizarre camp of a track titled *Change Your Mind*, the vaguely XTC-ish innocence of *The Fool*, and the fabulous line, "Take off that jumpsuit, you look like Grace Slick!" which adorns *Turquoise Jewelry*. There's also a lot of really sharp instrumental work (Jonathan Segel's violin flourishes are every bit as well as Dave Swarbrick's were for Fairport Convention) and, best of all, in *Tania*, one authentic masterpiece. A minor-key ode to Patty Hearst, the revolutionary sweetheart of the album's title, *Tania* sounds for all the world like some demented Old Russian folk tune, arch and absolutely sincere at the same time. And that, come to think of it, is a fairly apt description of the whole album.

Unless you're a fanatical Sixties completist, you've probably never heard a record quite like this one. Though I've been dreading the return of that unhappy decade for longer than I'd care to mention, "Our Beloved Revolutionary Sweetheart" almost makes me glad I hung around to welcome its comeback. *Steve Simels*

CAMPER VAN BEETHOVEN: *Our Beloved Revolutionary Sweetheart.* Camper Van Beethoven (vocals and instrumentals). *Eye of Fatima (Parts 1 and 2); O Death; She Divines Water; Devil Song; One of These Days; Turquoise Jewelry; Waka; Change Your Mind; My Path Belated; Never Go Back; The Fool; Tania; Life Is Grand.* VIRGIN 90918-1, © 90918-4, © 90918-2 (42 min).

EXPLANATION OF SYMBOLS:

- = DIGITAL-MASTER LP
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is now reduced to self-caricature. This set is almost embarrassingly self-serving. Side one opens with a tribute from Full Force, Brown's musical support group, and side two opens with a staged interview in which he tells us that the lyrics in the album are "very intelligent." Admittedly, the riveting percussion in *She Looks All Types a' Good* demands to be danced to, and the rhythms throughout are pleasantly stimulating. But except for an occasional huff, grunt, or shout, Brown does precious little singing. That's unfortunate, because his previous album, "Gravity," highlighted by the hit *Living in America*, demonstrated that he still has the stuff and can deliver it when so inspired. But here he offers little more than a deep bow to his own past. P.G.

targets, from militarism and drugs to racism and child prostitution. Sometimes the lyrics are obvious in sentiment, and often they're preachy, but they are unarguably serious. Third, there is the sincerity. Club Nouveau really wants to make this a better world, and "Listen to the Message" is its attempt to make a start. You could do worse than to dance to this music and learn from these words. R.G.

MICHAEL CRAWFORD: *Songs from the Stage and Screen.* Michael Crawford (vocals); London Symphony Orchestra, Andrew Pryce Jackman cond. *West Side Story Medley; If I Loved You; In the Still of the Night; When You Wish upon a Star; Memory; Not a Day Goes By; You'll Never Walk Alone;* and four

ments, which sound too much like pretentious Fred Waring retreats. R.H.

EVERYTHING BUT THE GIRL: *Idlewild.* Tracey Thorn (vocals); Ben Watt (vocals, guitar); instrumental accompaniment. *Love Is Here Where I Live; These Early Days; The Night I Heard Caruso Sing; Shadow on a Harvest Moon; Tears All over Town;* and six others. SIRE 25721-1, © 25721-4, © 25721-2 (41 min).

Performance: *Very smooth*
Recording: *Quite good*

Everything But the Girl's fourth American release is rather modest even for this low-key duo. Once again, Tracey Thorn and Ben Watt immerse themselves in the ambience of after-hours jazz—smoky and cool—and let the music flow in a relaxed fashion. The uptempo numbers, such as *Oxford Street* and *Blue Moon Rose*, may swing a little or bounce a lot, but they're quietly restrained. As a result, the focus is on Thorn's deep, throaty vocals and the pristine arrangements of the instrumental tracks. "Idlewild" is easy listening in the best sense.

Thorn is a jazz singer, but I'm not sure if "Idlewild" is jazz. Perhaps it's because the duo almost never stretches out, which may be another indication of musical modesty, but I prefer to think that Thorn and Watt are trying to complement their lyrics. These songs are filled with what appears to be autobiographical detail. Many of them deal with everyday subjects—the untarnished life of a two-year-old or unexpected homesickness for an England that has many faults—in a very plain-spoken fashion. These are the torch songs of normal people leading normal lives, universal situations presented in low relief with a subtlety that gives them great power. R.G.

MARTI JONES: *Used Guitars* (see *Best of the Month*, page 82)

EVELYN "CHAMPAGNE" KING: *Flirt.* Evelyn "Champagne" King (vocals); vocal and instrumental accompaniment. *Flirt; You Can Turn Me On; Kisses Don't Lie; Stop It; Hold On to What You've Got;* three others. EMI MANHATTAN E1-46968, © E4-46968, © E2-46968 (42 min).

Performance: *A fine return*
Recording: *Good*

In the ten years since she began recording, Evelyn "Champagne" King has held on to the youthful energy and ebullience that accounts for her nickname, and in "Flirt," her first release in quite some time, she proves that she still has the power to deliver classy dance music that's tuneful and spirited. She works here with several producers who are equally accomplished as composers and instrumentalists, among them Leon F. (Continued on page 97)



Tracey Thorn and Ben Watt of *Everything But the Girl*

CLUB NOUVEAU: *Listen to the Message.* Club Nouveau (vocals and instrumentals); instrumental accompaniment. *It's a Cold, Cold World!; Listen to the Message; Dancin' to Be Free; For the Love of Francis; What's Going 'Round?; Only the Strong Survive;* and three others. WARNER BROS. 25687-1, © 25687-4, © 25687-2 (42 min).

Performance: *Political grooves*
Recording: *Okay*

Three things dominate "Listen to the Message." First, there are the grooves. They don't sizzle; they don't burn; they percolate. The modest rhythm tracks aren't overlaid with sound. They're spare, with just a few accents by guitars or synthesizers. And, for the most part, they work amazingly well, precisely because they don't try too hard. Second, there is the politics. Club Nouveau takes on a broad array of sociopolitical

others. COLUMBIA OC 44321, © OCT 44321, © CK 44321 (45 min).

Performance: *Music of the night*
Recording: *Excellent*

The Tony Award-winning star of Broadway's *Phantom of the Opera* takes off that show's mask and reveals that he is equally at home with the show tunes of Berlin, Porter, Bernstein, Sondheim, and a few others—as well as, inevitably, a couple of other Lloyd Webber musicals (*Cats* and *Song and Dance*). Crawford's somewhat nasal voice has a tendency to be strident at times, especially on long-held high notes, but he knows how to rein it in or let it out when needed for dramatic effect. And there's never any doubt that he means every word he's singing. His combination of youthful exuberance and romantic charm even manages to win out over the bland orchestra-and-chorus arrange-

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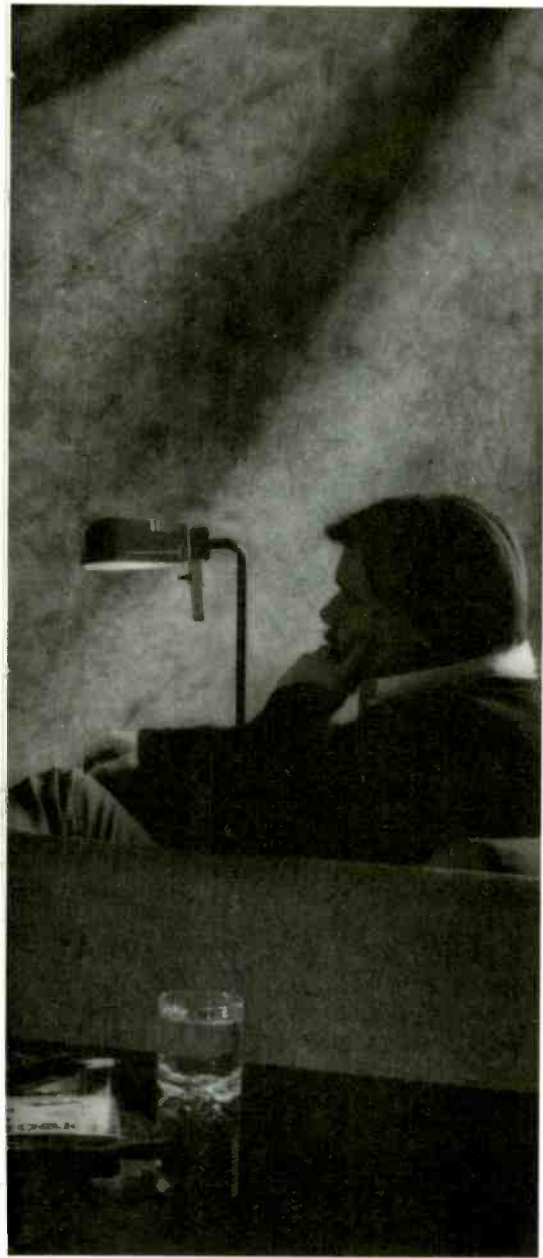
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STEREO REVIEW

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STEREO REVIEW

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PIONEER

Sylvers III, "Wah Wah" Watson, Ron "Have Mercy" Kersey, and Evan Rogers. Sylvers's *Before the Date*, with its offbeat rhythms, is the best dance number, and Rogers's *When Your Heart Says Yes* has a catchy melody, but the real knockout is Kersey's *Kisses Don't Lie*. It's probably the best ballad King has ever recorded, and she delivers it with passionate intensity. "Flirt" is a welcome return. P.G.

K.D. LANG: *Shadowland* (see Best of the Month, page 81)

KATYNA RANIERI: *Chansons pour Fellini*. Katyna Ranieri (vocals); orchestra, Riz Ortolani cond. Songs based on themes from *La strada*, *I vitelloni*, *Amarcord*, *Casanova*, *Giulietta degli spiriti*, 8½, others. MILAN/IBR © CD 329 (57 min).

Performance: *La dolce nea-a*
Recording: *Fittingly mellow*

Some of the most immediately identifiable movie music this side of John Williams has come from the scores the late Nino Rota composed for a whole string of Federico Fellini movies, from *I vitelloni* in 1953 to *Casanova* in 1976. Strictly instrumental albums of these scores have been around for years, but "*Chansons pour Fellini*" is the first vocal set I can recall. Some of the lyrics were apparently written especially for Katyna Ranieri, and all have been arranged by her husband, Riz Ortolani, also one of Italy's top movie composers.

Ranieri's voice seems to have lost much of the torchy belting power it had in her club heyday in the Sixties, but she croons these thoroughly appealing and often catchy melodies in a meltingly mellow style that makes the record perfect for late-night listening. All the songs are sung in Italian, so it's disappointing that no printed lyrics or English translations are provided. R.H.

DAN REED NETWORK. Dan Reed Network (vocals and instrumentals). *Get to You*; *Ritual*; *I'm So Sorry*; *Baby Don't Fade*; *Halfway Around the World*; *Rock You All Night Long*; and five others. MERCURY 834 309-1, © 834 309-4, © 834 309-2 (48 min).

Performance: *Hard funk*
Recording: *Very good*

No one yet has matched Prince's fusion of hard rock and funk, although many have tried. For the most part, those attempts have focused on the funk side of the equation. Now comes the Dan Reed Network, a quintet that takes its very commercial, hard-rock sound and funks it way up. The principal composer and singer, Dan Reed, often sounds like a dead ringer for His Royal Badness, especially in the opening track, *World Has a Heart Too*. Reed also writes like Prince—*Tamin' the Wild Nights* could almost be an outtake from "Purple Rain." At other times, the Dan



Dan Reed Network: more hooks than a bait-and-tackle shop

Reed Network transcends its Princely state and sounds a lot like Journey, yet it overcomes the sense of *déjà vu* inherent in its music. When it comes to writing catchy tunes, Reed stocks more hooks than a bait-and-tackle shop, and his Network plays as if its musical life hung in the balance. R.G.

FEARGAL SHARKEY: *Wish*. Feargal Sharkey (vocals); Danny Kortchmar (guitars, keyboards, saxophone); other musicians. *Cold, Cold, Streets*; *More Love*; *Full Confession*; *Out of My System*; *Strangest Girl in Paradise*; and five others. VIRGIN 90895-1, © 90895-4, © 90895-2 (42 min).

Performance: *When he's hot...*
Recording: *Pretty good*

The first solo album by Feargal Sharkey, former lead singer of the Undertones, was so subtle and understated that much of it barely registered. This time around, he's made a record that cannot go unnoticed. With the help of producer Danny Kortchmar, whose guitar playing is the instrumental heart of the album, Sharkey takes a measured soul turn. The first three tunes show Sharkey's range—the steady, churning *Cold, Cold, Streets*; the peppery, Otis Redding-like *More Love*; and the languorously funky *Full Confession*. The smooth *Out of My System* offers a generous helping of hot, buttered soul, and *Strangest Girl in Paradise*, a steady rocker, takes a vivid look at the sordid

side of Hollywood. Beyond these five gems, however, the material gets thin. While Sharkey's high, raspy voice is always interesting to listen to and the songs are produced sympathetically by Kortchmar, five out of the ten tracks are hardly memorable. But the good ones are very good. R.G.

SOUTHERN PACIFIC: *Zuma*. Southern Pacific (vocals and instrumentals); instrumental accompaniment. *Honey I Dare You*; *Midnight Highway*; *Wheels on the Line*; *Just Hang On*; *Bail Out*; and five others. WARNER BROS. 25609-1, © 25609-4, © 25609-2 (37 min.)

Performance: *AM radio*
Recording: *Good*

Southern Pacific, with its all-star lineup of former Doobie Brothers and refugees from Creedance Clearwater Revival and Pablo Cruise, delivers its third album with an implied admission: Despite the superior musicianship and vocal blend, this is a singles band, playing music made for quick, disposable, feel-good radio. Anyone looking for continuity of expression, for artistic or spiritual vision, or even for a clearly espoused life style is not likely to come away satisfied.

Now that I've said that, however, there's no denying that certain of these songs are irresistible hard-driving, hybrid country-rock. *Midnight Highway*, with its crisp drums and clanging guitars underscoring John McFee's take-charge



HALL AND OATES

THERE have been many exponents of blue-eyed soul, but nobody has ever outdone Daryl Hall and John Oates in blue-eyed Motown. Appropriately enough, when the duo took a break from performing together three years ago, it came after they had sung at the Apollo Theatre in Harlem with two former lead singers of the Temptations, Eddie Kendrick and David Ruffin. In a kind of apotheosis, Hall and Oates became Temptations for a night.

Now, after three years apart, the duo has come back together for "Ooh Yeah!" Once again, Hall and Oates dance along the fine line between soul and rock. If you've ever loved Hall's emotive crooning, Oates's sweet harmonies, and the funky-but-cool band behind them, this new record will satisfy you down to your boogity-shoes. You'll hear gossamer r-&-b in *Downtown Life*, stutter-step r-&-b in *I'm in Pieces*, hot-battered r-&-b in *Missed Opportunity*, and so on.

"Ooh Yeah!" has the usual measure

of Hall and Oates's clever wordsmanship. In *Downtown Life*, a tribute to late-night club-hopping, Hall sings, "Going down isn't hard to do/The King of Clubs and the Queen of Hearts fall too." In a three-song sequence that finishes the disc, they present a treatise on love and its physical and spiritual aspects. The subjects of these songs, and their smooth, soulful treatment, are strongly reminiscent of Marvin Gaye. And it's this smoother style of Motown soul that dominates the album.

In *Talking All Night*, Hall sings, "Ain't it lovely how we fit together?" Ooh yeah! A lovely fit. *Ron Givens*

DARYL HALL AND JOHN OATES: *Ooh Yeah!* Daryl Hall, John Oates (vocals and instrumentals); vocal and instrumental accompaniment. *Downtown Life*; *Everything Your Heart Desires*; *I'm in Pieces*; *Missed Opportunity*; *Talking All Night*; *Rockability*; *Rocket to God*; *Soul Love*; *Realove*; *Keep on Pushin' Love*. ARISTA AL-8539, © AC-8539, © ARCD-8539 (49 min).

vocals, barrels along like a sixteen-wheeler with an illegal haul. And *Honey I Dare You* combines the jaunty pedal-steel of Hank Williams with California country-jazz. Too often, though, the songs are about nothing in particular, presented pleasantly. The program runs the full gamut of pop and soft rock, but there is no identifiable sound or motivation.

With its debut record, "Southern Pacific," the band seemed hotter than a \$2 pistol—a band to be reckoned with. But whatever it had going for it then has somehow become diluted and diffused.

"Zuma" seals its fate as one of the disappointments of the decade. *A.N.*

VAN HALEN: *OU812*. Van Halen (vocals and instrumentals). *Mine All Mine*; *When It's Love*; *Source of Infection*; *Finish What Ya Started*; *Sucker in a 3 Piece*; and four others (five others on CD). WARNER BROS. 25732-1, © 25732-4, © 25732-2 (51 min).

Performance: *Alloyed metal*
Recording: *Very good*

Whether or not Van Halen is the No. 1 heavy-metal band, the group plays with

the heady self-confidence of a champion. "OU812" shows the band venturing off the head-banging path a little bit. At times—brace yourself, Van Halen fans—the group sounds like regular hard rockers or even—are you sitting down, guys?—popsters. While this may be sacrilegious to die-hard, long-term followers of Van Halen, less doctrinaire listeners will be pleased by the variety, if not the exuberance, of the songs.

"OU812" is the second album by Van Halen since David Lee Roth left to pursue a solo career, and the music seems less cartoony than before. The record kicks off with two strong songs: *Mine All Mine* and *When It's Love*. The former offers a somewhat sophisticated take on personal philosophies—advocating individual fulfillment at the expense of established dogma—set to a blistering full-frontal guitar attack. *When It's Love* is an almost-sweet evocation of the inexplicable nature of love, even though it begins, "Everybody's lookin' for somethin'/Somethin' to fill in the holes."

From there on out, it's business as usual. Songs about parties and *girls*. Solos to the max from Eddie Van Halen, who continues to rewrite the guitar-hero handbook every time he straps on his instrument. High-octane work from the rhythm section and high-octave work from Sammy Hagar. Did you like it before? You'll like it again. *R.G.*

NEIL YOUNG AND THE BLUE-NOTES: *This Note's for You*. Neil Young and the BlueNotes (vocals and instrumentals). *Ten Men Workin'*; *This Note's for You*; *Coupe de Ville*; *Life in the City*; *Twilight*; *Married Man*; and four others. REPRIS 25719-1, © 25719-4, © 25719-2 (39 min).

Performance: *Tired*
Recording: *Good*

Hey, is it me, or are Neil Young's continual style changes beginning to seem like a major affectation? He's gone from synth-pop to rockabilly to straight country to this album's big-band blues. I mean, what's the guy's problem?

Well, whatever it is, this latest installment of Young's ongoing identity crisis is at best a middling effort. The tunes are mostly tuneless and cranky (the title song is yet another attack on the music business), and though the addition of a horn section to his basic garage ensemble has a certain novelty value, nothing here sounds terribly authentic. Unlike a real blues or soul band, this one doesn't swing. Young's guitar work, of course, retains its inimitable cat-in-heat charm, but other than that very little of "This Note" sticks in the mind.

Hey, Neil, you know what would be a really radical switcheroo for your next effort? How about making an album of real songs with real overdubs—kind of like you used to do around the time of "Harvest." Hoo boy, would *that* throw people for a loop! *S.S.*

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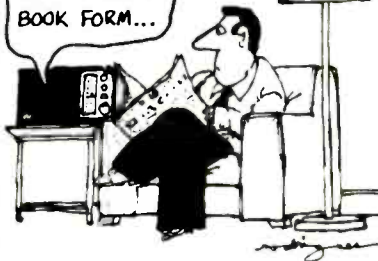
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JAZZ

CLASSIC JAZZ PIANO (1927-1957). Jelly Roll Morton: *Mr. Jelly Lord*. Meade Lux Lewis: *Honky Tonk Train Blues*. James P. Johnson: *Thou Swell; Romping*. Fats Waller: *Smashing Thirds*. Earl Hines: *Rosetta*. Art Tatum: *Out of Nowhere*. And ten others. BLUEBIRD ◉ 6754-1-RB, ◉ 6754-4-RB, ◉ 6754-2-RB (51 min).

Performance: *Dazzling array*
Recording: *Excellent remastering*

Except for the fact that, for obvious reasons, it was excluded from the instrumentation of New Orleans marching bands, the piano has always played an important role in jazz. Indeed, at least two jazz idioms, stride and boogie-woogie, are piano styles, and so is ragtime. "Classic Jazz Piano" is a Bluebird collection that covers thirty years of jazz piano recordings, all from the rich vaults of RCA. It is also among the first RCA releases to employ the new NO-NOISE audio-restoration method. I don't know how this Sonic Solutions computerized system works, but its application here makes for an excellent demonstration of the noise reduction and clarity it can achieve.

As for the music, well, how can you go wrong with such material as Jelly Roll Morton's *Mr. Jelly Lord*, Erroll Garner's *Erroll's Bounce*, Meade Lux Lewis's *Honky Tonk Train Blues*, and Bud Powell's *Shaw 'Nuff*? I question the wisdom of including only an excerpt from *Romping* by James P. Johnson; it would have been good to have had the rest of the side, even if Johnson does withdraw to the background. But that is my only complaint. This is an excellent collection of fine music, and it reflects the diversity of jazz in the most compelling way. C.A.

JORGE DALTO: *Listen Up!* Jorge Dalto (piano); Randy and Michael Brecker (trumpet, flugelhorn); Hubert Laws (flute); George Benson (guitar); other musicians. *Samba; La Costa; Spanish Harlem; Listen Up*; and three others. GAIA 139009-1, ◉ 139009-4, ◉ 139009-2 (45 min).

Performance: *Pleasant*
Recording: *Very good*

Argentinian-born pianist Jorge Dalto came to this country in the Sixties to pursue a musical career. It would take him from Chicago to New York and into jazz by way of such Latin-jazz fusion bands as Machito's and Tito Puente's. A reliable if not particularly interesting pianist, Dalto found a good deal of work as a session player, appearing with some of the most successful leaders in the business. In 1975 he joined George Benson's band, then touring extensively to capitalize on the

guitarist's sudden successful climb to the top of the pop charts. Two years later, Dalto began a solo recording career. Last year, at the age of thirty-nine, he succumbed to cancer.

"Listen Up!" was recorded ten years ago but not released because of "other commitments." The big names involved—George Benson, the Brecker brothers, Hubert Laws, and others—make the release look more interesting than it sounds. Mostly polished, skillfully executed, Latin-flavored pop, it contains only fleeting moments of substance. It's a pleasant album, but not one you'd want to sit down and really listen to. C.A.

GIL EVANS: *Bud & Bird*. Gil Evans and the Monday Night Orchestra (instrumentals). *Half Man, Half Cookie; Nicaragua Blues; Groove from the Louvre*; and two others. PROJAZZ ◉ PCJ 671, ◉ CDJ 671 (67 min).

Performance: *Lumpy*
Recording: *Good*

The late Gil Evans was one of the most innovative arrangers in modern jazz. Almost forty years ago, his "Birth of the Cool" sessions with Miles Davis for Capitol took jazz down a frosty, intellectual path where much of it still strays. Evans continued his collaborations with Davis in some extraordinary Columbia albums, including the celebrated "Sketches of Spain," and he went on to beguile our ears with albums on Verve and Atlantic.

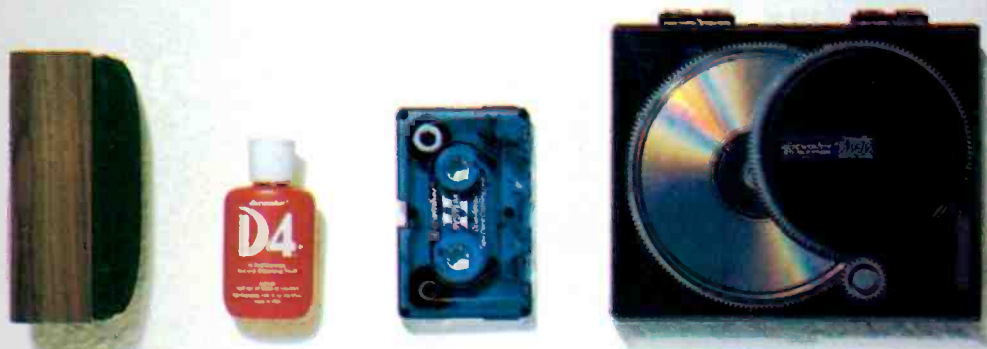
In later years Evans led a band each Monday night at Sweet Basil, a small club in New York's Greenwich Village. The band was really too big and loud for the tiny room, and Evans's use of synthesizers made it seem all the more out of place. Evans also seemed to have lost the sophisticated touch that characterized the Miles Davis collaborations and such brilliant albums as Verve's "The Individualism of Gil Evans." The sound was now ragged and chaotic. You will hear what I mean on "Bud & Bird," recorded live at Sweet Basil in 1986 and issued now in memoriam. My advice is: pick up that Verve album, or any of the Davis/Evans sessions, instead. C.A.

ELLA FITZGERALD: *Ella in Rome—The Birthday Concert*. Ella Fitzgerald (vocals); instrumental accompaniment. *St. Louis Blues; Angel Eyes; Caravan; Midnight Sun; Stompin' at the Savoy; That Old Black Magic*; and six others (ten others on CD). VERVE 835 454-1, ◉ 835 454-4, ◉ 835 454-2 (61 min).

Performance: *Top-drawer*
Recording: *Very good remote*

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Ella Fitzgerald is reflected in this previously unreleased, truly superb fortieth-birthday celebration, recorded in Rome's Teatro Sistina in 1958. The set swings, sways, and raises goosebumps from the very start with a spirited, scatty reading of *St. Louis Blues*. The artistry continues through the following selections, which add up to a typical Fitzgerald program. On all but one of the tracks the accompaniment is by a trio headed by pianist Lou Levy; the exception is *Stompin' at the Savoy*, for which the Oscar Peterson Quartet—with guitarist Herb Ellis and bassist Ray Brown—moves in to provide a joyful, rousing finale. *C.A.*

MARK MURPHY: *September Ballads.* Mark Murphy (vocals); Art Farmer (flugelhorn); Larry Coryell (electric guitar); other musicians. *September Fifteenth; Crystal Silence; Para Nada; When This Love Affair Is Over; Sausalito; Sack Full of Dreams*; and three others. MILESTONE ● M-9154, © MC-9154, © MCD-9154-2 (45 min).

Performance: *Tranquil*
Recording: *Very good*

An impressive number of Mark Murphy albums have been released over the past thirty years. He is a singer of con-

siderable talent, an artist who straddles the line between jazz and middle-of-the-road pop, and he is at his best when he sings simply. That's what he does in "September Ballads," a quiet, tasteful album with superb accompaniments by a group that includes guitarist Larry Coryell and Art Farmer on flugelhorn. There's not a smidgen of the pretentiousness that sometimes mars Murphy's work, just a set of ballads sung in a delightful, relaxing style. The program is not the usual collection of evergreens but is nicely varied and includes Murphy's own *Sausalito*. *C.A.*

SONNY STITT: *Stitt Plays Bird.* Sonny Stitt (alto saxophone); John Lewis (piano); Jim Hall (guitar); Richard Davis (bass); Connie Kay (drums). *My Little Suede Shoes; Parker's Mood; Au Privave; Scrapple from the Apple; Ornithology; Ko-Ko*; and three others (five others on CD). ATLANTIC 1418-1, © 1418-4, © 1418-2 (45 min).

Performance: *Bird-like*
Recording: *Good*

In jazz, a "blowing session" is one where little or no thought has gone into the music beforehand, a session where musicians simply get together and "blow." Sometimes that kind of casual

approach yields superb results, but it can also have the let's-get-it-over-with sound of a routine get-together. Alto saxophonist Sonny Stitt headed up so many blowing sessions that he might well have earned a place in the record books, but he was also an exceptionally gifted player, so many of those dates sounded more organized than they actually were.

Stylistically, Stitt was one of the foremost heirs to the Charlie Parker sound, and he never shook the close identification. Perhaps he did not want to; it sometimes proved beneficial. "Stitt Plays Bird" demonstrates just how great Parker's influence was. The jacket notes omit the exact dates, but it's most likely these tracks were laid down in the Sixties at some point when Stitt got together with pianist John Lewis, guitarist Jim Hall, bassist Richard Davis, and drummer Connie Kay. As you can see by the all-star lineup, this is no ordinary album, no routine blowing session, and the performances bear that out. Stitt and his stellar crew cram a dazzling array of meaningful, well-placed notes into a set that seems all too short: forty-five minutes even on the CD, including the two bonus tracks, *Now's the Time* and *Yardbird Suite*, which are decidedly worth the extra expense. *C.A.*

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AUDIO-VIDEO heaven, for many of us, would be the merger of perfect sound and perfect image. Equipment manufacturers and record companies know that's what we want, and they try their best to give it to us. That's why we currently have an avalanche of new formats and new machines, including, now, something called compact disc video, which combines CD audio with filmed or videotaped images.

Compact disc video (CDV) sounds great on paper. Unfortunately, the first batch of rock CDV's—twenty releases from PolyGram by people like John Cougar Mellencamp, Kool and the Gang, and Kiss—show how hard it can be to fulfill theoretical expectations.

Most of the PolyGram CDV's have five tracks. One track has the audio and video for a hit single: *Livin' on a Prayer* by Bon Jovi, for example, or *Wipeout* by the Fat Boys. The rest are regular audio tracks, including a video-less repeat of the single. The CDV's sell for about \$10. If you're a big fan of rock videos, or if one of these discs has your absolute favorite on it, maybe you'll really want to invest in a special machine so you can play CDV's with one video apiece. Maybe.

But you should know that the audio quality of the PolyGram CDV's is wildly uneven. The major problem seems to be with the audio that accompanies the video tracks. The sound for the video of Robert Cray's *Smoking Gun*, for instance, is much too bassy, and the vocals have a nasty echo. These shortcomings are especially easy to detect because you can hear the much crisper mix of *Smoking Gun* on the audio-only track. Most of the sound problems on the video tracks, however, are less severe. There is just enough high end missing from the soundtrack of Angela Winbush's *Angel* video to take the sheen from her voice. And you lose some of the reverberation and audio effects from Kool and the Gang's *Stone Love* for the same reason.

To be fair, some of the video tracks do have true CD-quality sound, including *Somebody Save Me* by Cinderella. I can't begin to explain why the quality is inconsistent, but I wonder if it relates to how the original audio may have been manipulated to match the video. (For instance, the video of John Cougar Mellencamp's *Paper in Fire* has sound effects—crickets chirping and people clapping—that you don't hear on the original version of the song.)

While most of the CDV's supplement the video with songs from the same album that produced the single, a few provide a special treat. Mellencamp's gives us two remakes of oldies, the Drifters hit *Under the Boardwalk* and

James Brown's *Cold Sweat*. Level 42's CDV has the original *Something About You*, two different dance mixes of the song, and a third version that sounds altogether different from the other two. Fans who are interested in these rarities may be comforted to know that a regular CD player can play the audio-only tracks just fine.

I encountered some snags in playback of the CDV's on a "combi-player," which handles both CD's and CDV's as well as videodiscs. The Pioneer machine that I used automatically played the video track first. I couldn't skip to the normal CD tracks at all and had to fast-forward through the video to get to the audio program. Similarly, I couldn't skip from the last audio track back to the video track. And because nearly every PolyGram CDV repeats the song on the video as the first audio track, unless I used the skip function I heard the featured single twice in a row—once with the visuals and once without.

Obviously, compact disc video is a fledgling format, and there are problems still to be solved. You should be cautious about investing too much at this early stage. But for people who can't wait or have specific strong interests, there are some real treasures to be found in these initial PolyGram CDV releases.

Ron Givens

(Note: The title of each disc is the title of the video track; the timing is the sum of all the tracks on a disc.)

BON JOVI: *Livin' on a Prayer*. *Livin' on a Prayer*; *Borderline*; *Let It Rock*; *Wild in the Streets*. 870 701-2 (21 min). *Never Say Goodbye*. *Never Say Goodbye*; *Social Disease*; *Edge of a Broken Heart*; *Raise Your Hands*. 870 702-2 (22 min).



John Cougar Mellencamp

CAMEO: *Word Up*. *Word Up*; *Urban Warrior*; *Fast, Fierce & Funny*; *Groove with You*. 870 703-2 (23 min).

CINDERELLA: *Nobody's Fool*. *Nobody's Fool*; *In from the Outside*; *Push, Push*; *Nothin' for Nothin'*. 870 704-2 (20 min). *Somebody Save Me*. *Somebody Save Me*; *Hell on Wheels*; *Back Home Again*; *Once Around the Ride*. 870 705-2 (17 min).

ROBERT CRAY: *Right Next Door (Because of Me)*. *Right Next Door (Because of Me)*; *Foul Play*; *I Wonder*; *New Blood*. 870 714-2 (21 min). *Smoking Gun*. *Smoking Gun*; *More Than I Can Stand*; *Fantasized*; *Divided Heart*. 870 715-2 (19 min).

FAT BOYS: *Wipeout*. *Wipeout*; *Crush-in*; *Hell No!*; *Protect Yourself/My Nuts*. 870 706-2 (17 min).

KISS: *Crazy Crazy Nights*. *Crazy Crazy Nights*; *No, No, No*; *When Your Walls Come Down*; *Thief in the Night*. 870 709-2 (19 min.). *Tears Are Falling*. *Tears Are Falling*; *Anyway You Slice It*; *Who Wants to Be Lonely*; *Secretly Cruel*. 870 710-2 (19 min).

KOOL AND THE GANG: *Stone Love*. *Stone Love*; *Forever*; *Dance Champion*; *Stone Love (club remix)*. 870 711-2 (23 min).

LEVEL 42: *Something About You*. *Something About You (Sisa mix)*; *Something About You (Coup d'état version)*; *Something About You (Shep Pettibone remix)*. 870 712-2 (23 min).

JOHN COUGAR MELLENCAMP: *Lonely Ol' Night*. *Lonely Ol' Night*; *The Kind of Fella I Am*; *Minutes to Memories*; *You've Got to Stand for Something*. 870 708-2 (20 min). *Paper in Fire*. *Paper in Fire*; *Never Too Old*; *Under the Boardwalk*; *Cold Sweat*. 870 707-2 (19 min).

MEN WITHOUT HATS: *Pop Goes the World*. *Pop Goes the World*; *The End (of the World)*; *Jenny Wore Black*; *Lose My Way*. 870 718-2 (17 min).

MOODY BLUES: *Your Wildest Dreams*. *Your Wildest Dreams*; *Talkin' Talkin'*; *It May Be a Fire*; *Rock 'n' Roll over You*. 870 713-2 (23 min).

RAINMAKERS: *Downstream*. *Drinkin' on the Job*; *Carpenter's Son*; *Big Fat Blonde*. 870 719-2 (17 min).

RUSH: *The Big Money*. *The Big Money*; *Red Sector A (Live)*; *Marathon*. 870 717-2 (22 min).

SCORPIONS: *Big City Nights*. *Big City Nights*; *Can't Live Without You*; *Loving You Sunday Morning*; *Blackout*. 870 716-2 (23 min).

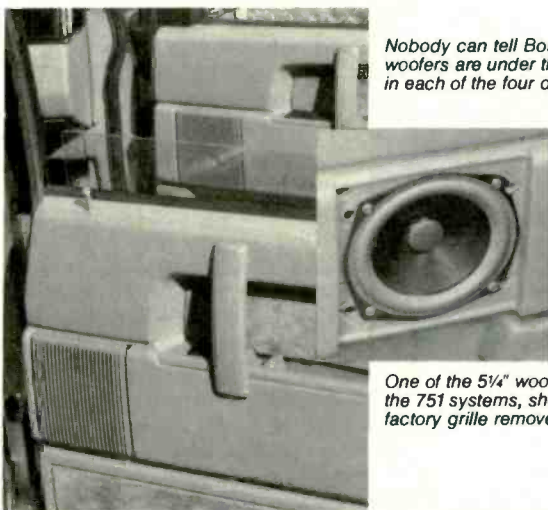
ANGELA WINBUSH: *Angel*. *Angel*; *Run to Me*; *Sensual Lover*; *Angel (instrumental)*. 870 700-2 (24 min).

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Discs and tapes reviewed by Robert Ackart, Richard Freed, David Hall, Stoddard Lincoln, and Eric Salzman

BEETHOVEN: *Symphony No. 6, in F Major, Op. 68 ("Pastoral"); Meeresstille und glückliche Fahrt, Op. 112; Fantasia in C Minor for Piano, Chorus, and Orchestra, Op. 80.* Gabriela Lechner, Gretchen Eder (soprano); Elisabeth Mach (contralto); Jorge Pita, Andreas Esders (tenor); Gerhard Eder (bass); Vienna State Opera Chorus; Vienna Philharmonic Orchestra, Claudio Abbado cond. DEUTSCHE GRAMMOPHON ① 419 779-1, ② 419 779-4, ③ 419 779-2 (71 min).

Performance: *Opulently lyric*
Recording: *Rich-hued*

BEETHOVEN: *Symphony No. 6, in F Major, Op. 68 ("Pastoral"); Egmont Overture, Op. 84.* Royal Philharmonic Orchestra, André Previn cond. RCA ① 7747-1-RC, ② 7747-4-RC, ③ 7747-2-RC (55 min).

Performance: *Unremarkable*
Recording: *Good*

While neither of these two new recordings of the Beethoven *Pastoral* Symphony will erase memories of the great classic discs by conductors of an older generation, each release has its points.

Claudio Abbado makes heavy going of the arrival in the country—one feels the weight of the backpack—but his reading is notable for its singing line in both the brook scene and the finale. The peasant dance and storm scene come through with tremendous tonal body thanks to the Vienna Philharmonic's string basses and a gorgeous recording job by Deutsche Grammophon. The one other letdown comes in the very closing bars, which are dragged.

The two shorter works on the Abbado disc, however, are a total success. Maurizio Pollini does brilliantly in the Choral Fantasy's improvisatory solo role, the chorus sings splendidly, and the orchestra sounds utterly in its element—rich in sound and sharp in attack. But for me the album's highlight is the seven-minute cantata based on Goethe, whose title is translated as *Calm Sea and Prosperous Voyage*. Beethoven's evocation of the "painted ship upon a painted ocean"—as Coleridge

THE PLANETS



Conductor William Boughton

THE procession of *The Planets* continues ever onward. William Boughton conducts the Philharmonia Orchestra in an energetic performance of Holst's popular suite of tone poems in a new Nimbus recording, and John Williams leads the Boston Pops through an unusually refined reading for Philips.

Boughton's performance of *The Planets* has a solid, earthy quality for the most part, though the "Mercury" movement is appropriately scintillating and the "Jupiter" quite brisk so that its big central tune is never sentimentalized. And the women's chorus in "Neptune," the ethereal final movement, is excellent, if uncredited. The Nimbus recording offers particularly good value because it includes the delightful ballet music from Holst's opera *The Perfect Fool*, which is expertly played.

Given John Williams's memorable space-age film music, it seems altogether natural to turn him loose on *The Planets*. Aside from his discreet use of a synthesizer to enhance "Mars," "Uranus," and "Neptune," his handling of the score is exceedingly poetic. His "Venus" is more sensuous than Boughton's, and while "Mercury" crackles in the British recording, his Boston counterpart is a dapper fellow, elegant and well groomed. Williams also avoids the trap

of overplaying the big tune in "Jupiter," and he lets "Uranus, the Magician" make his entry in the best space-android manner. The Tanglewood Festival Chorus is superb in the final pages of "Neptune."

In terms of sound, the Nimbus recording has highly effective stereo imaging in both "Mercury" and "Neptune," but the recording was made in London's vast Royal Albert Hall, so the microphone pickup was necessarily fairly close. You become aware of the hall resonance not so much as an acoustic surround but as a kind of acoustic fallout; even though the sound decay is audible, the direct orchestral impact is just a shade dry. The Boston strings seem to have slightly less impact than those of the Philharmonia, but the overall sound quality of the Philips *Planets* is excellent. *David Hall*

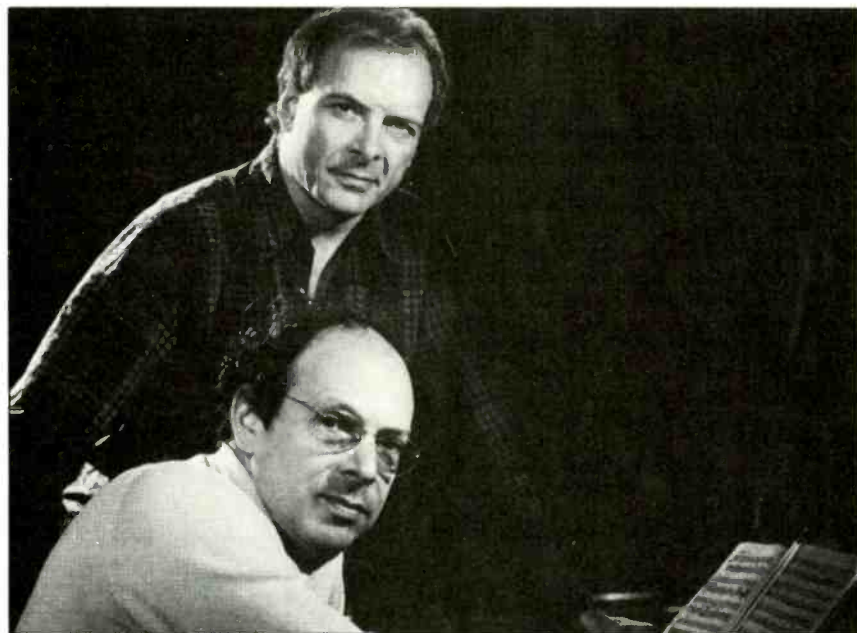
HOLST: *The Planets, Op. 32. The Perfect Fool, Op. 39: Ballet Music.* Women's Chorus; Philharmonia Orchestra, William Boughton cond. NIMBUS ① NI 5117 (60 min).

HOLST: *The Planets, Op. 32.* Women's Voices of the Tanglewood Festival Chorus; Boston Pops Orchestra, John Williams cond. PHILIPS ① 420 177-1, ② 420 177-4, ③ 420 177-2 (50 min).

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"AUTHENTIC" BEETHOVEN



Christopher Hogwood and Steven Lubin

IT had to happen. The early-instrument movement has come around to Beethoven. The nine symphonies are on the way from Christopher Hogwood and the Academy of Ancient Music, and the piano concertos, with Steven Lubin as soloist, have already arrived.

The *Emperor* Concerto on the fortepiano? You'd better listen. These recordings challenge the musical status quo as much as or more than previous efforts of this kind. Beethoven's concertos are not thirteenth-century or even eighteenth-century "olde" music. All but one are full-blown nineteenth-century works, and they are at the heart of the standard Romantic repertoire. Think of the ghosts: Liszt, Kempff, Serkin, Furtwängler, Szell

But it is not the old tradition that is challenged here—although comparisons are inevitable—but rather the recent standardization of the standard repertoire. The major orchestras of the world and the comparable piano soloists often seem to constitute a collection of uniform, interchangeable parts. Variation from one performance to another (if there is any) is determined by personal idiosyncrasies rather than by any deep relationship to the music or the tradition.

With Hogwood's Academy of Ancient Music the situation is different. Every one of his players is a specialist dedicated to a nonstandard instrument. Lubin is a pianist from the same mold. He even chooses different fortepianos for different concertos.

Authenticity in the narrowest sense is not the only, or even the primary, issue here. Except for the first concerto or

two, largish orchestras are used. Lubin's pianos are all modern copies of old instruments. For Nos. 1 and 2, he plays cadenzas of his own devising (based on Beethoven sketches, it is true). There is little or no attempt to produce a precious or quaint sound; quite the contrary, the last three concertos are bold and spacious in their interpretation. It is almost as if the early-instrument approach permits the musicians to be forthright and lyrical, and full-blooded and dramatic, without having to be either eccentric or academic.

As Lubin points out in his notes to the set, the piano underwent a major evolution in Beethoven's time, from the relatively lightweight, five-octave, piano-in-a-harpsichord box of Mozart's day to the more powerful six-octave Broadwoods and Grafs of the second decade of the new century. Of course, the evolution did not stop there. The modern metal-frame, escape-action Bechsteins and Steinways of the later nineteenth century were deemed even more appropriate for Beethoven's music than anything that had existed in his own time. But Lubin, who has a Ph.D. in musicology as well as a Juilliard degree, argues that Beethoven's piano music was conceived for instruments he owned and played and receives its best articulation on such pianos. Often he strains an instrument's abilities to its limits, but the strain itself is part of the message; the music is too easy, too glib on a modern piano.

Lubin carries this argument to such a fine point that each of the pianos he uses corresponds to the kind that Beethoven played at the time. One result is that he must provide his own cadenzas

for Nos. 1 and 2, since Beethoven's cadenzas were written down later and no longer fit the range of his own early pianos! I am not overly fond of the new cadenzas, but the blemish (if it is one) is minor, and for the later concertos Lubin uses Beethoven's own.

The pitch in these performances, somewhat lower than the modern standard, presumably corresponds to the usage of the day; it gives a "comfortable" feel to the sonority of piano and orchestra. Lubin plays along with the orchestra during the tuttis in figured-bass style, which seems to be stylistically accurate—the composer actually directed the orchestra from the keyboard—but most of the time it adds only a tiny impulse to the sound.

The recipe is one thing; the real proof is in the pudding. And what a pudding! Conductor and pianist are good mates; for both of them, the old-instrument approach is a means to an end and not a fashion observed for its own sake. They are never trapped in their own intellectualizations. What matters is that the sound is right, and so are the tempos, the phrasing, the larger architecture, the drama. The recorded sound is right as well.

Perhaps the most surprising success is the *Emperor*, a work that benefits particularly from the use of natural horns and a large orchestra. My favorite in the set, however, is the inimitable Fourth, which sounds just right on its Viennese "Empire" piano—a copy of a Conrad Graf of 1824. This unique concerto is described in the notes as having been inspired by the legend of Orpheus. Whatever the truth of this appealing idea, Orpheus—who charmed man and nature, scaled the heights, and descended to hell for love and art—serves as an apt image for the creative vision and historical position of the creator of these concertos.

Actually, Beethoven is less of a myth and more of a real person in his piano concertos, which he wrote for himself to play. Thanks to Lubin and Hogwood, we can get a sense of what it was really like to hear him play these works, not in the mythical, idealized manner that one generally hears nowadays but as the very real projection of the man himself—with all his brilliance, all his *Sturm und Drang*, all his faults and quirks, all his transcendent lyricism and all-too-human aspirations. Beethoven is here represented, correctly and realistically, as an idealist with perfectly human and earthly roots.

Eric Salzman

BEETHOVEN: *Piano Concertos Nos. 1-5*. Steven Lubin (fortepiano); the Academy of Ancient Music, Christopher Hogwood cond. L'OISEAU-LYRE © 421 408-1 three LP's, © 421 408-4 three cassettes, © 421 408-2 three CD's (165 min).

put it in *his* sea poem, *The Ancient Mariner*—is, in its majestic and uncanny stillness, a worthy counterpart to the works of these literary contemporaries as well as to the seascapes of the German Romantic painter Caspar David Friedrich. Again, there's fine work by the Vienna State Opera Chorus and superb sonics.

The André Previn album is the first installment in his Beethoven symphony cycle for RCA. The *Pastoral* gets a straightforward and unexceptional treatment. The usually superb solo winds of the Royal Philharmonic are no match for what Abbado's Viennese musicians give us in the bird trio at the close of the slow movement, and while the peasant dance comes off with ample rhythmic thrust, I don't sense any transcendent exaltation in the thanksgiving finale.

Previn's *Egmont* Overture, however, gives us a clue as to what to expect of the forthcoming recordings in his Beethoven cycle, for it is to the dramatic element that he truly responds. His reading of the *Egmont* has all of the tension and theatricality you could ask for. RCA's recorded sound is crisp and well balanced throughout the symphony and overture, but it does not match the power and richness of Deutsche Grammophon's for Abbado. D.H.

HAYDN: *Trumpet Concerto in E-flat Major (Hob. VIIe:1)*. **HERTEL:** *Trumpet Concerto in D Major*. **HUMMEL:** *Trumpet Concerto in E Major*. **STAMITZ:** *Trumpet Concerto in D Major*. Hakan Hardenberger (trumpet); Academy of St. Martin-in-the-Fields, Neville Marriner cond. PHILIPS © 420 203-4, © 420 203-2 (57 min).

Performance: *Fabulous*
Recording: *Splendid*

Trumpet players tend to fall into two classes: Most are all technique with very little musicianship, and a few are splendid musicians but lack technique. Hakan Hardenberger is that rare trumpeter who is both a fabulous technician and a sensitive musician. His tone is bright and clear, his intonation perfect, and his passage work flexible and brilliant. Most impressive, however, is his phrasing. He plays with the subtlety of a fine oboist, bringing each phrase to its climactic point and turning it perfectly. Add to this the wonderful playing of the Academy of St. Martin-in-the-Fields under the direction of Sir Neville Marriner and you are assured of nearly an hour of delightful listening. The music itself is also well worth hearing. The performance sheds new light on the familiar Haydn concerto, the Hummel is a major if eclectic work full of Biedermeier *Gemütlichkeit*, and the Stamitz suggests what Mozart might have done with the trumpet. Enjoy! S.L.

MONTEVERDI: *Vespers of the Blessed Virgin (1610)*. Soloists; Music

of the Baroque Chorus and Orchestra, Thomas Wikman cond. MUSIC OF THE BAROQUE © MBC105 two cassettes, © MB105-2 two CD's (97 min).

Performance: *Overblown*
Recording: *Lush*

Certain Baroque works, especially the early ones and most of the French repertoire, will only come off if played on early instruments. The Monteverdi Vespers of 1610 is one of those works in that it exemplifies the Baroque concept

of a complex fabric of sensuous sound made up of sharply articulated individual lines. The Chicago-based Music of the Baroque has recorded what is certainly a fine performance in terms of operatic projection, excellent voices, and full-bodied instrumental playing, but none of these qualities are appropriate to this work. Its individual musical threads have been sonically homogenized, and the complex textures of Monteverdi's fabric all blend into a characterless mass. Too bad. S.L.



Photo: Hunstein



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CIRCLE NO. 71 ON READER SERVICE CARD

MOZART: *Idomeneo*. Luciano Pavarotti (tenor), Idomeneo; Agnes Baltsa (mezzo-soprano), Idamante; Lucia Popp (soprano), Ilia; Edita Gruberova (soprano), Elettra; Leo Nucci (baritone), Arbace; others. Vienna State Opera Chorus; Vienna Philharmonic Orchestra, John Pritchard cond. LONDON ● 411 805-1 three LP's, © 411 805-4 three cassettes, © 411 805-2 three CD's (184 min).

Performance: *Superior*
Recording: *Admirable*

The musical effectiveness and dramatic tautness of Mozart's *Idomeneo* has led some critics to deny that the work is an *opera seria*, that stodgy, moralistic, unrealistic kind of courtly entertainment popular throughout the eighteenth century. I prefer to say that Mozart's first "mature" work for the stage is indeed an *opera seria*, and the best one of all! It embraces the conventions of the genre—classical background, Baroque morality, courtly behavior—and soars above them in creating a moving human drama set to music.

This new recording of *Idomeneo* has been meticulously prepared by Sir John Pritchard. The chorus and orchestra perform with extraordinary delicacy, clarity, and sense of dramatic purpose under his attentive leadership, and the recorded sound is itself of the highest caliber. In the lead, Luciano Pavarotti is heard to the best possible advantage. His attention is fixed on beautiful singing, thoughtful phrasing, and sincere delineation of character, leading to a performance best characterized as a joyful revelation.

So, too, are the performances of the rest of the admirable cast. Agnes Baltsa is a touching Idamante, Lucia Popp a fresh and clear Ilia. As Elettra, Edita Gruberova sings accurately and with a compelling sense of drama that transforms her mad scene into more than a series of vocal embellishments. Leo Nucci's Arbace is stalwart, sympathetic, and warmly sung—one of his best recorded performances. Overall, the evident dedication of the solo artists, both to Mozart's music and to its revelation of character, and the thoughtful and powerful leadership of a brilliant conductor make for an outstanding *Idomeneo*. R.A.

MUSSORGSKY/RAVEL: *Pictures at an Exhibition*. MUSSORGSKY (arr. Rimsky-Korsakov): *Night on Bald Mountain; Khovanshchina, Prelude*. RIMSKY-KORSAKOV: *Russian Easter Overture, Op. 36*. Montreal Symphony Orchestra, Charles Dutoit cond. LONDON ● 417 299-1, © 417 299-4, © 417 299-2 (64 min).

Performance: *Tidy*
Recording: *Very good*

The fine sound quality of this disc—at once crisp, rich, and well defined, a convincing image of a real orchestra—

makes it a handsome demonstration of the level to which Charles Dutoit has brought his Montreal orchestra. It is generously filled and sensibly laid out (*Khovanshchina, Bald Mountain, Russian Easter, Pictures*). Listeners attracted to this particular assortment, or who simply have enjoyed Dutoit's earlier Montreal recordings, will find much to enjoy here, most conspicuously in the brilliantly virtuosic accounts of *Night on Bald Mountain* and the *Russian Easter Overture*. In *Pictures*, however, for all Dutoit's fine pacing (much better judged, for example, than Riccardo Chailly's in his recent recording on the same label) and his regard for Ravel's coloring, the overall impression is one of tidiness rather than excitement or any particular sense of conviction. The same holds for his performance of the *Khovanshchina* Prelude. R.F.

PROKOFIEV: *Symphony No. 4, in C Major, Op. 47; Symphony No. 7, in C-sharp Minor, Op. 131*. Orchestre National de France, Mstislav Rostropovich cond. ERATO ● NUM 75322, © MCE 75322, © ECD 75322 (61 min).

Performance: *Very good*
Recording: *Very good*

Prokofiev fashioned his Fourth Symphony in 1930, to commemorate the fiftieth anniversary of the Boston Symphony Orchestra, from his masterly 1929 ballet score, *The Prodigal Son*. Seventeen years later he expanded the half-hour score by nearly one-third and assigned it a new opus number. Most recordings have been of the later version, though Neeme Järvi and the Scottish National Orchestra included both versions in their complete Prokofiev-symphony cycle for Chandos. This Erato recording of the early version, along with the Symphony No. 7, launches a new cycle conducted by Mstislav Rostropovich, who was on intimate terms with Prokofiev in the composer's last years.

Although the balletic elements of the source work show clearly in the slow movement and scherzo, I prefer the tauter early version of the Fourth Symphony. Like much of Prokofiev's music of the period, it has sharp contrasts between a broad and intense lyricism—the opening pages of the first movement and the whole of the third—and what Prokofiev himself used to call "football music." Prokofiev and Stravinsky were hardly the best of friends when they were both living in Paris, but there is more than a whiff of Stravinsky's Neoclassicism in this score, notably in the finale.

By the time Prokofiev wrote his last symphony, he was ill and at odds with the arbiters of Soviet musical aesthetics. Partly because the Seventh is more transparently scored than its immediate predecessors, and partly because of its buoyant revised ending, it has been con-

(Continued on page 114)

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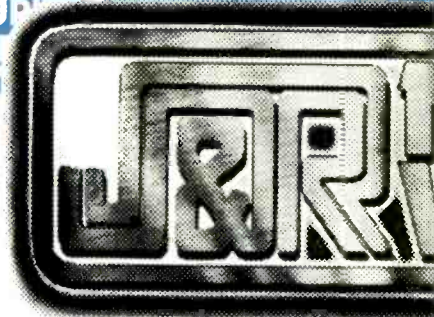
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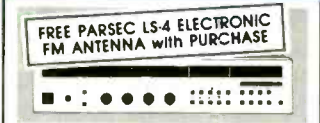
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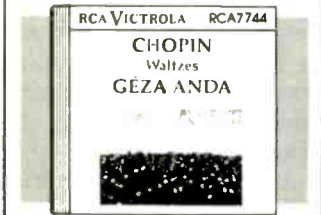
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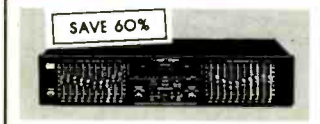
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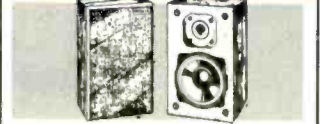
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Vladimir Ashkenazy: surpassingly fine Rachmaninoff

sidered lightweight, something of a concession to the powers that were.

Rostropovich emphasizes the element of symphonic discourse in both scores, particularly in his choice of deliberate tempos and intense phrasing in the Fourth. The pacing in the Seventh is not unusual, but the bittersweetness of both the second-movement waltz and the slow movement is much in evidence, and, as if to drive home his point, Rostropovich opts for a quiet, fade-out ending, which I have heard in only two other recorded versions. In any event, he elicits playing of great warmth and conviction from the Orchestre National, and the recording is beautifully spacious and rich. *D.H.*

PUCCINI: *La Bohème* (see Best of the Month, page 83)

RACHMANINOFF: *Piano Concerto No. 1, in F-sharp Minor, Op. 1.* Vladimir Ashkenazy (piano); Concertgebouw Orchestra, Bernard Haitink cond. *Rhapsody on a Theme of Paganini, Op. 43.* Vladimir Ashkenazy (piano); Philharmonia Orchestra, Bernard Haitink cond. LONDON 417 613-1, © 417 613-4, © 417 613-2 (52 min).

Performance: *A winner*
Recording: *Sumptuous*

The final installment in Vladimir Ashkenazy and Bernard Haitink's survey of Rachmaninoff's five works for piano and orchestra, pairing what has always been the least favored of those works with the last and probably finest of them, is a clear winner. It surpasses not only Ashkenazy's earlier recordings of both works with André Previn and the London Symphony but, on balance, all others in the current catalog as well. It may be that the Concertgebouw Orchestra's recordings of Rachmaninoff's sym-

phonies and other orchestral works under Ashkenazy himself helped condition the players to the idiom, but Haitink has proved to be an eloquent advocate throughout the cycle, and his contribution is especially effective on behalf of the Cinderella among the concertos. The First Concerto is really not such a weak piece, though, nor such an early one as "Op. 1" would suggest, having been completed in its present form some years after the Third. The Ashkenazy/Previn First has not been transferred to CD, but their fine performance of the *Paganini Rhapsody* has, together with the popular Second Concerto, and it's still a very appealing version, especially at mid-price. The new one with Haitink is even more appealing, however, by virtue of a still more persuasive account of both the solo and orchestral parts (in this case by the Philharmonia Orchestra rather than the Concertgebouw) as well as superior sonics. *R.F.*

RIMSKY-KORSAKOV: *Russian Easter Overture* (see MUSSORGSKY)

RIMSKY-KORSAKOV: *Scheherazade, Op. 35.* London Symphony Orchestra, John Mauceri cond. MCA 25187, © MCAC-25187, © MCAD-25187 (47 min).

Performance: *Poetic*
Recording: *A bit diffuse*

John Mauceri is one of the most gifted and versatile of the younger generation of American conductors, being as adept with the music of Charles Ives as with Broadway musicals. I wish I could understand MCA's rationale for turning him loose for his symphonic debut on an old warhorse like *Scheherazade*, in which the competition is stiff and plentiful, instead of something from the

American repertoire that is Mauceri's specialty. His treatment of Rimsky's colorful score is perfectly respectable, but it does not match the imaginative quality of recordings by the likes of Beecham, Kondrashin, Monteux, or even Muti.

The strongest point in Mauceri's favor is his effort to treat the music poetically rather than as an audio blockbuster, especially in "The Young Prince and the Young Princess." Mauceri also elicits solo playing of superlative flexibility and loveliness from the first-desk winds in both this movement and "The Kalendar Prince." And the solo violin of Andrew David manages to personify a charmingly seductive teller of the 1,001 tales. But despite these merits, the performance does not catch fire.

The recording as such is clear and spacious, if somewhat lacking in low-end body at the climactic episodes of the "Festival at Baghdad" finale. If a forty-seven-minute playing time seems short measure, note that the CD is in MCA's mid-price Crimson series. *D.H.*

ROSSINI: *Opera Arias. Il barbiere di Siviglia; Cessa di più resistere. Le Comte Ory: Astro sereno brilli. L'italiana in Algeri: Languir per una bella. Elisabetta, regina d'Inghilterra: Che intesi, oh annunzio! Il turco in Italia: Tu seconda il mio disegno. La donna del lago: O fiamma soave.* Rockwell Blake (tenor); Ambrosian Singers; London Symphony Orchestra, John McCarthy cond. ARABESQUE © ABQC-6582, © Z6582 (47 min).

Performance: *Agile*
Recording: *Excellent*

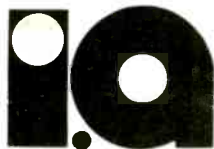
The seven arias here give a fair picture of what Rossini expected of the tenors of his day. His demands were sometimes staggering, but the music itself is remarkable for the fluidity of the coloratura writing, and Rockwell Blake, who has devoted himself wholly to the *bel canto* repertoire, is here equally remarkable for his bravura delivery. A grim battle, you think as you listen, but he wins, hands down, while retaining vocal grace, sureness of pitch, and a startling liquidity of tone. Insofar as we know the Rossinian style of singing, Blake is certainly a masterly exponent of it, and the Ambrosian Opera Singers, London Symphony Orchestra, and conductor John McCarthy provide handsome support. My only complaint is that the CD's playing time of forty-seven minutes is hardly generous. *R.A.*

SCHUBERT: *Piano Sonata in A Major, Op. posth.* (see Best of the Month, page 82)

SCHUMANN: *Piano Sonata No. 12, in G Minor, Op. 22* (see Best of the Month, page 82)

STAMITZ: *Trumpet Concerto in D Major* (see HAYDN)

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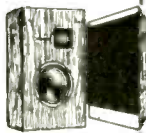
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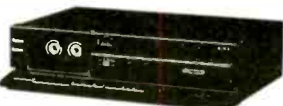


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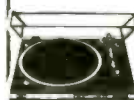
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POCKET CLASSICS

BIG companies like CBS, Sony, and Philips have brought us such recording breakthroughs as the long-playing record, the tape cassette, and the compact disc, but small companies have sometimes been the first to put technological advances to use. Delos and Telarc, for example, were pioneers in digital recording even before the compact disc was launched, and Delos is the front runner in introducing the CD-3, the new three-inch compact disc.

Last year Philips and Sony, the joint developers of the compact disc, set the standards for the new smaller format, which is sometimes called the mini-CD or the CD single because it is expected to replace the old seven-inch, 45-rpm, vinyl single. Around the beginning of 1988, Ryko released a couple of CD singles, including Frank Zappa's "Peaches en Regalia," and after announcing their intentions to support the new format, A&M and Warner/Elektra/Asylum brought out a few.

Their efforts looked small beside those of Delos, which launched a whole new CD-3 series called Pocket Classics. It is an all-digital line of recordings by the Delos label's best-known classical musicians, including pianist Carol Rosenberger, conductor Gerard Schwarz, and soprano Arleen Augér, and by such jazz musicians as Joe Williams, Cedar Walton, and Art Blakey and the Jazz Messengers. The initial Pocket Classics release consisted of twenty-four titles, and more are expected later this year. They carry a suggested list price of \$3.99, but my friendly neighborhood Tower Records store sells them for \$3.44 each.

The playing time of a CD-3 is about twenty minutes. Well known for imaginative programming and for giving full value with its concert-length CD's, Delos has planned the short programs of the Pocket Classics series with care. Only one of them, "A Sonic Odyssey" (D/PC 2001), is a sampler made up of short excerpts or individual movements from longer works. The rest offer numbers of short pieces or complete single works that in each case add up to about fifteen minutes or more.

Strauss's tone poem *Don Juan* (D/PC 2002), played by the Oregon Symphony conducted by James DePreist, fills one CD-3 with a playing time of 16:43. Haydn's Trumpet Concerto in E-flat Major (D/PC 2006), played by the New York Chamber Symphony with Gerard Schwarz as conductor and soloist, fills another with 14:49. "Songs of the Harp" (D/PC 2010), played by Susann McDonald, contains seven short pieces that total 17:58, and the jazz programs contain three or four pieces that add up to more than sixteen minutes.

Equipment manufacturers are sup-

porting the new format by introducing new CD players that will play the standard five-inch CD and the new CD-3. Placing the small CD in an inexpensive plastic adaptor makes it possible to play a CD-3 in most older single-play machines in which the disc rotates horizontally. You may have difficulty with some multiplay machines (although I have played CD-3's in a Pioneer changer), and early CD players in which the disc rotates vertically, such as the first-generation Technics unit, probably will not play CD-3's at all. There is a knack to getting a CD-3 into the adaptor, and it takes a little longer to learn than the trick of opening the jewel boxes that house most standard CD's.

The CD-3's from most companies are kept in some kind of cardboard holder. Delos supplies a nifty heavy-duty, square, plastic, protective envelope that fits neatly in a shirt pocket. Heavy demand made it impossible for the company to include the special little case in some of the CD-3 packages. Mailing a postpaid card will bring you the case if you don't find one in the package with any Pocket Classic you buy.

Convenience, easy portability, and low price are the principal reasons for marketing the new smaller compact discs. Delos also cites their usefulness in introducing classical music to new listeners at low cost. With most standard-size CD's still selling for \$13 to \$15, many record buyers are reluctant to gamble on music they are not positive they will like. More people can afford to be adventurous if they are only gambling \$3 to \$4 a shot.

If you are new to classical music or want to introduce a friend to the pleasures of the classics, I recommend starting with two of the most accessible Baroque pieces—Pachelbel's Canon in D and Albinoni's Adagio in G Minor—both on Delos D/PC 2017, played by the Yale Cellos with Aldo Parisot con-

ducting. "A Sonic Odyssey" contains such appealing pieces as the fanfare from Strauss's *Thus Spake Zarathustra*, Rimsky-Korsakoff's *Flight of the Bumblebee*, and the "Circus" movement from Respighi's *Roman Festivals*. An easy Classical composition for beginners is Haydn's Trumpet Concerto in E-flat Major, and Prokofiev's *Classical Symphony* (D/PC 2004), played by the Los Angeles Chamber Symphony conducted by Gerard Schwarz, is a twentieth-century work that anyone can reproduce.

"Songs of the Harp," mentioned above, is a very soothing, very beautiful little record. Of the solo piano recordings, I recommend Rachmaninoff's "Favorite Preludes" played by John Browning (D/PC 2012) and "Fountains," which contains works by Liszt, Griffes, and Ravel played by Carol Rosenberger (D/PC 2008). Both contain gorgeous music, and the playing is ravishing.

Rhino, CBS, and Virgin are now issuing CD-3's in significant numbers. It is estimated that by the end of October approximately 250 titles will be available in the new format. Delos remains in the lead, and so far it is the only classical label to make a commitment to the new size.

I don't like to think of myself as chauvinistic, but with RCA Records sold to the Germans and CBS to the Japanese, it bothers me that so little classical recording is being done by Americans. Thank God for small companies like Delos.

Amelia Haygood, president of Delos, has said, "The three-inch disc is an innovation that will greatly broaden the appeal of compact disc and introduce many new people to the level of sound quality and musical fidelity that we can achieve today." That pursuit of excellence may make Delos a big company some day. *William Livingstone*



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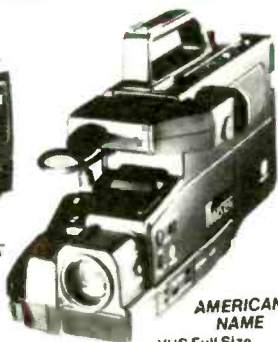
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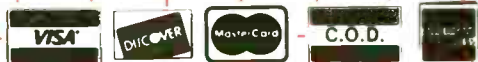
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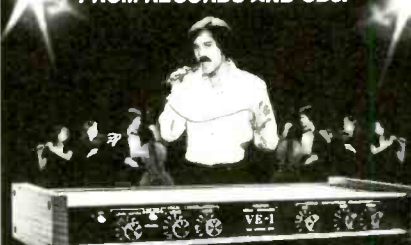
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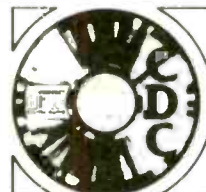
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INDEX TO ADVERTISERS

READER SERVICE NO.	ADVERTISER	PAGE NUMBER
60	Adcom	9-12
80	Alec Lansing	54-55
11	Audio-Technica: Signet	102
51	Beyer Dynamic	28
	Boston Acoustics	32
	Boston Acoustics	105
3	Cambridge SoundWorks	84-85
	Carver	44-45, 94-95
	CBS Columbia House	48-49
23	Concord	88-89
68	Coustic	35, 37, 39, 41
	Crutchfield Corporation	42
71	Discount Music Club, Inc.	110
10	Discwasher	101
1	Electronic Wholesalers	119
	Ford Car Audio	80
	Harman Kardon-CD Player	57
	Illinois Audio	115
19	Infinity	128, C3
4	International HiFi Dist.	110
5	International Jensen-Car Audio	51
85	International Jensen-Phase Linear	90
39	J&R Music World	112-113
2	Klipsch	43
48	M&K Sound	106
	Maxell	29
29	McIntosh Laboratory, Inc.	16
22	Mitsubishi	21-23
75	NEC Electronics	79
154	Oak Tree Industries	28
	Perfectbound Press	100
	Philip Morris-Marlboro	6-7
	Philip Morris-Merit	25
158	Pilz Compact Disc	52
160	Pilz Software	99
31	Pioneer-Car	96
89	Pioneer-Home Audio	30-31
90	Polk Audio	Cover 2, 1-3
153	PolyGram	109
94	Pyle Industries	103
	Radio Shack	4
	R. J. Reynolds-Vantage	47
	R. J. Reynolds-Winston	Cover 4
	Sony Corp. of America	14-15
	Toshiba	Center insert
	U.S. Army Reserve	93
	Wisconsin Discount	116-117
	Yamaha	26

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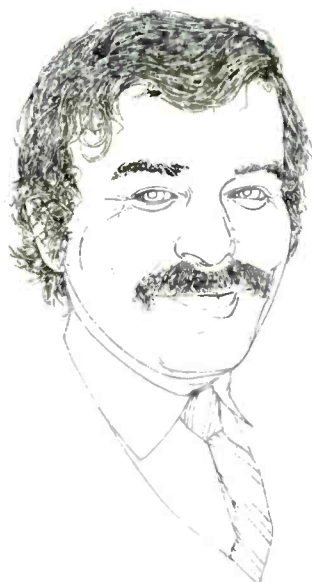
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THE HIGH END

by Ralph Hodges



More on Movie Sound

LAST week I took my daughter to see *Willow*, even though my favored film critics advised against it. I defied them because the most engrossing sort of film often overwhelms your critical faculties with senses of wonder, joy, or despair, and I really wanted to find out how good the film *sounded* without any emotional irrelevancies in the way.

The verdict? Not so bad, within limits we'll get to shortly. In fact, I have never heard Manhattan's Paramount Theater sound so good, perhaps because the house was practically empty (those critics again). When the sound-effects guys were given something to do (mostly just ominous rolls of thunder, but there are a few choice episodes of sheer bedlam) they worked up a convincing sweat, and often the music was professionally and even quite effectively integrated with the action. Overall sound quality was as high as I've heard recently in a movie house, and the dynamic range suggested that Lucasfilm's celebrated digital-processing complex was on the job during postproduction. Why, then, am I not babbling with enthusiasm?

While cinema sound is of natural concern to many audiophiles and is rapidly becoming a pleasing adjunct to high-end systems, it remains troublesomely difficult to deal with in terms of established audiophile criteria. The reference for high-fidelity reproduction is a live musical experience, and although many little mental adjustments are necessary along the way, an experienced listener can usually derive some feeling of "liveness" from well-chosen equipment and recordings. The reference for cinema-fidelity reproduction is, I suppose, a "live" theater experience. But to me there is very little "liveness" in a cinema experience.

Cinema sound is *big*, as befits a big screen. It is mixed big and equalized big, and if by any chance one of the elements doesn't sound sufficiently big, it is cunningly "fixed" by application of arcane audio arts that have evolved over generations in secretive corners of the Hollywood hothouse. The resulting bigness is such that it can often be sensed even through the crummy loudspeaker in a drive-in theater, as you will know if you've ever been to one of those fast-disappearing institutions. In Hollywood, the unbreakable rule is: The sound must fit the picture, never the other way around.

The movies' oversize aural dimensions frequently seem to be achieved through nuances of equalization and compression, especially in dialogue. They are distortions in the strictest sense of the term, and they sound like distortions when one listens to them with a dispassionate ear.

There was, until recently, some justification for these distortions, principally in the contexts of overcoming noise in optical and magnetic film media, and in making sure that a film could play with intelligible dialogue in a wide variety of theaters, some of which had primitive sound equipment. Today, however, noise-reduction techniques have become routine in the preparation of soundtracks, and theater owners have come to realize that they must be competitive in audio as well as video to survive. Movie producers are now at liberty to make thor-

oughly honest soundtracks. Why aren't they doing it?

First of all, of course, they still want their movies to sound big, and that will always be an overriding factor. But there are many people in postproduction operations who have learned their trades so well that they find it difficult to unlearn them and adjust to changes.

Take, for example, the matter of "Foley," which is the lifeblood of a motion-picture soundtrack. The Foley folks are the people who, while viewing the picture, march around in gravel pits, slam doors, jangle keys, cock weapons, and otherwise attempt to inject sonic reality into the film through the recordings they make. It is a highly specialized art.

According to Chuck Campbell, the supervising sound editor, *Back to the Future* involved at least twelve Foley experts. Add to that three people working on location dialogue, six or so working on replacement dialogue, and another six or so out in the field recording appropriate background sounds.

So we have, at minimum—and we haven't discussed the music yet—about twenty-four people directly influencing the sound a film will have. For a high-budget film, most of these people will have the best reputations, meaning that they'll be older than average and accustomed to the old ways.

Eventually the ultimate mixer and his staff receive the recorded bits and pieces and start trying to put them together. Ordinarily such an assignment would take weeks, but on a big-budget film the mixer may have only days, because the big stars have moved on to another production and the release dates have been posted and advertised.

Some films are conceived with the idea that the audio must be exquisite—*Amadeus*, for example. The soundtracks of these films are so coddled that the production expenses often outrun the box-office receipts disastrously. *Amadeus* worked out, but only as a result of the astonishing courage of its producers in recording the soundtrack.

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