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Putting More Pleasure in Sound.

by Gordon Sell and Christie Barter

MORE MET STEREO

The Metropolitan Opera and Texaco have arranged to upgrade the regular Saturday Met radio broadcasts by providing an improved signal and by increasing the availability of stereo to include all of the 330 stations in the network that carries the broadcasts. National Public Radio stations in the network will continue to be served by NPR's satellite. Commercial outlets will be equipped by the Mutual Broadcasting System to receive the improved stereo signal via satellite too. The forty-fifth season of Texaco-sponsored Met broadcasts begins December 1 with Rossini's Barber of Seville.

NEW JAZZ SERIES ON CD

PolyGram has launched a new Silver Collection of jazz on Compact Disc with recordings by eight artists represented on its Verve label. Each in the series of CD compilations offers over an hour of music by a single artist at the regular CD price. Digitally remastered and available in CD format only, the initial release includes collections by Ella Fitzgerald (from the Songbooks), Billie Holiday, Louis Armstrong, and Harry James.

TECH NOTES

Technics will be introducing three new CD players at \$400, \$500, and \$600. The \$400 player will have 15-step random-access programming; the other two have remote control and more extensive features....The research engineers at Sansui have developed a digital companding system that can fit 14-bit digital audio into 8 bits. Initial use will be for broadcast distribution systems, but there are potential consumer applications....Kodak's new 8mm camcorder is in stores and reportedly selling well to video novices....WKMU-FM, the University

of Missouri's radio station, has begun broadcasting with a British-developed surround-sound system called UHJ Ambisonics. The BBC has been using the system for dramatic and music programming, and recent records and CD's on the Nimbus and Unicorn labels have been encoded with it. Audio Design Calrec of Bremerton, Washington, is distributor for the decoders. ...Matsushita, parent company of Technics, Panasonic, and Quasar, is observing its 25th anniversary in the U.S. by establishing a \$10-million education foundation. The company started in the U.S. in 1959 with only three workers, and today it employs 7,000 people here....The Compact Disc Group, which promotes the CD, has donated to the Library of Congress a copy of every CD released in the U.S. ...Harman Kardon's new VHS Hi-Fi VCR is called a "high-fidelity audio/video cassette deck" to emphasize its dual functions.

NIPPER'S CENTENNIAL



This year marks the one-hundredth anniversary of the birth of RCA's mascot, the black-and-white fox terrier named Nipper (1884-1895). Born in Bristol, England, Nipper was portrayed with a phonograph by artist Francis Barraud, who called the picture His Master's Voice. It became the logo for HMV in England and RCA in the United States. In the late Sixties, RCA phased out the dog-and-horn symbol, but given a new look in the mid-Seventies, Nipper was phased back in and is now seen on most RCA products.

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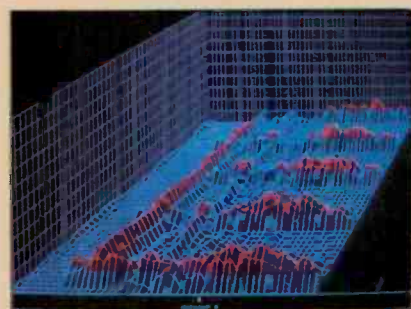
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by William Livingstone



With Jensen vice president and general sales manager Pete Fredriksen (left)

Black Christmas

My family and friends tell me I am hard to shop for, and every Christmas they try to prove their claim by giving me totally inappropriate presents. So to be sure that I enjoy the holidays I always buy a few gifts for myself, and I advise you to do the same.

Although I have caroled on in recent months about the allure of music on video and the advantages of the digital Compact Disc system, I still listen to more music on LP than in any other format. The recordings I'm going to suggest that you give yourself for Christmas are, therefore, all available on the black LP's we know and love.

First is Randy Newman's soundtrack for *The Natural* (Warner Bros. 25116-1). It contains a little Mahler, a little Wagner, a lot of Copland, and enough Hollywood magic to prove that Newman is not just a sardonic troubadour, but the legitimate heir to a great tradition of composing for film.

If you have a sense of humor about music, I recommend a program of famous themes from the classics affectionately and amusingly arranged for flute and accordion by the Cambridge Buskers. It is their latest album, "Music Abbreviation 101" (Deutsche Grammophon 413 339-1).

A bargain on the Vox Turnabout budget label is the album of four

Vivaldi concertos for guitar and string orchestra (TV 34796) performed by the Argentine guitarist Ernesto Bitetti and I Solisti di Zagreb. Bitetti is a brilliant soloist, and the disc is recommended not just for guitar enthusiasts.

A brilliant soloist on another instrument is the young Chinese violinist Cho-Liang Lin. His newest album, "Bravura" (CBS IM 39133), is made up of display pieces by Sarasate, Kreisler, and others. Lin is accompanied at the piano by Sandra Rivers, and they are particularly impressive in Falla's *Suite populaire espagnole*.

For bravura playing on the piano choose any of the albums in Jorge Bolet's series of recordings of Liszt's works on London. I am especially fond of the song transcriptions (LDR 71096). Volume 3 (410 115-1) includes the even more pyrotechnical Sonata in B Minor.

More intimate works for the piano are Schubert's Impromptus, available in two excellent new recordings by Murray Perahia (CBS IM 37291) and Radu Lupu (London 410 125-1). For more Schubert, buy the Quintet in C Major (Angel DS 38009) played by the Alban Berg Quartet with cellist Heinrich Schiff. For mature Brahms get the sonatas for clarinet and piano played by Richard Stoltzman and Richard Goode (RCA ARC1-4246).

The most nearly perfect opera recording ever made is said to be Puccini's *Tosca* with Maria Callas, Giuseppe di Stefano, and Tito Gobbi with Victor de Sabata conducting. Recorded in 1953, it has just been digitally remastered and rereleased (Angel BLX 3508). Treat yourself to this recorded masterpiece.

An unpretentious recording is "Barre and Milieu" (Musical Heritage Society 4326). An album of music for exercises in ballet class, it consists of piano transcriptions of twenty-six opera arias played with delicacy and charm by Colette Astruc, ballet accompanist of the National Conservatory in Paris.

Now turn to page 54 for a more varied shopping guide. It may suggest to your family and friends some gifts to make your holidays happy or things you could buy for yourself if you are dreaming of something besides a black vinyl Christmas. □

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More Southpaws

Just when the storm has passed about the flopped Dual turntable photo in your June issue. I find another problem picture on page 70 of the October issue. It shows three members of Exile playing guitars apparently in reverse. My first thought was, "Are all these guys left-handed?" Then I closely scrutinized the drummer and found his hi-hat to be placed on the right, quite opposite from the norm. Is this yet another flopped picture, or is the Exile group really as different as you say?

CHRISTOPHER M. BRUYA
Ellensburg, Wash.

Exile is different in that the group has a new country image and is more successful than the average band. In Edouard Manet's The Spanish Singer (a gift of William Church Osborn to the Metropolitan Museum of Art) we have artistic evidence that the guitar can be played left-handedly. The members of Exile, however, are right-handed. The picture was flopped. Sorry.

A band with three left-handed guitar



pickers is as rare as a good country song out of Nashville these days.

JOHN WELCH
Langley, Wash.

Speaker Talk

After reading Ralph Hodges' Column on the "sophisticated loudspeaker"

(October), I feel like the village chief who was sitting next to his medicine man, deep in the rain forests of New Guinea, listening to a drum beating in a faraway village. The chief turned to the medicine man and asked, "What are they saying?" The medicine man answered, "They say boom di boom di boom."

What is Mr. Hodges trying to tell me? I am in the process of buying new speakers, so I found your last issue very timely and easy to read, but Hodge's story is something else.

WILLIAM W. MENZ
Winston-Salem, N.C.

I have been irritated several times over the last few years by the lack of respect tendered the "high end" by STEREO REVIEW, beginning with Alan Loffi's infamous article (October 1982). Needless to say, I was most pleased to read and reread Ralph Hodges' column, "The Sophisticated Loudspeaker." It could have been titled "The Sophisticated Listener," as it basically touches on the difference between someone who is an audiophile and one who is not. No value judgments were applied or im-

State of the art. Artfully stated.



plied, unlike some earlier articles. Thank you, and may I now continue to read STEREO REVIEW in peace?

STAN EVANS
Louisville, Ky.

Peace—boom di boom boom boom!

Equalizers

In a back issue of STEREO REVIEW (April 1981) I read a test report in which Julian Hirsch stated that "precisely equalizing a home listening room rarely improves the sound quality." I was dumbfounded because I was about to pay a goodly sum for an equalizer. I'd like to be sure I understood Mr. Hirsch's comments. Would it be a worthwhile purchase? All I have in mind is compensating for speaker-response anomalies and room acoustics.

EUGENE GASH
Oklahoma City, Okla.

Julian Hirsch replies: An equalizer can compensate for certain speaker-response deficiencies and for a few room response effects, but it is not a panacea for these problems. Some equalizers (particularly

with RTA's built-in or used externally) are presented as being able to produce a flat response at the measurement position. Usually they can, but the result is invariably an overbright sound that requires a high-frequency rolloff to become listenable. A good equalizer is, in effect, a talented tone control and as such can be beneficial. But, as with tone controls, you must adjust by ear for the most pleasing sound. Don't expect RTA's or other instruments to make that judgment for you.

Rock of Ages

I have one suggestion for your magazine: stop printing the "Popular Music" review column! Whatever idiot is writing this column obviously has no musical taste whatsoever. For instance, in your September issue he gave a rave review to Neil Sedaka's latest record. Anyone who would listen to a Neil Sedaka record, let alone enjoy it, is definitely *too old* to be writing reviews for popular rock music.

Face it! Rock music is almost always aimed at teenagers, for it is the teenage population that will buy the records,

watch the videos, and go to the concerts, and we don't really care what some old Neil Sedaka fan thinks of our records. We have better things to read. Frankly, *The Catholic Digest* and *Mother Earth News* are more interesting.

JENNIFER O'CAHAN
Toronto, Ontario

CD, Pro and Con

One week ago I bought a Compact Disc player, and what I did NOT get with the deal is as follows: a rumbling turntable, a misaligned cartridge, a stylus that has to be replaced twice a year, cracking and popping even on so-called audiophile records, a step-up device for certain cartridges, record-cleaning paraphernalia, stylus-cleaning paraphernalia, static-control paraphernalia, and uppity salesmen cutting down my carefully considered choices of components to sell me their inventory overstock.

What I *did* get was fifty to seventy minutes of the best music I ever heard without having my listening interrupted to turn over a record. I don't care if they say the sampling rate is too low (whatever that means) or the sound doesn't

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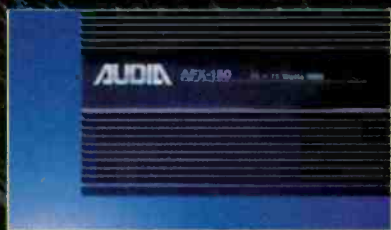
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<u>Signal-to-Noise Ratio ('66IHF/DIN)</u> Phono—80dB/66dB Video/Aux/DAD/Tape—100dB/67dB
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LETTERS

measure up to ultra-high-end turntables (which cost ten times as much as my CD player). I couldn't get near the same sound from a turntable for the money I paid for the CD player. Now I can direct my attention to my real reason for having a stereo system: music!

AL LARSON
Lake Worth, Fla.

My dissatisfaction with the directions audio is taking has been building, and Ralph Hodges' August column on digital *dithering* has finally stimulated me to write.

While I believe that some anti-digital sentiment may be a product of the cartridge, arm, and turntable high-end fanatics not wanting to see an easy means to achieve "status sound" without *hocus-pocus*, mine is not so inspired. I have sought for many years successful alternatives to the vinyl disc, collecting recordings on open-reel, cassette, and recently on LaserDisc and Beta HiFi.

There is no question that digital sound is polished and spectacular, but it is spectacular in the kind of way a Tomita-style electronic transcription is spectacular. I enjoy electronic music,

and I am pleasurablely amused by the clever transcriptions of Wendy Carlos, Tomita, etc. The electronic sheen of digital recording, however, is not the work of clever sound mixing; it sounds *changed*. In the concert hall I have never encountered the strange string gloss heard on digital recordings. In real life brass instruments do not bite like radio static, and high percussion never takes on the phaseless spread it does on digital recordings. The changes wrought to sound by the digital process are most noticeable in recordings of opera. Words are virtually unintelligible.

If the classical record-buying business is suffering, perhaps the executives should rethink digital before too many more priceless performances are half lost between the numbers, the gaps filled in by *dithering*. Let me remind record collectors that those silver, laser-read discs are capable of excellent sound reproduction when FM analog audio is recorded as it is on many Pioneer releases on LaserDisc. The Compact Disc is an improvement only over the eight-track cartridge.

HENRY J. MYERS
Vancouver, B.C.

Heavy Breathing

I love the new Compact Discs, and I love chamber music, but I do not love all the noise I hear in CD recordings of string quartets. I have heard many live performances of internationally known quartets, but only on CD's do I ever hear such heavy *breathing*. The Smetana and Vermeer Quartets *ruin* their CD recordings for me with all that "hissing" sound. As an ensemble player myself and a woodwind player, I know that it is *not* necessary! Breathing—yes, but not so loud you can hear it across the room. I feel so strongly about this that I would like to suggest that critics and reviewers let us know about it in their reviews.

REUBEN D. LANE
Phoenix, Ariz.

Correction

In our test report of the Yamaha M-80 power amplifier and C-80 preamp (November 1984) we stated the price of the M-80 incorrectly. The correct price of the M-80 is \$950; the C-80 is \$750 as listed.



INTRODUCING THE HOME DECK FOR THE ROAD. IT EVEN GOES INTO REVERSE AUTOMATICALLY.

Ever notice that tapes you've recorded at home don't sound as good when you play them in your car? That's because a car's acoustics are vastly different from a home's. That same tape that sounded great at home may now sound muddy, hollow, lifeless.

CAR EQ

Press this button to automatically compensate for the acoustic variance in most cars.

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NEW PRODUCTS



Sawafuji America

The Digital 20 loudspeaker from Sawafuji America has an array of "Dyna-pleat" transducers instead of ordinary cone drivers. There are sixteen bass and four midrange units. Each transducer is 6½ inches square and consists of coils etched into the surface of the Polysolpon pleated diaphragm. Magnets are mounted behind the diaphragm in the middle of each coil loop. The resulting sound radiates equally to front and rear. Ribbon tweeters reproduce the high frequencies. The crossover frequencies are 600 Hz and 5,000 Hz.

The Digital 20 is rated for a maximum power of 200 watts and impedance of 4 ohms. Frequency response is given as 30 to 20,000 Hz. A sound-pressure level of 90 dB is produced with a 1-watt input when measured at 1 meter. The speaker is 30 inches wide, 36 inches high and 2 inches deep, and it mounts on an 8-inch stand. It is finished in wood veneer with a black grille cloth. Price: about \$1,800 per pair. Sawafuji America Corporation, Dept. SR, 23440 Hawthorne Blvd., Torrance, Calif. 90505.

Circle 120 on reader service card

Infinity

The two-way Infinity RS-11 loudspeaker houses a 4-inch polypropylene cone woofer with a long-throw voice coil and a 1-inch polycarbonate tweeter. It can handle 50 watts of power and is rated to produce a sound-pressure level of 87 dB at 1 meter with a 1-watt input. Impedance is 6 to 8 ohms. Frequency response is given as 75 to 23,000 Hz ± 3 dB. Each enclosure, 12 x 5 x 7 inches, weighs 6 pounds. Price: \$112 per pair. Infinity Systems, Dept. SR, 7930 Deering Ave., Canoga Park, Calif. 91304.

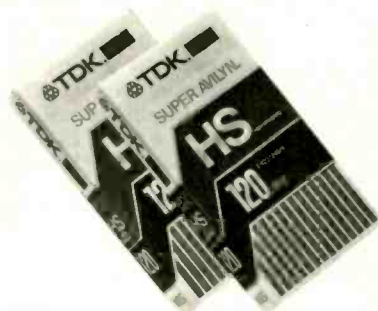
Circle 121 on reader service card



TDK

A new video tape from TDK, HS High Standard, is being introduced as an improvement over the company's current Super Avilyn tape. It uses ultra-fine Super Avilyn particles to increase the rated luminance signal-to-noise ratio 3 dB and the chrominance signal-to-noise ratio 2.5 dB. The audio signal-to-noise ratio improves 1 dB in the VHS format and 0.5 dB in Beta. HS video tape is available in L-750 length for Beta VCR's and T-120 for VHS VCR's. Price: \$16.90. TDK Electronics, Dept. SR, 12 Harbor Park Dr., Port Washington, N.Y. 11050.

Circle 123 on reader service card



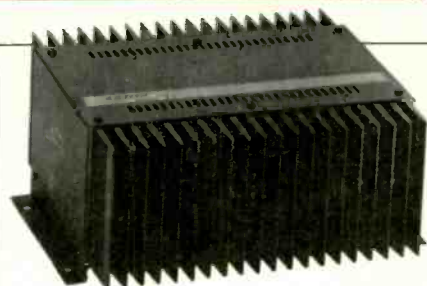
NEC

Both audio and video sources are handled by the AV-200E audio/video control center from NEC. There are inputs for a tape deck, tuner, TV, and two VCR's. One set of input/output jacks for a VCR is located on the front panel and one on the back. A video image enhancer improves contrast and sharpness for either playback or dubbing. The audio amplifier section is rated to produce 12 watts of power per channel. A single tone control changes the balance of low and high frequencies, and a synthesizing circuit simulates stereo from mono sound sources.



The AV-200E enables the user to dub video tapes from one VCR to another, to add audio tracks to videotape from a cassette deck, to record audio and video with a hi-fi VCR without reconnection, to watch one source while recording another, and to record FM simulcasts with a suitable hi-fi VCR. Price: \$199. NEC Home Electronics, Dept. SR., 1401 Estes Ave., Elk Grove Village, Ill. 60007.

Circle 124 on reader service card



Ultrix

The Ultrix UA1000 car stereo power amplifier is rated at 50 watts per channel from 20 to 20,000 Hz with total harmonic distortion of no more than 0.05 percent. The slew rate is 40 volts/microsecond. The amplifier's DC-to-DC converter has highly efficient switching to minimize battery drain. RCA line-level jacks are used for compatibility with other components, and the main power and speaker leads feature detachable connectors. Price: \$200. Ultrix, Dept. SR, 1200 West Artesia Blvd., Compton, Calif. 90220.

Circle 125 on reader service card



Polk

The VideoSound loudspeakers from Polk Audio contain magnetic shielding so they can be positioned next to television screens without distorting the picture or changing its tint. The speakers can be connected directly to outputs on a stereo TV set or to a stereo receiver. According to the manufacturer, the VideoSound speakers are efficient enough to be driven by the low-power amplifiers built into most stereo TV units.

The three models, sized to match 25-inch, 19-inch, and 12-inch television sets, are finished in silver or black. Each contains a 6-inch woofer and a 1-inch dome tweeter. The largest, the VS-25, adds a 6-inch sub-base radiator. All three models are 8 inches wide and 11 inches deep. The VS-25, 21 inches high, is priced at \$339.90 per pair; the VS-19, 17 inches high, is \$259.90 per pair; and the VS-12, 14 inches high, is \$199.90 per pair. Polk Audio, Dept. SR, 1915 Annapolis Rd., Baltimore, Md. 21230.

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NEW PRODUCTS



Esotek

The Esotek SWX-12DB multiple-subwoofer crossover network can accommodate up to four subwoofer/bi-amplifier systems. Its four low-frequency outputs can be used in any combination, including bridging. The crossover slope is 12 dB/octave, and the standard crossover frequency is 100 Hz, although 75, 80, 85, 90, or 110 Hz may be substituted. Low-frequency response is d.c. to crossover frequency; high-frequency response is crossover frequency to 100,000 Hz. The unit has a self-contained, regulated power supply. The black ABS plastic enclosure measures 6 x 6 x 2.75 inches. Price: \$119. Esotek, Dept. SR, 1412 SW 102nd, #175, Seattle, Wash. 98146.

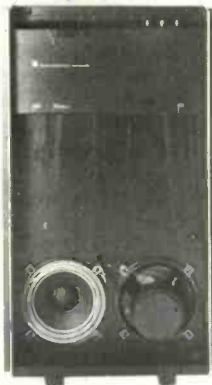
Circle 127 on reader service card

Audio Pro

The Audio Pro B2-100 subwoofer uses a built-in 80-watt amplifier to drive two 8-inch woofers mounted in a push-pull configuration that is said to minimize distortion (rated at less than 1.5 percent at a 96-dB sound-pressure level). The two woofers are supplemented by a bass reflex port that is aimed downward.

Audio Pro recommends that the B2-100 be connected between a pre-amplifier and an amplifier, although it can be connected directly to the speaker terminals. Controls on the unit adjust the subwoofer crossover frequency (from 40 to 200 Hz), and the bass cut-off of the satellite speakers (from 50 to 200 Hz) to match the subwoofer to the satellites. A third control sets the sensitivity of the subwoofer to equal that of the satellite speakers. In stand-by mode, the subwoofer turns itself on automatically when it detects incoming audio signals and switches to stand-by five minutes after the signals cease. The cabinet measures 19 x 16 x 35 inches. It weighs 141 pounds. Price: \$1,495. Sonic Research, Dept. SR, 27 Sugar Hollow Rd., Danbury, Conn. 06810.

Circle 128 on reader service card



Rotel

The Rotel RX 850 quartz, digital-synthesis stereo receiver has eight AM and eight FM presets, and its power output is 30 watts per channel into 8 ohms from 20 to 20,000 Hz with no more than 0.05 percent total harmonic distortion. Inputs include tape, video, CD, and phono. The receiver can handle two pairs of speakers with front-panel switching. Also on the front panel are tone controls for bass, midrange, and treble and a headphone jack. The tuner's usable sensitivity is rated at 1.9 microvolts, the capture ratio at 1.5 dB.



The RX 850 measures nearly 17 inches wide, 3 7/8 inches high, and 15 inches deep. It weighs 15 pounds. Price: \$299. Rotel, Dept. SR, Isobanke International, P.O. Box 653, Buffalo, N.Y. 14240.

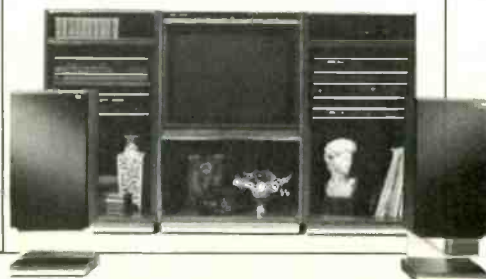
Circle 129 on reader service card

RCA

The RCA Dimensia audio/video system consists of a complete set of audio and video components designed to operate in an integrated fashion. All components may be operated by a single remote-control device. The system may be purchased in its entirety or assembled one piece at a time.

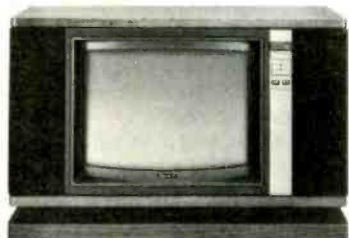
The commands from the remote control are accepted by the monitor/receiver, which communicates them to the other components in the system. The commands are then confirmed by a display on the monitor screen. The Dimensia components are a 26-inch color monitor/receiver, a VHS Hi-Fi VCR with five heads, an AM/FM quartz tuner, a linear-tracking turntable, a Compact Disc player, an autoreverse cassette deck with Dolby noise reduction, a 50-watt integrated amplifier, and two three-way speakers. Optional cabinets to house the equipment are available. Price of the entire Dimensia system: \$5,000. RCA, Dept. SR, 600 North Shore Dr., Indianapolis, Ind. 46201.

Circle 130 on reader service card



Sony

Three Sony Trinitron television sets with built-in stereo decoders are able to



receive multichannel stereo TV broadcasts now being transmitted by some stations. The new models have speakers on both sides of the screen and built-in stereo amplifiers. All three have remote control, multiband cable-ready tuners, and a pay-TV switch for remote access to a scrambled premium channel looped through a cable company's converter box. Prices: KV-2680R (shown), \$1,249.95; KV-2681R, \$1,299.95; KV-1980R, \$899.95. Sony Corp., Dept. SR, Sony Dr., Park Ridge, N.J. 07656.

Circle 131 on reader service card

Panasonic

Panasonic's PV-9600 portable video cassette recorder can record and play back tapes in VHS Hi-Fi, making it convenient to record the sights and sounds of a concert with high-fidelity audio. In the hi-fi mode it is rated to achieve a wow-and-flutter of less than 0.005 percent, a dynamic range greater than 80 dB, and stereo separation greater than 60 dB.



For home use, the PV-9600's deck section (with the tape transport) snaps on top of the quartz-synthesizer tuner section (which also acts as power supply and battery charger). The top-loading unit receives 139 channels and features a fourteen-day, eight-event timer. A seventeen-function wireless remote control is included.

The cue and review function operates in SP, LP, and SLP modes. A back-up system protects the unit's memory for one hour in case of power failure. Price: \$1,500. Panasonic, Dept. SR, One Panasonic Way, Secaucus, N.J. 07094.

Circle 132 on reader service card

dbx

Two program-route selectors, the 220X and 400X, have been introduced by dbx. Each has inputs for three tape decks, three sound processors, and a noise-reduction unit. The 200X allows direct dubbing from one tape deck to another with no interceptions. The 400X allows dubbing with the use of signal processors and noise reduction. The 400X also contains LED's to indicate the path of the program signal. Prices: 200X, \$129; 400X, \$229. dbx, Dept. SR, P.O. Box 100C, 71 Chapel St., Newton, Mass. 02195.

Circle 133 on reader service card



Ego

The Ego SE-6 loudspeaker has a 6-inch polypropylene woofer and a 1-inch soft-dome tweeter with a port in between. The crossover frequency is 3,000 Hz. Frequency response is rated at 50 to 21,000 Hz and impedance at 6 ohms. A 1-watt input produces a 93-dB sound-pressure level measured at 1 meter. The enclosure's dimensions are 14 x 8 x 8 inches. It weighs 20 pounds. Price: \$278 per pair. Inter-Ego Systems, Dept. SR, 50 Werman Ct., P.O. Box 221, Plainview, N.Y. 11803.

Circle 134 on reader service card

Yamaha

A rotating head in the Yamaha K-600 cassette deck allows automatic reverse for uninterrupted playback of tapes. The Sendust record/play head is turned over at the end of each cassette side. The take-up reel and capstan are driven by two different motors, and a third motor is used for the rotation of the playback head.



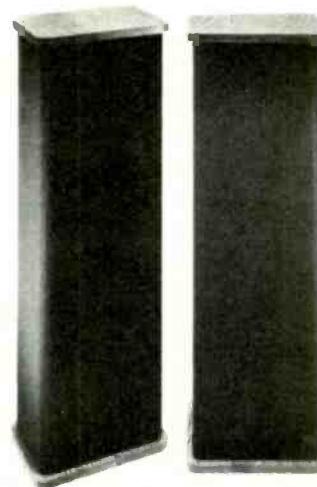
The K-600 has a unique equalization circuit designed for making tapes for use in the car. It boosts response by 6 dB at 75 Hz and cuts it by 4 dB at 200 Hz to compensate for typical automotive acoustics. Other features include automatic fades, four-digit LED indicator for remaining time, record return, intro scan (to play the first ten seconds of each selection), search, record mute, memory repeat, blank skip, automatic bias and equalization selection, ten-segment LED level meters, timer operation, and memory stop.

Frequency response is given as 30 to 19,000 Hz \pm 3 dB with metal tape. The signal-to-noise ratio is specified as 75 dB with Dolby C, and wow-and-flutter is 0.04 percent, weighted rms. The deck, finished in black or silver, measures 17 inches wide, 4 inches high, 11 inches deep. Price: \$379. Yamaha Electronics, Dept. SR, 6660 Orangethorpe Ave., Buena Park, Calif. 90620.

Circle 135 on reader service card

DCM

The QED 1A loudspeaker from DCM makes use of electronic correction circuitry to optimize frequency and time-delay response for a controlled, coherent radiation pattern. The speaker contains a $\frac{3}{4}$ -inch tweeter, 8-inch woofer, and an acoustic lens. The enclosure uses tongue-and-groove construction with



accents of solid oak. Rated sensitivity is 90 dB measured at 1 meter with a 1-watt input. The speaker's power range is 10 to 200 watts. Price: \$657 per pair. DCM, Dept. SR, 670 Airport Blvd., Ann Arbor, Mich. 48104.

Circle 136 on reader service card

by Larry Klein



Spontaneous Erasure

Q Several days ago I dubbed three songs at the end of a C-90 tape that has a collection of my favorites. I played the tape completely before putting it away, and it sounded fine. Today I played the tape again and almost all the highs are gone and the volume fluctuates and is very low. I know it's not a problem with the tape or the recorder, because I've since rerecorded the same three songs on the same tape and they sound fine. What happened?

JASON LIN
Santa Monica, Calif.

A I can think of several ways to account for your experience. If there was a minute particle of dirt on the play head, it would cause exactly the problems you heard during playback. By the time you rerecorded the three

songs, the dirt particle had become dislodged, and everything was fine. If that was the case, your original should have been restored to fidelity also.

A bad or misplaced pressure pad in the cassette shell could also cause your problems, but I can't imagine how it could repair itself.

A third possibility is that somehow the cassette in question came too close to a strong magnetic field and suffered partial erasure. How or why? Well, twenty-five or so years ago when I was hired as technical editor of *Popular Electronics*, one of my first assignments was to construct an experimental flying-saucer detector. The design was simple enough; it consisted of a finely balanced magnetic rod that when moved by external forces would trigger an alarm. It seems that flying saucers are notorious for the powerful, but erratic, magnetic fields they create. . . .

Flat Sound

Q Suppose a recording engineer makes a mixdown using a monitor system that deviates significantly from flat frequency response. Would the subsequent recording sound more faithful to the original when played back on a monitor speaker having a flat frequency response? Or would it sound better on a monitor with a frequency response approximating that of the one used by the recording engineer? Is an audio system always optimized by being adjusted to yield flat frequency response?

PAUL THIEL
Covington, Ky.

A Although your question may seem purely theoretical, it actually addresses some real-world matters. About

a dozen years or so ago, a well-respected speaker company's entire consumer sales campaign was based on the fact that their speakers were used extensively as monitors in recording studios. Their ads stated, in so many words, that if you wanted to duplicate what the recording artist and engineer heard, you would have to listen through the same speakers they used.

The plausibility of that sales approach crumbled when you learned that the frequency characteristics of the company's home speakers were far from flat and, furthermore, differed radically from those of their studio monitors. While the studio monitors were reasonably flat in response, the home speakers had, as I recall, a bass bump at about 70 Hz and a substantial (8 to 10 dB) peak between 7,000 and 8,000 Hz.

Any recording engineer foolish enough to use the home versions of the speaker for monitoring purposes would have found himself overwhelmed by the hot high end and would undoubtedly use an equalizer to reduce the 7.5-kHz peak in the final mix. The resulting record would then have a built-in dip at 7.5 kHz and would sound right only if played through speakers with a complementary built-in peak. As you might expect, on normal program material the speakers under discussion sounded excessively bright—"piercing" was the term used by some listeners—and certainly unpleasant to listen to if you had a critical ear.

So, in answer to your question: Yes, a system, whether in a studio or a home, should be set up to be as flat as possible. And then, depending upon the needs of the program material, it can be "touched up" with an equalizer to achieve the desired sonic quality.

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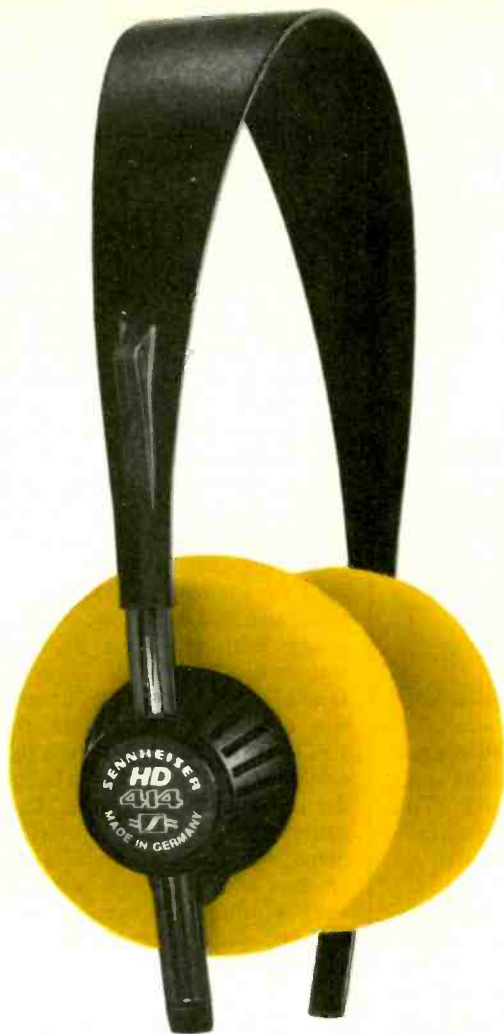
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CIRCLE NO. 11 ON READER SERVICE CARD

PIONEER CENTRATE FEX-95 TUNER/CASSETTE PLAYER

by Julian Hirsch and Christopher Greenleaf



THE Pioneer Centrate system is a group of deluxe, high-end car stereo components that together form an automotive sound system of exceptional quality and versatility. Its heart is the FEX-95 Supertuner III tuner/cassette player, which has a unique combination of features and control flexibility while meeting the special performance requirements of automobile operation.

Other Centrate system components include two seven-band graphic equalizers, one of which also senses the ambient noise level in the car and adjusts the average volume level smoothly to compensate for different noise backgrounds, a wireless infrared remote control, a 30-watt-per-channel power amplifier (the unit's audio outputs are at line level), a powered subwoofer, and a selection of Pioneer car speakers. The elements of the Centrate system interconnect with proprietary DIN plugs and cables, which simplifies installation of the Centrate system but discourages mixing Centrate components with others.

The FEX-95 has a PLL digital-synthesis tuner with Pioneer's proprietary Supertuner III circuitry, which is resistant to multipath and FM overload. The tape transport is an autoreverse system with three motors and a four-gap head that can play in either direction without having to be turned over. The player uses Dolby B and Dolby C noise reduction. Unique to the FEX-95 is a digital clock with a timer that enables it to switch from any source to

a desired radio program automatically. Two different stations and times can be programmed. The FEX-95 lacks internal power amplification and must be used with an accessory amp.

All controls except for bass, treble, and balance are pushbuttons that operate through logic circuits. The door of the cassette bay doubles as a display panel with lights to indicate the status of virtually all functions, including volume level. The unit must be powered in order to open the door flap, and, once a cassette is in the tape well, the door may be opened or closed without affecting play. A second push of the button that opens the bay ejects the cassette. Controls inside the bay include balance, treble, bass, noise reduction, blank-tape skip, (AM) wide/narrow band, and the tuner's local/distant switch. The inside of the door is imprinted with diagrams explaining how to set the clock and program the timer (a two-event, twenty-four-hour cycle) with up to two preset frequencies for specified tune-in times.

The tape player automatically senses tape type (120 μ s or 70 μ s) and takes up tape slack when a tape is inserted. Loading and ejecting are by a motor-driven mechanism. The pinch-roller disengages when the car's ignition is switched off, when tape-transport problems threaten to endanger the tape, or when the ambient temperature (from the sun or adjacent equipment in the car) becomes too high for safe playing. Tape controls include both fast-

wind modes, blank-skip entry buttons, selection scanning, direction reverse, tape-player on/off, one-side repeat, and program function release. There is a tiny button above the tape power button which, when pressed by a sharp object such as a pen, clears all logic instructions and returns the deck to a neutral, ready-to-command state.

The function indicator lights above the buttons on the display panel light up to show tape operation controls; different indicators light up for tuner function, making tuner use and tape play, which share many buttons, quite distinct and not easily confused. Direction of tape play is indicated by an arrow in the display panel, while flashing LED segments simulate the rotation of the tape hubs in the appropriate direction at a slow rate. In some other players, rewind for one play direction is fast forward for the other, but this player eliminates that very confusing situation by tying the fast-wind controls to the tape-play direction.

It was the tape section of the Pioneer FEX-95 that most distinguished itself. Not only was the frequency response very good, but it was very nearly the same in both directions of tape movement.

Tuner controls are for manual tuning, six AM presets, twelve FM presets, band choice (AM, FM 1, FM 2), local/distant, (AM) wide/narrow band, preset timer setting, scanning (five-second sampling in either direction), tuner power, and a CLEAR button that clears all programmed frequencies and places the tuner in a command-ready state.

The illumination is excellent, yet unobtrusive, working well even at dusk. Each push of a button elicits a clear, high-frequency "peep" to acknowledge a received command. In addition, the volume, which can be adjusted throughout its thirty-one-step range either by short taps or by holding one of the two adjustment buttons down for rapid but control-

lable increase/decrease, signals each step of adjustment with a peep. An eight-segment LED display clearly indicates the volume; the whole display flashes when the volume-attenuator switch drops the set volume by a substantial amount for momentary attention to a passenger, a toll collector, or another distraction.

The Pioneer FEX-95 is 7½ inches wide, 6½ inches deep, and 2 inches high. Price: \$699.95. Other components in the Centrate system include the CD-59 infrared remote control, \$99.95; the EQ-003 graphic equalizer, \$199.95; and the GM-A120 power amplifier, \$169.95. Pioneer Electronics, Inc., Dept. SR, 5000 Airport Plaza Dr., Long Beach, Calif. 90815.

Lab Tests

Because of the dedicated cable connections between units of the Centrate system, we had no direct access to the audio outputs of the FEX-95, so its performance was combined with that of the GM-A120 power amplifier. The FM tuner section had good, though not outstanding, performance in most key areas. It had the usual auto-blend system, which began to blend the stereo channels when the signal level fell below about 50 dBf (85 microvolts at its 75-ohm antenna input). Although the tuner output is nearly monophonic at most signal levels under 30 dBf, this feature tends to keep its noise level more uniform with signal fluctuations.

The FM distortion was about the same for mono and stereo. Channel separation was over 30 dB through most of the audio range. The alternate-channel selectivity was an excellent 90 dB (highly desirable for a car radio). The AM rejection, a good 66 dB at 65 dBf input, fell off to only 40 dB at 45 dBf (50 microvolts). The only measurement in which the FEX-95 was disappointing was its capture ratio, 8.5 dB at 65 dBf (and still 6 dB at 45 dBf). The AM tuner had the usual limited high-frequency response.

It was in its tape section that the FEX-95 distinguished itself. Not only was the frequency response very good, but it was very nearly the same in both directions of tape

movement. (Even slight head-alignment errors can cause autoreverse tape decks to have very different high-frequency responses in the two directions of tape motion.) Another welcome surprise was the very low flutter of the transport. This, too, was the same in both directions and at the beginning and end of a cassette. The tape speed was slightly fast, varying between + 0.6 and + 0.75 percent for a C-60.

The Pioneer FEX-95 earns high marks for the sheer ingenuity of its packaging and the manner in which so much operating flexibility was built into a limited panel area. In effect, the unit has two panels, one behind the other. Doubling the space in this way does have its drawbacks, however. For example, if you open the cassette door for access to the "inside" controls, you can't see the outside-panel display that tells you what the control settings are. Another questionable aspect of the FEX-95's design is the size of each volume step, typically

about 4 dB, which is too large for a home system but may be acceptable in an automobile environment.

In all other respects, however, the FEX-95 (and the GM-A120 power amplifier) performed very well on the bench. *J.H.*

Road Tests

Using the Centrate System was extraordinarily simple and uncomplicated. Indeed, the only difficult part of the tests was wiring Pioneer's proprietary cables to feed the phono jacks leading to my Volvo's amplification. (The clear, well-written service manual helped.) Well, perhaps there's one more difficulty involved with this integrally conceived car audio system: describing just how much it does and how well it does it.

Tape play in both directions was smooth, and the unit we tested performed nearly identically in both directions. Two weeks of heavy driving in the Chicago area acquainted me with numerous multi-track railroad crossings, washboard roads in Indiana counties, and the old stone-block streets of southern Chicago neighborhoods. If anything, these rivaled the more familiar Brooklyn road surfaces as a challenge to the tape transport, which paid little attention to the jiggling, shaking, and jolting it got. Pitch was always dead on, with only minor fluctuations at the worst of



HIRSCH-HOUCK LAB MEASUREMENTS

FM mono usable sensitivity (75-ohm input): 19 dBf (2.5 μ V)
Mono 50-dB quieting sensitivity (75-ohm input): 26 dBf (5.5 μ V)
Stereo 50-dB quieting sensitivity (75-ohm input): Not measurable because of auto-blend circuit
Tuner signal-to-noise ratio at 65 dBf: 67 dB
Tuner distortion at 65 dBf: 0.45%
FM frequency response (–3-dB limits): 42 to 20,000 Hz
Stereo separation at 100, 1,000, and 10,000 Hz: 31.5, 32.5, and 24.5 dB
Capture ratio at 65 dBf: 8.5 dB
AM rejection at 65 dBf: 66 dB
Alternate-channel selectivity: 90 dB
Adjacent-channel selectivity: 12 dB
Image rejection: 59 dB
AM frequency response (–6-dB limits): 30 to 1,500 Hz
Tape-playback frequency response

(standard BASF test tapes, forward direction, –3-dB limits): 120- μ s EQ, 46 to 15,000 Hz; 70- μ s EQ, 46 to 12,500 Hz. Difference between forward and reverse directions less than 2 dB between 31.5 and 15,000 Hz
Tape signal-to-noise ratio (120- μ s EQ, referred to 250 nVb/m at 315 Hz): unweighted, 48.5 dB; with Dolby B and CCIR/ARM weighting, 60.5 dB; with Dolby C and CCIR/ARM weighting, 68 dB
Flutter: \pm 0.12% CCIR-weighted peak; 0.06% JIS-weighted rms
Tape speed accuracy: +0.75% error at start of tape, +0.6% at end
Fast rewind time for C-60: 120 seconds
Tone-control range: +9.5, –10.5 dB at 100 Hz; +9.5, –11 dB at 10,000 Hz
Power amplifier (GM-A120) output per channel at clipping (measured at 1,000 Hz): 36.6 watts into 4 ohms, 50 watts into 2 ohms, and 23.5 watts into 8 ohms

the crossings in the Santa Fe shunting yards.

This part of the Midwest is rich in both AM and FM stations that can be received over fairly large distances, and I was surprised to see

Pioneer's Supertuner III circuitry is a decidedly worthy continuation of what has been a memorable series of improvements to AM and FM performance.

how quickly I filled up all eighteen presets with listenable stations that stayed that way through most drives in the huge metropolitan area around the Loop. The record performance for sheer distance was WFMT's night-time signal—ninety miles across the corn and soy fields! Other stations regularly stayed with me for up to seventy or eighty miles for the stronger ones, a good forty for the weaker signals. Stereo was available at up to fifty miles (WFMT), generally falling off at forty for most broadcasters. AM reception (mono only) was interesting, because the density of adjacent and coincident frequencies from neighboring states and Canada should have resulted in confused reception a lot of the time (ask any Chicagoan). It didn't, with the exception of one Ontario station that seemed to battle a St. Louis one for evening listening along the Lake Shore Drive. That's distant reception at its best, if you have to complain about stations hundreds of miles away! As with other good tuners, the complaints are apt to be about the quality of broadcasts, not the reception.

Multipath was remarkably unobtrusive, even when snaking through the Loop under the El or when passing the reflective-glass-faced skyscrapers that pose such problems to FM signals. The automatic narrowing of stereo imaging that accompanies signal degradation was extraordinarily smooth.

Each control was simple to use and easy to locate at all times of day and night. The excellent illumination was not, of course, able to make every indicator uniformly legible at high noon and dusk, but the very

logical layout facilitated rapid adjustment of any control. The "peep" accompanying every command was a bit too loud for me, and I could not locate its source to damp it a bit with adhesive tape. This irritation aside, it was comforting to have each command acknowledged, as the buttons themselves give no feeling to reassure your fingers that they have done anything.

Speed of tuning and volume adjustment when the appropriate buttons were held down was just right, allowing quick adjustment without loss of fine control. I never wished for more volume steps and found that the volume attenuation was especially handy for dealing with tolls and unexpected questions from the back seat. Welcome, too, were the separate power on/off switches for the tuner and tape player. Having no inadvertent blasts of radio intrude at the ejection of a tape was welcome. I do not keep commuter's hours, but I can appreciate the convenience of the timer, which can, for example, turn off the tape player and switch in a 5 p.m. news program automatically, so you don't have to keep an eye on the clock.

The record performance for sheer distance was WFMT's night-time signal—ninety miles across the corn and soybean fields.

In sum, Pioneer's costly but beautifully engineered FEX-95 is flexible, versatile, dead easy to use, and physically attractive. The Supertuner III circuitry is decidedly a worthy continuation of what has been a memorable series of improvements to AM and FM performance. Who knows what will happen when AM stereo is included? Nothing about the head unit (its insistent "peep" aside) is distracting or anything other than easy to learn in a few moments. If you enjoy programming your tape and tuner listening at home, the FEX-95 will be a familiar, versatile extension of your home audio gear. If you enjoy just plain good sound, especially fine FM, this unit is a serious contender for your attention. C.G.

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Sony® brings you a compact disc offer that's music to your ears and an ode to joy for your wallet. Compact discs for no more than you'd pay for an ordinary LP or cassette tape. Just \$7.99* each.

For a limited time only, Sony in cooperation with CBS is offering 30 of the most popular titles at a great low price. If you purchase any Sony home, car, or portable Compact Disc Player between Nov. 1, 1984 and Feb. 28, 1985, you can choose any or all of these great CBS titles:

ARTIST	TITLE
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Footloose	Soundtrack
Billy Joel	Innocent Man
Willie Nelson	Always on My Mind
Journey	Escape
Kenny Loggins	High Adventure
Miles Davis	Decoy
Jeff Beck	Wired
Meatloaf	Bat out of Hell
Bruce Springsteen	Darkness on the Edge of Town
Dan Fogelberg	Phoenix
ELO	Discovery
Billy Joel	Glass Houses
Toto	Turn Back
Men at Work	Business as Usual
The Jacksons	Triumph
John Williams	Rodrigo: Concierto de Aranjuez
Yo-Yo Ma/ Lorin Maazel	Lalo: Cello Concerto
Pinchas Zukerman	Mozart: Violin Concerti Nos. 3&5
Zubin Mehta	R. Strauss: Ein Heldenleben
Leonard Bernstein	Prokofiev: Symphony No. 5
Placido Domingo	Perhaps Love
Glenn Gould	Bach: Goldberg Variations
Wynton Marsalis	Haydn: Trumpet Concerto
Stevie Ray Vaughan	Couldn't Stand the Weather
Elvis Costello	My Aim Is True
Bob James & Earl Klugh	One on One

To take advantage of this great offer, just return a copy of your sales receipt and owner's registration card along with the special order form available only at a participating Sony CD Dealer. Payment must be made by check, money order, MasterCard or Visa before April 30, 1985.

SONY

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**SONY INTRODUCES THE
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To state it bluntly, the difference in sound quality between the new Sony Car Compact Disc Player and everything else is like the difference in performance between a Ferrari and a Model T.

One noted audio critic at *High Fidelity* magazine said, "In all my road testing to date, I've never heard it so good... It can stand comparison against the best home CD players we've tested... The new Sony Car Compact Disc Player is the real thing in every sense."

And not only are wow and flutter unmeasurable, but its phenomenal 90dB dynamic range will sound that way forever. Because Compact Discs are played by a laser beam. Not a tape head. So you can't wear them out.

To test-drive the Sony Car CD Player, visit your nearest authorized Sony autostereo dealer.

And once again, accept our regrets for rendering your present system an antique.

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"It's made by who?!"

And then there's "The name's familiar, but I just can't place the face." Most people aren't aware that Magnavox makes anything as technologically advanced as the Total Audio Component System. Yet it's one of the most sophisticated, complete music systems ever assembled. It's even equipped with total remote control.

Here's how these exquisitely compatible components stack up: *Compact Disc*. From a recording sealed in an almost indestructible 5" disc, a laser beam transmits the purest, most accurate sound ever. With no background or surface noise, music takes on the emotional intensity of a live performance. *Turntable*. Microcomputer controlled, fully automatic with linear tracking. *Tuner*. Digital synthesized with 8AM and 8FM random presets. *Cassette Tape Deck*. Full record, playback features, including auto reverse. *Amplifier*. Delivers 100 watts per channel at .05% THD, 20Hz-20kHz at 8 ohms. *Speakers*. Two 12" woofers, two 5" mid range, two 3" tweeters.

Well, now that you know us better, maybe next time you run into a Magnavox, instead of saying "who?" you'll say "hello."



MAGNAVOX
America's best kept secret.

by Julian Hirsch



Why Test Prototype Audio Products?

THE timing of a new product's introduction is a complex work of marketing choreography requiring close coordination between a company's engineering, manufacturing, and marketing departments. Very few companies seem to do it well.

Obviously, a manufacturer would prefer to have the advertisements for his new product coincide with its availability in retail dealers' showrooms. A premature announcement can result in consumer apathy or outright rejection when a product finally does become available (as happened late last year in the home computer field). On the other hand, delaying the announcement of a product until it is widely stocked can be financially risky for both manufacturers and dealers.

In an ideal marketing situation, the product has been fully debugged by its designers and is in production (or about to be produced) at the time of its announcement. Unfortunately, that ideal situation is the exception rather than the rule, and unexpected production delays can throw the entire marketing program

off schedule. Even if the product has been available for some time in its home market—for audio products, that's usually Japan—some modification is always needed to make it suitable for foreign markets. For example, an import to the U.S. may require changes to get UL (Underwriters Laboratories) approval.

The review of a new product in *STEREO REVIEW* can have a major impact on its marketing success, since so many serious audiophiles depend on our reviews for much of their pre-purchase information. It would make everybody happy if our reviews, the company's advertisements, and the product's availability coincided in time or at least came pretty close together.

But our lead time for testing and reporting on a product is typically four or five months (between receipt of the product and the publication date of the report). Only rarely, with products of extraordinary interest, can the lead time be reduced, but even then it is three months or so. That means that we must have a fully functioning, representative sample of the product in our hands several months before it reaches the dealers, let alone the public, and often well before advertising has appeared or even been prepared.

Often, however, there is no final American version of the product available for testing at that point. It is not uncommon for us to receive a Japanese version (modified for our power-line voltage and frequency, FM-tuning frequencies, and the like), which may—or may not—be essentially the same in its performance as the units that will finally reach these shores. Major Japanese companies frequently designate a limited number of early units as "review samples" in advance of full regular production. And often there is no final instruction manual writ-

ten in English. A photocopied rough translation from the Japanese is sometimes our only source of detailed information on the product we are testing. In extreme cases we may receive an untranslated Japanese manual, or simply none at all! Fortunately, the U.S. importer is usually able to supply us with enough background information that we can properly perform our evaluation.

There is another, potentially more serious aspect to this situation, however. What if the submitted sample is *not* identical to the regular production models? The differences may be minor (slight changes in values or placement of components, or in internal adjustment settings), but they can result in a review that may be either more or (usually) less favorable than a final model would

A hand-tailored prototype could, perhaps, outperform later production units. But my experience has been that this almost never happens.

receive. Sometimes, for example, we find incorrect values for phono-cartridge termination resistance and/or capacitance, or an incorrect FM de-emphasis time constant, or even more serious discrepancies that are eventually corrected in later production. If the submitted unit is from a "pilot run" (a limited production series to verify the manufacturing processes and adjustments established for the product, as well as its basic design) it is likely that there will be many changes, some minor and a few fairly major, before full production is started. More often than not, such a pilot unit suffers in our review because of flaws that will not be present in a set that an American consumer will eventually be able to buy.

Theoretically, the opposite could also occur: a hand-tailored prototype or pilot-run product could outperform later production units. But my experience has been that this almost never happens. It is most unlikely that any "hand-tweaked" product will match the overall performance and reliability of a well-engineered production model that

Tested This Month

Nakamichi BX-300 Cassette Deck
Shure V15 Type V-MR Phono Cartridge
Genesis 44 Speaker System
Denon DP-37F Turntable

REDEFINITION.

THE CARVER RECEIVER: Redefines your expectations of receiver performance with the power you need for Digital Audio Discs plus virtually noise-free stereo FM reception. A receiver with astonishing performance incorporating two highly significant technological breakthroughs: Bob Carver's Magnetic Field Power Amplifier and his Asymmetrical Charge Coupled FM Detector.

ESSENTIAL POWER: Your system needs an abundance of power to reproduce, without distortion, the dynamic range of music on Digital Audio Discs and fine analog recordings.

The Magnetic Field Amplifier in the CARVER Receiver gives you 130 watts per channel* of pure, clean power with superbly defined, high fidelity reproduction.

The Magnetic Field Amplifier produces large amounts of power (absolutely necessary for the accurate reproduction of music at realistic listening levels) without the need for heavy heat sinks, massive transformers, and enormous power capacitors required by conventional amplifier design.

Unlike conventional amplifiers which produce a constant, high voltage level at all times, irrespective of the demands of the ever-changing audio signal (Even when there is no audio signal in the circuit at all!), the Magnetic Field Amplifier's power supply is signal responsive. Highly efficient, it produces *exactly and only* the power needed to carry the signal with complete accuracy and fidelity.

The 130 watts-per-channel* CARVER Receiver is about the same size and weight of conventional receivers having merely 30 watts per channel!

NOISE-FREE RECEPTION: The AM-FM CARVER Receiver gives you FM stereo performance unmatched by that of any other receiver.

As it is transmitted from the station, the stereo FM signal is extremely vulnerable to distortion, noise, hiss and multipath interference.

However, when you engage CARVER's Asymmetrical Charge Coupled FM Detector circuit, the stereo signal arrives at your ears virtually noise-free. You hear fully separated stereo with space, depth and ambience!

"This receiver combines the best elements of Carver's separate tuner and amplifier... The Carver Receiver is, without question, one of the finest products of its kind I have ever tested and used. Bob Carver is definitely an audio and r.f. genius." *Leonard Feldman, Audio Magazine, June 1984*

"I consider the Carver Receiver to be the "most" receiver I have yet tested in terms of the quantitative and qualitative superiority of almost all its basic functions." *Julian D. Hirsch, Stereo Review, April 1984*

The CARVER Receiver has been designed for fidelity, accuracy and musicality. You will want to visit your CARVER dealer for a personal audition of this remarkable instrument.

***130 watts per channel RMS into 8 ohms, 20 Hz to 20 kHz with no more than 0.05% total harmonic distortion.**



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TECHNICAL TALK

has undergone a well-established quality-control procedure.

There is yet another pitfall in the early-production evaluation process, and this one is most likely to turn up with products of domestic manufacture, usually from smaller companies in which the engineering

Sometimes, for example, we find incorrect values for cartridge termination, wrong time constants, or even more serious flaws.

and marketing operations are not as distinctly separated as in larger companies. The designer may produce one virtually hand-made sample (or perhaps a few) of his new product and show it at the Consumer Electronics Show, where it attracts much favorable attention. If it is submitted for review, we sometimes find that numerous minor details have been executed poorly or totally ignored. Typical examples include inaccessible internal fuses (I once had to ship an amplifier on three round trips from coast to coast to have its fuses replaced, since they blew every time the outputs clipped), confusing control markings or operation, or other easily corrected goofs that no doubt will be (or should be) corrected in regular production. When that sort of thing occurs, we may give the product a less than enthusiastic review. It is probably unfair to what could turn out to be a good product, but we have to call them as we see them.

In the rapidly changing hi-fi market, it may be unreasonable to expect that many products will remain in production for much more than a year. But it does happen. When we review such long-lived units, they usually fare very well, probably because they were completely engineered, debugged, and documented *before* we received them, and the consumer who buys one can expect to get exactly what we tested. I personally enjoy testing and using such high-quality hi-fi components (which do not necessarily carry correspondingly high price tags, by the way), and I do not attempt to disguise my feelings about them. □

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Sony revolutionizes the compact disc revolution.

If there are still a few among you who have any lingering doubts as to who the leader in digital audio really is, consider the following:

On October 1, 1982, Sony* set the music industry on its ear with the creation of the world's first compact digital audio disc player.

Today, with over 30 companies joining the revolution, Sony is starting two others. The Car Compact Disc Player and the Portable Compact Disc Player.*

Combine that with the fact that the CDP-111, shown above, represents another addition to the world's largest family of

home compact disc players, and one thing should become abundantly clear:

While other companies are claiming advanced circuits, Sony has taken a somewhat different course.

Advanced products.

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*Initial supplies may be limited. © 1984 Sony Corp. of America. Sony is a registered trademark of the Sony Corporation, 1 Sony Drive, Park Ridge, NJ 07656. Optional headphones and battery pack case may vary where purchased.

CIRCLE NO. 74 ON READER SERVICE CARD



DIGITAL DYNAMITE FROM TDK.



TDK enters the digital recording era with a BANG! Introducing our exclusive HX-S metal-particle formulation for Type II (High-Bias) recordings. It delivers everything promised by metal tape—or any cassette deck with a Type II switch.

High frequency saturation ceases to be a problem since TDK HX-S is capable of an MOL of +4 dB at 10 kHz.

HX-S also delivers exceptional high-end response. Plus a wider dynamic range. With further improvements in overall sensitivity of up to 1.5 dB.

These superior recording characteristics make HX-S perfect for dubbing high-powered, treble-intensive digital source material with optimum results.

And TDK makes sure the performance never fizzles, with our specially engineered, trouble-free Laboratory Standard cassette mechanism for durability and reliability. Plus the assurance of our Lifetime Warranty.

So before you try any other cassette, pick up TDK HX-S, the first metal particle formulation for Type II (High-Bias) and digitally-sourced recordings.

It's absolutely digital dynamite

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CIRCLE NO. 48 ON READER SERVICE CARD

NAKAMICHI BX-300 CASSETTE DECK

Craig Stark
Hirsch-Houck Laboratories

To own a three-head cassette deck made by Nakamichi has long been the impossible dream of many a budget-bound audiophile. That dream can now become reality with the introduction of Nakamichi's BX-300, at \$650 its lowest-priced three-head deck. While the new machine obviously cannot include all the innovative features of its more costly line-mates, the BX-300 is not a compromised, stripped-down model. It is a dual-capstan deck that includes all the absolutely necessary features for topflight cassette recording. It is every inch a Nakamichi.

Nakamichi's tape heads and transport designs are in large measure responsible for the company's extraordinary reputation. For the user, separate record and playback heads provide the acid test of recording: the chance to compare the input signal against the recorded output instantly. For the designer,

At the 18-kHz upper limit of our test tapes, the playback signal had noticeably less fluctuation than with other decks, an indication of good mechanical design.

they afford the opportunity to optimize the widths of the record and playback head gaps. Using a wide record gap enables the signal to penetrate the full depth of the tape's magnetic coating during recording, and a narrow playback gap prevents treble losses during playback. In the BX-300 the record-head gap is 3.5 micrometers wide, the playback gap only 0.8 micrometer wide. Special



PHOTOS BY ROY SCHNEIDER

FEATURES

- Three-head deck with physically separate record and playback heads
- Asymmetrical dual-capstan diffused-resonance tape transport
- High-inertia brushless, slotless, coreless, direct-drive capstan motor with frequency-generator servo speed control
- Pressure-pad lifter
- Peak-reading level meters with 50-dB display range
- Dolby B and Dolby C noise reduction
- Bias fine-tuning control
- Switchable multiplex filter
- Tape-speed pitch control
- Headphone jack
- Output-level control sets line and headphone levels
- Dual-speed master-fader pushbutton

head "geometry" is also used on the playback head to reduce the "contour effect" and thereby insure a smooth response to very low frequencies.

A d.c. servomotor directly drives the take-up capstan, which is belt-coupled to the supply capstan. The two capstans have slightly different diameters and flywheels with different masses so that they do not have a common resonant frequency. The transport mechanism uses a combination of materials that further inhibits vibration, which can appear on the tape as wow and flutter.

The speed differential between the two capstans is used to set the tape tension across the heads (the supply side turns slightly more slowly), permitting Nakamichi to incorporate an exclusive feature other manufacturers would do well to emulate: when the tape is held against the playback head, a small protruding boss pushes the cassette's internal pressure pad back, out of contact with the tape. Although the pressure pad is needed in many tape decks to insure proper contact between tape and head, it is not necessary in a properly designed

transport, and eliminating its effect reduces "scrape flutter" and modulation noise.

In the BX-300, a separate d.c. motor is used to turn the reel hubs, and a third powers a cam mechanism that operates the brakes and head mechanism more smoothly and quietly than conventional solenoids do.

When tapes are loaded into the cassette well, power is briefly applied to the reels, taking up any slack. The cassette-well door is easily removed for head cleaning and demagnetizing, but it affords only moderate label visibility. While most tape decks today use sensors to detect the cassette type and set the appropriate bias and equalization automatically, the BX-300 retains the traditional Nakamichi pushbutton selectors. The front panel also includes a user-adjustable bias control, though any adjustment must normally be made by ear, since no built-in test generators are provided. The record-level indicators are ten-segment-per-channel peak-indicating LED's calibrated from -40 to +10 dB, which provides only fair resolution.

TEST REPORTS

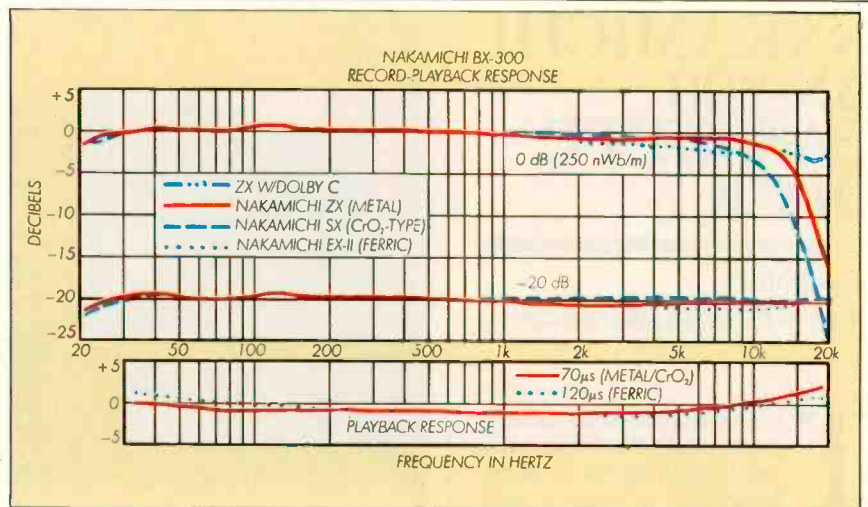
The dimensions of the Nakamichi BX-300 are 17 x 10 x 4½ inches, and its weight is approximately 12½ pounds. A rear-panel jack is provided for an optional remote-control accessory (RM-200). Price: \$650. Nakamichi U.S.A. Corp., Dept. SR, 19701 South Vermont Ave., Torrance, Calif. 90502.

Lab Tests

We measured the playback response of the BX-300 using our IEC-standard BASF ferric and CrO₂ calibrated tapes. It was very smooth, with the slightly rising response at the extreme high frequencies we have come to expect in decks that seek to obtain response out to 20 kHz. At the 18-kHz upper limit of our test tapes, the playback signal had noticeably less fluctuation than with most decks, an indication of good mechanical design.

While 20-kHz response is no longer the sole province of Nakamichi cassette decks, very few manufacturers attempt to maintain the kind of extended and flat low-frequency response the BX-300 provides. The S/N and wow and flutter were no less exceptional.

Overall record-playback response was measured using the Nakamichi EX-II (ferric), SX (chrome-equivalent), and ZX (metal) tapes supplied by the manufacturer. We have found these tapes to be extremely similar in performance to the top formulations of TDK and Maxell. At the -20-dB level used for frequency-response measurements the overall response from all three tapes was within +1, -1.5 dB all the way from 20 to 20,000 Hz. At the IEC standard 0-dB level, which is 4 dB above the level used for 0 dB on the



BX-300 and most other Japanese recorders, treble response fell off predictably in the upper octaves, as shown in the graph. With the Dolby C noise reduction turned on, however, the metal ZX tape was down by only 3 dB at 20,000 Hz. While 20-kHz response is no longer the sole province of Nakamichi decks, as it once was, very few manufacturers attempt to maintain the kind of extended and flat low-frequency response the BX-300 provides.

As the figures in the accompanying chart show, signal-to-noise ratios were exceptionally high, wow-and-flutter no less exceptionally low. Rewind and fast-forward times were better than average. Dolby tracking error was very low for Dolby B but slightly higher than usual with Dolby C owing to a 3- to 4-dB rise in response in the low mid-frequencies. As this error was at recorded levels of -20 to -40 dB, however, it was inaudible (besides being a characteristic that varies slightly from unit to unit). Overall

sensitivity was slightly greater than on most decks, and tape speed was absolutely exact.

Comments

There are many decks at the same price (and even lower) that will give you more features and gimmicks than the Nakamichi BX-300. None, however, is likely to give you better sound quality. Whether the explanation lies in the tape heads, the rock-steady transport, the disengagement of the pressure pad, or some other factor(s), there is a clarity and smoothness to the sound quality of the BX-300 that we do not often find in the cassette medium. And while we would have liked higher resolution around 0 VU in the record-level indicators, the human engineering is well nigh faultless as well. In short, if you've been dreaming about the quality deck you could never afford, wake up to the Nakamichi BX-300.

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HIRSCH-HOUCK LAB MEASUREMENTS

Fast-forward time: 68 seconds (C-60)
Rewind time: 69 seconds (C-60)
Speed error: none measurable
Pitch-control range: 7%
Dolby tracking error: +1 dB with Dolby B; +4, -1 dB with Dolby C
Wow-and-flutter: 0.016% wrms; 0.027% DIN peak-weighted
Line input for indicated 0 dB: 45 mV
Line output at indicated 0 dB: 0.71 volt
Meter indication at IEC-standard 0 dB: +4 dB

■ **Tape used: Nakamichi EX-II (Type I, ferric)**
IEC 0-dB distortion: 0.42%
Meter indication at 3% third-harmonic distortion: +8.5 dB
Signal-to-noise ratios (in decibels):

	Unwtd.	A-wid.	CCIR
NR off	51.2	56.5	53.3
Dolby B	59.4	65.9	63.8
Dolby C	62.5	73.3	73.5

■ **Tape used: Nakamichi SX (Type II, chrome type)**
IEC 0-dB distortion: 0.76%
Meter indication at 3% third-harmonic distortion: +7.8 dB

Signal-to-noise ratios (in decibels):

	Unwtd.	A-wid.	CCIR
NR off	54.0	59.5	56.6
Dolby B	60.4	68.4	66.9
Dolby C	63.0	75.8	76.6

■ **Tape used: Nakamichi ZX (Type IV, metal)**
IEC 0-dB distortion: 0.14%
Meter indication at 3% third-harmonic distortion: +13.8 dB
Signal-to-noise ratios (in decibels):

	Unwtd.	A-wid.	CCIR
NR off	59.0	65.6	61.8
Dolby B	66.0	73.7	72.1
Dolby C	78.0	81.0	81.8

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THE AUTOMATION OF MICROPROCESSORS

Music. To some it's just something to listen to. For others, it means a lot more. It's for those discrete listeners that Aiwa engineers designed the V-1100.

Consider the symmetry of individually designed components that work together as one. The result is more than the richest musical textures you ever heard. It's also a system that eliminates complicated wiring. And lets you record from up to 4 components, including CD (compact disc) and video. At the touch of a button.

THE PERFORMANCE OF SEPARATE COMPONENTS

Listen to the BX-110 power amplifier and hear the kind of power that translates to powerful bass and plenty of dynamic range.

The GX-110 pre amp includes a 7-band graphic equalizer. For total control over every musical frequency.

For flawless FM reception there's the TX-110 quartz tuner. Just touch a button and the TX-110 automatically searches the next available station or locks any one of 12 pre-settable stations.

Perhaps the V-1100's most sophisticated elements are its multi-function wireless remote control, FX-90 auto reverse cassette deck, and the LX-110 programmable linear tracking turntable. Plus there's syncro recording which lets you record any selection. In any order.

Still as good as all this sounds our SX-12 three way speaker system will make it sound even better. The Aiwa V-1100. If you're ready for it, it's ready for you.

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SHURE V15 TYPE V-MR PHONO CARTRIDGE

Julian Hirsch, Hirsch-Houck Laboratories



FEATURES

- Masar-polished Micro-Ridge diamond stylus tip
- Beryllium Microwall/Be tubular stylus cantilever
- High-efficiency magnetic structure with low-inductance coils for freedom from capacitance effects
- Dynamic Stabilizer brush to reduce the effects of record warp, remove dust, and reduce surface static charges
- Side-Guard stylus-protection system (withdraws stylus into body if excessive sideways force is applied)
- Precision jig for alignment of the cartridge in the turntable
- Recommended tracking force: 1 gram
- Recommended load: 47,000 ohms in parallel with 100 to 400 picofarads
- Weight: 6.6 grams

WHEN we originally reported on the Shure V15 Type V moving-magnet phono cartridge in 1982, we acclaimed it as the best all-around cartridge available at the time. Upgrading the Type V must have been a formidable challenge, but Shure's new V15 Type V-MR actually provides a substantial improvement in the tracking ability of what was already the best-tracking cartridge we knew of. It also retains the original's flat frequency response, low distortion, and Dynamic Stabilizer (a front-mounted antistatic dust brush that effectively damps the low-frequency cartridge/arm resonance to improve the tracking of warped discs).

The improvements derive from a new stylus assembly, the VN5MR.

When this is sold with the Type V body, the combination is known as a V15 Type V-MR cartridge. An older Type V cartridge can be upgraded to Type V-MR status simply by replacing its stylus with a VN5MR. The "MR" stands for Micro-Ridge, which refers to the special shape of the new stylus, a shape that provides a smaller tracing radius than the Hyperelliptical (HE) stylus used on earlier Type V's.

On a Micro-Ridge stylus a narrow ridge is formed along the tracing portion of the diamond stylus tip. This ridge, the only part of the stylus actually to touch the groove wall, has a playing radius of only 0.15 mil (thousandth of an inch), but its radius is 3 mils measured at right angles to the direction of stylus travel. While the new stylus has a

tracing radius 25 percent smaller than that of the original Hyperelliptical design, its radius along the slope of the groove wall is fully twice as large. The result is a distribution of the rated 1-gram tracking force over a larger area and a concomitant reduction of groove-wall indentation by the stylus—and thus a reduction in record wear.

Tracking ability (the ability of the stylus to stay in contact with the groove wall) during high-velocity excursions) is improved too. Shure's "total trackability index" (TTI) rating, which combines tracking ability with the relative indentation factor of the stylus, is its "figure of merit" for cartridge tracking. The MR version of the Type V has a substantially greater TTI rating than the HE version, which Shure had claimed to be the world's leading cartridge in that respect.

The Shure V15 Type V-MR tracked 100 micrometers at its rated tracking force with such a total lack of strain we have no doubt it could go considerably higher.

Like the V15 Type V-HE, the V-MR comes with an unusually complete array of installation aids and tools. Also included are a computerized printout of Shure's performance-verification measurements of the cartridge and a certificate redeemable for a copy of the Shure TTR-117 tracking-ability test record. Price: V15 Type V-MR cartridge, \$275; VN5MR replacement stylus, \$125. Shure Brothers, Inc., Dept. SR, 222 Hartrey Ave., Evanston, Ill. 60204.

Lab Tests

In testing the V15 Type V-MR we took the opportunity to retest the Type V-HE by the simple expedient of substituting a VN5HE stylus for the newer VN5MR. By using the same cartridge body and changing only the stylus assembly, we were able to assess the differences between the MR and HE versions without the effects of slight sample-
(Continued on page 39)

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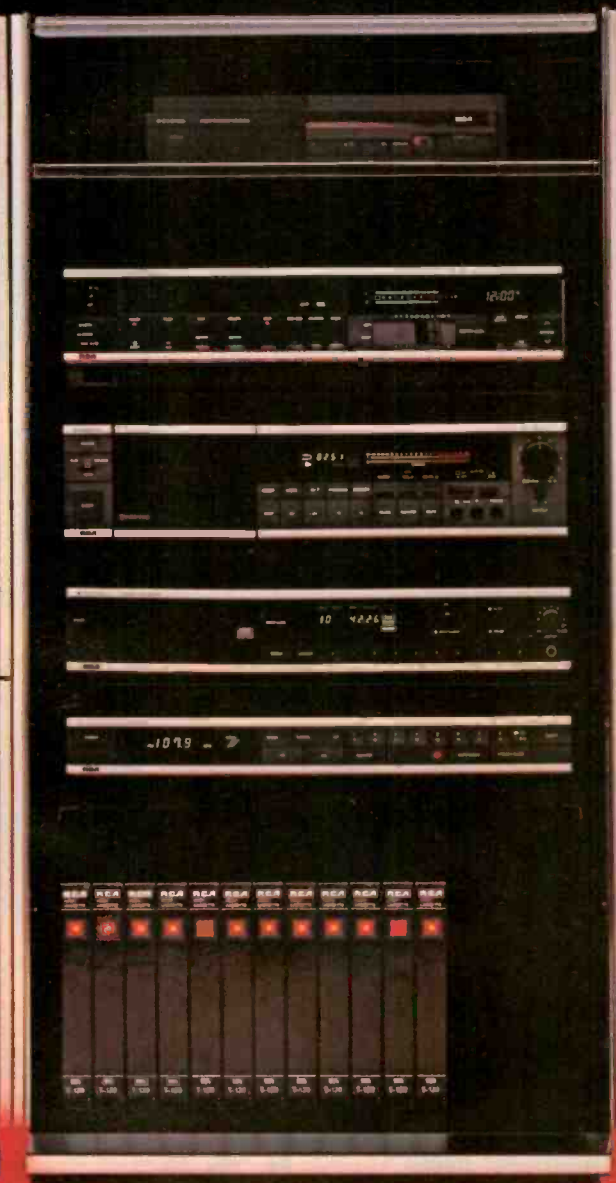
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HIRSCH-HOUCK LAB MEASUREMENTS

Note: Results in parentheses are for the VNSHE Hyperelliptical stylus, all others for the VNSMR Micro-Ridge stylus.

Frequency response (with CBS STR100 test record): 40 to 20,000 Hz +0.5, -1 dB referred to 1,000-Hz level (+0.5, -2.5 dB)

Tone-burst distortion (highest found with TTR-103 test disc), 0.67% at 30 centimeters per second groove velocity (0.8% at 30 cm/s)

Intermodulation distortion (highest

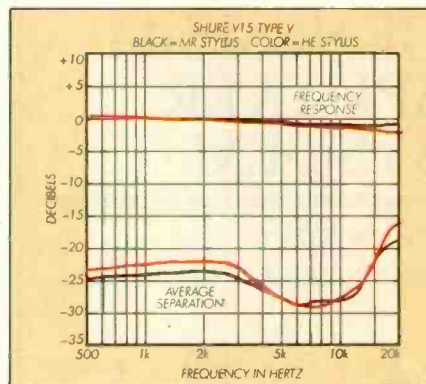
found with TTR-102 test disc): 2% at 27.1 cm/s groove velocity (3.0% at 27.1 cm/s)

Tracking ability (at 300 Hz with German Hi-Fi #2 test disc): 80 micrometers (60 μ m) at 0.75 gram tracking force; 60 μ m (40 μ m) at 0.5 gram

Output voltage (at 3.54 cm/s groove velocity, 1,000 Hz): 2.51 millivolts (2.68 mV)

Channel balance: 0.1 dB (0.0 dB)

Vertical stylus angle: 18 degrees (20 degrees)



to-sample variations among cartridge bodies or changes in tone-arm mounting and alignment.

For most of the tests (with both styli) we set the tracking force to the rated 1 gram (plus another 0.5 gram to cancel the upward force of the Dynamic Stabilizer). The frequency response was measured with load capacitances of 200 and 335 picofarads; the effect of capacitance changes on the high-frequency response was negligible, and we used the lower value in later testing.

We made the usual measurements of frequency response, cross-talk, output voltage, tracking distortion, tracking ability as a function of tracking force, and vertical tracking angle. All measurements were made using the Micro-Ridge stylus and repeated with a Hyperelliptical. (In the "Measurements" box the HE figures are in parentheses.)

Comments

As with our tests of the original V15 Type V, we find it difficult to avoid superlatives when discussing the new MR version. The two were very similar in almost all respects, although the MR had slightly flatter overall frequency response. Also, our attempts to measure tracking distortion, whether intermodulation or 10.8-kHz tone-burst distortion from the Shure TTR-102 and TTR-103 test records, were fruitless. The readings were so low, and so unrelated to recorded velocity levels, that we must conclude that they were the residual distortions of the test records or the test setup. Even a graph of the measurements would provide no further enlightenment.

There was one real, and most

impressive, difference between the two versions, however. The 300-Hz tones of the German Hi-Fi #2 test record, which could be played only up to the 70-micrometer level at 1 gram by the HE, were tracked without strain at the record's maximum level of 100 micrometers by the MR. When the force was reduced to 0.75 gram, the MR tracked 80 micrometers and the HE tracked the 60-micrometer level. At only 0.5 gram (well below the rated minimum for these cartridges), the MR tracked 60 micrometers, but the HE could track only up to about 40 micrometers.

To put this into perspective: by our standards, a true hi-fi cartridge should be able to track at least the 60-micrometer level of the German Hi-Fi #2 record at its rated tracking force. We have found a number of cartridges that could barely meet this standard. Only a few of the best can track as high as 100 micrometers at their rated operating force. The Shure V15 Type V-MR, on the other hand, tracked 100 microme-

ters with such a total lack of strain that we have no doubt it could go considerably higher if suitable test records were available. And, while we can see no real advantage to operating this cartridge below its rated 1-gram force, at 0.5 gram it can outperform most high-quality cartridges operating at 1.5 to 2 grams! (The latter force level is at the danger point in terms of long-term record wear.)

Most important, the V-MR sounds as good as it measures, with a notable lack of coloration and distortion. There are a few other cartridges that can do pretty much the same, but only on recordings whose peak levels are not excessive. The V15 Type V-MR, however, will perform superbly with *any* record we know of by virtue of a tracking ability that is (to our knowledge) unmatched in the industry. If you hear any distortion when using a V15 Type V-MR, the odds are very high that it is from the record, not the cartridge!

Circle 141 on reader service card



"... This toccata by Wanda Landowska sounds a wee bit fuzzy, Manchester. Try a little more spit on the stylus."

GENESIS 44 SPEAKER SYSTEM

Julian Hirsch
Hirsch-Houck Laboratories

A SURPRISING speaker, the Genesis 44. It certainly looks distinctive: the integral base of this two-way, floor-standing system tilts the cabinet back for best coverage of the listening area. If you don't like the leaning-tower look, however, the support angle can be changed to make the cabinet vertical. Adding to the speaker's unusual appearance are the broadly beveled front edges of the cabinet, which are angled back at 45 degrees in order to reduce diffraction effects that could alter the speaker's dispersion pattern.

Despite the Genesis 44's rakish bearing, unsnapping its beige cloth grille reveals an apparently unremarkable driver complement. Vertically aligned on the front panel (which, like the rest of the cabinet, is finished in walnut-grain vinyl veneer) are a 0.8-inch "hard dome" tweeter, a nominally 8-inch woofer,

The room-response curve of the Genesis 44 system was exceptionally uniform and smooth, one of the most nearly ideal that we can recall making.

and a 10-inch passive-radiator cone to augment the lowest frequencies. The stiff, treated-fiber woofer cone provides a mechanical low-pass crossover action, and both low-frequency cones have compliant-edge surrounds to allow the large, linear cone excursions necessary for good bass output with low distortion. At 1,100 Hz there is a crossover to the ferro-fluid-cooled tweeter. The dome shape of the tweeter is described as "double inverted," although there is nothing visible ex-



ternally to explain this unusual nomenclature.

The speaker has no external level or balance adjustments. An amplifier power of at least 30 watts per channel is recommended to drive the Genesis 44's nominal 6-ohm impedance. Insulated spring clips for wire connections are recessed into the rear of the cabinet, which measures 31½ x 18 x 8⅞ inches. Each speaker unit weighs 42 pounds. Although appearing laterally symmetrical, the speaker units are identified as "left" and "right." Price: \$700 per pair. Genesis Physics Corp., Dept. SR, Newington Park, Newington, N.H. 03801.

Lab Tests

The manufacturer suggests placing the Genesis 44 speakers a couple of feet from the wall, and their normal tilt to the rear makes this an obvious choice. We measured the room response from a pair of speakers located as recommended.

For quasi-anechoic FFT response measurements, we placed a single speaker cabinet well away from the room walls with the microphone 1 meter in front of the grille. Low-frequency response and distortion were measured at frequencies between 100 and 25 Hz with the microphone as close as possible to the driven cone (and again close to the passive cone). The drive level for the distortion test was 4 volts, the input required in the midrange to produce a 90-dB sound-pressure level at 1 meter from the front of the speaker.

The respective bass-response curves for the driven and passive cones were combined with due allowance for their relative areas, and the combined curve was spliced to the smoothed and averaged room-response curve, corrected at high frequencies for the known absorption properties of the room. The resulting composite curve was exceptionally uniform and smooth. Between 200 and 15,000 Hz, the

TEST REPORTS

variation was a mere ± 2 dB, making this one of the most nearly ideal loudspeaker room-response measurements we can recall making.

The high-frequency room-absorption correction lifted the curve between 10,000 Hz and 20,000 Hz by about 5 or 6 dB. The axial frequency response, measured with our IQS 401L spectrum analyzer, confirmed the reality of this effect. The FFT axial response was within 5 dB overall from 180 to 17,000 Hz (or to 20,000 Hz if the broad maximum between 17,000 Hz and 20,000 Hz was disregarded). The output dropped rapidly between 20,000 and 24,000 Hz. Response curves made on axis and 45 degrees off axis were very close up to 7,000 Hz, differing by only about 6 dB in the vicinity of 15,000 Hz. The phase characteristics of the Genesis 44 were excellent.

The power-handling ability of the speaker was measured with short low-duty-cycle tone bursts (typically 2 cycles on and 64 or 128 cycles off) at 100 and 1,000 Hz. The acoustic-output waveform from the speaker did not differ significantly from the electrical driving waveform for inputs up to 500 watts at either frequency (based on the actual 4-ohm impedance we had measured at these frequencies). We usually extend this measurement to 10,000 Hz, but apparently the small dome tweeter was not able to absorb the average input of several watts—its voice coil burned out. We hasten to point out, however, that this was hardly the fault of the speaker, since at the point when the tweeter burned out we were applying a burst amplitude of somewhere around 50 volts rms, which translates to about 350 watts!

Comments

Fortunately, we usually listen to a product at some length before testing it, so our testing mishap did not affect our listening evaluation of the Genesis 44. Within a few seconds of starting to listen to these speakers, it was evident that the Genesis 44 is not a "typical" two-way speaker. In

HIRSCH-HOUCK LAB MEASUREMENTS

Frequency response: 20 to 20,000 Hz ± 5 dB

Sensitivity: 87 dB SPL at 1 meter with 2.83 volts input (1 watt into 8 ohms)

Impedance: 4 to 15 ohms from 20 to 20,000 Hz (4-ohm minima at 100 and 1,000 Hz)

Group-delay variation: ± 0.1

millisecond from 2,000 to 20,000Hz

Bass distortion (at level needed for 90-dB SPL at 1,000 Hz): 100 Hz, 1.5%; 25 Hz, 5%

Maximum power input (4-ohm impedance): 100 Hz, 500 watts; 1,000 Hz, 500 watts; 10,000 Hz, 350 watts (estimated, see text)

fact, the sound we heard from the system transcended anything that might have been inferred from our measurement data.

From the response curves and distortion measurements, it would be natural to conclude that the Genesis 44 is a smooth, uncolored speaker with a very wide-range response and considerably above-average dispersion qualities. Well, it is certainly all of that, but it is much more besides. The Genesis 44's created an unmistakable feeling of depth in many stereo programs that was simply lacking in the sound of other speakers with which we compared them. This was the sort of effect we might have expected to hear from speakers having unconventional radiation patterns designed to create such a spatial characteristic. Despite its unconventional appearance, however, in many respects, including price, the Genesis 44 is about as conventional a

speaker as you are likely to find. It does have outstanding phase coherence and dispersion characteristics, but these are among the expected benefits of the basically two-way design with an apparently

simple crossover system, the very small-diameter tweeter, and the beveled cabinet edges, which are known to reduce diffractions.

The Genesis 44's created an unmistakable feeling of depth in many stereo programs that was simply lacking in the speakers we compared them with.

Whatever the reason(s), the Genesis 44 proved to be a system to which we could listen indefinitely without being reminded that we were listening to loudspeakers. There are relatively few speakers that we have been reluctant to return to the manufacturer after testing them. The Genesis 44 is one of that small group.

Circle 142 on reader service card



"Maurice, listen to me! I spoke to your wife, and she said she was wrong when she said you should have your head examined for paying \$5,500 for a 25-watt mono tube amplifier, and she wants you to come home and demonstrate it to her, and your old friend Joe Buckley brought over an old Mantovani LP that he's dying to hear you play on it."

DENON DP-37F TURNTABLE

Julian Hirsch, Hirsch-Houck Laboratories



FEATURES

- Two-speed direct-drive design
- Low-mass, dynamically balanced, straight tone arm (effective length 220 mm)
- Microprocessor-controlled tone-arm movement
- Electromechanical damping of arm/cartridge low-frequency resonance
- Electronically applied tracking force and antiskating compensation
- Automatic, repeat, and manual playing modes
- Operating controls accessible with the dust cover lowered
- Quartz-referenced turntable speeds

MOUNT any cartridge in a tone arm, and the two will resonate together at a very low frequency. The arm/cartridge resonance can affect the low-end response of a phonograph system through a rumble-emphasizing boost of the very lowest frequencies. In bad cases the resonance can make the system more susceptible to skips from warped records or external vibrations.

The best way to combat such resonance is to damp it out. Some car-

tridges use a special brush to perform this function. Another route is to damp the tone arm electromechanically. This latter is the path Denon chose for its DP-37F, a fully automatic direct-drive turntable with a microprocessor-controlled tone arm whose low-frequency resonance is damped in both the vertical and the horizontal planes by an electrical servo system. Aiding the electronics in controlling the influence of external vibrations are four softly sprung mounting feet.

The dynamic operation of the DP-37F's straight-line tubular tone arm is fully controlled by its servo system. With the power off, the arm and cartridge are initially balanced by rotating a conventional threaded counterweight, but all further tracking adjustments are applied electronically by turning one of the two knobs recessed into the arm base.

The DP-37F is very stable: a vigorous blow on the turntable's base or dust cover was required to dislodge the stylus from the record groove.

One knob controls the vertical tracking force and simultaneously adds the correct amount of antiskating bias. It is calibrated from 0 to 3 grams at 0.1-gram intervals. The other knob, which carries identical calibrations, is the Q-DAMPING adjustment.

According to Denon, the amount of electronic damping required to control the amplitude of the low-frequency arm/cartridge resonance is a function of the cartridge's compliance. Since this parameter is not ordinarily known by the user, the damping control is calibrated and set to match the tracking force. The rationale for this is that, all else being equal, the required tracking force is inversely proportional to the stylus compliance, while the resonance frequency is inversely proportional to the square root of the compliance. Theoretically, the internal damping built into the cartridge and arm pivots should also be considered, but since in practice the servo damping need only be approximately correct for substantial benefits, the Denon engineers opted for the simplified adjustment of the control.

The Denon DP-37F can be operated as a semi-automatic turntable if desired, since lifting the tone arm from its rest also starts the turntable motor. However, simply pressing the start button causes the arm to move slowly toward the platter, which starts rotating just before the arm reaches it and is at correct speed by the time the cartridge is lowered to the record surface. At the

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HIRSCH-HOUCK LAB MEASUREMENTS

Flutter: 0.08% JIS-weighted rms; ±0.08% DIN-weighted peak	over range of control (0.3 grams)
Rumble: -40 dB unweighted; -62 dB ARL-weighted	Total capacitance of arm and cable: 130 picafarads
Tracking-angle error: maximum of 0.5 degree per inch at 4-inch radius	Antiskating compensation: correct
Tracking-force calibration error: none	Speed accuracy: exact
	Automatic cycle times: start, 8 seconds; stop, 6 to 9 seconds

end of the record (or whenever the stop button is pressed) the pickup rises and returns to its rest, shutting off the motor. Alternate operations of the lift button raise and lower the pickup.

The Denon DP-37F has a handsome vinyl-veneer wooden base and a hinged, slightly tinted plastic dust cover. It measures 17 inches wide, 16 inches deep, and about 5¾ inches high, and it weighs approximately 16½ pounds. Price: \$325. Denon America, Inc., Dept. SR, 27 Law Dr., Fairfield, N.J. 07006.

Lab Tests

Denon's instructions state in one place that the cartridge weight should be between 4 and 6 grams (including mounting hardware) and in another that it should be between 4 and 9 grams. Since we had no difficulty in balancing our 6½-gram test cartridge, we assume that the wider range is correct. A plastic overhang gauge is supplied for setting the cartridge's position in the headshell. The measured tracking error of the installed cartridge was low and consistent with values computed from the arm dimensions.

It was not possible to measure the arm's effective mass directly, since the turntable must be on (and rotating) in order to have any downward force applied by the arm servo, and our arm-mass test fixture is not designed for operation on a rotating platter! However, the low mass of the arm could be inferred from the nearly ideal 10-Hz resonance of the

arm/cartridge system. With our ultra-low-frequency test record, the resonance was barely visible as an arm vibration when the Q-DAMPING control was set to zero. Near the upper end of the damping-control range, the arm vibration was too slight to be visible. It was apparent that this adjustment is completely non-critical and that the dial can safely be set to match the vertical force or slightly higher.

The turntable speed was exact, and it was unaffected by line-voltage fluctuations or normal load changes. Rumble was low, and so was flutter, which measured approximately the same with DIN or CCIR (quasi-peak) weighting and with JIS (rms) weighting. The tracking-force-linked antiskating compensation appeared to be optimum, and the arm's lateral position did not shift significantly when it was raised or lowered by the lifting mechanism.

The Denon DP-37F showed remarkable insensitivity to the shaking or bouncing that can occur when a turntable's supporting surface is not sufficiently stable. Most turntables are unable to track in such an environment, but the DP-37F seemed to be immune to the sort of jarring that can result from careless operation of its controls. Even a strong rocking or shaking action

had no real effect on the record playing—there was not even a transient "wow," which such an action will produce with almost any belt-driven turntable. A vigorous blow on the turntable's base or cover was required to dislodge the stylus from the groove.

This was a most convincing demonstration of the effectiveness of the arm-damping servo at the lower infrasonic frequencies. The soft mounting feet provided only average isolation from conducted vibration at audio frequencies or in the upper infrasonic range.

The automatic operation of the DP-37F was flawless, if somewhat leisurely. The start/stop cycling times gave the subjective impression of being longer than our stopwatch indicated, perhaps because of the overall quietness and smoothness of the player's operation.

Comments

The styling and finish, as well as the performance, of the DP-37F were in keeping with the image of quality that Denon has established. Our only (very minor) criticism concerns the unusually stiff control-button action. After all those "feather-touch" controls we have encountered over the past few years, it was disconcerting to give a light tap to the start or stop button or the arm-lift button and receive no response. It takes a strong, positive pressure to operate these controls, which close with a very positive (and audible) click. You're not likely to select the wrong function by accident.

As we see it, the strongest point of the DP-37F, the one that distinguishes it from most other fine turntables, is the effective servo-control of its arm dynamics. This feature simultaneously reduces the low-frequency arm/cartridge resonance and makes the player nearly immune to the jarring associated with operating its controls or that can result from a less than optimally rigid supporting surface. The DP-37F is a fine record player whose performance matches its good looks and ease of operation.

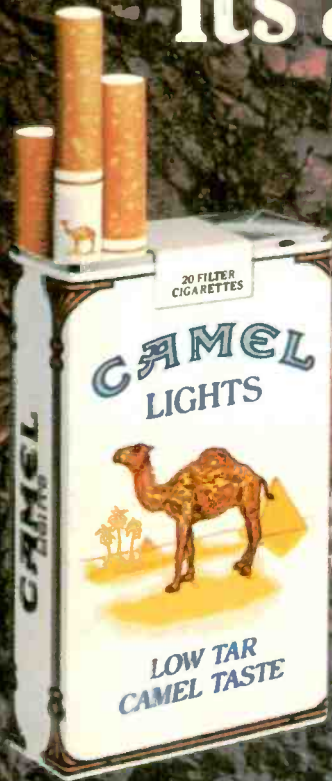
Circle 143 on reader service card



"Well, frankly, Irwin, it's your height. You're not even as tall as my speakers, and even they are the bottom of the line."

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BUYERS' GUIDE TO *Receivers*

by Ian G. Masters

Shunned by purists, the AM / FM stereo receiver has been one of the most popular hi-fi components of all time—for the good reason that it makes sense



*T*andberg's "receiver" is actually a TPT 3011A tuner and TIA 3012 integrated amp unified by solid rosewood end panels and common styling. Price: \$1,755.

THE receiver, which incorporates several components in one chassis, appeals to different buyers for different reasons. For the first-time buyer it reduces the number of choices he has to make in assembling a component hi-fi system. For anyone on a budget it is a good buy because the use of one chassis for several functions is economical. For a person with limited space a receiver is easier to install than separate components, and it takes up less room. Even for an experienced audiophile the receiver's many virtues will make it the logical choice for the center of his secondary system.

But there's a certain snobbishness among some high-end audiophiles when it comes to the receiver. Perhaps it's because the audio manufacturers seem to make things too

easy by combining all the electronics most people need in one component, removing some of the challenge of putting together an audio system. Perhaps it's just that an all-in-one piece of equipment makes so much sense that in the minds of purists it simply *can't* perform as well as a system that has been put together with a lot of experimentation and sweat.

In spite of such attitudes, however, in the real world the receiver constitutes the most common way to buy audio electronics, and the industry has responded by producing a bewildering variety of models. Choosing the one that is right for your purposes can be an exercise in frustration, but as with anything else in audio, a process of elimination can make the selection more manageable.

*J*ensen's AVS-1500 audio / video receiver has a TV tuner as well as AM and FM. Price: \$990.

*C*arver's "The Receiver" has a magnetic field amp with 130 watts / channel and the company's unique FM tuner circuitry. \$749.



JVC's R-X500B is a microprocessor-controlled AM / FM receiver with a 100-watts / channel amp. It also has a five-band, five-memory graphic equalizer, 15 AM and 15 FM presets, a remote control, and pushbutton controls. Price: \$650.



The first thing to consider is whether you need a receiver at all. By a long-standing, if illogical, convention, a unit that *only* receives radio signals is called a "tuner," and the term "receiver" refers to a unit that in addition to receiving radio signals also includes a power amplifier and a preamplifier to handle signals from turntables, CD players, tape decks, and video players.

Chances are, if you are putting together a system from scratch, a receiver is the most practical thing to buy. But if you have no interest in FM or are in an area without adequate FM coverage, you would be better off buying an integrated amplifier, which is the same thing without the tuner. If you are much interested in AM, you're better off with a separate radio because the AM sections of most receivers are pretty terrible, but AM stereo may change that to some extent.

If you have a requirement for large amounts of power, that is the one thing that might make a receiver an inappropriate choice. There was a time when a number of manufacturers produced receivers that pumped out several hundred watts per channel, but the market for them proved to be so small that the companies quickly reverted to more modest wattages—rarely more than a hundred watts or so per channel. This is entirely adequate for most people, but if you need to produce wide dynamic range with very inefficient speakers in a huge room, then a separate power amplifier is probably the answer.

Assuming that your demands are more or less modest, and that a receiver is the most sensible format in which to buy your electronics, several general points should be borne in mind before you actually start shopping. The first is that you really make no sacrifice in quality by choosing a receiver over separate components in the same general total price class. Electronic technology has long since arrived at the point where the finer points of amplifier and tuner design are well known and relatively inexpensive to execute, so the performance you can expect from most receivers will be almost as good as that of better-quality high-end components. (And even there, the differences, where they exist at all, are not huge.) If a dealer starts talking about the particular "sound" of a receiver, it's time to find one who knows what he's talking about.

By long-standing, if illogical, convention a "receiver" not only receives radio signals, but it also includes a power amplifier and a preamplifier.

The manufacture of receivers—unlike some other components—requires a large investment in design and production facilities. Therefore, only the major companies are equipped to enter this market. The likelihood that any one of them would turn out a really sub-

standard product is very slim indeed. There are differences between brands, of course, but in choosing a receiver you will want to give a lot of attention to *what* it will do, not just how well it does it—the features, not just the specs.

Since differences do exist, there are some specifications that are important in receivers. While most units will meet what we would consider minimum hi-fi specs, some will not, and others may far exceed them. When evaluating a receiver's performance, independent tests (such as those that appear in STEREO REVIEW) can be very useful, and reprints of these are often available from dealers. Bear in mind, though, that manufacturers will only reprint reviews of models that perform well in tests, so a visit to the local library may give you a better perspective on how a given brand or model stacks up.

Whether you read test reports or the manufacturer's own specifications, you will be confronted by a mass of information that can be very confusing, particularly if your knowledge and interests are not primarily technical. Much of the data can safely be bypassed: things like distortion, noise, capture ratio, and so forth are commonly sufficiently good that they will not be cause for rejecting a unit.

One spec that may or may not be important to you is the sensitivity of the FM tuner section. If you live in a major urban center and listen primarily to local FM stations, then FM sensitivity is relatively unim-

*M*arantz's SR 940 receiver has an AM stereo (Motorola system) tuner as well as an FM stereo one. It also has remote control, a 100-watts/channel amp, a second auxiliary input, a highly selective tuner, and distinctive gold styling. Price: \$640.



portant—most signals will come booming in strongly enough that even a low-sensitivity front end will be good enough most of the time. But sensitivity can be important if you are situated in a fringe area or want to listen to stations some distance away.

Sensitivity is measured in terms of the amount of noise (or hiss) in the signal because an FM signal gets quieter as it gets stronger. The more sensitive the tuner, the smaller the signal required to produce an acceptably low noise level. Originally, a 30-dB signal-to-noise ratio was considered adequate for specification purposes, and most modern receivers can routinely produce this level with signals of less than 2 microvolts (μV).

This method of measuring sensitivity has several drawbacks, however. The first is that the 30-dB reference point is, after all, a very noisy level. Second, the measurement refers to a mono signal in a time when virtually all FM is stereo (and stereo is inherently a much noisier proposition). And third, the rating in units of microvolts presupposes an antenna impedance of 300 ohms in a time when it is generally preferable to use the 75-ohm input available on most tuners.

A more useful way to rate sensitivity is to raise the reference level to 50-dB and make the measurement in stereo as well as mono. The figure will typically be only a microvolt or two higher in mono, but in stereo the spec will often exceed 40 μV (300-ohm input) for the same

tuner. To overcome the ambiguity caused by different antenna impedances it is better to rate sensitivity in units called dBf—that is, decibels referred to 1 femtowatt (one quadrillionth of a watt, or 10^{-15} watt).

Buy as many watts as your budget will stand, because the greater dynamic range of today's recordings makes big demands on peak capability.

Most receivers will have a 30-dB sensitivity (sometimes called *usable sensitivity*) of between 10 and 15 dBf, with the mono 50-dB quieting sensitivity running 2 or 3 dBf higher. Typical stereo 50-dB quieting-sensitivity figures will be around 35 to 40 dBf.

The frequency response of the FM section is usually specified as well, and it should not deviate by more than 1 dB. Beware of one possible misconception with this specification: some manufacturers, to be consistent with other frequency-response measurements, specify it from 20 Hz to 20 kHz; others specify a narrower band, from 30 Hz to 15 kHz. The latter may look like inferior performance to the uninitiated, but it's not. The FM signal itself only extends from 30 Hz to 15 kHz, so quoting response for that band is adequate.

Another tricky one sometimes is FM channel separation. In theory, this is a reasonable thing to specify

because the tuner has to do some neat tricks to derive true stereo from what comes over the air. But psychoacoustic tests have shown that 20 dB is enough channel separation for proper stereo imaging and localization. The 20-dB figure is fairly easy to achieve at 1 kHz, where most manufacturers measure it. Much more difficult, and therefore more revealing as a specification, is a similar measurement at, say, 10 kHz.

Two specifications relating to the phono input are worth keeping an eye on as well. Frequency response here (as opposed to the overall response of the receiver) represents the phono preamp's ability to create an accurate inverse of the standard RIAA recording curve, which is used by record companies to reduce surface noise and to cram as much as possible on a disc. If the receiver's phono response isn't within a decibel or less of the curve, then flat response elsewhere in the unit will not help matters, at least when playing records.

The other thing to look for is an adequate phono input overload level. A phono cartridge produces a very low output when coasting along with "average" program material—in the neighborhood of 2 millivolts—but musical peaks can make momentary demands many times greater, particularly with digitally mastered recordings. If the input preamp has insufficient overload level, it will distort on peaks right at the start, and nothing that happens later in the chain will clean



enon's DRA-750 is a 70-watt digital-synthesis receiver with variable bias for Class A operation at low power levels. Price: \$550.



ansui's S-X1130 is a 130-watt audio/video receiver with video signal processing and jacks for two VCR's and a VDP. Price: \$950.



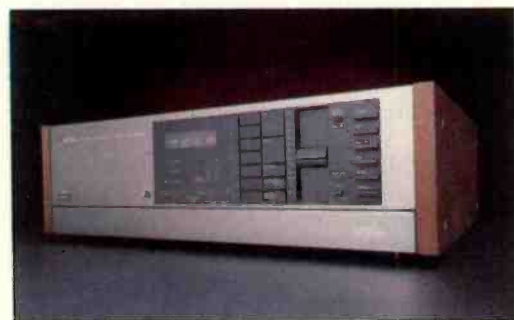
DS's Atelier R1 shows its European origins in its styling. It has a 35-watt amplifier section and an analog tuner. \$500.



it up. Look for a minimum input overload level of 80 to 100 millivolts.

One specification that is always of great interest is power output. The number of watts you will need to drive your speakers depends on the efficiency of those speakers, the size and relative "deadness" of your listening room, and to a certain extent the sort of program material you are planning to play.

As a general rule, you should buy as many watts as your budget will stand. This is partly because the much greater dynamic range of today's recordings makes larger demands on an amplifier's peak capacity than in the past (particularly if you're into Compact Discs). For an average listening level, the amp may be putting out only a couple of watts, but a 20-dB peak—not at all unusual in music—will create a momentary power wattage demand one hundred times as great. Even a bare-



Kenwood's R-851, 85 watts per channel, has MOSFET output transistors, a parametric equalizer, and a digital tuner. \$855.



Onkyo's TX-85 Integra receiver is rated to deliver 80 watts per channel. Its features include a dynamic range expander, dbx encode and decode circuits, a synthetic stereo simulator, DNR noise reduction, and a digital-synthesis tuner with sixteen presets. Price: \$620.

ly perceptible increase of 3 dB requires double the number of watts. More to the point, however, is the fact that you really have to work hard to blow a speaker by overpowering it, but tweeters are notoriously intolerant of being under-powered. A low-powered amp is likely to be clipping much of the time, and clipping generates a lot of high-frequency harmonics as well as a lot of mechanical stress as the coil tries to follow the distorted signal. Eventually the coil fries or the tweeter fails mechanically. A high-powered amp will be producing a small number of watts most of the time, but it will be clean even on peaks. Many receivers include specifications for momentary peak power and dynamic headroom that indicate the ability to handle the short-term power surges.

Your power requirements will identify the segment of the receiver market you should be looking at, at least roughly. There are receivers at practically every output level, but there is little point in being too precise about how many watts you require. The difference in maximum output between a 50-watt receiver and a 100-watt receiver is only 3 dB, after all, so splitting hairs trying to choose between a 45-watt unit and a 50-watt one is pointless. Most people find 40 to 60 watts adequate, so, unless you have critical demands, that is not a bad range to start looking in.

The power you choose affects

more than just the receiver's performance. In the first place, manufacturers generally add more features to their receivers as they ascend the wattage scale, so if you have unusual operational demands, you are probably going to have to invest in higher output to realize them. Second, audio companies usually price their receivers on the basis of their power output, and the nominal price you will pay for a given number of watts will generally be pretty consistent from brand to brand. Therefore, in choosing a receiver, you have to go through a kind of balancing act between price and features within any given wattage range.

So far, the only thing that has reduced the choice has been output power: specifications, while important, are rarely out of line, and prices—list prices, at any rate—tend not to vary too much, so you are likely to be pretty safe whatever you choose.

Other factors do come into play, however. The availability of certain brands can be important, for instance. If you live in a smaller community, with a relatively small selection of audio stores to choose from, you would do best to pick brands that are available locally. Also, if you are purchasing other components or speakers along with a receiver you can usually bargain for a favorable package deal. On the other hand, you may want to take advantage of a particularly good

*P*ioneer's SX-V90 audio/video receiver has 125 watts/channel, the company's proprietary DDD tuner circuitry, and switching for two VCR's, a video disc player, TV, and a video monitor. It also has the usual audio switching. Price: \$800.

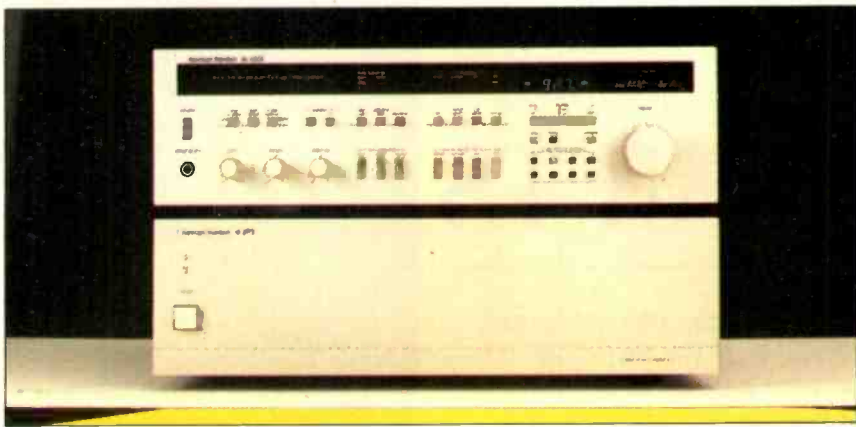


*R*adio Shack's Realistic STA-2500 receiver, 100 watts per channel, has digital-synthesis tuning, twelve station presets. \$499.95.



*T*echnics' SA-550 70-watt receiver has TV sound tuning in addition to AM and FM. It also has simulated stereo and a jack for an add-on stereo TV decoder. \$450.





*A*rman Kardon's hk-690i AM / FM receiver is rated at 60 watts, and for more power you can add the 100-watt hk-870 amp. The hk-690i is priced at \$675, the hk-870 at \$400.



*Y*amaha's R-100 AM / FM 100-watt receiver features a five-band equalizer with five memory settings, ten presets, digital-synthesis tuning, and infrared remote control. \$800.

price at a certain store, or with a particular line, and this is worthwhile if it means that you can buy a slightly better unit or upgrade some other part of the system. Or you may simply have had good experience with a particular name and want to stay with it—that's the best recommendation of all.

After picking a wattage range, a price range, and an acceptable group of brands, you should be fairly close to a decision. Some physical considerations may be appropriate at this stage. What a receiver *looks* like should not, perhaps, be a factor in your choice, but it inevitably will be. The unit will form part of your decor, and it should fit in as well as possible. The same is true of the receiver's size: a unit that is too large may cause practical problems in your listening room, while an unusually small one may cost more than a "standard"-sized receiver that performs similarly.

Finally, probably the most important aspect of a receiver is what it allows you to do. The range of possible features that can be included in a receiver is huge, and you have to decide before you make your final selection just what uses you are going to make of your equipment.

If, for example, you expect to do a

lot of tape copying, your choice will have to be restricted to units that accept two or more tape decks and provide for dubbing between them. If you have a hi-fi VCR, it will need its own tape loop. Or if you own a substantial number of older records that are in less-than-pristine condition, you may want to consider a built-in graphic equalizer or at least a low-pass filter switch. Your radio habits might determine how many station presets you want.

Future considerations also come into play here. Are you likely to be interested in AM stereo? Do you need extra aux inputs for a CD player, a video-disc player, or another line-level source? How about a built-in TV-band tuner? Do you prefer knobs or pushbuttons? Is remote control a necessity? Extra speaker outputs? The list is almost endless, and practically any combination of features is available from someone, probably at about the price you are prepared to pay.

It's not easy to make a choice because there is such a variety of receivers available. But the variety is really no more than a confirmation that buying a receiver is a sensible and convenient way to buy electronics, whatever some audio purists may think. □



HOLIDAY GIFTS

—For Audiophiles—

TRYING to settle on a suitable Christmas gift for a music-loving audiophile can be risky. It's a little like picking out a tie for a man, who will wind up wearing it only when he sees you coming (if then), or a perfume for a woman, who will look upon the particular brand you've selected as fit only for a call girl.

To reduce the risk of buying gifts that fail to please, we have asked our editorial staff and regular contributors to recommend items they have enjoyed or found useful. We ruled out major audio components because of their expense and because most people would rather select those for themselves.

The result is a list of records, books, and accessories, each of which has the personal endorsement of at least one of the music-loving audiophiles on our staff. While reading it you may well find something with which to reward yourself at holiday time. You've been good, haven't you? *The Editors*

Barbara Aiken,
Editorial Assistant

I recommend the Mini-Vac cleaner. It's a lightweight vacuum cleaner that is perfect for cleaning delicate things like records, stereo and video equipment, typewriters, lenses, negatives and jewelry. It can be a.c. or d.c. powered. It is compact, portable, and versatile. Price: \$29.95.

Chris Albertson,
record reviewer

I wouldn't be without a portable Halon fire extinguisher. As hi-fi grows in the home to include video and perhaps add-on computer equipment, there may be a risk of electrical fire from inadequate wiring. Halon fire extinguishers come in three sizes from \$59.95 to \$99.95. They will not damage sensitive electronic or mechanical equipment, and they require no clean-up.

Christie Barter,
Music Editor

The only record album I received as a gift last Christmas is one that has given me a lot of pleasure during the year, and I believe it would make someone on your list happy as well.

It is an album of glorious singing by Elisabeth Schwarzkopf, on five discs spanning over twenty-five years of the soprano's phenomenal recording career. Beautifully packaged by EMI's French company, Pathé Marconi, under the title "Les Introuvables" (EMI 1546133), the set is available as an import for \$44.90 from International Book and Record Distributors, 40-11 24th St., Long Island City, N.Y. 11101.

For the CD collector I'd suggest the Nagaoka Compact Disc cleaner (\$29.95), which does an equally good job on video discs.

Louise Boundas,
Managing Editor

"Charlie Parker on Verve, 1946-1954" is a ten-disc set of bop improvisations, in beautifully remastered mono, that goes a long way toward explaining the alto saxophonist's legendary status. The Verve set, a Japanese import that lists for \$99.80, would make a lavish present for any serious jazz collector.

When you invest a lot of money in your records, it's certainly worthwhile to invest a little time in taking care of them. A couple of swipes with the Decca record brush, which boasts "1,000 bristles for every



groove," takes only a couple of seconds. A British import, the handsome little brush is available in local record and equipment stores for \$17.99. It will get less of a workout if you also invest in antistatic record sleeves. Nagaoka provides these in packages of fifty for \$12.

One of the best gift books around this season is Jonathan Cott's *Dylan* (Rolling Stone Press/Doubleday,



SUSANNE BUCKLER

\$35). Wonder what Dylan would have said in, say, 1962 if anybody had predicted he'd be the subject of a *coffee-table* book?

Bill Burton,
Associate Editor


Don't let Compact Discs get you into bad habits. Take care of your fragile LP's with the Discwasher

Disckit record-care system. It includes the cleaning brush, fluid, the Zerostat antistatic gun, and the SC-2 stylus-care system. All this for only \$55. Parts of the system are also available separately. The Zerostat alone, for example, costs \$23.

If you want to mount your speakers on the wall so they can swivel and direct sound where you want it, take a look at the brackets made by

Pivotelli. They allow speakers to be positioned for optimum imaging without taking up floor space. Prices: \$39.95 to \$59.95.

The AT 605 audio isolation feet from Audio-Technica can prevent vibrations from bothering your turntable. The feet are adjustable for height, and the kit includes a bubble level. The set of four feet costs \$29.95.



Richard Freed,
record reviewer

The new autobiography *Galina, A Russian Story* by the great Russian soprano Galina Vishnevskaya (Harcourt Brace Jovanovich). It is no mere recitation of career triumphs and backstage gossip, but a powerful and personally detailed report on the conditions of musical life in the Soviet Union. The portraits of Shostakovich, Prokofiev, Bulganin, mezzo-soprano Elena Obraztsova, et al., as well as Vishnevskaya's husband, Mstislav Rostropovich, have a close-up sharpness that makes them unforgettably real. And so does the gutsy chronicle of her own artistic pilgrimage. This is not an "as told to" book but one that reminded me of what Verdi wrote once about Manzoni's novel *I promessi sposi*: "It is a true book; it is as true as truth." Price: \$19.95.

I'm still very happy with the LAST record-care system (\$29.95), which with its liquid cleaners and preservative restores and seals in the quality of LP's and 45's.



Phyl Garland,
record reviewer

Wynton Marsalis's latest record, "Hot House Flowers" (Columbia FC 39530). It's a group of standards that will appeal to a lot of people who are not necessarily jazz enthusiasts. The young trumpeter's *Stardust* is gorgeous.

Christopher Greenleaf,
car-audio reviewer

All the welcome recent improvements in record pressing notwithstanding, there are many records around, old and new, that cause lots of nonmusical, low-frequency energy to pass through the stylus and into the rest of the audio signal path. Nakamichi's SF-10 infrasonic filters, \$15 a pair, fit between your amplifier's line output jacks and the cassette deck's inputs. The SF-10's eliminate rumble (and some of the very deepest bass), permitting the

tapes you record to be made at a high enough level virtually to banish hiss and—car audio fans, take special note—eliminate garbagey bass intrusion from warps and elderly platter bearings. For full-range dubs from quiet discs, just remove the SF-10's and reconnect. For car stereo head and capstan cleaning, I recommend the Allsop 3 Ultraline cleaner, which costs \$15.95.

David Hall,
record reviewer

Living in a fringe reception area, I would really look forward to receiving the Magnum 105M antenna booster (see STEREO REVIEW, September 1984, page 47). But I'd also welcome Neville Marriner's new Philips album of seven discs (412 176-1), in which he and the Academy of Saint-Martin-in-the-Fields perform the symphonies of Schubert, including Brian Newbould's handsome realizations and completions of Nos. 7 and 8 plus three movements that would have been No. 10. Also available on cassette.

Julian Hirsch,
equipment reviewer

It's important to avoid playing a record with a worn stylus, so I'd recommend Stanton's Stylus Wear Gauge, which sells for \$25 and will measure use of the stylus from 0 to 1,000 hours in 100-hour increments. Your stylus should be inspected after each 250 hours of use.

Other tools I consider invaluable for properly setting up a turntable and cartridge are the DB Systems DBP-10 phono alignment protractor (\$21.95) and the Shure SFG-2 stylus-force gauge (\$8.50).

Ralph Hodges,
"The High End"

It's hard to imagine a listening room that couldn't benefit from some acoustic improvements, for which I recommend Sonex acoustic foam sheets by Illbruck. A pack of four 24-inch square sheets costs \$39.95. I also use Monster Cable Helpers, a system of ties, surface-mounting straps, and wire labels that keeps everything neat and easy to locate. Cable Helpers labels cost \$10, the ties \$5, and the surface-mount ladder straps \$6.

Larry Klein,
"Audio Q&A"

I suggest two inexpensive accessories. The cheapest is a fiber or plastic 10 x 12-inch "wallet" to hold all your relevant audio instruction manuals, sales receipts, warranties, and so forth. A central repository for audio-related material will save time and prevent loss.

And speaking of loss, an electric engraving tool, available for under \$15 at Radio Shack and many hardware stores, will discourage theft and help you recover lost property. Most police departments suggest that you engrave your Social Security number on the rear panel of the equipment.

Stoddard Lincoln,
record reviewer

There are two albums I find I've gone back to many times over the past year: the Orfeo recording of Gluck's *Alceste*, in which Jessye Norman sings the title role (S 027823 F), and the Pro Arte album of tangos and waltzes by Ernesto Nazareth played by pianist Arthur Moreira Lima (PAD 144).

Sue Llewellyn,
Art Director

Fun Boy Three's first album for Chrysalis (CHR 1383) is at the top of my list. The lead singer of the trio is an ex-member of Madness, an English two-tone (mixed-race) band, so the music retains the sounds of reggae with the addition of back-up brass and supporting vocals by an all-female group called Bananarama. A great album for parties, though not easy to find. Tower Records in New York or on the West Coast will order it for you.



William Livingstone,
Editor in Chief

Record collectors (like me) with big hands and little manual dexterity

will find the Allsop 3 Orbitrac record-cleaning system effective and easy to use. Price: \$16.95.

A couple of recordings that would be good introductions to opera for a beginner are the Mobile Fidelity Sound Lab reissues of Puccini's *La Bohème* with Mirella Freni and Luciano Pavarotti conducted by Herbert von Karajan and Bizet's *Carmen* with Tatiana Troyanos, Kiri Te Kanawa, and Plácido Domingo conducted by Georg Solti. Half-speed-mastered from the original tapes, these limited editions are pressed in Japan on high-definition super vinyl and packed in heavy-duty boxes. Price: *Bohème*, \$30; *Carmen*, \$50.

Rocco Mattered, *Editorial Assistant*

As an admirer of Verdi's operas, especially *Macbeth*, I couldn't wait to get my hands on *Verdi's Macbeth: A Sourcebook* edited by David Rosen and Andrew Porter (W.W. Norton, \$39.95). It's a fascinating collection of letters to and from the composer, essays, and contemporary reviews detailing the genesis of this early work. A must for all Verdi lovers.

Louis Meredith, *video reviewer*

For videophiles I recommend Koss V.I.P. VCR cleaning cassettes with disposable cleaning cartridges. The price is \$15.99 for Beta or VHS, and that includes three cartridges. These fit both formats and cost \$3.99 for a three-pack.

The album "Songs of the Hebrides" (Musical Heritage Society 4918H) stirs me to my Celtic roots. It includes love songs and work songs as well as many songs of the sea. Performed by clear-voiced soprano Alison Pearce and harpist Susan Drake, they sound more like art songs than folk music. Price: \$5.45 to members, \$8.50 to others.

Alanna Nash, *record reviewer*

A video head-cleaning cassette to remove build-up and restore image quality. I recommend TDK Model TCL 30 (VHS) or LCL 30 (Beta) for \$17.99. Keep a clear head and a clean machine.

Bill Neill, *Editorial Assistant*

Anyone who plays records could use the Audio-Technica TechniClean stylus cleaner (\$13.95) to keep the stylus free of dirt. The Sorbomat turntable mat (\$39), made by Mission, supports a record evenly and seems to isolate the cartridge from rumble and vibration.

You can delight rock and country listeners with the record "Long Gone Dead" by the L.A. group Rank and File (Slash/Warner Bros. 9 1-25087). It's an unusual combination of the plaintive and the hard-edged.



Mark Peel, *record reviewer*

Consider yourself a popular-music expert? Know a rock-'n'-roll know-it-all you'd like to knock off his high horse? *Rock Trivia*, subtitled *Rock and Roll from the Beatles to Bowie*, from the Pressman Toy Corp., may be the ultimate test. This board game contains 4,000 "trivial" questions in six rock categories (the Beatles get one to themselves). Questions range from the reasonable (What group did Paul Rogers come from before joining Bad Company?) to the ridiculous (Who led the Jim Mac Jazz Band?).² As with its obvious inspiration, *Trivial Pursuit*, the fun is in the minutiae more than the game. It's \$19.99 at record, book, and hobby stores.

¹Free

²Paul McCartney's father, Jim.

David Ranada, *Technical Editor*

My Christmas list would include the Loftech TS-1 Audio Test Set, for the audiophile interested in optimizing the performance of a system from tape deck to speakers. Available from Phoenix Audio Laboratories, the \$299 device contains

MUSIC VIDEOS

A varied list of video tapes and discs selected for Christmas giving by the editors

BLUES ALIVE (RCA Columbia). A concert with Sippie Wallace, Etta James, Buddy Guy, Albert King, others. VHS stereo, Beta Hi-Fi, CED.

CARMEN BALLET (Video Arts International). Bizet "reinterpreted" by Russian composer Rodion Shchedrin. Starring ballerina Maya Plisetskaya. VHS, Beta.

THE CARS: Heartbeat City (Warner Bros.) Directed by, among others, Andy Warhol and Timothy Hutton, and starring the Cars. VHS Stereo, Beta Hi-Fi, LaserDisc.

DONIZETTI: Lucia di Lammermoor (Pioneer). Joan Sutherland, Alfredo Kraus, Pablo Elvira, Paul Plishka, other soloists. Metropolitan Opera Orchestra and Chorus, Richard Bonyngne cond. LaserDisc.

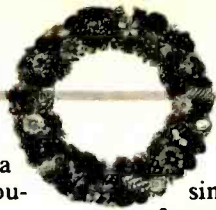
GOTTA DANCE GOTTA SING (RKO). Excerpts from great movie musicals featuring everybody from Shirley Temple, Fred Astaire, and Marilyn Monroe to Liza Minnelli, Steve Martin, Bernadette Peters, and beyond. VHS Stereo, Beta Hi-Fi; LaserDisc coming.

THE LAST WALTZ (CBS/Fox). Directed by Martin Scorsese and starring the Band. VHS Stereo, Beta Hi-Fi; LaserDisc coming.

MEN OF CHIPPENDALES: Muscle Motion (Pioneer). Featuring no nudity, this one got a gym teacher fired because she showed it to high-school girls. For grown-ups it's a workout program, a beefcake parade, or a comedy album. LaserDisc.

READY STEADY GO, Volume 1—The Sixties (Thorn/EMI). Starring the Beatles, the Rolling Stones, the Who, the Searchers, the Dave Clark Five, Them, Lulu, etc. VHS, Beta.

VERDI: Don Carlo (Pioneer). Mirella Freni, Grace Bumbry, Plácido Domingo, Louis Quilico, Nicolai Ghiaurov, other soloists. Metropolitan Opera Orchestra and Chorus, James Levine cond. LaserDisc. International opera stars in one of the Met's best recent telecast performances (see also Donizetti, above) are presented here in color, in stereo, with CX noise reduction and English subtitles. It's all live and it's all real. No material was taken from rehearsals, other performances, or remake recording sessions. The Verdi and Donizetti operas are epoch-making releases.



a sine-wave oscillator and a digital decibel meter that doubles as a frequency counter.

Peter Reilly,
record reviewer

Operetta, A Theatrical History by Richard Traubner (Doubleday, \$29.95) is a buoyant and beautifully illustrated chronicle of operetta—called by Saint-Saëns “the daughter of *opéra-comique* who went astray—not that daughters who go astray are without charm.”

Charles Rodrigues,
cartoonist

The FM Atlas and Station Directory by Bruce F. Elving, a handy reference guide to the FM stations of the U.S., Canada, and Mexico. It's an interesting book for anyone who listens to FM and is invaluable for traveling music lovers. Price: \$7.50 plus \$1.25 postage from FM Atlas, Adolph, Minn. 55701.

Fran Rosenblatt,
Editorial Assistant

The book *David Bowie's Serious Moonlight: The World Tour* (Doubleday) is a classy, lavishly photographed souvenir of the musician's now famous 1983 tour. The volume is beautifully put together, with tons of color photographs by Denis O'Regan, and thoughtfully written by Chet Flippo, with an introduction by Bowie. Price: \$16.95 in paperback.

The Solid Gold Music Trivia Game could be the perfect gift for the rock/pop expert in the house. Two to twenty-four players choose from thousands of questions ranging from the very early days of rockabilly through the British invasions up to such current acts as Culture Club. Price: \$15 from CBS Toys.

Eric Salzman,
record reviewer

Last year the wonderful albums on my list were all records I had produced myself. I see no need to bring modesty into the picture now, and my suggestion for this year is “Moore's Irish Melodies” (None-such 1-79059), which I also produced. It's a collection of early nineteenth-century love songs, drinking songs, and patriotic songs per-

formed by four excellent singers with Igor Kipnis at the fortepiano. It's gorgeous stuff, and I'm very proud of it. Price: \$11.98.

Gordon Sell,
Technical Editor

I recommend frequent cleaning of car stereo player tape heads, capstans, and pinch-rollers, as well as occasional demagnetizing. So I'd put Discwasher's Perfect Path head cleaner (\$9.95) on my list along with the C.P.R. capstan/pinch-roller cleaner (\$9.95) and the D'Mag head and capstan demagnetizer (\$19.95). They make easy work of hard-to-reach tape mechanisms.

In one trip to a Radio Shack store you can buy enough useful and inexpensive items to fill an audiophile's stocking. For example, a can of switch contact cleaner costs \$1.99, “Non-Slip” solvent to put the grip back into rubber belts and wheels costs only 99 cents, and a deluxe cassette-tape repair kit will set you back all of \$4.99. A stocking stuffer that costs nothing is a Radio Shack catalog, which will provide hours of reading, wishing, and spending pleasure.

Steve Simels,
record reviewer

I'd nominate “Like This,” a Bearsville album by the dB's (1-25146), a cult band making a move toward the pop mainstream and doing it magnificently with this inventive, melodically endearing record. The music has the accessibility of Marshall Crenshaw and the quirkiness of REM. In the immortal words of Todd Rundgren, turn it up!

Craig Stark,
equipment reviewer

I wouldn't be without my R. B. Annis Model 115 Han-d-Mag tape-head and capstan demagnetizer (\$29.70). Also recommended from R. B. Annis is the Model 25/B5 hand-held magnetometer (\$12.85), which will tell you if there is a built-up magnetic field on the heads or capstans that requires demagnetizing. Nagaoka has a handy tape splicing and repair kit, Model PC-507, that costs \$20 and includes a splicing block, splicing tape, tools, leader tape, and hardware.

MEREDITH'S MOVIES

Video critic Louis Meredith lists his personal choices for the home videophile

For openers, a couple of classics and their recent, estimable remakes:

TO BE OR NOT TO BE (Vestron). Ernst Lubitsch's tragicomedy, with Jack Benny and Carole Lombard. VHS, Beta.

TO BE OR NOT TO BE (CBS/Fox). The Mel Brooks/Anne Bancroft update with hilarious musical numbers. VHS Stereo, Beta Hi-Fi, LaserDisc.

SCARFACE (MCA). Howard Hawks's gangster classic, with Paul Muni. VHS, Beta.

SCARFACE (MCA). Brian De Palma's modern retelling, with Al Pacino and half the cocaine output of Peru. VHS Stereo, Beta Hi-Fi, LaserDisc.

Then a couple of the recently reissued Hitchcock classics:

VERTIGO (MCA). With Jimmy Stewart and Kim Novak. VHS, Beta, LaserDisc.

REAR WINDOW (MCA). With Jimmy Stewart and Grace Kelly. VHS, Beta, LaserDisc.

Next, two from Shelley Duvall's marvelous Faerie Tale Theatre series, originally aired on *Showtime*:

THE NIGHTINGALE (CBS/Fox). Starring Mick Jagger and Bud Cort. VHS, Beta.

BEAUTY AND THE BEAST (CBS/Fox). With Klaus Kinski and Susan Sarandon. VHS, Beta.

Then a toss-up between two wonderful old comedies:

WAY OUT WEST (Nostalgia Merchant). With Laurel and Hardy. VHS, Beta.

ABBOTT AND COSTELLO MEET FRANKENSTEIN (MCA). Starring you-know-who, and obviously the inspiration for *Ghostbusters*. VHS, Beta.

And, finally, what will doubtless be the hit of the Christmas season:

THE EMPIRE STRIKES BACK (CBS/Fox). Starring the whole *Star Wars* gang plus Billy Dee Williams. VHS Stereo, Beta Hi-Fi. I want it in LaserDisc!



LUCASFILM LTD.

THE CARE AND FEEDING OF A CD PLAYER



*An owner's guide to the total health of a Compact Disc system
by David Ranada*

LIKE any household pet, a component stereo system will give you the greatest enjoyment if you take care of it. Luckily, both the care and feeding of a digital Compact Disc player are easy. One of the hallmarks of the CD system is that it indeed needs so little care. There are no styli to keep clean or replace when worn or damaged, no elaborate disc-handling rituals to learn, and no requirements for an arsenal of fluids and machinery to keep dust from sullyng fragile vinyl grooves. To keep the digital sound stream flowing with as little trouble as possible, there only a few guidelines to be followed.

Practically every CD-player manual I've seen contains a set of general guidelines for home-component care. These should be followed with

every part of a stereo system but particularly in the case of a CD player. So keep a player away from direct sunlight and other heat sources, don't block the unit's ventilation holes (if any), and keep it away from moist and other mechanism-corroding environments.

Special care should be taken to keep the player from violent physical jolts. While most people don't regularly drop their CD players, less catastrophic mechanical jolts can seriously misalign the laser scanning mechanism. Remember, the tracks on a CD are spaced only 1.6 millionths of a meter apart. Players vary in their sensitivity to bumps and their ability to recover from them, and it's best not to discover your player's limitations the hard way. Take seriously the instruction manual's admonitions to replace

the locking screws (if any) whenever transporting the CD player.

Another type of shock can also seemingly damage a player: an electrostatic discharge (spark) caused, for example, by shuffling across a carpet and touching the player on a dry winter day. Digital electronic equipment in general, from CD players to large mainframe computers, is notoriously susceptible to being reset or "hung up" by the voltage surge generated by a spark discharging through or around the circuitry. In bad cases damage can result to ultra-sensitive components—like the semiconductor laser in a CD player. While CD lasers are very well protected (by circuitry and the surrounding enclosure), and while I don't know of any reports of CD-laser spark damage, I have myself caused a couple of players to

TOM LUEVITCH

stop operating by a spark. If this happens to you, the best way out—after trying to regain control via the front-panel switches—is to turn the player off, wait for about 30 seconds for the circuits to discharge fully, and then start the player up again.

The only other important care recommendations for a CD player also concern the laser scanning mechanism. The laser will eventually burn out. The failure will be sudden and will result in an unusable player. Most lasers will last through at least 2,000 hours of playing time before this occurs, however, and replacement should be a rather inexpensive operation (less than \$100).

What's important about laser burnout is that its effects can also be produced by dirt, dust, or grime on the laser's objective lens, the last thing the beam passes through before it hits the disc. The laser and lens systems in front-loading players are well protected from dust and prying fingers. Those in top-loaders are not. The objective lens in a top-loading player can be cleaned—but only if there's reason to suspect that it is causing a malfunction—with a cotton swab moistened with a photographic lens-cleaning fluid. The player manufacturer may recommend another cleaning method or fluid. Any such advice should override mine.

Disc Care

The portion of the CD system requiring the most care and cleanliness is the software. The discs are not, as some would have it, indestructible, nor are they hard to damage. But even in the worst cases, the amount of trouble or money required for preventive care doesn't even approach that required for the protection of analog discs.

Scratches pose the greatest danger to the faultless playback of a Compact Disc. Though the disc plays only on one side (the one without the label), scratches on either side can prove fatal to it. In fact, on the label side of a CD only a thin layer of hardened lacquer separates the digital information from damage. The playable side protects the data with a 1.2-millimeter thickness of tough plastic.

A scratch on the label side can actually destroy data; a scratch on the playable side merely obscures data. Depending on the severity of the scratch (curved scratches concentric with the center of the disc are worst, radial scratches the

Louis Armstrong and Duke Ellington team up on a Mobile Fidelity CD equivalent to two LP's.



“best”) and the abilities of a player's tracking and error-correction systems, the data errors caused by a scratched disc may be rendered totally inaudible, or they can cause problems ranging from a short dropout or click to skips, locks, or total unplayability (if the innermost area of the disc containing the cueing information is badly damaged).

Conclusion: Avoid scratching either side of a Compact Disc. You needn't go through any elaborate precautions with CD's or become obsessive about scratches on them (as you might with your LP's). Just refrain from placing them in dangerous positions where they can be dragged across a surface (like a table top), and pick them up by the edge and/or the center hole.

Fingerprints and dust, the deadly duo in analog discdom, are of little concern with the CD system. The optical system will ignore most dust particles still adhering to the rapidly spinning disc (they are out of focus to the player); dust can be washed off with running water and the disc blotted dry with a towel; and fingerprints can be removed with a *lightly* applied swab dipped in 91 percent isopropyl alcohol or a mild detergent solution.

Player Feeding

When the Compact Disc system was introduced, there were quite a few CD's released which could be considered the audio equivalents of bad junk food. Their awful sound quality left a bad taste, and their uninteresting music gave no nutrition. Now, more than two years lat-

er, the situation has changed for the better. It is still difficult to find a CD with truly exceptional sound quality (that's not an easy task with analog discs either), but there is much more interesting music in the 2,000-plus CD releases available in this country. Significant factors in this changeover are a willingness of larger record companies to reissue older, classic material and the adventurous contributions characteristic of small record companies.

Perhaps the most important recent development in digital audio is the release of older analog-master recordings on CD. Two years ago, several record-company executives expressed to me trepidation about putting out older material. Basically they took the attitude that the CD was a digital medium that deserved only digitally recorded material. Never mind that many older analog recordings were of immense musical value and that many of the newer digital recordings sounded worse than their analog forebears. This attitude also ignored the fact that good sound is only half the CD story; the other is convenience in handling an archivally permanent medium.

But no longer. Record companies are seeing the (profitable) light of day. RCA has rereleased on Compact Disc old Elvis classics (some in wonderful digital mono), EMI has digitized the Beatles' *Abbey Road*, CBS has brought out Bruno Walter's great Columbia stereo recordings (including the historic Mahler performances), and London's analog recording of Wagner's *Ring* is joining the Eurodisc digital *Ring* on Compact Disc.

Even the anti-digitalists at Sheffield have released sometimes-inferior-sounding CD equivalents of some of their direct-to-disc recordings. (If Sheffield were truly concerned with delivering high-quality sound, and not in merely proving that direct-to-disc recordings can sound better, they would have made their CD masters from playbacks of their analog records and not from analog “back-up” tapes ridden with hiss.) In any case, may the CD reissues continue, for they not only give us a chance to replace our old, worn-out analog pressings, but they reveal to younger listeners the glories of phonographic history.

For those willing to explore beyond Ravel's *Boléro* or Vivaldi's *Four Seasons* (each with more than a half-dozen CD recordings), additional expansion of the CD reper-

toire is coming from adventurous small record companies whose contributions, as happens with analog discs, are often musically and sonically more satisfactory than those from the recording monoliths. Thanks to the smaller labels, we've had the first CD releases of music by Monteverdi and Rameau (on Harmonia Mundi), Bax (on Chandos), and Reich (ECM). The CD is also being delightfully non-nationalistic, for there are recordings of Japanese folk music (on various Japanese labels), Russian balalaikas (on Nonesuch), and Hungarian gypsy music (on Hungaroton).

Ironically, the CD's greatest strength, its potential sound quality, is still being poorly served by the recording industry in general and by the big record companies in particular. A small label's centralized, often dictatorial control and minimum staffing usually result in a greater consistency in the sound from release to release—there are fewer cooks to spoil the broth. Classical labels, large or small, also tend to have more consistent sound quality, which can be either good or bad.

For example, some of the largest classical labels have the least consistently good CD sound quality (CBS, DG). Other, smaller firms rank at the top (Telarc, Delos, Bis, Harmonia Mundi). The rest fall in the middle (London, Philips, RCA, Telefunken, Denon, Chandos). There is little consistency in pop-music recordings on CD, mainly because the popular labels use such a large number of independent producers and studios and because the artists have varying sonic tastes.

How then does one go about finding good food for one's CD player? The best guide is the analog pressing of the same recording, which usually sounds very much like the CD. Of course, if the right master tape is used to produce the CD, the digital disc will be quieter and will reproduce high-level signals better, but in general CD's sound very much like their analog-disc equivalents if the latter are played on a topnotch system. In pop music, however, this generalization may soon be losing force as producers make special remixes for the digital medium. If you have no opportunity to audition analog pressings (either on your home turntable or over the radio), recommendations and reviews are the only alternative. The following is a list of good-to-excellent-sounding CD's, mainly from small labels, usually of high musical value.

The great recordings of the Columbia Symphony under Bruno Walter are now on CD's from CBS.



Purcell: *Dido and Aeneas*, Chandos CHAN 8306. **Purcell:** *Dido and Aeneas*, Telefunken/Pro Arie CDT 492919. **Monteverdi:** *Lamento d'Arrianna*, Harmonia Mundi France HM 90.1129. **Stravinsky:** *Oedipus Rex*, Orfeo C 071-831A.

Four excellent recordings of operatic music. The first three are vivid and stylish recordings of period-instrument groups. The Stravinsky is the best-sounding recording of a work with considerable dramatic and sonic impact.

Sibelius: *Symphony No. 3*, Bis CD-228. **Nielsen:** *Symphony No. 2*, Bis CD-247.

Bis is, next to Telarc, my favorite label when it comes to dependable and excellent sound quality. These two discs, part of complete cycles of orchestral music by Sibelius and Nielsen, are not as "hi-fi" sounding as others on major labels. They are, however, stunningly lifelike, minimally microphoned performances with none of the so-called "digital harshness."

Lutoslawski: *Double Concerto for Oboe and Harp*, MMG MCD 10006. **Kroumata Percussion Ensemble:** *Works by Cage, Cowell, Lundquist, and Taira*, Bis CD-232.

Contemporary music offers some exciting instrumental effects, as these recordings demonstrate. The Lutoslawski is a model of good concerto recording, with the soloists not too close. The shouts and bangs opening the fourth track of the percussion record—one of the best-sounding CD's made—are absolutely hair-raising.

Rameau: *Pièces de clavecin*, Harmonia Mundi France HM 90.1120. **Debussy:** *Piano Music*, MMG MCD 10003.

Two very different recordings of very different French music. The Rameau is an excellent recording of two beautiful harpsichords. Its front-center image is unusually lifelike. Imaging in the Debussy disc is less precise, but the distance from the piano and the amount of hall ambience are well judged.

Denon Audio Technical CD, Denon 38C39-7147. **The Digital Domain**, Elektra 9 60303-2.

Denon's test disc is the best CD test record made. Its tones can be used to check out the rest of your system (if you have a voltmeter or an oscilloscope), and there are a few useful music excerpts. The two most spectacular tracks on "The Digital Domain" are of jet planes and helicopters. The rest of the electronic or electronically processed music is just as bad as the stuff I was turning out when I studied electronic music.

Mavis Rivers: *It's a Good Day*, Delos D/CD 4002. **Film and the BB's:** *Tricycle*, Digital Music Productions CD-443.

These are paradigms of how to take advantage of CD sonics with nonclassical music. "It's a Good Day" is very natural-sounding, with a voice quality free from excess "enhancement." "Tricycle" contains some wonderful synthesizer work with very low frequencies.

Art Pepper + Eleven: *Modern Jazz Classics*, Mobile Fidelity MFCD 805. **Sony Rollins:** *Way Out West*, Mobile Fidelity MFCD 801. **Louis Armstrong & Duke Ellington:** *Recording Together for the First Time and The Great Reunion*, Mobile Fidelity MFCD 2-087.

None of these discs, from master tapes about twenty years old, can be called spectacular. All are plagued by analog-tape hiss and distortion at high levels. Despite this, they all sound vivid and "live," and they illustrate the virtues of old-style recording practices. The use of large recording studios, not-too-close microphoning, minimal inter-instrument sound isolation, and lack of artificial reverberation and other signal processing all contribute to the surprisingly realistic sound quality. It takes the newest audio medium to bring out the oldest audio truths. □

SYSTEMS

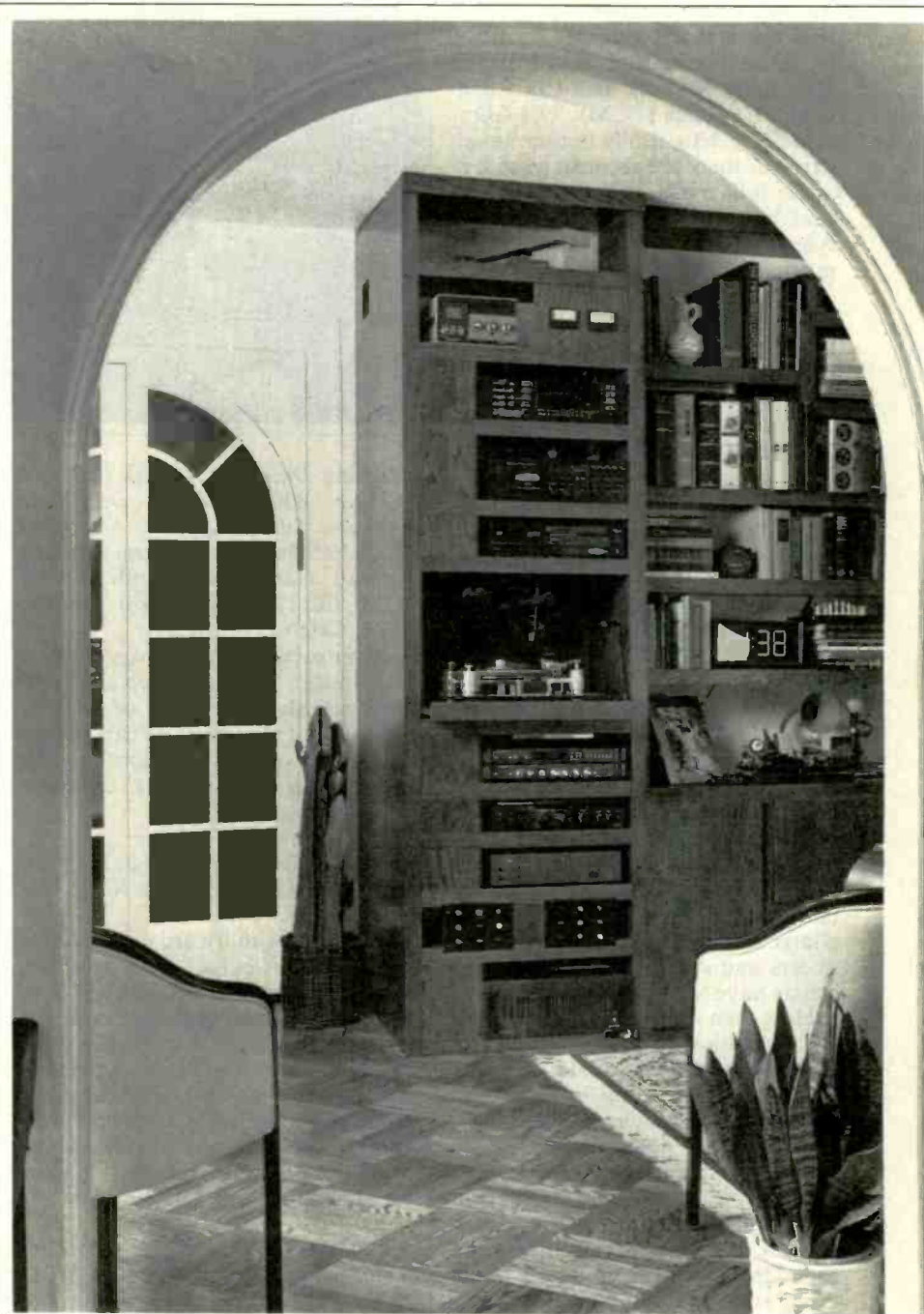
*The accent is on
ease of access in
this custom installation*

by Gordon Sell

USABILITY, accessibility, and flexibility were the goals of David Eisenberg, a Short Hills, New Jersey, insurance broker, when he set out to install his hi-fi equipment in his turn-of-the-century house. Since Eisenberg often works at home, he wanted an audio system that could be operated and enjoyed from his office desk as well as from a chair in the living room.

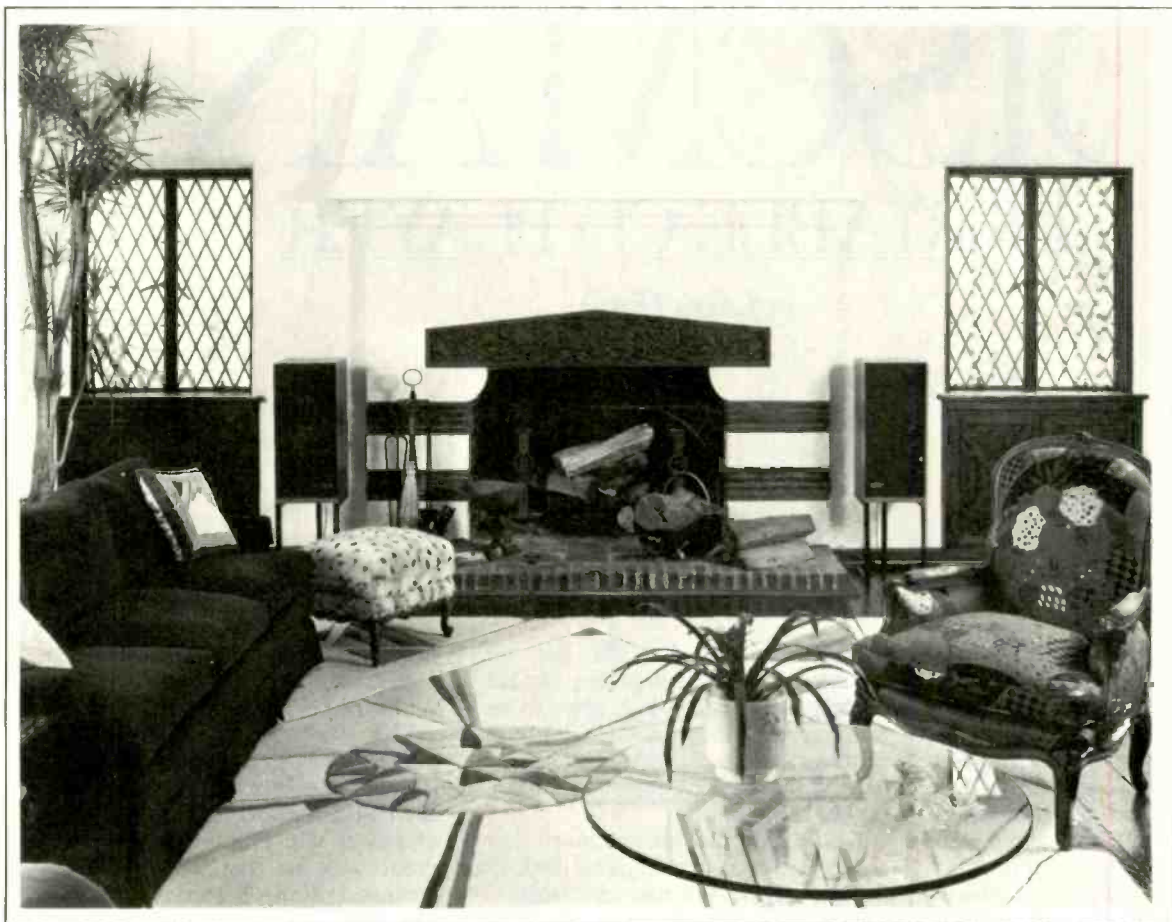
The desk and the wall unit are located in an alcove off the living room and on the opposite end from the speakers. The preamp, tuner, turntable, and CD player are within arm's length of Eisenberg's chair, and his records, tapes, and Compact Discs are conveniently stored in the wall unit. Accessibility was achieved by putting the equipment shelves in front of an 18-inch setback in the wall. This arrangement leaves room to get behind the equipment through a door in the side of the wall unit.

There is a small exhaust fan above the door to provide ventilation for the equipment. The wood panels to the left of each component are removable to accommodate any wider components that may be added to the system. The wall unit was designed by Beth Blumefeld Interiors of West Orange, New Jersey, and built by Henry Ramm of Randolph, New Jersey.



Eisenberg has been an audiophile since the early Sixties when he built his first kit components, a Stereo 70 amplifier and FM-3 tuner by Dynaco. He listens mostly to classical music. His present equipment includes (from top to bottom in photo) a Winegard FM antenna, a

Heath SB-614 station monitor, dual VU meters, a dbx 20/20 computer equalizer/analyzer, a Nakamichi ZX-7 cassette deck, a Hitachi DA-800 Compact Disc player, an Oracle turntable with an SAEC tone arm and a Talisman Sapphire cartridge, a Crown Straight-Line Two pream-



plifier, a Crown FM-2 tuner, an Audio Pulse Digital Time Delay, an NAD 2140 amplifier (for delay speakers), eighteen flashing lights that do nothing, and an Ampzilla GAS 500 power amplifier. The main speakers are ProAc Studio 3's, and the delay speakers are Acoustic Research AR18's.

The listening room is very large and has a high cathedral ceiling, and the chapel-like ambience is only heightened by the time delay. The lack of short-delay overhead reflections is wonderful.

Incidentally, the device under the digital clock in the photo at left is not a Rube Goldberg version of an old phonograph, but a functional telephone that Eisenberg created from odds and ends in his electronic workshop. He also built a sound-activated system that will turn on his turntable and preamp lamps at the snap of a finger. □



ROBERT LEVIN

SONY'S DISCMAN PORTABLE CD PLAYER

by Julian Hirsch

*Now your Compact Discs can go just
about anywhere you can go*

IMAGINE a digital-audio Compact Disc player whose dimensions (5 x 5¼ x 1½ inches) and weight (1¼ pounds) approximate those of a stack of four CD's in their plastic cases. Imagine also that this player is not an oversimplified novelty, but a full-featured stereo component with all the important features of larger CD players. Moreover, although its electronic performance is essentially equal to that of a standard home CD player, and although you can hook it up to your component system and listen to it through your speakers, it can be battery-powered and is suitable for portable operation. The remarkable device you've been imagining is Sony's D-5 Discman portable CD player. It is available now, and it is selling for just \$299.95.

To be sure, the Discman isn't all that tiny in actual use. It requires an external power supply, but even in that it's versatile. You can use its a.c. adaptor, which plugs into a wall socket and connects to the Discman through a 6-foot cable. Or, if you intend to carry it around, you can put it in a carrying case with a battery pack that takes six C cells. The case, the EBP-9LC, does not come with the player and will cost you an addition-

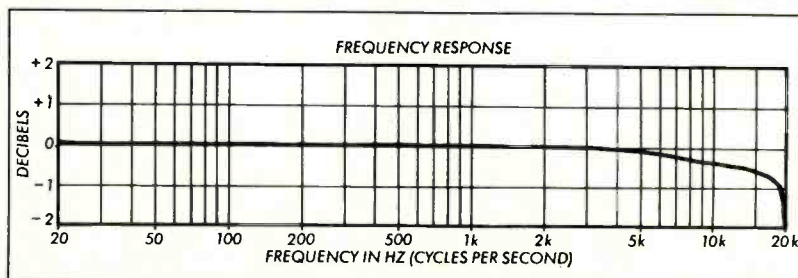
al \$49.95. The C cells can be replaced by a rechargeable NiCad battery pack (KR-C-F-2, price to be announced) that provides 5½ hours of playing time per charge. And you can even get a car-battery cord for it (DCC-120, \$36.50).

Despite the additional space taken up by the power supplies, the D-5 is well suited for use in cramped and/or mobile quarters like campers, trailers, summer homes, boats, or airplanes. And, of course, those who must have the latest electronic wonder on their belts will probably choose to carry a Discman (in its case) in lieu of a cassette Walkman. A more attention-grabbing personal portable could hardly be imagined! Its performance is quite comparable to that of most full-size home units, we discovered, and its features include track selection—one at a time—up to the maximum possible of ninety-nine, visual display of track and time status, and fast scanning in either direction with audible monitoring of the program. Yet it is

much smaller and considerably less expensive than any other CD player we know of.

The Discman is a top-loading player; pressing a button on the top righthand corner of the unit pops the disc compartment open. A loss of power will release the compartment lock so that a disc can be removed if the batteries give out. The rear of the unit has the input jack for the power sources and a mini stereo phone jack used for the D-5's fixed line-level output. A 3-foot cable with a mini stereo phone plug on one end and two conventional RCA phono plugs at the other adapts the D-5 to the inputs of a component stereo system. The variable headphone output is on the right side of the player. It too is a mini stereo phone jack, and it can be used for driving any dynamic headphone.

The remaining controls are on the front panel—they *are* the front panel. There are fewer controls on the Discman's front panel than on the simplest home CD players because many of its buttons serve more than one function. For example, the PLAY button (single arrow) is also the PAUSE control, depending on what state the player is in when the control is







HIRSCH-HOUCK LAB MEASUREMENTS

Maximum output level: 1.9 volts
Left-right level match: 0.2 dB
Maximum headphone output level: 2.6 volts
Total harmonic distortion at 1,000 Hz: 0.0036% referred to 0 dB; 0.0025% referred to -10 dB; distortion masked by noise at lower levels
Intermodulation distortion: 0.008% referred to 0 dB; 0.016%

referred to -10 dB
Signal-to-noise ratio: 86.5 dB unweighted; 91 dB A-weighted
Channel separation: 86 dB at 1,000 Hz; 55.5 dB at 20,000 Hz
Frequency response: +0, -2.1 dB from 20 to 20,000 Hz (see graph)
Interchannel phase shift: 3° at 10,000 Hz, 5° at 20,000 Hz
Square-wave performance: slight

20,000-Hz ringing after level transitions
Cueing time: 5.5 seconds
Impact resistance: top, A; side, B
Cueing accuracy: A
Defect tracking (figures are size of largest defect successfully tracked): signal-surface damage, 900 micrometers; painted dots, 800 μm; simulated fingerprint, pass

pushed. Pressing the MODE button (near the display) turns the double-arrowed track-skipping buttons into fast-scan controls for high-speed audible cueing at ten times normal speed. A REMAIN button toggles the display between showing the current track, with its elapsed playing time, and showing the remaining total playing time and the remain-

ing number of tracks on the disc. The unit's power is controlled by a slide switch on the lower front edge. Nearby is the headphone-volume control, a knurled wheel emerging sideways from the player.

No headphones are supplied with the D-5, but any dynamic headphone should do. Home-type headphones, with large 1/4-inch phone

plugs, will need an adaptor to fit the D-5 headphone jack. Sony, of course, recommends a Sony headphone for use with the Discman (the MDR-M77, \$85).

The unit we tested was a prototype, one essentially identical to planned production models. Our measurements were made with the same standard test discs we use for

GETTING SMALL

THREE technological developments have given Sony designers the ability to cram the works of a CD player into the space of the Discman:

- use of large-scale integrated circuits (LSI's),
- a reduction in the power necessary to drive those circuits, and
- a substantial reduction in the bulk of the laser-optical scanning assembly.

The "large" in LSI actually refers to

the amount of circuitry integrated on a silicon "chip"; the chips themselves remain smaller than thumbnails. The Discman's primary LSI actually incorporates the functions (and the thousands of transistors) previously found in four separate LSI's, and some "discrete" circuitry besides. These functions include motor speed control, data-flow synchronization, digital-data demodulation, subcode (track number and timing) extraction, error detection and correction, and data interpolation.

A related, and crucial, characteristic of the chips used in the Discman is that many of them are made by the CMOS process. This manufacturing technique produces chips requiring a

small fraction of the power that the earlier, easier-to-produce NMOS chips used. Also contributing to lower power consumption is the use of a liquid-crystal display, which uses much less power than LED's or vacuum-fluorescent indicators. A glance at the large power-supply transformer and bulky voltage-regulation circuits in any home CD player will demonstrate how important a lowering of operating power is to the reduction in player size. Besides, low power consumption also permits battery-powered, portable operation, the raison d'être of the Discman.

Sony also shrank the size of the

our home CD-player tests. All measurements were made at the ends of the supplied phono-plug adaptor cable as the D-5 drove a standard IHF load (10,000 ohms in parallel with 1,000 picofarads capacitance).

As the chart shows, the Discman lived up to the standards established by the many home-component players we have tested, with distortion and noise performance to compare with the best. The frequency response, unlike that of other CD players we have tested, had no undulating "ripples" at the high frequencies; instead, it sloped off slightly above 5,000 Hz. This is hardly anything to be concerned about—the response was flat (+0, -0.2 dB) in the crucial range up to 4,500 Hz. Anyway, these response deviations fall within Sony's specifications for the player and are audible only in direct comparisons.

Those who must have the latest electronic wonder on their belts will probably choose to carry a Discman, with its battery pack, in lieu of a cassette Walkman. A more attention-grabbing personal portable could hardly be imagined!

Our tests of cueing accuracy, error correction, and the ability to withstand physical shock were performed subjectively, as usual. Since the D-5 doesn't have pre-programmable track selection, for cueing time we measured the period required to start the Philips TS-4 sampler and to select and start playing Track 15. Interestingly, this

time, even with fifteen pushes of the track-advance button, was around the average value we get with more easily cued home units. The transition between Tracks 17 and 18, which have no silent interval separating them, was cued flawlessly, with absolutely no clipping of the opening of Track 18.

Like the best home units, the Discman played all the calibrated defects of the Philips TS-4A test disc without audible problems. We did not experience any error detracking on any of our music discs either.

When we tested it for immunity to physical shock, the Discman did very well. It was quite resistant to tapping on the top cover (above the disc) and moderately resistant to side impacts. And while it was playing a disc, the player could be picked up and moved around, turned over, or otherwise handled as though it were being worn over the shoulder.

Try as we may, we cannot escape the sense of awe and amazement that the Sony Discman arouses in us. Less than two years ago we tested a number of first-generation CD players from various manufacturers. They were bulky home-stereo system components, typically about the size of a stereo receiver, weighing as much as 30 pounds, and costing upwards of \$1,000. Most of them could not play through all the calibrated defects on the Philips TS-4A test record, and some were so touchy that you had to avoid tapping their cases, even lightly, under penalty of detracking. Yet, here we have a pocket-size CD player, in most respects a better performer than those early models, at about a third of their price. Refreshingly free of flashy features (where could one fit an array of lights and buttons

on a miniature front panel?), the Discman is so easy to use that it took us only a few minutes to feel at home with its operation. Is it any wonder that we are impressed?

Our laboratory test results show that the Discman CD player lives up to the standards established by the many home-component players we have tested, with distortion and noise performance to compare with the best of them.

Granted, some of its measured performance figures are not quite the equal of the latest home CD players. To put this into perspective, however, the performance of the Sony Discman so far surpasses that of any analog record player that no comparison is possible. In spite of this, it is priced just above a typical budget-category analog turntable fitted with a good cartridge. The only difference that we think might be audible between the Discman and some other CD players (in a direct A/B comparison) is its slightly reduced high-frequency output—which may be peculiar to our sample. In any case, it is one of the most trivial complaints one could make about any hi-fi component.

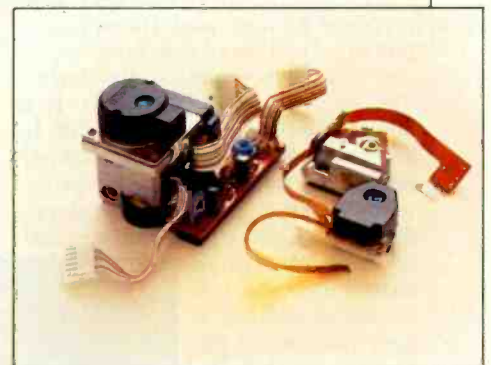
If you are violently opposed to the Compact Disc concept, for whatever reason, this little gem probably won't change your mind, but *you* are the loser. If you have been waiting for the price of CD players to reach affordable levels, your wait is over. And if total portability appeals to you, here it is. □

optical subsystem, containing the semiconductor laser, lenses and other optics, and some of the laser-support circuitry. As the picture shows, the original Sony laser system (left, as used in the company's first-generation CD players) was a bulky affair. By folding the optical path and miniaturizing the electronic components, Sony made the optical system at the far right small enough for use in the Discman and automotive CD players.

Although the Discman will be small enough for most people, there is still the question of how much smaller it can be made. Much of the space inside is devoted to the "analog" portions of

the player (the digital-to-analog converter IC, two analog output filters, and their associated circuitry). The use of digital filter chips could substantially reduce the space needed for the analog circuits. And it's possible that the optical system, small as it is, could be further reduced in size, though only slightly because of optical-quality requirements. On the whole, I'd guess that a 25-percent reduction in overall volume might be possible over the next couple of years. Making a smaller CD player, however, could lead to problems: the controls might be too small to use, the displays too small to see—and the disc may not fit inside!

David Ranada



Sony miniaturized its first CD laser for use in the Discman (right).

NEW HI-FI HORIZONS

CompuSonics' system for recording on floppy discs may have far-reaching technological effects

by David Ranada

HERE we go again—another revolutionary audio technology is about to be visited upon us. CompuSonics, a small American company with big hopes and a mastery of microcomputer technology, has come up with the first truly different way of handling audio signals since Edison's phonograph. Their methods, if they meet high-fidelity and marketplace requirements, stand to be at least as important to developments in recorded sound as the recent and not yet fully consolidated digital-audio revolution.

CompuSonics has proposed, developed, and demonstrated a system of recording, reproducing, and processing digital-audio signals that normally require circuits and a recording medium capable of handling tremendous amounts of data. Their system, however, uses low-capacity storage and transmission media. Their first consumer product will be a digital-audio floppy-disc recorder, the DSP-1000. It is hoped that the DSP-1000 will be able to record up to an hour of high-fidelity stereo sound on a computer-type 5¼-inch high-density floppy disc, a medium that would normally hold no more than a few seconds of digital audio if it were recorded in the form used by the Compact Disc system. The projected initial price for the

DSP-1000 is between \$1,000 and \$1,200, and the special "superfloppy" discs required will cost \$10 or less apiece.

Plans call for the system to be introduced in the first half of 1985. It is hoped that record companies will eventually offer prerecorded floppy discs. (A floppy disc, for you non-computer types, is a disc cut from a double-sided sheet of magnetic tape and encased in a flexible plastic jacket. It is read and recorded by a "disc drive" containing magnetic heads that contact the two magnetic surfaces through slots in the jacket. Computer folks usually spell disc as "disk" and refer to 5¼-inch floppy disks as "diskettes." A "superfloppy diskette" will hold an estimated 50 megabytes—400 million bits—of information.)

Less Is More

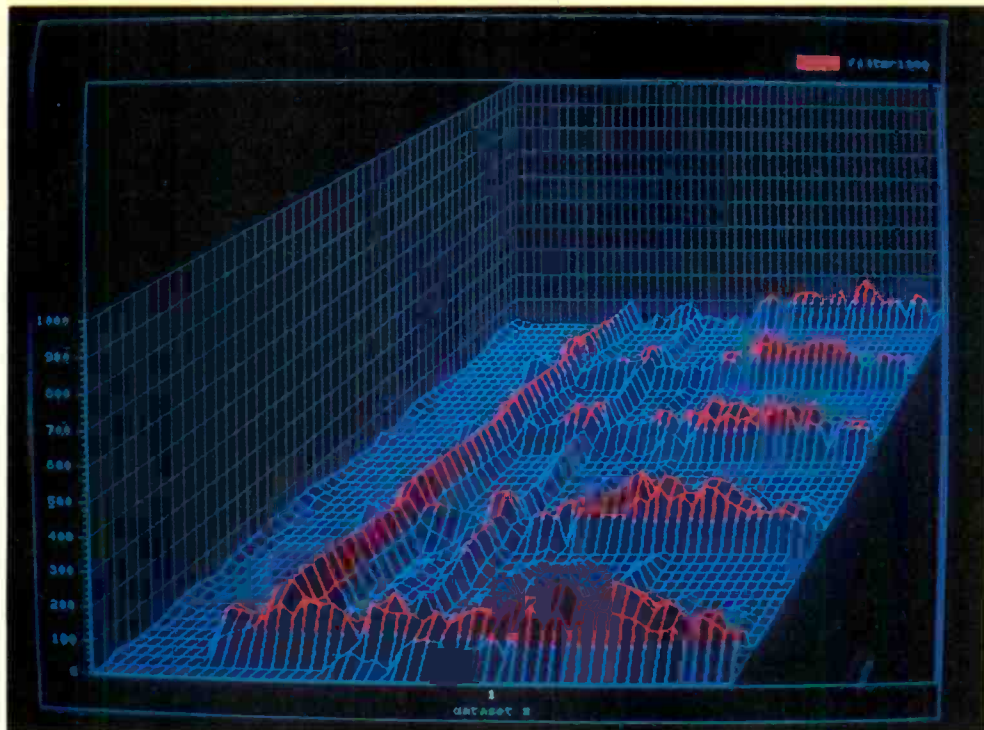
CompuSonics has gone beyond present-day digital audio and enlisted advanced microcomputer chips to accomplish the difficult task of recording a high-data-rate signal on a relatively low-data-capacity medium. Putting it too simply, from a pair of normal line-

level audio signals the DSP-1000 generates a typical digital-audio signal (16-bit linear PCM as used in professional digital-audio recorders and the CD system), but it records on the floppy disc *only the data necessary for a subjectively accurate reproduction* of the signal.

All conventional methods of audio recording since the invention of the phonograph are based on the storage of an audio waveform. Even the CD system stores waveforms, albeit in numerical (digital) form. But not all of the information contained in an audio waveform need be recorded to allow reproduction of the original sounds. Many ingredients of an audio signal are inaudible since, among other possible reasons, they may be very low in level and thereby masked by louder components of the total signal. We simply can't hear everything impinging on our eardrums or picked up by a microphone. Sounds that are too soft can be safely removed from the digital-audio "bit stream" without a change in the perceived sound quality but with a decrease in the amount of data to be recorded.

In the DSP-1000 the job of deciding what is absolutely necessary to preserve and what can be safely left unrecorded is given to several Texas Instruments TMS320-series signal-processing microcomputers. They have





Not all of the information in an audio waveform need be recorded to allow reproduction of the original sounds. Many parts of an audio signal are too soft to be audible.

been programmed according to a mathematical model of part of the human hearing process, thereby making the CompuSonic system the only method of audio recording based fundamentally on psychoacoustics, on the mechanisms and methods by which we perceive sound. Once the data have been analyzed and condensed, the rest of the system consists of circuits to do the relatively straightforward job of formatting, coding, and recording the data on a floppy disc. On playback, the process is reversed. The circuits feeding the line-level outputs resemble those in a CD player (16-bit linear digital-to-analog converters, output filters, etc.).

These operations produce an astounding reduction in data. During Compact Disc playback the audio data stream off the disc at the rate of 1,411,200 bits per second. Early prototypes of the CompuSonic system had an equivalent data rate of 320,000 bits per second, and production models are expected to achieve a rate of only 160,000 bits per second. (For a few more technical details see the box on the next page.)

The CompuSonic system could be a development of the utmost importance regardless of whether the DSP-1000 is widely accepted or not, for with a greatly lowered digital-audio data rate the potential applications extend far beyond home recording. Consider the following possibilities:

□ Direct broadcasting of CompuSonic-type digital-audio signals would require one tenth of the bandwidth required for normal PCM. Dozens of digital-audio channels would fit in the space occupied by one television station.

□ Digital-audio recordings could be distributed, at either the manufacturing or the retail level, via high-speed computer-telephone data links (telerecording).

□ Very complex processing of audio signals could be achieved without excessive cost. Imagine a computer-controlled processor that would combine the functions of a click, pop, and hiss remover, a stereo image-enhancer synthesizer, a pre-amp, an equalizer, and a dynamic-range enhancer—all costing no more than a typical home computer. If CompuSonic made public certain aspects of their processes and circuitry, a signal-processing software industry could spring up.

□ The CompuSonic system offers unprecedented control over the generation—not just recording—of complex sounds. Music synthesizer manufacturers and sci-fi movie makers, among others, would never go back to old ways of doing things.

□ The reduced data rate makes slightly easier—though not necessarily more practical or less costly—an otherwise utopian solid-state-memory recording system, in which nothing moves but electrons.

Of course, all of these developments depend on the audio quality of a CompuSonic-encoded signal. Will the system be good enough to meet the strictest criteria for high audio fidelity? From a preliminary data sheet on the DSP-1000 the answer seems to be yes. The record-playback frequency response is given as 20 to 20,000 Hz \pm 0.5 dB, harmonic distortion at 1,000 Hz as less than 0.007 percent, wow and flutter as being below measurable limits, and dynamic range, signal-to-noise ratio, and channel separation as all being over 91 dB. This is performance comparable to the Compact Disc system. However, since the CompuSonic system depends on the limitations of the human hearing process, the best evaluation of the DSP-1000 will have to be a listening test.

Demonstrations last September and October showed a great deal of promise. While the sound quality was hard to judge—because of the less-than-ideal listening situations—it was quite good by any standard. It was certainly at least the equal of a high-quality analog cassette deck. Only the playing time, 3 to 4 minutes in mono, did not meet this reporter's expectations. Before the DSP 1000's introduction the duration of a disc is expected to be extended to practical lengths by continued refinements in the signal-processing programs and by the availability of floppy discs of greater data capacity.

Assuming that the DSP-1000 fulfills its manufacturer's expectations in performance, what challenges does the system face in the marketplace? First off, it should be said that owners or prospective purchasers of Compact Disc players need not worry that the CD system is about to be rendered passé. Far from it. The technical and financial support for the CD system is too strong, the potential for further technical development too great for the CD system to be rendered obsolete less than three years after introduction. Certain important CD features (text, graphics, computer-data storage) are only just now beginning to be exploited.

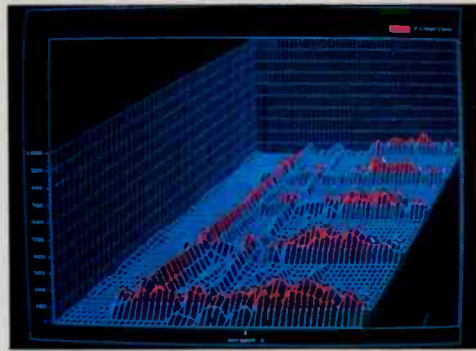
It is possible that eventually there can even be some degree of compatibility between the two recording methods since the CompuSonic audio-data signals are digital pulses that can be recorded on a CD just as easily as any other digital information. In fact, use of the CompuSonic-type encoding on a CD would yield a pressing with a maximum playing time of several hours. Additional circuitry would have to be added in new-model CD players for this to occur, however, and older CD players would not be easily adaptable to any CompuSonic-encoded Compact Discs.

In any case, the CD will probably enjoy better support from record companies (at least at first) and will retain its superior ability to withstand handling damage. (A CompuSonic floppy disc, like any computer floppy disc, can be rendered unusable by fingerprints or scratches on the exposed and easily-touched magnetic surfaces.)

Because of the DSP-1000's recording capability, the consumer products most threatened with obsolescence by the CompuSonic system are the home audio recording formats (analog cassette and open-reel decks, hi-fi VCR's, and digital-audio adaptor/VCR combinations). The DSP-1000 will be able to make recordings of equal or superior quality (low noise, low distortion, flat frequency response, no wow or flutter) with a relatively inexpensive recording medium. If the system does well in the marketplace, the disc-recorder price will fall to very reasonable levels (less than \$500 within five years, according to one estimate).

The most serious contender for the home-recording dollar also has yet to reach the production stage, (Continued on page 117)

SLICES OF LIFE



The accompanying computer display shows how the spectrum (frequency content) of a few violin notes changes over a short period. Frequency runs from left to right, amplitude reads vertically, and time runs into the screen (the most recent sounds are at the "back" of the display).

This picture is not as detailed as it could be since it shows the action of the CompuSonic encoding scheme and many bits have already been eliminated. Frequency, for example, is not shown continuously as in a test-report frequency-response graph. This is the result of the fundamental action of the CompuSonic system, a multi-band digital spectrum analysis. The critical-band theory of hearing (explained more fully in "Audio Specifications and Human Hearing," *STEREO REVIEW*, May 1982) holds that all sound perceptions are the result of spectrum analyses performed by the ears.

While the ears are constructed as spectrum analyzers having several thousand very narrow filter bands each, the CompuSonic patent applications call for a digital analyzer with 128 bands spaced equally across the audible spectrum.

Likewise, time does not flow continuously but is chopped up into 0.01-second intervals, the period between spectra (the lines running from left to right) being 0.01 second. The CompuSonic scheme takes frequency-spectrum "snapshots" one hundred times every second. This rate was chosen, according to the patent application, because "it is short enough that the human ear physiologically hears a sequence of 0.01 second changes in total signal as a continuous integrated whole." These snapshots are "directly analogous to the stream of 'frames' in a motion-picture film." The spectra occurring between snapshots are ignored, reducing the amount of data to be recorded.

There is still another level of data reduction yet to be done before the information shown in the display is ready for recording. Note the lines running from front to back over the peaks of the spectral snapshots. These lines repre-

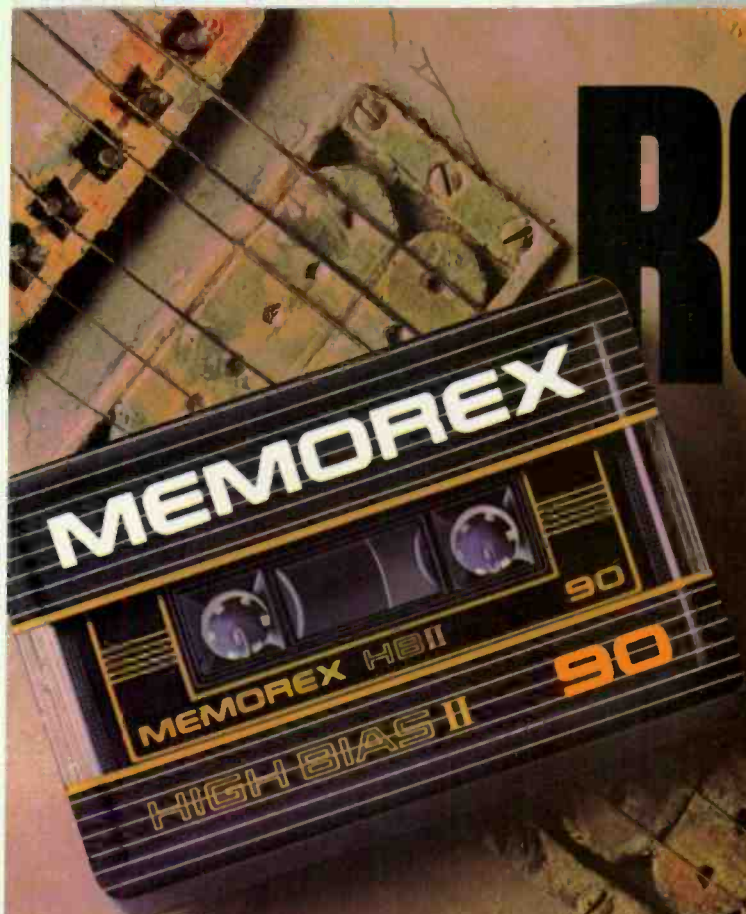
sent the amplitude changes in each spectral band, but they can also be thought of as waveforms suitable for data reduction themselves. And in the CompuSonic encoding system that's exactly what happens. Every 0.1 second, a catalog of the 128 band-amplitude waveforms (my terminology) is made. Another computer program looks at all 128 waveforms, compares them with those in the last band-amplitude catalog, and eliminates the ones that are simply repeats. Whether a band-amplitude waveform is already matched by one in the last waveform catalog is determined by "standard statistical methods for measuring the fit of two curves to one another."

All this means that the CompuSonic system is constantly changing its behavior according to the properties of the signal. Signals with rapid changes (beginnings and endings of notes, and other transients) are recorded in great detail. Simple signals (continuous tones) require very little data, just a few bits saying, in effect, continue what you were doing the last time. Since rapid changes in audio signals are the exception rather than the rule, the amount of data that needs to be recorded is greatly reduced.

Three sets of data representing an audio signal end up on a CompuSonic floppy disc: (1) A bit stream representing the wideband level of the audio signal at 0.01-second intervals, (2) a bit stream indicating which spectrum-analysis bands have audio-signal content, and (3) a catalog of band-amplitude waveforms for the active bands.

During playback the spectrum analyzer is replaced by a bank of 128 synchronized digital oscillators spread across the frequency band. Which oscillators are activated and how much each one contributes to the output signal are determined by the three recorded bit streams. The output waveform is an addition of the oscillator outputs and is "at a level of perceptual resolution so that what the human ear will hear is indistinguishable from the original for most source material."

There is much potential for controversy in those last eight words.



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by Christie Barter
and Steve Simels

FIVE video cassettes just now being released by Kultur feature either the Bolshoi or Kirov Ballet Companies. One of the tapes, "The Ultimate *Swan Lake*," was produced at the Bolshoi in Moscow last May and is notable for having a narration by **Gene Kelly**. Other titles in the series are *Les Sylphides*, *The Nutcracker*, *The Firebird*, and *La Bayadere*. □

Is that the high-school graduation picture (below) of the Wicked Witch of the West? No, just a casual pose by **Dee Snider** of **Twisted Sister**, the self-proclaimed "dirtbags of rock-and-roll." Thanks to Pioneer Video, you now can see and hear more of Snider and his cohorts in what, to our knowledge, is the first heavy-metal LaserDisc. Titled "Stay Hungry," after the band's current Top Ten audio album, the disc is an expanded version of a live show originally broadcast on MTV, including such sensitive classics as *Under the Blade* and *Burn in Hell*, fleshed out with a staged promotional video version of *You Can't Stop Rock'n'Roll*. What's it like? Well, according to Pioneer's uncredited liner-note writer, "It is definitely an experience," and we're not about to argue. □



Cuckoo-time: Snider

As part of his 1983 Avery Fisher Prize, violinist **Elmar Oliveira** was awarded a recording contract by the Moss Music Group. It could be considered a continuation of his existing contract, however, because he had already made two albums for MMG. One was a coupling of violin sonatas of Bloch and Richard Strauss, the other a collection of encore pieces titled "The Virtuoso Violin." On the Vox Cum Laude label, MMG has now released Oliveira's third record for the company. It contains music of Bartók, Bloch, and Brahms. □



MTV-time: Aykroyd, Midler

WRETCHED EXCESS DEPARTMENT: "All they do in this town is give awards," moaned Woody Allen in *Annie Hall*, "Best Fascist Dictator—Adolph Hitler." Well, Adolph wasn't there, but yes, that's the Divine Miss **Bette Midler** and **Dan Aykroyd** (above) in their capacity as co-hosts of the recent MTV Video Music Awards (Dan's the one with the erect pinkie). In case you missed the gala, broadcast live from New York's Radio City Music Hall and later syndicated to non-cable stations by Metromedia, the big winners included the Cars' *You Might Think*, **Herbie Hancock's Rockit**, and **Michael Jackson's Thriller**. Also honored, in a so-called Music Video Hall of Fame, were the **Beatles**, their director **Richard Lester**, and the ubiquitous **David Bowie**, who, as one wag observed, by now is a video. □



Christmastime:
Kirkland and Baryshnikov

YOU know it's Christmas when *The Nutcracker* plays TV. For seven years now **Mikhail Baryshnikov's** production for the American Ballet Theatre has filled television screens across the country at some point in December, and this year's telecast over the Public Broadcasting Service network, on December 5, will mark its eighth appearance. And it is again a gift to viewers from IBM. Baryshnikov's dancing partner is **Gelsey Kirkland**; the National Philharmonic of London plays the popular Tchaikovsky score under the direction of **Kenneth Schermerhorn**. □

WHILE the soprano **Galina Vishnevskaya** was basking this fall in critical acclaim for her autobiography, *Galina* (see page 56), her husband, cellist-conductor **Mstislav Rostropovich** was receiving honors in Italy. On hand in Venice to conduct and appear as soloist with the orchestra of the Italian Radio, Rostropovich was awarded the Life in Music prize by the Homage to Venice Association. The prize has been given in the past to guitarist **Andrés Segovia**, pianist **Arthur Rubinstein**, and conductor **Karl Böhm**. Rostropovich was also decorated as a Grand Officer of Merit of the Italian Republic, one of the country's most prestigious honors. □

JAZZ, which enjoys roughly the same share of the record market that classical music does, is nowhere near so well represented on televi-

sion. This month, however, PBS is offering an hour-long special, *Jazz Comes Home to Newport*, reporting on the 1984 Newport Festival.

Featured on the program, made possible by the JVC Company of America, are performances by **Dave Brubeck**, **Dizzy Gillespie**, and **Stan Getz**. The scheduled air date is December 12 at 10 p.m. EST, but you should consult your local PBS schedule to confirm.

Getz is newly represented on LP and tape, too, with "Poetry," an album of duos he cut for Elektra/Musician with the late pianist **Albert Dailey**. And Gillespie is featured in a "Giants of Jazz" set recorded in Switzerland in 1972 and just released by Concord Jazz. Both were reviewed in last month's issue.

Note: Sony Video has released three jazz video LP's—"The Mel Tormé Special," "San Francisco Blues Festival," and "Freddie Hubbard Studio Live." □

Jazz on PBS-time: Getz





Canadian Brass: a salute to Mozart with a nod to Boy George

WHITE-rimmed shades and an upcoming single titled *Boy Mozart* notwithstanding, the **Canadian Brass** (above) deny that they're going the way of androgynous punk. The single owes its timeliness not to Culture Club's **Boy George**, but to *Amadeus*, the new movie about Wolfgang Amadeus Mozart.

For several months the Brass (as they're known) have been breaking up their otherwise classically oriented concerts with *Boy Mozart*, a vocal quintet based on a theme from the popular G Minor Symphony. Audiences have enjoyed it so much that CBS is releasing it as a single—a pop single—next month.

The group's latest album of bona fide Baroque music on CBS Masterworks is "Brass in Berlin." A recording of the group made with members of the Berlin Philharmonic, it is reviewed this month (page 90). □



Schwarzkopf revisited

THE new recording of Strauss's *Der Rosenkavalier* that **Herbert von Karajan** conducted for Deutsche Grammophon was reviewed here last month. It brings to mind Karajan's first recording of this opera, which was released by Angel in the late Fifties and was reviewed in the very first issue of STEREO REVIEW in February 1958 (when it was called *HiFi & Music Review*).

That first Karajan *Rosenkavalier*, with **Elisabeth Schwarzkopf** as the *Marschallin*, is considered a milestone in the history of recorded opera, and it has never been out of the catalog. Angel has just re-released it in a digitally remastered version on LP's and tape, and the CD's can't be far behind (can they?).

A milestone in the field of filmed opera is the movie made of *Der Rosenkavalier* in the Salzburg Festival production of 1962. Schwarzkopf sang in that one as well, and Karajan conducted. It has just been released on video tape and is available in both VHS and Beta formats from Video Arts International (P.O. Box 153, Ansonia Station, New York, N.Y. 10023).

Additional new titles from VAI include Donizetti's *Lucia di Lammermoor*, filmed "on location" in Scotland in 1971 with **Anna Moffo** in the title role, and Gian Carlo Menotti's *The Medium*. The latter was filmed in 1950 under the composer's direction with members of the original Broadway cast headed by **Marie Powers**. □

WHY is Lou Reed scowling? Frankly, we can't figure it, given the success of his current, critically acclaimed "New Sensations" album, but though Lou seems to be in a bad mood, fans of the Godfather of Punk Rock will soon have something to smile about. Yes, Polygram has unearthed the near-legendary, often bootlegged, never released fourth **Velvet Underground** LP, originally recorded (circa 1968) by Lou and his cronies for now-defunct MGM just prior to the band's departure for Atlantic and their penultimate studio creation, "Loaded." Newly remastered and in genuine stereo, the package, tentatively titled "V.U.," includes early versions of songs that later turned up on Lou's RCA solo albums (*I Can't Stand It*, *Lisa Says*), as well as



Reed, Godfather of Punk

new liner notes by *Rolling Stone* staffer Kurt Loder. Also coming soon from Polygram: budget reissues of the first three **Velvets** albums with the original cover art. □

THE title of "Hardest Working Man in Show-business" used to be claimed by **James Brown**, but lately it looks as if the heaviest contender for the crown is **Prince**. Here, for example, we find Minneapolis's most famous rock star getting down at a surprise appearance with his former protégée, the pneumatic **Sheila E.** (of *Glamor-*

ous Life single fame) at a recent show in Manhattan. And now comes word that diminutive punk-funker **Prince** is embarking on a six-month international tour.



Prince and protégée

Incidentally, the kid's movie debut, the critically hailed though shoestring-budgeted *Purple Rain*, has, at this writing, grossed over fifty million dollars in the U.S. alone. Who says short people got no reason to live? □

GRACENOTES: Look for *This Is Spinal Tap*—easily the funniest rock-and-roll movie ever made—from Embassy Home Video. And note that the home package also includes the bogus band's *Hell Hole* video as well as their "Heavy Metal Memories" greatest-hits commercial. . . . A teacher in Peoria, Illinois, was fired this summer after showing a male aerobics video to her class of eighteen-year-old girls. Reviewing the **Men of Chippendale's Muscle Motion** in the April 1984 issue, our own **Louis Meredith** called it "the sleeper comedy video of the year." Where's Peoria's sense of humor? Answer next month. . . . MGM/UA has announced that by year's end all of its VHS Hi-Fi video cassettes will be duplicated from digital audio masters. . . . Proof that rock-and-roll is here to stay: a recent survey by a leading record-industry marketing consultant firm indicates, surprisingly, that fully one-third of pop record-buyers are over the age of twenty-four. Equally unexpected, their listening tastes are neatly split between soft-rock and New Wave. □



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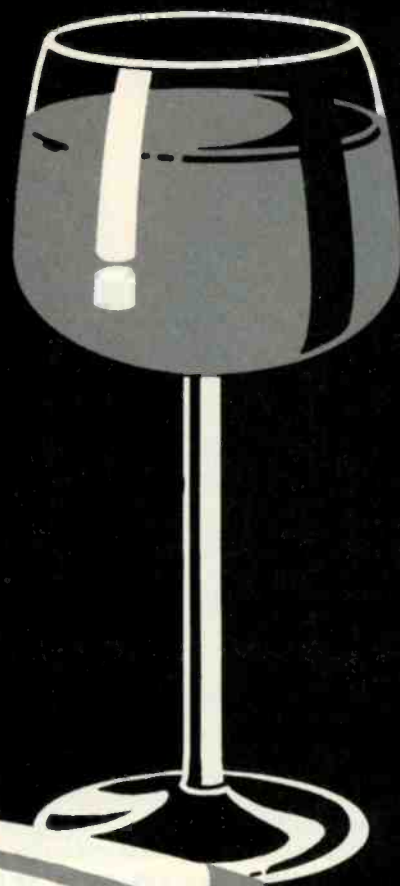
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SPLIT ENZ: AN APPEALING BALANCING ACT

MAYBE it's shell shock from being slammed to the rug by screaming heavy-metal clods and drum-machined distraction by synth freaks, but I find myself defenseless against the off-beat pop charm of the Split Enz. Here's a band that actually plays recognizable tunes. What a relief!

Split Enz's new A&M album, "Conflicting Emotions," is indeed strangely out of sync with these technology-ridden times. The sound of piano, clavier, and woodwinds in among the guitars is only part of it. The members of this New Zealand group are also accomplished lyricists and stylish vocalists who are fully capable of perpetrating a love song with the unapologetic sentiment of a Barry Manilow. *Message to My Girl*, for instance, with a heart-breaking piano hook that nods to Joe Jackson, is the kind of romantic trifle that can just as easily wind up on Adult Contemporary playlists as in the Top Ten. Then there's *Bullet Brain and Cactus Head*, a rhythmically supercharged, surrealistic parable of big-power conflict that's more apt to land songwriter Neil Finn in *Bedlam* than *Billboard*.

It's this perilous balancing act between the conventional and bizarre that's so appealing about the Split Enz. Occasionally the "conflicting emotions" collide in a single song. *Our Day*, as an example, is a loving meditation on the impending arrival of Finn's first child, but the song is propelled by a driving rhythm guitar figure that seems more appropriate for the soundtrack of an auto race than a pregnancy.

This is not to suggest that "Conflicting Emotions" is like a case of musical whiplash. Rather, it keeps



Tim Finn of Split Enz: romantic trifles and surreal parables

you happily off balance. *Strait Old Line* sounds like a swing band that's discovered the electric guitar—a parade of flute, vibes, and tack piano march along behind a cheerily walking bass, only to get jabbed and nudged from behind by Finn's insistent rhythm guitar. On *Working Up an Appetite*, his pipsqueaky voice just manages to make itself heard above a thunderous crush of African percussion. Elsewhere, the Split Enz's exquisitely detailed yet graceful, uncluttered arrangements sug-

gest an inexhaustible pop mother lode. Unpredictable, eclectic, and unaffected, "Conflicting Emotions" elicits emotion but no argument. It's a gem. *Mark Peel*

SPLIT ENZ: *Conflicting Emotions*. Split Enz (vocals and instrumentals). *Strait Old Line; Bullet Brain and Cactus Head; Message to My Girl; Working Up an Appetite; Our Day; No Mischief; The Devil You Know; I Wake Up Every Night; Conflicting Emotions; Bon Voyage.* A&M SP 4963 \$8.98, © AAM 5011 \$8.98.

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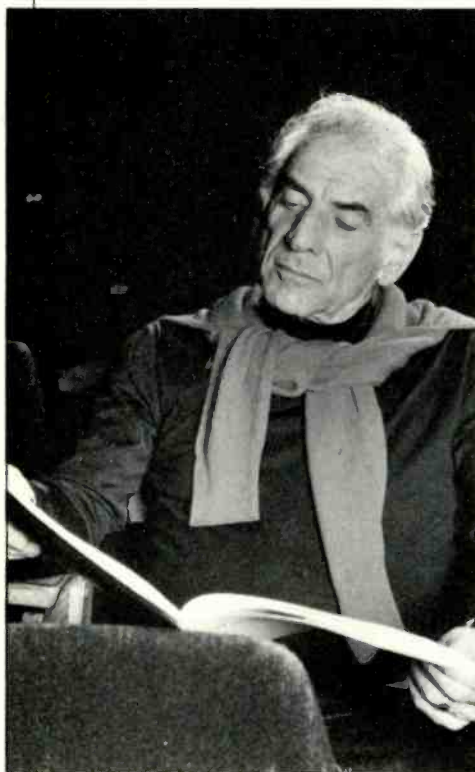
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BERNSTEIN'S PETROUCHKA: SIMPLY SUPERB

THE music for the ballet *Petrouchka*, as conducted by Leonard Bernstein in his ongoing cycle of Stravinsky recordings with the Israel Philharmonic, yields yet another vital listening experience. Using the composer's 1947 revision of the score, with its more elaborate writing for solo piano, Bernstein skirts some of the heartless virtuosity of recent



Bernstein: vital listening

readings I've heard; he imparts an element of character to the various episodes without some of the obvious underlining that sometimes mars his work. The opening pages are a shade fast, with the celesta more than usually prominent in the street-tune bit, and *Petrouchka's* rage at the end of the scene with the Moor might have had more tension built into it. But the final Fair Scene

and conclusion are simply superb and sonically most impressive.

This appears to be the first recording of the *Scènes de ballet* since the two Stravinsky himself made for Columbia. Billy Rose, who commissioned the piece for his *Seven Lively Arts* revue, never did present the work in its sixteen-minute entirety. That was left for the composer himself to do in 1945 with the New York Philharmonic. Bernstein's reading is somewhat less taut than Stravinsky's stereo version with the CBS Symphony Orchestra, but he makes a lot of the "big tune" about four minutes from the close.

As with Bernstein's other Israel Philharmonic recordings from Deutsche Grammophon, this one was pieced together from live performances (and presumably rehearsals as well), but there is almost no audible audience noise. Only the overlap of the drum beats leading into the final Fair music between sides one and two would lead one to believe that these were not studio sessions.

David Hall

STRAVINSKY: *Petrouchka* (1947 version); *Scènes de ballet* (1944). Israel Philharmonic Orchestra, Leonard Bernstein cond. DEUTSCHE GRAMMOPHON 410 996-1 \$11.98, © 410 996-4 \$11.98.

INDISPENSABLE BEETHOVEN FROM GELBER

THE still-youngish Argentine pianist Bruno Leonardo Gelber has been appearing with American orchestras with some regularity over the last dozen years or more, but his recordings of Beethoven, Brahms, and Schumann, once available from Seraphim and Connoisseur Society, have all but disappeared. Now he has resumed his recording activity in grand style, on the Orfeo label, with three sets of variations by Beethoven. They are, in descending order of substance and familiarity, the so-called *Eroica* Variations in E-flat, Op. 35; the Thirty-Two Variations in C Minor, WoO 80; and the



Gelber: subtle and profound

Six Easy Variations in G Major, WoO 77, all on original themes.

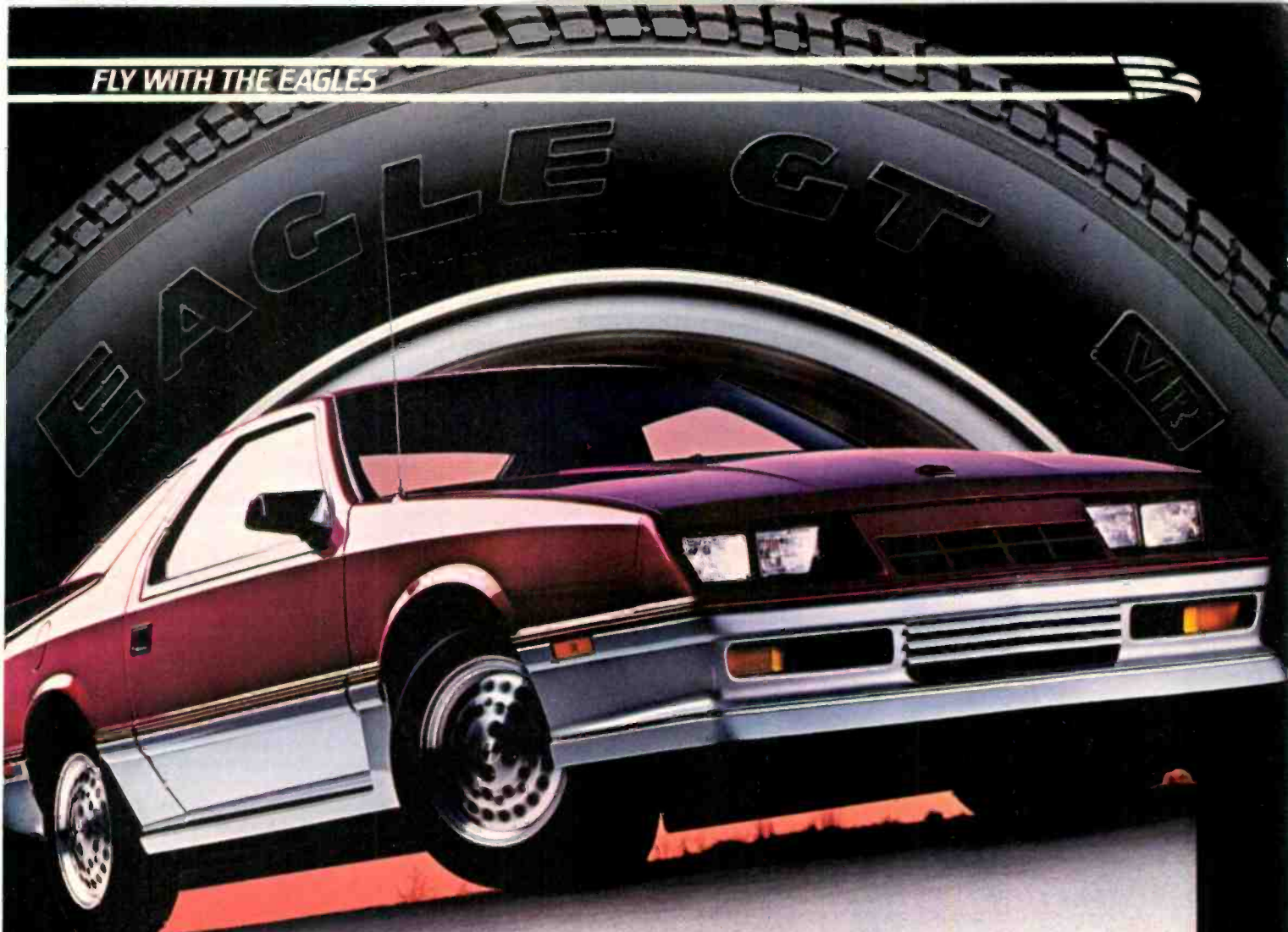
On the strength of these performances alone, Gelber would have to be recognized as a musician of commanding stature, an interpreter who combines intellectual depth and genuine passion in his approach—one who has technique to burn but never for mere display. His grasp of the structure of these diverse works is at once subtle and profound, enabling him to spin each one out with apparent spontaneity and in a character uniquely its own. The digital recording, too, is perhaps the most impressive representation of a piano I have ever heard. It is extremely lifelike and superbly focused in presenting both the crispness and the warmth in Gelber's playing and the handsome quality of the instrument itself, and the DMM pressing, with absolutely silent surfaces, could pass for one of the better Compact Disc issues.

The recording is in fact available in CD format, as well as LP and cassette. In one form or another, and regardless of duplications it might create in an individual collection, I think this is a really indispensable release. There are other fine accounts of these works, but there is never an overabundance of examples, like this, of either the composer's or the performer's being quite so well served.

Richard Freed

BEETHOVEN: *Variations and Fugue in E-flat Major, Op. 35 ("Eroica")*; *Six Easy Variations in G Major (WoO 77)*; *Thirty-two Variations in C Minor (WoO 80)*. Bruno Leonardo Gelber (piano). ORFEO 0 S 040 841 \$13.98, © M 040 841 \$13.98, © C 040 841 \$20.

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GOODYEAR

DON SAMPSON: SONGS OF LIFE ON THE ROAD



Sampson: haunting and highly literate

ONE of the best things about being a reviewer is that occasionally an album on a small or privately owned label comes along that features a little-known performer with the potential to become a major artist.

Such is the case with Don Sampson, a California-based singer/songwriter, and "Coyote," his second, self-produced, self-marketed album on Revolver Records. While most of Nashville is scurrying to find the hottest crossover tune, or locate a studio with enough tracks to accommodate the 65,000 strings that producers like to put behind lonesome pickers these days, Sampson is do-

ing his best to retain the crisp folk side of progressive country music.

Several reviewers have likened Sampson's style to the outlaw approach of Waylon Jennings, and careful listeners will hear traces of Dylan, Kristofferson, and Prine in his work. Sampson himself says he hopes "Coyote" has a sense of timelessness to it in the tradition of Gram Parsons's "Grievous Angel" or Neil Young's "Harvest."

Those are pretty big overalls to fill, but Sampson—more of a songwriter than a singer—is a considerable talent, one capable of crafting haunting and highly literate songs, sometimes, as in *Thief in Mexico*, about little more than thought and mood. Most of the time, however, he writes about love and life on the road, always with the lyrical sweep of a hippified John Donne, as in the chorus from *Love Is Like a Wheel*.

Doubtless, part of the strength of "Coyote" derives from Sampson's choice of sidemen, including three members of Emmylou Harris's Hot Band—the supremely gifted Frank Reckard on guitar, Don Heffington on drums, and Wayne Goodwin on fiddle—and Ben Keith, who's worked with Neil Young for the past ten years, on pedal steel and dobro. Players such as these make most session musicians sound like play-by-number oafs. Heffington is particularly brilliant on *Thief in Mexico*, and Reckard's acoustic, Spanish-style solo on *Way of a Rose* is beautiful beyond words.

"Coyote," like Sampson's first album, "Americansongs," is an uncommonly clean record, having been pressed on Quix II audiophile vinyl. From start to finish, and from art to engineering (by Rodney Crowell's old songwriting partner, Donivan Cowart), "Coyote" is a lovely album, a reflection of a poet's soul.

Alanna Nash

DON SAMPSON: *Coyote*. Don Sampson (vocals, guitar); vocal and instrumental accompaniment. *Way the Wind Blows; Thief in Mexico; You Are the One; Call Me the Blues; Way of a Rose; Down on the Slow Side; Love Is Like a Wheel; Stranger; Blanket of Stars; Fine Wine Love*. REVOLVER R-102 \$10 (from Revolver Records, P.O. Box 84088, Los Angeles, Calif. 90073).

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- STEELY DAN:** *Gaucho*. MCA MCAD 37220. "Designed to seduce" (February 1981).
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- BOB JAMES:** *All Around Town*. TAPPAN ZEE CGK 36786. The prolific pianist with "first-rate musicians," taped live in New York (June 1981).
- BILLY JOEL:** *Piano Man*. COLUMBIA CK 32544. "Strong stuff" (June 1974).
- KING KONG (Max Steiner).** SOUTHERN CROSS 901. The classic 1933 film score.
- PAT METHENY:** *80/81*. ECM 1180-2 "Superb" (March 1981).
- ON YOUR TOES (Rodgers and Hart).** Broadway revival cast. POLYDOR 813 667-2. "Engaging" (November 1983).
- GROVER WASHINGTON, JR.:** *The Best Is Yet to Come*. ELEKTRA 9 60215-2. "Jazz-flavored easy listening" (May 1983).

CLASSICAL

- BEETHOVEN:** *Symphony No. 9*. Mehta. RCA RCD1-5020. Recorded live at Fisher Hall in New York in 1983.
- DEL TREDICI:** *In Memory of a Summer Day*. Slatkin. NONESUCH 9 79043-2. The 1980 Pulitzer Prize-winning score.
- GLASS:** *Glassworks*. Riesman. CBS MK 37265. "Evocative and magical" (September 1982).
- HANDEL:** *Messiah*. Gardiner. PHILIPS 411 041-2 PH3 complete, 412 276-2 PH highlights. "As much idiosyncratic as it is idiomatic" (December 1983).
- HANDEL:** *Messiah*. Hogwood. L'OISEAU-LYRE 411 858-2 OH3 complete, 400 086-2 OH highlights. "Moving—almost to the point of tears" (March 1981).
- MAHLER:** *Symphony No. 2*. Tennstedt. ANGEL CDC-47040. "In the Romantic vein" (December 1982).
- MOZART:** *Idomeneo*. Hollweg; Harnoncourt. TELDEC CDT 35547. "Worth its weight in gold" (July 1981).
- WAGNER:** *Das Rheingold*. Solti. LONDON 414 101-2 LH3. A performance of "power and momentum" (July 1959).

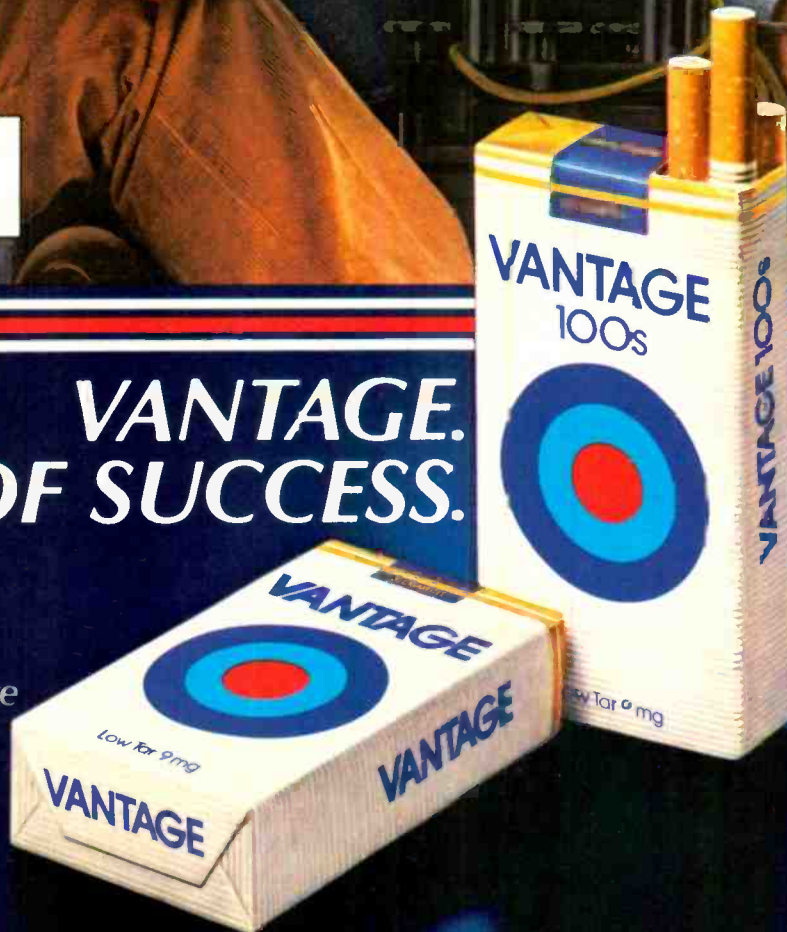
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*Discs and tapes
reviewed by
Richard Freed
David Hall
Stoddard Lincoln*

BARTÓK: Concerto for Orchestra; Two Pictures, Op. 10. Concertgebouw Orchestra, Antal Dorati cond. PHILIPS ① 411 132-1 \$11.98, © 411 132-4 \$11.98, © 411 132-2 no list price.

Performance: Idiomatic
Recording: Fine

This is Antal Dorati's most distinctive statement of Bartók's Concerto for Orchestra as well as the most beautifully played and recorded of his four recordings of it. While other interpreters tend to stress the display element or overemphasize the folk character of this work, Dorati, thoroughly at home with the idiom, presents a lyrical, fairly serene view of it. His tempos now tend to be somewhat broader in the fast movements and a little brisker in the central *Elegia*, and the reading as a whole radiates a special intimacy.

The exceptionally evocative performance of the *Two Pictures* glows with a similar lyrical radiance and unlabored feeling for the folk flavor. The greater degree of subtlety and spontaneity in these performances, I think, gives this new issue a decided edge over Lorin Maazel's very attractive analog recording of the same two titles with the Berlin Philharmonic. The new Philips must also be first choice among digital and CD versions of the concerto. R.F.

BEETHOVEN: Variations (see best of the Month, Page 80)

BRAHMS: Piano Concerto No. 2, in B-flat Major, Op. 83. Vladimir Ashkenazy (piano); Vienna Philharmonic Orchestra, Bernard Haitink cond. LONDON ① 410 199-1 \$11.98, © 410 199-4 \$11.98, © 410 199-2 no list price.

Performance: A winner
Recording: Glorious

This is Vladimir Ashkenazy's third recording of the Brahms B-flat Concerto in a little more than twenty-five years; his second, with Mehta and the London Symphony, is still available and has considerable appeal, particularly in the last two movements, but it is not in the same league with this new one. Few oth-

Explanation of symbols:

- ① = Digital-master analog LP
- Ⓢ = Stereo cassette
- ⓐ = Digital Compact Disc
- Ⓜ = Monophonic recording

A NEW MESSIAH ON CD

HANDEL's *Messiah* has come down to us from the days of its first performances as both high art and community rite for both Christmas and Easter. With some twenty recordings of it listed in Schwann, there is an enormous range of stylings to choose from—"original instruments" Baroque-type readings, Baroque-style performances with modern instruments, performances using the Mozart orchestration, and of course the large-scale treatments beloved of our Victorian ancestors.

Throughout his long musical career, Robert Shaw has been intensely aware of choral singing as a vehicle for community moral(e) uplift. Accordingly, in his new Telarc recording of the complete *Messiah*, which on Compact Disc can be heard in just two passes through the player, Shaw takes a middle-of-the-road stylistic stance.

In the size of his chorus (sixty voices) and orchestra (forty-one plus *positiv* organ and harpsichord), and in a moderate amount of ornamentation for the solo vocal parts, he takes due account of Baroque practice. We are informed in the accompanying program notes that the harpsichord realization by Layton James is from Handel's figured bass, and that a bassoon line has been added to double the tenor part.

Though the opening Sinfonia seems a bit stiff in articulation, the pacing of the performance as a whole is brisk and marked by superior musicianship and execution on the part of all five solo singers. One of them, mezzo-soprano Alfreda Hodgson, is a Kathleen Ferrier prize winner and a veteran of the oratorio circuit on and off records. The others are young, fresh-voiced musicians of highest caliber. "Every valley shall be exalted," as sung by Jon Humphrey, sets the standard for all that follows in this department. It is the most satisfying rendering I've heard since the celebrated 1940 Aksel Schiøtz recording.

As for the chorus, Shaw's prowess as a trainer and conductor of choral ensembles is such that we would expect nothing but the best, which is what we get from the Atlanta Chamber Chorus. There is body, firmness of attack, stead-



Conductor Shaw: nothing but the best

iness of rhythm, and a feel for the organic phrase throughout the whole here, reaching perhaps a peak in "Lift up your heads" and in the deeply moving "Since by man came death."

Shaw's record of *Messiah* is not a blockbuster of the Mormon Tabernacle Choir type, nor is it as bright in sound as some of the Baroque-style performances. This stems from the nature of the Atlanta recording locale, which is a shade plushy. Within this limitation, the recorded sound is just as honest and clear as it can be, and Shaw's disposition of the choral forces is such that maximum stereo effectiveness is achieved with no trace of exaggeration. The balance between soloists, chorus, and orchestra is exemplary. David Hall

HANDEL: Messiah. Kaaren Erickson (soprano); Sylvia McNair (soprano); Alfreda Hodgson (mezzo-soprano); Jon Humphrey (tenor); Richard Stilwell (baritone); Layton James (harpsichord); Atlanta Chamber Chorus and Symphony Orchestra, Robert Shaw cond. TELARC ① DG-10093-2 two discs \$25.98; © CD-80093-2 two Compact Discs, no list price.



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ers from any source are, for that matter, for this is one of those very special recordings in which all the elements come together to refresh a well-loved work without distorting its familiar contours, and to yield deeper pleasures with each hearing.

The performance is on the broadest scale, yet never suggests monumentalism or any sort of self-consciousness. Ashkenazy has the measure of the work's poetic and dramatic essence down to the ground, and Bernard Haitink, as sympathetic a collaborator here as in their recent recording of the *D Minor Concerto*, has the Vienna Philharmonic on its very best behavior. How many times Robert Scheiwein has played the cello solo in the third movement of this work I would not dare to guess, but I would dare to suggest it has never been set forth more meltingly than here. The fugal passage for strings in the middle of the scherzo might have had more punch, but nothing else here leaves room for improvement.

The whole texture, throughout the performance, is palpably *Brahmsian*, as we are inclined to regard that term—mellow, warm, yet marked by a dignified restraint that guards against sentimentality. The "great and childlike finale," as Tovey called it, is especially endearing in its unrushed geniality, which gives full weight to the *grazioso* marking. The recording itself is glorious, projecting all these qualities in full without ever getting in their way. If not "definitive" (how can any one performance of such a work be so regarded?), this is one of the few accounts of the concerto to stand beside the classic ones by Gilels/Reiner, Toscanini/Horowitz, Arrau/Giulini, and Solomon/Dobrowen, and it is without question all-surpassing in respect to sound quality. *R.F.*

BRAHMS: *Symphony No. 1, in C Minor, Op. 68.* London Philharmonic Orchestra, Klaus Tennstedt cond. ANGEL ① DS-38091 \$11.98, ② 4XS-38091 \$11.98; ③ CDC 47029-2, no list price.

Performance: Classical
Recording: A bit confined

Klaus Tennstedt's reading of the Brahms First is not quite as sternly rugged as Klemperer's and certainly far removed from the highly charged manner of a Stokowski or Bernstein. Rather, it recalls Felix Weingartner's classic—but not cold—Beethoven and Brahms recordings of the Thirties.

Power tempered with moderation characterizes Tennstedt's opening movement, and he avoids wallowing in the implicit sentiment of the Andante movement. Flow is the thing in the third movement, in which repeats are minimal. Tennstedt saves his fire for the finale, where the initial adagio is rendered with a high sense of drama, a sense of almost visual imagery enhanced by careful emphasis on woodwind coloration.

This is not Brahms as a "cocktail of

every hue and color," but Brahms as clear, cool mountain spring water—a salutary idea, but one that not every listener will go along with. The recording is generally fine and full, but it seems somewhat confined at the climaxes in terms of the spacious outdoors feeling that I feel this music deserves, especially in the finale. *D.H.*

HAYDN: *Trumpet Concerto in E-Flat Major.* Wynton Marsalis (trumpet); National Philharmonic Orchestra, Raymond Leppard cond. ***Cello Concerto in D Major.*** Yo-Yo Ma (cello); English Chamber Orchestra, José-Luis García cond. ***Violin Concerto No. 1, in C Major (Hob. VII/1).*** Cho-Liang Lin (violin); Minnesota Orchestra, Neville Marriner cond. CBS ① IM 39310, ② IMT 39310, ③ MK 39310, no list price.

Performance: Three winners
Recording: All good

All three of these performances have been issued previously with different couplings, the early violin concerto being incongruously paired with one of Henri Vieuxtemps's virtuoso effusions. This repackaging is welcome not only because it brings together three of Haydn's most appealing concertos but also as a showcase for three extraordinarily gifted young solo performers.

I was most impressed by Wynton Marsalis's "fine tuning" of the dynamics in his piece, by Yo-Yo Ma's sweetness of tone and poised phrasing, and by the alacrity with which Cho-Liang Lin lights into the violin concerto (though a little more relaxation might have been in order). The two works recorded in England sound warm in tone and pleasantly roomy (the Cello Concerto was an analog original); the recording made in Minnesota is a bit drier. *D.H.*

MAHLER: *Symphony No. 2, in C Minor ("Resurrection").* Eva Marton, Jessye Norman (sopranos); Vienna State Opera Choir; Vienna Philharmonic Orchestra, Lorin Maazel cond. CBS ① I2M 38667 two discs, ② I2MT 38667 two cassettes, ③ M2K 38667 two Compact Discs, no list price.

Performance: Fussy
Recording: A bit reverberant

Only Leonard Bernstein's unique recording of the Mahler Second made at Ely Cathedral a decade ago is longer than this one, though Harold Farberman's new one on Vox Cum Laude comes close. Lorin Maazel opts for the solemn *Totenfeier* approach to the opening movement rather than depicting it as a Faustian conflict. His phrasing, especially as it approaches cadences, is stretched at times almost to the breaking point. The andante intermezzo is a slow-motion affair in which the ending is drawn out to a point of almost unbearable suspense. Deliberation is also the rule in the scherzo, and in the slow central section the loss of momentum becomes disconcerting.

However, the *Urlicht* song movement and the solemnly apocalyptic finale, which can both stand up to an expansive tempo, are more convincing.

Not the least astonishing element in this performance is having *soprano* Jessye Norman sing the contralto role, which she does with a richness and body worthy of the legendary Marian Anderson in her prime! It is well that the strong-voiced soprano Eva Marton partners Norman in the finale, since their voices are a good match in both body and power of projection.

If it's big sound you're after, this recording has plenty of it, especially in the timpani and tam-tam. The CBS album notes do not indicate where the recording was made, but the sound is bright and rather reverberant with pronounced stereo imaging in spots. What I hear of the organ in the final pages is the real thing, not electronic, but it sounds out of tune.

This is not Mahler for the dedicated Mahlerite, but some may enjoy the individuality of the interpretation—and certainly the sound of Jessye Norman's voice, if only for the few minutes she is called upon. *D.H.*

MOZART: Concert Arias. *Non curo l'affetto; Fra cento affani; Io non chiedo; No, che non sei capace; Sperai vicino il lido; Ah, non sai qual pena sia; Vorrei*

spiegarmi, oh Dio!; Ah se in ciel, benigne stelle. Edita Gruberova (soprano); Mozarteum Orchestra, Leopold Hager cond. DEUTSCHE GRAMMOPHON 410 960-1 \$11.98.

MOZART: Concert Arias. *Sol nascente; Per pietá, bell'idol mio; Per quel paterno amplesso; Ah, non lasciarmi, no; Ah, t'invola; Non so d'onde viene; Nehmt meinen Dank; Chi sa, qual sia.* Lucia Popp (soprano); Mozarteum Orchestra, Leopold Hager cond. DEUTSCHE GRAMMOPHON 410 961-1. \$11.98.

Performances: Variable to excellent
Recordings: Adequate to good

Mozart's concert arias, most of them for soprano—some for recital use, others for insertion in operas by various composers—are the rage nowadays, with competing "complete" editions from Time-Life/London, EMI/Electrola, and Deutsche Grammophon, each enlisting several singers of assorted merits. Now the discs from these collections have started to appear individually.

Of the two listed here, Lucia Popp's is the more winning, though both sopranos are on a par technically. Popp's warmly human tone and caressing way with a phrase make even the display passages sound natural, and she shows a special gift for molding and spinning

out the music, imbuing it with intensity as well as soft persuasion.

Edita Gruberova's cooler timbre and assertive address place more distance between her and the listener; so do the DG engineers, evidently out of respect for the size and cutting power of her voice. The first aria on side two, from Metastasio's text for *Demofonte*, is almost too much for her, but she recoups with an exemplary air meant for Anfossi's *Zemira*, showing suave legato, gentle tone, and non-strident highs as well as dramatic involvement. Leopold Hager's accompaniments tend to plod.

John W. Freeman

RAMEAU: Pygmalion. Michael Goldthorpe (tenor), Pygmalion; Marylin Hill Smith (soprano), La Statue, Céphise; Anne-Marie Rodde (soprano), L'Amour. English Bach Festival Singers and Baroque Orchestra, Nicholas McGegan cond. ERATO/RCA STU 71507 \$10.98, © MCE 71507 \$10.98.

Performance: Unbending
Recording: Very good

Pygmalion appears to have become Rameau's most popular operatic work, or at least the most often recorded. And a charming piece it is, with its delightful dance music and opportunities for showy, Italianate singing. Michael Goldthorpe's light tenor and fine

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French diction in the title role puts him in good stead for the airs in the French style, but when he reaches the coloratura stanzas in the final aria, his passage-work begins to lack clarity and brilliance. Nicholas McGegan, for his part, seems to have one basic tempo for everything, which, despite occasional variations, makes the dances sound pretty much alike. S.L.

SCHOENBERG: *Verklärte Nacht, Op. 4 (original version for string sextet); String Trio, Op. 45.* LaSalle Quartet; Donald McInnes (viola); Jonathan Pe-

gis (cello). DEUTSCHE GRAMMOPHON 410 962-1 \$11.98, © 410 962-4 \$11.98.

SCHOENBERG: *Verklärte Nacht, Op. 4 (for string orchestra).* WAGNER: *Siegfried Idyll.* English Chamber Orchestra, Vladimir Ashkenazy cond. LONDON 410 111-1 \$11.98, © 410 111-4 \$11.98; © 410 111-2, no list price.

Performances: Both intense
Recordings: Both very good

Verklärte Nacht, with its amalgam of post-*Tristan* harmonic texture and

Brahmsian thematic manipulative technique, has long since taken its place in the concert repertoire, chiefly in the 1943 revised string-orchestra version. The original sextet version, especially in this brilliantly controlled reading by the augmented LaSalle Quartet, carries with it a special intensity. Yet, the climactic moments carry greater weight in the string-orchestra version. Stokowski's 1960 recording, now on Seraphim, is especially instructive on this point, and it is a superbly disciplined performance as well.

Vladimir Ashkenazy is no Stokowski, but he does elicit playing of truly Tchaikovskian intensity from the English Chamber Orchestra, and his reading of Wagner's *Siegfried Idyll* is nicely shaped, almost Bruno Walterish in its glowing warmth. London's digitally mastered sound is excellent.

From my point of view, however, the Schoenberg String Trio is the *pièce de résistance* of all the works on these two records. Schoenberg said that it describes being snatched from the jaws of death. The structural intricacy is there, but the high drama of the music itself and its intense spirituality do end up as art that conceals art. The intellectual element does not dilute the drama, nor does the drama compromise the structural integrity of the whole. The Schoenberg String Trio is surely one of the masterpieces of the twentieth century. It is also one of the most difficult to perform satisfactorily.

The three players from the LaSalle Quartet succeed fully in their realization, as did the Santa Fe Chamber Music Festival Players in their earlier version for Nonesuch. Deutsche Grammophon's sound seems to me a shade brighter, however. D.H.

SCHUBERT: *Piano Sonata in C Minor (D. 958) Ländler, Op. 171 (D. 790).* Richard Goode (piano). NONESUCH 79064-1 \$11.98, © 79064-4 \$11.98.

SCHUBERT: *Piano Sonata in C Minor (D. 958).* SCHUMANN: *Fantasia in C Major, Op. 17: Third movement, Langsam getragen.* Leonard Shure (piano). AUDIOFON 2015 \$11.98.

Performances: Both superb
Recordings: Both very good

There is a great temptation to make puns on the names of these two pianists, but one adjective describes both these performances of Schubert's C Minor Sonata: superb.

It was Artur Schnabel, of course, who more or less rescued the Schubert sonatas from oblivion fifty or sixty years ago, during the years Leonard Shure was his pupil and assistant. Shure, now seventy-four, brings great authority to his Schubert, in which the juxtaposition of massive power with great tenderness is very much in the Schnabel tradition, yet it is illumined by enough individuality to suggest that the most important, thing Shure learned about Schubert from Schnabel was how to develop his

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own insights into the music. The sound, as on all the Audiofon discs I've heard, is exceptionally vivid and sensibly focused, a demonstration of how good an analog recording can be.

The *Ländler* on Richard Goode's Nonesuch disc may be regarded as a more appealing filler than the single Schumann movement that Shure plays. I don't think I've ever heard Schubert's little dances set forth more beguilingly, and Goode's performance of the sonata is just as convincingly Schubertian as Shure's, if perhaps a shade less overtly dramatic. Throughout the work Goode shows a wonderful sense of flow, and the sonic focus, emphasizing warmth more than brilliance, seems just right for this approach. *R.F.*

SCHUBERT: *Symphony No. 9, in C Major (D. 944, "Great")*. Berlin Philharmonic Orchestra, Klaus Tennstedt cond. ANGEL ● DS-37898 \$11.98, © 4XS-37898 \$11.98.

Performance: Even-tempered
Recording: Good

My interpretive touchstones on records for the Schubert *Great C Major* Symphony have been recordings by Walter, Krips, Szell, and Toscanini, which is to say, I lean toward readings of this music with a touch of the mysterious and demonic. In this context, I find the current Klaus Tennstedt realization of the score unsettling at times. While Tennstedt's reading is elegant in detail and pacing, his dynamics are a bit on the cool side. The broadening out of the big tune at the coda is pronounced—perhaps a bit too much so, though I don't care for the headlong gallop of the last Toscanini NBC readings either.

The pacing of the slow movement here is just about ideal, though I don't feel much dynamic intensity at the catastrophic climax. His reading of the scherzo, on the other hand, is a rugged one, marked by careful attention to matters of texture. And in what I have always considered a kind of "ride to hell" finale I find Tennstedt a bit tame.

At all events, a choice of this reading over others clearly is very much a matter of taste. I respect what Tennstedt has accomplished here in warm, full-bodied recorded sound: I'm not sure yet that I can live with it. *D.H.*

SCHUMANN: *Fantasia in C Major* (see SCHUBERT)

R. STRAUSS: *Also sprach Zarathustra, Op. 30*. Philharmonia Orchestra, Georges Prêtre cond. RCA ● ARC1-4996 \$12.98, © ARK1-4996 \$12.98.

Performance: Theatrical
Recording: Big

I suspect that producer Charles Gerhardt and his colleagues went all-out here to produce a *Zarathustra* for audiophiles. The game pretty well gives itself away in the statement that while the orchestra was recorded in London's

Walthamstow Town Hall, the all-important organ obbligato was dubbed in from the instrument at Central Hall, Westminster.

Well, the result is big, splashy, and a dandy test for state-of-the-art equipment. The upper partials of the timpani must be heard to be believed. I am puzzled, however, by what sounds like a touch of distortion about eighteen seconds after the third repetition of the opening trumpet-timpani statement, where timpani and cymbals sound together for the first time in the score. Likewise, the famous "Convalescent"

section that opens side two sounds less than immaculate. I will be interested to hear a CD disc of this performance.

Georges Prêtre, an expert at his craft, elicits spirited playing if not always flawlessly clean ensemble from the Philharmonia. Of the extroverted, blockbuster versions, this one, despite minor flaws, tops the list for now. *D.H.*

STRAVINSKY: *Petrouchka* (see Best of the Month, page 80)

WAGNER: *Siegfried Idyll* (see SCHÖENBERG)

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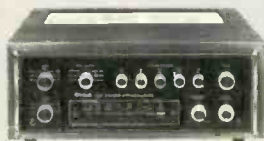
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Collections

BRASS IN BERLIN. Pachelbel: *Canon; Magnificat.* Lassus: *Echo Song.* Gibbons: *In nomine.* Bach: *Jesu, meine Freude; Singet dem Herrn ein neues Lied.* G. Gabrieli: *Jubilate Deo; Sonata pian' e forte; In ecclesiis; Sonata XIII.* Albinoni: *Adagio.* Palestrina: *Jubilate Deo.* Canadian Brass; Berlin Philharmonic Brass. CBS ◉ IM 39035, ◉ IMT 39035, ◉ MK 39035, no list price.

Performance: Slick
Recording: Splendid

The Canadian Brass and the Berlin Philharmonic Brass together prove beyond a doubt that they can transform anything into an effective brass piece. But while this is feasible for Renaissance vocal music, so much is lost in transcriptions of string music that you wonder why they bother. The Pachelbel depends on the sheen of strings, Gabrieli's *In ecclesiis* depends on the contrast of solo and massed voices and brass, and *Jesu, Joy of Man's Desiring* (erroneously listed here as *Jesu, meine Freude*) depends on an obbligato contrasting with the chorale. The ensemble virtuosity is certainly admirable, but only an ardent brass buff could really accept it all musically. S.L.

BENNETT LERNER: American Piano Music. Copland: *Proclamation for Piano; Midday Thoughts.* Thomson: *Two Sentimental Tangos; Two Portraits (1983).* Bowles: *Six Preludes; Six Latin-American Pieces.* Barber: *Ballade.* Bernstein: *Touches.* Ramey: *Piano Fantasy.* Bennett Lerner (piano). ETCETERA ◉ ETC 1019 \$12.98, ◉ XTC 1019 \$12.98.

Performance: Idiomatic
Recording: Excellent

Bennett Lerner and Phillip Ramey were something more than godfathers in respect to the Copland and Thomson pieces recorded here. Two years ago they persuaded Copland to complete the *Proclamation* he began in 1973, and Lerner got him to finish the *Midday Thoughts*, begun as far back as 1944. Thomson's deliciously contrasting little Tangos were composed in 1923, but the Portraits were sketched only last year, one a deadpan study of Lerner, the other an agitated one of Ramey.

Ramey's own *Fantasy* is quite the most substantial piece in this collection in terms of depth, contrasts, and technical demands as well as sheer length (about ten minutes). The dozen little pieces by Paul Bowles, composed between 1934 and 1947, also exhibit a range as remarkable as their conciseness. The Barber and Bernstein pieces are the only ones here that have been recorded before; in both cases, I feel Lerner's brisk approach brings a certain gain in cohesiveness. The piano sound, except for a slight clanginess in the opening Copland piece, is absolutely first-rate, and it is enhanced by the Teldec DMM pressing. R.F.

CHRISTMAS MUSIC

An eclectic list of recommended, recent recordings

CHARPENTIER: *Un Oratorio de Noël* (Harmonia Mundi HM 5130). William Christie conducts his early-music group, Les Arts Florissants.

CHRISTMAS BRASS MUSIC (Supraphon 1111 3157). Performed by the Prague Brass Soloists.

CHRISTMAS CAROLS (Deutsche Grammophon 413 590-2). Repertoire ranging from the fourteenth century to the present, sung by the Choir of Westminster Abbey directed by Simon Preston. CD only.

CHRISTMAS WITH CARLO BERGONZI (Orfeo S 030821 A). The tenor is accompanied by the Austrian Radio Symphony under Paul Angerer.

CHRISTMAS WITH THE KING'S SINGERS (MMG 1126). Carols sung by the English group of six male voices.

A COUNTRY CHRISTMAS, Volume 3 (RCA CPL1-5178). With Alabama, Waylon Jennings, Charley Pride, Ronnie Milsap, others.

HALLÉ CHRISTMAS (Musical Heritage Society MHS 4805L). The Hallé Orchestra of Manchester, England, is conducted by Maurice Handford.

KING'S COLLEGE CHOIR: *O Come All Ye Faithful* (Argo 414 042-1). Carols sung by the great choir of Cambridge University's King's College, directed by Stephen Cleobury.

MANNHEIM STEAMROLLER CHRISTMAS (American Gramophone AG-1984). Carols in contemporary orchestral settings by Chip Davis, who also conducts.

SACRED CAROLS FOR CLASSICAL GUITAR (Eagle LGAR 7003). Beautifully played by James Sundquist, with extremely informative notes.

SAINT-SAËNS: *Oratorio de Noël* (Calig CAL 30512). Performed by the Bach Chorus and Orchestra under Diethard Hellmann.

SCHÜTZ: *Christmas Story* (Orfeo S 002811 A). The Munich Motet Choir and soloists sing this music of the seventeenth century.

THE SOUND OF CHRISTMAS (CBS FM 39167). With Plácido Domingo, Katia Ricciarelli, Mirella Freni, Peter Hoffmann, others.

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WAGNER'S RING ON COMPACT DISC

RICHARD WAGNER's four-opera cycle *Der Ring des Nibelungen* ranks, in my view, among the greatest creative achievements of the human mind. Eurodisc, an East German company, has made the first all-digital recording of *The Ring*, and that very pleasing performance is now available in the United States on eighteen Compact Discs. I am amazed that the new recording technology has been applied so early in the digital era to such a serious musical undertaking, and the result is a triumphant example of technology in the service of art.

When a Bayreuth Festival performance of *The Ring* was shown on public television last year, a lot of critics had a good time comparing this intricate tale of lust and greed to the TV series *Dallas*

and the *Star Wars* cycle of movies. Wagner's tetralogy, of course, is elevated by its incomparable music. And despite the dramatic weaknesses of the *Ring* cycle—its great length, its repetitiousness—the music bypasses the listener's critical faculties and goes directly to work on the senses from the first note of *Das Rheingold* through *Die Walküre* and *Siegfried* to the last note of *Götterdämmerung*.

The Eurodisc performance, with Marek Janowski conducting the Dresden Staatskapelle, is a carefully nuanced reading that provides a goodly number of sensory thrills. Janowski has better singers than Pierre Boulez did for the PBS telecast and the Philips recordings. On the whole Janowski's singers have smaller voices than the leather-lunged

Wagnerians of the Thirties and Forties, and this vocal characteristic emphasizes the human aspects of the story rather than the supernatural. My reference standard for *The Ring* on recordings is the version conducted by Georg Solti on London Records. Compared with that heroic performance, the new set seems more intimate and lyrical, though not without excitement.

When Janowski's *Rheingold* was released here on LP's, it got unenthusiastic reviews, and on CD's it is the least impressive of the four parts of the cycle. But intensity and interest increase in *Walküre* and continue to build in the last two operas.

Although Theo Adam lacks a beautiful or well-focused voice, he brings authority to the role of Wotan, which he has been singing for two decades. Siegmund Nimsgern, who has more impressive vocal equipment, is a very effective Alberich (the Nibelung of the title). Peter Schreier is a satisfactory Loge in *Rheingold*, and his beautiful lyric tenor makes his Mime in *Siegfried* much more than the usual grotesque caricature. With the exception of Donner, the other roles in *Rheingold* are performed at least adequately, and the Rhinemaidens, led by Lucia Popp, are fine.

The level of singing is raised in *Walküre* by Jessye Norman (in opulent voice) as Sieglinde, Siegfried Jerusalem as an ardent Siegmund, and Kurt Moll as a black-voiced, black-hearted Hunding. The American soprano Jeannine Altmeyer is an interesting and unconventional Brünnhilde. Lacking the vocal heft generally associated with the role, she sings well, nonetheless, and makes the character more girlish and vulnerable than usual.

Similarly, René Kollo is a lighter-than-usual Siegfried. I like his interpretation, which has none of the Teutonic Li'l Abner mannerisms that many heldenosers assume in attempting to convey youth. Vocally, *Siegfried* probably comes off best of the four operas. Janowski also hits his stride here and sustains it to the end.

Norma Sharp doubles satisfactorily as the Forest Bird in *Siegfried* and Guttrune in *Götterdämmerung*, and Ortrun Wenkel does double duty as Erda and Waltraute. The other soloists are competent, and the various Norns and Valkyries are quite good.

Still training my ears to judge CD's, I listened to the new *Ring* with three different sets of speakers and liked what I heard with all of them. (Some CD's get surprising response from even modest speakers.) The sound here may not be the last word in what digital recording can do—I thought I detected some compression in *Walküre*, for example—but it has the Compact Disc's virtues of

wide dynamic range, low noise, and excellent stereo separation. It's a clean sound that I could listen to for hours without fatigue, and I like the balance of voices and orchestra.

Librettos are supplied, but the indexing points for easy location of specific passages within acts are not accessible on all players. With so great a musical work there is no performance, no recording that will satisfy everyone. This is a solid *Ring*, however, that will reward study and continue to give pleasure for years.

Making A-B comparisons between the Janowski *Ring* on CD's and the Solti *Ring* on LP's proves that there's a great deal of life in the old set still. I love the performance, and the analog sound (vintage 1958-1965) is remarkable. Remastered, the Solti *Rheingold* has been released on Compact Discs by London Records, and the sound is quite good. Speakers with very low bass response will reveal some bumps and thumps that require tone-control adjustment, but they are scarcely audible on ordinary speakers.

The entire Solti *Ring* on Compact Discs will be released by London momentarily. Collectors of recordings of this work will be very busy for a long time making comparisons. Deutsche Grammophon will release Herbert von Karajan's *Ring* recording (1966-1970) on CD's next year, and Philips has started reissuing on CD's a Bayreuth Festival recording, conducted by Karl Böhm, that has been unavailable for several years. I urge you to start listening and join in the fun.

William Livingstone

WAGNER; *Der Ring des Nibelungen*. Theo Adam (Wotan), Siegmund Nimsgern (Alberich), Peter Schreier (Loge, Mime), Yvonne Minton (Fricka), Ortrun Wenkel (Erda, Waltraute), Lucia Popp (Woglinde), Karl-Heinz Stryczek (Donner), Matti Salminen (Fafner), Siegfried Jerusalem (Siegmund), Kurt Moll (Hunding), Jessye Norman (Sieglinde), Jeannine Altmeyer (Brünnhilde), Norma Sharp (Waldvogel, Guttrune), Hans Günter Nöcker (Gunther), other soloists and choruses. Dresden Staatskapelle, Marek Janowski cond. EURODISC *Das Rheingold* three CD's 610 058-233, *Die Walküre* five CD's 610 064-235, *Siegfried* five CD's 610 070-235, *Götterdämmerung* five CD's 610 081-235, no list price

WAGNER: *Das Rheingold*. George London (Wotan), Kirsten Flagstad (Fricka), Eberhard Wächter (Donner), Set Svanholm (Loge), Gustav Neidlinger (Alberich), other soloists. Vienna Philharmonic, Georg Solti cond. LONDON three CD's 414 101-2, no list price.

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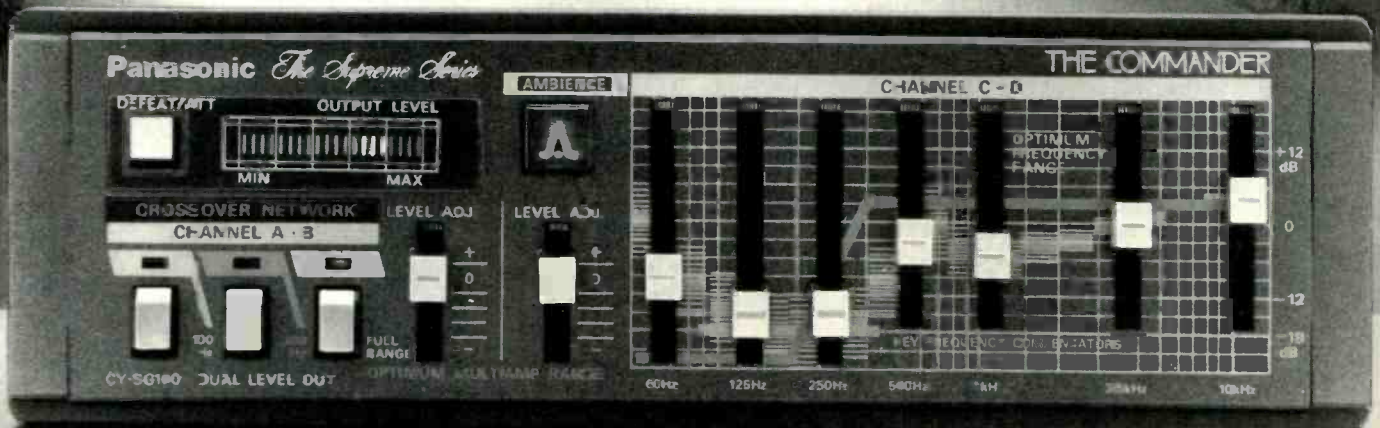
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Discs and tapes reviewed by
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MOE BANDY AND JOE STAMPLEY: *The Good Ol' Boys—Alive and Well.* Moe Bandy and Joe Stampley (vocals); vocal and instrumental accompaniment. *Where's the Dress; Honky Tonk Money; Wild and Crazy Guys; Daddy's Honky Tonk; Alive and Well; Still on a Roll;* and four others. COLUMBIA FC 39426, © FCT 39426, no list price.

Performance: Beer-belly special
 Recording: Good

Y'all know what a good ol' boy is, doncha? Well, to paraphrase Florence King, one of my favorite writers, a good ol' boy is that peculiar Southern specimen of pork-bellied male that mounts bar stools crotch first, regularly jabs holes in his thumbs with fish hooks, and, as proof of his requisite manly crewcuts, always has boils on the back of his neck from the barber's clippers.

Several years ago, Moe Bandy and Joe Stampley, both proponents of the honky-tonk school of country music, decided to join up for a hell-raisin' tribute to that aforementioned breed of rural . . . gentleman. They carried it further than they expected—got several albums out of it—and then Moe decided he didn't want to wear that hat no more, and the good ol' boys divorced, sort of.

Now they've got their Moe-Joe workin' again, in an album of humorous red-neck ditties that do a swell job of supporting their big single, *Where's the Dress*, a clever send-up of the Boy George phenomenon. Like a fella taking his first swig of moonshine whiskey, you've got to have your mouth set just right to appreciate a lot of this, but Bandy and Stampley pull it off with the timing and finesse of Bob and Ray, or Stiller and Meara, not to mention Steve and Eydie.

Moe and Joe are a couple of wild and crazy guys. If you've ever done any honky-tonk hell-raisin'—or wanted to—check these ol' boys out. You'll want to go out and rev up the truck. *A.N.*

Explanation of symbols:

- = Digital-master analog LP
- © = Stereo cassette
- Ⓢ = Digital Compact Disc
- Ⓜ = Monophonic recording

THE EVERLY BROTHERS

THE Everly Brothers' "EB 84" is a nearly perfect comeback album for the duo that more or less invented two-part harmony in rock-and-roll style. Not one of the least of its pleasures is the simple sound of the voices.

Over a decade after the Everly Brothers' public, acrimonious professional separation, and nearly thirty years since they helped make the Fifties less boring than Dwight Eisenhower would have had them, the astonishing truth is that Don and Phil Everly are singing better than they did in their hit-making prime. On numbers like Paul McCartney's *On the Wings of a Nightingale* and Bob Dylan's *Lay, Lady, Lay*, which must now be ranked as one of the all-time great Dylan cover versions, their vocal blend is more heartbreakingly evocative, in its inimitable Appalachian way, than ever.

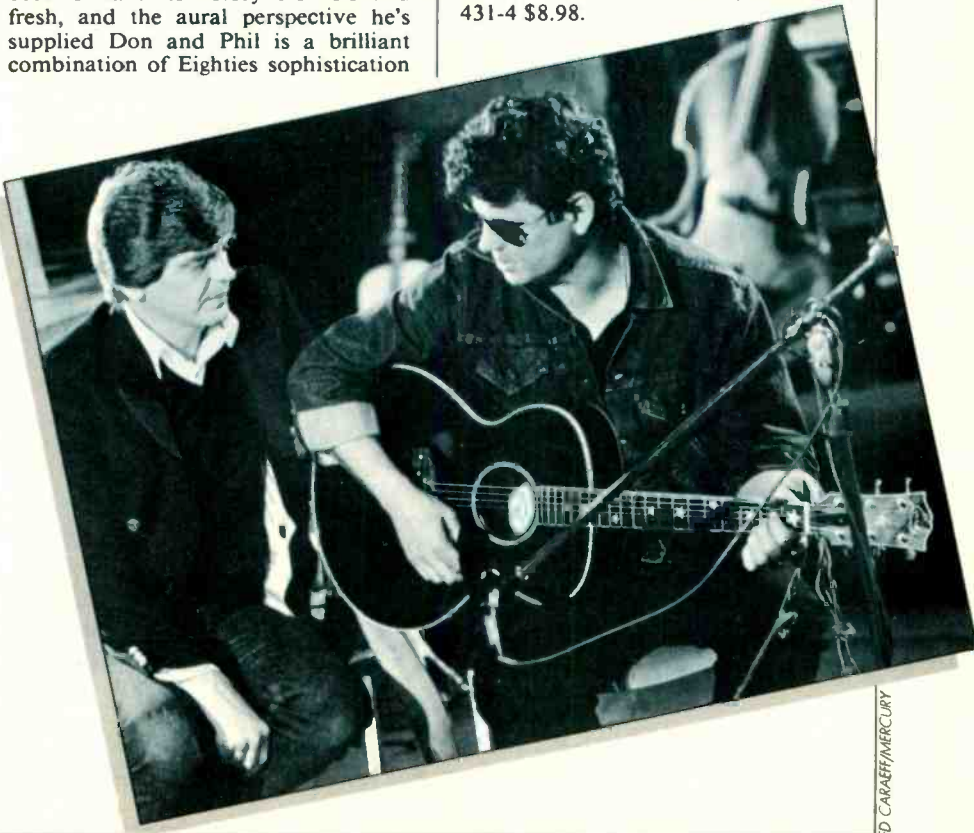
Much of the credit for this surprising turn of events is clearly due hero producer Dave Edmunds, who has provided the Everlys with a smashing, contemporary pop/rock/country backdrop. Edmunds's particular genius has always been to make his history lessons sound fresh, and the aural perspective he's supplied Don and Phil is a brilliant combination of Eighties sophistication

and backwoods primitivism. The production of "EB 84" could hardly have been bettered.

Still, the album belongs to the Everlys, and they carry it magnificently. There are no grand themes here: the emphasis is on well-crafted songs and gorgeous singing. Nevertheless, there's an ineffable dignity to the duo's music-making that supplies a subtext, a kind of mature authority that almost makes me believe that growing up gracefully is something to look forward to.

Will this album appeal to that segment of the record-buying public too young to remember how much these guys have contributed to American Pop? It could. I'm crossing my fingers. Will it strike a responsive chord in anybody old enough to have swooned to the Everlys' sound from the back seat of a '58 Chevy? Absolutely. Does it deserve an audience wide enough to contain both demographic groups? Indubitably. But ignore my raving and listen for yourself. *Steve Simels*

THE EVERLY BROTHERS: EB 84. The Everly Brothers (vocals and guitars); other musicians. *On the Wings of a Nightingale; Danger Danger; The Story of Me; I'm Takin' My Time; The First in Line; Lay, Lady, Lay; Following the Sun; You Make It Seem So Easy; More Than I Can Handle; Asleep.* MERCURY 422-822 431-1 \$8.98, © 422-822 431-4 \$8.98.



ED CARA/RE/MERCURY

BILLY BRAGG: *Life's a Riot with Spy vs Spy*. Billy Bragg (guitar, vocals). *The Milkman of Human Kindness; To Have and Have Not; Richard; A New England*; and three others. UTILITY UTIL 1 \$5.98.

Performance: Talent in the raw
Recording: Okay

Here's an interesting little record from one of the new breed of post-punk folkies. Billy Bragg sings his mordant, funny little tunes to his own solo guitar accompaniment, just like that fella Dylan used to do, except that young Bragg

(as befits somebody who grew up on the Ramones rather than Woody Guthrie) prefers a cheapo electric model to an acoustic Gibson or Martin. Actually, for once, the Dylan comparison is not so far-fetched as you might think, as there seems to be a genuinely original talent here.

Bragg's tunes are alternately cynical and endearingly tender, he's got a real feel for the political protest number, and he can be wickedly funny. But be warned. This was Bragg's publishing demo, recorded live onto a two-track tape recorder without benefit of over-

dubbing, so it is raw and unpolished in a way that may not appeal to fans of currently fashionable high-tech pop. Nevertheless, there's something here that deserves to be heard, something simultaneously as old fashioned as the Childe Ballads that Fairport Convention used to sing and as up-to-date as an Elvis Costello album (and a lot more authentically English-sounding). Definitely worth checking out. S.S.

KAREN BROOKS: *Hearts on Fire*. Karen Brooks (vocals); vocal and instrumental accompaniment. *Showdown; Born to Love You; A Little Common Kindness; Bull Rider; Hearts on Fire; Give It Up*; and four others. WARNER BROS. 25051-1 \$8.98, © 25051-4 \$8.98.

Performance: Make room for Karen
Recording: Very good

Over the past eight years or so, Karen Brooks's songs have been recorded by such progressive-country artists as Tracy Nelson, Jerry Jeff Walker, Gary P. Nunn, Rosanne Cash, and Emmylou Harris. So, in the time-honored, record-company tradition, only one of Brooks's own songs (and a co-written tune at that) appears on this record; her second LP. It's a terrific album. Brooks, who has seemed timid and scared (and rather weak-voiced) in her television appearances, sounds full, vital, and confident here, and she easily transcends the submissive, "kick-me-beat-me-hurt-me" attitude of most Nashville female singers.

Brooks is a woman with passion and guts, willing to speak up and out but able to show her tender side too. The songs, mostly about disappointed romance, are by Rodney Crowell, Hank DeVito (of Crowell's Cherry Bombs band), Eric Kaz, Randy Meisner, John Hiatt, Dave Loggins, and Brooks's writing partner, Randy Sharp (who contributes two of the most affecting tunes here), so you can tell this is a smart album right off. In addition, with backing by ex-Doobies Keith Knudsen, Bill Payne, and John McFee, and with supporting vocals by Lee Sklar, Dave Hungate, Jim Horn and the joyous Bonnie Bramlett, everything is as it should be, when it should be. Brooks may not have the widest range in the world, but that hardly matters when stacked up against the heart she pours into her performances. Trust me on this one: just go get it. A.N.

THE COYOTE SISTERS. The Coyote Sisters (vocals); vocal and instrumental accompaniment. *I've Got a Radio; Nobody Moves Likes Us; Straight from the Heart (Into Your Life); Floating World*; and six others. MOROCCO 6063 \$7.98, © M75-6063 \$7.98.

Performance: Junk food
Recording: Good

The Coyotes are three distaff back-up singers, formerly with John Denver and others, now gathered together as a trio

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apparently for want of any other ideas. Their album is a very slick, very canny piece of L.A. commercial music making, quite skillfully balanced between Heart-style guitar-crunch hard rock on one end and wispy Christopher Cross-type elevator fodder on the other. Think of it, if you must, as the Andrews Sisters Meet the Doobie Brothers, but be warned that, though it's eminently tuneful, you'll have trouble remembering any of it in the morning. S.S.

NEIL DIAMOND: *Primitive*. Neil Diamond (vocals); orchestra. *Turn Around; Crazy; Primitive; My Time with You; One by One*; and five others. COLUMBIA QC 39199, © QCT 39199, no list price.

Performance: The usual
Recording: Good

Enormously rich, undeniably famous, and still incredibly boring, Neil Diamond continues to shower his audience with his special brand of "sensitivity" and "meaningfulness." On this album he presents several of his own compositions, including the clammy *One by One* and the totally wet *Brooklyn on a Saturday Night*. Both are about as interesting as listening to slippers descend a staircase. Things don't pick up one iota, either, when he dawdles over performances of such things as *Crazy, Turn Around, and Sleep with Me Tonight* by the team of Burt Bacharach and Carole Bayer Sager (Bacharach). Undoubtedly Diamond has many fans, but then so do minor tranquilizers. P.R.

THE DRONGOS. Jean McAllister, Richard Kennedy (vocals, guitar); Tony McMaster (vocals, bass); Stanley John Mitchell (vocals, drums). *Eye of the Hurricane; Ghost Ship; Overnight Bag; Closed Doors*; and six others. PROTEUS LP \$8.98, © MC \$8.98 (from Proteus Records, 9 West 57th St., Suite 4503, New York, N.Y. 10019).

Performance: Delightful
Recording: Poor

Sooner or later, every music writer stumbles across a puzzle like the Drongos—a band of seemingly limitless promise that is somehow lost on the movers and shakers who run the record business. The Drongos' debut album contains ten nimble, infectious, clever, immediately likable songs. The tunes of this New Zealand group are models of invention and concision.

Drummer Stan Mitchell will set up a lively counterpoint with one of Jean McAllister's circus-organ riffs on one tune, then square off with Tony McMaster's nose-diving bass the next. Over this snappy rhythm section, left-handed guitarist Richard Kennedy, who plays his instrument strung upside-down like Jimi Hendrix, sends out a fusillade of tone-perfect harmonics and razor-sharp arpeggios, spinning chord after chord and lick after lick, until you're sure you're listening to three guitarists instead of one.

The music seems equal parts Chuck Berry, Merseybeat, Rockabilly, Sam the Sham, and John Philip Sousa—which is a roundabout way of saying the Drongos' inventiveness is almost limitless and defies classification. The production on their record, the first and only release on the independent Proteus label, is amateurish and occasionally wrongheaded, having been recorded by three different producers in three different studios. But even the dull sound seems strangely right for an album that captures a band at the threshold of making it. Here's hoping they do. M.P.

EXILE: Kentucky Hearts. Exile (vocals and instrumentals). *She's a Miracle; I've Never Seen Anything; Comin' Apart at the Seams; Give Me One More Chance; Somethin' You Got; If I Didn't Love You*; and four others. EPIC FE 39424, © FET 39424, no list price.

Performance: Popeyed
Recording: Good

Good pop music, a friend once told me, should be like a good love affair, or good sex: made up alternately of tension and release. With that in mind, we come to "Kentucky Hearts," Exile's fol-

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low-up album to their impressive Epic debut LP of last year. The good news is that the band is beginning to find its own "sound," not just scattershot styles. But the bad news is that the songs aren't as soulful or even as interesting as those on the first Epic LP, even though they may be better crafted.

This is a much more pop-influenced record than the group's last effort, their entry into the country field, and as such, it owes a lot to old-time rock-and-roll and r-&-b. Nothing wrong with that, of course, except that what we have here is too much release, too much of a good thing, without any more than a shred of suffering (*Comin' Apart at the Seams*) or an ounce of guilt—two of the staples of country music.

All the same, there are about six potential singles on "Kentucky Hearts," some of which retain the old-time country and gospel underpinnings of the last album, and all of which carry the group's sparkling vocal and instrumental work. Taken individually, they'll sound terrific on country radio. Taken as a whole, however, they seem about as shallow as a three-foot grave. I can't think of anyplace where there's less tension than that. *A.N.*

HELIX: *Walkin' the Razor's Edge.* Helix (vocals and instrumentals). *Rock You; Young and Wreckless; Animal*

House; Feel the Fire; and six others. CAPITOL ST-12362 \$8.98, © 4XT-12362 \$8.98.

Performance: *Sui generis*
Recording: Excellent

Here's a band that validates Spinal Tap's supposedly tongue-in-cheek assertion that the music they and similar bands make is best appreciated by fourteen-year-old white boys. Helix isn't as funny as Spinal Tap. In fact, they take the heavy-metal clichés very seriously, although to their credit they *do* do a cover version here of *Gimme Gimme Good Loving*, an old bubblegum classic that is still good for a few laughs. The rest of the time, however, this is the usual exhortatory macho nonsense, totally without irony, faceless in its peculiarly high-decibel way, and proof that the late Lester Bangs was on the money when he suggested that if you removed the vocal tracks from any six or seven popular heavy-metal albums at random, even their most fanatical adherents would have trouble telling them apart. *S.S.*

NICK LOWE AND HIS COWBOY OUTFIT: *All New Material.* Nick Lowe (vocals, guitar, bass); Billy Bremner (guitar); Paul Carrack (keyboards); other musicians. *Half a Boy and Half a Man; Break Away; You'll*

Never Get Me Up (in One of Those); Awesome; and six others. COLUMBIA FC-39371, © FCT-39371, no list price.

Performance: Not his best
Recording: Appropriate

Nick Lowe's a talented guy, but he's been coasting recently, and this record continues the trend. It starts promisingly enough (*Half a Boy*), with rowdy Tex-Mex organ work à la Joe "King" Carrasco, but boredom sets in pretty fast. As usual, the album bounces around stylistically, with a little blues, a little fake Buddy Holly, a little Al Green-style r-&-b, and a little etcetera, etcetera. But if there's a point of view, it seems to be nothing more than "I've got an album to do." I doubt there's anything here I'll listen to again, with the possible exception of *Hey Big Mouth*, a glorious frat-party instrumental buoyed by wonderfully quirky production. *S.S.*

TEDDY PENDERGRASS: *Love Language.* Teddy Pendergrass (vocals); vocal and instrumental accompaniment. *In My Time; So Sad the Song; Hot Love;* and five others. ELEKTRA/ASYLUM 60317-1 \$8.98, © 60317-4 \$8.98.

Performance: Pendergrass
Recording: Good

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Teddy Pendergrass to a wheelchair. In that time, his old label has issued two albums of out-takes, but "Love Language," the singer's Elektra/Asylum debut, is all new. He never had a great voice, and he sounds somewhat out of breath here, but Pendergrass can still deliver his songs in a soothing manner. This is a good, skillfully rendered album of fairly predictable material. That and the Pendergrass name should assure its success. *C.A.*

PUBLIC IMAGE LTD.: *This Is What You Want This Is What You Get.* Public Image Ltd. (vocals and instrumentals). *Bad Life; This Is Not a Love Song; Solitaire; Tie Me to the Length of That; The Pardon;* and three others. ELEKTRA 60365-1 \$8.98, © 60365-4 \$8.98.

Performance: Genius is pain
Recording: Very good

John Lydon, the former Johnny Rotten of the Sex Pistols, claims that this new PIL record is the band's first blatantly commercial effort, which I suppose depends on your perspective. From mine, I don't think Olivia Newton-John has much to worry about since "This Is" is the usual mix of ersatz funk riffs (dressed up with soul-horns this time), lame-brain orientalisms, and endless keening vocals by Lydon that suggest an unappetizing cross between Eric Bur-

don in his psychedelic phase and the deranged Kaddish of a punk rabbi. To give these characters their due, there are some occasionally interesting noises here, and it's quite obvious that the rage they're spewing out is genuine. But too much of it is too unintentionally funny, and I can't get particularly worked up over anybody who writes a song (*Tie Me to the Length of That*) about how mean his mother was to him. Well, Norman Bates, maybe. . . . *S.S.*

RUBBER RODEO: *Scenic Views.* Rubber Rodeo (vocals and instrumentals). *Need You Need Me; Anywhere with You; Walking After Midnight; The Hardest Thing; House of Pain;* and four others. MERCURY 818 477-1 \$8.98, © 818 477-4 \$8.98.

Performance: Vulcanized
Recording: Very good

Imagine the musical children that might come from a mating of the Carter Family and the B-52's, and you will get a vague idea of what to expect from Rubber Rodeo. An American-bred but European-inspired sextet, Rubber Rodeo tries to integrate the high-tech side of rock and the crinoline side of country, something about as easy as sneezing, coughing, and belching all at the same time. The band itself calls this hybrid sound Prairie Modern, while others call

it techo-country. I prefer to call it "punktry," since it's really a New Wave blend of pedal steel and synthesizer.

A couple of years ago, Rubber Rodeo came out with an eerily synthesized version of *Jolene*, one of Dolly Parton's decidedly genius efforts, and I have to admit it gave me a stir. On "Scenic Views," however, their first major-label album, the Grand Ole Opry leanings have all but disappeared in favor of a more mechanical kind of Brian Eno-like, art-pop synthesis. The lyrics are inane, the melodies are out on field maneuvers, and too many of the songs don't seem to have any focus.

There is a streak in me that can appreciate and even be amused by much of this, but from a country point of view, Rubber Rodeo's current brand of beehive kitsch has about as much honest emotion as a Hostess Twinkie. *A.N.*

SHOXSIE AND THE BANSHEES: *Hyaena.* Siouxsie and the Banshees (vocals and instrumentals). *Dazzle; We Hunger; Take Me Back; Belladonna; Swimming Horses;* and five others. GEFEN GHS 24030 \$8.98, © M5G-24030 \$8.98.

Performance: A downer
Recording: Mausoleum rock

My vote for this year's fun couple has to go to Ian MacCullough of Echo and the



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Bunnymen and Siouxsie Sioux. Siouxsie and the Banshees' "Hyaena" could almost be a companion album to the Bunnymen's monumental bummer, "Ocean Rain"—dreary violins, flat vocals, and enough psychological trauma to keep a team of Freudians listening sympathetically right into the next century. Produced in dull, cavernous tones, "Hyaena" features some well-played, appropriately bleak organ and guitar by Robert Smith to complement Siouxsie's sober chanting. As for the songs, they're full of pain, suffering, and the instruments of suffering—poison, sharp ob-

jects, starvation, darkness, even vampire bites. *M.P.*

SOUTHSIDE JOHNNY AND THE JUKES: *In the Heat*. Southside Johnny and the Jukes (vocals and instrumentals). *Love Goes to War; New Romeo; Love Is the Drug; Captured; I Can't Live Without Love*; and five others. MIRAGE 90186-1 \$8.98, © 90186-4 \$8.98.

Performance: Just misses
Recording: Okay

Southside Johnny Lyon has clearly become one of the all-time great white r-

&-b vocalists, but on a fundamental level "In the Heat" just misses. The problem seems to be Billy Rush's writing. Yes, Rush knows contemporary black music as well as the Sixties soul stuff he cut his teeth on, and yes, his new songs, which in general attempt a vaguely modern funk groove, are in the abstract perfectly respectable. But they simply don't catch the character that Johnny has portrayed in the past so appealingly—the woozy-yet-lovable romantic who inhabited songs like *I Don't Wanna Go Home* and the rest of the early Jukes favorites.

The protagonist Johnny plays here is a little more urban, a little more worldly, and a lot less distinctive than before. A few of Rush's tunes (*Over My Head*, in particular) do manage to summon up the eternal Asbury Soul Man, but in the main the combination of Rush's material and John's singing is like a Coasters record written by people other than Leiber and Stoller—that is, a classic mismatch of actor and script.

That said, there's some appealing stuff in "In the Heat"—a swell remake of the Temptations' *Don't Look Back* and a version of Tom Waits's *New Coat of Paint* that cements the Jukes' reputation as the premier poets of Closing Time at the Local Watering Hole. And if the album as a whole is never as epochal as the stuff these guys did with Miami Steve van Zandt, it is never less than listenable. *S.S.*

THE SPECIAL AKA: *In the Studio*. The Special AKA (vocals and instrumentals). *Bright Lights; The Lonely Crowd; Girlfriend; Free Nelson Mandela*; and six others. CHRYSALIS FV 41447, © FVT 41447, no list price.

Performance: Good
Recording: Tight

Jerry Dammers, once a member of the Specials, is now playing piano and organ and writing most of the songs for a group called the Special AKA. Less frantic and more introspective than the Specials, this new outfit continues to explore reggae and ska, with occasional forays into New Orleans-style tootling. Trumpet, trombone, and organ combine to create a thick, dark mix well suited to Dammers's lyrics—in songs like *Bright Lights* and *The Lonely Crowd*—dealing with the cynicism, isolation, and boredom of modern, big-city living. The other songs are less effective, though, tending to a kind of preachy self-righteousness. *Bill Neill*

BILLY SQUIER: *Signs of Life*. Billy Squier (vocals, guitar, synthesizer); vocal and instrumental accompaniment. *All Night Long; Rock Me Tonight; Eye on You; Take a Look Behind Ya; Reach for the Sky*; and five others. CAPITOL SJ 12361 \$8.98, © 4XJ 12361 \$8.98.

Performance: Great junk
Recording: Outstanding

The smartest thing Billy Squier did in making "Signs of Life" was to enlist as



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coproducer Jim Steinman (whose credits include Meatloaf, Air Supply, and Bonnie Tyler). Squier's straightforward, hard-rock attack has been juiced up here with an array of studio techniques and tricks, synthesizer and guitar effects, sharper ensemble direction—dramatic pauses and flashy entrances—and a cleaner sound.

It's the little things that make Steinman such a good producer, like the cowbell struck with thunderous force in *All Night Long*, or the shuffling synclavier and snapping synthesized percussion that stalk one another in the introduction to *Rock Me Tonight*. The big things—Squier's dull, die-cut rock songs and whiny vocals—are beyond Steinman's power to save. *Rock Me*, for instance, slips from its riveting intro into a strident, predictable AOR kick-step you've heard a million times. It's not just overworked, it's ugly to start with. This kind of rock is also typically plagued by overwrought, obscure writing, and "Signs of Life" is only a slight improvement on the breed. Squier has penned a few genuinely interesting verses and coined a few strong images, but most of these songs wear their lyrics like a ball and chain. **M.P.**

TACO: *Let's Face the Music*. Taco (vocals); orchestra. *You Are My Lucky Star; Winchester Cathedral; Flash; Married*; and seven others. RCA CPL1-4920 \$8.98, © CPK1-4920 \$8.98.

Performance: Moderate fun
Recording: Good

Taco Ockerse, the Dutch-born, German-based performer, had a major hit a couple of seasons ago with his revival of the old Irving Berlin standard *Puttin' On the Ritz*. By imaginative use of electronic instruments and ghostlike vocals that had overtones of both Tiny Tim and Wayne Newton, Taco created a really new interesting dance sound. In this new album he tries the same approach on several songs, but it really only works once—on another Irving Berlin song, *Let's Face the Music*. The gimmick has worn thin. When Taco attempts experiments, as in *Opera-Rap*, where he uses excerpts from *Carmen* or other operas over a rap background, the results are less than riveting. And material in which he had a composing hand, such as *Married* and *Sayonara*, really goes nowhere fast. **P.R.**

KIRI TE KANAWA: *Come to the Fair*. Kiri Te Kanawa (soprano); Medici String Quartet; members of the National Philharmonic Orchestra, Douglas Gamley cond. *Come to the Fair; The Last Rose of Summer; Greensleeves; Comin' thro' the Rye*; and eleven others. ANGEL ● DS-38097 \$11.98, © 4XS-38097 \$11.98.

Performance: Studied
Recording: Good

Dame Kiri Te Kanawa, the great Australian soprano, goes rural to little effect. She is the possessor of one of the

ripest and lushest vocal instruments around, but most of the time here she sounds as if she's humming in her dressing room while waiting to go on. Unfortunately she has also chosen to follow in the deadly "tradition" of performing "folk" songs as if trying to get their meaning across to a group of freshly arrived Bulgarian exchange students. True, she makes some lovely sounds in *The Last Rose of Summer*, but more often, as in *Comin' thro' the Rye*, she remains firmly in the "watch my lips, I'm singing to you" groove. And that's a bore. **P.R.**

TWISTED SISTER: *Stay Hungry*. Twisted Sister (vocals and instrumentals). *Stay Hungry; We're Not Gonna Take It; Burn in Hell; Horror-teria (The Beginning); I Wanna Rock*; and four others. ATLANTIC 80156-1 \$8.98, © 80156-4 \$8.98.

Performance: Silly
Recording: Excellent

More heavy metal, but this time of the low-comedy variety. These guys have been slogging around the Northeast since the end of the Glitter Era, doing basically the same schtick—loud guitars

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and drag—since 1976; it is a measure of the wondrous times we live in that they are finally achieving a breakthrough commercially. You can't exactly call them pedestrian, of course, but we've heard and seen all this before, though in less extreme form. To be fair, the group's songs are deliberate cartoons and in their way almost clever. The playing is skillful, and there are fewer references to dealing with the devil than customary in the genre, for which I personally am grateful. Other than that, however, what inhabits the grooves of "Stay Hungry" is largely unremarkable, though I should add that I find it hard to seriously dislike any group that dedicates a song, the title tune, to Arnold Schwarzenegger. S.S.

IAN TYSON. Ian Tyson (vocals, acoustic guitar); instrumental accompaniment. *Oklahoma Hills; Tom Blasingame; Sierra Peaks; Will James; Murder Steer; Goodnight Loving Trail; Hot Summer Tears;* and four others. COLUMBIA FC 39362, © FCT 39362, no list price.

Performance: Familiar terrain
Recording: Good

Canadian-born Ian Tyson was writing c-&-w-flavored songs even during his Ian and Sylvia folksinging days, but it wasn't until his last album, the exquisite

"Old Corrals and Sagebrush," that Tyson gave his full attention to the western part of c-&-w, without a twang of Billy Bob country. Now he's back for an encore, and like "Old Corrals," this album is a mix of traditional western songs that trace the trails of the cowpokes of yesteryear and modern songs based on the old legends and themes. Since "Old Corrals" had the sound and feel of an instant classic, a follow-up album of the same quality was a tall order to fill. And if "Ian Tyson" does not have quite the drama of the previous album, it has no less the beauty.

Tyson, who produced the album, has multitracked his rich, fluid voice to sound like a modern-day Sons of the Pioneers, and at times his voice has a marvelous, Marty Robbins quality that is set off by the plain-fashion playing of Tyson's usual fine pickers. To those who still yearn for the thrill of a western sunset, Tyson extends an invitation "to the land of opportunity," where he runs his own ranch in Alberta. No matter how few crank up their horsepowered Broncos for the Canadian west, this is a magnificent journey in song. A.N.

Collection

TEN FROM TEXAS: *Herd It Through the Grapevine.* Commandos: *Tell It on the Line.* Random Culture: *Fame.* Da-

vid Bean: *My Imagination.* Optimystics: *Lovers on Fire.* Johnny Reno and the Sax Maniacs: *Mellow Saxophone.* And five others. ELEKTRA 60373-1 \$8.98, © 60373-4 \$8.98.

Performance: Something different
Recording: Mostly good

This set was put together by a fellow named Liam Sternberg, who, if memory serves, concocted Stiff's famous "Akron" sampler, and it is similar in being a collection of home-grown recordings by unknown bands from a flourishing local scene—in this case the Texas post-punk underground. Not surprisingly, the results are variable. Also unsurprisingly, a lot of the music, though hardly all of it, seems to have a perceptible Texas feel. Stylistically, there's a fair amount of variety, from Dan Del Santo's consciously eclectic mélange of r-&-b styles (Jamaican, African, American), to the Commandos' revisionist Sixties Brit-Pop, to David Bean's unclassifiable Dylanesque musings. But all of it has real freshness and vitality, and the closing cut, the Tribe's *Leave Me in the Desert*, even has a hint of the classic Texan hippie-punk attitude, that peculiar something you can hear in old records by Doug Sahm or the 13th Floor Elevators. Highly recommended, and not just to the adventurous, either. S.S.

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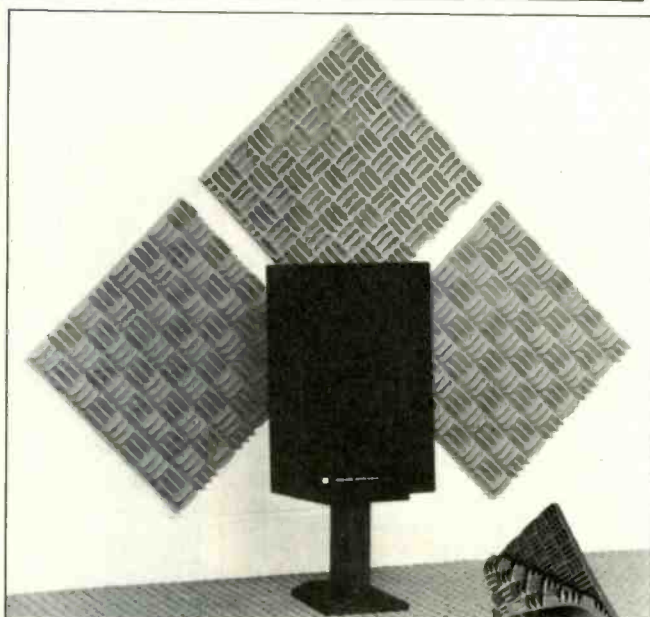


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JAZZ



DICK HYMAN: *Eubie*. Dick Hyman (piano). *Memories of You; You're Lucky to Me; Tan Manhattan; Charleston Rag; Love Will Find a Way; It Ain't Being Done No More; I'm Just Wild About Harry*; and four others. SINE QUA NON © 71017 \$4.98.

Performance: Handled with care
Recording: Excellent

Pianist Dick Hyman originally assembled the Eubie Blake compositions here for a television special called *Eubie Blake: A Century of Music*. Hyman is one of those musicians who lovingly attempt to preserve the past, and he succeeds admirably as he treats us to such rare Blake items as *I'd Give a Dollar for a Dime* and *It Ain't Being Done No More*. C.A.

EARL KLUGH: *Wishful Thinking*. Earl Klugh (guitars); instrumental ac-

companiment. *Tropical Legs; A Natural Thing; Once Again; All the Time; Take It from the Top; The Only One for Me*; and two others. CAPITOL ST-12323 \$8.98, © 4XS-12323 \$8.98.

Performance: Characteristically bland
Recording: Good

Guitarist Earl Klugh's "Wishful Thinking" is a lush elevator ride for people who like plenty of frills and sweetness. It is totally lacking in substance, and you'd swear you have heard these innocuous strains before. Klugh is certainly equipped to soar beyond the top floor, but, alas, he continues to play it safe. I don't care what floor this is—I'm getting off. C.A.

BOBBY McFERRIN: *The Voice*. Bobby McFerrin (vocals). *Blackbird; I'm My Own Walkman; Music Box; El Brujo; I Feel Good; I'm Alone; A-Train; The Jump*; and two others. ELEKTRA/MUSICIAN ♣ 60366-1 \$9.98, © 60366-4 \$9.98.

Performance: Boring
Recording: Good remote

Like Leon Thomas, the jazz yodeler, Bobby McFerrin can sound quite engaging, but what he does with his voice borders on the gimmicky, and he has crossed that border with a solo album called "The Voice." It contains over

forty minutes of unaccompanied vocal utterings that might have been interesting if served in moderation. Here, they unfortunately add up to a study in tedious self-indulgence. C.A.

THE NEW BLACK EAGLE JAZZ BAND. The New Black Eagle Jazz Band (instrumentals). *Shake It and Break It; Perdido Street Blues; Dippermouth Blues; Snake Rag; Dallas Blues; Ain't Gonna Give Nobody None of This Jelly Roll*; and four others. SINE QUA NON © 71016 \$4.98.

Performance: Stomps and joys
Recording: Quite good

The New Black Eagle Jazz Band actually made this set for a rock label in 1971, but it was not released until now. The band went on to modest success, but this recording captures it almost in its infancy, and, all things considered, its seven members do a creditable job of recreating the spiced flavor of Louis Armstrong's Hot Seven group with a Bunkish bit of revivalism stomped in. Good fun. C.A.

TERRY WALDO: *Ragtime/Jazz*. Terry Waldo and His Orchestra, His Gutbucket Syncopators, and His Jazz Arts Group. *Wild Cherries Rag; Carolina Shout; Dill Pickles Rag; The Burning of Rome; The Watermelon Trust; Proc-*

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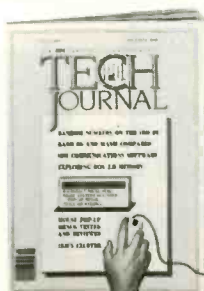
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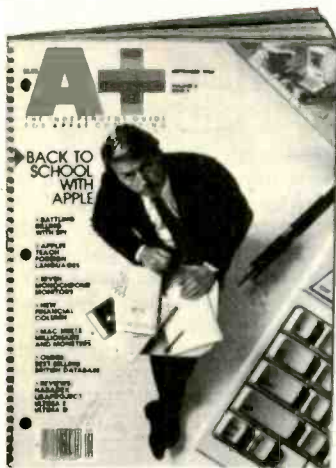
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tology; *Misery Rag* (A Ragtime Travesty on the *Famous 11 Travatore*); and five others. SINE QUA NON © 71018 \$4.98.

Performance: Waldoful
Recording: Excellent

Herewith the ragtime ramblings of pianist Terry Waldo, who appears with his Ragtime Orchestra and Gutbucket Syncopators in a collection of material leased from Stomp Off Records. The sound quality is typical of what the original label produced—that is, it's terrific—and Waldo is, as always, his authentic, caring self. C.A.

FATS WALLER: *Live, Volume Two.* Fats Waller and His Rhythm. *Hold My Hand; Frenesi; Watcha Know Joe?; I Give You My Word; So You're the One; Dark Eyes; Perfidia; Stop Beatin' Around the Mulberry Bush;* and five others. LEGEND GOJ 1035 © \$8.98 (from Legend Records, Inc., P.O. Box 1941, Glendale, Calif. 91209).

Performance: Delightful
Recording: Excellent airchecks

No, Fats Waller never recorded with Bessie Smith, as Dave Dexter alleges in his notes for this record, but he did

create music of lasting value, and here's swinging, witty proof. Only three of these thirteen tracks, originally broadcast in 1938 and 1940, duplicate material Waller recorded commercially. The sound of the band is familiar enough: this is Waller's regular Rhythm group with Gene Sedric, Al Casey, Cedric Wallace, and Slick Jones, with John Hamilton (1940) or Herman Autrey (1938) on trumpet, and there are also a couple of okay vocals by Kay Perry. Technically, that sound has been preserved superbly. In all, an entertaining set that adds much to Waller's already impressive recorded legacy. C.A.

Collection

THAT'S THE WAY I FEEL NOW: A Tribute to Thelonious Monk. Dr. John: *Blue Monk*. Carla Bley: *Misterioso*. Barry Harris: *Pannonica*. Steve Lacy: *Ask Me Now; Gallop's Gallop*. Steve Lacy and Gil Evans: *Bemsha Swing*. Bobby McFerrin and Bob McDorough: *Friday the Thirteenth*. Peter Frampton: *Work*. And fifteen others. A&M SP-6600 two discs \$12.98, © CS-6600 one cassette \$12.98.

Performance: Delightful
Recording: Good

To many pop music fans, jazz is a little like unsweetened porridge, and the very mention of Thelonious Monk sends them scattering. No one should have any such apprehension about a new album titled "That's the Way I Feel Now," the original name of a tune that has since become, simply, *Monk's Mood*. It brings together jazz and rock performers for a two-disc tribute to the late pianist/composer.

Monk's music was full of surprises and whimsy, two qualities that are perfectly intact in this collection. It is a delight, from Dr. John's Mortonian treatment of *Blue Monk* and a superb *Misterioso* by Johnny Griffin with the Carla Bley band to appropriately eccentric readings of *Ba-Lue-Bolivar-Ba-Lues-Are* and *Criss Cross* by Was (Not Was) and guitarist Eugene Chadbourne, respectively. There is also a fine, effective duet on *Friday the Thirteenth* by Bobby McFerrin and Bob Dorough, and the beauty that so often marked Monk's tunes comes through on three superb tracks: *'Round Midnight*, played by Joe Jackson (on piano) against a seventeen-piece cushion of strings and reeds; *Reflections*, a guitar and synthesizer weave by Steve Kahn and Donald Fagen; and a stunning reading of *Ask Me Now* by former Monk saxophonists Steve Lacy and Charlie Rouse.

There is much more to please the ear here, and it is all well packaged and annotated. Producer Hal Willner is to be commended for conceiving and realizing this album, and for including a cross-referenced list of currently available Monk releases to aid listeners wishing to hear these twenty-three tunes in the composer's own versions. C.A.

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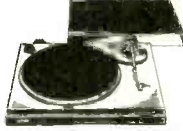
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FILM & THEATER



EDITH AND MARCEL (Francis Lai-Charles Aznavour). Original-soundtrack recording. Edith Piaf, Mama Béa, Charles Aznavour, others (vocals); various orchestras. ATLANTIC 80153-1 two discs \$11.98, © 80153-4 one cassette \$11.98.

Performance: Piaf splendid
Recording: Interesting

This album is an interesting artistic and sonic pastiche, a mixture of the old, original recordings by Edith Piaf, facsimile performances of Piaf material by Mama Béa, and newly composed songs by Francis Lai and Charles Aznavour. As such it serves as the score for a new French film biography of Piaf and her lover, the boxer Marcel Cerdan. The affair ended tragically (Cerdan was killed in a plane crash), but to the French it has remained a media event comparable to Tristan and Isolde, Taylor and

Todd, and JFK and Jacqueline all rolled into one glossy package.

And a very glossy, very long-winded package this two-record set is. It holds the interest mainly through the splendid original Piaf performances of her classics, such as *Bal dans la rue*, *La vie en rose*, and *Un homme comme les autres*. Mama Béa, a famous Piaf sound-alike, offers songs like *La prière* with style and authority but none of the tattered Piaf magic. Charles Aznavour also contributes a few performances, but he too pales alongside the great Piaf. *P.R.*

FORBIDDEN BROADWAY. Original Off-Broadway-cast recording. Nora Mae Lyng, Chloé Webb, Gerard Alessandrini, Bill Carmichael, Fred Barton (vocals); Fred Barton (piano). DRG SBL 12585 \$9.98, © SBL 12585 \$9.98.

Performance: Spirited
Recording: Fair

Forbidden Broadway, a send-up of the real thing, has been running at a place called Palsson's Supper Club in New York for almost three years, which explains why none of the shows parodied here is still around. Some of the numbers derive from oldies like *Hello, Dolly!* and *Follies*, others from the more recent *Evita*, *Nine*, and even *Amadeus* (music courtesy of Mozart). But as you listen to the album, you get to thinking

back, fondly, to the originals and, with all due respect to Gerard Alessandrini's new lyrics, realize how good so many of the songs really are. In any case, the cast of five performs with unfailing high spirits, and the whole thing sorts out as an affectionate romp (except for some rather sharp words directed toward Barbara Streisand). *Christie Barter*

METROPOLIS (Giorgio Moroder). Original-soundtrack recording. Giorgio Moroder (synthesizers); Freddie Mercury, Pat Benatar, John Anderson, Cycle V, Bonnie Tyler, Loverboy, Billy Squier, Adam Ant (vocals); vocal and instrumental accompaniment. COLUMBIA JS 39526, © JST 39526, no list price.

Performance: An encumbrance
Recording: Excellent

Giorgio Moroder's reconstruction of Fritz Lang's 1926 science-fiction film classic is a masterwork of celluloid surgery and a musical mess. Moroder restored missing scenes, inserted still photos he'd unearthed while researching the film, added color, and recast the subtitles, all in an attempt to make Lang's heretofore incomprehensible epic somewhat understandable. He also added a soundtrack that undoes all the good his careful preservation achieved.

(Continued on page 112)



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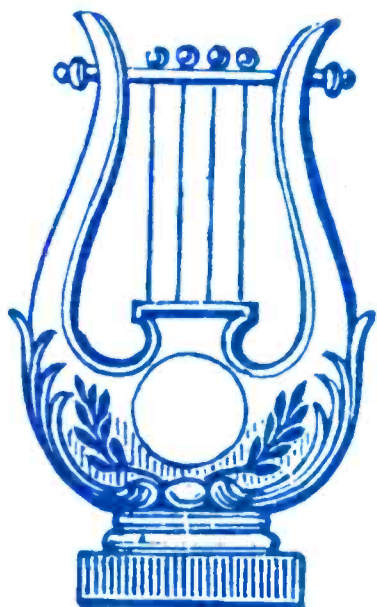
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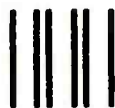
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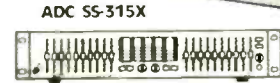


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As a record album, "Metropolis" has the appeal of a K-Tel release: you could call it "Heavy Hands," a collection of white, sexy, heavy-metal rock stars. The music is just what you'd expect from this group: slick, superficial, hyperbolic—perfect for pumping iron or aerobics. But as a soundtrack it's even worse. The too-literal lyrics, in trying to explain in music what you're seeing on the screen, provide a clumsy running commentary that only makes Lang's already hokey story that much sillier. Worse yet, the sound of today's stars makes it impossible for the viewer to suspend disbelief.

It's a shame, really, because Moroder also composed an exciting electronic score for the film that brilliantly captures the clanging machine works and deafening roar of the underground city. Of the entire instrumental score, only two tracks appear on this record. *M.P.*

RHINESTONE. Original-soundtrack recording. Dolly Parton, Sylvester Stallone (vocals); other artists (vocals); vocal and instrumental accompaniment. RCA ABL1-5032 \$9.98, © ABK1-5032 \$9.98.

Performance: Mixed bag
Recording: Good

By now everybody knows that the movie *Rhinestone* is a turkey of the fowlest

kind, so this record could have been a lot worse than it is. Two of the songs have been modified (read "improved") from the movie version. Also, in addition to Dolly Parton and Sylvester Stallone warbling along as their movie characters, there is a big cast of supporting singers, including Kin Vassy and Dolly's sister Stella and her brothers Randy and Floyd, who have their own songs to sing (most of them written by Dolly). Some of the tunes are hokey, some are downright trashy, and a couple are rather ordinary except for those zinger lines that Dolly always comes up with when she writes about love and eternal damnation.

The sound of Sylvester Stallone attempting to sing is something akin to a Vegemite stuck on a steak bone, but Stella Parton and Kin Vassy make a dynamite country duet team, and Dolly does her share of fine dramatic singing on a couple of tunes (*One Emotion after Another, What a Heartache*). As film soundtracks go, this one is clearly above average. *A.N.*

SINGIN' IN THE RAIN. Original London-cast recording. Tommy Steele, Sarah Payne, Danielle Carson, Roy Castle (vocals); chorus and orchestra, Michael Reed cond. *I Can't Give You Anything but Love; Too Marvelous for Words; You Are My Lucky Star; Fasci-*

nating Rhythm; and nine others. SAFARI RAIN 1 \$12.98, © TC-RAIN 1 \$12.98 (from International Book and Record Distributors, 40-11 24th St., Long Island City, N.Y. 11101).

Performance: Terrific
Recording: Very good


To savor some of the sunny outlook of this show just listen to the title tune or *Good Morning*, both by the songwriting team of Nacio Herb Brown and Arthur Freed for the screen's first all-talking, all-singing, all-dancing musical, *The Hollywood Revue of 1929. Singin' in the Rain*, of course, went on to be the title tune of the popular MGM movie starring Debbie Reynolds, Gene Kelly, and others. It went on further to become the title tune of this winning West End musical starring one of England's favorite stars, Tommy Steele. The show opened at the London Palladium in June last year, and it looks as though it will enjoy a long, glorious life there.

The cast recording is an unending delight. Seven tunes from the early film version, including *You Are My Lucky Star*, have been worked around some additional material like Cole Porter's *Be a Clown* and George and Ira Gershwin's *Fascinating Rhythm*. It's all pure froth, and all good fun. Great for any day, rainy or not. *Christie Barter*

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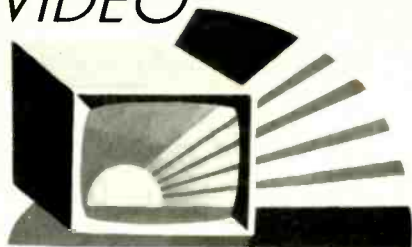
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C.O.D.

VIDEO



HARD TO HOLD. Rick Springfield, Janet Eilber, Patti Hansen, others. MCA HOME VIDEO 80073 VHS Stereo and Beta Hi-Fi \$69.95.

Performance: Cutesy
Recording: Okay

Rick Springfield is a pretty good AOR singer/songwriter with a bad rep based solely on the fact that he's movie-star good-looking. Unfortunately, he makes his cinematic debut here with a film that asks the oldest question in the world: Can a successful rock-and-roll star find happiness in the arms of a woman who reads *Hilton Kramer's New Criterion* magazine in bed? To be fair, Springfield is undeniably charming in a soap-hero way, and he seems a decent-enough actor, but the screenplay of *Hard to Hold* would sink an Olivier, and the musical numbers simply aren't exciting enough to encourage suspen-

sion of disbelief in what's going on on a dramatic level. The film transfer in this home version, however, is excellent, and the stereo sound, though nowhere near as good as RCA's soundtrack LP, is eminently listenable. *L.M.*

PROKOFIEV: *Romeo and Juliet.* Galina Ulanova, Yuri Zhdanov (dancers); Bolshoi Theatre Orchestra, Gennady Rozhdestvensky cond. VIDEO ARTS INTERNATIONAL VAI-RB-8 VHS and Beta \$64.95 (from Video Arts International, P.O. Box 153, Ansonia Station, New York, N.Y. 10023).

Performance: Stupendous
Recording: Fifties color

You may have seen this 1954 Bolshoi film of Prokofiev's ballet *Romeo and Juliet* before, but the producers of the videocassette release have eliminated the narration, which tended to detract from its flow. The story of these star-crossed lovers is sufficiently well known that no words are really necessary. Add to Prokofiev's splendid music a stupendous performance by Galina Ulanova, superb choreography and staging, and spectacular sets, and you have a very impressive production that you will enjoy over and over again. *C.A.*

SHCHEDRIN: *Anna Karenina.* Maya Plisetskaya, Alexander Godunov (danc-

ers); orchestra, Yuri Simonov, cond. VIDEO ARTS INTERNATIONAL VAI-RB-7 VHS and Beta \$59.95 (from Video Arts International, P.O. Box 153, Ansonia Station, New York, N.Y. 10023).

Performance: Superb
Recording: Lacks definition

This ballet version of Leo Tolstoy's *Anna Karenina* was written by the Russian composer Rodion Shchedrin, whose music shows influences of Shostakovich and Stravinsky, particularly the former. The cinematic effects are kept to a minimum in this tastefully designed production, which was filmed in 1974 for theater release. The choreography, by ballerina Maya Plisetskaya, is simply superb, revealing a wonderful sense of humor and flair for the dramatic. Even the strange cuts, which lend a bizarre air to this film, seem somehow appropriate.

Originally filmed for wide-screen projection, the picture does not match the proportions of the TV screen, so the producers have chosen to shrink the picture somewhat. This means having a black top and bottom border and slightly elongated dancers, but the decision was a wise one because it preserves as much as possible the pictorial composition of a beautiful production. The video images are a bit fuzzy, but the tape offers a rare artistic treat. *C.A.*

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NEW HI-FI HORIZONS (Continued from page 70)

the digital-audio cassette recorder. It was expected that a standard recording and tape format for these machines would be set by the middle of this year, but disagreements among the Japanese companies involved have slowed the standard-making process considerably. Once agreement on a digital-cassette standard has been reached, it'll take about a year for the production lines to get rolling, which means an introduction in 1986 at the earliest. If the CompuSonics system is released on schedule, and is selling well when the digital cassette decks arrive, you can count on a marketing conflict of intercontinental proportions.

It is possible that there may be some degree of compatibility between the CompuSonics system and the Compact Disc since the CompuSonics signals are digital pulses that are well suited for impression on a CD.

The most intense battles facing CompuSonics, however, will probably not be with the rest of audio industry, certain companies of which have already taken out licenses for producing CompuSonics systems. The biggest challenge will be converting those vocal, died-in-the-wool audiophiles who are now convinced that digital audio in any form is the work of the devil and anathema to the cause of high fidelity. It'll be a tough job persuading those who now decry the inadequacy of the CD system's data rate (enormous though it is) that the CompuSonics methods, which purposely record far less data than the CD system, are up to the task of high-fidelity sound recording and playback. But CompuSonics' computerized modeling is nothing if not a mathematical and electronic abstraction of part of the subjective process of sound perception, something common to all people (even audiophiles). The audiophile's credo ("sound quality *in excelsis*") is precisely what CompuSonics' engineering efforts are all about: the DSP-1000 is being designed to sound right. And we are all anxiously waiting to find out whether it sounds good enough. □

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by Ralph Hodges



Cable Comments

A YEAR and a half ago, with admirable temerity, this magazine presented the results of blind listening comparisons of several different types of speaker cable. The tests were intended to shed light on the question of whether money spent on relatively costly "audiophile" cables was money spent well. In the results, the audiophile entry did not statistically distinguish itself, in terms of sound, from ordinary 16-gauge zip cord. Only skinny, 24-gauge zip cord was statistically different, and this seemed to be attributable to the very non-mysterious quantity of d.c. resistance (wire with high resistance interacted with changes in speaker impedance to alter its frequency response). The conclusion of the tests seemed clear enough to wrap up in a general statement that possession of the audiophile cable appeared to confer no benefit other than prestige.

But, as will happen in matters of audio subtlety, this journalistic exercise generated at least as much heat as light. Probably no happy owner of such cables forsook his satisfaction, and vigorous dissent bordered on the attitude, "If this be science, give us superstition." The magazine offered to entertain any suggestions for a better test but heard from no takers. Nevertheless, exotic cables continue to be made,

bought, and discussed seriously, making us wonder what other opinions are abroad to account for the interest of the market.

If you want to get heavily into cables, it turns out there's a good bit to think about. Resistance, capacitance, and inductance can all be measured, and theoretically they should all be at a minimum for a neutral cable, but perhaps not for the "best-sounding" cable in a specific system. You may consider the conductor material, its purity, and the fineness to which individual strands of a cable bundle are drawn. You may contemplate whether each strand should be separately insulated, and what dielectric properties cable insulation has in general.

A vocal minority insists that, even for alternating current, a cable is directional, and care should be taken to ensure that the "sending end" of the cable is upstream in the signal path and the "receiving end" is downstream. Cables are said to self-generate signals of their own when subjected to vibration ("microphony"), and the influence of where they are run, their proximity to other signal carriers, and ferromagnetic materials in general, can all be brought into question.

Finally, cables, whether speaker wires or patch-cord interconnects, can and should be thought of as an electrical extension—a true component part, actually—of the equipment they string together.

The conclusion of the STEREO REVIEW tests seemed clear: possession of the audiophile speaker cable appeared to confer no benefit other than prestige.

The reviews that audiophile cables get from some of their intended direct beneficiaries, loudspeaker manufacturers, are interesting and mixed. David Wilson, whose WAMM creation bids pretty fair to being today's most expensive home speaker system, certainly subscribes to them, but confesses he holds no brief for any particular design philosophy. Tim Holl, formerly of

Acoustic Research, and Andy Petite of Boston Acoustics, both representative of more "establishment" speaker products, find merit in the low resistance of audiophile cables, but not really in any of their other characteristics.

John Bowers, long the head of research and development at B & W Loudspeakers, is more expansive on the subject. "I admit I've been as suspicious [about the claims made

"I've been as suspicious (about claims for cables) as anyone, but after considerable experience with them, I concur that there are differences."—Bowers

for exotic cables] as anyone, but after considerable experience with them, I do concur that there are differences; there always are. My attitude is, take a measurement, then listen to it, and if your ears don't agree, go back and do the measurement again. Because your ears can't be wrong.

"I'm not saying these differences are improvements, or that there isn't an appalling lot of mumbo-jumbo clouding the issue. But it's just good common sense and good engineering practice to use heavy, high-quality cable. We have ourselves been beefing up the cable we use for internal wiring of our speakers, because doing so can't be wrong, even if we're not entirely sure it's righter."

For now, I also side with the difference-hearers, having every reason to believe that, with certain components at least, a change in cabling will lead to a change in sound, sometimes subjectively for the better, and occasionally subjectively and even *very objectively* for the worse. Still, I'm no fonder of mumbo-jumbo than Bowers, and I suspect that cables and some of their effects remain mysterious only because, as he points out, research remains sadly neglected. A neglected area is, of course, ripe for improvement, and that's the promise held out by getting involved in one, even if there are likely to be some small risks as well. □

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