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SPECIAL REPORT: HOME THX SOUND

COMPARING TV PICTURE QUALITY

HOT, HI-TECH NEW PRODUCTS FROM CES

TESTED Denon A/V Receiver, Sherwood CD Player, and more

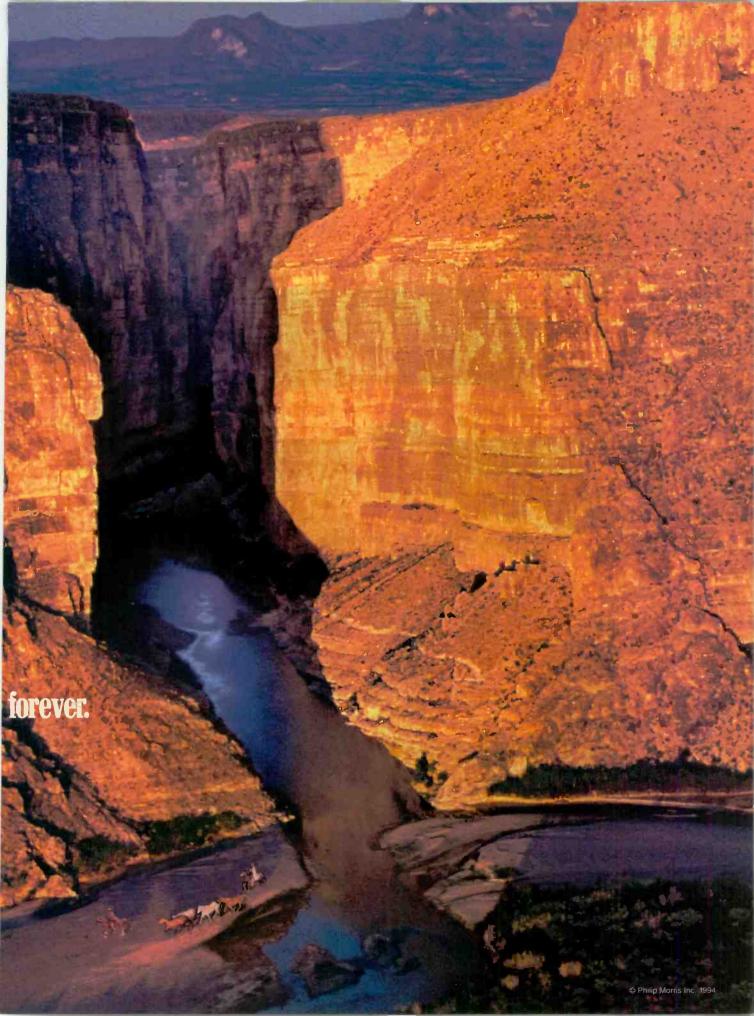


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SURGEON GENERAL'S WARNING: Quitting Smoking Now Greatly Reduces Serious Risks to Your Health.

Lights: 100's Men. Box 9 mg "tai, 0.7 mg nicotine; Kings Men. Box 10 mg "tar," 0.7 mg nicotine: Kings & 100's Box 10 mg "tar," 0.8 mg nicotine; 100's Soft 11 mg "tar," 0.8 mg nicotine.—Médium: Kings Box 9 12 mg "tar," 0.8 mg nicot ne; Kings Soft 12 mg "tar," 0.9 mg nicotine; 100's 13 mg "tar," 1.0 mg nicotine.— Regular: Kings Men. Soft 15 mg gtar," 1.0 mg nicotine; Kings Soft & 100° Box 15 mg "tar," 1.1 mg nicotine; Kings Box & 100's Soft 16 mg "tar," 1.1 mg nicotine; av. per cigarette by FTC method.

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THE NEW CS 150. AT A REMARKABLY LOW INTRODUCTORY PRICE. FREE.

Back by popular demand. It's the Polk center channel giveaway. And it's even better than the last time. Because Polk has taken the award-winning CS100 and improved it. Introducing the CS150.

Just purchase any pair of Polk speakers for your front channel (S4s or greater in value) and any other pair of Polk speakers for the rear, and the new CS150 center channel speaker is yours absolutely free.

The CS150s unique cabinet insures maximum flexibility.

Think of it. Not only do you save \$199, but this center channel speaker is based on Polk's new breakthrough technology, Dynamic Balance™. The same technology used in the critically acclaimed Polk S and LS series loudspeakers to assure you of sonic purity. And that means vocals and other center channel information are distortion free and lifelike, adding to the realism of on-screen action and diclogue.

But beyond the outstanding acoustic qualities of the CS150, there is the

tremendous placement flexibility its design offers. Its low-profile allows it to blend unobtrusively with your TV. On top of the TV, beneath it, or even beside it, the uniquely angled cabinet lets you focus the image to your viewing position.

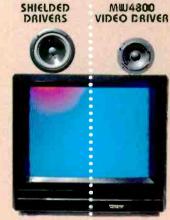
What's more, unlike other center channel speakers that use only magnetic shielding to prevent video inte-ference, the CS150's driver baskets are engineered in a non-magnetic material. Guaranteeing no picture distortion or discoloration.

Further adding to your surround sound experience, is the fact that all five speakers are from Polk. Since they all have the same sonic characteristics, you get a more faithful reproduction of surround sound encoded video.

So if you're considering new speakers, go all the way and surround yourself with the sound of Polk.

The center channel is free through March 31, 1994. After that, this remarkably low price has only one place to go. Up.

THE NEW CS150 FROM THE SPEAKER SPECIALISTS OF



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Get a free trunk and glove compartment.

The 3-CD in-dash changer receiver.

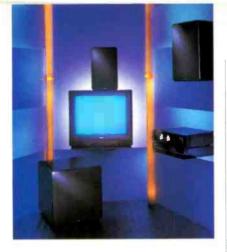
Having a multi-disc CD changer in your car has always meant

Having a multi-disc CD changer in your car has always meant giving up valuable space in your trunk or glove compartment. Until now. JVC scores with a triple play, a three-disc CD changer receiver that fits smartly into your dashboard to give you everything in car stereo without sacrifice. With the KD-CT7, you've got it all. Three CDs totally out of sight but right at your fingertips, brilliant sound reproduction, JVC quality, and a place to keep your gloves.





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Cover

A Home THX sound system might include these Boston Acoustics speakers, the Lexicon CP-3 controller, and the Carver TFM-35x power amp. The TV set here is a 27-inch Toshiba CN-27C90. For details, see Tomlinson Holman's special report beginning on page 54.

Photograph by Roberto Brosan

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Stereo Review.

EQUIPMENT Equipment Test Reports

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User's Report Boston Acoustics Home THX loudspeaker system • by David Ranada

Home THX Lucasfilm's approach to bringing the theater experience home • by Tomlinson Holman

Picture Perfect A basic guide to better

video • by David Ranada

A Laserdisc Starter Set

Ten top discs to feed that new player • by Rad Bennett

CES Showstoppers Hot new products from the 1994 Winter Consumer Electronics Show • by Bob Ankosko

MUSIC

Best Recordings of the Month

A little soul-searching from Bonnie Raitt, a smart blast of pop from Redd Kross, a classic Mahler Fifth from Claudio Abbado, and refreshing Mendelssohn from Frederic Chiu 🔺 Page 82

E.

PRINTED IN THE U.S.A.

🔺 Page 7

BUILTETIN BY WILLIAM LIVINGSTONE AND BOB ANKOSKO

HOME THEATER GUIDE ON VIDEO

Dolby Labs is offering a 48minute video primer entitled *Consumer Guide to Home Theatre*. The VHS tape, which includes advice on setting up a multichannel system, can be ordered direct for \$19.95, plus \$2.50 for shipping and handling; call 1-800-241-4115.

MOVIE MUSIC ON CD

When the Recording Industry Association of America tallied sales figures for 1993, the soundtrack for The Bodyguard, containing six new songs by Whitney Houston, emerged as the top seller of the year with 10 million copies.... The hit movie Philadelphia begins with Bruce Springsteen's Streets of Philadelphia and ends with Neil Young's closing theme, Philadelphia, which are the first songs these two artists have written and performed specifically for use in a film. Both are on Epic's release of music from the picture, which also includes performances by Peter Gabriel, Sade, the Spin Doctors, and others. A second Philadelphia album from Epic includes Howard Shore's orchestral score plus operatic arias sung by Maria Callas and Lucia Popp.... A star has been placed in Hollywood's Walk of Fame for the French composer Maurice Jarre, whose Oscar credits include Lawrence of Arabia (1962), Doctor Zhivago (1965), and A Passage to India (1984).

INSTANT GUITAR HERO

Now you can jam along with your favorite songs using the Key (\$400), a guitar-shaped synthesizer from Lonestar Technologies that lets you select which instrument bass guitar, lead guitar, etc.—you want to "play" and then simply strum along. Specially encoded videotapes and CD's send data containing the melody and chords to the Key—all

"TARNISHED" CD'S TURN UP

PDO Discs, a Philips-owned CD pressing plant in Blackburn, England, has announced that a "small number" of CD's it manufactured in the late Eighties are susceptible to tarnishing that may disrupt a CD player's ability to read them. The faulty discs, which have a reflective layer made of silver instead of the more common aluminum, tend to exhibit a dark bronze-like tint and bear the words "Made in the U.K. by PDO" near the spindle hole.

PDO has set up a hotline in the U.K. (0800 387063) to help owners of suspect CD's pressed at that facility. Discs that are found to be defective will be replaced, and data from hotline calls will be used in research on the degradation process.

According to PDO's Dave Wilson, there are no plans for a hotline in the U.S. "A small number of titles are affected, and within those titles a small number of discs," he said. He termed U.S. distribution of the flawed discs "unlikely" but didn't rule out the possibility that some may turn up here, noting that two calls from the U.S. were received during the hotline's first few weeks of operation.

Wilson said PDO presses discs for a number of labels, including PolyGram. He declined to identify specific titles that may be affected but said the problem has turned up in both pop and classical releases.

you have to provide is the rhythm. Atlantic Records is releasing several Keyencoded music videos, including Strange Brew featuring Eric Clapton.

STIV LIVES

Members of the Stiv Bators fan club will be happy to know that the 1981 film Polyester, in which Bators made his movie debut in the role of Bo-Bo Belsinger, has been released on laserdisc in the prestigious Criterion Collection. Starring Tab Hunter and Divine, Polyester was directed by the cult figure John Waters. To recreate in home video the Odorama effects of the theatrical presentation of Polyester, a scratch-and-sniff card containing ten fragrances keyed to significant plot events is enclosed with each disc. Bators, the lead singer of the punk band Dead Boys, made only one other movie, *Tapeheads* (1989), before his untimely death in a traffic accident in Paris in 1990. *Tapeheads* is available on VHS tape from Pacific Arts Video.

SURROUND-ONLY CD'S FROM NEW LABEL

Keith Olsen, the producer behind such pop acts as Fleetwood Mac, Foreigner, and Heart, has launched the Kore Group label, which will specialize in music CD's recorded in Dolby Surround. The first release is a 16minute disc of Emerson, Lake, and Palmer's new studio recording of their "Pictures at an Exhibition," which is available direct for \$6.99, plus \$1.50 for shipping and handling. Call 1-800-241-4115 to order.

AUDIO BITS

The annual High-End Hi-Fi Show sponsored by Stereophile magazine will be held April 29 through May 1 at the Doral Resort and Country Club in Miami, Call 505-982-2366 for details.... Cerwin-Vega, the largest family-owned speaker company in America, is celebrating its fortieth anniversary.... Collins USA, the maker of tube-type car subwoofers based in Costa Mesa, California, has introduced two "budget" powered subwoofers for home use.

ECOLOGICALLY SOUND

Hollywood Records has released the first album recorded and mixed entirely with solar energy, "Alternative NRG," featuring such well-known performers as Annie Lennox, Sonic Youth, R.E.M, and U2. Even the wrapping and packaging have been declared ecologically correct. Sales benefit Greenpeace, a noted organization of environmental activists.

Most loudspeakers touted for "Home Theater" are little more than patched up audio models. That's because most speaker manufacturers don't build their own drivers, the components that produce the sound. Instead, they buy off-the-shelf parts and struggle to reconfigure them for Home Theater.

Celestion's Shield Series was created specifically to suit Home Theater applications, both acoustically and aesthetically. They employ Celestiondesigned, magnetically-shielded drivers, integrated into elegant cabinets using proprietary construction technologies.

Compare each Celestion Shield model with any comparably priced so-called Home Theater speaker. Immediately, you will realize...



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LETTERS

Cable/VCR Compatibility

In January's "3 Hi-Fi VCR's," Edward Foster mentioned that some cable systems scramble everything they transmit, requiring the use of an external decoder for descrambling and channel selection, but he said that this may end soon thanks to a recently proposed FCC ruling to insure cablebox/VCR compatibility. Do the provisions of the proposed ruling mean that if and when it is passed I will be able to do away with my cable box and select all the channels I am paying for with the tuners in my TV and VCR? When will this happen, and will it apply to all cable systems?

GEORGE L. FECHTER Moncks Corner, SC

We're not certain exactly when the cablecompatibility issue will finally be put to rest, though it does now appear that it will be forced to some resolution. It is very likely that whatever solution is adopted will be effective only for new TV sets and VCR's designed specifically to take advantage of it.

Sinatra's "Duets"

Pardon me. but has Steve Simels *listened* to Frank Sinatra's "Duets" album? Before I listened, I too had serious doubts about The Voice, believing like Mr. Simels that Sinatra was "simply years past it," and I was also disturbed because his celebrity vocal partners were dubbed in after the original recording sessions. My doubts vanished, however, the first time I listened to "Duets," and my appreciation has increased with further listening. Mr. Simels has every right to dislike it, but his description of it as an "unholy mess" in his cruel and inept tirade in the February issue makes me angry. His bombastic writing is the real "unholy mess."

That the vocal collaborators were not in the studio at the same time as Sinatra turns out to be irrelevant. Mr. Simels's statement that they were "..., more or less reduced to filling in the blanks Sinatra deigned to leave for them" is erroneous. In fact, with minimal exceptions, Sinatra recorded each song in its entirety with a live orchestra, and the celebrity vocalists were free to add their own contributions where they desired. When Barbra Streisand recorded the line, "You make me blush, Francis," Sinatra responded by rerecording a line to say, "I have got a crush, my Barbra, on you."

It seems to me that Mr. Simels must have imagined how the album was going to sound and then heard it with a totally closed mind. He then proceeded to "review" it with all of the maturity and eloquence of an average high-schooler. KENNETT W. SAARI Spring Lake Heights, NJ The worst record Frank Sinatra ever made is better than any garbage that passes as music today. When will these smart-aleck "reviewers" learn there is something besides the current muck? When anything decent comes along, they can't wait to trash it. EARL JENKINS Covington, KY

feel compelled to respond to Steve Simels's ignoble review of Frank Sinatra's "Duets." Is Mr. Simels aware that "Duets" is on its way to becoming Mr. Sinatra's best-selling recording? DAVID F. LYNCH Upper Darby, PA

What is Steve Simels's problem? His comments about Frank Sinatra's "Duets" defy comprehension.

HARRY L. LICHTENBAUM Wethersfield, CT

Looking for Stereo AM

Daniel Kumin's "Getting It All Together" (February) included a paragraph about AM radio, and he mentioned that "a few home receivers can now decode" stereo AM broadcasts. I have not been able to locate any such receiver, only a couple of very expensive separate tuners. I was informed by one manufacturer that there are at least five different broadcast specifications for stereo AM (one of which, I presume, is called AMAX), and that even if I could find a receiver with stereo-AM capability, it would not necessarily be able to decode the stereo signals broadcast by my local AM station, WQEW. I called WQEW, and even they were unable to help me. Can you?

JACK BENVENT Ridgewood, NJ

The article should have said "tuners" rather than "receivers." Although there were initially a number of broadcast standards for stereo AM, by far the most widely used one —and the only one for which you will find receiving equipment—is the Motorola C-QUAM system. AMAX is an enhanced performance standard for AM broadcasting and reception, not a stereo-transmission scheme.

Disgraceland

generally enjoy your magazine very much, but I believe the music review section is weakened by its limited format. Since you have only one reviewer per item, obviously the tone of any review depends heavily on one critic's musical taste and background, or even his mood. Okay, I can live with that. In the January issue. Ron Givens's review of Heart's "Desire Walks On" was, at best,

Even Orson Welles didn't sound this real.

A new reason to be afraid of the dark.

Crunching footsteps behind you. Laser beams shooting over your head. Just a typical night at home with Adcom's home theater GTP-600 tuner/preamplifier. At Adcom's level of critically acclaimed performance it doesn't just

produce surround sound. It creates effects that are out of this world.

8

The award-winning GTP-600 and an Adcom power amplifier give

you the control to create a sonic experience that surpasses anything you've ever heard in a movie theater.

Award-winning technology takes you to the outer limits.

Providing switching for up to four video sources and four audio sources, the GTP-600 gives you the flexibility to customize your audio/video system for years to come. Composite or S-video connections provide a high definition signal path for maximum video quality. And with features like Adcom's exclusive Cinema Surround circuitry and Dolby Pro Logic® decoding, the GTP-600 brings the drama of home theater to your fingertips. Preprogrammed DSP(Digital Signal Processing) modes such as Concert Hall, Nightclub, Stadium and Five-Channel Stereo surround, let you create a variety of custom-tailored, psychoacoustically correct listening environments.

These features couple ideally with the GTP-600's advanced, programmable remote which lets you command up to eight addi-

tional system components for complete home theater control.

Surround yourself now at your Adcom dealer.

Preview the new GTP-600 tuner/preamplifier at your authorized Adcom dealer today. But be careful, you might want to leave the lights on.

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well off base. Okay, I could have lived with that—I knew his opinion was not even close to reality. But in your February issue, you listed it among the ten worst pop albums of 1993. *That* was unacceptable.

ROBERT J. CALABRO Yonkers, NY

Whose idea was it to put Meat Loaf's "Bat Out of Hell II" in the ten worst albums of the year? I think it's one of the greatest ever. It surely doesn't deserve to be on anyone's ten-worst list. GREG CRUCE Fredonia, KY

While you techno-weenies have been measuring waveforms and counting watts, the rest of the world has been using the equipment you review to listen to music. Your inclusion of U2's "Zooropa" in your "Disgraceland: The 10 Worst Pop Albums of 1993" illustrates the depths of your ignorance. STEVEN MARTIN Boston, MA

Speaker Sound and Location

Julian Hirsch wrote in his February test report on the RDL Acoustics F-1 and FS-1 speakers that they had essentially the same "truly excellent" performance when each was placed as recommended, but that he heard differences in their sound. (Although otherwise identical, the F-1 is optimized for placement near a wall, the FS-1 for placement on a floor away from the walls.)

Mr. Hirsch is correct, and this difference was to be expected. Although their different designs enabled each speaker to inject smooth power into the room at their different locations, a speaker cannot control how the room distributes that power. The fact that their locations were different meant that the room resonance modes were excited differently, and therefore that the spectral balance produced would not be the same at a given listener location. An even greater difference in sound would occur if identical speakers were placed at these different locations, because their power outputs would then be different also. Roy ALLISON **RDL** Acoustics Inc. Bellingham, MA

Hum Reduction

The reason for conflicting results using two baluns wired back-to-back for hum reduction (February "Letters") is that there are two different ways these little devices are wired. One type will still have a common ground if a pair is wired back-to-back and will not work for hum isolation. There are many brands and models of balun, and the only reliable way I know of to tell which is which is with an ohmmeter or continuity tester. Tom Ford Campbell, CA ow can I obtain the MAGIC box from Mondial Designs described in Peter Mitchell's "Getting the Hum Out" (November 1993)? I live in San Diego, and it seems impossible to find it here. DAVID ZAHIRI Encinitas, CA

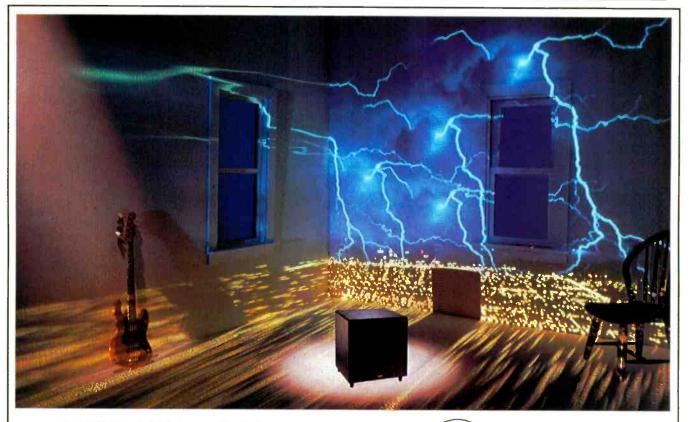
You can write to Mondial Designs at 2 Elm St., Ardsley, NY 10502.

Corrections

Our February review of the DGX Digital Deconvolution Audio System misstated its price. The correct price is \$1,995 for systems with loudspeakers finished in medium-oak woodgrain vinyl, \$2,195 for systems finished in rosewood veneer.

Our March review of the Yamaha CX-2 A/V preamplifier erroneously described its loudness compensation, which works by attenuating the midrange and, to a lesser extent, the treble. Also, the back-panel control connection for Yamaha MX-1 and MX-2 power amplifiers actually turns these amplifiers on and off. We regret these errors.

We welcome your letters. Please address correspondence to Editor, Stereo Review, 1633 Broadway, New York, NY 10019. You should include your address and telephone number for verification. Letters may be edited for clarity and length.



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For the videophile, convienent remote control audio/video switching and built-in surround analyzer set up.

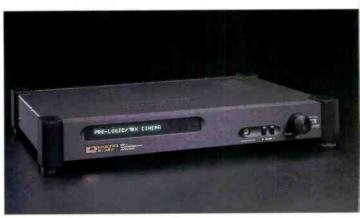


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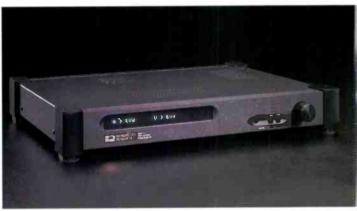
For the audiophile, 20-bit digital to analog conversion, pure class "A" circuitry, and our exclusive KDP Hystersis Canceling Circuitry.

> Visit a Kinergetics Research dealer near you and *experience* HPHT.





KSP-2 Surround/Stereo Processor



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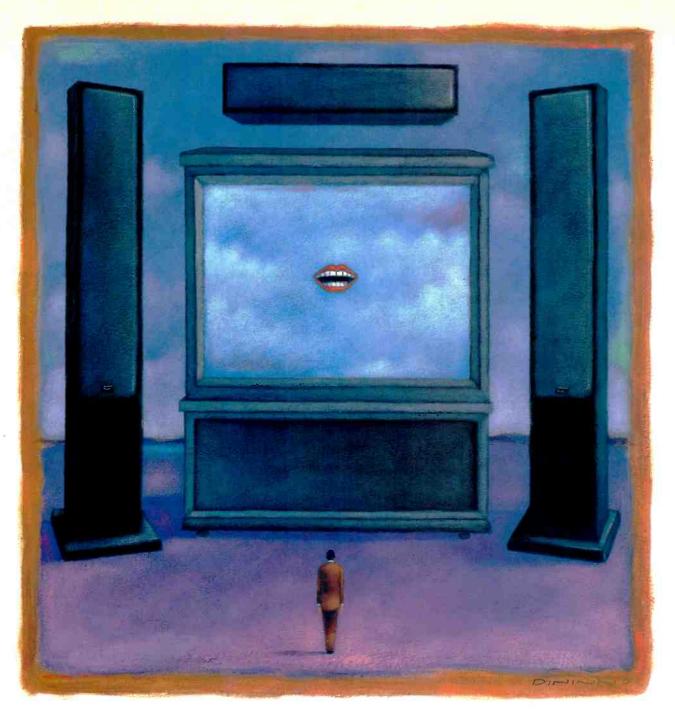
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Gun shots and screeching tires don't tell a story, they're just the punctuation. Movies are mostly dialog. So before you buy your home theater speakers, audition NHT. Our critically acclaimed systems deliver the whole

story, from spoken word to subtle sound effect. And when the script calls for a nuclear blast, you'll think you're sitting at ground zero. NHT home theater — you really should hear what people are saying.



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NEW PRODUCTS

V AUDIO CONTROL

Audio Control's C-101 Series III equalizer/analyzer combines a pink-noise generator, a real-time spectrum analyzer with adjustable resolution and an outboard calibrated microphone, and a ten-band stereo graphic equalizer in one standard-width component. Equalizer controls are spaced one octave apart, starting at 32 Hz, and grouped in stereo pairs. The unit has a selectable infrasonic filter and carries a five-year warranty. Price: \$459. Audio Control, Dept. SR, 22410 70th Ave. W., Mountlake Terrace, WA 98043. • Circle 120 on reader service card



SENNHEISER

The heart of Sennheiser's IS 450 wireless headphone system is an AC-powered infrared transmitter/emitter designed to saturate a 375-square-foot room. The headset has a volume control and is powered by two rechargeable NiCd batteries, which are said to provide up to 8 hours of continuous listening per charge. Price: \$249. Sennheiser, Dept. SR, P.O. Box 987, Old Lyme, CT 06371. • Circle 121 on reader service card

B&W LOUDSPEAKERS

Part of B&W's 2000 Series of audio/video speakers, the Model 2000 IFS center-channel speaker combines two magnetically shielded 5-inch woofers and a 1inch tweeter in a 17¾-inch-wide vented enclosure designed for placement on a TV set (as shown) or below it. A pair can be also used, one above and the other below the screen, to center the sound vertically as well as horizontally. Frequency response is given as 95 Hz to 20 kHz ±3 dB. Price: \$199. B&W Loudspeakers, Dept. SR, P.O. Box 8, North Reading, MA 01864-0008. • Circle 122 on reader service card





A PARADIGM

Paradigm's Mk3 Performance Series includes four speakers: from left, the 33¼-inch-tall Model 5seMk3 (\$529 a pair), the 34%-inch-tall 7seMk3 (\$629 a pair), the 37-inch-tall 9seMk3 (\$729 a pair), and the 43½-inchtall 11seMk3 (\$1,049 a pair). Low-frequency limits are given as 32, 34, 32, and 28 Hz, respectively, all within ±2 dB. Finish options are oak or blackash vinyl veneer. Distributed by AudioStream, Dept. SR, P.O. Box 2410, Niagara Falls, NY 14302. • Circle 123 on reader service card

NEW PRODUCTS

NORDOST >

Nordost's 12-gauge-equivalent Super Flatline cable is designed for biwired speaker systems. Thinner than a dime so it can be laid under a rug or carpet and said to be extremely durable, it features sixteen Teflonencapsulated copper conductors. Price: \$20 per meter. Nordost, Dept. SR, 58 Pearl St., Framingham, MA 01701. • Circle 124 on reader service card



PROGRESSIVE > DESIGN

Progressive Design offers five Roll-Up CD Towers: clockwise from left, the 69-inch-tall RUCD-220 (\$200) and RUCD-110 (\$120), the 44-inch-tall RUCD-132 (\$130) and RUCD-066 (\$80), and the 29-inch-tall RUCD-088 (\$100). Progressive Design, Dept. SR, 310 County Line Rd., Bensenville, IL 60106. • Circle 125 on reader service card



V ALPINE

Alpine's Model 5960 six-disc car CD changer, measuring only 10 x 2½ x 6 inches, can be installed under a seat or in the glove box of many vehicles. Its new tray-type magazine and sliding play mechanism reduce disc-change time to 8 seconds. An Alpine CD controller or head unit with changer controls is required for operation. Price: \$420. Alpine, Dept. SR, 19145 Gramercy Pl., Torrance, CA 90501. • Circle 126 on reader service card





MEDIA VISION

The deluxe version of Media Vision's Memphis multimedia upgrade system for desktop computers features two detachable Bose speakers, each of which houses a 2½-inch wide-range driver and an amplifier/equalizer. The system

includes a double-speed CD-ROM drive with preamplifier, an interface card, connecting cables, and two CD-ROM's. Price: \$1,299. Media Vision, Dept. SR, 47300 Bayside Parkway, Fremont, CA 94538. • Circle 127 on reader service card

ALLISON ACOUSTICS

The home-theater-oriented NL Series from Allison Acoustics includes, from left, the NL 654 two-way surround speaker (\$280), the NL 5400 subwoofer (\$460), and the NL 1440 two-way front-channel speaker (\$330). The 13½-inch-tall NL 654 uses a 6inch woofer and has a lowfrequency limit of 58 Hz. Measuring 19 x 21½ x 19 inches, the NL 5400 has a 12-inch driver and is rated down to 28 Hz. The 18½-inch-tall NL 1440 features an 8-inch woofer and is rated down to 41 Hz. All are magnetically shielded, finished in black lacquer, and covered by full five-year warranties. Allison Acoustics, Dept. SR, 478 Stanford Ave., Danville, KY 40422. • Clrcle 128 on reader service card



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NEW PRODUCTS



ALTEC LANSING

Altec Lansing's Model 120 speaker is designed for surroundchannel use in a home theater system. Its quasi-dipole driver configuration mates a 5½-inch woofer with two side-firing 3-inch drivers in an 11½-inch-tall cabinet finished in black vinyl. Frequency response is given as 100 Hz to 7 kHz ±3 dB. Price: \$250 a pair. Altec Lansing, Dept. SR, P.O. Box 277, Milford, PA 18337-0277. • Circle 129 on reader service card



COAST 🔺

Coast's LP-size CD Album (\$25) has a cushioned-vinyl cover and holds forty-eight CD's and their liner notes in soft-plastic sleeves. The twelve-page binder-type album can be expanded using sixpage refill packs (\$9.95) that hold twenty-four discs with liner notes. Coast Manufacturing, Dept. SR, 200 Corporate Blvd. S., Yonkers, NY 10701.

Circle 130 on reader service card

DENON 🕨

The CDC-815 CD player is built around Denon's Super Linear D/A conversion circuitry, which is designed to eliminate zero-cross distortion and improve linearity at low levels. For those who like to sing along with CD's, the player has a digital pitch control that's adjustable in 0.1-percent increments over a range of ±12 percent. Other features include a twenty-track program memory, a headphone jack with a separate level control, a coaxial digital output, and a remote control. Signal-to-noise ratio is given as 107 dB. Price: \$300. Denon, Dept. SR, 222 New Road, Parsippany, NJ 07054. • Circle 131 on reader service card





STILLWATER DESIGNS

Stillwater's Kicker Substation car subwoofers include the KSR120 (left, \$429) and KSR100 (\$379), featuring a 12- or 10-inch driver in ported cabinets 31 or 25 inches long. The KSR120's bandwidth is given as 36 to 129 Hz and power handling as 200 watts, the KSR100's as 39 to 130 Hz and 250 watts. Both models come with mounting hardware. Stillwater Designs, Dept. SR, P.O. Box 459, Stillwater, OK 74076.

• Circle 133 on reader service card

V PERREAUX

Among the components New Zealand's Perreaux is banking on to re-establish itself in the U.S. are the EP3 preamplifier (top, \$845), with six inputs and a phono section, and the E110 power amplifier (\$1,095), rated to deliver 100 watts per channel into 8 ohms, or 160 watts into 4 ohms, with 0.003 percent distortion at 1 kHz. Perreaux Technologies America, Dept. SR, P.O. Box 248, Buffalo, NY 14225-0248.

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R.E.M.: Automatic For The People (Warner Bros.) 00121

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The Chase (Liberty) 00141 Red Hot Chill Peppers: What Hits!?

(EMI) 00144 9 Elton John: Greatest Hits 1976-1986 (MCA) 00150

AC/DC: Live (Atlantic) 00201

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The Doors: L.A. Woman (Elektra) 00215

Frank Sinatra: The Best Of The Capitol Years (Capitol) 00242

Phil Collins: Serious Hits...Livel (Atlantic) 00324



Frasure: Pool The First 20 Hits (Reprise) 00328 Steve Laury: Keepin' The Faith (Denon) 00330 Silk: Lose Control (Keia/Elektra) 00353 Steely Dan: Aja (MCA) 00409

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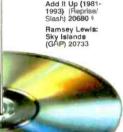


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NEW PRODUCTS



SOUND DYNAMICS

The R-616 tower speaker from Sound Dynamics is a two-way vented system with a pair of 61/2inch woofers and a 1-inch metaldome tweeter. Frequency response is given as 34 Hz to 22 kHz ±3 dB, sensitivity as 87 dB, and maximum power handling as 150 watts. The cabinet measures 85/8 x 351/2 x 14 inches and is finished in black-ash vinyl veneer with a black grille. Biamp/biwire terminals are included. Price: \$550 a pair. Sound Dynamics, Dept. SR, 3641 McNicoll Ave., Scarborough, Dntario M1X 1G5. · Circle 134 on reader service card



TEAC

Teac's R-550 is a two-head autoreverse cassette deck featuring a center-mounted transport, Dolby HX Pro headroom-extension circuitry, Dolby B and C noise reduction, a record-mute mode that can automatically insert pauses between selections, program search, and a CD Sync mode for recording from a compatible CD player. The deck can be operated using Teac's unified remote control (not included). Price: \$289. Teac America, Dept. SR, 7733 Telegraph Rd., Montebello, CA 90640. • Circle 135 on reader service card

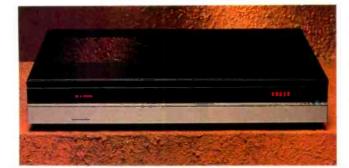
V SAMSUNG

Samsung's VR8903 four-head VHS Hi-Fi VCR supports the VCR Plus recording system, which lets you record selected TV shows automatically by keying in codes given in many newspaper TV listings and in *TV Guide*. Other features include on-screen menus, jog and shuttle editing controls, and a remote control. Price: \$600. Samsung, Dept. SR, 105 Challenger Rd., Ridgefield Park, NJ 07660. • Circle 136 on reader service card



V BANG & OLUFSEN

The AV 7000, an add-on surround processor/amplifier for B&O audio systems, features a Dolby Pro Logic decoder, a 60-watt center-channel amp, and a code converter that enables B&O remote equipment to operate major-brand video components. Price: \$1,995. Bang & Dlufsen, Dept. SR, 1150 Feehanville Dr., Mount Prospect, IL 60056. • Circle 137 on reader service card



MB QUART 🔺

Part of MB Quart's Nautic Series, the 6½-inch QM 160.19 coaxial speaker is engineered to withstand temperature extremes, humidity, and salt-water spray, making it ideal for use on a boat or in an off-road vehicle. It features a plastic frame, a stainless-steel grille, and a watertight crossover module. Price: \$309 a pair. MB Quart, Dept. SR, 25 Walpole Park S., Walpole, MA 02081. • Circle 138 on reader service card



AUDIO 0ªA

Power Connections

I'm very satisfied with my surroundsound receiver, but I want to add more power by attaching an external amplifier. I'm confused by the labeling of the connections on the receiver's back panel. For the main channels there are two pairs of jacks marked "pre-out" and "power in"; for the center channel there is just one pair of jacks. labeled the same way. How do I use all of these to do what I want?

> HISHAM MOHAMMAD Kalamazoo, MI

Receivers and integrated amplifiers, whether two-channel or multichannel A/V models, consist of a front section containing the input selector, tape-monitor switches, tone controls, and the like and a power (or "main") amplifier that produces enough output to drive speakers. The control section is the preamplifier, and it operates at what is usually called "line level." which matches the input requirements of the power-amplifier stage.

Often the preamp signal is simply fed internally to the power amplifier, but more and more models route the signal through a series of rear-panel jacks (usually labeled "preout" and "main-in") that are strapped together, frequently by U-shaped metal plugs, called jumpers, that simply connect the output and input jacks together, but sometimes using more elaborate plastic-encased plugs. When these jumpers are removed, you can insert another component, such as an equalizer, between preamplifier and power amplifier by connecting the pre-out jacks to the external device's inputs and connecting its outputs back to the main-in jacks (or, in your case, the "power-in" jacks).

Alternatively, if you want to leave the internal power amplifiers idle and use external amplification, you can feed the pre-out signal to the external power unit and leave the main-in jacks empty. The same is true for the center channel except that, being mono, it has only one of each type of jack.

Schoo-Schoo CD's

Since my CD player was repaired. I have begun to hear a very annoying sound with several discs. In the play mode, I can hear the disc spinning with a cyclic "schoo. schoo, schoo ..." sound. I can sometimes get rid of it by pressing on the side or top of the player. It slows down and fades away as higher-numbered tracks are played. What could be causing the problem? Could it be causing damage to my CD's?

> MICHAEL THELANDER APO 09056, Germany

You shouldn't be able to hear a disc rotating in your player. It sounds to me as if the CD is rubbing against something inside the player, so I would take it back to whoever "repaired" it and get the problem corrected. CD's can vary slightly in thickness, which is why only some of your discs make the noise; the service people probably tried your player with a thinner disc that had no problem. But if the rubbing is on the label side, it might eventually remove enough of the surface to let air in, which will oxidize the aluminum layer, possibly rendering the CD unplayable in the future. If the problem is on the playing side, it might create areas rough enough to disrupt the signal itself and cause skipping.

Ceiling Speakers

I was recently in a home that had music coming from the ceilings. It sounded quite good and seemed to come from all over the room. Is there any real advantage to this sort of system over conventional loudspeakers, and is the fidelity good enough to consider such a setup? LEONARD SHEDLER Folsom, CA

Mounting speakers flush with room surfaces can be an attractive alternative to Л big boxes sitting out in the room. While some of the speakers designed for in-wall use are very good indeed, and these should work fine in a ceiling, avoid the typical ceiling speaker hidden behind one of those round metal grilles full of small holes that look like they would be good for draining cauliflower. As you noticed, however, it's very difficult to achieve proper imaging with ceiling-mounted speakers. That's why the sound seemed to come from everywhere. If you're mainly interested in background music, that may be okay, but it's almost never adequate for critical listening.

Phono Equalization

I recently added a turntable to my system and have a graphic equalizer I would like to use with it. The rest of my sources are fine without doctoring. Is there any way to route the output from my phono cartridge through the equalizer without affecting the other signals? STEVE COLBURN Largo, FL

One way would be to use an external phono preamplifier rather than the one built into your receiver (or integrated amp or separate full-function preamp). The signal would go from the cartridge to the external preamp to the equalizer to a line-

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Double-Duty Amplifier

My Dolby Pro Logic decoder provides a single center-channel line output and a single subwoofer output as well. Could I use an ordinary stereo amplifier to drive a center speaker and a subwoofer? Would it provide adequate channel separation? LOF MORGAN

Kuwait City

As long as the amplifier has enough power to drive the subwoofer without distress, you should have no problem. Channel separation should be much more than enough.

TV Speakers as Center Channel

I would like to use the speakers in my television monitor for the center-channel signal when watching movies, but I have tried every connection I could think of between my A/V receiver and TV monitor and still can't make it work. Is what I want to do possible? JOEL STALEY Schererville, IN

As long as you are not feeding your monitor's antenna terminals there should h be no problem making the connection. Connect the output of your VCR to the TV's video line inputs and the line-level centerchannel output of your receiver to the corresponding audio input (or inputs) on the television. If the receiver doesn't provide line outputs, you can often simply use the center-channel amplifier output itself. Run a length of speaker wire from the center-channel terminal on the receiver to the back of the TV and splice it to a short piece of cable with an RCA plug at the end. If you can switch your TV to mono operation, do so; if not, add a second RCA-terminated cable in parallel.

With the center-channel amplifier level fully off, plug this arrangement into the set's audio inputs. Using the test signals provided by your receiver, gradually bring up the level of the center channel to match that of the other channels. You may have to juggle receiver-vs.-television levels to minimize distortion and noise, and it may be advisable to "pad down" the center-channel output using a simple volume control to prevent overload of the television's inputs.

Such an arrangement should work, electrically at least, but remember that it is important for the tonal balance of the centerchannel speaker to match that of the main speakers as closely as possible so that sounds don't change character as they move about the soundstage. That may be difficult to achieve using your TV set's speakers. You may also find that they run into distortion much more readily than your main speakers. In short, you would almost certainly be better off getting a good separate center-channel speaker that is well matched to your front left and right speakers.

Inaudible Surround

My Pro Logic receiver's surround-channel level control provides 36 dB of attenuation, but only 6 dB of boost. At +6 dB I can just barely hear the surround speakers even with the front speakers off. None of the service people I have talked to know why so little range is offered, but I know it's not enough for proper surround sound. Is there any way I can increase the rear level? CALVIN B. HASKELL

Eliot, ME

The level controls for the surround and center channels built into Pro Logic decoders are there to enable the extra channels to be balanced with the main front pair, and that's usually a fairly minor adjustment. In your case, it sounds as if there's a substantial mismatch, which might be caused by using very sensitive speakers in the front and unusually insensitive ones in the rear. If your main speakers were capable of, say, 96 dB output from a 1-watt input (very sensitive), and your surround speakers could put out only 84 dB (quite insensitive), the 12dB difference would be impossible to equalize with your receiver's level controls. Even so, the difference would probably not be as dramatic as you describe, so I suspect you have an equipment fault or a wiring problem. But before you head to the service shop, try balancing the levels again using the receiver's built-in test signal. If that works, you probably have nothing to worry about. Output from the surround speakers is often low much of the time when playing actual program material.

CD Pinholes

I have noticed that there are tiny pinholes visible in some of my older CD's, but not in more recent CD's. Is what I'm seeing some sort of CD deterioration that happens with time? Should I start replacing my older discs? DONALD WILLIAMS Campbellsville, KY

A Pinholes, or tiny manufacturing flaws in a disc's reflective layer, were more common in the early days of the CD, but they still occur from time to time. They don't represent wear or deterioration of your discs, however, and are usually small enough to be dealt with easily by a player's error-correction system. So unless some of your older discs are audibly flawed, you can put your wallet away.

If you have a question about audio, send it to Q&A, Stereo Review, 1633 Broadway, New York, NY 10019. Sorry, only questions chosen for publication can be answered.

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PERIPHERALS

PRODUCTS AND TRENDS THAT GO BEYOND MAINSTREAM AUDIO/VIDEO

Recording on a Home Computer BY DAVID RANADA

ost owners of sound cards for IBM-type computers use them for computer-game sound effects or music reproduction. But if you want to go one step further than that, you might consider using a sound card for recording and editing audio signals.

Practically any sound card provides that capability, either through software bundled with it or a third-party program. Normally, you feed the analog signal you want to record to the card. The audio signal is converted to digital format by the card's internal



A recording edit in progress using EdDitor Plus.

analog-to-digital converters (ADC's), and the digital data are "recorded" by storing them on the computer's hard drive as sound files (*.WAV files in Windows). For playback, these sound files are fed through the sound card's digital-to-analog converters (DAC's).

A 16-bit sound card can produce files that are numerically equivalent to the data the same input signal would have produced had it been fed, say, to a DAT recorder. A good sound card can thus bestow on your computer high-quality audio recording capabilities: very flat frequency response, no wow or flutter, inaudible distortion, and a dynamic range near or equal to that of a CD.

Not only that, but a good waveform-editing program can give you sound-manipulation capabilities that are unheard of with old-fashioned razor-blade/splicing-block open-reel tape editing, impossible with cassettetape formats, and only distantly approached, for now, by the editing features of MD.

Those capabilities were so attractive that I started looking for a sound card that allowed not only hard-disk editing but also direct digital-audio input and output using the standard

> consumer-format digital interface (SPDIF). Why is digital I/O important? So that I can edit live recordings made on a DAT machine and save the edited files on another DAT, all without additional cycling between the analog and digital "domains," Digital output also allows me to generate, using very simple programs written in Basic or C, highly specialized, digitally "pure" test-signal files that can be digital-

ly transferred to DAT or recordable CD (CD-R) for equipment testing.

My search for IBM-compatible sound cards with digital I/O has produced only one candidate, but it is an outstanding one: the CardD Plus (\$795), which has SPDIF capability only when used in combination with the companion I/O CardD (\$295), both from Digital Audio Labs (14505 21st Ave. N., Suite 202, Plymouth, MN 55447). The company also offers three sound-editing programs, ranging from Fast Eddie at \$199 to the EdDitor *Plus* at \$349, and it is bringing out an SPDIF card without ADC's or DAC's, the \$495 Digital Only CardD, for pure-digital operations.

To use the CardD and EdDitor Plus, you must have a rather powerful IBM-type setup: at least a 386/33 or 486/33 processor, 4 megabytes of RAM, a 200-megabyte IDE or SCSI hard drive, a mouse, and Windows 3.1. The CardD doesn't have audiosynthesis capabilities, so for MIDI work you also need an MPU-401compatible card. There are a few other hardware-compatibility considerations involving SCS1 hard-drive controllers that may or may not be relevant to your computer (check with Digital Audio Labs), And since just 1 minute of 16-bit stereo recording produces a huge sound file (around 11 megabytes), the larger your computer's hard disk, the merrier.

With this equipment, you can perform the following operations:

• Cut-and-paste editing, for inserting or deleting specific sound segments with millisecond accuracy.

• Variable crossfading between edited segments for very smooth "splices."

• Post-recording fading and other special effects, including reversal (playing a segment backwards), all-digital tone control, variable-speed playback, and mixing of sound files.

• Tape-like "scubbing" (EdDitor *Plus* only) to find a precise edit point.

All of these operations are greatly simplified by the mouse-controlled on-screen display (see the photo of an EdDitor *Plus* screen at left).

I've put these sound tools to good use already by making test signals and editing live DAT recordings and demo tapes. The system's digital output (coaxial only) feeds without any trouble to CD-R, MD, DCC, and DAT recorders. I highly recommend the CardD system to avid amateur recordists. It will enable you to produce professional-sounding results with unusual speed and ease.

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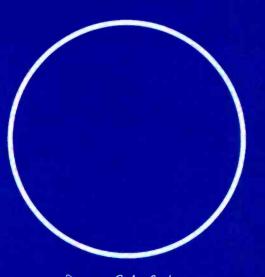
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Log On, Beethoven

he ways in which we receive information range from the modern to the antiquated. For example, I can log onto the Internet. that great global web of computer networks, and for the price of a local phone call browse through an electronic library in Sydney, collecting text, sound, and video files. On the other hand, I ride my bicycle to the corner market to buy a Gutenbergian copy (usually smudged and wrinkled) of the Miami Herald. Clearly recognizing that the former way of disseminating and retrieving information has advantages over the latter, companies big and small are racing to build their section of the Information Superhighway and preparing goods and services to be transported over it.

Construction of the superhighway is proceeding faster than anyone had imagined. Piece by piece, the road is beginning to take shape. Bell Atlantic and TCI plan to invest \$15 billion in the superhighway, and Pacific Telesis has earmarked \$16 billion. The number of electronic-mail (e-mail) users is projected to climb to 31 million next year, up from 11.7 million in 1992. The interactive-TV industry, worth a mere \$681 million in 1991, is expected to snowball to \$1.65 billion by next year, thanks to the recent legislative approval of VDT (video dial tone), which permits regional phone companies to deliver TV and video services over telephone lines.

Sony has formed a new company, Sony Computer Entertainment, Inc., and hopes to sell one million video games in its first year—but that venture will be a tiny fraction of the size of the publicly traded video-game giants Sega and Nintendo. Among the many superhighway ventures, AT&T has purchased a stake in Sierra Network, the developers of a cyberspace theme park in which subscribers will be able to play video games over the telephone network. Commenting on the investment, David Neylon, director of new business development for AT&T's consumer products division, said, "Entertainment is the Trojan horse that will lead people to the virtual community."

If that is true, it's easy to see why companies are scrambling to create video-on-demand and game-based interactive services. On the other hand, it's hard to figure out why so few builders of the superhighway have shown an interest in music. Could it be that passive music listening is destined to be lost in the entertainment traffic of the future? Or are the companies that control the flow of music simply too timid? When IBM and Blockbuster announced last year that they were exploring the possibility of storing music in a central database and making CD's in Blockbuster

Why have so few builders of the superhighway shown a specific interest in music?

stores while customers waited, the initial reaction of the recording industry was one of derision. Since then, several major record companies have warmed to the idea, but only after exposing their fear of the new. If they think in-store music-on-demand is radical, then in-home music-on-demand, in which a customer would download an album directly into his home computer or CD recorder, must be inconceivable to them.

And yet, in the near future, when everything from games to groceries will be accessible from home terminals, the best hope for the survival of the music industry will be equal accessibility. Surveys show that 40 percent of the people who enter a record store leave empty-handed because they can't find what they want; huge music databases would overcome stocking problems. And the cost of electronically transmitting music would be dramatically less than the current shipping charges of about \$3 per CD. What would happen to all the CD pressing plants? Easy—they could make recordable CD's. And retail record stores? They would become music databases.

In the 1970's, Disney sued Sony for selling video recorders, and movie studios verbally fire-bombed the first videocassette rental shops. Today, it's not uncommon for the revenue from the sale and rental of prerecorded videocassettes to boost a motion picture's total income by 50 percent or more. Today, wealthier and wiser, studios are clamoring to create video-ondemand. Similarly, record companies must realize that by logging on to the superhighway they'll be able to compete for people's future entertainment dollars more successfully-and increase their profitability.

Frankly, I'm perplexed. Why does it seem that the telecommunications giants are overlooking music as new ventures are formed? Are they afraid to rock the boat of a prosperous industry? Do they fail to recognize the potential of tapping into new delivery systems, and the danger of not doing so? Right now there should be vigorous debate on a timetable for the completion of an on-demand music-delivery system, standards committees should be hammering out technical details, and consumer groups of music lovers should be watching over the proceedings to insure that fidelity is not compromised. But no. Some cable radio systems, some vague plans. No headlines. Other entertainment industries are racing forward, while the music industry sits still.

Is it possible? Could it happen? Like a deer frozen in the headlights of an onrushing truck, could the music industry wind up as roadkill along the Information Superhighway?

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Speaker Tests

A loudspeaker differs fundamentally from the electronic components of an audio system in at least one important respect: A single electrical input signal produces an *infinite* number of different acoustic outputs.

In the case of an amplifier, tuner, tape deck, or CD player, an input signal produces a corresponding (and, in general, unambiguously measurable) output signal, differing in some degree from the input in respect to level, distortion, and noise. If the component is well designed, the aberrations it creates are minor and not audibly significant. The point to remember is that, for better or worse, each member of a listening group hears the *same* signal coming from a system's electronic components.

Loudspeakers are a uniquely different matter. In any group of people listening to a loudspeaker, no two of them are hearing exactly the same signal! Why does this situation exist? Basically, because every sound source (speaker, in this case) radiates its output in many directions, usually in varying degrees. The frequency response measured at any direction from the source will almost always be different from the response at any other direction. This condition exists even for measurements made in an anechoic (echo-free) environment. and it is exacerbated in a normal listening room by the numerous reflections from walls, floor, and ceiling that combine with the direct radiation to produce a waveform very different from the original signal.

So how do we measure speaker performance? There is no universal testing standard for loudspeakers. There are accepted conventions for certain very basic measurements (impedance and sensitivity, for example), but all attempts to standardize frequency-response measurement, probably the most important measurement with regard to sound quality, have come to naught. The reason is simple: If the "frequency response" of a speaker is different in every direction, and if each manufacturer has his own idea of the optimum directional characteristics for his products (since these characteristics can have a profound effect on the final sound), how can one expect any manufacturer to agree to a measurement method that might discriminate against his speakers and favor competitive designs?

FI;H

There are also very different philosophies among speaker designers regarding the comparative importance of the sound traveling directly from the speaker to the listener's ears and the reverberant "room sound" that is reflected a number of times from the walls. floor, and ceiling before being heard. Both direct and reflected sound make a significant contribution to the

> n any group of people listening to a loudspeaker, no two of them are hearing exactly the same signal.

overall sound quality, but they are measured by different methods that often produce very different results.

When I started reviewing audio equipment more than thirty years ago, I realized that in many cases I would have to devise and refine my own techniques, however imperfect. My measurement "ear" is a Bruel & Kjaer 4133 microphone, whose frequency response is almost ruler-flat through the audio range and well beyond. Our room-response measurement is made in a 15 x 20 x 8-foot room, carpeted and with good (slightly dead) acoustics. The speakers are normally placed at the front of the room, several feet from the side walls and a couple of feet from the wall behind them, facing forward. The microphone is located about 12 feet in front of the speakers, on the axis of the left speaker. The speakers are driven (one at a time) by a Carver Mono Block professional amplifier that can deliver many hundreds of watts into any speaker load.

The signal source for the room measurement is a UREI response plotter, which generates a sweeping sine-wave signal with a one-third-octave warble that helps to minimize the influence of standing waves created by room resonances. We measure the response of each speaker separately but plot both on the same coordinates.

The purpose of this measurement is to assess the speaker's overall output in a real room. Our room's high-frequency absorption effects have been calibrated by means of a pair of modified AR-LST speakers (a classic of yesteryear) whose power response into a 2π solid angle (180 degrees) was measured for us by Acoustic Research. Knowing the true power response of these speakers in open air and their response in our room (placed the same way as most of the speakers we test), we are able to correct for the losses between 10 and 20 kHz that result from room absorption.

We have found that the warble-tone room measurement of a pair of speakers yields response curves that typically vary from ± 5 to ± 8 dB at middle and high frequencies (much more at low frequencies, where this method becomes unreliable). By averaging the two curves and applying the highfrequency correction we obtain a composite curve that experience has shown to be a reasonable representation of how the speakers can perform at middle and high frequencies in a more or less typical listening room. Notice that I say "can," not "will," but my experience has been that the inherent characteristics of a speaker's power response and sound do appear in this curve and that it usually correlates quite well with the speaker's general sound quality in actual use.

Next month I will continue with the other tests we make on speakers.

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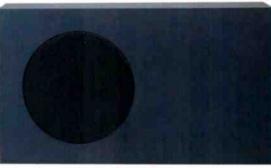
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Cambridge SoundWorks changed the audio world when we began direct-marketing Ensemble* by Henry Kloss. Ensemble is a revolutionary dual-subwoofer/satellite speaker system offering all-out performance, without cluttering up your room with huge speaker cabinets. Available only factory-direct from Cambridge SoundWorks, with no expensive middle-men, Ensemble is priced at hundreds less than it would have sold for in stores. Audio magazine says Ensemble "may be the best value in the world."

And Then There Were Two.

Now Cambridge SoundWorks has introduced Ensemble II, a more affordable version of Ensemble using only one cabinet to hold both subwoofer drivers. Ensemble II has joined Ensemble in the ranks of the country's best-selling speak-



The real difference is in the subwoofer.

ers. We believe Ensemble II is a better system than its best-known competitor. And because we sell it factory-direct, it's half the price. Stereo Review said "Ensemble II performs so far beyond its price and size that it can be compared only with much larger speakers at substantially higher prices." We agree with the writer who said, "It's hard to imagine going wrong with Ensemble." The question is, which Ensemble system is right for you?

The Same Satellite Speakers.

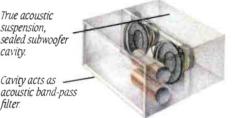
When you listen to either Ensemble system, almost 90% of the music you hear is being reproduced by the satellite speakers. Both Ensemble and Ensemble II use satellite speakers that are virtually identical.* Unlike many competing systems, Ensemble's satellites are true two-

way speaker systems, each containing a high performance tweeter and a 4-inch woofer. Stereo Review said, "The Ensemble satellites delivered a smoother output than

True acoustic suspension. sealed subwoofer cavity.

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filter





many larger and more expensive speakers."

Small $(8\%'' \times 5\%'' \times 4'')$ and unobtrusive, they'll fit into the decor of any room. They're available in scratch-resistant gunmetal grey Nextel, or primed so you can paint them any color you wish.



Ensemble satellite speakers are available primed for painting, so they can match your decor exactly.

The Same Overall Sound.

In many rooms, Ensemble II sounds virtually the same as Ensemble, especially when Ensemble's two subwoofers are placed right next to each other. The real difference between the two systems is that Ensemble, with its two ultra-compact subwoofers (12"×21"×4½"), gives you *ultimate placement flexibility.*

The Same Attention To Detail.

Ensemble and Ensemble II are constructed with the very best materials and no-compromise workmanship. Their subwoofers use heavy-duty woofers in true acoustic suspension enclosures. The satellites are genuine two-way systems with very high quality speaker components. Individual crossover networks are built into every cabinet for maximum wiring flexibility. Robust construction is used throughout, featuring solid MDF cabinets and solid metal grilles.

The Same Factory-Direct Savings.

Cambridge SoundWorks products are available *only* factory-direct. By eliminating the middle-men, we're able to sell Ensemble and Ensemble II for hundreds less than if they were sold in stores.

The Same 30-Day Total Satisfaction Guarantee.

Choosing a loudspeaker after a brief listen at a dealer's showroom is like deciding on a car after one quick trip around the block. So we make it possible to audi-

tion our speakers the right way—



Stereo systems featuring Ensemble and Ensemble II speakers with Pioneer or Philips electronics start at only \$799, including CD player. Dolby Surround Sound systems start at only \$999.

in your own home. You get to listen for hours without a salesman hovering nearby. If within 30 days you're not happy, return your speaker system for a full re-



fund. We even reimburse original UPS ground shipping charges in the continental United States.



Every Ensemble and Ensemble II comes complete with 100' of speaker wire, a wire cutter/stripper and our Guide To Surround Sound.

The Real Difference: The Ultimate Placement Flexibility Of Dual Subwoofers.

Placement of bass and high-frequency speakers in a room-and how those speakers interact with the acoustics of the room-has more influence on the overall sound quality of a stereo system than just about anything. As an alternative to spending hundreds (or thousands) of dollars on this or that "latest" amplifier or CD player design, you should invest some of your time experimenting with various speaker positioning schemes. Ensemble's two ultra-slim (41/2") subwoofers give you more placement flexibility than any speaker system we know of (including Ensemble II), and is most likely to provide the performance you want in the real world...in-your room.

How To Order.

The dual-subwoofer Ensemble system is available in two versions. With handsome black-laminate subwoofers for \$599. Or with black vinyl-clad subwoofers for \$499. Ensemble II is priced at \$399. For more information or to order call our audio experts, 24 hours a day, 365 days a year. We'll send you our 64 page color catalog with stereo and surround sound components and systems from Cambridge SoundWorks, Pioneer, Philips, Denon and others. Because we sell factory-direct, eliminating expensive middle-men, you can save hundreds of dollars.

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TEST REPORTS



Denon AVR-800 Audio/Video Receiver

JULIAN HIRSCH . HIRSCH-HOUCK LABORATORIES

enon describes the new AVR-800 as a more affordable version of its higher-end audio/ video receivers. The AVR-800 is a five-channel surroundsound receiver with three 60watt amplifiers (for front left, right, and center speakers) and two 15-watt amplifiers for surround speakers. Its AM/FM tuner section has sixteen station presets.

Several surround modes are provided, including Dolby Pro Logic (with provision for a phantom-center mode when no center speaker is available). With a center speaker, there is a choice of Normal operation, which restricts the feed to the center to frequencies above 100 Hz (lower frequencies are shunted to the main left and right speakers), or Wideband operation if the center speaker has good bass response. The Dolby 3 Stereo three-channel mode is also provided (labeled Dolby 3CH) for use if there is a center speaker but no surround speakers. In that case, the surroundchannel signal is folded into the left and right front outputs.

The AVR-800 also has circuits for enhancing the ambience of conventional stereo programs, with a surround-channel delay adjustable from 0 to 33 milliseconds (ms) in 1.5-ms steps (in Dolby Pro Logic mode, the delay range is 15 to 30 ms). The enhancement modes, designated Hall and Studio, differ essentially in the way the surround-channel signals are derived. In Hall mode, the sum of the left and right stereo channels is delayed; in Studio mode the difference between them is used.

There are audio inputs for phono, CD, an audio tape deck, a videodisc player or satellite receiver, and a VCR. There are also audio outputs for

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the VCR and audio tape deck, plus tape-monitoring facilities for the audio deck. Standard composite-video input and output jacks are provided for the VCR, as well as an output for a video monitor.

The AVR-800's front panel is not as formidable as those of many other A/V receivers we have seen and used. Most of its functions are operated by buttons in a single row below the display window. The logically grouped and clearly identified buttons include the controls associated with the tuner presets and several controls related to the surround modes.

Larger buttons on either side of the display window are used for tuning and input selection. A small Video button near the bottom of the panel sets up the connections for TV/FM simulcasts. The Panel button steps the display through the receiver's many adjustable settings (such as the level in each channel, delay times, etc.). An Output button silences all speaker outputs for headphone listening. The remaining front-panel features include the power button, headphone jack, volume knob, and three smaller knobs for bass, treble, and balance.

The display manages to be complete and informative without being confusing or overwhelming. When the tuner is selected, the band and fre-

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Chick Corea Elektric Band II—Paint The World (GRP) 467•969

New York Voices-What's Inside (GRP 460-907

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TEST REPORTS

quency are shown in large characters. Additional information (tuning mode, stereo or mono reception, preset channel number, and so on) appears as required. With other sources, the display shows large letters identifying the source and surround mode (if any).

The AVR-800's rear apron contains a vertical row of audio input jacks, a separate group of video jacks, and connectors for the supplied AM loop antenna and either a 75-ohm or a 300ohm FM antenna. There are outputs for the front left and right, center, and surround speakers and two AC convenience outlets, one of them switched. All of the speaker and antenna connectors are insulated spring clips that accept only wire ends. That precludes the use of banana plugs or coaxial Fconnectors except through a matching transformer or adaptor.



Although the AVR-800 has relatively modest power ratings, it is a full-size, solidly built, and reasonably heavy receiver. As a result, it ran cooler than most A/V receivers we have tested, its top cover becoming only slightly warm after extensive high-power testing.

Denon rates the center and surround

MEASUREMENTS

AMPLIFIER SECTION

For main front channels only, except as noted. Output at clipping (1 kHz) center, 8 ohms .95 watts Clipping headroom (re rated output) 8 ohms .1.6 dB Dynamic power 8 ohms 100 watts 4 ohms136 watts Dynamic headroom (re rated output) 8 ohms .0.032% Distortion at rated power Sensitivity (for 1 watt output into 8 ohms) CD.0.5 mV phono . A-weighted noise (re | watt output) CD. -84.6 dB-75 dB phono ... Phono-input overload (1-kHz-equivalent levels) 20 Hz. .125 mV 1 kHz. 20 kHz Phono-input impedance..... ...47,000 ohms in parallel with 160 pF Tone-control range 100 Hz.+12, -10 dB 10 kHz **RIAA phono-equalization error** 20 Hz to 20 kHz±1 dB

TUNER SECTION

For FM only except frequency response	1
50-dB quieting sensitivity	
mono	16 dBf
siereo	40 dBf
Signal-to-noise ratio (at 65 dBf)	
mono	.81 dB
stereo	
Distortion (THD+N at 65 dBf—see tex	a)
n10n0	.0.50%
stereo	.2.25%
Capture ratio (at 65 dBf)	
AM rejection	
Selectivity	
alternate-channel	.63 dB
adjacent-channel	
Pilot-carrier leakage	
19-kHz	-36 dB
38-kHz	-50 dB
Hum	
Channel separation	
100 Hz	.35 dB
I kHz	
10 kHz.	
Frequency response	
FM	-0.2 dB
AM	
The to any RULE TO	,

power amplifiers for use with speakers of 8-ohm or higher impedance, the main channels for impedances as low as 6 ohms. The power specifications proved conservative, but the receiver is clearly not suited to driving 4-ohm speakers at high average levels, since the clipping-level output into 4 ohms was about 25 percent less than into 8 ohms. The short-term (dynamic) power into either 8 or 4 ohms was more than adequate, however.

The amplifier section's frequency response rose about 1.5 dB in the upper bass and lower midrange, with its maximum at 200 Hz. In surround operation, this characteristic affected only the left and right front channels. It was apparently an effect of the tone-control circuit, which also had some other peculiar characteristics. In particular, the first half of either tonecontrol knob's rotation, in either direction, had only a slight effect on frequency response (less than a 2-dB change), with almost all of the control's boost or cut occurring in the second half of the rotation.

The FM tuner section had generally good performance, about the same as most current receivers (including some priced well above the AVR-800), and its capture ratio and AM rejection were distinctly better than average. It was not possible to obtain meaningful total harmonic distortion plus noise (THD+N) readings from the tuner section in stereo because of the high level of 19-kHz stereo pilot carrier in the audio output. Our readings consisted largely of this leakage signal component, which is inaudible in itself but could cause problems during taping off the air if the recorder's input lacks an effective multiplex filter. The AM tuner's response was typical-meaning poor.

The Denon AVR-800 comes with a system remote control usable with a number of Denon CD players and tape decks. The remote duplicates all the receiver's essential controls, including the power switch, and adds a mute button and a test-tone button to help balance speaker levels in a surround system. A pair of Personal Memory buttons enables users to store and recall two different sets of surround-mode and input-source set-

TEST REPORTS

tings. The remote also provides separate level adjustments for the center and surround channels, which are best set from the listening position.

We used the Denon AVR-800 in a basic four-speaker surround system, with the phantom-center mode, for listening to CD's and FM broadcasts. After a brief familiarization period we found its somewhat unconventional control setup (especially for input selection) easy and natural to use. FM programs sounded very good, and to the ear the tuner's sensitivity rivaled that of some we have used that measured better. The Hall and Studio modes provided good spatial enhancement, with slightly but not significantly different sound characters.

The instruction manual for the AVR-800 was quite complete though not always easy to interpret. Very few (if any) products as complex as an A/V receiver can be used effectively without a thorough study of their instructions and some hands-on practice,

and the AVR-800 is no exception. Despite its relatively simple appearance, it is a full-featured component.

Although the AVR-800 is a relatively low-price five-channel A/V receiver, neither quality nor significant features have been sacrificed. You may find more bells and whistles as well as more power at higher prices. but this receiver delivers the essential performance required for home theater and ambience-enhanced music listening at quite a reasonable cost.

precisely 1 watt simultaneously; there

was always a discrepancy of 0.5 dB or

more. And in listening tests, I never felt

that I was getting the best possible level

match using the built-in tone generator.

Nonetheless, the AVR-800 did all that I

asked it to do sonically, including steer

Dolby Surround signals properly, with

There was little difference between

no noise or distortion penalty.

was surprised by this receiver's plainly unflat response when its tone controls were in their detented (thus presumably "flat") positions. The same response bulge occurred in two different samples of the AVR-800, suggesting either a deliberate design choice or a parts-value mixup.

Fortunately, I found, the AVR-800's response can be adjusted to near-perfect flatness by turning both the treble and the bass controls up to the second "dot." I did all my surround-sound measurements and listening tests with the tone controls at these settings.

Once corrected in this fashion, the receiver's Dolby Pro Logic response was admirably flat, especially for the main and center channels, which started to roll off only at the very highest frequencies (above 15 kHz). And the surround channel didn't roll off in the bass as much as usual. In another unusual twist, the Hall and Studio music-enhancement modes retain Dolby B noise-reduction processing on the surround outputs, in addition to the 7-kHz high-frequency rolloff applied in Dolby Pro Logic decoding, possibly dulling these signals unnecessarily.

All the other measurements of Dolby Surround performance were pretty much par for the course, neither exceptionally good nor bad. I should mention, however, that the spectrum of the receiver's output noise was admirably clean. There was no contamination by power-line hum or buzz, something that seems to be occurring with distressing frequency in audio products today.

SECOND OPINION Denon AVR-800 A/V Receiver

The 2-dB steps provided for balancing the center and surround speakers were a bit too coarse for ultracritical surround setup. I could find no settings that would enable all of the AVR-800's channels to put out

SURROUND PERFORMANCE

Measurements are for Dolby Pro Logic only. Frequency response A-weighted noise left, right center surround Distortion (1 kHz, THD+N) left, right center surround Surround decoder input-overload levels (at 1 kHz) left, right center surround . Surround-channel noise-reduction calibration error at | kHz at 3 kHz+4 dB Channel separation (100 Hz to 7 kHz) left output, right driven>53 dB center output, surround driven>38 dB

surround output, left driven>38 dB

left output, surround driven>30 dB

c only.	the Hall and Studio modes with music
	except in the bass, which sometimes
0, -0.8 dB	sounded better with one setting or the
0, -0.4 d B	other, depending on the music. Both
+0, -3 dB	provided an improved sense of
	spaciousness, more effectively with
76.0 dB	
75.6 dB	recordings that already had substantial
	amounts of hall sound in the mix (like
73.0 dB	most classical music). You might want
	to lower the surround-speaker level
0.030%	slightly from its ideal Dolby settings
0.026%	when you use these modes. Neither
0.14%	enhancement mode adds anything else
	to the signal beyond the adjustable
	delay, but at this price it's better to have
+19.7 dB	a couple of mild-mannered
.+22.3 dB	enhancements than a multitude of
+20.2 dB	useless and exaggerated special effects.
	Although the remote's buttons are of
	monotonously regular size and layout,
+4 dB	except for the power switch they are
++ ub	logically grouped and fairly well

buttons are of e and layout, ch they are logically grouped and fairly well labeled. The front-panel controls were almost as easy to use, and the fluorescent display is a model of across-the-room legibility.

With its operational simplicity and fine sonic performance, the Denon AVR-800 is clearly a good receiver for someone who wants to get a start in home theater. -David Ranada



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In The Mid '70s We Now We've Created

The people who work at Cambridge SoundWorks - including our cofounder Henry Kloss (who also founded AR, KLH and Advent) - have been involved with the concept of home theater from the beginning. In 1969 (years before VCRs and cable TV), Henry Kloss founded Advent, the company that introduced the first home theater audio/ video systems - complete with bigscreen TVs and digital surround sound. We have had an ongoing relationship with the people at Dolby Laboratories, creators of Dolby Surround Sound, since Henry Kloss introduced the first consumer products with Dolby noise reduction over 20 years ago. And now at Cambridge

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Our EXO-1 Electronic Crossover



Our Popcorn

SoundWorks

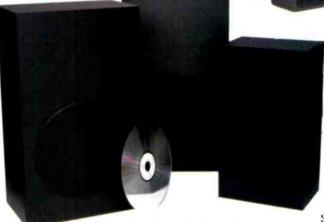
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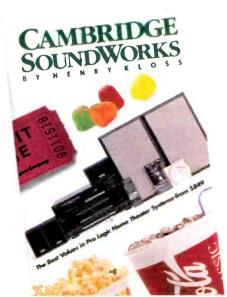
Our Powered Subwoofers

uses the same woofer driver and cabinet, but does not include the amplifier or crossover. It can only be used in conjunction with the Powered Subwoofer. **\$299.** The new Powered Subwoofer II uses a 120-watt amplifier with an 8" woofer. **\$399.**

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TEST REPORTS



Sherwood CDC-5030R CD Changer

-HOUCK LABORATORIES

he Sherwood CDC-5030R is a five-disc carousel-type CD changer. Though as compact as many single-disc players, it provides a full complement of operating and programming features. Its disc tray emerges from the upper portion of the front panel at a touch on the adjacent open/close button. Above the tray is a row of small buttons for selecting the disc to be played. Four of the five disc wells are accessible at any time to load or unload a disc without disturbing playback of the fifth disc, which is in the playing position at the rear of the tray.

At the left end of the lower portion of the panel are the pushbutton power switch and a slide switch for setting up unattended operation of the player with an external power-line timer. At the right end of the panel are a stereo headphone jack and its adjacent volume knob.

The display window is below the disc tray, at the middle of the panel. In addition to the track-number indication, it shows the elapsed time on the current track and can be switched to show the remaining time on that track or on the disc. A "music calendar" shows the numbers of the remaining (unplayed) tracks on the current disc or in a programmed sequence. Five small circles along the bottom of the display show the numbers of the disc positions occupied by CD's. Words appear as required to show the status of such special features as repeat or random play of one or all discs.

Despite its relatively simple, uncluttered front panel, the CDC-5030R has all the usual programming features as well as a few others not found on most CD players. In normal (unprogrammed) operation, it plays all loaded discs automatically in their numerical sequence, but it also enables quick direct access to any track of any

DIMENSIONS 17¼ INCHES WIDE, 5 INCHES HIGH. 15 INCHES DEEP. PRICE \$275 MANUFACTURER SHERWOOD, DEPT. SR. 14830 ALONDRA BLVD. LA MIRADA, CA 90638

disc. There are large buttons for play/ pause and for stepping through the tracks on the current disc in either direction (with fast scanning when the button is held in for a couple of seconds). Other modes include repeat of a track, a disc, or all the discs in the tray. The random mode plays tracks or discs in random order, and introscan plays the first 10 seconds of each track on a selected disc or on every loaded disc.

The CDC-5030R can be programmed to play as many as thirty-two selections from any or all of the five discs in any desired sequence. A handy variation of this feature enables the user to delete as many as thirty-two selections from the playback sequence. A front-panel button reviews the programmed sequence. And to facilitate taping, the CDC-5030R can select tracks (up to a limit of thirtytwo) that will fit best onto each side of a standard cassette.

The CDC-5030R has been designed to communicate with compatible Sherwood equipment through the Digi-Link jacks on its rear apron that can be connected to a Sherwood Digi-Link receiver or amplifier, which then controls the CD changer. And with a Sherwood Digi-Link cassette deck, it is possible to start recording from the CDC-5030R by pressing a single button. The back panel contains only the



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supplied white cabinet, or you can paint them. *The Outdoor* is a true high fidelity loudspeaker, with wide-range,

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This is the most recent addition to our popular series of Ensemble subwoofersatellite speakers. It consists of a pair of our ultra-compact Ambiance two-way



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TEST REPORTS

analog audio output jacks and a pair of Digi-Link jacks.

The changer comes with a wireless remote control that duplicates most of its front-panel controls and provides at least two that are not on the player itself: an A-B repeat mode and direct access to index markers on a CD (if there are any). It also has up/down volume buttons that are functional for some other Sherwood CD players but not the CDC-5030R.

The CDC-5030R's performance was typical of current CD players in most respects, which is to say it was generally very good. The player was fairly sensitive to impacts, such as moderate finger tapping on its top or sides, which caused momentary mistracking. The volume through the headphone jack was excellent.

Overall operation of the changer was straightforward, thanks to its very explicit instruction manual, which takes you step by step through each of its operating modes. Although its programming procedures are not like those of most other CD players we have used and can be confusing at first, a careful study of the instructions and some hands-on practice will pay rich dividends in your enjoyment of the CDC-5030R's many operating features. It is a very practical, if somewhat unconventional, CD changer that delivers good performance and overall value at a modest price.



MEASUREMENTS

Maximum output level	
Frequency response	
Channel separation	
100 Hz	120 dB
l kHz	100 dB
20 kHz	75 dB
Signal-to-noise ratio (A-wtd.).	98 dB
Dynamic range	
Distortion (THD+N)	
1 kHz (-75 dB to -10 dB)	0.0028%
1 kHz (0 dB)	0.0045%
0 dB (20 Hz to 6 kHz)	<0.01%
0 dB (20 kHz)	0.45%
Linearity error (-60 to -90 dB .	
Maximum interchannel phase	
shift	4.4°
Defect tracking (Pierre Verany #	2 test
disc)	1.250 µm
Impact resistance (top and sides	
Slewing time	
Disc-change time9.5 to 10	0.5 seconds



"I got a load of imitation-rock outdoor speakers. Where do I dump 'em?"

40 STEREO REVIEW APRIL 1994

The Finest In-Wall

Architectural Monitor Series

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AMS-200 (left), AMS-300 (right)

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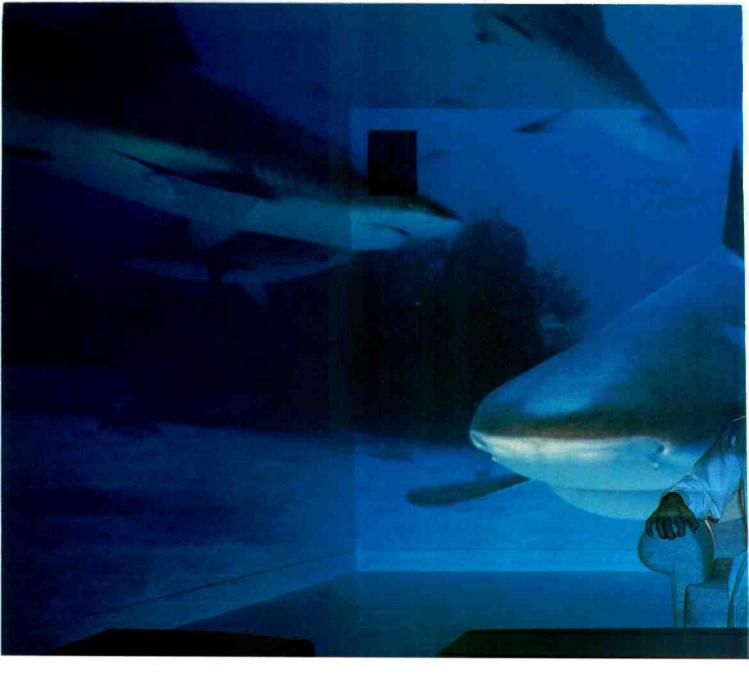
So, rather than flimsy plastic parts, we use a rigid aluminum diecasting that combines the main chassis, mid/bass driver chassis and tweeter faceplate into a single ultra-rigid unit. Instead of inadequate mounting



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TEST REPORTS



Panasonic FZ-1 REAL 3D0 Interactive Multiplayer

KEN C. POHLMANN . HAMMER LABORATORIES

n corporate board rooms across America and the world the hottest topic is interactive multimedia. In the same way that a doctrine of Manifest Destiny expanded the United States to the Pacific in the 19th century, industrialists now believe that multimedia is inevitably the promised land awaiting them in the 21st century. This excitement is apparent in the mergers of cable companies that can bring interactivity into some homes, telephone companies that have access to virtually every home, and software companies. Perhaps no collaboration has been as prominent as 3DO Company, a partnership of Matsushita (the world's largest consumer-electronics manufacturer, parent of Panasonic and Technics), AT&T (one of the world's leading communications companies). Time Warner (a \$12 billion software giant and the second largest cable provider in the U.S.). MCA (a motion-picture and music conglomerate owned by Matsushita), and Electronic Arts (a leading interactive-entertainment software company), all working together to bring interactive media and programming to consumers.

At its launch, 3DO was a company without products, revenues, or profits. Its aim was to design the hardware and operating systems for interactive multimedia products. In an unusual twist, 3DO Company's business plan prohibits it from manufacturing its

> DIMENSIONS 11 ¼ inches wide, 3½ inches high, 10½ inches deep PRICE 5699

MANUFACTURER Panasonic Company, Dept: SR, One Panasonic Way, Secaucus, NJ 07094 own hardware or publishing its own software. Instead, it will license its inventions to software providers for a royalty and to hardware manufacturers at no charge. The company's goal, with the support of its partners, is to produce an interactive multimedia system that is as ubiquitous as the VHS VCR.

The first fruit of this enterprise is the Panasonic FZ-1 REAL Interactive Multiplayer. One glance at this inaugural product and you'll know its designers wanted it to be regarded as something very different from a conventional CD player. On the front of the plastic chassis is a disc drawer flanked by power and open/close buttons with corresponding red and green LED status panels. A nine-pin socket is used to connect the supplied control pad and will also connect future controllers such as keyboards. mice, and so forth.

The back of the player has composite- and S-video, left and right audio, and RF output jacks, plus a slide switch for selecting Channel 3 or 4 at the RF output. The back panel also has a thirty-pin socket—a high-speed input/output (I/O) expansion port for future peripherals such as personal computers, CD-ROM drives, cable boxes, modems, memory-card storage, video cameras and VCR's for home video editing, and MIDI instruments.

The right side of the player has a sixty-eight-pin socket concealed under a plastic panel; this is a high-speed A/V I/O port that will support a future FMV (full-motion video) adaptor cartridge. The cartridge will contain a hardware-based MPEG-1 decoding system that will enable users to play Video CD's containing as much as 74 minutes of digital video and stereo digital audio with quality comparable to that of VHS tape. On the left side of the player is the exhaust for an internal cooling fan.

The controller supplied with the FZ-1 will be more familiar to videogame enthusiasts than to audiophiles. It is a hard-wired remote that connects to the front of the FZ-1 with a 10-foot cable. One side holds a directional pad that provides up/down and left/ right control; the other side has three buttons labeled A, B, and C. The The all-weather Boston[®] Voyager thrives in the toughest environments (including the critic's listening room).

When it comes to the ruggedness necessary for indoor/outdoor use,

most loudspeakers are about as

helpless as a kitten up a tree.

But not the Voyager speaker

from Boston Acoustics. It brings

impressive sound to your living



One Voyager owner told us his speakers were A-OK after being thrown several hundred feet by hurricane Andrew {oh, it was attached to its owner's porch at the time}.

room, patio or your Swan-53 custom-built sloop. In fact, Stereo Review says that Voyager

"...sounds better than many highly regarded home speakers." Not an easy feat. Here's how we did it. First, the housing of the Voyager is made of Lexan® resin—the same stuff used to make bulletproof glass. So Voyager is tough enough to withstand anything this side of a small meteor shower. In front, the Voyager's grille is a highly resilient grade of stainless steel. So are its mounting bracket,



Its ability to put the kibosh on corrosion makes Voyager perfect for marine use. Plus, we're reasonably sure it can withstand most great white shark attacks.

The Voyager[®] Speaker. It Even Plays Misty.

hardware and screws. Its cone

and tweeter dome are made of moisture-, heat- and coldresistant copolymer. Even the speaker terminals are plated with 14K gold—a material that resists corrosion, and looks pretty darn snappy, too. Finally, to ensure that moisture on the outside of the Voyager stays there, we use specially designed gaskets to create a watertight

seal. As a result, the Voyager



The Voyager is not only a rugged individualist. It's also part of a family, including Runabout I and Runabout II speakers. actually floats. And there's more; the Voyager is part of a family of indoor/outdoor speakers, including the Runabout[™] I and Runabout II. Both Runabouts feature the resiliency of a tough polypropylene enclosure, plus corrosion-resistant grilles, brackets and hardware. More importantly, they feature the Boston Sound—a sound that is tight, clean and smooth. But don't take our word for it. Check out the entire line of indoor/outdoor speakers at your local Boston dealer. But, please, bring your own Johnny Mathis records.



Get a copy of Number, the cool music magazine from Boston Acoustics. Circle reader service number 9.

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functions of these controls depend on the software of the disc that is loaded. In the middle of the controller are two small buttons for stop and play/pause, but because their functions can be changed under software control, they are also generically labeled X and P. Two buttons on the front of the controller are called shift keys; again, their function is software-controlled. The front of the controller also sports a nine-pin socket for connecting other controllers: Specifically, this port can accommodate as many as eight daisychained control devices. The rear of the controller has a headphone jack and a thumbwheel volume control.

As you've probably realized by now, the FZ-1 is actually a computer in disguise. Although the system uses a very respectable 12.5-MHz, 32-bit RISC (reduced-instruction-set computer) central processor, it is characteristic of the 3DO architecture to take much of the performance burden off the CPU and distribute it among other, more specialized chips. Thus, the FZ-1 contains two proprietary graphics-animation processors able to render as many as 64 million pixels per second, with a theoretical maximum of 16 million different colors and 640 x 480-pixel resolution. There is also a proprietary audio DSP chip, a video processor, twenty-four DMA (direct memory access) channels, a memorymanagement unit, 3 megabytes of RAM, 1 megabyte of ROM, 32 kilobytes of static RAM with battery back-up, and a multitasking operating system. Every player contains a software-based video decompression system called CinePak to play back fullscreen, full-color video at 30 frames per second, with quality suitable for cartoons and the like. As required by the 3DO standard, the FZ-1 employs a CD drive with a data-transfer rate of 300 kilobytes per second, twice that of conventional audio-only CD players. (Such drives are often called 300speed drives.) Overall, the FZ-1's technology is similar to that used in most other recently introduced videogame systems-Commodore's Amiga CD 32, for example, uses a 32-bit processor and a double-speed drive.

To ease the chore of interconnection, the FZ-1 comes with a variety of

MEASUREMENTS

Maximum output level
Frequency response
20 Hz to 20 kHz +0.04, -1.20 dB
De-emphasis error (at 16 kHz)0.14 dB
Channel separation
1 kHz
20 kHz
Signal-to-noise (A-wtd.)
Dynamic range (A-wtd.)
Distortion (THD+N at 1 kHz)
at 0 dB
at -20 dB
Linearity error (at -90 dB)7.1 dB
Interchannel phase error (20 kHz)0.7*
Defect tracking (Pierre Verany #2 test
disc)

cables and adaptors. You'll find adaptors for phono jack to F-type video jack and F-type video jack to coaxial video jack, plus six phono cables for connecting audio or video. The player also comes with a sampler CD and the *Crash 'N Burn* road-race CD. My review unit was packed with two additional titles, *Shelly Duvall's It's a Bird's Life* and Meatloaf's "Bat Out of Hell II: Back into Hell," a music CD —all in all, an interesting assortment.

Lab tests of the FZ-1's audio performance confirmed that it is more of a video-game machine than a highend music playback device. Frequency response rolled off to -1.2 dB at 20

Gathering a variety of different types of CD's. I turned on the FZ-1 as well as my television and audio system. When playing music CD's, the FZ-1's controller provides all the basic transport controls, and the television screen displays a menu for operating other functions, such as mono or stereo playback selection, disc repeat, random track playback, and track-sequence programming. Moreover, these settings are automatically saved in memory and recalled whenever the corresponding disc is played. Other video displays show track number and elapsed time, as well as bar graphs for left- and right-channel audio levels. Unfortunately, because the FZ-1 has no numerical displays of its own, you must have the TV on to see which track you are cueing or playing.

Interestingly, the player's musicplayback firmware offers three different abstract video displays that generate shapes and colors according to the music being played. I found one of the displays (similar to a "Color Echo" program on the sampler disc) to be quite interesting. Passing on the Meatloaf, I settled back with a new recording of Philip Glass's *Itaipu* and was transfixed by the abstract sights and sounds. Scriabin, a great proponent of chromaticism, would have loved this. CD sound quality was reasonable but not award-winning.

I also played "A Home Video Album," a music disc with CD+G

The 3DO FZ-1 is actually a computer in disguise, with a 32-bit CPU, two graphics processors, and more.

kHz, signal-to-noise ratio (S/N) was an anemic 83 dB, and the linearity error of the digital-to-analog (D/A) converter was an uncomfortably large -7.1 dB at -90 dB. Mechanically, the FZ-1 was plagued by very slow track access—you must press the track button very slowly and deliberately to move the transport from one track to the next—and the fast-forward and reverse functions operated at a snail's pace, barely moving the laser across the disc.

graphics. The FZ-1 correctly handled both the conventional music data and the still graphic images embedded in the subcode stream, drawing a new color cartoon image every 15 seconds or so. Although CD+G has not prospered in the country, the CD+G compatibility of such systems as 3DO and CD-1 might finally kindle some interest in this format. The FZ-1 also correctly played a Photo CD (which can store as many as a hundred digitized images of standard photographs), disRay Manzarek changed music. We're making sure he doesn't do it as often.

Ray Manzarek, co-founder of the Doors, keyboardist, composer, producer, Nakamichi aficionado. The new MB-4s plays 7 CDs while the MusicBank Organizer stores their cases.

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playing high-quality pictures on the television screen. The controller enables you to control Photo CD operations such as image select, pan direction, pan speed, rotate, mirror, and zoom. For the record, the FZ-1 does not support CD-EG (CD Extended Graphics) discs, nor does it play CD-I discs, Sega CD, or other CD-ROM formats.

I next turned my attention to the heart of the matter-3DO discs. The multimedia industry is already well established with floppy- and CD-ROM-based computer games and programs, CD-based video games, and laserdisc-based arcade games. Companies often develop a program or game for multiple platforms; in particular, since the early 1980's, there has been a lot of porting of arcade games to CD-ROM for home use. Naturally, 3DO has followed this trend, and many of the initial 3DO titles are new versions of existing titles. For example, 3DO titles such as Crash 'N Burn, Dragon's Lair, Space Ace, Lemmings, The 7th Guest, Battle Chess, Out of This World, John Madden Football, Mad Dog McCree, The Incredible Machine, and The San Diego Zoo Presents ... The Animals are already classics on other platforms.

Crash 'N Burn from Crystal Dynamics, a road-kill combat racing title, comes with the FZ-1 player. This fantasy game lets you pick a driver, combat car, and racing track and compete against five other taunting, jeering, bullying drivers in a race to the death, launching and suffering attacks from laser guns, missiles, flame throwers, hellfire rotoguns, road mines, and plasma cannons-in other words, it is much like driving in Manhattan. The 3DO version provides all the classic features, along with small-screen, low-frame-rate animated movies of the competing drivers. The control pad enables you to steer your car along the track, select and launch weapons, change driving perspectives, and so on. Sound and video quality are similar to that of CD-I titles. Speech, music, and sound effects are very convincing and generally free of noise and distortion. The video signal is clean, and color is quite good, but limited resolution is apparent throughMany of the initial 3DO disc releases are new versions of classic titles on other game platforms.

out—not especially bad, just about average.

The sampler disc that accompanies the FZ-1 contains several brief interactive programs, a program to help familiarize the user with the system, and advertisements for upcoming 3DO titles. The programs help you learn the system and show off some of its capabilities. For example, there are Batman and Hanna Barbera cartoons that employ the built-in CinePak software-based video decompression system. The very limited action in the Batman cartoon enabled the system to perform well, with relatively few artifacts, but the somewhat livelier action in the Hanna Barbera cartoon appeared to stress the decompression system, leading to very distracting "blocking" effects on stationary areas of color. As with any recording, however, the quality also depends on the care taken in bringing the program to the final medium-in other words, any artifacts are not necessarily the fault of the FZ-1.

I also tried out It's a Bird's Life from Sanctuary Woods Multimedia Corporation (\$54.95). It is a sixtypage interactive children's storybook based on a CD-ROM title originally developed for Macintosh and IBM personal computers. The 3DO version is enhanced with extra games and a more flexible user interface. Using a series of cartoon stills and video overlays and effects, the disc tells a story involving Shelley Duvall and her "zany" pet birds. Again, the sound and video quality was similar to that of CD-I titles, with occasionally distracting video artifacts.

All three 3DO discs required long waits for program loading. For example, *Crash 'N Burn* takes 35 seconds

for its initial load and 20 seconds more to start a race. The sampler takes 25 seconds for its initial load and 50 seconds to load the cartoon menu. During these waits the screen simply goes black, sometimes abruptly cutting off an existing image. In contrast, a firstgeneration Philips CD-I player provided much faster loads, smoother fade-in and fade-out, and generally more polished operation. I was also unimpressed with the content of the 3DO discs: I consider it a bad sign that, to me at least, the most interesting aspect of the system was the color display it could show on TV while playing music CD's.

On the other hand, with only three titles to judge from, it is difficult to draw even a preliminary conclusion about the FZ-1 or the 3DO format in general. If these titles are the best that can be done, then the system definitely falls short of its considerable hype. Quality levels are about the same as for existing multimedia platforms, disc access times are long, and production values are merely almost as good as for CD-I. It is very possible, however, that these limitations are in the software and not inherent in the system itself. With dozens of 3DO titles in the pipeline, only time will tell.

I hope software companies will do more than simply port existing programs to the 3DO format. To survive in the intensely competitive multimedia CD market, with many incompatible systems available, a newcomer needs to do better than that. What the multimedia industry as a whole still needs is an individual of breathtaking creative vision. In the same way that Richard Wagner transformed opera and D. W. Griffith created modern cinema, a genius must seize upon existing multimedia CD systems and turn this technology into art.

Meanwhile, the corporate giants who control 3DO are pushing rapidly ahead. The FZ-1 lets you play games, look at photos, and listen to music. It will soon be accessorized to enable you to watch movies. The next generation of 3DO products, due later this year, will bring electronic shopping and other interactive communications. Clearly, The 3DO story is not yet fully written.

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USER'S REPORT



Boston Acoustics Home THX Loudspeaker System

DAVID RANADA . TECHNICAL EDITOR

oston Acoustics is among the most recent manufacturers to introduce a line of Home THX loudspeakers. As is typical of Home THX speaker systems, a full Boston Acoustics setup is made up of seven pieces: three controlled-directivity front-channel loudspeakers, two quasi-dipolar surround speakers, and two subwoofers handling the range from 80 Hz down, all certified to meet the strict specifications of Lucasfilm Home THX. The price, however, is not typical-\$2,400 for all seven speakers, a new low for a complete Home THX speaker system. (With the new Home THX receivers becoming available, it will soon be possible to put together a top-to-bottom Home THX audio system for less than \$4,000.)

Boston's front speaker is the 555x (\$300 each). Like most other Home THX front-speaker designs, it uses two tweeters (here, 1-inch domes) and two woofers (5¹/₄-inch copolymer cones) in a symmetrical vertical array. This arrangement is common because

it is one of the easiest ways to obtain restricted (the manual says "focused") vertical dispersion over the frequency span specified by Lucasfilm.

Boston Acoustics gives the 555x's sensitivity as 90 dB sound-pressure level (SPL) with a 1-watt input. Crossover frequency is 3 kHz, and recommended amplifier power is 15 to 150 watts. A 555x measures 111/4 inches wide, 181/4 inches high, and 71/8 inches deep. It is finished in a black-ash vinyl veneer. Like all Home THX front speakers, the 555x has a deliberate low-frequency rolloff below 80 Hz, as it is intended to be used with one or two subwoofers.

Available in white as well as the black-ash finish, the 575x surround speakers (\$500 a pair) are quite compact (75% x 113/4 x 45% inches) and relatively lightweight (8 pounds). Each contains a single 5¹/₄-inch copolymer woofer crossed over at 350 Hz to a pair of 2¹/₄-inch cone tweeters operating in a quasi-dipole configuration to radiate sound primarily along the listening-room walls. The 575x's rated sensitivity is 85 dB SPL; recommended amplifier power is 15 to 150 watts.

The design of the 595x subwoofer (\$500 each) is, in contrast, very simple: a single 12-inch driver in an acoustic-suspension (sealed-box) enclosure. That box is relatively large (17⁷/₈ x 18¹/₂ x 18⁵/₈ inches) and heavy (53 pounds) and comes only in the black-ash finish. It has four rubber feet, so moving it around a carpeted floor is easier if it's turned on its side. Rated sensitivity is 85 dB SPL: recommended amplifier power is 100 to 250 watts, reflecting the amount of energy needed to reproduce action-movie soundtracks at theater-like levels.

To meet the stringent Home THX output-level requirements, Boston Acoustics recommends that two 595x subs be used in rooms with volumes greater than 3,000 cubic feet. You don't need a separate amplifier channel for each sub, however, since two can be hooked up in parallel to any output that can drive a 4-ohm load (rated impedance for all of these speakers is 8 ohms each). But driving each subwoofer from a separate amplifier channel may make it easier to obtain flat low-frequency response if the gains for the two channels are independently adjustable, especially if you place the subs asymmetrically in the room (more on that later).

Connections to all the speakers are via gold-plated multiway binding posts that can take dual banana plugs, stripped wires, connecting pins, or spade lugs. Although the fit is tight, you can get your fingers around the posts to tighten them securely, an advantage over the cramped connectors on some other Home THX speakers. The grille panels are removable.

The well-written, full-color system manual goes into detail about speaker hookup and placement. As I found, following its recommendations saves a great deal of experimentation. For example, after hauling the subwoofers all around the STEREO REVIEW listening room, measuring the results at different positions with pink noise, a calibrated microphone, and a multikilobuck spectrum analyzer, I ended up getting the flattest response by putting one of them precisely where the manual recommends, in a corner, and the other one along a side wall. Such an asymmetrical subwoofer arrangement usually promotes smoother-sounding low-frequency response by breaking up room resonances—an-



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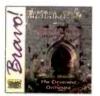


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other strong argument for using two subwoofers.

Also take seriously the company's recommendations as to the height of the front speakers. At the very least, place the left and right front speakers with the centers of their grilles as close to the listener's seated ear level as possible. Slightly below or above ear level is okay, too, as long as the speakers are tilted to aim directly at the listener. Boston Acoustics recommends using stands between 24 and 30 inches high. I heard a slight, but noticeable, improvement in frequency balance as the amount of tilt necessary was reduced (that is, as the speakers were brought closer to the correct height), an effect that is probably attributable to the change in the vertical angle at which the speaker's direct sound arrived at my head.

The ideal for any center-channel speaker is to place it behind an acoustically transparent front-projection video screen, but most of us have to make do with something considerably less exotic. That means the center speaker will probably end up either above or below the picture tube of a direct-view set. Since the Boston Acoustics 555x is meant to be used vertically (the radiation pattern will be wrong if it is placed sideways), the company recommends placing the center-channel speaker below the TV screen, on a stand 6 to 18 inches tall, and tilting it to face the center of the listening area. The surrounds are best placed directly to the sides of the main listening positions and up on a wall (or on the ceiling, if necessary) 5 to 9 feet above the floor.

These speaker-placement recommendations might sound a bit restrictive, but they are no more so than those for any other Home THX speaker systems. Boston Acoustics has simply seen fit to make the guidelines for good performance explicit in its manual. Indeed, the manuals for *all* speakers, THX-certified or not, should give such specific advice to help users get the best possible results.

The sound I ultimately got out of the Boston Acoustics Home THX speakers was outstanding. They could play extremely loud, with my ears showing signs of distress before the speakers did. When the speakers were placed properly, their imaging, playing either soundtracks or music, was pinpoint accurate (depending, naturally, on the program material). Overall tonal balance was very neutral and mercilessly revealing of deficiencies in recordings of such critical sounds as voices, brass, and massed strings. Low bass remained clean even when loud, as in such demanding material as pipe-organ music or the submarine "flybys" in The Hunt for Red October. And, as I've noticed with other Home THX speakers, when playing music recorded in a natural acoustical setting (most classical music, for example), the Boston Acoustics speakers benefited noticeably from judicious use of a good digital ambience-enhancement system.

It all adds up to an excellent-sounding multichannel speaker system, suitable for high-quality reproduction of both soundtracks and music. The appeal of the Boston Acoustics Home THX speakers is only enhanced by their pricing, which, at least for now, is very much at the low end of the THX scale. For what they are and do, these speakers are genuine bargains.



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HOM

Lucasfilm's

approach

to bringing

the theater

experience

home

OMLINSON

HOME THX is a set of techniques and hardware performance and compatibility standards that we have put together at Lucasfilm to address the long-standing problem of translating the intentions of movie and music producers into the home listening environment. To explain this, I often liken my job to that of a museum curator in charge of lighting paintings. For a Van Gogh I would choose warm light representing the Mediterranean sky under which he painted, but if the painting were a Rembrandt, a cooler light representing Northern European skies would be more appropriate. The point is to get the display to match the conditions that the artist used so that we can see his work as he did.

Such matching is difficult to achieve for most music recordings. The precise conditions under which the recording was mixed are seldom known; even if the monitor loudspeakers are credited in the album notes, you still don't know the acoustic conditions. Film sound is the only consistent exception. In film sound there are precise standards that, practically speaking, all studios adhere to: They all listen under nearly identical conditions. One reason for this uniformity is

> that all candidates for the Academy Award for Sound

are judged in a single theater, with not even the volume changed from one film to the next, which acts as a great standardizing force in the motion-picture industry.

HOLMAN

Today it is possible to make the soundtrack on a video release of a film audibly identical to the original masters. So for the best releases, the medium does not stand in the way of getting the sound in the home as close as possible to the original experience. It is in the rest of the sound system that the problems reside. Correcting the film sound, made under theater conditions, to match home listening conditions is one

Tomlinson Holman is corporate technical director for Lucasfilm and originator of both the theater and home THX programs. He is also on the faculty of USC, where he teaches courses in film sound.





Altec Lansing's Home THX lineup consists of the three-way AHT2100 surround speakers (top, \$900 a pair), which can be mounted in or on a wall, the AHT2200 front speakers (right, \$300 each), and the AHT2300 powered subwoofer (\$1,200).



The Fosgate Model Three A audio/video preamplifier (\$2,799) uses proprietary analog and digital circuitry to deliver Dolby Pro Logic decoding and Home THX processing as well as additional surround modes for soundtrack and music playback.

Snell's basic Home THX system: On pedestals in the foreground are two SUR-500 surround speakers (\$899 each). Behind them, also on pedestals, are three LCR-500 front-channel speakers (\$899 each), and to the right are two SUB-550 subwoofers (\$549 each).



of the most important goals of Home THX. The techniques we have developed to achieve that goal are embodied in Home THX certified audio components.

Re-Equalization

The first idea about how to "scale" the film-sound experience for the home came to me some years ago by pure happenstance. I had been anxiously awaiting the laserdisc release of Indiana Jones and the Temple of Doom, as I had worked on the picture and heard it many times in the dubbing theater where we mixed the soundtrack. How would the home video experience shape up? What I found when playing the disc over my home system, which I had worked on for years and thought sounded pretty good, was that the film sounded too bright. Foley effects-the low-level sounds, such as footsteps and the rustling of clothes, that make a movie seem real-were exaggerated. Sibilance and hard-sounding vowels in the dialogue were also overprominent.

So I took the laserdisc to the dubbing stage and performed a levelmatched A/B comparison between it and the original film master. To my surprise, they were indistinguishable! That was quite a find, because it meant film sound could be delivered on a wide scale exactly as it sounded when made.

> ut what was wrong with my home music system? The answer turned out to be that mixes balanced to

film standards to sound right in the large acoustical environment of a theater will sound too bright when reproduced in the confines of a home listening room; a frequency-response correction is needed to get good results from program material mixed in one type of environment when playing it back in the other. The name we've given this process is re-equalization, because the program material was once equalized for one environment and is now being re-equalized for playback in another. (Equalization is used in all recordings, either explicitly by way of an equalizer or implicitly by the choice of microphones and their placement relative to instruments.) Fortunately, with everyone listening to essentially the same monitor and room response from one studio to another, there is a real standard in film sound, so we know better what

we're dealing with than we do with, say, CD's. That means accurate reequalization is possible, provided the soundtrack is transferred accurately when the video release is mastered.

Souping Up the Surround

The idea for the second Home THX enhancement emerged from careful listening to the sound in a dubbing theater. The surround speakers always seemed to sound brighter than the three front screen channels (left, center, and right), even though they were adjusted technically to the same standard. As sounds panned from screen to surrounds, they got quite noticeably brighter. Through experiments 1 found two causes for this effect. One was the use of a multiple-loudspeaker array for the surround channel. The mixing of the outputs of the many surround speakers reproducing the same signal causes a timbre difference between their collective sound and that of the single speakers assigned to each screen channel. All those speakers are necessarv for coverage in a theater, but not in a home, so this aspect of the problem is easily fixed by using just two surround loudspeakers, which most people already do.

But that alone is not enough. The other reason for the relative brightness of the surrounds was the frequency-response difference perceived between sound originating in front and from the sides. With less "shadowing," or obstruction, of the sound field by a listener's head, the side-arriving sound is brighter. It is possible to equalize this effect away, so that the outputs of the front and surround speakers have the same timbre. We call this process timbre matching.

The third Home THX enhancement also emerged from trying to answer questions that arose in listening. With a dubbing stage or home theater set up for perfect balance between the left and right surround speakers, and sitting precisely on the center line, you get a kind of middle-of-the-head effect from surround sound, like listening with headphones. Moving off the center line causes the sound to jump quickly to the closer loudspeaker. Neither of these conditions is right for surround sound, which should be smoothly enveloping. I therefore devised a method to take the single mono surround channel provided by Dolby Surround and turn it into two channels through a process called decorrelation, which eliminates this ef-

HOME THX AND DOLBY PRO LOGIC

The Dolby Laboratories technologies known as Dolby Surround (Dolby Stereo in theaters) and Dolby Pro Logic are based on the use of an amplitude-phase matrix to encode four channels' worth of audio into two tracks on two-channel stereo media and to decode them back into four channels in the home. Professionals call this a 4-2-4 matrix. When we began work on Home THX in 1986, there were many methods to decode matrix recordings in the home. Our strong preference was to use the same decoding we use in production to monitor Dolby Stereo mixdowns, and that is, for all practical purposes, Dolby Pro Logic. This follows from our basic philosophy, that home playback of a movie can and should be made to sound like it originally did to its producers. So Home THX systems inevitably use Dolby Pro Logic decoding as the foundation on which everything else depends.

The latest development in film sound is to provide not just two channels on the medium, for decoding into four with Pro Logic (Home THX controllers decorrelate the surround outputs and extract the low bass for a subwoofer, creating a total of six loudspeaker channels), but to deliver six *discrete* digital

fect. It makes the output from the surround channel sound truly surrounding.

ircuitry for these three processes — re-equalization, timbre matching, and decorrelation—applied to the outputs of a Dolby Pro Logic decoder along with a subwoofer crossover and some required switching (including an unprocessed two-channel stereo mode) constitute what we call a THX controller. All the processes are invoked in the THX Cinema mode, although some of the controllers enable you to turn specific features on or off at will.

Home THX Loudspeakers

Not all of the Home THX enhancements are electronic. We also specify certain characteristics for Home THX loudspeakers that are designed to improve performance in a home theater system. For the front left, center, and channels, eliminating the Pro Logic decoding. This is a major step in something that might be called "spatial clarity," a step we believe is definitely the future of audio. Often called 5.1-channel sound, because the sixth is a limited-bandwidth dedicated subwoofer channel, it is already available in many theaters. It will come to the home in 1995 on laserdisc, later in high-definition television (HDTV) broadcasts and perhaps other media, as well.

Dolby's contribution to this process is a low-bit-rate perceptual-coding scheme called AC-3. Low-bit-rate coding is what makes discrete multichannel audio practical. because if linear PCM digital coding were used, as on CD's, it would require far too much snace on the available media. AC-3 is the basis for the 5.1-channel Dolby Stereo Digital theater system and the companion Dolby Surround Digital system that will be incorporated in laserdiscs and HDTV. Home THX audio systems are prepared for discrete multichannel sound because the loudspeaker and amplifier layout is the one they already use, but new laserdisc players, television receivers, VCR's, and decoders will be necessary to take advantage of it.

right loudspeakers, the main requirement we make that is unusual in any respect is that their directivity be controlled in a particular way. Although "wide dispersion" is generally felt to be a good thing, how much is enough and in what directions are legitimate questions. Surely the first purpose of wide dispersion is to cover the listeners uniformly with direct sound, but what are the benefits beyond that? It is thought that wide dispersion, increasing the number and density of reflections from room surfaces, may add to the sense of envelopment for two-channel listening. For this purpose, side-wall reflections are preferable because they tend to make the sound more spacious, whereas the first ceiling and floor reflections tend to make the sound more monaural, as has been found in concert-hall acoustics.

On the other hand, specific reflections are also known to color the diThe components of the Technics SC-TH200 Home THX system (\$8,500): At front, from left, are the remote control, the SH-TX200 controller, and the SE-TX200 sixchannel power amplifier (70 watts per channel). In back are the SB-TW200 subwoofer, the SB-TF200 front speaker, and the SB-TS200 surround speaker.





M&K's MX-5000THX powered subwoofer (\$2,195), far left, is built around two 12-inch drivers in a push-pull configuration for low distortion. To its right is the M&K S-5000THX front speaker (\$950). Not shown is the company's SS-500THX surround speaker (\$1,450 a pair).

THX LASERDISCS

The latest manifestation of THX technology is in the THX laserdisc program, in which we follow the production chain through from the original film element to the finished laserdisc. By tracking quality along all stages of the process (with the assistance of a special composite test signal we developed), we can assure that the finished discs represent the film better than is possible on any other video medium widely available to consumers. The program covers both picture and sound quality, and since THX laserdiscs

adhere to production standards all along the way, we can make them more interchangeable (no need to alter the volume from disc to disc, for example). They play perfectly well on all systems, whether the systems are all THX, partially THX, or not THX at all.

Released titles include *The Abyss Special Edition, Hoffa*, the *Star Wars Trilogy, T2 Special Edition,* and *The Ultimate Oz.* Among those in preparation are *The Sound of Music, Oklahoma!*, and *South Pacific.* rect sound by changing its timbre, adding to the direct sound at some frequencies, subtracting at others. These additions and cancellations result from the changing phase relationships between the direct sound and the reflected sound with changes in frequency. Reflected sound inevitably travels a longer path to the listener than direct sound does, and if that difference corresponds to one complete cycle of a wave, the two sounds will be in phase and reinforce each other, whereas if the path-length differences add up to half the wavelength, the two sounds will be out of phase and at least partially cancel each other. (The cancellation is only partial because the reflected sound is almost certainly weaker than the direct sound.) Thus, our ability to "hear through to the source"-hear the timbre of musical instruments correctly, for example-is enhanced if we can keep at least some of the reflections small.

In Home THX we minimize undesirable reflections by deliberately shaping the dispersion of the front loudspeakers like an ellipse, wide in the horizontal direction but narrower vertically, thus reducing the effects of ceiling and floor reflections. By delivering a larger proportion of direct sound than reflected energy, we promote localization of on-screen sound and speech intelligibility. Actually, this sort of directivity turns out not to be unusual among high-end loudspeakers, many of which have had limited vertical dispersion for years. probably to accrue the same benefits we have found. Also, in multichannel systems we are not so very concerned that the front loudspeakers deliver all of the required tradeoff between localization, on the one hand, and envelopment, on the other, since that is one of the greatest compromises of two-channel stereo, and the surround loudspeakers can also provide envelopment (more handily, in fact, than can front loudspeakers).

or the surround loudspeakers the goal is to create an enveloping sound field capable of reproducing spacious reverberation and ambience while still handling more obvious, specific surround effects. A really good surround system will probably go unnoticed most of the time; the biggest problem that I see with surrounds in both theaters and homes is a tendency to exaggerate them. The correct level of surround will immerse an audience in a sound field without drawing attention to itself except when the program requires a strong, pointed surround effect, which does not happen very often. The power of such subliminal, ambient surround can readily be demonstrated by picking a passage with enveloping surround, reproduced at the correct level, and turning the surround speakers off in the middle: The sound will collapse dramatically into the screen.

irectionally speaking, the surround loudspeakers should produce surround sound-that is, sound that originates all around you, without any particular preferred direction. A variety of loudspeaker that will achieve this aim is the dipolar type, but oriented in an unusual way, with the main lobes radiating forward and back and the null of its radiation pointed at the listener. Thus, what we hear is not the direct field of the loudspeaker but rather its radiation at all angles reflected by the room, adding greatly to the spatial sensation.

To enable both conveniently sized loudspeakers and strong deep-bass reproduction, Home THX systems normally incorporate one or more subwoofers. Most of them, in fact, *require* subwoofers for adequate performance at the lowest frequencies. Our principal concerns for the subwoofer are that it have the right frequency reThe McIntosh MX-130 A/V tuner/preamplifier (\$3,600) has a built-in Dolby Pro Logic decoder and six output channels. It is also available without the tuner section as the C-39 preamplifier (\$3,000). Either can be upgraded with a \$425 Home THX processing card.



B&W's Home THX Home Cinema System comprises three FCM-8 Front Cinema Monitors (\$1,000 each), two SCM-8 Surround Cinema Monitors (\$1,500 a pair), and two PCS-8 subwoofers (\$1,250 each). The subs are designed to fit gracefully under the front speakers if desired.

why the subwoofer's output capacity is so important, and if it can handle movies, it can handle all practical musical sources.

Matchmaking

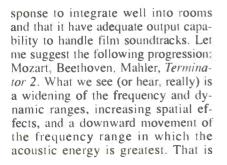
The last major issue that we address in the Home THX program is making



sure that all the components of a system work properly together. Traditionally, audio consumers have been left to fend pretty much for themselves with regard to such matters as amplifier gain, speaker impedance and sensitivity, power requirements, and so forth, which can vary quite sig-



Kenwood's Home THX electronics—the KC-X1 A/V tuner/preamplifier (left, \$999) and the KM-X1 six-channel power amplifier (below, 100 watts per channel, \$899)—can be connected together with a single cable to simplify installation.







THX AND MUSIC

A legitimate question people have raised is whether Home THX systems are good for music as well as film sound. Insofar as the re-equalization, timbre-matching, and decorrelation processes are concerned, these are all switched out for two-channel music playback because re-equalization is relevant only to film sound and the others only to surround sound. We require Home THX controllers to have a two-channel stereo mode in which the left and right source channels are unprocessed except for extracting the low bass to send to the subwoofer channel. So there is no issue with the electronics in two-channel stereo.

Our loudspeaker standards require good performance in all the usual respects flat frequency response, low distortion,

and so forth—so there is really no debate about the suitability of the left and right loudspeakers on this basis. What concerns some people is the very thing that makes these speakers distinctive-their vertical directivity. Although the front speakers have quite wide dispersion horizontally, their vertical directivity is controlled to reduce ceiling and floor reflections and to deliver a greater percentage of direct sound to the listener. Reduction of ceiling and floor reflections permits better localization. speech intelligibility, and, believe it or not. depth in two-channel stereo recordings, so we feel this approach is beneficial to music reproduction as well as to playback of movie soundtracks and will serve well for both purposes.

Hafler's Home THX-certified stereo power amplifier, the 9300THX (shown above in a rack of four, \$1,250 each), is rated at 150 watts per channel. KEF's Home THX loudspeakers (right) are the AV1 powered subwoofer (\$3,500), the AV3 front loudspeaker (\$800 each), and the AV2 surround speaker (\$1,500 a pair).



THX CABLES

Recently a new category of Home THX component became available—THX cables. We established Home THX cable specifications for a couple of reasons. One was to promote the use of a multiconductor cable and connector for multichannel audio hookups. Some Home THX controllers and power amplifiers now enable you to plug six channels together at once instead of making six separate connections, provided you have the necessary Home THX interconnect cable. Second, we wanted to be certain that the impedances of the cables, especially

loudspeaker cables, were well suited to their tasks. We had seen examples of systems using, for example, very low-resistance cable (such as auto-battery cable) in which the cable's high inductance more than overwhelmed the low resistance, causing audible frequency-response errors. So, for example, THX loudspeaker cable must conform to strict resistance, inductance, and capacitance specifications and come with information on the maximum lengths that can be used without exceeding a very small response error at the speaker terminals. nificantly over the range of available equipment. People often achieve good results despite this relative anarchy, but sometimes at the cost of having to change some component choices to get ideal matches. We have therefore developed a set of standards for Home THX products that address every interface in the system, to assure, for example, that every Home THX amplifier on the market will work properly with every Home THX loudspeaker.

hat does not mean Home THX components can be used only in a complete Home THX audio system. A Home THX controller can be used to good effect with conventional loudspeakers, for example, or non-THX amplifiers, just as Home THX speakers and amplifiers might be used in a conventional surround-sound or twochannel music system. What we have tried to do, however, is to assure by means of the electronic and loudspeaker developments discussed here. together with stringent interface and quality standards, that a system consisting of controllers, loudspeakers, amplifiers, equalizers, and cables bearing the Home THX logo will enable listeners to hear movie soundtracks at home as nearly as possible the way the artists who created them intended.



As virtually every speaker manufacturer rushes to deliver "home theater" speakers to the marketplace, M&K amasses nearly twenty years of experience in the field---dating back to Hollywood screening-room installations in the 197Cs.



spent well over a decade studvina the varied aspects of surround sound-including encod-

ing and decoding; soundtrack recording;

and the differences between reproducing sound in theaters and in homes. M&K speakers excel in the reproduc-

tion of all source material. Accuracy, low coloration, pinpoint imaging, wide dynamic range, and deep-bass reproduction are all critical for music as well as film soundtracks. M&K Satellites and Subwoofers have been acclaimed for these attributes since the '70s.

And this is why M&K knows that any speaker that claims to be optimized for either music or film sound, one at the expense of the other, will never reproduce either one properly.

M&K Home Theater Systems

Conventional speakers make the music and effects on film soundtracks compressed and dull_But M&K's exciting dynamics and "quick" transients give you precise 3-D imaging and a lifelike presence.

M&K Satellites are timbrematched, using virtually identical speaker drivers, crossovers, and frequency response, for a seamless 360° surround-sound performance: With an all-M&K home theater system, voices and effects do not change char-



acter when the r sound moves from left to right or front to back in your room.

Even if you are just adding an M&K subwoofer, front/center, or surround



speaker to your present system, M&K's unique timbre controls allow you to "fine-tune" the sound of your new M&K speakers to achieve the closest possi-





ble timbre-match with your existing speakers-even if they are not M&Ks.

M&K Center Channel Speakers

Beware of inexpensive "center channel" speakers. In Pro-Logic, the center channel speaker is driven the hardest, and often

reproduces as much sounc as the eft and right speakers combined.



Each one of M&K's

six individually-available Satellites has exceptional dynamic range and high output to meet and exceed the tremendous demands of the center channel.

M&K Powered Subwoofers

Legendary for their massive output, exceptional detail, and articulation, M&K's thirteen internally-powered Subwoofers set the industry's standards for high-performance deep bass.

M&K's innovative Push-Pull Dual Drivar subwoofers deliver a major improvement by virtually eliminating even-order harmonic distortion, and dcubling efficiency same as doubling amplifier power) with four times the cutput of single driver subwoofers.

Whether you choose our state-ofthe-art Home THX® Audio speaker system, an add-on set of surround speakers, or anything in between, no other speakers will give you the exciting performance, sound quality, flexibility and compatibility of M&K's home theater component speakers.



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A/V Underground

on Woznock digs loud music. "Whether I'm listening to a CD or watching a Garth Brooks concert video, it just doesn't sound right to me unless the volume is halfway up and the walls are shaking," says the thirty-two-year-old resident of South Wilkes-Barre, Pennsylvania, an old mining town on the banks of the Susquehanna River. Trouble is, his evenings of unbridled selfindulgence came to a screeching halt seven years ago when he and his wife Susan started a family. Cranking it up past the baby's 7 p.m. bedtime quickly became a no-no.

Not about to surrender his most treasured pastime. Woznock, who is employed as an operations manager for a local distribution company, decided to go for broke and convert his cellar into a media room. "I thought it would be easier to contain the sound there, so I hired a contractor to dig out the basement and put



in a concrete floor." The excavation work alone cost \$8,000 because they had to dig down nearly 3 feet to allow for a 7-foot, 3-inch ceiling in the spacious 25 x 14foot room.

"My wife and I and a friend did all the rest of the work—from framing to finishing," says Woznock, noting that it set him back an additional \$5,000. "We ran dedicated lines for the power amps and used two layers of

sheetrock." When the room was complete an intensive three-week project—Woznock moved his stack of audio and video components from the living room to the cellar.

An avid fan of country music and classic rock, from BTO to Aerosmith, Woznock likes having plenty of A/V sources. His current arsenal includes a dusty Technics SL-D3 turntable with a Shure M24H cartridge (used for the occasional foray into nostalgialand), a Nakamichi CR-2A cassette deck, a Nakamichi CDPlayer2, which has an internal six-disc magazine and a single-disc drawer, a Sony MDP-333 combination laserdisc/CD player, and a Fisher FVH-5550 hi-fi VCR.

Although the combi-player is mostly for video, Woznock also uses it for a DJ setup at parties every now and then. But the Nak changer is his favorite component. "When you look at it, it doesn't look like a changer," he explains. "I like to play games with my friends—you know, pull out a CD and then the thing starts playing."

The next stop along the signal path is a Yamaha DSP-E300 surround-processor/amp, which is looped through an Adcom GFP-55511 preamp. The Yamaha sports a Dolby Pro Logic decoder, eleven movie and music modes, and a five-channel power section rated to deliver 15 watts per channel.

Primary power is furnished by two 200watt Adcom GFA-55511 stereo amplifiers and a 75-watt Sansui B-1000 stereo amp. Operating in bridged mode, each Adcom feeds up to 600 watts to a power-hungry Infinity 9 Kappa Reference Standard tower speaker. The Sansui feeds surround signals to a pair of Realistic 8-inch full-range drivers mounted in the room's back wall.

Finally, Woznock uses the Yamaha's resident amps to drive a Polk Audio Mini Monitor for the center channel and a pair of wallmounted Polk Monitor 4's deployed as "front surround" speakers above the Kappas.

The Infinity Kappas are Woznock's latest acquisition. He had not been particularly dissatisfied with his previous speakers, but when he happened to hear the Kappas, "I was blown away by their smooth natural sound."

Except for the 50-inch Hitachi 50UX7L rear-projection TV, Woznock's A/V gear is housed in a homemade oak and pine cabinet. All wiring is Monster Cable.

Woznock likes to think of his \$11,000 system (\$24,000 if you include room construction) as both a home theater and an audio system. But it's the theater mode that impresses friends the most. "People are amazed when I turn on *Top Gun*. It's exhilarating. We find ourselves waiting for movies to come out on video instead of going to the theaters. And my kids—seven-year-old Robert and four-year-old Ronnie Jr.—*love* it. They like watching concerts in surround as well as their own tapes. It's well worth the investment."

Like most A/V devotees, Woznock is already into his next upgrade. An Infinity Kappa Center Channel speaker to match his main Kappas and a companion Adcom GFA-535II amp to power it are on layaway. Also on his list is a new pair of surround speakers, an S-VHS video recorder, and perhaps a subwoofer. Oh, and what about those loud, latenight movie and music sessions? "It's great," Woznock says with a chuckle. "You can barely hear the system up on the third floor." —Bob Ankosko



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PICTURE PERFECT

Most of us regularly accept behavior from our TV sets and v.deo monitors that is really distortion. After all, that's how TV is supposed to look, right? No way. If it looks wrong it is wrong: When video reproduction makes real-world images (as opposed to special effects) look unnatural, it is often the fault of the moritor. What we want is high-fidelity video to go along with our high-fidelity audio—the most accurate possible representation of the original image. That's what professional video monitors provide, and this article will discuss several common faults of home TV's and monitors with that standard as the reference.

Despite all the attention pad to it, resolution (picture detail; seldom ranks as a shortcoming in modern sets, except among relatively low-end models. The world has long been blessed with monitors providing enough lines of resolution, which nonetheless remains the most oversold video perfor-

mance characteristic around (except possibly for the law-light, or "lux, ratings of camcorders). Almost all the sets I've seen lately of moderate size (20-inch) and up have had more than enough resolution capability, when correctly adjusted, to do justice to the most demanding of common video program material: live network sportscasts and lasercises. By "correctly adjusted," I mean with the contrast control turned down from its normally too-high factory setting and with the sharpness control dialed halfway up at most-some sets are better with it all the way down. (Turning down the contrast to reasonable levels will also extend the useful life of your picture tube.) So I'm going to ignore resolution for now. On to more fruitful areas.

Simple and Obvious Errors

One of the most common errors that passes as norma, is for the apparent sizes of objects to increase with in-

DENNIS POTOKA

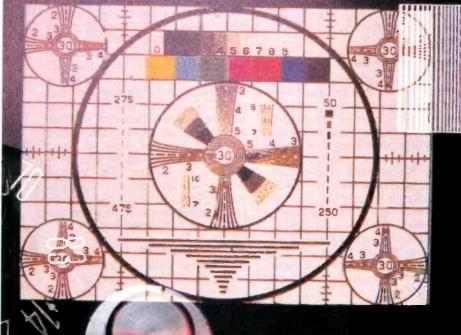
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DC 3

1.

TV sets vary enarmously in picture quality. Here's how to separate the great from the good and the good from the merely mediocre.





creases in the overall picture brightness, as if the camera lens were zooming in and out slightly according to the amount of light in the scene. This misbehavior, called breathing or ballooning, is very common in directview (nonprojection) monitors.

Breathing is normally not very prominent. But with letterboxed movies, which have black bands framing the image at the top and the bottom of the screen, the picture height will often vary obviously (see Figure 1)something that certainly doesn't happen during film projection. Sometimes the effect is so severe that the picture almost bounces, especially when there are sudden, dramatic changes in the brightness.

Breathing is exacerbated by excessive brightness and contrast settings and becomes more difficult to control as screen size increases. Since breathing varies widely in severity among consumer sets, it is definitely something you should pay attention to when shopping. As with many of the other faults covered here, once you know what to look for you'll be seeing it practically everywhere.

Cross-color is what happens when the black-and-white portion of a video signal is misinterpreted as color. Then you get such effects as a colored moiré pattern on finely striped clothing. Except in such instances, this problem is not very conspicuous. It can originate at any number of steps along the video chain besides the monitor, even at the camera, and once it occurs no monitor processing can entirely remove it.

Cross-luminance, where the color portion of the video signal is misinterpreted as black-and-white information, is far more common and is responsible for the ubiquitous "dot crawl." Extremely annoying once you know what to look for, dot crawl is a regular pattern of fine dots moving upwards or along high-contrast edges. Monitors vary widely in their ability to minimize dot crawl. Only very few consumer sets reduce it to near invisibility; some are so bad that even lowcontrast, broad expanses of color are somewhat stippled. Signals entering a monitor through its S-video (Y/C) connector are supposed to be immune from cross-color and cross-luminance effects, provided that such signal selfcontamination hasn't already occured further back in the signal chain.

Picture tilt is actually more common than you'd think it would be, since it is simply a tilting of the TV tube's supposedly horizontal electron-beam paths relative to the set's outer cabi-

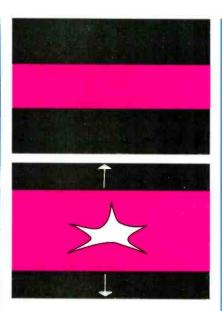


Figure 1. Video monitor "breathing" expands the picture according to changes in the imoge brightness.

net. The cause is improper (sloppy) alignment of the tube or its deflection coils. Tilting is easily spotted on the computer graphics displayed during news and sports telecasts, which often contain long horizontal lines near the top or bottom of the picture.

Overscan is what happens when the edges of a video image fall outside the visible portion of the picture tube. When comparing monitors, notice how each one handles the edges of the image: Some will show more of the scene than others. Too much overscan can lead to such things as captions and subtitles being cut off at the bottom. Excessive overscan is far less a problem now than it was several years ago because recent TV circuitry is better at maintaining the correct picture size as a set ages.

A Question of Color

TV manufacturers have paid both too much and too little attention to the color performance of their products. Various types of electronic processing to keep the reds red and the greens green have received most of the attention. In the meantime, however, color accuracy has suffered: The picture may look good (plausible), but it may not be accurate (true to the colors of the original image). There are technical standards for the color performance of video monitors that if adhered to would bring higher-fidelity color reproduction. Some of these standards have been in place since the

STEREO REVIEW APRIL 1994

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beginning of color TV, and yet no consumer set at any price meets them.

But some monitors may still deliver better color than others. If you want to go after high-fidelity video-so that the image you are seeing is closer to what careful producers intend-there are some steps you can take short of buying yourself a multikilobuck 19inch studio monitor.

First, turn off, if you can, all controls in your set that are intended to maintain color "accuracy" automatically. More often than not such controls make most colors less accurate in order to keep flesh tones somewhat true (or at least close to what people expect to see). You can usually achieve better results with careful manual adjustment.

Deep, pure reds (like the reds you see in Christmas decorations) and deep, pure greens are very difficult for consumer monitors to reproduce. The reds usually come out slightly orange and the greens slightly yellowish. Differences among sets in red/green reproduction are most easily seen with two sets side by side displaying a color-bar test signal (see "Don't Touch That Dial!" on the facing page). But if you concentrate on these colors when watching normal program material you may catch glimpses of set-toset differences as a deep red or green comes into the picture. The bright turquoise (cyan) of shallow Caribbean waters is also difficult to reproduce, which is why it looks so much more vibrant when you see it for real.

Color temperature has recently become a much-discussed issue in monitor performance. Color temperature defines the precise "shade" of white a monitor produces when directed by a video signal to generate white. In a contradictory-sounding use of terminology, a high color temperature gives a "cool" bluish cast to all the colors in a picture, whereas a low color temperature imparts a "warm," or red/orange, bias (nowadays most sets are run at much higher color temperatures than the NTSC standard of 6,500 degrees Kelvin). Large differences in color temperature are readily visible when switching between them on those high-end monitors that provide colortemperature selection. But the eye quickly-within seconds-adjusts to such differences, so correct monitor color temperature is really a concern only to true hi-fi video fanatics.

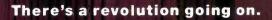
Warped Spaces

Geometric distortions encompass a wide range of problems, all of which



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Sony gives you not only the basic building blocks for home entertainment, but easy-to-use innovations that take your entertainment experience above and beyond, as well. And, no matter what you choose — from the simplest set-up to the most each sticated system — Sony's innovative solutions make the ultimate entertainment experience easy and uncomplicated for any member of your family.

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Home Entertainment Profile.

DOLBY PRO-LOGIC

Take a moment to answer these questions and let us help you analyze your Home Entertainment needs. What kind of VCR do you own?
 Mono
 Start by upgrading to a hilf Stereo VCE go to question 2.

NIFI STEREO You''e in great shape, go to question: 2 What size is your main TV?
 20" OR SMALLER Upgrade to a larger TV, go to question 3.

■ 25" OR LARGER Consider upgrading to a lorger TV, go to question 3.

B A PROJECTION TV You're in great shape, go to question 3.



Total Control.

The SRC-100 A/V Controller unites Sony compatible audio and video components into one simple system with one simple remote. It remembers how everything is connected. And turns on only what needs to be turned on. You want to watch that movie on your VCR? Press "VCR". Press "Play". That's all. The A/V Controller automatically powers up all the right equipment in all the right modes. It even controls most cable boxes, making it easy for any member of the family to get the most out of a Sony A/V System.

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5 Are you concerned that a home entertainment system is:

COMPLICATED TO USE? Consider intergrating Sony Audio Video Contraller into y**our** System.

ONY

TOO EXPENSIVE? Remember you can build your System one piece at a time.

B DIFFICULT TO SET UP? Your Audio Video Salesperson can help you do it yourself, or in most cases, arrange for someone to hook it up for you.

3 Is your Audio System:

IN A DIFFERENT ROOM THAN THE MAIN TV? Move it to the same room and connect it to your TV and HiFi Stereo VCR.

IN THE SAME ROOM AS THE MAN TV? Connect it to your TV and HiFi VCR, go to question 4.

I DON'T OWN ONE. PROCEED TO QUESTION 5. Purchase a system with a Dolby Pro Logic A. V Receiver.

O Does your Audio System consist of:

A STEREO RECEIVER AND TWO SPEAKERS? Consider upgrading to a Dolby Pro Logic A/V Receiver and adding three speakers.

A SURROUND SOUND RECEIVER AND FOUR SPEAKERS? Consider upgrading to a Dolby Pro Logic A/V Receiver and adding one speaker.

A DOLBY PRO LOGIC RECEIVER AND **FIVE SPEAKERS?** Don't stop now, go to question 5.

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DON'T TOUCH THAT DIAL!

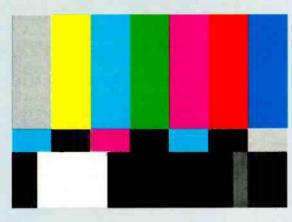
Whenever you encounter the color-bar test pattern shown at right, you have an excellent opportunity to perform some critical adjustments of your TV set or video monitor. You'll sometimes find color bars appended to prerecorded videodiscs or videocassettes, but they are most commonly found over-the-air or on cable at the beginning or end of a station's programming for the day.

As the diagram shows, the color portions of the color-bar test signal comprise the three primary TV colors (red, green, and blue) and three pairs of those primaries (yellow = green + red, cyan = green + blue, magenta = red + blue). If you look at those regions of a TV screen with a magnifying glass, you'll see (or should see) precisely these color-dot combinations activated. The two shades of white (100 percent and 75 percent—here shown as a light gray) are made up of red, green, and blue phosphors all turned on equally.

With just the two upper color portions of the color-bar signal, you could adjust your set for proper color reproduction. There are two problems, however. First, some sets cannot be adjusted for proper color-bar reproduction no matter what you do with their controls. I'd never buy or recommend a set that couldn't even do color bars right, regardless of what else it did well.

The second problem is that you need a very deep blue filter through which to view the color bars while adjusting the tint (hue) and color (saturation) controls. That filter is very dark and very blue because it must filter out entirely the contributions made by the red and green phosphors. Should you come across such a filter (known by the photographic name of Wratten 47B), the procedure is pretty straightforward: Repeatedly adjust the tint and color controls until every surviving color bar (only four will be visible through the filter) is of equal brightness, not only with the others but throughout its own height, including the small segment at its bottom. (A suitable filter is supplied with Reference Recordings' very useful REF-01 test and setup laserdisc, "A Video Standard.")

Even without such a filter, a color-bar pattern can still be useful for adjusting contrast and brightness (which should be adjusted before adjusting the color controls anyway), but only if the color



The color-bars test signal can be used to properly adjust the color, tint, brightness, and contrast controls of a video monitor.

control on your set can be turned all the way off to get a true black-and-white picture. With the color off, the large uppermost portions of the color bars should form a steady left-to-right progression from white to dark gray. The long horizontal black bar at the middle of the bottom of the test pattern should be noticeably darker than the dark gray (formerly blue) bar at the upper right. Repeatedly adjust the brightness and contrast—the controls interact somewhat—until you get an upper-bar gray scale with seven distinct shades of gray.

Alternatively, or as a cross-check, the rightmost of the small, dark vertical bars near the bottom right of the screen should just barely be visible, and the two small bars beside it should both be the same shade of black, so that they look like a single wider bar. This method, using the small, dark bars, has the advantage of working at any setting of the color control.

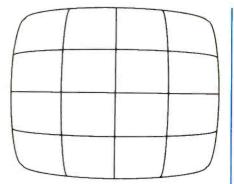
After adjustment, remember that you have just calibrated your set to compensate for the characteristics of the source originating the color bars. You and the station are at the mercy of the various program providers when it comes to actual color performance. The classic musical *South Pacific* is pretinted, for example, and never looks quite right.

You might occasionally encounter other test patterns. but, though they can be useful, they usually aren't on long enough for a home viewer to draw any conclusions or make any adjustments. It is possible to record them, though only one of those described below will be relatively intact after recording on a typical VHS VCR.

 Resolution wedge. Triangular wedges of black and white stripes aimed toward the center of the screen. This is the primary test pattern for eyeball evaluation of picture resolution. Look for where the individual vertical stripes of a vertical wedge merge into a gray mass, and then locate the nearest calibration number, which usually gives the number of lines of horizontal resolution (sometimes divided by ten). This pattern is rarely found on prerecorded videocassettes, possibly because the measured results would be so bad tabout 200 lines for standard VHS versus 330 lines for broadcast TV and more for laserdisc).

• Circle. Resolution wedges are usually part of a composite test pattern that includes one large circle in the center of the screen and four smaller circles at the corners. In this test pattern, anything that looks like a circle should actually be a circle. The circles should look neither squeezed from the sides nor squashed from the top and bottom. If the overall picture size is perfectly adjusted, the largest central circle should just meet the top and bottom edges of the screen. The roundness of the circles in this test pattern will survive recording on a VCR of almost any quality.

• Multiburst. This pattern looks like half a dozen vertical columns of black and white stripes that start wide on the left side and decrease in size to the right. They can be used to gauge resolution, but only roughly without the aid of test instruments. -D.R.



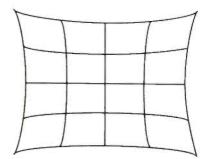


Figure 2. Barrel distortion (top) and pincushion distortion (bottom) are common with large-screen monitors.

can be thought of as warping the picture, making lines that should be parallel across the face of the tube nonparallel. Two of the most common are known by the names given to them by photographers: **barrel distortion** and **pincushion distortion**. The effects they would produce on a square grid are shown, exaggerated, in Figure 2. Although both types of distortion can occur with either direct-view or projection screens, barrel distortion seems to be more common on the former and pincushion distortion on the latter.

Unless you use a grid test pattern, like the one commonly used to check convergence (see below), it is hard to detect subtle barrel or pincushion distortion. Look for warpage of regular grids as the camera pans across them: building facades and windows, for example, or computer-generated graphics. Keep in mind that video-camera lenses can cause these types of distortions, too, so if you think you see barrel or pincushion distortion during one program, look for it on another for confirmation.

Convergence error is a geometric distortion that has been a bugaboo of projection sets from their invention, but it also afflicts direct-view sets. Its

NEW TECHNOLOGIES

Large-screen viewing, whether on a standard NTSC set or a widescreen monitor with a 16:9 aspect ratio, introduces Its own set of problems. For example, rearprojection sets all have specially constructed screens designed to throw as much light as possible directly forward. So the first thing to look for, especially if you expect ever to have more than one person watch your projection set at a time, is how the picture brightness falls off as you move to the sides of the viewing area. Note not only the overall decrease in brightness, but whether some portions of the screen grow dark faster than others.

Even from straight on, most projection sets also exhibit a falloff of picture brightness toward the corners. You should try to steer clear of sets that display more of this effect, even if it means choosing one with somewhat lower overall brightness. You can compensate for the latter by darkening your viewing room, but there's nothing you can do about the "vignetting." Darkening the room will also make the picture look better for several other reasons, and it is good practice for all video viewing, projection or not. You'll never see a brightly lit TV control room.

Digital picture processing is making its way into large-screen direct-view and projection sets, even if only in the guise ot picture-in-picture (PIP) and freeze-frame features. Such digital manipulation is the bread and butter of widescreen and IDTV (Improved-definition TV) sets and the absolute core of the upcoming broadcast HDTV (high-definition TV) system. Digitally processed video can vary considerably in quality, depending on the techniques and circuitry used, and it is not uncommon to see artifacts of the processing in current products that use it. It's therefore a good idea to be familiar with the most obvious side effects.

• Large, slowly varying areas of color can sometimes develop a contour-map effect when there are not enough digitization steps to encode a smoothly varying video signal. What was once a large expanse of color gets replaced by several smaller expanses of color with distinct borders between them.

 Inadequate motion processing can cause, on the one hand, blurring and smearing of fast-moving objects, and, on the other, a jumpy effect with very slowly moving objects.

 Improper, but possibly deliberate, stretching of the original picture to conform it to the proportions of a 16:9 screen can make it seem like the whole world has gotten squashed, or that the gravity control has suddenly been turned up.

While you may not be able to use these tidbits for a couple of years, you are now the first on your block to know some selection criteria for an HDTV set. _____...__.D.R.

results are not so much a bending of lines as the kind of effects you'd get if the various color layers in a photographic negative or a printed color page got slightly out of alignment with each other: slight blurring and color fringes.

Although a white-grid test pattern shows convergence errors most clearly, you can perform a quick-and-dirty test for convergence error by looking at video "snow," either from a blank (never recorded) portion of videotape or, preferably, from tuning to an empty channel. The random dots of snow should look the same at the corners of the picture as they do at the center (some corners may be better than others). At the corners, the dots, which should be pure white or gray, may have slight color fringes indicating convergence error. They may also appear fuzzier and less "crisp," indicating slight **misfocusing** of the electron beams. Look for screens exhibiting the smallest errors of these types.

These are only a few of the many possible things to watch for when evaluating monitor quality. But if you can find a set with excellent performance in all of these characteristics, consider yourself lucky on two counts. You've found the monitor to which the world should beat a path, and you have trained yourself to be a super-critical viewer.

A LASERDISC STARTER SET

f you have or are putting together a home theater system, it's not hard to come up with reasons to include a laserdisc player. Top on the list certainly would be the outstanding picture and sound available from laserdisc often better than broadcast (especially in audio quality) and far superior to VHS. Many laserdisc releases are widescreen, or "letterbox," versions, to preserve the original framing and com-

10 TOP DISCS TO FEED THAT NEW PLAYER

position of modern widescreen films. (When broadcast or transferred to videocassette, widescreen movies are almost invariably cropped to fit the narrow confines of the television screen.) Some discs include interesting supplementary materials, and occasionally the movie itself is a special version reedited by the director specifically for laserdisc to include scenes omitted from the theatrical release. And since all current laserdisc players also play CD's, you won't need a separate unit for that purpose. If you were going to buy a new CD player anyway, you can get the video capability as well without spending a great deal more money.

Let's assume that you've taken the plunge and are ready to start your own laserdisc library. Laserdiscs are readily available over the counter in big cities (sometimes for rental as well as sale) and from many reputable mail-order firms. There are now so many good discs, however, that you might at first find yourself a little perplexed about where to begin.

With that in mind, I've put together
a list of ten discs that I think
would make a great "starter
set." There's nothing sacred
about this list—I've even provided an alternative one on
page 73, and it would not be

hard to come up with others equally compelling. The tough part really was keeping the list down to just ten titles. The ones that made the cut are discs 1 consider to have exceptional video resolution and balance, excellent sound, and programming that will remain interesting on subsequent viewing. These are all discs that well exemplify "the laser experience." If somebody put one of them on after dinner, I'd make no excuse to leave, for they can be enjoyed over and over. So even though a few of the discs I've chosen represent hefty initial investments, all of them represent good value for the dollar in the long run.



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A LASERDISC STARTER SET

THE ABYSS: SPECIAL EDITION (1993)

Color; three discs, six sides (Nos. 1, 2, 3, and 5 CLV, Nos. 4 and 6 CAV); digital stereo. surround; chapter stops; extensive supplements. including the documentary *Under Pressure: The Making of The Abyss.* 171 minutes (feature). Rated PG-13. FOX VIDEO 1988-80 \$99.95.

he first release in the THX laserdisc program and possibly the best disc set in the entire catalog. For starters, director James Cameron completely re-edited his movie, turning what had been a suspenseful but confusing effort into a masterpiece. Then, in addition to the expected letterbox version, he supervised a "pan-andscan" transfer, which is the one 1'm recommending. The video image is astonishing in its immediacy and intimacy. Even more noticeable is the sound, without a doubt the best movie sound on laser and the best use of surround in the catalog. The audio mix is incredibly complicated, subtle, and effective: You feel transported into the various underwater locales. The letterbox edition is also excellent, but, as Cameron points out in an essay included with this boxed set, his panand-scan full-frame version is better for entertainment.

THE ADVENTURES OF BARON MUNCHAUSEN (1989)

Color; three discs, six sides (CAV); digital stereo, surround; chapter stops; letterbox (1.65:1 aspect ratio); extensive supplements, 126 minutes (feature), Rated PG, CRITERION 144 \$124.95.

riterion has made its reputation Gwith deluxe editions that present more than just the movies. Many include the original directors discussing their work on the secondary analog audio tracks as well as outtakes, stillframe archives, and more. The best of these editions is Baron Munchausen, a charming fantasy adventure unfairly maligned by critics and unfathomably ignored by the public when first released. The Criterion director-approved transfer is razor-sharp and clean and at close to the correct aspect ratio; the Dolby Surround soundtrack, on the digital tracks, has excellent dynamic and frequency range. Director Terry Gilliam discusses the movie on the analog tracks throughout, and the supplemental section tells you everything you could want to know about this adventure in filmmaking.

LASERDISC LINGO

Aspect ratio. The ratio of image width to image height. For example, a standard TV screen has a $1.33:1 (4 \times 3)$ aspect ratio, which matches the old Academy standard for motion pictures. Modern widescreen movies typically have aspect ratios of about 1.85:1 or 2.35:1. HDTV screens will have a 1.78:1 (16x9) aspect ratio.

CAV. Constant angular velocity, laserdisc's "standard-play" format, offering still-frame and slow motion on any player but limited to about 30 minutes of playing time per side.

CLV. Constant linear velocity, laserdisc's extended-play format, offering 60 minutes per side but requiring players with digital field memories for special effects.

Chapter stops. Searchable reference points for specific material, similar to track markers on a CD.

Letterbox (LBX). A method for displaying a widescreen film in its proper aspect ratio on a TV screen. Letterboxing results in black bands at the top and bottom of the screen.

BEAUTY AND THE BEAST (1991)

Color: two discs, four sides (CAV); digital stereo. surround: chapter stops: supplemental promo and documentary: closedcaptioned; letterbox (1.57:1 aspect ratio). 84 minutes (feature), plus 26 minutes (supplement). Rated G. WALT DISNEY 1325 CS \$49.95.

A nimation and laser go together like ham and eggs. Laser reproduces crisply all the sharp lines and nuances of good animation, not to mention the often brilliant colors. Most of Disney's animated features are worth investigating, but this fairytale-as-animated-Broadway-show is the best departure point. A magical



and moving film, it has superior video quality and a knockout soundtrack. Robby Benson's Beast voice is a particular delight, stereo separation is exceptional, and there are some pleasing rumblings for your subwoofer as well as some very effective surround effects. Unlike the less expensive panand-scan CLV edition, this CAV release preserves the original theatrical framing and is worth the extra cost.

JAWS (1975)

Color; two discs, three sides (Nos. 1 and 2 CLV. No. 3 CAV); digital mono; chapter stops; closed-captioned; letterbox (2.25:1 aspect ratio). 120 minutes. Rated PG. MCA UNIVERSAL 41086 \$39.95.

ne of the great emotional-rollercoaster thrill films of all time, as Roy Scheider, Richard Dreyfuss, and Robert Shaw race to capture a great white shark that has been taking lunch breaks at Amity Island. The laser transfer is crisp and clean, with wellbalanced color and excellent detail in spite of a fairly severe letterbox, necessary to preserve the film's theatrical aspect ratio. (Laser's resolution allows this-it would be unwatchable on videocassette.) Another laser feature is a bit of rethinking and editing by director Steven Spielberg, making this disc his latest, final version of his greatest action film.

LAWRENCE OF ARABIA (1962)

Color; two discs, four sides (CLV); digital stereo, surround; chapter stops; closedcaptioned; letterbox (2.1:1 aspect ratio). 216 minutes. Not rated. COLUMBIA TRISTAR 79626 \$49.95.

every laserdisc collection should contain one of the big epics, and this is the very best. The movie is a justified legend, the reconstruction masterly, the transfer extraordinarily sharp. The sound is quite good, too-a very successful transfer from the original multichannel magnetic tracks of the 70mm release to the current Dolby Surround system. If you think surround sound is something new, take a listen to what was accomplished thirty-two years ago for this movie. The reconstructed print exists in several versions. Columbia Tristar's seems the best and is certainly one of the great bargains in the laserdisc catalog. One of the other editions has more supplementary material, but not enough to offset the cost savings this set offers.

A LASERDISC STARTER SET

THE LOST WORLD (1925)

B&W with color tints; one disc, two sides (No. 1 CLV, No. 2 CAV); newly composed stereo digital soundtrack; chapter stops; extensive supplements including original trailer, promotional film, excerpts from earlier Willis O'Brien films, and a large still-frame archive. Approximately 65 minutes (feature). Not rated. LUMIVI-SION LVD 9109 \$49,95.

hink of it as an ancestor of Jurassic Park. One of the real bargains in the laserdisc catalog, this disc really gives you a chance to play with your player's special features. Two different versions of the soundtrack are provided, and the trailers and shorts are immense fun. But where laser really comes into play is during the stillframes. Much of this classic movie has been lost forever, but photos survive for the missing parts. On laser, it is possible to watch the movie through once, then skip to the archive while the motion-picture sections are fresh in your mind and step through the stills of the missing sections. The movie itself, merged with the newly composed score, doesn't seem dated at all. It's an amazing achievement.

SULLIVAN'S TRAVELS (1941)

B&W; one disc, two sides (CLV); analog mono: chapter stops: theatrical trailer. 91 minutes. Not rated. MCA UNIVERSAL 40551 \$34.95.

Solution laserdisc? You betcha. A really good B&W movie can be very sharp, and a good laser transfer puts back the thrill that is robbed from these films when they are presented in scratchy, damaged, lowcontrast prints interrupted by commercials every 10 minutes. It's like stripping the paint off a mundane work of art and finding an original Rembrandt. And almost no film is more worthy of this "laser rediscovery experience" than Preston Sturges's hilarious, poignant look at the unfortunate of America through the eyes of a well-meaning filmmaker who wants to correct situations he doesn't yet understand. Universal's laserdisc release, crisp and clean, has great contrast and good sound for the era. All that and Veronica Lake, too.

PUCCINI: TOSCA (1992)

Catherine Malfitano, Placido Domingo, Ruggero Raimondi; RAI Chorus and Orchestra, Zubin Mehta conducting. Color;

ALTERNATE TAKES

In case yeu get through the first ten discs in a hurry or can't find some of them (or don't want some of them), I rank the following right behind those in my main list:

CASABLANCA. CLV edition. CRITERICN 73A \$49.95.

CLOSE ENCOUNTERS OF THE THIRD KIND. Letterbox CAV edition. CRITERICN 125 \$124.95.

EL MARIACHI. Letterbox edition. COLUMBIA TRISTAR 53616 \$49.95.

THE FALL OF THE ROMAN EMPIRE. Letterbox edition. IMAGE ENTERTAINMENT ID2130PF \$59.95.

GONE WITH THE WIND: 50TH ANNIVERSARY EDITION. CLV. MGM/UA ML101678 \$49.95.

THE MIGHTY DUCKS. WALT DISNEY 1585AS \$39.99.

PATTON. Letterbox edition. FOX VIDEO 1005-85 \$69.95.

PEYTON PLACE. Letterbox edition. FOX VIDEO 1855-85 \$69.95.

THE QUIET MAN: 40TH ANNIVERSARY EDITION. REPUBLIC LV23361 \$59.95.

RAIDERS OF THE LOST ARK. Letterbox edition. PARAMOUNT LV-1376-WS \$24.95.

one disc, two sides (CLV); digital stereo; chapter stops; subtitled. 115 minutes. TELDEC 4509-90212-6 \$44.95.

he film versions of operas and ballets on laserdisc offer better camera work and more variety in sets than recordings of the stage versions -in short, all the benefits of a movie-but have always presented one big drawback: lip-synching of the soundtrack. Even when the same performers are used, you can almost always tell that they aren't singing at the same time they're acting. The acoustics of the audio tracks are also likely to be at odds with the visuals on the screen. For this Tosca, however, the engineers found a way to plant tiny microphones in the performers' hair and set up audio and video links from the filming sites to a recording studio. That enabled them to have the singers actually singing and acting at the real locations Puccini specified while the chorus and orchestra performed in a studio blocks away. The result is opera/drama on a level not previously experienced. The dynamic cast proves worthy, and the video transfer, except for some difficulty with the orange/red hues in Act II, is state-of-the-art. The "sets" are opulent, the costumes luxurious. A sizzling performance for all time. Bravo!

20,000 LEAGUES UNDER THE SEA (1954)

Color; two discs, four sides (Nos. 1, 2, and 4 CLV, No. 3 CAV); digital stereo, surround; chapter stops: extensive supplements: closed-captioned; letterbox (2.35:1 aspect ratio). 127 minutes (feature). Rated G. WALT DISNEY 1587 CS \$59.95.

Jules Verne's classic adventure, offered especially for laserdisc fans in Disney's Exclusive Archive Collection. Presented in its original theatrical aspect ratio, the picture is admirably crisp and exceptionally clean, with gorgeous color. The original multichannel magnetic soundtracks have been most successfully remixed to Dolby Surround. The sound effects bring the battle with the giant squid right into the room! There's a wealth of extra material, live action and still-frame, including some animated sequences deleted from the final film. A whale of a tale!

THE WIZARD OF OZ (1939): 50TH ANNIVERSARY EDITION

Sepia and color; one disc, two sides (CLV): digital mono; chapter stops: closed-captioned: supplements. 101 minutes (feature), plus 18 minutes (supplements). MGM/UA 101656 \$34.95.

he yellow brick road has never been as colorful on video as it is in this carefully prepared anniversary edition of a family classic that seems destined to live forever. The opening is sepia and white, as in the original film, and once Dorothy leaves Kansas and opens that door to Oz the color is eye-popping. Several deleted numbers, a theatrical-reissue trailer, and scenes from the 1939 Academy Awards are icing on a colorful cake. There have been other disc releases of this film, including MGM/UA's recent CAV "Ultimate Oz" THX edition, but this one seems to constitute the greatest value for the dollar.

Rad Bennett *is editor and publisher of* The Laser Disc Gazette, *a review newsletter for laserdiscs and CD's*. "I got the take home size."

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STRENGTH OF EXPERIENCE

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SHOWSTOPPERS

Okay, at \$30,000 Snell's THX-approved Music and Cinema Reference system is certainly not cheap-but it is state-of-the-art. It includes two 5-foot-tall Reference Towers with nine-driver arrays, the 23-inch-wide Reference 2800 LCR center-channel speaker, two 7-foot-tall SUR 2800 dipolar surround speakers, and a pair of 45-inch-tall SUB 1800 subwoofers, each of which uses a custom-designed 18-inch driver to achieve earth-shaking response down to 17 Hz. All cabinetry is wood venser.





Pioneer's PD-F100 100-disc CD changer (\$715) is the least expensive jumbo changer you can buy. Its four-drawer front-loading design is extremely practical, and it's not a space hog (dimensions are 16½ x 7 x 13½ inches). Each drawer holds up to twenty-five CD's, and discs can be grouped into three categories, such as jazz, classical, and rock.

A milestone in power-amplifier technology, Carver's Linktstar Reference amplifier (\$3,000) is designed to eliminate the problems associated with driving reactive speaker loads. Instead of fighting the electrical peculiarities presented by speakers, it recycles reactive energy to keep its output strong and clean. Rated to deliver 300 watts per channel into 8 onms, it will be available in May.







Looking more five an Intergalactic blender than a car subwoofer. Phoenix Gold's MDU 10 Cyclone (\$750) seeks to overcome the performance limitations of conventional cone subwoofers by using a DC motor and a "rotary radiator" to move air. Due to hit stores in June, the Cyclone is rated to play down to 20 Hz and to handle 600 watts a cominuous power.

RCЛ

Arguably the most technically advanced autosound system on the planet, Pioneer's Optical **Digital Reference system** (\$2,400 and up) offers a choice of fifteen components, including a pair of integrated amplifiers featuring fiber-optic inputs and a DSP section that performs parametric EQ, crossover, and time-alignment functions. The system can be controlled by an in-dash CD or cassette controller/tuner (CD version shown with supplied remote control).

TRACK 10

TIME 003



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Promising 150 channels with excellent sound and picture quality, the nation's first digital direct-broadcast satellite system should be operational in some parts of the country in a few weeks. To tune in, you'll need RCA's DSS package (\$699)—an 18-inch satellite dish, a decoder/receiver, and a universal remote control. Users can sign up for programming packages from Direct TV and USSB.



In order to reproduce the bass that sometimes shows up in the surround channel of movle soundtracks—something many surround speakers are designed not to do—Energy's RVSS speaker (\$550 a pair) functions as a dipole radiator only above 500 Hz. Below that point, its front and back drivers operate *in* phase to preserve bass output. The 10-inch-tall speaker is finished in black ash.

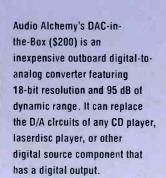
STEREO REVIEW APRIL 1994 83

SHOWSTOPPERS

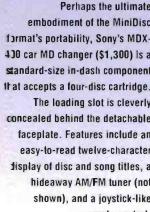
Aside from being fairly compact and lightweight (32 pounds), Sharp's fourth-generation XV-**S80U LCD video projector** (\$11,500) reaches new heights In LCD picture quality. Designed to be placed on a table or mounted on the ceiling, it can deliver 560 lines of horizontal resolution, has a built-in line doubler and speaker (for portable use), and is able to project images measuring from 25 to 200 inches diagonally. A wireless remote is included.

Proceed's elegant PAV preamplifier (\$4,195) features a refreshingly intuitive control panel, THX-enhanced Dolby Pro Logic processing, a Stereo Surround mode for music, six audio and four A/V inputs, a learning remote control, and three outputs, one of which can feed a secondary zone.

audioAlchemy



Perhaps the ultimate embodiment of the MiniDisc format's portability, Sony's MDX-430 car MD changer (\$1,300) is a standard-size in-dash component It at accepts a four-disc cartridge. The loading slot is cleverly concealed behind the detachable faceplate. Features include an easy-to-read twelve-character fisplay of disc and song titles, a hideaway AM/FM tuner (not shown), and a joystick-like remote control.









DAC-in-the-Box





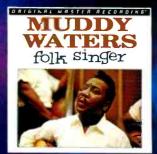
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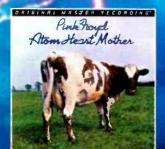




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STEREO REVIEW'S CRITICS CHOOSE THE OUTSTANDING CURRENT RELEASES

Bonnie Raitt: Digging Up the Truth

nybody expecting a reprise of "Nick of Time" or "Luck of the Draw" from Bonnie Raitt will be surprised by "Longing in Their Hearts," which finds her in an overall more reflective mood. The new album's opener, Tom Snow and Jimmy Scott's Love Sneakin' Up on You, works the snaky R&B groove that Raitt has mined so successfully her entire career, and so does her own Feeling of Falling, which mixes a scene of sex on the hood of a car with the more serious subject of substance abuse. But most of the record addresses romantic and psychological yearning in carefully crafted ballads set to the tempo of tears.

From Richard Thompson's sad, gorgeous Dimming of the Day to her own Circle Dance, which seems at once a bittersweet love song to her father and a one-sided analysis of an often rocky romantic relationship, Raitt aims at uncovering long-buried emotional truths here. This album may be closer to the bone than her last two, then, and it is largely more interesting lyrically than musically despite producer Don Was's frequent use of such ear-catching instruments as mutant oud and Celtic bass drum, and despite guest appearances by Levon Helm, David Crosby, Richard Thompson, Benmont Tench, and harmonica legend Charlie Musselwhite

In most of the songs, Raitt seems less pop star than spiritual searcher. In that context, her burning slide guitar functions as more than exquisite instrumental texture—it's practically a metaphor for the sound of a heart cracking open, possibly beyond repair. "Longing in Their Hearts" may not pack the big pop megahits of "Nick of Time" and "Luck of the Draw," but it sounds as if Raitt's punching a more important clock these days. *Alanna Nash*

BONNIE RAITT Longing in Their Hearts

Love Sneakin' Up on You; Longing in Their Hearts; You: Cool, Clear Water; Circle Dance; I Sho Do; Dimming of the Day; Feeling of Falling; Steal Your Heart Away; Storm Warning; Hell to Pay; Shadow of Doubt CAPITOL 81427 (55 min)



Frederic Chiu's Refreshing Mendelssohn

Some new recordings are especially welcome for getting us interested in music we hadn't known well (or at all), and some for reviving our interest in works we have perhaps known all too well. Frederic Chiu does a bit of both on his enticing new Harmonia Mundi CD of Mendelssohn's piano works, making the strongest of cases for the three seldom-heard sonatas and a remarkably refreshing one for the familiar *Rondo Capriccioso* in E Major.

All of these are early works, even though the Second and Third Sonatas are labeled Opp. 105 and 106. Mendelssohn composed the Third Sonata, actually the latest of the four pieces here, at the age of eighteen, by which time he already had the masterly String Octet and the *Midsummer Night's Dream* overture behind him. He did not himself assign Op. 106 to his Third Sonata—the same number Beethoven gave his so-called "Hammerklavier" Sonata—but he did write the work in the same key (B-flat Major) and opened it with a clear enough reference

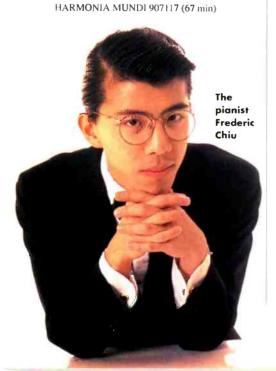


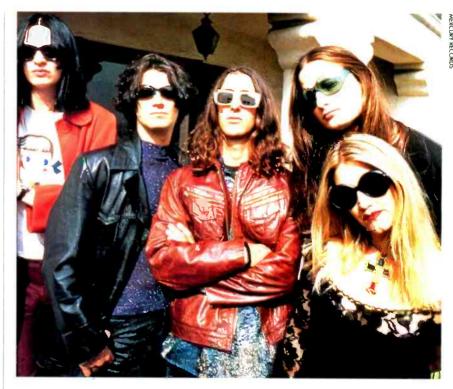
to the famous opening of the Beethoven work. Whether a conscious memorial gesture or not (it was composed in the year of Beethoven's death), it also contains some less obvious echoes of other Beethoven works. There are similar citations and echoes in the Sonata in E Major, Op. 6, composed the previous year. The Sonata in G Minor, Op. 105, the work of a brilliant twelve-year-old, lacks references to Beethoven but is quite at home with the later pieces on this disc.

Mendelssohn's biographer Philip Radcliffe felt that the *Rondo Capriccioso*, composed in 1824 at the age of fifteen, was his "most individual work" up to that time. It has been, along with some of the *Songs Without Words*, among the most favored of his solo pieces—and no wonder, for it has that deliciously "elfin" quality that was to inform so many of the greatest works of his maturity.

I cannot imagine more effective advocacy for any of these works. Chiu makes his enthusiasm for them clear in his notes for the CD, and it is brilliantly evident in his absolutely wonderful playing, which, like the music itself, is instinctively elegant, charged with exhilarating vitality and at the same time unfailingly tasteful. This is the way to play this music, and the warm-textured realism achieved by the engineering team is surely the way to record a piano. *Richard Freed*

MENDELSSOHN: Piano Sonatas Nos. 1-3; Rondo Capriccioso Frederic Chiu





Redd Kross: Air Guitar Music That's Not for Airheads

emember the early Seventies? When the New York Dolls, Sparks, Mott the Hoople, and a few others proved that rock-with-brains and entertainment weren't mutually exclusive concepts? Well, here in the Nineties Redd Kross is the standardbearer for that heady (if lately unfashionable) buzz. Led by Pat and Jeffrey McDonald (brothers who have been recording under various guises since 1980 and are still only in their mid-twenties), Redd Kross is bratty Beatles, Led Zeppelin with a marshmallow-creme center, a group of power-poppers with a metal plate in their heads. Their new album. "Phaseshifter," is pure ambrosiathe guitars crunch, the tunes kick, and you find yourself wanting to hum and mosh at the same time.

Guitarist Jeffrey McDonald uncannily evokes early John Lennon when he opens his mouth to sing, especially on the exhilarating Lady in the Front Row, a raver about a starstruck fan that wouldn't have been out of place on "Beatles '65." And "Phaseshifter" is composed of many such moments: Dumb Angel, a steady-rolling tune that bops along to a Zombies-style electric piano; Huge Wonder, with its superb musique-concrete intro and simmering riffs; Visionary, a power-tooled slab of neo-psychedelia that could have come from a late-Sixties biker-flick soundtrack.

These guys have learned their lessons well and applied them with the kind of wit and diligence that puts most of their contemporaries to shame. Above all, they're aware of the rock continuum and their place in it. Maybe they're just too clever for the charts in the Beavis and Butt-Head era, but in my opinion "Phaseshifter" is the smartest blast of affectionately derivative pop whimsicality since XTC masqueraded as the Dukes of Stratosphear. And it rocks like crazy.

Parke Puterbaugh

REDD KROSS Phaseshifter

Jimmy's Fantasy; Lady in the Front Row; Monolith; Crazy World; Dumb Angel; Huge Wonder; Visionary; Pay for Love; Lady Evans; Only a Girl; Saragon; After School Special THIS WAY UP/MERCURY 314 518 167 (44 min)

BEST OF MONTH

A Classic Mahler Fifth

verall, the most satisfying performance of the Mahler Fifth Symphony yet to come my way is Claudio Abbado's new one with the Berlin Philharmonic. He does a near-miraculous job of integrating every aspect of this huge work: the dramatic, the lyrical, the coloristic, and, above all, the polyphonic that dominates the complex outer movements.

The opening trumpet summons us to the funeral march in awesomely imperious fashion, and thereby sets the tone for all that follows. The drama in the music is given the fullest possible expression short of a lapse into hysteria. Abbado's command of internal detail is breathtaking, yet details are not allowed to obscure the musical texture as a whole. His approach is more Classical than Late-Romantic, yet it never seems excessively analytical.

Nowhere is Abbado's conception of



Conductor Claudio Abbado

NOW ON C

POPULAR

THE BLUES WORLD OF LITTLE

WALTER. DELMARK 648. Fifties recordings by the blues harp master (pre-dating his Chess hits and featuring Muddy Waters on guitar), collected together for the first time.

•THE KINGBEES: 1 & 2.

SCHOOLKIDS 1505. Pioneering neorockabilly albums from a seminal L.A. band, originally released on RSO in 1980 and 1981.

• MODERN JAZZ QUARTET: Blues at Carnegie Hall. MOBILE FIDELITY 596. Audiophile gold-disc pressing of the MJQ's legendary 1966 Carnegie Hall concert, engineered by the legendary Tom Dowd.

•THE NEW LOST CITY RAMBLERS: Volume II, 1963-1973, Out Standing in Their Field.

SMITHSONIAN FOLKWAYS 40040. Twentyseven tracks by the premier traditionalist bluegrass act of the Sixties folk movement.

CLASSICAL

• GOULD: Fall River Legend, Suite; Interplay; Latin-American Symphonette; Declaration Suite. RCA 61651. Morton Gould and his Orchestra

the work more apparent than in his handling of the famous adagietto, the next to last movement. In recent years its basic tempo has been a subject for controversy, with Bruno Walter's recordings at the fast end of the spectrum, Leonard Bernstein's at the slow end. Abbado takes a middle course, and it works beautifully, especially given the warmth of the Berlin Philharmonic strings. I've never heard the opening bars emerge so imperceptibly from the very brief pause following the fantastical and kaleidescopically varied 17-minute scherzo that is the symphony's centerpiece. in the suite from his ballet *Fall River Legend* and two other works recorded in 1960, and Howard Mitchell with the National Symphony in a 1957 recording of excerpts from Gould's "symphonic narrative" of America's Declaration of Independence.

·ROSTROPOVICH LIVE.

Rostropovich, Rozhdestvensky. RUSSIAN DISC 11 104. Concert recordings in the Great Hall of the Moscow Conservatory in 1964 of the great cellist in his prime playing the Elgar concerto and works by Milhaud and Respighi. Gennadi Rozhdestvensky conducts.

·SPANISH ORCHESTRAL

FAVORITES. Arbós. VAI AUDIO 1046. Enrique Femández Arbós, conductor of the Madrid Symphony from 1904 until the Civil War in 1936, is heard with his orchestra in these authoritative 1920's recordings of pieces hy Falla, Granados, Turina, Albéniz, and others.

•WAGNER: Die Walküre, Act III.

Varnay, Rysanek, S. Björling; Karajan. EMI 64704. Astrid Varnay (Brunnhilde) and Leonie Rysanek (Sieglinde) are joined by Sigurd Björling as Wotan in this stirring 1951 Bayreuth performance conducted by a newcorrer named Herbert von Karajan.

As live recordings go, this one stands up to the competition in fine style and certainly conveys the excitement of the occasion. While I am less than partial to the inclusion of applause in such recordings, I was carried along with the Berlin audience after the heady exhilaration of the symphony's final pages. Indeed, I am still applauding. David Halt

MAHLER:

Symphony No. 5 Berlin Philharmonic, Abbado DEUTSCHE GRAMMOPHON 437 789 (69 min)

POPULAR MUSIC

NEW RECORDINGS REVIEWED BY CHRIS ALBERTSON. FRANCIS DAVIS, PHYL GARLAND. RON GIVENS, ROY HEMMING, ALANNA NASH, PARKE PUTERBAUGH, AND STEVE SIMELS



seeds

PAT ALGER Seeds SUGAR HILL 1041 (44 min) Performance: For your quiet moments **Recording: Good**

inger/songwriter Pat Alger is best Sknown for writing a passel of hits for Garth Brooks, Kathy Mattea, and Trisha Yearwood, all of whom join him for background harmonies on "Seeds," his second solo album of the Nineties. As he reprises several of the songs others made famous. Alger bears more stylistic comparisons to the low-key Don Williams, for whom he's also written, than the bombastic Brooks, framing his songs in mostly acoustic, coffeehouse arrangements with little razzledazzle in either the backing instruments or voices. Much of Alger's work features a soft-sell spiritual context, posing questions about why we're here and offering philosophical advice on how to better navigate life's storms. At the least, the more familiar material demonstrates how a songwriter hears a tune before another performer takes it to a larger audience, puffing it up or paring it down along the way. A.N.

JEFF BUCKLEY Live at Sin-é COLUMBIA 77296 (27 min) Performance: Astonishing **Recording: Good**

ere's a prime example of someone who's singing solely because the spirit moves him. This is not the kind of music that makes bank accounts fatter; it's an artistry that's indulged (occasionally) by record companies and devoured by a faithful few who have fallen under its spell. So it was with the late Tim Buckley; so it will be with Jeff Buckley (his son). Jeff's main instrument is his voice, which swoops, soars, pounces cat-like, feints, and dodges, extending syllables into a wordless wilderness of pure expression. He seems a little earthier than his father, with a touch more blues

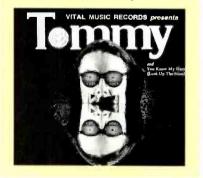
to complement his extemporaneous jazzfolk wanderings. Imagine a cross between dad and Robert Plant-it's not as improbable as it sounds. Buckley accompanies himself on minimalist electric guitar, punctuating his soliloquies with jagged chords and flinty rhythms as he scats himself into trances. Two songs on this debut EP are originals (Mojo Pin and Eternal Life), and two are covers, including a 10-minute takeoff on Van Morrison's The Way Young Lovers Do. Buckley demonstrates considerable conviction and bristling originality in this captivatingly raw live set. A full-length album is forthcoming. Stay tuned. PΡ

SHAWN CAMP REPRISE 45450 (33 min) Performance: Hit bound Recording: Very good

Newcomer Shawn Camp doesn't have the requisite country music name----"Shawn" doesn't exactly sound down-home, and "Camp" raises folky expectations-but

TOMMY IN 7 MINUTES!

eports of the death of analog vinyl continue to be greatly exaggerated. Case in point: the just-released old-fashioned vinyl 45 "Tommy in Seven Minutes." Talk about truth in advertising-here twelve underground New York City bands reduce Pete Townshend's ubiquitous rock opera to its breathless essentials (sorry, no Pinball Wizard), and a more glorious racket we've rarely heard. Pick hits: Iron Prostate's pummeling of I'm Free, the Lunachicks' rewrite of Acid Queen as Kraft Macaroni & Cheese Queen. Hilarious and brilliant. [\$4 postpaid, from Vital Music Records, P.O. Box 20247, New York, NY 10028-0052.] SS





that's about the only thing out of sync here. For starters, the Arkansas native paid his dues playing guitar in the touring bands of Alan Jackson and Trisha Yearwood. And he looks like a first cousin to John Anderson with a similar way of wrapping an ornery baritone around his Southern words and a pleasingly twisted sense of humor. But Camp's repertoire reaches farther than Anderson's-he veers from country-rock to honky-tonk to bluegrass to boogie-and he co-writes the bulk of his material. At times, he integrates a kind of Sixties pop tunefulness into his songs of romantic tension (Confessin' My Love) and laments of agonized love (Bound to Cry). But he never sacrifices his honest hillbilly sound.

Even though his style harks back to other tried-and-true performers (the infectious A Little Bit of Love sports a Buck Owens chorus), Camp displays a true gift for inventiveness, both melodically and instrumentally, in his guitar, fiddle, and dobro touches. And he had the good taste to hire James Burton on electric guitar and to stack his backing choir with Shelby Lynne, Alison Krauss, and Jim Lauderdale. This debut is so sparkling that it's impossible to listen to it and not break into a spontaneous grin. Bottom line: Make room for a star. A.N.

> CROWDED HOUSE **Together Alone** CAPITOL 27048 (52 min) Performance: Strong **Recording: Superb**

n the beginning, Crowded House seemed a light, melodious group of Aussie poppranksters who'd descended on Los Angeles to have a little fun. That perception earned them a following with their first album (and the hit Don't Dream It's Over), but they've since proven considerably more serious-minded, with each successive album plumbing the darker side of romance and things that go bump in the night. In the world of singer, guitarist, and chief songwriter Neil Finn, love is an existential wilderness whose daunting vastness conjures astronomical metaphors in songs like *Distant Sun, Private Universe*, and *Nails in My Feet*, with the line, "I look into space / There is no connection / A million points of light and a conversation I can't face"). But strange and wonderful things can still happen in this imperfect world, and *Nails in My Feet* moves from wariness to surrender to rhapsody as the singer opens the doors of his heart to another.

Musically, the album is wonderfully rich and full, incorporating a troupe of log drummers, a Maori choir, and a brass band into the lush, bracing popscape. For the sheer exhilaration of hearing a well-crafted tune, it's hard to beat Pineapple Head, with its gorgeous, clarion twelve-string hook; Kare Kare, a beguilingly mystical song with Byrds-like harmonies; and Walking On the Spot, whose sweetly haunting melancholy recalls R.E.M.'s "Automatic for the People." There's a case to be made for genetics, based on the overall excellence and similarity between this latest Crowded House disc and "Before & After," the recent album by Tim Finn (Neil's brother). Both albums are, to my thinking, well-nigh PP indispensable.

LEMONHEADS Come On Feel the Lemonheads ATLANTIC 82537 (54 min) Performance: Pop with feeling Recording: Appropriately low-fi

Evan Dando, guitarist, singer, and songwriter for Boston's Lemonheads, understands the basic premise of power-pop, the way it combines the dynamics of rock with pop's melodious and often playful transmutation of feelings-into-music. It's an unbeatable combination when it works, and in the hands of Dando and the Lemonheads, it works superbly.

Dando tips his hand about what makes it all tick in Dawn Can't Decide, an off-thecuff set of lyrics about a none-too-special day-in-the-life: "Feels good to be Jesse on the inside today / 'cause a G minor morning was a D minor dawning and you strike the right chord in me." If you have to ask, "huh?" you're missing the point. It's all about feeling-pure, unretouched, and cast into music with a casual alchemy. Dando's guitar playing-filled with pretty chords and folkish strumming-and conversational midrange voice evoke wistful Eighties Brit acts like early Aztec Camera and Haircut One Hundred, and late-Sixties obscurity **Orpheus**

"Come On Feel the Lemonheads" dwells in the realm of feeling. There's *The Great Big No* (rejection), *Into Your Arms* (escape from loneliness), *Style* (rage and inner conflict), *Rest Assured* (desire), *Favorite T* (post-breakup melancholy), and the crown jewel in this collection, *It's About Time*. The words are scrambled but the feelings are palpable, radiant, and don't really demand elaboration. As modern society gets progressively more disconnected from itself, such rare gems of introspection deserve to be treasured all the more. *P.P.*

A Soul and Country Summit

Country music, it's sometimes said, is hillbilly soul. But as conservative country radio programmers encourage cookie-cutter artists and tame, if not bland performances, mainstream country music has in recent decades lost much of its angst. And one wonders—have Nashville's reigning superstars lost their soul?

The elegant answer comes in "Rhythm, Country & Blues," MCA's often astonishing pairing of country and R&B royalty in eleven duets of country, rock, and soul standards. In performances coaxed from them by producer Don Was (and one by Tony Brown), the country stars not only rise to the occasion but, with few exceptions, do a better job fleshing out the soul songs than the soul performers do with the country tunes.

Despite the occasional flat effort (the Chet Atkins/Allen Toussaint collaboration on Southern Nights never catches fire and the Natalie Cole/Reba McEntire rendition of Since I Fell for You is overly histrionic), the collection impresses with its overall quality and standout performances. Part of the magic lies in the matching of performers. The raspy-voiced pair Little Richard and Tanya Tucker turn the Eddie Cochran rave-up She's Something Else into more than just nostalgia, just as the equally full-tilt Patti LaBelle and Travis Tritt pack real power into When Something Is Wrong with My Baby.

Yet the most moving moments come from the most surprising combinations: AI Green and Lyle Lovett turn Willie Nelson's *Ain't It Funny How Time Slips Away* into the dark ramblings of a man on the edge, and Sam Moore and Conway Twitty reprise all of Brook Benton's sophisticated eloquence on *Rainy Night in Georgia*. The album's showstopper, however, is George Jones and B.B. King's reworking of Clarence Carter's 1970 hit *Patches*, a rural lad's call to manhood from the lips of his dying father. Producer Was does nothing to lift the song from its inherent melodrama—in fact, he enhances it with overblown majestic background voices and strings. But Jones's clenched-teeth voice of the fa-



ther, and King's urgent, cathartic reading of the boy's recollections, turns this into a truly transcendent performance. More than any other song here, *Patches* cuts through the differences in the cultures of blacks and whites to find the core of shared experience. Soul, it seems, whether black or white, urban or rural, knows no true domain but the heart. *Alanna Nash*

RHYTHM, COUNTRY & BLUES MCA 10965 (49 min)

songs (You Just Can't Play a Sad Song on a Banjo) that do their best to please, but end up being less grabby than "Stardust." The album is a mammoth change from Nelson's last record, the stunning "Across the Borderline," with a return to a stripped-down rhythm section (lead and rhythm guitars. bass, drums, fiddle, and piano) and Texasaccented arrangements featuring guitarist Freddy Powers and fiddler Johnny Gimble. That said, it's also most enjoyable, Nelson sounding so laid back he might have recorded the whole thing prostrate on a mattress. If "Borderline" was gritty modern realism, "Moonlight" is hearts and flowers and nostalgia. After all these years, it seems Nelson is still a complete romantic. Of course, he'd have to be, considering the way these songs work out: nearly every

WILLIE NELSON Moonlight Becomes You JUSTICE 1601 (47 min) Performance: Stardust memories? Recording: Okay

"Just like Stardust ... Moonlight Becomes You," the press release reads, praying hard that buyers will remember their affection for the 1977 album of Tin Pan Alley favorites that sold four million copies, introduced Willie Nelson to a pop audience, and showed the country-music fans they liked some of those old love songs after all. But instead of "Son of Stardust," this is more like "Nephew"

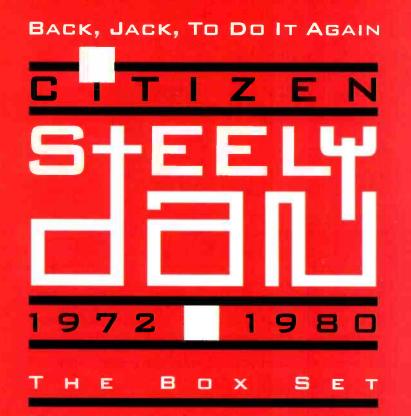
"Moonlight Becomes You" is an obviously low-budget collection of standards (Sentimental Journey, You Always Hurt the One You Love) and more contemporary



love affair alluded to on the album ends in failure. Apparently moonlight doesn't just become her—it also continues to raise hope in the heart of country's staunchest renegade. A.N.

MARK O'CONNOR Heroes WARNER BROS. 45257 (66 min) Performance: Smorgasbord Recording: Very good

Mark O'Connor, Nashville's session fiddler extraordinaire, has expanded into solo records the past few years, with notable results. This new album, a collection of genre-crossing, improvisational violin duets with his childhood heroes Charlie Daniels, Pinchas Zukerman, Vassar Clements, and Jean-Luc Ponty, is largely a delight. O'Connor, a wonderfully versatile musician, knows how to play in each of his idols' styles and still retain his own voice no small accomplishment. As for the program, standouts include the twin-fiddle jazz-rock fusion of *New Country*, with Jean-Luc Ponty, the Texas swing standard *Fiddlin' Around*, with Johnny Gimble, a goosebumpy-good *House of the Rising Sun*, with Vassar Clements, and an almost classical rendition of PBS's Civil War an-



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Mark O'Connor: fiddling around

them, Ashokan Farewell, with Pinchas Zukerman. O'Connor, who defers to his guests and uses their choice of backing musicians, is less successful pairing up with L. Shankar for some country-meets-Indian music. And his romp with jazz violinist Stephane Grappelli turns tedious only for the material (*This Can't Be Love/Ain't Misbehavin'*). As for his duet with the hamfisted guitarist Charlie Daniels—well, let's just say you won't have any trouble telling them apart. A.N.

RAMONES Acid Eaters RADIOACTIVE/MCA 10913 (31 min) Performance: Bummer Recording: Okay

A cid Eaters" is such a bad trip that if the Ramones were Merry Pranksters, Ken Kesey would have kicked 'em off the bus. The album fails to achieve psychedelic liftoff for a number of reasons. For starters, the song selection is vapid and obvious, betraying what seems to be a limited knowledge of the acid/garage/psych-punk genre. Really, now-what are mainstream rockers like Have You Ever Seen the Rain and Surf City doing here? Where are the Thirteenth Floor Elevators, Sonics, and Remains covers that would have so much better suited the group's pedigree? The band Ramonesizes everything in their punk steamroller style, which does little to bring out hidden facets in songs like Somebody to Love and My Back Pages. Finally, Joey Ramone rather slavishly mimics the phrasing of the originals, which renders their version of the Seeds' Can't Seem to Make You Mine, for example, utterly redundant. The only song that seems tailor-made for the Ramones' combustible minimalism is Love's 7 and 7 Is. The rest is a kind of unintentional Cheech & Chong burlesque of the Sixties-*P.P.* without punchlines.

POPULAR MUSIC

RANCH ROMANCE Flip City SUGAR HILL 3813 (48 min) Performance: Art house chic Recording: Good

eattle-based Ranch Romance-four Swild-and-crazy women and their earnest-minded straight man-plays an inventive twist of western-swing-meets-jazz that earns points for effort, if not always execution. With songwriter/guitarist/singer Jo Miller ("cowgirl diva" in the press release) holding the reins, the group excels at instrumental, structural, and style-switching surprises-languid accordion solos feeding into energetic bluegrass-fiddle romps-and at times off-kilter lyrical jaunts. Wheatfield Annie, for instance, which blends strains of jazz, rock, New Orleans, and Cajun music, sounds like a mini-biography of k.d. lang-Annie's an outrageous eccentric who keeps her small town abuzz ("Get out of the wheatfield Annie / You been going against the grain"). And Yes, Yes, Yes delivers a caustically funny look at love and marriage. Some of this sounds like contrived zaniness, and some of it peters out musically. But there's enough spice to Ranch Romance's shtick that k.d. lang herself invited them to open for her on tour. "Flip City" will keep your head spinning and your toe tapping-on the ranch, in the trailer park, or in suburban condos coast-to-coast. A.N.



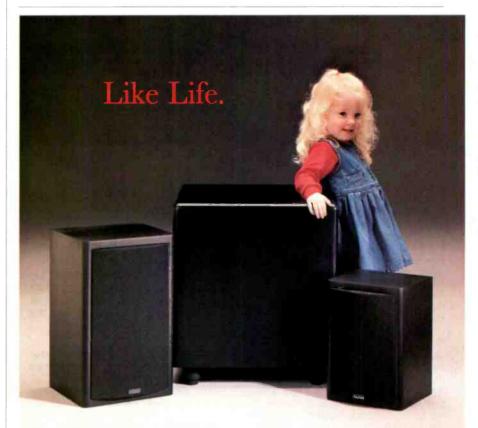
TONY RICE Plays and Sings Bluegrass ROUNDER 0253 (41 min) Performance: Classic bluegrass Recording: Good

Tony Rice has long been one of bluegrass music's most influential pickers, his distinctive guitar runs, soulful flat-picking solos, and progressive chording techniques setting him apart from his early days with J. D. Crowe and the New South. This album, the first since 1977 to carry Rice's name only, finds him recasting the bluegrass classics of the Fifties and Sixties to excellent effect-only Bob Dylan's Girl from the North Country, with its souped-up tempo, suffers from a 'grassy adaptation. Rice's sidemen-his old friends Vassar Clements on fiddle and Jerry Douglas on dobro-are first-rate. But Rice, who delivers his less-than-commanding vocals with all the verve of a 100-watt light bulb, is also capable of a more emotionally moving album of contemporary material à la his 1984 release "Cold on the Shoulder." Until he's ready to plow that earth again, this is a fine way to get reacquainted with the music of Hylo Brown, Bill Monroe, Flatt and Scruggs, and the Country Gentlemen. No extra charge for the hot licks. A.N.

TEENAGE FANCLUB Thirteen DGC 24533 (70 min) Performance: Too long Recording: Good

"In thirteen" is a gilded lily of a record. The musical equivalent of a run-on sentence, it just goes on and on, a numbing movie-length CD that ought to have been edited down to LP size. Part of the problem with Teenage Fanclub is that they remain overly derivative—they've got Big Star written all over them (even the title of the disc is that of a Big Star song). But they haven't yet learned how to say their piece with that band's taut economy, and as musicians they're still a little wet behind the ears. Of course, great musicianship has never guaranteed good music, but Teenage Fanclub has yet to devise an approach that is so totally theirs that the question of how well they play becomes moot.

At best, the album is a pleasant distraction, its even surface broken by the occasional standout track: the George-Harrison-



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POPULAR MUSIC

by-way-of-Badfinger slide-guitar heartbreak of The Cabbage: the cushiony, ethereal Fear of Flving; the welcome dance instrumental Get Funky, however ironically intended; and the precariously slow, Neil Young and Crazy Horse-style ode to the late Gene Clark. In addition to the thirteen listed tracks, there's an acoustic set tagged onto the end, the highlight of which is a version of Phil Ochs's Chords of Fame. As with everything they do, however, it shows terrific taste in influences but not much in the way of originality. On the other hand, better a well-meaning Big Star clone than. say, Stone Temple Pilots. P.P

Collections

RIG ROCK TRUCKSTOP DIESEL ONLY/FRUIT OF THE TUNE 999 (60 min)

Performance: For the hippest truckers Recording: Good enough for jukeboxes

Fresh on the tire marks of last year's "Rig Rock Jukebox," this second collection of experimental country, country-rock, and country-blues-punk-jazz brings back many of the acts that made the first batch so irresistible, namely the World Famous Blue Jays, Angel Dean & the Zephyrs. Courtney & Western, and the Five Chinese Brothers. Most of these bands frequent New York clubs rather than Nashville or L.A. watering holes, so they have no Old Guard to please, no lyric or instrumental formula to follow, and no toes they can't step on (witness Will Rigby's hilarious Ricky Skaggs Tonight, in which he has his evil way with the holier-than-thou picker/singer to Jew's Harp accompaniment).

Not everybody here is ready for prime time exposure-not even in the front cab of an eighteen-wheeler or in a roadside jukebox-but several of these acts could charm the Fruehauf logo from its rearside home: Angel Dean is a truck-stop angel if there ever was one, the Wheelers & Dealers turn out tongue-in-cheek cheatin' songs to die for (Out of the Frying Pan [Into Desire]), and the World Famous Blue Jays amply prove why they deserve their name. If your taste in country runs along the lines of, "She smells as good as the inside of a new Corvette," these twenty tracks should more than race your motor. A.N.

Teenage Fanclub: wet behind the ears?

Ba-Da-Boom, Ba-Da-Bing!!



A t last! Although Bing Crosby ranks with Sinatra and Presley among the most influential American male pop singers of the past century,

he's not been well represented on CD-until now. MCA's four-disc "Bing Crosby: His Legendary Years 1931-1957" collects 101 tracks that provide a fascinating history of mainstream American pop music from the Thirties to the mid Fifties. Of course, extensive as it is, this handsomely-boxed set includes only a fraction of the Crosby recordings in the vaults, but it's an extremely well-chosen set-duets with Connee Boswell, Judy Garland, Louis Armstrong-and it offers essentially the crème de la crème. Will Friedwald's perceptively analytical and ungushy notes are supplemented by a first-rate discography. Let's hope MCA matches this with a Volume Two-and maybe even Three and Four. R.H.

THE WORLD IS A WONDERFUL PLACE: THE SONGS OF RICHARD THOMPSON

GREEN LINNET 3086 (75 min) Performance: Hearty Recording: Good

Compilations by homage-minded singers Operforming the works of a singular cult artist are always risky ventures. The danger is that the cover performers will deliver a note-for-note rendition, which makes the listener wonder why they bothered.

The songs of Richard Thompson fare



better than most in this circumstance, in part because the majority of artists involved-who hail from both Britain and America-largely avoid that pitfall. There's some deadly dull stuff here, as the singers select from Thompson's entire catalog, no matter how old. But there are also some highly spirited-and spiritual-performances, particularly Christine Collister's version of How Will I Ever Be Simple Again, Ian Kearey and Ivor Cutler's Wheely Down, Victoria Williams's Reckless Kind. and Sally Barker's I Misunderstood. Give Men and Volts credit for picking Love Is Bad for Business, which in this case of well-placed idolatry shouldn't be. A.N.



KENNY BARRON Other Places VERVE 699 (67 min) Performance: Robust Recording: Very good

Dianist Keny Barron's approach to jazz is always a delight. There are no tinkles, no well-worn clusters-just straightahead jazz that swings with imagination. On his latest release, "Other Places," Barron leads a formidable sextet that has saxophonist Ralph Moore and vibist Bobby Hutcherson up front, with bassist Rufus Reid and percussionists Victor Lewis and Mino Cinelu laying down the foundation. It's a combination that works very well throughout. Highlights include a lovely, introspective duet with Hutcherson and a wonderful reading of I Should Care, for which Mr. Barron's sole accompanist is bassist Reid. A terrific album. C.A.

RODNEY KENDRICK The Secrets of Rodney Kendrick VERVE 582 (60 min) Performance: On target Recording: Very good

The notes alone are worth the price of Rodney Kendrick's debut album, but that's because they are in hilarious, badly translated English. Fortunately, the music is quite another matter. Kendrick's early keyboard experience was mostly with pop groups, but four years spent studying with Barry Harris, a lot of gigging around in New York, and a stint with Abbey Lincoln clearly prepared him for the complexities of jazz. Here he leads a fine group of musicians through a program that is as varied in mood as it is in tempo. Trumpeters Roy Hargrove and Graham Haynes (drummer Roy's son, who actually plays the cornet) are unpredictable sparks that light up more than one track, Kenny Garrett's alto is slithery and articulate, and Houston Person's tenor is particularly expressive on the ballads Sharon and Down Here Below. Bassist Tarus Mateen is appropriately chameleonic in this diverse mix, and Kendrick gives a series of impressive performances. I don't know what the cryptic title alludes to, but if Rodney Kendrick has secrets, one of them is obviously talent. C.A.

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POPULAR MUSIC

ABBEY LINCOLN When There Is Love VERVE 96972 (64 min) Performance: Exquisite Recording: Very good

aving followed Abbey Lincoln's career for about thirty-five years, I am delighted to see that she is finally getting the recognition that has always been due her. (I still think that her considerable acting talent is being neglected, but at least she's recording again.) Her latest effort, following last year's "Devil's Got Your Tongue," is a marvelously intimate collaboration with pianist Hank Jones, a delightful 64-minute set that is largely devoted to love songs. As Ms. Lincoln notes, the choice of material delib-



erately contrasts with some of her previous albums, which tended to reflect a somber outlook on life.

There are not many genuine jazz singers on the scene today, so, with screaming wannabes and listless imitators captivating an increasingly indiscriminate audience, Abbey Lincoln becomes even more valuable to the music. As for Hank Jones—well, they don't come any better. This is a perfect match, and another triumph for an artist who deserves all her recent accolades. *C.A.*

STANLEY TURRENTINE If I Could MUSICMASTERS JAZZ 65103 (55 min)

Performance: Robust Recording: Very good

ike so many vigorous tenors, Stanley Turrentine soaked his reeds in R&B before making the jazz scene. He played with Ray Charles and Earl Bostic in the early Fifties, entered the Sixties with Max Roach, and enjoyed considerable success during the decade as he teamed up with his wife, organist Shirley Scott. In recent years, Turrentine has continued to demonstrate his solid grasp of bop and his ability to lean in a number of related directions. His new album, "If I Could," clearly proves that he can do just about anything the occasion calls for. For openers, he bops merrily along with Hubert Laws, Ron Carter, Roland Hanna, and Grady Tate. Then Don Sebesky and a string section place him in a more romantic context, where he also thrives. Hard-core jazz people may still frown on strings, but Turrentine's work on I Remember Bill, Maybe September, and the title tune cries out for a whole album with a string section. C.A.



AUSTIN LOUNGE LIZARDS Paint Me on Velvet

FLYING FISH 70618 (36 min)

Here's a band that should appeal to the slightly wicked in us all, whether you appreciate bluegrass, country, swing, or reworked versions of *Purple People Eater*. The Austin Lounge Lizards prove their tongues are just as quick and flickery as their namesakes'. Who could resist a conic take on Baby Jessica, twisting the night away at the bottom of the well in Midland, Texas? Or the right-on sentiments of anyone who secretly plots to *Put the Oak Ridge Boys in the Slammer? A.N.*

JIM CENTORINO Ivory—A Tribute to the Endangered Species

WORLD DISC CDM 30 (53 min)

Composer/trumpeter/keyboardist Jim Centorino mixes animal calls and other sounds of nature with his music to create a dozen impressionistic pictures of the environments of wolves, whales, waterfowl, and other endangered creatures. The dramatic title track and the beautiful *Song of the Albatross* raise this above the level of merely pleasant light classical or New Age music. *William Livingstone*

EURYTHMICS Live 1983-1989

ARISTA 17704 (two CD's, 100 min)

The most annoying hit machine of the Eighties weighs in with a collection of live stuff as spontaneous, charming, and meaningful as this year's Super Bowl half-time show. Lead singer Annie Lennox, as usual, sounds unattractively insecure in her masculinity. S.S.

FEVER-THE BEST OF LITTLE WILLIE JOHN

RHINO 71511 (57 min)

Twenty long out-of-print tracks by the Fifties R&B singer who most clearly anticipated Sixties soul, including *Leave My Kitten Alone* (beloved of John Lennon) and the original hit version of *Fever*. A revelation. *S.S.*

THE LEGENDARY SY KLOPPS BLUES BAND Walter Ego

GUITAR RECORDINGS 99303 (43 min) Venerable blues standards performed, in not always flattering high-tech fashion, by a sort-of-supergroup including former members of Journey and the Tubes. I don't want to give away the identity of the band's pseudononymous lead singer, but here's a hint: his initials are Steve Miller. S.S.

BILL MORRISSEY Night Train PHILO 1154 (36 min)

The testosterone-heavy voice of New England folkie Bill Morrissey is nothing short of compelling, even when his songs bland out. And the surprise of this latest album is that too many of the tunes do exactly that. The only songs here that stick are *Birches*, a deftly drawn portrait of a still-hopeful wife and a dried-up husband, and the very funny *Letter from Heaven*, in which Abe Lincoln finally gets to see the end of the play and James Dean takes remedial driving lessons. *A.N.*

NKOTB

Face the Music

COLUMBIA 52969 (67 min)

The ploy: former teen idols New Kids on the Block initialize their old name, much as a certain fried chicken chain did a few years earlier. The result: they still don't sing as well as the Colonel. S.S.

HARRY SHEARER

It Must Have Been Something I Said RHINO 71217 (78 min)

Satirist Shearer (still perhaps best known for his role in *This Is Spinal Tap*) has been a Public Radio fixture since 1983, and this savagely funny album collects some of his most trenchant on-air bits. Instant classic: an interview with the only American transsexual held hostage during the Gulf War. S.S.

VOICES OF FORGOTTEN WORLDS Traditional Music of Indigenous People

ELLIPSIS ARTS 3250 (two CD's, 116 min) This package (a book is included) is an excellent introduction to the music of exotic cultures. A smorgasbord of musical tidbits from such peoples as the Ainu of Japan, Australian aborigines, Tuvans and Tibetans of Central Asia, and Native Americans, it's like a tantalizing travel folder hinting at the pleasures of multiculturalism. W.L.



WEBB WILDER AND THE BEATNECKS It Came From Nashville

WATERMELON 1018 (51 min) Wilder's brand of neo-country geek rock was ahead of its time when this 1985 album (here fleshed out with bonus tracks) was originally released, and in the age of Garth Brooks it still is. Pick hit: a great live cover of Steve Earle's anti-handgun parable *The Devil's Right Hand.* S.S.







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CLASSICAL MUSIC

NEW RECORDINGS DEVIEWED BY ROBERT ACKART. RICHARD FREED, DAVID HALL, GEORGE JELLINEK, ERIC SALZMAN, AND DAVID PATRICK STEARNS



CENSIA ST

J.S. BACH CHRISTOPHE ROUSSET



BACH: Partitas (BWV 825-830) Christophe Rousset (harpsichord) L'OISEAU-LYRE 440 217 (two CD's. 154 min) Performance: Breaks the mold **Recording: Vivid**

trong musical personalities aren't usual-Sly attracted to the harpsichord, but Christophe Rousset plays the Bach partitas with the sort of individuality that changes the way people think about music. For instance, the harpsichord sound favored today is increasingly creamy and focused; Rousset's restored French Baroque instrument is less well-mannered, and the effect is as bracing as it is beautiful. He plays with even greater deliberation than Gustav Leonhardt, he lingers over harmonic resolutions, and, in general, he takes a highly flexible approach to tempos-quite a refreshing change from the sewing-machine rhythms still common among early-music specialists. The ornaments and other fine details of the music never seem grafted on but emerge as integral parts of the whole.

Rousset makes some of the livelier movements dance, but that consideration seems clearly secondary to the expression of the moment. His playing has the sort of clarity and detail that Glenn Gould's had at his best, though without most of Gould's annoying idiosyncracies. Unless you have ironclad ideas about how this music should go, don't miss this CD. DPS

BRITTEN: Sinfonia da Requiem; Four Sea Interludes and Passacaglia; The Young Person's Guide to the Orchestra **PURCELL** (arr. Britten): Chacony

London Philharmonic, Slatkin RCA VICTOR 61226 (68 min) Performance: Mostly excellent **Recording: Resplendent**

eonard Slatkin comes through with a powerful account of the youthful and impassioned three-movement Sinfonia da

Requiem that Britten dedicated to the memory of his parents. Many traits of the later Britten reveal themselves in it, but the work stands handsomely on its own as a musical achievement. Slatkin secures playing of surpassing brilliance (the "Dies Irae" middle movement) and warmth (the "Lachrymosa" finale) from his London orchestra. The strings are richly lambent in the beautifully realized Purcell Chacony, and The Young Person's Guide to the Orchestra-illustrative variations on a tune from Purcell's Abdelazar-is given one of the most brilliant and gorgeously recorded performances that I have heard. I particularly like the way Slatkin keeps the Purcell theme surging forward in the introduction rather than allowing it to bog down in pomposity.

My one reservation has to do with Slat-

RISING STAR

arolyn Blackwell is known in operatic circles primarily for her spirited interpretations of light-soprano roles. When the Metropolitan Opera suddenly canceled the contract of Kathleen Battle in February, for example, Blackwell was asked to sing the title role in all of the performances this season of Donizetti's The Daughter of the Regiment.

Blackwell's musical interests are not limited to opera, however, and RCA Victor has signed her to a longterm contract. Her first solo album, "Strange Hurt," released in February, contains songs of Maury Yeston orchestrated by Jonathan Tunick and **Ricky lan Gordon's setting of poems** by Langston Hughes.



kin's very deliberate reading of the first two of the Sea Interludes and of the Passacaglia from Peter Grimes. His approach works, however, in the "Moonlight" interlude, where the extended pauses add an extra degree of poignancy, and the "Storm" episode is interesting for the way he concentrates on opening up the musical texture, thus avoiding the clotted effect in the low end of the orchestral spectrum found in many other recordings. The slow tempo of the Passacaglia, though, deprives this remarkable music of some of its relentless savagery. Taken as a whole, however, this is a splendid CD. DH

DOHNANYI: Serenade for String Trio **KODALY:** Serenade for Two Violins and Viola BARTOK: Sonata for Two Pianos and Percussion

Chamber Music Society of Lincoln Center

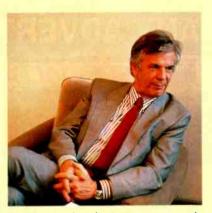
DELOS 3151 (67 min) Performance: Excellent Recording: Very good

For its debut on the Delos label, the Chamber Music Society of Lincoln Center has come up with a handsomely varied program featuring the between-the-wars "Big Three" of Hungarian music. Ernst von Dohnanyi (1877-1960) is the senior partner, and his C Major Serenade (1902) has for many years been a deservedly popular vehicle for string trio. With a touch of Brahms here and a tincture of Hungarian folk music there, its five movements feature unerringly effective writing for the three instruments, both solo and in combination.

The early output of Zoltan Kodaly (1882-1967) is highlighted by the lovely three-movement Serenade from 1919-1920, which instead of the standard violin, viola, and cello uses a pair of violins and a viola. There is no mistaking the Magyar content of the music, but what is most striking is the composer's masterly command of coloration, most notably in the violin-viola dialogue that dominates the central movement. The Dohnanyi serenade features violinist Joseph Silverstein, violist Paul Neubauer, and cellist Gary Hoffman, and in the Kodaly violinist Ani Kavafian partners Silverstein and Neubauer is again the violist. The performances are first-rate and beautifully recorded.

The real "meat" of the program is Bela Bartok's ingenious masterpiece from 1937. the Sonata for Two Pianos and Percussion. Even today it makes challenging and exhilarating listening-tough-minded in the opening movement, uncannily atmospheric

The Cleveland Orchestra at 75



The Cleveland Orchestra's current music director, Christoph von Dohnanyi

The Cleveland Orchestra, founded in 1918, turned seventy-five last year, and in celebration of that anniversary has brought out a set of ten compact discs containing performances conducted by all of its music directors, from the founding one, Nikolai Sokoloff, to today's Christoph von Dohnanyi. Of the twenty-five performances in the set, spanning the years 1928-1992, only five come from commercial recordings; all the others are from concerts the orchestra has given in Cleveland and on tour.

George Szell gets the lion's share of the set, four discs covering his entire

in the slow movement, and full of fun in the finale, with a touch of magic in the benedictory final chords of the fadeout coda. The intimate acoustic surround of the Delos recording, with every line precisely in place, conveys the essence of Bartok's special brand of polyphony. The performance is again first-rate, and the programming of the CD makes it a winner. D.H.

FITKIN: Hook; Mesh; Stub; Cud Ensemble Bash; Icebreaker; Delta Saxophone Quartet; John Harle Band

ARGO 440 216 (41 min) Performance: Exciting Recording: Jumps

This is a very exciting and hip record. Graham Fitkin, a young (thirty-not-evensomething) British composer, has his own quite engaging version of what used to be thought of as American minimalism: witty and easy on the outside, tough as steel underneath. It's all done with a catchy, insistent pop/jazz sound doled out in highly rhythmic blocks and layers. Fitkin is, among other things, a brilliant orchestrator—as is most obvious in the somewhat more traditional *Cud* (essentially a quirky big-band jazz piece) but also evident in the other, more original and personal pieces, restrained as they are in form and instrumentwenty-four-year tenure (1946-1970). In addition to the expected Mozart, Schumann, Wagner, and Strauss, there are works by Ravel, Prokofiev, and Mahler as well as two Sibelius symphonies---the seldom heard No. 3, from early in Szell's first season, and No. 2, from his very last concert, given in Tokyo two months before his death.

Sokoloff, a fine conductor too little remembered now, presided over the first fifteen seasons, during which the orchestra began recording (for Brunswick) and built its own home, Severance Hall. His 1928 recording of Rachmaninoff's Second Symphony was the first made of the work. His famous successor Artur Rodzinski, whose ten years established the orchestra as a major national entity, is represented by his first recording for Columbia, Rimsky-Korsakov's Scheherazade from 1939, and his memorable 1941 account of Shostakovich's First Symphony. The late Erich Leinsdorf, only thirty-one when he succeeded Rodzinski, receives a lovely memorial in the form of his own suite of preludes and interludes from Debussy's Pelléas et Mélisande, introduced in his final season and a collector's item on LP for years.

Pierre Boulez served as musical adviser for the two seasons between Szell's death and the arrival of Lorin

tation. Other consistent features here are the quality of the playing—mostly by the ensembles for which the music was written and of the recording. The level of excitement is remarkably sustained; the music jumps. E.S.

MENZE: Symphony No. 7; Barcarola per Grande Orchestra City of Birmingham Symphony. Rattle EMI 54762 (60 min) Performance: Bone-rattling Recording: Exciting

ans Werner Henze has been through М more stylistic changes than Madonna, but his musical language seems to be stabilizing into something that can be vaguely described as neo-Hindemith-full of motor rhythms and metallic, brass-dominated sonorities, and, particularly in the Seventh Symphony, using the tonality-based forms of the past without a tonality-based language. In fact, much of Henze's Seventh, which he admits was somewhat inspired by Beethoven's, seems like a Classical/Romantic symphony that's been put through a trash compactor and come out completely flattened. Much of it gives the impression of being harmonically static, the first movement sounding like the Die Walküre prelude with the contours smoothed out.

Maazel, His material here includes Prokofiev's Scythian Suite, works by Stravinsky and Messiaen, and his Columbia recording of Ravel's Daphnis and Chloé Suite No. 2. Maazel conducts Jacob Druckman's Windows, one of only two American works in the set, and is heard also in a slightly cut Tchaikovsky Manfred. Dohnanyi conducts the other American work, Carl Ruggles's Sun-treader, as well as Kurt Weill's Seven Deadly Sins (with Anja Silja), Mahler's Rückert lieder (with José van Dam), a fragment of a symphony Schubert sketched in his last year, Beethoven's Grosse Fuge, and a knockout performance of Brahms's G Minor Piano Quartet in Schoenberg's orchestral setting.

The sound quality, given the dates and sources, is understandably variable, but there is much to treasure here, and the documentation includes articles about each of the conductors published during the years they led the orchestra. *R.F.*

CLEVELAND ORCHESTRA

75th Anniversary Commemorative Set Ten CD's, available only from the orchestra, for \$180 plus shipping (\$16 to U.S. and Canadian addresses, \$30 to Europe). Order from Cleveland Orchestra, Severance Hall, Cleveland, OH 44106; telephone, 216-231-1111 or (toll-free) 1-800-686-1141.

However unattractive that may sound, the Seventh contains some of the more inviting music Henze has written and may be his greatest symphony yet. The second movement makes a particularly remarkable journey with its rarefied string effects, richly scored horn sextet in the middle, and many other lovely textures along the way. The final movement is downright sumptuousthe free use of dissonance suggests Henze may be picking up where Mahler's unfinished Tenth Symphony left off. The disc filler, the Barcarola, is more searching and discursive. Frankly, I don't get it. But it's so flamboyantly scored that I'll happily listen to it again and again until I do. D.P.S.

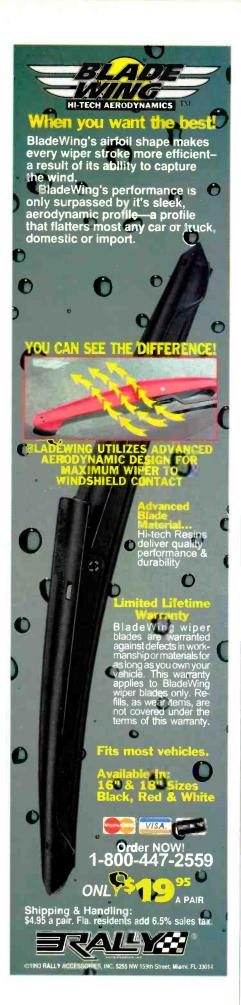
MENDELSSOHN: A Midsummer Night's Dream (excerpts); The First Walpurgis Night Soloists; Chorus; Chamber Orchestra of Europe, Harnoncourt

TELDEC 74882 (78 min) Performance: Scintillating Recording: First-rate

Not the least of the many virtues of this CD is the programming, which pairs two quite different treatments of fantastical subject matter. The usual recorded excerpts from the *Midsummer Night's Dream* music are the overture, scherzo, intermezzo, noc-







CLASSICAL MUSIĆ

turne, and Wedding March. Conductor Nikolaus Harnoncourt and his forces, including the Arnold Schoenberg Choir and the fifty young players of the Chamber Orchestra of Europe, flesh things out in this near-flawless live recording by adding the fairy chorus "You spotted snakes" and its spoken introduction, the orchestral Clowns' Dance, and the finale, including the lines for Oberon, Titania, and Puck. It all adds up to a very satisfying listening experience in which the spoken parts (in German) are beautifully blended and perfectly balanced with the music.

As for the music itself, the famous overture, played with a truly light touch, overflows with spontaneity and vigor, the intermezzo goes with mercurial swiftness and passion, and the scherzo is precise and elegant instead of a mere virtuoso showpiece. The nocturne may lack a certain languor, but the Wedding March, for a change, seems spirited rather than pompous.

Like the Midsummer Night's Dream music, Mendelssohn's setting of Goethe's poem The First Walpurgis Night began life in the composer's youth and reached its final form years later. There are lovely choruses, some nice solo passages for tenor Uwe Heilmann, contralto Birgit Remmert, bass René Pape, and baritone Thomas Hampson, and a highly amusing central episode in which the pagan revelers frighten away their Christian oppressors. Soloists, chorus, and orchestra perform with spirit and refinement in both works, enhanced by airy and well-balanced sonics. Highly recommended! D.H.

PART: Te Deum; Silouans Song; Magnificat; Berlin Mass

Estonian Philharmonic Chamber Choir; Tallinn Chamber Orchestra, Kaljuste ECM 1505 (64 min) Performance: Ethereal

Recording: Atmospheric

A roo Pärt writes atmospheric works that conjure up images of medieval churches and devout pilgrims praying for the deliverance of their souls—even in the *Te Deum* and *Magnificat*, which usually elicit a more joyful response from composers. Given ECM's churchy recording acoustic, this CD amounts to a highly reactionary musical statement, a severe and determined departure from the hectic, urban late twentieth century. Consisting mainly of recently composed choral works, the program explores a narrow palette of austere harmonies, somber colors, and spare, modal scales. Predictability sets in, and I began to wonder how much substance lies behind the atmospheric effects. Particularly in the Berlin Mass, Pärt's extremely generalized approach toward setting the texts is comparable to the medieval style—when music was considered only a vehicle for the words rather than the words being occasions for musical expression. All that is not to say this disc isn't enjoyable, only that its joys are rather limited. *D.P.S.*

ROSSINI: La Cenerentola

Bartoli, Dara, Matteuzzi, Corbelli, others; Chorus and Orchestra of Teatro Comunale di Bologna, Chailly

LONDON 436 902 (two CD's, 148 min) Performance: Ingratiating Recording: Clear, bright

a Cenerentola (Cinderella) may lack the tight dramatic construction and the incisive three-dimensional characterizations of *The Barber of Seville*, Rossini's most celebrated comic opera, and yet I am immediately and inevitably enchanted by the music, which is full of melodic ingenuity, orchestral luminosity, and irresistible zest and good humor. This London recording offers those qualities in abundance.

The orchestra plays with spirit under Riccardo Chailly, and the cast is strong. Cecilia Bartoli's clear, limpid, easily produced, and finely focused voice meets every challenge of range and florid ornamentation that the title role presents. At the same time, she creates a believable character-warm, gracious, winning. William Matteuzzi's Ramiro is puzzling; at times meltingly smooth and with pure floated high tones, in other passages harsh with the effort of meeting the composer's demands for very long leaps to very high notes. On the other hand, the Dandini of Alessandro Corbelli is polished, fluid in the coloratura sections, and full of theatrical bounce. Don Magnifico is not an appealing character, but he has the three longest arias of the opera. Enzo Dara, however, makes him as attractive as possible and makes astute use of his gruff but flexible voice. The waspish sisters, Clorinda and Tisbe, are sung with verve by Fernanda Costa and

SISTER ACT

Cedille Records' founder and producet, James Ginsburg (son of the Supreme Court Justice Ruth Bader Ginsburg), is well aware that "for the past twenty years the Labèque sisters of France have been synonymous with duo-piano" Undaunted, he has put his label at the service of a relatively unknown pair of sisters from Geneva (Geneva, Illinois, that is) named Georgla and Louise Mangos. Their recording debut is also the first-ever recording of four of Liszt's transcriptions of his symphonic poems (see review in "Quick Fixes," page 106).



CLASSICAL MUSIC

Gloria Banditelli, respectively, and Michele Pertusi's Alidoro is warm-voiced and compassionate, *R.A.*

R. STRAUSS: Vialin Concerto; Oboe Concerto; Duett-Concertino for Clarinet and Bassoon

Belkin: Hunt: D. Ashkenazy; Walker; Berlin Radio Symphony, Ashkenazy LONDON 436 415 (76 min) Performance: Very good Recording: Pleasantly roomy

Richard Strauss very early; Richard Strauss very late—the combination adds up to interesting and pleasing listening. The Violin Concerto, a product of the composer's seventeenth year, doesn't exhibit the full stylistic imprint of his maturity, but it is very effectively written on a surprisingly large scale. There are touches of Bruch in the opening movement and a dash of Mendelssohn in the central andante. Only in the mercurial finale do we get a hint of the creator of Don Juan. Curiously, Strauss provided no cadenzas, and violinist Boris Belkin doesn't either. He does, however, deliver a ringingly brilliant account of the solo part. Vladimir Ashkenazy has his Berlin players well in hand, and the Jesus-Christus-Kirche provides a handsome acoustic surround.

With the 1945 Oboe Concerto, one of the prizes of the aging composer's creative Indian summer, we are on more intimate ground. Oboist Gordon Hunt has a rather broadish tone for my taste, but the performance as a whole is very pleasant.

My favorite piece here is the Duett-Concertino, the composer's last instrumental work, in which solo clarinet and bassoon are accompanied by string orchestra and harp. Along with lyrical nostalgia there is an ample touch of subtle humor, especially in the dialogue episodes of the opening movement. The performers, clarinetist Dimitri Ashkenazy and bassoonist Kim Hunt, give an excellent account of themselves and of the delectable music. D.H.

STRAVINSKY: The Firebird; Fireworks; Four Etudes for Orchestra

Chicago Symphony. Boulez DEUTSCHE GRAMMOPHON 437 850 (60 min)

Performance: Clarifying Recording: Gorgeous

o many of Deutsche Grammophon's re-Scordings of Russian music in the last several years have been as valuable for Richard Taruskin's authoritative annotation as for the performances themselves. For Pierre Boulez's remake of the complete Firebird ballet, Taruskin is once again exceptionally thorough, clarifying or correcting various details in the work's background. Clarification, of course, is what Boulez himself has always offered in abundance; if his Chicago Firebird is a tad less gutsy here and there than his earlier CBS/Sony recording with the New York Philharmonic, it is more telling in the poetic-evocative sections, and surely more appealing overall for the downright gorgeous sound, which sets off both the voluptuousness and the clarity of the performance to full advantage without compromising either of those qualities.

The brief *Fireworks* scherzo seems more like an X-ray here than a pyrotechnic display, but the Four Etudes for Orchestra—no mere makeweights—are absolute knockouts, individually and collectively. *R.F.*

VERDI: Falstaff

Soloists; Chorus; Berlin Philharmonic, Solti LONDON 440 650 (two CD's, 122 min)

Performance: Very good Recording: Very good

With an outstanding 1963 *Falstaff* (also on London) ranking high among his many accomplishments, it is surprising that Georg Solti would tackle this opera again





CLASSICAL MUSIC

QUICK FIXES

BEETHOVEN: Symphony No. 5; Egmont, Overture and Incidental Music New York Philharmonic, Masur

TELDEC 77313 (75 min)

The first, third, and last movements of this performance of the Beethoven Fifth are sinewy and alive with all the requisite tension, and in the slow-movement variations Kurt Masur elicits unusually refined playing from the winds and a heartwarming glow from the strings. The overture and nine vocal and instrumental numbers written for Goethe's *Egmont*, played beautifully by the orchestra and performed with drama and pathos by soprano Sylvia McNair and narrator Will Quadflieg, amount to a real bonus. Highly recommended. *D.H.*

BIZET: Symphony in C Major HAYDN: Symphony No. 1 PROKOFIEV: "Classica!" Symphony (Symphony No. 1)

Saint Paul Chamber Orchestra, Wolff TELDEC 77309 (55 min) Hugh Wolff has the measure of all these works in most respects. His pacing is nearideal, as is his balancing of the respective orchestral voices. If the readings are a little short in terms of charm—well, better to fall short on charm than make a misguided attempt to manufacture it. And it's always a joy to hear orchestral playing on this level, especially when it is so handsomely recorded. *R.F.*

LISZT: The Symphonic Poems for Two Pianos, Volume I

Georgia and Louise Mangos (duo-pianists) CEDILLE 90000 014 (67 min)

In their debut recording the Mangos sisters make a good case for Liszt's two-piano transcriptions of his tone poems. They have all the power these knuckle-busting pieces require (the four here include *Tasso* and *Les Préludes*), as well as subtlety and delicacy when needed. I look forward to Volume II of these world-première recordings. *William Livingstone*

MOZART: Serenade in D Major ("Posthorn"); Divertimento in D Major; Two Marches

Berlin Philharmonic, Abbado SONY 53277 (77 min) Claudio Abbado's robust live performance of the so-called "Posthorn" Serenade, flanked by similarly spirited ones of the marches presumably intended to introduce and follow it, has vivacity and charm aplenty. The same large-scale approach suits the Divertimento, K. 251, a little less well, tending to override its essential chamber-music character, but the performance does sparkle, and it makes an already well-filled disc even more attractive. R.F.



MARKUS KLINKO French Harp Chamber Music EMI 54884 (71 min)

Markus Klinko's highly ingratiating program includes Ravel's *Introduction and Allegro* and other works. Debussy's *Dances Sacrée et Profane* and Sonata for Flute, Viola, and Harp, and pieces by Satie. Ibert, and Fauré. He has a beautiful tone and a remarkable range of articulation, but the other players—colleagues from the Bastille Opera Orchestra in Paris—don't sound as if they've lived with the music terribly long. D.P.S.



CLASSICAL MUSIC

after thirty years. Does he succeed in topping his earlier effort? Well, yes and no.

In the earlier set, the conductor was not the best thing about the recording. Now, surrounded by his Salzburg Festival cast in a Berlin venue, he is. His pacing is vital but not excessively driven—the old Solti vehemence is gone. The overall approach is unquestionably modeled on Toscanini's classic RCA reading. In 1963 Solti was marginally faster than his model; now he is marginally slower, and just about ideal. Every episode is treated to the right mood and pacing, the ensembles are virtuosically controlled, and the divided vocal nonet (Act I, Scene 2) sparkles like a Mendelssohn scherzo. The orchestral playing is superb.

Except for one instance of miscasting, the singers form an excellent ensemble. José van Dam may not possess the dark timbre and "fat" tone considered ideal for the old knight, but he savors Boito's text and projects it with clarity and gusto, observing many nuances that make his portrayal entertaining and endearingly human. He is happily paired both with Marjana Lipovsek's ripe and humorous Mistress Quickly and with Paolo Coni's lively and neatly vocalized Ford. The disappointment is Luciana Serra's Alice. Her tone is soubrettish, occasionally strident, and at times lacks body and expansiveness. The Nannetta (Elizabeth Norberg-Schulz) and Meg Page (Susan Graham) are good, and Luca Canonici offers a stylish Fenton when his slender tone is not swallowed up in the ensembles. The Bardolph-Pistola-Cajus trio excels in the comedic scenes.

This is a live recording, but applause intrudes only at the beginning and end. Digital technology aside, I do not find the overall sound superior to that of the earlier set. In fact, a more forward placement of the voices would have been desirable. The performance, however, is a triumph for Solti—and for Van Dam as well. *G.J.*

VIVALDI: Le Quattro Stagioni Biondi; L'Europa Galante OPUS 111 OPS 56-9120 (54 min) Performance: Italian flair Recording: Fresh bloom

Fabio Biondi, a violinist and the founder/ leader of the ensemble L'Europa Galante, apparently wants to get as close as possible to Vivaldi's sound and spirit. It is not just a question of period instruments but also of a certain flair. He reminds us that Vivaldi was *Italian*—a priest perhaps, but also an opera man, a stylish figure in a stylish age, and a composer whose music was in demand all over fashionable Europe.

The performances use an early manuscript version of *The Seasons* once owned by a Roman cardinal and now in, of all places, Manchester, England. There are two add-ons, including the strange "Conch-Shell" Concerto (apparently intended to imitate the sound of a horn made out of a seashell) and a concerto that was dedicated to the Emperor Charles VI. The theatricality of the playing meshes perfectly with elegant musicianship; intensity and good humor support an unerring sense of style. The effect is like a well-restored painting by Caravaggie or Tiepolo; the freshness of the colors, the dramatic contrasts of the composition, the very Italian bravura, and the universality of the appeal suddenly leap out across the centuries. *E.S.*

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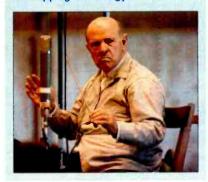
HOMAGE TO COUPERIN Pavlina Dokovska (piano) ARCADIA 2000 (69 min) Performance: Knowing Recording: Good

the idea of packaging Ravel's memorial gestures in (more or less) the style of Couperin, Le Tombeau de Couperin, with some of Couperin's own keyboard pieces may not be quite without precedent, but it's still an intriguing one, and the Bulgarian pianist Pavlina Dokovska shows a sympathetic feeling for both composers. Whether intentionally or not, a certain narrowness of dynamic range in her playing, which tends to make her performance of Le Tombeau less striking than some others, suits the Couperin pieces well without suggesting an attempt to imitate the harpsichord. Among the fourteen Couperin selections are several of the best-known individual numbers in his various sequences, or "orders," of clavier pieces-Les Petits Moulins à Vent, Les Barricades Misterieuses, Soeur Monique, and others. Only the very last one, Désordre. et Déroute de Toute la Troupe, seems a bit out of place without its companion pieces.

There are some minor glitches in the labeling, but comprehensive notes by Eric Salzman fill in the gaps. The sound is quite good, too. R.F.

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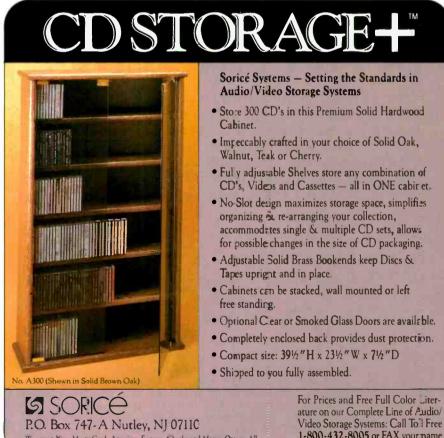
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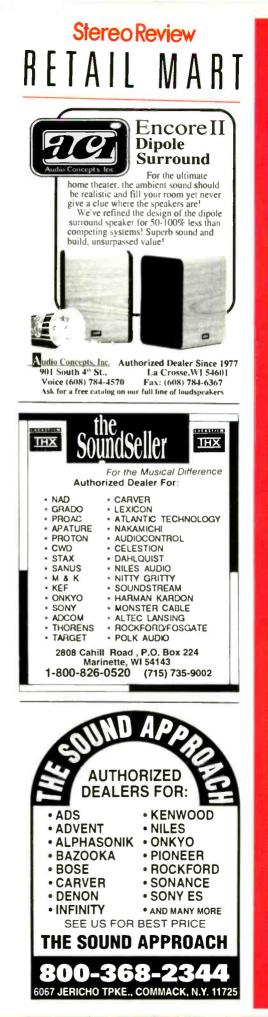


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TIME DELAY



30 Years Ago

In his editorial in the April 1964 issue, Furman Hebb alerted readers to a detachable paperbase 33¹/₂-rpm record of Glenn Gould's So You Want to Write a Fugue. "This is not only the first time a music magazine has included a recording in its pages," Hebb noted, "but one of the few times any magazine has done so."

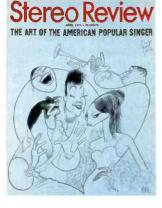
New products this month included the Hartley Concertmaster multiple-driver speaker system, with an 18inch woofer for bass response



Hartley Concertmaster, 1964

down to 16 cps (Hz), and the H.H. Scott 370B stereo tuner with "magic-eye" tuning indicator (\$159.95). In test reports, Julian Hirsch evaluated the Sony TC-500 portable four-track tape recorder ("It does as good a job as any recorder I have used") and the EMI 319 speaker, described as "basically a good reproducer."

Fighting words? A favorable December review of the Swingle Singers' "Bach's Greatest Hits" prompted an angry letter from Jim Clark of Anniston, Alabama, "Anyone who would intentionally jazz up Bach," he wrote, "is either impossibly ignorant or insane!"



20 Years Ago

Hey, it works for Madonna: In an interview with Joel Vance, folk-guitar virtuoso Leo Kottke remarked, "I love gimmicks—I think they're the heart and soul of music."

In Best of the Month, George Jellinek was impressed with Carlos Kleiber's conducting of a new Deutsche Grammophon recording of Carl Maria von Weber's Der Freischütz ("His reading is nothing short of revelatory"), and Joel Vance was taken with Doug Sahm's "Texas Tornado" ("a remarkably successful blending of the Tex-Mex sound with New York jazz horns"). Elsewhere in the review sections, Noel Coppage applauded John Prine's "Sweet Revenge" ("His best yettough, funny, and nicely



paced"). Steve Simels upped the superlative level in discussing "The Wild, the Innocent, and the E Street Shuffle" by Bruce Springsteen ("[He] impresses me more and more as the major American figure of the decade"). Eric Salzman hyperventilated over a Columbia disc of music by George Crumb ("Ah, bitter mystery of life!"). And Peter Reilly, faced with the latest by Tony Orlando and Dawn, observed, "If you're over the age of eight, this record will surely drive you nuts."

New products this month included the Biggston BSD-200 cassette deck with Dolby B, the Technics SA-8000X four-channel receiver with an Acoustic Field Dimension control system, and the Norman Laboratories Triton speaker, said to be able to handle any amplifier designed "for reasonable home use." In test reports, Julian Hirsch examined the Thorens TD-160C record player ("Only a few expensive electronic-drive turntables have lower rumble") and the Dynaco AF-6 stereo tuner kit ("Even a novice kit builder should have no trouble assembling it").

Next! In Audio Q&A, a reader asked, "Please tell me whether it is okay to use the chromiumdioxide switch on a cassette deck for low-noise/high-

Doug Sahm, 1974



output, super-dynamic, or extra-dynamic tapes." The pithy reply: "Try it and see what happens."

10 Years Ago

New products this month included the VKT550 VCR from RCA with (then new) VHS Hi-Fi, Ace Audio's 5000-SF electronic crossover for use with a subwoofer, the Genesis 20 two-way speaker with a vented particleboard enclosure, and "Stop Digital Madness" T-shirts from Shelfield Lab. In test reports, Julian Hirsch checked out the 130-watt-per-channel Carver receiver ("Anyone who is not prejudiced against receivers as



a class could hardly do better"), the Czech-made NAD 5120 turntable ("To our knowledge the first hi-fi product from that country to be marketed in the U.S."), and the ADS L1290 speaker system ("This is one speaker that really *is* 'digital ready"").

Lorena Bobbitt, where are you? Reviewing "Muscle Motion," a beefcake workout video by Men of Chippendales. Louis Meredith declared, "I haven't had so much fun with my TV set since *Celebrity Challenge* of the Species starring Morris the Cat, Seattle Slew, and Richard Simmons."

-Steve Simels



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"A Show Stopper"

- Stereo Review

When Definitive set out to build the world's finest sounding subwoofers, our goal was to achieve the perfect synergy of powerful earth-shaking bass (for home theater) combined with a refined and expressive musicality.

First we developed our proprietary PowerField Technology which ensures superior high power coupling and unexcelled transient detail. Next we engineered the PF 1500's beautiful rock solid monocoque cabinet which houses our high current 250watt RMS amplifier, fully adjustable electronic crossover and massive 15" cast-basket driver. The result is unsurpassed bass which thunders



The PowerField 1500 (\$995) has been honored by winning Sound & Vision's highly coveted 1994 Critic's Choice Award.

down below 15 Hz, yet retains total musical accuracy.

Perfect for Your System

To ensure optimum performance, the PF 1500 has high and low level inputs and outputs plus adjustable high pass, low pass, volume and phase controls to allow perfect blending with any system and ultimate bass response in any room.

Before you buy new speakers, you owe it to yourself to visit a Definitive dealer and experience the sonic superiority of our complete line of awardwinning loudspeakers.



11105 Valley Heights Drive • Baltimore, MD 21117 See our dealer list on page 18 (410) 363-7148