Stereo Review. states - state

SYSTEM SOLUTIONS SOLUTIONS Experts Choose 3 For The Budget

How To Buy The Right Speakers For Your Car

Minisystem Roundup



1744



AD Receiver, Design Acoustics Speaker, Sony MD Recorder, And More

The spirit

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







公TDK。

TIME DELAY



35 Years Ago

In his "HiFi Soundings" column in the August 1958 issue, David Hall, inspired by Angel's Great Recordings of the Century series, took an almost moral stand on the importance of reissuing pre-LP classical recordings. "There are matters of record that distinctly transcend immediate consideration of hi-fi and stereo," he wrote, "and the major record companies can well afford to live up to their social obligation in this respect.'

In "The First 7," the editors went hands-on with the firstever batch of integrated stereo amplifiers, seven models that ranged in price from \$99.95 (the Harman Kardon A-224) to \$190 (the Madison Fielding 320). Interestingly, the most consistent complaint was about the lack of rear-panel accessibility. "The engineers who designed the rear panels do not come off with many honors," harrumphed Associate Editor Warren DeMotte.

The J. Geils Band: "Bloodshot" in 1973



Big Brother Is Listening: In "Let's Kill the Myth of Regional Jazz," critic Nat Hentoff concluded that "By 1984, there may well be fierce arguments as to whether the jazz of Oceania isn't more cerebral and less funky than the jazz of Eurasia."



20 Years Ago

Forward into the Past! In "Is Speaker Preference a Matter of Taste?" Technical Editor Larry Klein cited a 1908 Sears catalog offering "one of the first commercial audio equalization devices." A brass whatsit designed to be stuffed down the horn of an acoustic phonograph, the Thompson Modifier was touted as making recorded sound "pleasant and agreeable even in the smallest of rooms."

In Best of the Month, George Jellinek recommended a Philips version of Mozart's *La Finta Giardiniera* with Hermann Prey and Helen Donath ("I doubt that it will ever be done better"), Bernard Jacobson endorsed a Cambridge LP of lute music by the eighteenth-century composer Sylvius Leopold Weiss ("Every bit as good as I had hoped it would be"), and Joel Vance—who needed to get out of the house more often—went gaga over the J. Geils Band's "Bloodshot," saying, "I haven't enjoyed myself so much in years."

Elsewhere in the review sections, Chris Albertson raved over the Mahavishnu Orchestra's "Birds of Fire" ("contemporary music of the highest caliber"). Paul Kresh, reviewing an album of Aram Khatchaturian's children's music, dismissed the composer's piano concerto as the equivalent of an "ape in evening clothes." And Steve Simels, unwilling to give David Bowie's "Aladdin Sane" a total pan, allowed that "David himself seems to be trying very hard not to sound like a night-club singer, which is a real plus.'

New products this month included the Nakamichi 1000 cassette deck with both Dolby



The Thompson Modifier (1908)

B and DNL noise-reduction systems (price: \$1,000), the Bose 1801 stereo power amplifier, which delivered 250 watts per channel, and Pioneer's RT-10201 stereo open-reel tape deck, which could play back discrete fourchannel quadraphonic tapes. Meanwhile in Test Reports, Julian Hirsch put the Fisher 504 four-channel AM/FM receiver through its paces, concluding that it "does everything Fisher claims for it." Oh Peter, you bitch! Reviewing Liza Minnelli's "The Singer," Peter Reilly observed, "Actually, Minnelli is about the most exciting thing to emerge on records since Dr. Joyce Brothers."



10 Years Ago

Department of Obscure Adjectives: In "The Basic Repertoire," Richard Freed compared versions of Dvořák's Symphony No. 8 and came out for the Bruno Walter rendition on Odyssey, which he described as being in "lambent stereo."

There goes the advertising! "Speaker Cables: Can You Hear the Difference?" by Laurence Greenhill reported the results of blind listening tests comparing 16-gauge heavy-duty lamp cord, or standard "zip cord," and highend Monster Cable. The conclusion: "This project was unable to validate the sonic benefits claimed for exotic speaker cables . . . there is little advantage besides pride of ownership in using these thick, expensive wires."

Down, boy! Reviewing ZZ Top's "Eliminator," Mark Peel confessed that he had "this fantasy about bursting through the doors of a roadhouse bar on a Harley, grabbing two cold beers and the best-looking girl in the place, and riding away in a swirl of gravel and dust."

RIILES



RULE #89 INSIDE EVERY RADIO IS A CD PLAYER TRYING TO GET OUT.



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GCD-600 CD Carousel



t has been, perhaps, Adcom's toughest act to follow. The GCD-575 CD Player achieved breakthroughs in musicality unsurpassed by CD players at almost any price. *Stereophile* writes, "...in the under \$1000 class the Adcom is the player to beat — or, more to the point, the player to buy."* *Stereo Review* credits the GCD-575 with "in general pushing the state of the art in digital-disc playback."**

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The GCD-600's Class "A" analog audio amplifier section uses very fast, low noise, linear gain semiconductors. These no-compromise audio circuits based on the proprietary amps used in Adcom's GFP-565 preamplifier — more clearly define low-level information for superior resolution and dramatically more musical CD reproduction. You will not find such superb component parts in any other CD player at any price.

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The GCD-600's technically advanced analog and digital circuits and the user-selectable polarity inversion switch are designed to overcome the problems inherent in CD sound. Midrange harshness and glare are dramatically reduced. Sound stage imaging is deeper, more focused, more musically natural. The benefits of digital sound are realized, without the accompanying drawbacks.

Take the GCD-600 for a spin.

If you've been searching for a CD player that offers the convenience of a carousel changer *and* the sonic superiority of high-end single-disc models, take the GCD-600 for a spin at your authorized Adcom dealer. You won't have to go round and round to decide which CD changer gives you the most sound for your money.

*Peter W. Mitchell, Stereophile, Vol. 12 No. 6, June 1989 ** Stereo Review, 1989





Caver

One dealer's choice for a \$3,000 indoor/outdoor stereo system includes the Adcom GTP-500II tuner/preamp and GFA-2535 four-channel power amp, Yamaha CDC-735 CD changer, Denon DRM-510 cassette deck, Phase Technology PC6.5 speakers, and Polk Audio AW/M3 outdoor speakers. See page 53.

Phatagraph by Dan Wagner

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Stereo Review.

EQUIPMENT

Peripherals: Supercharged CD Players Introducing "Peripherals," a new column about products and trends that go beyond mainstream audio/video • *by David Elrich*

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Best Recordings of the Month Matthew Sweet's "Altered Beast," "Hillbilly Voodoo" from

Barrence Whitfield and Tom Russell, Kurt Masur's take on the Franck Symphony in D Minor, and dazzling two-piano music by Stravinsky

Special CD Offer

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MA

Every so often, a product is introduced that's so good, it serves as the benchmark for an entire industry. Yamaha's critically acclaimed DSP-A1000 is such a product.

And Yamaha's new DSP-A2070 is another.

Unquestionably, the most advanced digital sound field processor/amplifier you'll find on the market. Due in no small part to a Yamaha development that makes going to the movies actually pale by comparison.

We call it Cinema DSP. An aweinspiring blend of technology that multiplies the effects of Digital Sound Field Processing and fully-digital Dolby Pro Logic.

The net result is a home theater component that's a generation ahead of anything else on the market. Giving dialogue more definition. Music, more dynamic range. And sound effects, more graphic detail, superior placement and far greater realism.

And there's more. All told, there are 12 audio settings for your favorite music. Plus 11 Cinema DSP settings for video alone. Including four 70mm settings—Adventure, Spectacle, Musical and General—to give movies

more spatial depth and impact in your home than you probably ever imagined.

All made possible by Yamaha's new LSI technology. A major accomplishment that creates sound fields three times more detailed than even our critically acclaimed DSP-A1000.



cated, yet simple to ope

Other notable features include an on-screen display for sound field adjustment. Seven-channel ampli-

adjustment. Seven-channel amplification. Pre-amp outputs on all channels to permit additional amplification. Five audio and six video inputs. And split subwoofer outputs to accommodate two front subwoofers.

Yamaha's exceptional DSP-A2070. We think of it as the most sophisticated audiovideo product on the market. Understandably, our competition tends to see it a bit differently.

What the competition will be using for target practice this year.



LETTERS

"Dog-Bone" Cleanup

n June "Letters" you recommended rubbercement thinner to clean off the goo from the new "dog-bone" CD labels. While I am sure it does the job nicely, thinner is *extremely flammable* and also contains heptane, which is very toxic. I would not like to see this product introduced into the home, especially if children are present. JERRY GORRELL Fountain Hills, AZ

As a librarian. I open hundreds of CD's each year. I use a length of transparent tape to pull up the gluey residue after removing the label. Works every time and leaves no mess. JERROLD GUSTAFSON Michigan City, IN

peel away the label, press the sticky side of transparent tape down on the remaining adhesive, and lift the tape away, but I've discovered that any attempt to wipe the adhesive off the jewel box before applying the tape reduces the effectiveness of the technique.

RICHARD ROSSON Campbell, CA

Use paper towels and peanut butter. Just smear and rub. JOE FRONTIERO Charleston, SC

eanut butter works, but if you use the crunchy kind, make sure you don't get any of the chunks. E. ANDERSON BURGESS Kansas City, MO

D-40 lubricant is an excellent solvent for sticky residues left by many kinds of tape. It is widely available (at discount, grocery, and hardware stores, etc.) and much cheaper than something purchased at a specialty store or from a catalog. Spray a little onto the corner of a paper towel and rub the residue left by the "dog-bone" label. It will dissolve almost immediately, leaving the CD jewel box completely unharmed. Use the dry part of the towel to remove the excess WD-40. DOUGLAS W. ALDERMAN Novato, CA

Apply a few drops of Wesson or Crisco liquid cooking oil to the jewel case, then rub lightly with a clean paper towel or soft cloth to remove the menacing gooey substance. This does not damage the case, and it removes the glue completely.

STEVE W. BROWN Burbank, CA

Our thanks to these readers and the many others who sent suggestions. Other recommendations included masking tape, package sealing tape, lighter fluid, spot remover (for clothing). Brasso metal polish, Avon Skin-So-Soft, and dentists' Orange Solvent. Like rubber-cement thinner, lighter fluid is very flammable, and many of the other solvents suggested are also toxic if swallowed.

Old Friends

very much enjoy "Time Delay," and in the June column I came across an old friend, the Sony TC-377 reel-to-reel tape recorder. Although it was not a true portable, I took it everywhere I went to record concerts and bar bands. On military field maneuvers we ran it off generators. I also still have the suitcasestyle Ampex amplified speakers that I used with it, and the whole setup sounds very good today, with tape-head cleaning and demagnetizing the only maintenance. I have had good luck with things mechanical over the years and wonder which will go first, a belt in my TC-377 or the clutch in my 1973 Dodge Swinger? MIKE CONNERTON

Binghamtom, NY

User-Friendly Demags

The photograph of a hand-held tape-head demagnetizer in June's "Tape-Deck Cleanup" shows a model designed to make the approach/withdrawal procedure described in the caption unnecessary. It produces a crescendo/decrescendo sinusoidal burst that is supposed to simulate smooth performance of the recommended procedure, thereby eliminating the problem of poor technique on the part of demagnetizer owners who may use them only occasionally. MARK HENIGAN Modesto, CA

You're right—like most other battery-powered demagnetizers, including those built into cassette shells, the TDK model shown was designed to make the traditional slow approach and slow withdrawal unnecessary. It can't hurt to use that technique, however, and it's still necessary with any demagnetizer that plugs into an AC outlet.

Subliminal Messages

oth of the new digital recording technologies use perceptual encoding (PASC for DCC and ATRAC for MiniDisc) that relies on sound masking. Consider recordings that contain subliminal information, imperceptible to the conscious mind but perceptible to the unconscious. If one of these recordings were dubbed onto a DCC or an MD, would the perceptual encoder effectively remove any subliminal information because it's masked by louder sounds? AGIM PEROLLI Boonton, NJ

For any information to be heard at all, whether consciously or not, it must be audible. Ideally, a perceptual coder would not remove any sound that might be audible, but how close any particular coder approaches that ideal can be determined only through careful listening tests. We would not expect it to be a problem with either DCC or MD. In any event, we know of no evidence that such "subliminal messages" are actually effective.

Witness for the Defense

To Harold Hoeferkamp (June "Letters"): I can't believe that seeing Madonna on the April cover of this class-act magazine would offend anyone. Like it or not, Madonna is far bigger right now than Beethoven, Bach, or Mozart. I am not a Madonna fan myself, but if you were offended by that tasteful cover, you must not have anything to complain about except that you're out of Grey Poupon. Get a life. E. A. GREEN Norman, OK

Another Sticky Problem

Compact discs borrowed from libraries that have sticky gummed ID labels around the center hole can become glued to the upper spindle of a CD/laserdisc combi-player, especially if they're left overnight.

Leaving any CD's overnight in a combiplayer may not be a good practice. I stopped my player in pause mode and forgot there was a CD inside. When I started it the next day, the forgotten CD hung momentarily to the upper spindle, then clattered down noisily onto the electronics boards inside. I had to take the cover off to retrieve it. Laserdiscs have never become stuck, presumably because of their greater weight. RICHARD REID Grand Rapids, MI

Executive Editor Michael Riggs replies: I have one CD that always sticks in my combi-player, no matter how long it's been there, and it's a real bear to get it out, so I just don't play it in the combi anymore. Just that one disc, though.

Corrections

eader David Baker, of New York City, points out that the review of Jerry Granelli's jazz album "A Song I Thought I Heard Buddy Sing" (June, page 88) incorrectly identified the bassist Anthony Cox as a drummer. Also, the review of Jimmy Giuffre's "Flight, Bremen 1961" in June's "Quick Fixes" (page 93) incorrectly stated that Carla Bley played in that session—it was her husband, Paul Bley, We regret these errors.

We welcame 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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A whole day of continuous, uninterrupted music is possible with Pioneer's PD-TM3 eighteendisc CD changer. The 7-inch-high component features three individually accessible six-disc magazines, a six-mode digital ambience processor, sequence

programming for forty-eight tracks, seven repeat modes, normal and delete random-play, two tape-editing modes, and a one-touch fader. Price: \$510. Pioneer, Dept. SR, 2265 E. 220th St., Long Beach, CA 90810-1720. Circle 120 on reader service card





PARAGON ACOUSTICS

A Dynaudio driver complement comprising a 61/2-inch woofer and a ¾-inch fabric-dome tweeter is the heart of Paragon's 16-inchtall Jubilee monitor. The tweeter baffle is slanted to produce ceiling reflections, which are said to deepen the soundstage. Finished in mahogany, walnut, oak, or black, the Jubilee is available by mail order for \$1,250 a pair plus shipping. The stands shown (\$250 a pair) are optional. Paragon Acoustics, Dept. SR, 30 93rd St. W., Suite 201A, Bloomington, MN 55420.

· Circle 122 on reader service card

VENERGY

Energy's home theater package includes four ESAT-2 satellite speakers (only two shown), one ECC-1 center-channel speaker, and two ESUB-2 bass modules. The satellites measure 5 x 81/4 x 5 inches, the bass modules 81/4 x

12 x 13³/₄ inches. System frequency response is rated as 37 Hz to 22 kHz ± 3 dB. Price: \$1,220. Energy Loudspeakers, Dept. SR, 3641 McNicoll Ave, Scarborough, Ontario M1X 1G5. · Circle 121 on reader service card





SAUDER WOODWORKING

The Model 8660 ready-toassemble entertainment center from Sauder features a 301/2-inchwide, 26-inch-deep TV opening, three adjustable shelves behind a tempered-glass door, and two hidden storage compartments,

one of which is built into a side panel that swings out. Dimensions are 573/4 x 451/4 x 20 inches, Price: \$266. Sauder Woodworking, Dept. SR, 502 Middle St., Archbold, OH 43502. · Circle 123 on reader service card

NEW PROD<u>UCTS</u>

NEAR 🕨

The Model 40Me speaker from NEAR (New England Audio Resource) combines a 1-inch titanium-composite tweeter and a liquid-cooled 8-inch metalalloy woofer in a 39-inch-tall cabinet finished in walnut, oak, or black-oak veneer. Frequency response is given as 37 Hz to 28 kHz ± 3 dB. Price: \$1,250 a pair. NEAR, Dept. SR, 679 Lisbon Rd., Lisbon Falls, ME 04254. • Circle 124 on reader service card



┥ BIB

Bib's C-100 CD Tower features lighting strips on the inside of its side panels. The metal rack holds fifty CD's and comes in red, black, white, blue, chrome, or silver/gray with neon-pink, neonblue, neon-purple, or crystal lighting. Price: \$170. Bib, Dept. SR, 10497 Centennial Rd., Littleton, CO 80127.

· Circle 126 on reader service card



🔺 MISTA

Mista Products has a Remote Idea for couch potatoes: an adaptor that converts a multibutton remote into a simple five-button controller. You slide the remote into an adjustable caddy and position the colored

keys over its power, volume, and channel buttons. Said to work with most remotes (remote not included). Price: \$15. Mista Products, Dept. SR, 27 E. Mall, Plainview, NY 11803.

Circle 125 on reader service card



Fultron has three new car stereo crossovers: the CX-10 (bottom, \$50) has 70-, 90-, and 120-Hz low-pass points; the CX-20 (top, \$100) has low- and high-pass filters, adjustable from 50 to 250 Hz; the CX-30 (not shown, \$150) has low- and high-pass filters, adjustable from 50 to 400 Hz, and a bandpass filter. The CX-20 and CX-30 have a switch that increases the high-pass frequency range tenfold. Arthur Fulmer, Dept. SR, P.O. Box 177, Memphis, TN 38101-9988. Circle 127 on reader service card





EGGLESTON WORKS

Elegant disguise: Yes, the Hepplewhite from Eggleston Works is a fine antique-mahogany end table. But it's a also a fourway speaker with a bandwith of 31 Hz to 20 kHz. Behind its grille is a 1-inch titanium tweeter, two 6-inch midrange drivers, and an 8-inch woofer. Dimensions are 24 x 30 x 15 inches. Price: \$7,965 a pair. Eggleston Works, Dept. SR, 1935 Cowden Ave., Memphis, TN 38104.

· Circle 128 on reader service card







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For 1993, JVC home audio components have been refined inside and out. The design is simple for a look that's sophisticated. The technology is sophisticated for operation that's simple. In fact, you won't find home entertainment components that are easier to operate.

Our exclusive, Enhanced COMPU LINK system allows for one-touch operation. And even if *your* components aren't all *our* components, a JVC RX-809VTN receiver with our multi-brand remote still lets you control your home entertainment system right from your seat.

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NEW PRODUCTS



A POINTSOURCE AUDIO

Pointsource's Model 202 power amplifier is rated to deliver 200 watts per channel into 8 ohms from 20 Hz to 20 kHz with less than 0.1 percent THD. Output into 4 ohms is 400 watts. The amp features a dual-mono design and

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dana audio

Dana's Model 1 speaker (front) teams a 3/4-inch tweeter and a 61/2-inch woofer in a 143/4-inchtall cabinet (stand not included). The Sub-1 (rear) combines an 8inch woofer and 80-Hz crossover in a 38-inch-tall columnar enclosure; its low-frequency limit is given as 25 Hz. Available by mail order only with a thirty-day money-back guarantee. Prices (plus shipping): Model 1, \$199 a pair; Sub-1, \$295. Dana Audio, Dept. SR, 5555 N. Lamar Blvd. Suite K-113, Austin, TX 78751. · Circle 130 on reader service card



MONSTER CABLE

Monster Cable's XPFP-CC20 Center Channel Kit provides 20 feet of XP cable, which can be cut to the desired length. The kit includes an easy-to-install Twist Crimp Pin connector for the unterminated end of the cable; the other end of the cable has a gold-plated pin connector. Price: \$20. Monster Cable, Dept. SR, 274 Wattis Way, So. San Francisco, CA 94080. • Circle 131 on reader service card

SOUNDSTREAM

The Soundstream Reference300 car stereo amplifier is rated to deliver 75 watts per channel into 4 ohms or 300 watts mono into 2 ohms. Efficiency is said to be 65 percent, and the amp features a

high-current mode for driving impedances as low as 0.5 ohm. Price: \$399. Soundstream, Dept. SR, 120 Blue Ravine Rd., Folsom, CA 95630.

Circle 132 on reader service card

🕨 KEF

KEF's Reference Series Model 100 can play the role of a primary, center, or surround speaker in a home theater setup or be used as the center companion to a pair of KEF's Model 103/4 speakers. It features a 6½-inch Uni-Q coincident driver, which has an integral 1inch polymer-dome tweeter. Frequency response is given as 70 Hz to 20 kHz ± 2.5 dB. Price: \$500. KEF, Dept. SR, 1701 Touchstone Rd., Colonial Heights, CA 23834. • Circle 133 on reader service card



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JVC Jazz Festival Sweepstakes P.O. Box 5165B, New Milford, CT 06774-5165 1) The feature that allows JVC Stereo Receivers to control other system components is called... a) MAGI-SCAN c) Ennanced COMPU LINK b) INTE-GREAT Plus d) OMNI-Power

GRAND PRIZE

- 2) In JVC CD Portables, dynamic sound reproduction is achieved with the sound system called... a) Triple Treble c) Boorn Boorn Deluxe b) Active Hyper-Bass d) Ulti-Note
- 3) JVC Mobile Audio systems offer which theftdeterrent feature? al PIN Codes cl. Auto Alarm

a) PIN Codes b) Self Destruct Microchics c) Auto Alarm d) Detachable Security Face Plate No purchase necessary. Void where prohibited. Odds of winning based on number of correct entries. Sweepstakes open to legal US residents, 18 years of age or older. Employees of JVC, its agencies, and their immediate families are ineligible. For official rules, see entry forms on JVC displays at participating JVC retailers, or send a selfaddressed, stamped envelope to JVC Jazz Festival Official Rules, P.O. Box 5177, New Milford, CT 06774-5177. Entries must be received by 9/15/93. No mechanical reproductions accepted.



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120 Hz. What does it mean?

The fact is, to the average person, 120Hz means diddly. What's important is how a speaker sounds. But, in truth, the sonic range around 120Hz is a big deal when it comes to the sound of the SubSat7. Here's why. After having a look at a



The SubSat7 satellites come In two of the most popular colors in the history of speakers. Black. And white.

number of other three-piece systems, we found that many were using small midrange driverssome as small as two inches. And we asked ourselves. "How can they use such small midranges and still hope to create a smooth transition between midrange and bass?" The answer: they can't In fact, several of the units we tested had an obvious dip in the 100 to 200 Hz range - a range that, it so happens, contains much of your music's fundamental information So, in designing the SubSat7, our primary goal was to create a system that didn't sacrifice sound



quality for a convenient size. Or vice versa. We started in the satellites with our famous 1-inch, soft-dome tweeter, which plays lower than competitive ¾-inch tweeters and has excellent dispersion. Then we designed a mighty 4-inch copolymer mid-bass driver with a more-than-ample frequency range.

The PowerVent

bass unit, placed behind furniture,

sounds fantastic

without drawing

attention away from your Picasso. So it meets the SubSat7's PowerVent~14 Bass Unit, with its two, powerful,

7-inch drivers, to create a smooth transition. At the infamous 120Hz. The result: a three-piece system with seamless, natural, audiophile sound. And satellites so small, your house guests will be dumbfounded.

The new SubSat7 has no dip at 120Hz. Whoop-di-doo.



You need stereo-separated bass chambers. Really.

Let us explain. Until recently, most bass info was mixed in mono. But then digital audio came along and made more realistic stereo bass possible. A great idea, but a problem for ordinary three-piece



Subwoofer drivers don't play well with others. So we sent them to their own rooms. The result: clean stereoseparation in the bass. systems with an all-in-one subwoofer. Such systems typically place left and right woofers in one chamber. When these two woofers encounter stereo-separated bass, they push against each other, cancel each other out, and bass becomes muddy and anemic. The SubSat7, however, places left and right woofers in separate chambers in a push/pull configuration. So they work independently of each



other and give you tight, clean bass with accurate stereo imaging. In addition, the SubSat7's Bass Unit handles more power than other subs. So it can reproduce everything

What's on TV? The SubSat7 Center Channel speaker. To the rear: matching SurroundSat speakers. Now the only thing missing from your home theater is the gum stuck to the seat.



Most people watch about 40 hours of TV per week. But few actually hear it.

This kills us: people buy a bigger TV to get a bigger, more dramatic picture. And they listen through the

scrawny speakers that come with it. But to get sound that equals the picture in depth and emotion, all they need to do is add a Dolby* Pro-Logic^{**} rece ver to the SubSat7 and its matching home theater companions — the SubSat Center Channel Speaker and a pair of SurroundSats — each tonally matched and balanced to play with the SubSat7 system. The Center Channel Speaker features our 1-inch dome tweeter and a cual 5¼-inch active/passive mid-bass driver system. It provides a broad horizontal sound dispersion instead of the beaming sound common with other center channel speakers with dual active drivers. So everyone gets the best seat in the house, not

just one person. The SurroundSat



To see how a large, flat TV screen can distort dialog from an ordinary speaker, have a friend talk to you like this. The SubSat Center Channel speaker is tuned to compensate for this effect.

rear-channel speakers look just like the SubSat7 satellites and can be mounted in the back of the listening area facing up or to the side using our optional mounting bracket. The net result: a oneroom studio apartment becomes a gigantic concert hall (we won't tell the landlord if you won't).



Coming in October: Number, a new minimagazine about music, movies, sonics, and free (almost) music on CD (does not contain perfume samples). To reserve a copy, write: Boston Acoustics, Dept. N2, 70 Broadway, Lynnfield, MA 01940

It sounds good. Duh.

Actually, the SubSat7 doesn't just sound good. We think it's the best sounding system ever created for the price. Three-piece. Or two. But don't take our word for it (after all, we could be a tiny bit biased). Bring your favorite CDs and your ears to a Boston dealer and compare the SubSat7 to any speakers in the listening room. We think you'll find the SubSat7 to be amazing. Especially around 120Hz.



PERIPHERALS

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AINSTREAM AUDIO/VIDEO

Supercharged CD Players: The Next Generation?

HINGS used to be simple. You'd buy a CD player to play CD's, and that was that. Then along came the combi-player for CD's and videodiscs. Lately there's been a lot of media hype about "interactive multimedia" systems, which, in addition to playing ordinary CD's, promise to open a whole new vista of home entertainment and educational possibilities-from video games to interactive books to movies-on-CD and more. The problem is, except for the ability to play music CD's, and in some cases Photo CD's, these new systems are largely incompatible with one another. And to make things even more confusing, this incompatibility exists despite their all having a CD-ROM transport (or "drive," if you prefer computer jargon).

CD-ROM (read-only-memory) discs are essentially CD's that aren't tied to a specific application: They're used to store digital audio, text, graphics, or various forms of animation and video. One disc holds 650 megabytes of data, which is why the format has become a popular medium for reference material. The reason you can't swap discs (except for conventional CD's and perhaps Photo CD's) between the new systems we're about to explore is that there is no universal protocol for retrieving and manipulating the information stored on disc-everyone is coming up with his own version of CD-ROM.

The current crop of supercharged CD players vying for a spot in your A/V rack includes CD-Interactive (CD-I) from Philips, Sega CD, Commodore's CDTV, Memorex's Video Information System (VIS), and Kodak's Photo CD. Others—namely, Pioneer's LaserActive system and the 3DO system embraced by Panasonic, AT&T, and Sanyo—are due out this fall. While the availability, selection, and quality of software will be a key factor in determining these systems' success, only time will tell which one, if any, will prevail. In the meantime, let's take a peek at what the different systems have to offer.

CD-I

Introduced by Philips a couple of years ago, CD-I has a fairly broad and growing base of software. The format has also become a spawning ground for innovative interactive programming. About 100 titles—games, kid stuff, music, and special-interest material—were available at this writing, but that number is expected to double by year end. Disc prices range from \$20 to \$70.

Philips is currently the only supplier of CD-I hardware and says it has already sold 100,000 CD-I machines worldwide. The current CDI-220 Imagination Machine sells for \$699 and includes "Compton's Interactive Encyclopedia." You connect the player to your TV and stereo system, load a CD-I, and it's off to Sesame Street, a museum, a golf course, a music lesson, or a number of other places and situations. Using the remote, you can interact with images on the screen. Although the sound quality is what you would expect from CD,

The Philips CDI-220 Imaginatian Machine



3DO

Announced last January, with the first products scheduled for release this October, 3DO is among the newest and most intensely hyped of the multimedia systems. The brainchild of Trip Hawkins, an early part of the Apple Computer braintrust and a principal of the entertainment software giant Electronic Arts, 3DO is built around a highperformance 32-bit processor. The system also uses a double-speed CD-ROM drive, which is said to enhance interactivity, and accepts a full-motion-video cartridge similar to the

one Philips plans to sell. In addition to raising nearly \$50 million in an initial public offering last spring, the 3DO

the picture quality is nothing spectacular. The machine also plays Photo CD's and hard-to-find CD+G (Graphics) discs.

Taking CD-I to the next level, Philips recently announced that a plugin full-motion-video (FMV) cartridge will be available later this year for \$250. A true breakthrough, the module will enable programmers to put 72 minutes of near-VHS-quality digital video on CD. Some long-form music videos are planned, but the biggest news is that Philips has signed a deal with Paramount Pictures to put movies on 5-inch discs (two discs will be required for most movies). The first batch of CD movies, slated for release this fall, includes Beverly Hills Cop. Top Gun, and Apocalypse Now.

One of the most innovative implementations of the format is "Kathy Smith's Personal Trainer," a fitness program offering customized workout routines. Another is the CD-I version of avant-garde rocker Todd Rundgren's "No World Order," which lets you create your own songs from a "musical database." Original interactive movies are also in the works, including "Voyeur," a Hitchcockian flick starring Robert Culp.



Company has lined up support from such giants as Matsushita (Panasonic), Sanyo, AT&T, and Time Warner and has signed licensing deals with some 300 software companies. The first 3DO machine will be Panasonic's FZ-1 REAL (Realistic Entertainment Active Learning) Interactive Multiplayer, which is slated to be in stores in October and sell for about \$700. Ninety-one software titles are said to be in the works, a dozen or so of which should be ready in time for the launch. They're expected to sell for about \$60.

Although great strides have been made, 3DO officials admit that the initial video-game titles will not take full advantage of the system's graphics capabilities. Sneak previews of such titles as "John Madden Football" and "Total Eclipse" prove the point. While the graphics are markedly better than those offered by the current crop of 16-bit games, they're not what you'd expect from a 32-bit processor. 3DO has lots of momentum behind it. But will it fly? Keep your eyes peeled.

LASERACTIVE

Pioneer's take on multimedia is embodied in the CLD-A100 LaserActive player. Also scheduled to be in stores this October, the \$799 machine has a shot at being the ultimate combi-player. In addition to playing ordinary music CD's as well as 8- and 12-inch laserdiscs, the machine accepts plugin modules: one that handles Sega game cartridges and Sega CD's (\$499), one for NEC game cartridges (\$499). and one for karaoke laserdiscs (\$299). The new system will also serve as a springboard for the interactive 12-inch LD-ROM format, which heretofore has been used only in commercial applications. If sneak previews are any indication, "Pyramid Patrol" is one of the best-looking video games around.

Pioneer is sticking with the same high-quality analog video that is the hallmark of the laserdisc format. LaserActive's combination of great analog images, limited digital video, CD-quality audio, and massive datastorage capacity opens a world of possibilities for programmers.

SEGA CD

Why beat around the bush? Sega CD is a no-apologies video-game supercharger that takes advantage of CD-ROM's bountiful storage capacity. For \$229, you get a CD-ROM drive that plugs into Sega's \$99 Genesis game console and a ticket to the new generation of vastly improved CDbased video games. Since its introduction last November, several hundred thousand Sega CD packages have been sold, making it the most widely available non-computer-based CD-ROM system. Although only a dozen or so titles were available at this writing. Sega expects seventy-five to be available by year's end, at an average price of about \$50.

CD's digital audio capabilities are exploited in three Make Your Own Music Video titles, one of which features rapper Marky Mark. While the audio quality is what you would expect from a CD, the video is rather grainy. But a new wave of improved Hollywood-spinoff titles, including games based on Jurassic Park and Bram Stoker's Dracula, is on the way.

CDTV

Commodore was an early leader in the personal-computer arena. Its PET PC hit the market in 1977. The company currently has a small, loyal following that uses its Amiga computer, known for superior graphics. Introduced a couple of years ago, CDTV is basically a stripped-down Amiga with a CD-ROM drive that connects to your TV and stereo system. The basic unit costs \$599, and it can be turned into a full-blown Amiga 500 computer with a \$249 upgrade kit that includes a keyboard, a floppy-disk drive, and a mouse. The system is compatible with CD+G discs.

With CDTV, you are buying into the Amiga and its base of program suppliers. Look them over carefully before you commit. About eighty titles are currently available, running the gamut from games to educational programs. Top sellers include "Music Maker" (\$50) and "Sim City" (\$50), a game that lets you simulate planning and governing a big city.

VIS

The Video Information System is just one of Tandy/Radio Shack's forays into the world of multimedia. In truth, you're far better off with one of Tandy's multimedia computers than with the MD-2500 VIS player, marketed under the Memorex brand. Although more than seventy-five VIS titles are available, most are uninspired reference-type programs. Unlike other CD-based systems, the VIS format cannot play Photo CD's. Perhaps the most telling sign of VIS's fate is Tandy's move to drop the MS-2500's price from \$699 to \$399.

PHOTO CD

It's time to donate that relic of a slide projector buried in your closet to the local PTA. The Photo CD player, which Kodak introduced last year, is starting to catch on and may forever change photo processing. Disguised as an ordinary-looking CD player, the Kodak machine is designed to display high-quality still photographs on a TV. You have a couple of options: You can buy Photo CD's (like "A National Parks Tour" from Philips Interactive Media), or you can have your own photos (prints, slides, or 35mm film) compiled on a gold-colored Photo CD for about \$20.

Put the disc in the player, and you can flip through your pictures onscreen using the player's remote control. The picture quality may not be quite as good as Kodachrome, but it's better than standard VHS. Kodak has four Photo CD players: a no-frills \$379 single-disc player, a \$449 full-featured model, a \$449 portable model, and a \$549 five-disc carousel changer.

READING about these wonderful systems is well and good, but the only way to find out what they're *really* all about is to try them out. So go ahead, take a walk on the interactive side. You may never come back.

David Elrich is a writer specializing in home electronics who uses Nickelodeon's Ren and Stimpy as a reality check.



For your complete personal guide to all Sony consumer electronics, we're introducing Sony Style magazine. To receive your copy for \$4.95, plus \$1.50 for shipping and handling, call 1-800-848-SONY. Visa and MC. Offer expires 11/93,

wherever you go and have your music flow uninterrupted. Meet the digital, recordable, Now this is news: A 2/2 inch disc that you can record on over a million times with no wear or loss of sound quality. That stores up to 74 minutes of digital sound and lets biggest step yet in personal music entertainment for people who never stop moving. you find any song in a second. That comes in its own protective cartridge for durability. That virtually eliminates skipping from shock and vibration, so you can go instantly accessible, virtually unshockable, portable MiniDisc from Sony. It's the



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MiniDisc Recorder / Player



Metal-Tape Cutouts

I send tapes to a friend in prison, and the rules of the institution require that they be in see-through housings. I would like to use metal tape but have been unable to find any in transparent cases, so I intend to buy clear Type II shells and transfer the metal tapes into them once they are recorded. The replacement housings will have only the chrome cutouts, however, rather than the metal ones. Will my friend have any problem playing them back?

> RICHARD ROSSI Florence, AZ

A Since metal (Type IV) and Type II cassettes use the same playback equalization, there should be no problem with playback, but you would not get good results if you were to attempt later to record over the transplanted metal tape in an auto-sensing deck, which would adjust recording bias and sensitivity to inappropriate levels.

Copying Surround

If I copy a signal encoded with Dolby Surround to the stereo soundtrack of a VHS or 8mm tape, will the dub be in surround or two-channel stereo? And if I play an ordinary stereo signal through my Dolby Pro Logic decoder, what effect will that have on the sound quality? TITUS CHEUNG Vancouver, British Columbia

Stereo media are basically dumb: If some engineer adds a little extra information that can be decoded as surround sound, the stereo channels don't know or care, so any two-channel copy you make of the encoded signal will contain the surround signals as well. As for Dolby Surround, the encoding is pretty simple anyway: Signals destined for the center channel (most dialogue, for example) are fed at equal level to both stereo channels, in phase; surround information is also fed as a mono signal to both channels, but out of phase. The decoder extracts the equal-level material-if it's in phase, it's routed to the center; if not, it goes to the rear. Since all conventional stereo signals have some information of both sorts, a Dolby Pro Logic decoder can create some interesting and pleasurable sounds from a nonencoded recording. but they're unpredictable and, in any case, not what the recording's producer intended.

Subwoofer Magnetism

The enclosure for my 15-inch subwoofer makes a convenient equipment stand, so I have stacked on it, from top to bottom, a receiver, a carousel CD player, a cassette deck, and a hi-fi VCR. Is the magnetic field from the subwoofer likely to affect any of these components, and if so, should I move the magnetic media to the top of the stack? Also, might the vibration from the speaker affect any of the components? WILLIAM L. SALOPEK Albuguergue, NM

A lot depends on the specific subwoofer, but in general I would be very hesitant to put my tapes that close to such a powerful magnetic field. It might be okay, but by the time you find out it's not, it will be too late and you will have ruined some recordings. If you can't move the equipment stack to some other location, you should indeed rearrange it to keep the magnetic-recording components the cassette deck and VCR—as far away from the speaker as possible.

As for vibration, the enclosure itself should vibrate very little because a speaker designer's aim is to have the sound radiated by the speaker cone, not the walls of the box. But if you can feel more than the slightest bit of vibration when something with lots of bass is playing, then you should perhaps consider moving your equipment (but feel the new shelf as well—it might move just as much by induced vibration). About the only effects the vibration might have would be to increase slightly the incidence of CD mistracking or to impair slightly the stability of the tape transport in the recorders.

The ABC's of Impedance

The catalog from which I bought my receiver er suggests using it with 4-ohm speakers. The receiver's instruction manual, on the other hand, says it should only be used with speakers rated at 8 to 16 ohms. What is impedance anyway, and how important is it when matching speakers to a receiver?

JAMES HOPKINS Larchmont, NY

A The output stages of your receiver, your speakers, and the wires that connect them form a single circuit, and, like any electrical circuit, it works best if the various components are carefully matched. The designer can control what's in the receiver, but the characteristics of the speakers you choose are an unknown quantity; unsuitable speakers can cause the whole circuit to misbehave, and in worst cases they cause actual damage. In effect, your speakers constitute one of the resistors in each output circuit, only the degree of resistance changes as the frequency of the music being played changes.

The overall dynamic resistance is called impedance, and, like pure resistance, it is measured in ohms. Too low a figure, and the amplifier may be called upon to deliver more current than it was designed for, causing excess heat and possible damage to the output stages; too high, and the maximum power the amplifier can deliver will be reduced. So matching a receiver and speakers is very important, but the task is complicated by the fact that the single number quoted for a particular speaker—its "nominal impedance"—is only an average, and the actual impedance can be lower at certain frequencies. Thus, even a speaker with the "right" nominal impedance may cause problems; one with too low a figure is much more likely to.

Another factor is UL (Underwriters' Laboratory). Many amplifiers and receivers would require additional heat-sinking to get UL approval if they were rated for operation into 4-ohm loads, even though most of them will work fine into most 4-ohm-rated loudspeakers. Rather than add the unnecessary cost to their products, many manufacturers just label them as suitable only for speakers rated at 8 ohms or more, which leads ultimately to the contradictory recommendations and confusion you have experienced.

DAT Double Time

I am planning to buy a digital audio tape (DAT) recorder and to transfer my considerable collection of open-reel recordings to it over the next few years. Some of the material is quite long—opera broadcasts, mostly—so I am looking at recorders with a long-play (halfspeed) mode. Will that enable me to record 4 hours on a standard 120-minute DAT? And will the extra playing time involve any sacrifice in sound quality? LEO A. GUTMAN Los Angeles. CA

Yes. you will be able to double your recording time, and yes, that will involve some loss of quality, at least on paper. The information density on a DAT cassette is very high even at normal speeds; to double the playing time, some compromises have to be made—specifically, a lower sampling rate and 12-bit nonlinear coding instead of standard 16bit linear samples—to take up less space. The result is somewhat less dynamic range, somewhat higher (though still not normally audible) distortion, and an upper frequency limit of about 14.5 kHz.

In your situation, however, that probably means very little sacrifice. For one thing, FM response cuts off at 15 kHz, so there is nothing above that frequency on your tapes anyway. And if you made your open-reel tapes at 3¼ ips to achieve long playing times, you probably didn't even capture all the highs that were broadcast. All in all, the long-play DAT mode seems ideal for your purposes.

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



SIGNALS BY KEN C. POHLMANN

The Buried Channel

HE Audio Engineering Society is a worldwide organization that includes many of the best and brightest audio theorists and practitioners. Twice each year, the AES holds an international convention that draws together members and manufacturers for an exhibit of the latest technology as well as presentations of technical papers that represent cutting-edge thought in the audio field. Last March, the 94th international AES convention was held in Berlin to commemorate the 50th anniversary of the first stereophonic tape recording-a technology that was born in Berlin in one of the darkest years in that great city's history.

Just as remarkable as the lectures and demonstrations that looked back in time (including a radio broadcast of those first stereo tapes from 1943) were the lectures that looked forward into audio's future. Many of the technical papers were rich in new ideas for elevating the height of high fidelity and broadening its definition. Many papers, for example, explained new concepts and applications in perceptual coding that will enable digital audio signals to be efficiently combined with digital video signals, letting them flow together down the information superhighways of the near future.

One of the most interesting technical papers was delivered by the British audio researchers Michael Gerzon and Peter Craven. Entitled "A High-Rate Buried Data Channel for Audio CD," it proposed an innovative method to place new information on audio CD's without significantly degrading the quality of their musical content. Gerzon and Craven's coding technique would replace several of the least significant bits of the CD's 16-bit format with an independent channel for additional data. If unrelated data were simply dropped into the audio data and the disc was played in a conventional CD player, the result would be unlistenable. For example, nonstandard data in the four least significant bits would add about 27 dB of noise to the music, not to mention the errors caused by slicing 4 bits from the 16-bit audio samples, a process known as truncation. The key to the new method is processing that makes such buriedchannel discs compatible with conventional CD players.

Using the proposed method, the buried data are first coded to be pseudo-random, which makes the data noise-like and thus easier to "hide." The buried data are also coded to act as a subtractive dither signal to prevent the distortion that would be caused by simple truncation. Finally, the channel is encoded with psychoacoustically optimized noise-shaping to lower the perceived noise. Similar techniques are widely used to convert 20-bit master tapes into 16-bit CD's, for example. As a result, the noise created by 4 bits of buried data (conveying 362.8 kilobits per second) can be redistributed to yield a perceptually weighted signal-to-noise ratio (S/N) of about 91 dB, almost as good as that of conventional CD's. Reducing the burthis extra channel? The possibilities are numerous, including audio improvements that may be significantly more useful than the lost dynamic range. Gerzon and Craven suggest that 4 buried bits could convey multiple channels for surround-sound playback. Using data reduction and compression, up to five additional audio channels would be possible.

Alternatively, a 1- or 2-bit channel could be used to carry dynamic-range compression or expansion information. Depending on the listening environment and type of music, the dynamic range could be adjusted for the best results. Range algorithms could be calculated prior to playback, making them much more effective than conventional processing.

A few people think that the CD format's 44.1-kHz sampling rate, which limits high-frequency response to 22.05 kHz, is too low, or that such sharp band-limiting creates audible artifacts. The buried channel could be used to convey additional highfrequency information and provide a gentle rolloff. Any or all of these applications could be combined. For exam-

British researchers have proposed an innovative method to place extra information onto audio CD's without significantly degrading sound quality.

ied channel to 2 bits (181.4 kilobits per second) would yield an S/N of 103 dB.

Theoretically, you could even devise a method to "steal" a variable number of bits from the original program, but only when their absence would be completely masked by the music signal. At any rate, you could play one of these unconventional CD's in a regular CD player without severely compromising the fidelity of the original music. Most pop music might not be affected at all because of its limited dynamic range. More interestingly, a CD player with a special decoder could play the original music signal and retrieve the buried data too.

What type of data might be buried in

ple, two ambience channels and dynamic-range-control data could be delivered simultaneously.

The paper by Gerzon and Craven highlights the power and flexibility afforded by digital audio technology. More important, their work illustrates the kind of creative thinking that today's audio engineers are engaged in-a creativity that will insure significant improvement and diversification in audio recording and playback. With organizations such as the AES promoting the development and sharing of new ideas, inventions just as significant as stereo tape recording are in the works. I'll see you in Berlin in 2043 to celebrate them.



ls Distortion Desirable?

OT by definition, certainly! In the *IEEE Standard Dictionary of Electrical and Electronics Terms* (the IEEE is the Institute of Electrical and Electronics Engineers), distortion is defined as "an *undesired* change in waveform" (emphasis mine), usually associated with a nonlinear relationship between the input and output signals. The undesired change might also result from nonuniform frequency response or phase (time) errors, or even from the addition (or subtraction!) of noise.

This suggests to me that an ideal amplifier (or other component) should have a minimum of distortion-preferably zero. Although zero distortion is an impossible goal, it is possible to make very affordably priced amplifiers whose distortion is so low as to be difficult to measure, let alone hear. At the other extreme, it has been demonstrated to me (and others) that one can add a rather high percentage of crossover-notch distortion (one of the most objectionable categories of distortion when reproducing simple test tones) to a typically complex music signal before its presence can be reliably detected by ear.

So, is distortion actually a relatively minor factor in the high-fidelity equation? Is there any point in trying to design an amplifier having distortion approaching the limits of the widely used Audio Precision System One test set (around 0.0001 percent)?

As with so many aspects of highfidelity music reproduction, there are no simple answers to these questions. Probably they would never arise were it not for the numerous claims that certain amplifiers have uniquely superior sound qualities that cannot be correlated with any of their measured characteristics. Some of these amplifiers have rated distortion levels many hundreds of times greater than those of others, yet their sound quality appears to remain unscathed.

Perhaps not surprisingly, it is almost routine for manufacturers to claim that their amplifiers or other electronic components "sound better" (whatever that might mean) than competing products. If these claims were taken as mere advertising hype, their effects would cancel out and could safely be ignored. But there are many people who take them seriously, which has encouraged manufacturers to place undue emphasis on the component technology employed in their products. As one reader, understandably puzzled by this situation, asks: "Does a tube amplifier really sound better than a MOSFET or IGBT or bipolartransistor amplifier? If so, why?

A very good question. I wish I knew the answer to the first part, which might lead me to the second part. It seems unreasonable to assign the credit for a claimed effect to the type of amplifying device used, since *none* of them, when properly operated, generates more than a small fraction of the lowest audible levels of distortion.

True, some types of distortion are more irritating to a listener than others, but at the levels we are considering (a very small fraction of a percent) I don't believe that any of them would be audible when reproducing complex orchestral or vocal music. On the other hand, some people have claimed that certain types of distortion (usually strate a consistent ability to make such distinctions in a controlled listening test, with carefully matched levels, in which neither the tester nor the listener is aware of which component is being heard at any given point.

I suspect, however, that the whole controversy is ultimately insignificant. Anyone whose mind is as open as his ears must realize that, however good reproduced music may sound through a well-designed playback system, it would never convince even an inexperienced listener that he is present at a live performance. Yes, distortion is the reason, but not only the kind we usually assume it to be (nonlinear distortion). There are also distortions of scale, thus far unavoidable when a performance in a relatively large acoustic environment is reproduced in a much smaller environment (or vice versa). Granted, today's digital signal processing (DSP) can come surprisingly close to breaking that barrier, but nothing I have heard so far goes all the way. Perhaps eventually . . .

But if that happens, it will be the incredible ongoing advances in digital signal processing that earn the lion's share of the credit. Oh, yes—the component that has been the weak link of the chain for so many years, the loudspeaker, is also being steadily improved, and here, too, DSP can make a considerable contribution.

Doos a tube amplifier really sound better than a MOSFET or IGBT or bipolar-transistor amplifier?

attributed to tubes) actually sound pleasant, but the same argument would seem to apply there as well.

I could be wrong, of course. Like most people, I do not hear the alleged benefits of many widely promoted audio nostrums, such as the "tremendous" improvement that some say arises from using certain expensive cables or the equally staggering superiority credited to some power amplifiers. But I would gladly concede the point to anyone who could demonBut as for those amplifiers with their highly touted circuit topologies and "new" output devices—or "old" ones, if you long for the "good old days"—I think we should take the claims made for their "unique" properties with a pinch of sodium chloride. I was there in the good old days and never heard or tested any amplifier of the time whose overall performance even came close to matching that of today's moderately priced transistor audio components.







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*EIA output 12W x 4 (4 ohms), 20 to 30,000 kHz, at 1% THD. "Panasonic developed the world's first MASH-type DAC. MASH technology was invented by NTT (LSI Labs). MASH is a trademark of NTT.





TEST REPORTS



NAD Model 705 Stereo Receiver

HE NAD Model 705, which falls in the middle of the company's receiver lineup, follows the NAD tradition of striving for high performance and functional design at a reasonable price. For example, all NAD amplifiers, whether separate components or part of a receiver, feature what the company calls Power Envelope design, which enables them to deliver outputs well beyond their continuous-power ratings during the brief intervals required by music peaks. Thus, despite its modest specification of 40 watts per channel into 8 ohms from 20 Hz to 20 kHz at less than 0.03 percent distortion, the Model 705 is also rated to deliver from 90 to 160 watts per channel into loads of 8 to 2 ohms during program transients.

The Model 705's front panel presents an uncluttered, functional appearance, especially in comparison with that of many other contemporary receivers. Finished in the attractive dark gray used throughout the NAD line, the front panel is adorned with three small knobs and two larger ones, plus a few well-marked pushbuttons and a headphone jack.

The small knobs are center-detented controls for bass and treble adjustment and channel balance. A slightly larger recording-selector knob connects the desired program source to



the recording outputs on the rear apron. The largest knob, the volume control, is also motor-driven from the supplied remote control.

Like most modern receivers, the NAD 705 has a display window that shows its overall operating status. Large numerals indicate the tuned frequency and preset-channel number (as many as thirty-nine AM or FM frequencies can be stored in a nonvolatile memory for instant recall).

Small buttons below the display control most of the receiver's functions. A pair of white up and down buttons select the program source for listening. When either is pressed, the display presents the available inputs: phono, video, CD, tuner, tape 1, tape 2, and auxiliary. An arrow moves as the buttons are pressed, to show the selected source. After a few seconds, the labels for all but the selected source are extinguished.

When tuner is selected, the AM/FM button selects the desired band. The mode button offers a choice of search, manual, or "preset" operation, with the selection name displayed in the window for a few seconds. In search

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MEASUREMENTS

TUNER SECTION

All figures are for FM only except frequency response.

JU-00	quietin	g sens	ITIVITY
mono			

mono	15 dBf
stereo	40 dBf
Signal-to-noise ratio (at 65 dBf)	
mono	82.2 dB
stereo	73 dB
Distortion (THD + N at 65 dBf)	
mono	0.13%
stereo	0.22%
Copture ratio (at 65 dBf)	
AM rejection	
Selectivity	
alternate-channel	51 dB
adjacent-channel	
Pilot-carrier leakage	
(19 and 38 kHz)	- 51 dB
Hum	
Channel separation	UT OF
100 Hz.	46 dB
l kHz	
10 kHz	
Frequency response	
FM	-0.5 dB
AM 20 Hz to 2.5 kHz +1	
25 HE (0 2.5 KHZ +)	, 000

AMPLIFIER SECTION

Output at clipping (1 kHz)	
8 ohms	
4 ohms	58 watts
Clipping headroom	
(relative to rated output)	0.9 dB
Dynamic power	
8 ohms	
4 ohms	144 watts
2 ohms	
Dynamic headroom	
(relative to rated output)	

mode, a tap on one of the up/down tuning buttons causes the tuner to scan until it finds a receivable signal. Manual mode tunes in unusually fine 25kHz steps on the FM band and selectable channel steps on AM, 10-kHz for North America or 9-kHz for most of the rest of the world. In preset mode, the tuning buttons step through the station presets. You can also enter any preset number or station frequency



Distortion (THD + N at 1 kHz, 8 ohms). 0.013% at 62 watts Sensitivity (for a 1-watt output into 8 ohms) auxiliary 62 mV phono 0.76 mV A-weighted noise (referred to a 1-watt output) auxiliary -76 dB phono -69.2 dB Phono-input overland (1-kHz equivalent level) 122 mV Phono-input impedance. 45,000 ohms in parallel with 180 pF **RIAA** phono-equalization error (20 Hz to 20 kHz) +0.25. -0.15 dB Frequency response (with tone controls centered) 20 Hz to 20 kHz +0.1. -1 dB Tone-control range 100 Hz.. +8.5. -8 dB 10 kHz $+7, -7.5 \, dB$

directly from the keypad on the remote control.

The remaining front-panel controls include buttons for independent selection of the two pairs of speaker outputs, mono/stereo switching, and loudness compensation. The speaker selection (A, B, or both) appears in the display window, as does a multisegment FM signal-strength indicator.

In addition to the various signal

input and output phono jacks, the Model 705's rear apron has separate preamp-out and main-amp-in jacks, joined by removable jumpers. This arrangement offers added flexibility for inserting external processors (a surround decoder, for example) into the signal path or substituting other power amplifiers for those built into the receiver. A pair of jacks labeled Multi Room Output carries the selected program at line level, unaffected by the receiver's volume, balance, or tone controls. In a multiroom installation the signal can be fed to a separate amplifier for driving speakers in other rooms. Other "NAD Link" jacks enable creation of a true multiroom remote-controlled music system with other compatible NAD components.

The Model 705 also has NAD's Soft Clipping circuit, which causes the signal waveform to round off smoothly near the maximum power level, minimizing the harshness associated with peak clipping. This feature can be selected or defeated by a small slide switch on the rear apron.

There is a 75-ohm coaxial FM antenna input and a connector for an AM wire antenna. The main (A) speaker outputs are insulated binding posts that accept single or dual banana plugs as well as stripped wires. The B speaker terminals are spring clips that are usable only with stripped wire ends. One of the two AC outlets is switched.

The Model 705's FM tuner section had an outstanding capture ratio (important for rejection of multipath and other co-channel interference) and good AM rejection. Selectivity was only fair, however. The tuner had a very low hum level, and the 50-dB quieting sensitivity in mono was very good, although the stereo reading was less so. Stereo channel separation was better than 40 dB from 35 Hz to 2.5 kHz and about 27 dB at 15 kHz.

The FM frequency response was better than ± 0.2 dB from 20 Hz to 9 kHz and down less than 0.7 dB from 9 to 15 kHz. AM response was ± 1 dB from 20 Hz to 1.3 kHz and down 6 dB at 2.5 kHz.

In addition to our usual measurement of amplifier response from source input to speaker output, we also checked the preamplifier section's frequency response alone, measured at its output prior to the power-

amplifier section. It was a good ± 0.2 dB from 25 Hz to 20 kHz and was down less than 2 dB at 200 kHz. The tone controls had good characteristics, with a sliding bass-turnover frequency from approximately 100 to 400 Hz and treble curves that hinged at about 2.5 kHz. At reduced volume settings the loudness compensation boosted the lows (below 200 Hz) by a maximum of 10 dB and the highs by a maximum of 3 dB at 20 kHz.

The amplifier's power delivery fully lived up to NAD's claims. At a constant 0.1 percent distortion into 8-ohm loads (with both channels driven), the power output was between 48 and 52 watts per channel from 20 Hz to 20 kHz. Under the same conditions into 4 ohms (for which the Model 705 is not specifically rated), the power ranged between 53 and 55 watts from 20 to 800 Hz, reached 61 watts at 1.2 kHz, dropped to 53 watts from 3 to 8 kHz, and climbed back to 61 watts at 20 kHz. The 1-kHz distortion into 8 ohms at the receiver's rated 40 watts was 0.03 percent in one channel and 0.04 percent in the other.

But where the Model 705 really showed its mettle was in our dynamic power measurements, which use a 20millisecond 1-kHz tone burst repeated at half-second intervals. Into loads of 8, 4, and 2 ohms, the output clipped at 95, 144, and 263 watts, respectively, easily surpassing NAD's specifications. Very impressive for a "40watt" amplifier!

The NAD 705 was every bit as exceptional in use as it was on the test bench. From the first look, we felt its simple, uncluttered appearance was a vast improvement over that of today's typical receiver, so often studded with pushbuttons and an overloaded, confusing display panel.

Even simplicity can be confusing, however, when it's different from what you've become accustomed to, and that makes a study of the instruction manual as important as it would be for a full-blown audio/video receiver. Fortunately, NAD explains the receiver's operation clearly in a few pages, and after a short familiarization its true merit becomes obvious.

My most serious reservation about the Model 705 concerns its display window. The problem was not its content (it's perhaps the best I have seen in that regard), but its dimness and lack of contrast. Unlike the typical receiver display, dazzling in its bright, multicolor splendor, this one is too dim to be read easily in a normally lit room, at least from more than a few feet away. Also, unless it is viewed straight on, the upper part of the display is masked by the panel, preventing you from seeing which speakers (if any) are being driven.

Since that minor and perhaps idiosyncratic criticism is the only one I could come up with after living with the receiver for some time, it is only fair to say that the Model 705 is everything NAD claims for it and a lot more receiver than its modest size, price, and appearance would suggest-a worthy new member of a long line of distinguished products.



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TEST REPORTS



Celestion Trinity Three-Piece Loudspeaker System

JULIAN HIRSCH + HIRSCH-HOUCK LABORATORIES

HE Celestion Trinity is a modestly priced three-piece speaker system consisting of a pair of Celestion 1 minispeakers and a CS135 subwoofer. The Model 1 is the smallest and least expensive Celestion bookshelf speaker, and the CS135 is also compatible with the slightly larger Celestion 3 and Celestion 5.

The Celestion 1 is a two-way system with a 4-inch felted-fiber cone woofer crossing over at 6.4 kHz to a 1-inch titanium-dome tweeter. Its vented enclosure, made of half-inch high-density particleboard, has an internal volume of 6 liters, and the speaker weighs a shade less than $6\frac{1}{2}$ pounds. Recessed spring connectors (which accept only wire ends) and the woofer port are on the back of the cabinet. The speaker has a removable black cloth grille. The Celestion 1 is specified as having a nominal impedance of 8 ohms and a sensitivity of 86 dB sound-pressure level (SPL) at 1 meter with a 2.83volt input. It is recommended for use with amplifiers rated between 10 and



50 watts per channel and is rated as having a power-handling capability of 50 watts with musical program material. Its frequency response is specified as 78 Hz to 20 kHz \pm 3 dB, with bass response down 6 dB at 68 Hz.

The CS135 subwoofer resembles most subwoofers designed specifically for operation in a three-piece system. Like the satellite speakers, it is a black box, though clearly much larger and weighing 21 pounds. Internally, the CS135 is a dual-chamber design, combining a 10-liter sealed enclosure with a 12-liter vented enclosure that opens into the room through a duct 3¼ inches in diameter.

The CS135 contains a single 8-inch woofer with a dual voice coil, driven at low frequencies by both stereo channels and generating an L + R (mono) bass output. The CS135 contains the crossover to the satellites, set at 112 Hz with a 12-dB-per-octave low-pass section feeding bass to the subwoofer and 6-dB-per-octave high-pass filters supplying middle and high frequencies to the satellites.

Celestion specifies the subwoofer's impedance as 8 ohms and its sensitivity as 86 dB SPL at 1 meter (matching that of the satellites). Its rated bandwidth is 42 to 112 Hz at the -3-dB points and 38 to 143 Hz at -6 dB. Celestion says the CS135 is suitable for use with amplifiers rated between 10 and 90 watts per channel.

The CS135 connects to the left and right speaker outputs of the amplifier feeding the system and to the inputs of the two satellites. The subwoofer is normally placed on the floor, either upright or flat, with the vent opening unobstructed. Like most subwoofers, it can be located almost anywhere in the room without impairing system performance. The owner's manual says the satellites can be placed either on stands or close to a wall (taking care not to obstruct their vents).

We placed the satellites on 26-inch stands, about 2 feet from the wall behind them and 10 feet apart. The subwoofer was against the wall, on the floor behind the left satellite.

The averaged room response of the two satellites alone (with the CS135 disconnected) was relatively smooth from 55 Hz to 20 kHz, with a slightly elevated output between 200 Hz and 2 kHz. An approximate splice of the
subwoofer output to the room curve indicated a flat, smooth response from 40 Hz to 1 kHz (\pm 3 dB), sloping downward at higher frequencies by about 5 dB and continuing with a \pm 1dB variation from 5 to 20 kHz. A closemiked measurement of the subwoofer response indicated maximum output at 55 Hz, falling by 3 dB at 42 and 110 Hz and by 6 dB at 38 and 133 Hz.

The on-axis response of a Celestion 1 satellite (when part of the complete Trinity system), measured with one-third-octave pink noise, was within $\pm 2 \text{ dB}$ from 150 Hz to 20 kHz, falling to -3 dB at 110 Hz and -6 dB at 80 Hz. The previously observed high-frequency dip was visible, as well as the rise to a maximum output at 20 kHz. Similar measurements at 45 degrees off-axis showed output decreasing above 1 kHz, leveling off at 8 dB below the on-axis output between 4 and 20 kHz.

Quasi-anechoic (MLS) measurements of the satellite response confirmed the basic characteristics revealed by other means, such as the slightly depressed output from 4 to 12 kHz and the rising output from there to 20 kHz. An on-axis ground-plane measurement, to minimize reflections from nearby objects in the room, indicated a ± 2 -dB variation over most of the range from 300 Hz to 20 kHz.

The impedance of the Celestion 1 reached its first minimum of 5.5 ohms at 300 Hz, with the impedance peaks of the speaker's two bass resonances at 40 and 110 Hz and a maximum impedance of 20.3 ohms at 2.3 kHz. The impedance fell to 4 ohms between 10 and 20 kHz. When we connected the subwoofer to the system, the general shape of the impedance curve was similar, but with lows of 3.3 to 3.5 ohms at 300 Hz and 13 kHz and a high of 8.8 ohms at 3 kHz.

The system's sensitivity was 87 dB SPL, slightly better than rated. We measured woofer distortion at an input of 4 volts, equivalent to a 90-dB SPL output in the sensitivity measurement. Measured on its own, a Celestion 1 yielded distortion readings between 0.3 and 1 percent from 300 Hz to 2 kHz, rising to 1 percent at 100 Hz, 4.5 percent at 50 Hz, and 10 percent at 40 Hz. The CS135 subwoofer's distortion was about 1 percent at the 112-Hz crossover frequency, rising to 8 percent at 47 Hz and varying between 3.5 and 12 percent from there to 20 Hz. These relatively high readings appeared to be related to the turbulent air blast that emerged from the subwoofer port at very low frequencies (the microphone was located at the port opening for this measurement). None of these effects was audible at normal listening distances.

The Trinity system was able to handle rather high input levels at middle and high frequencies, with our amplifier reaching its limits of 630 watts at 1 kHz and 1,530 watts at 10 kHz without damage to the Celestion 1 satellites. At 100 Hz, however, the Celestion 1's 4inch woofer bottomed noisily with a single-pulse input of 60 watts into its 15-ohm impedance at that frequency. At 50 Hz, the subwoofer overloaded audibly when the input reached about 20 watts.

As always, the proof of the speaker was in the listening. The Celestion Trinity sounded much larger than it looked and was able to play at strikingly high levels without difficulty, even with program material combining strong dynamics and low frequencies. For example, Telarc's "Time Warp," a collection of blockbuster movie music. presented no problem to the Trinity, even at levels higher than we would normally want to use.

The Trinity's price is another of its notable features. It is one of the most economical three-piece speaker systems, yet it ranks close to the top in sound. Celestion has long been recognized for the high quality (and, often, high price) of its speakers, but in its least expensive models (the Models 1, 3, and 5), the company has managed to achieve much of the essential quality of its costlier speakers at more affordable prices.

Celestion is also to be commended for making the CS135 subwoofer compatible with several of its speakers. Anyone who owns a pair of Celestion 3 or 5 speakers can add an octave or more to their bottom end for a bargain price, or you could assemble a very fine three-piece system from the outset by choosing a pair of any of those speakers that appeals to you and coupling it with a CS135. The Trinity combination Celestion has chosen is the obvious one, however, and represents an outstanding value.

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TEST REPORTS



Beyer IRS 790 Cordless Headphones JULIAN HIRSCH LABORATORIES

ORDLESS headphones have been available for at least twenty years and are widely used in legitimate theaters as an aid to hearing dialogue that might otherwise be lost or masked by ambient noise. Most such headphones are monophonic types designed primarily for voice reproduction, although a few stereo hi-fi models have come to market.

Beyerdynamic now offers an unusually high-performance wireless stereo headphone intended for use in the home. Its IRS 790 system, like most other wireless phones, employs infrared light beams that are frequencymodulated by the audio program. To

they use carrier frequencies for the two stereo channels that are much higher than those of earlier systems-2.3 and 2.8 MHz instead of 95 and 250 kHz. Their infrared light beams also

improve the sound quality, however,

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TEST REPORTS

have a somewhat shorter wavelength (higher frequency).

The Beyer IRS 790 system consists of an IS 790 transmitter and one or more IRH 790 headsets (any number of headsets can be operated from a single transmitter). The slim, black, vertical transmitter resembles a remote control standing on end. About 8¼ inches high including its base, it contains a linear array of twelve infrared light-emitting diodes (LED's).

The transmitter, powered from a small plug-in module, can be left energized at all times, coming on automatically whenever a signal is applied and shutting off again after a period of silence. The program source plugs into a V_8 -inch stereo minijack on the back of the transmitter via a 7-foot cord with a stereo miniplug at each end (an adaptor plug for matching standard V_4 inch phone jacks is also supplied).

The headset appears conventional, with two full-size adjustable earpieces fitted with soft cloth ear cushions. The top of the sturdy metal headband is padded for comfort. Naturally, there is no cord or other external wiring. The right earpiece has a three-position slide switch that enables you to listen to either channel alone or to both in stereo. The left earpiece has a twoposition yellow slide switch that controls power to the headset (each earpiece is powered by one AAA cell). A red LED above the power switch indicates that the phones are activated. A recessed thumbwheel on each earpiece adjusts its volume. There is no master level control, and channel balancing requires varying one or both earpiece controls.

We tested the Beyer IRS 790 system on a standard headphone coupler. The test signal, from our Audio Precision System One, drove the IS 790 transmitter, and the output of the B&K 4133 microphone in the coupler returned a signal to the System One for analysis. An input of 10 to 20 millivolts was sufficient to turn the transmitter on, and it remained on for several minutes after the signal was removed.

We measured the system's frequency response using several different test signals: swept sine waves, swept one-third-octave noise, full-range noise and a sweeping filter, and the MLS digital system with a burst of pseudo-random noise. Allowing for

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unavoidable differences in detail, the results from all these tests were very nearly the same. Maximum output was at 100 Hz, falling at about 18 dB per octave below that frequency. The output decreased at 3 dB per octave from 100 to 600 Hz, and there were variations of $\pm 5 \, dB$ between 1 and 8 kHz. The response rolled off steeply above 10 kHz, to about -14 or -15 dB at 20 kHz. Distortion was comparable to that of most conventional headphones or compact loudspeakers. with readings of one to several percent over much of the audio range and not much variation with level.

Listening tests, using FM radio as a source, confirmed the major features of these measurements. The phones had a warm, pleasant sound, and, although the level of the extreme highs was noticeably below that of the upper bass, the overall effect was very listenable. The headset was comfortable to wear, and the coverage from the infrared transmitter was solid.

In fact, the solidity of the transmission from base station to headset was one of the IRS 790's most outstanding features. No matter where the transmitter was placed or aimed, or where the headphone wearer was located or facing (so long as both were in the same room), there was never a hint of noise or any other suggestion that the phones were not wired to the source. The transmitter could even be placed out of sight, on a shelf or facing in any direction, without degrading the sound detectably. Only by leaving the room could we induce a signal loss (which was instantaneous as we went through the door).

The Beyer IRS 790 is clearly a viable alternative for those who would like to use headphones without the encumbrance of being tethered to an audio system. Priced comparably to many high-end conventional phones, it provides agreeable, reasonably well-balanced sound and acceptable wearing comfort. Unfortunately, the miniplug interface makes connection to most home audio components rather inconvenient, but you can get around that problem with the supplied adaptor. For the same price you could probably get a better-sounding conventional headphone, but there are undeniable advantages to fully cordless operation. The choice is yours.

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Sony MDS-101 MiniDisc Recorder KEN C. POHLMANN HAMMER LABORATORIES

HE Sony MiniDisc family numbers four. The original trio of products-an in-dash car player, a portable recorder, and a portable player-have now been joined by an AC-powered model, the MDS-101. In keeping with MD's mobility motif, however, this first home MD recorder is quite diminutive. It is, in fact, a minicomponent, about half the size of conventional home components. On the other hand, it is relatively roomy compared to its siblings, and thus it offers expanded features not available on the others.

The MDS-101's front panel is a hybrid between those of CD players and DAT recorders. Discs (contained in a cartridge) are loaded into a slot and retrieved with an eject button. The deck has all the standard transport controls, and recordings are initiated by pressing the red record button followed by the play/pause button. As with all MD recorders, there is no need

to find a blank portion on the disc; the MDS-101 automatically finds available disc space, even if it is in small fragments scattered across the disc surface. Recording levels for the left and right analog inputs are adjusted with a single knob; there is no record channel-balance control.

The input-selector button enables you to choose between the analog and digital inputs and, when the deck is already in recording mode, to turn the Level Sync feature on and off. When that is turned on during recording from



an analog source, it automatically marks a new track number when a pause in the audio occurs; when it is turned off, you must manually add new track numbers by pressing the record button while recording. During recording, track markers are automatically read from the input data stream's subcode (and you can add track numbers manually as well) regardless of whether Level Sync is on or off. The playback-mode button is used to select random or programmed sequences of tracks. In programmed mode, you can select as many as twenty-five tracks for playback. There is a minijack with level control for headphone listening and another for plugging in a stereo microphone. When a microphone is plugged in, the backpanel inputs are defeated.

You can push a button to flash the name of the current track on the MDS-101's twelve-character blue fluorescent display; disc and track titles longer than that scroll across the display. The display button can also be used to bring up the elapsed or remaining g time. The display keeps you fully apprised of operating status. A music calendar displays as many as twenty-

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Model 3

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tracks are being played back, recorded, or edited. The calendar display distinguishes between prerecorded and user-recorded discs, with and without a grid, respectively. A horizontal bar graph shows input and output levels in the left and right channels. The display also flashes a number of diagnostic messages, such as "Disc Full," "Protected," and "Sorry." When the deck is turned off, it displays a dimmed "Standby" message.

The MDS-101 permits a variety of editing functions for user-recorded MiniDiscs, all controlled via the Edit/ Yes and Edit/No buttons. These functions include erasing a track or disc as well as dividing, combining, and moving tracks. The No button is used to specify or cancel various edit functions, the Yes button to execute a selected function. When a track is erased, its header is removed from the disc's table of contents, freeing the space occupied by the track's contents for future recording, and tracks following the erased one are renumbered to eliminate the gap in the sequence. To avoid confusion when making multiple deletions, it is wise to erase highernumbered tracks before lower-numbered ones, so that the tracks vet to be erased are not renumbered before you get to them.

With the divide function you can split an existing track into multiple tracks. As you insert new track numbers, the deck automatically renumbers subsequent tracks. The combine function does the reverse, enabling you to combine two consecutive tracks into one; as with the divide function, when two tracks are combined the deck renumbers subsequent tracks. Perhaps the most unusual item in MiniDisc's bag of editing tricks is the move function, which enables you to reorder tracks. That is done simply by renumbering the tracks in the disc's table of contents; no physical movement of data is involved.

These functions can be combined for special-purpose editing. For example, to erase part of a track in the middle, you isolate that portion from the rest of the track by dividing twice, erase the middle of the resulting *three* tracks, and then combine the two remaining tracks. You can even do some pretty tight editing thanks to a "rehearsal" feature in the divide func-

tion, which lets you audition a division by repeating it continuously before you commit to it. If the edit point isn't quite right, you can nudge it with the scan buttons over a range of ± 128 steps of about 0.12 second each. If you need greater precision than that, you can get the resolution down to 0.06 second by pressing the playbackmode button while in the divide mode. If you screw up a division, you can always join the tracks together again. But don't get too carried away: The MDS-101's owner's manual warns that after extensive editing of a track it may be impossible to do combines within it anymore. (The manual also notes that combined tracks may cause dropouts during fast searching.)

MEASUREMENTS

Record/playback measurements were made through the analog inputs, playback measurements at the analog outputs. Measurements listed are for the worse of the two channels.

PLAYBACK

Frequency response			
+0.02 dB, -0.01 dB, 20 Hz to 20 kHz			
Channel separation			
l kHz	69.2 dB		
20 kHz	68.4 dB		
Signal-to-noise ratio (A-wtd.)	97.1 dB		
Dynamic range			
Distortion (THD+N at 1 kHz)			
at 0 dB	0.061%		
at – 20 dB	0.076%		
Linearity error (at - 90 dB)	. – 0.4 d B		
Interchannel phase shift (at 20 kHz) 1.2°			

RECORD/PLAYBACK

Frequency response			
±0.04 dB, 20 Hz to 20 kHz			
Channel separation			
1 kHz			
20 kHz	56.9 dB		
Signal-to-noise ratio (A-wtd.)	84.0 dB		
Dynamic range			
Distortion (THD + N at 1 kHz)			
at 0 dB.	0.066%		
at - 20 dB	0.094%		
Linearity error (at -90 dB) + 0.3 dB			
Interchannel phase shift (at 20 kHz) 1.2°			

The remote control supplied with the MDS-101 duplicates many frontpanel functions, such as power on/off and transport control, and adds a few of its own. Thanks to a twenty-fivebutton keypad, you can directly select as many as twenty-five tracks. A title function enables you to create titles for tracks or discs, with as many as a hundred characters for each title. Characters available, using various button combinations, include capital and lower-case letters, numbers, certain symbols, and spaces. In total, a user-recorded disc's table of contents can hold 1,792 characters' worth of titles. You can also erase track and disc titles on user-recorded discs. Date buttons enable you to display the recording date and time of a userrecorded track, which are automatically marked during recording. Other buttons enable disc or track repeat, A-B repeat, insertion of 3-second pauses between tracks (useful when copying MD's to cassette), and automatic auditioning of the beginnings of tracks on a disc. You can even choose audition times of 6, 10, or 20 seconds.

The remote is not shy about the MD's CD-dubbing capabilities. When the MDS-101 is connected to a Sony CD player with an AU-bus interface. three CD-synchro buttons enable you to enter recording-standby mode and to start and stop CD recording. Three other buttons let you directly control the pause and track-skipping functions on the connected CD player. Like all consumer digital recorders, the MDS-101 is constrained by a Serial Copy Management System (SCMS) circuit, which tags MD recordings made from the deck's digital input so that you cannot make additional digital copies of the first-generation copy.

On the back of the MDS-101 are phono jacks for analog input and output and two Toslink optical connectors for digital in and out. All MD recording and playback is done at the 44.1-kHz sampling rate; attempting to record a digital input running at another sampling frequency will result in an error message on the display. The back panel also holds the audio AUbus interface socket for connecting the recorder to other Sony components for synchronous recording from CD players and other functions.

The MDS-101 gave very good re-

Why The Critics Love Ensemble And Ensemble II.



"Ensemble may be the best value in the world." *Audio*

Ensemble and Ensemble II are subwoofersatellite speaker systems designed by Audio Hall of Fame member Henry Kloss (founder of AR, KLH and Advent). Cambridge SoundWorks

makes and sells Ensemble and Ensemble II (and a number of other audio components) factory-direct, with no expensive middle-men, so you can save hundreds of dollars. All purchases are backed by a 30-day moneyback satisfaction guarantee, so there's no risk. mance tweeter and a 4" woofer. Small and unobtrusive, they'll fit into the decor of any room. Available in scratch-resistant gunmetal grey Nextel, or primed so you can paint them any color you wish.

Ensemble and Ensemble II subwoofers use heavy-duty woofers in true acoustic suspension

enclosures. Robust construction is used throughout, including solid MDF cabinets and solid metal grilles. Individual crossovers are built into each cabinet for maximum wiring flexibility.

"Can be compared only with much larger speakers at substantially higher prices." *Stereo Review*

Ensemble and Ensemble II are constructed with the very best materials and no-compromise workmanship. Both systems use satellite speakers that are virtually identical.* Unlike many competing systems, they are true two-way speaker systems, each containing a high perfor-



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

"What's the difference between Ensemble and Ensemble II?"

In many rooms, Ensemble II sounds virtually the same as Ensemble, especially when Ensemble's two subwoofers are placed right next to each other. But the Ensemble system's *two* ultra-slim subwoofers (4½") give you more placement flexibility than any speaker system we know of (including Ensemble II). Ensemble is most likely to provide the performance you want in the real world of *your* listening room.

"You get a month to play with the speakers before you have to either return them or keep them. But you'll keep them." Esquire

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Model Six continues a long tradition of best-selling, high performance, high value, two-way speakers by Henry Kloss. Very natural, accurate, wide-range sound—

only \$119 each!

More than 30 years ago, Henry Kloss designed the now-legendary KLH Model Six, the first speaker system to fully exploit the potential of two-way design. By utilizing the then-new principle of the acoustic suspension woofer, as well as creating a new type of longthrow integral-dome tweeter, he was able to make a speaker that provided outstanding performance at a moderate cost. A decade later, he took these principles still further with the Advent[™] loudspeaker, one of the best selling speaker models of all time. Both speakers were considered industry benchmarks for price/ performance and enjoyment.

Today he has come full circle to yet again exploit the price/performance advantages of a properly conceived two-way loudspeaker. The result is Cambridge SoundWorks' new Model Six, a basic two-way system named in honor of his first ground-breaking two-way system.

Not An "Extension Speaker."

The Model Six should not be considered just "an extension speaker" or a surround speaker, as often happens today with moderate-cost models. Henry Kloss says "Model Six is a serious *main* speaker with sufficient frequency range and power-handling to satisfy serious music listeners. I've worked as hard on this speaker as any I've ever designed, including those costing a lot more."

The result, he points out, is that Model Six

The Country's Best Value In A Stereo System?

We've matched a pair of Model Six speakers with our best-selling stereo receiver and our bestselling CD player to create what may be the best value in a stereo system *ever*. The receiver delivers 40 watts per channel, and features five inputs, 30 station presets and a low-noise, motorized remote control (that also controls the CD player). The CD player uses advanced 1-bit converter technology to deliver accurate, natural sound.

Priced at only \$499, this is a serious music

system for *serious* listeners. It sounds *far* better than pre-packaged "shelf" or "rack" systems. In fact it's possible to spend twice as much on a system that doesn't sound as good.

speakers, when combined with a good receiver and CD player comprise a complete music system for \$500-\$600 that seriously outperforms typical pre-packaged "shelf" or "rack" systems (see system in box above).

Two-Way Design Advantages.

As a result of experiments that led to his founding Cambridge SoundWorks, Henry Kloss concluded that "when lowest cost is not the ultimate consideration, the best way to get sound in a room is with subwoofer-satellite systems like our Ensemble[®] and Ensemble II systems." While neither Ensemble system is "high end" in cost, a complete stereo system, even with the less expensive Ensemble II, starts at around \$700--still too costly for many music lovers on tight budgets. That is what brought Cambridge SoundWorks back to two-way design.

With a subwoofer-satellite system you must go to a three-way design to make it work right, which requires the cost of two more drivers and a third cabinet. Cabinetry is the single biggest cost for the speaker manufacturer today.

What does Model Six give up when compared to our Ensemble systems that begin at nearly twice the price? With big amplifiers in large rooms, Ensemble and Ensemble II can play While classic in their simplicity, these drivers and their configuration differ significantly from other two-way, moderate-cost speakers.

First of all, Model Six's crossover frequency is 2,000 Hz, much lower than many other twoway designs. This lower crossover makes it possible to ensure smooth, uncolored upper midrange with wide dispersion. It would be impractical to use this low a crossover frequency with conventional tweeters. But Model Six's tweeter uses a compliant butyl rubber suspension that allows the "long throws" necessary to reproduce music in this range.

The 8" woofer cone is larger than those usually found in other speakers of Model Six's size and price, enabling it to move substantial amounts of air at low frequencies. The woofer's magnet and voice coil are also larger and costlier than usual. And the Model Six puts emphasis on very low frequencies instead of the mid-bass "rise" common in too many of today's speakers. The result is that Model Six's bass is both more accurate and more extended than similar systems.

Thanks to proper design and components, no individual frequencies predominate, or are missing. But as with all Henry Kloss designs, that's only the beginning. He then went on to "voice" the system—painstakingly fine-tuning the octave-to-octave balance. This is the most important factor in determining the "musicality" and overall sound of a speaker. The care with which this process has been carried out with Model Six, more than any other factor, accounts for his statement that he worked as hard on this speaker as *any* other he's ever designed.

Elegant Cabinet Design.

Cambridge SoundWorks has devoted considerable time and effort to making Model Six as appealing visually as it is sonically. Especially convincing simulated wood-grain finishes were chosen—in oak, teak and black ash. A subtly rounded-in "bullnose" molding frames a medium charcoal grey grill fabric that has been custom-woven specifically for the Model Six. The goal was, after all, for Model Six to look, as well as sound, much better than other speakers in its price range.

Long-Term Satisfaction.

With response extending down to the lowest octave and out beyond audibility, excellent power handling and a smooth, "open" sound, Model Six will provide unparalleled satisfaction for its modes: cost. We believe the Model Six is "the least expensive speaker system that will satisfy you for the rest of your life."

Factory-Direct Price: \$119 each!

Because Cambridge SoundWorks sells factory-direct, with no expensive middle-men, we can sell Model Six for *far* less than it would cost in stores. At only \$119 each, in your choice of three cabinet finishes, we feel it represents *the* value in today's loudspeaker market. We don't know of any speaker in its price range that comes close to matching its performance. construction quality and appearance.

If you order Model Six and aren't satisfied, you can return the speakers within 30 days for a full refund. We even refund your original UPS ground shipping charges. This lets you try Model Six the *right* way...in your home...with your music...with no salesperson hovering nearby.

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louder, and they have greater low-bass extension. Our Ensemble and Ensemble II systems also give you the important benefit of tremendous room-placement flexibility, which allows you to optimize performance, with little impact on the decor of the listening room.

But most important is how Model Six compares with other speakers in its price range.

Costly Components, Thoughtful Design

At the heart of Model Six are its drivers, a 1%" cone tweeter with center %" dome (the same tweeter we use in our Ensemble systems), and a newly-designed 8" acoustic suspension woofer.

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Our Center Channel speaker (\$149) and our Center Channel Plus speaker (\$219) are perfect for Dolby® Surround Pro Logic® systems. They offer very high performance, and are magnetically shielded. Center Channel Plus can fit under your TV.

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Our surround speakers, The Surround (\$399 pr.) and The Surround II (\$249 pr.) use dipole radiator technology to reproduce surround effects the way they were meant to be heard. Non-directional ambient sound literally surrounds you.



The Surround

NEW! The Cambridge SoundWorks Model Six continues a 40 year tradition of high performance, high value two-way acoustic suspension loudspeakers by Henry Kloss. The Model Six with its 8" woofer, delivers very natural, accurate, wide-range sound-for only \$119 each, factory-direct. Your choice of three beautiful cabinet finishes.



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sults when tested by traditional linear measurement techniques-equal in many cases to those obtained from the best CD players. But, like all components that employ perceptual coding. the MDS-101 is designed to encode signals the way the ear perceives them, not the way linear instruments measure them. With such components, linear measurements can uncover gross errors (the MDS-101 clearly did not have any), but not sonic artifacts introduced by defects or limitations of the perceptual-coding system (in this case, Sony's ATRAC system). Researchers are working on measurement techniques suitable for evaluation of perceptual coders, but no standards have been devised.

For now, the best way to judge the sound quality of the MDS-101 and other such components is by careful listening, preferably by multiple pairs of ears under carefully controlled conditions. And that is exactly the approach I took to evaluating the MDS-101. I listened to it with a variety of music digitally recorded from CD's and asked several others to do so as well. The result was the same as with similar evaluations a few months back of the MZ-1 portable MD recorder. About half of the listeners could not hear any difference between a CD and an MD copy, and about half, when making a direct A/B comparison. could discern very subtle differences in imaging and high-frequency transient response. I would conclude from this experience that the MDS-101 uses essentially the same ATRAC perceptual-coding algorithms as the MZ-1algorithms that are very good, but not transparent for all listeners. The encoding system may be improved in future generations, however, without sacrificing playback compatibility with existing MD equipment.

Critical listening chores done (it's a lot more work than just reading a few meters!), I spent some time simply playing with the MDS-101. A number of things are worth noting. The displays on earlier models (particularly the MDX-U1 car player) scrolled with annoying slowness. The MDS-101 has remedied this with a very speedy but wholly readable scroll. The play/pause button is probably the fastest you'll ever see, since the MDS-101 can go instantly from pause to playback of

TEST REPORTS



The remote control for Sony's MDS-101 duplicates many front-panel functions and adds others such as title creation or erasure, repeat play, and automatic auditioning of the beginnings of tracks.

data already loaded into its buffer memory instead of waiting for data to flow from the disc (with a possible lag of 0.1 to 0.3 second). This capability invites use of the MDS-101 (and other, professional MD models) in professional environments, such as radio stations, where fast cueing is an essential. The MDS-101 is also pretty quick to initiate playback from a cold start: less than 5 seconds from disc insertion to the start of music.

Like earlier Sony MD units, the MDS-101 has a 10-second buffer memory; you can dance all you want you'll probably never hear any interruptions in the sound when the MDS-101 starts rocking. But, also as with earlier models, it is important not to bump the deck when it is updating a disc's table of contents, since any interference during this critical step can cause loss of your recorded track or the edit you have performed.

When I first tested the MDS-101's siblings, only 60-minute blank MD's were available. Now the first 74-minute discs have been released. If you don't mind paying more for the blank disc than for the CD, you can now copy all but the longest CD's to MD. More likely, people will find MD useful for making compilations of their favorite tunes. In that case, an MD can hold as many as 255 tracks with a maximum total playing time of 60 or 74 minutes (disc space may be reduced if you somehow manage to scratch a disc).

After you've copied various CD tracks to MD, you can use the MDS-101's editing features to your heart's content. It's not clear how many people will really use all the fancy editing features (some home recording engineers will undoubtedly do some really cool stuff), but they certainly demonstrate the power of disc recording compared with tape. Personally, my life is too busy to mess with stuff like that, but I suppose, on occasion, I'll find it useful. I do appreciate the writeprotect features on MiniDiscs; there's nothing worse than accidentally erasing (or editing) your favorite music. I hope that some clever Sony engineer devises a way to write-protect individual tracks on an MD as well.

A final note: MD labels are upside down—both logically and by the convention established for computer disks. After you read an MD's label, you have to turn it around to insert it into the recorder. MD overcomes all the problems of the CD jewel box let's go ahead and make it perfect. Hey, Sony, I'm not kidding: There's still time to fix this!

The MDS-101 is an impressive piece of technology. Whether you are using it as a recorder to make discs for playback in your MD portable or as a stand-alone home player, it has more than enough features as well as very good sound quality, which almost equals that of CD. I don't think Mini-Disc is a fad or an ill-conceived system. It brings something new to the party and promises to find many enthusiasts, even if the labels are upside down.



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TEST REPORTS



Design Acoustics DA900 Loudspeaker System JULIAN HIRSCH + HIRSCH-HOUCK LABORATORIES

HE DA900, one of Design Acoustics' Summit Series of loudspeakers, is a floor-standing three-way system. The cabinet is a slender column finished in black woodgrain vinyl on all visible surfaces. A single 8-inch woofer, facing downward at the bottom of the cabinet, operates in a vented enclosure. The bass vent is on the rear of the cabinet, about halfway up. The speaker's four supporting feet (spikes are also provided for optional use on carpeted



floors) raise the system 2 inches above the floor for omnidirectional radiation of the bass frequencies.

The crossover from the woofer to a 5-inch midrange driver is at 130 Hz. The midrange speaker, 33 inches from the floor, faces forward at the top of the front panel and operates up to 3,500 Hz, covering most of the range of musical fundamental frequencies. Just below it is a 3/4-inch metallized dome tweeter with magnetic-fluid cooling. Design Acoustics says that placing the midrange driver above the tweeter tilts the speaker's polar response upward in the crossover range between the two drivers, directing the energy toward the listener rather than down toward the floor. The tweeter is also surrounded by a foam-plastic pad to minimize cabinet-edge diffraction. Like the other Summit Series loudspeakers, the DA900 is magnetically shielded to allow placement next to a television set without risk of picture distortion.

The DA900 is sold in matched (left and right) pairs. To enhance the system's imaging, the front outside edge of each cabinet (the one closest to a side wall) is angled at about 60 degrees to the front panel. The speaker's fivesided cross section and asymmetrically placed internal braces are said to diffuse standing waves within the cabinet and minimize panel vibration. Each speaker has two removable grilles, retained by plastic fasteners. The upper one covers the midrange and high-frequency drivers, while a larger grille just hides the lower portion of the cabinet. The input connectors, recessed into the back panel, are spring clips that accept only stripped wire ends.

Design Acoustics' specifications for the DA900 include a bandwidth of 40 Hz to 25 kHz, a recommended amplifier power rating of 15 to 200 watts, a sensitivity of 88 dB sound-pressure level (SPL) at 1 meter with a 2.83-volt input, and a nominal impedance of 8 ohms.

The averaged room response of the two speakers with a swept one-thirdoctave warbled sine-wave test signal fell off smoothly by about 7 dB from 5 300 Hz to 3 kHz. There was a 4-dB peak between 4 and 7.5 kHz and another of about 10 dB from 7.5 to 17 kHz, falling back by 7 dB from 17 to 20 kHz. A deep drop (about 10 dB) from 250 to 125 Hz was followed by an equal rise to a broad maximum from 60 to 100 Hz. A close-miked measurement of the woofer response yielded a curve that peaked at 70 Hz, rolling off steeply above and below. Unfortunately, it is difficult to splice such measurements to produce a meaningful composite response when the sources are a couple of feet apart (or on opposite sides of the cabinet). Horizontal dispersion on the axis of the midrange driver was notable for its uniformity with frequency. Although the level measured 45 degrees off-axis was lower than the on-axis readings, the variation with frequency was very similar.

A variety of other measurements confirmed the essential features of the room-response curves. The quasianechoic maximum-length-sequence (MLS) frequency response showed a reasonably uniform output from 300 Hz (the lower limit of this test) to 2 kHz, an abrupt 4-dB drop at 2.5 kHz, and very flat response from there to 5 kHz. The output rose with equal abruptness to its original levels between 5.5 and 10 kHz. The high-frequency peak of the room curve was equally prominent in these measurements, which showed an 8-dB rise from 10 to 16 kHz followed by a return to the original level at 20 kHz.

A number of measurements made by the manufacturer on our test samples confirmed some of the key features of our curves, although the test conditions were very different and their curves did not agree with ours in all respects. The on-axis peaks at 5.5 and 16 kHz also appeared in the manufacturer's data, although they were much diminished in Design Acoustics' off-axis measurements.

The minimum system impedance was 4.5 ohms from 300 to 500 Hz, with three small peaks to 10 or 12 ohms between 18 and 100 Hz and a maximum of 24 ohms at 3.8 kHz. Our sensitivity measurement showed an output SPL of 87 dB at 1 meter with a 2.83-volt input, essentially confirming the manufacturer's specification. Distortion in the midrange driver's output at a 4-volt input level (equivalent to our 90-dB SPL reference) was between 0.6 and 1.5 percent from 130 Hz to 2 kHz. The woofer's distortion at the same level was between 0.5 and 1.5 The Design Acoustics DA900 speakers had a slightly bright, crisply defined sound, with a welcome absence of upper-bass boom and a surprisingly healthy output down to 50 Hz.

percent from 130 to 80 Hz, rising rapidly to 4.5 percent at 50 Hz and 11 percent at 40 Hz.

Despite their modest size, the Design Acoustics DA900's drivers were able to withstand very high peak inputs without damage or unreasonable distortion. The tweeter and the midrange driver absorbed single-cycle peaks of 650 watts at 10 kHz and 960 watts at 1 kHz, respectively, which were the clipping levels of the driving amplifier into the speaker's impedance at those frequencies. More unusual was the DA900's ability to take everything our amplifier could deliver at 100 Hz into its 12-ohm impedance at that frequency (about 500 watts) without damage, although its output waveform was distorted at that level and

started sounding rather hard at about 300 watts input.

The only way to judge the significance of these measured or observed effects is to listen to the speakers in their normal operating conditionplaying music. As is our practice, we had used them for a week or two before making any measurements and found them to be highly listenable. The slightly bright, crisply defined character of their sound suggested a high-frequency peak, but well above the range of any musical fundamentals. So although we had not anticipated the magnitude of the measured 16kHz peak, its presence was not too surprising. The 5.6-kHz peak was in the normal range of speaker-response irregularities.

At the lower frequencies, the absence of upper-bass boom was welcome and immediately apparent, and there was surprisingly healthy output down to 50 Hz or so. The rather large dip at 120 Hz was not much different from ordinary room standing-wave effects, and no more damaging to the overall sound of the system, although (like the 16-kHz peak) its measured magnitude was unexpected.

Despite these measured anomalies, the DA900 speakers sounded very good, especially in respect to their crisp, well-defined highs and boomfree lows. They are attractive—compact and unobtrusive—and an interesting alternative to small boxes on stands or shelves.



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DEALER'S CHOICE

Three systems on three budgets—A/V experts call the shots

\$3,000

O you ever wonder what salespeople really think about the products they sell? Do they genuinely believe in component XYZ, or are they merely pushing goods through the pipeline? You're not alone. Ask an audio/video specialty dealer what question he hears most often, and chances are he'll reply, "What would you buy?" We wondered the same thing, so we asked three well-known A/V retailers just that. They responded unanimously with the question most commonly asked of customers, "What's the price range?" To put a real-world spin on the exercise, we assigned to each expert a shopper with particular needs and a budget. The mission? Devise the system that best matches the customer's wishes and budget, complete with upgrade blueprints. Here's what they came up with.

4.500

BY REBECCA DAY

WAGNER

BY DAN

OHO



DEALER'S CHOICE

Studio starter for \$1,500

UR first shopper is a woman in her late twenties who has \$1,500 to spend on a "starter" hi-fi system for her 25 x 14-foot studio apartment. Her musical tastes run wide—from classical to classic rock—and she's not a volume freak. Flexibility is a key concern: She wants to be able to set up a home theater someday when she moves into a bigger space, but without having to junk the equipment she's buying now.

Armed with this profile, Bob Morgan, the president of Sassafras Audio in Montgomeryville, Pennsylvania, came up with a four-speaker, CDbased system built around Denon's AVR-1000 receiver. "The receiver offers excellent value and packs plenty of power," he says. Delivering 70 watts in triplicate across the front and 30 watts a side to the surround speakers, the AVR-1000 will more than fill this young woman's immediate needs. And with four audio and three video inputs, the receiver has "plenty of extra inputs for future expansion," Morgan says.

Best of all, she won't have to wait to reap the benefits of surround sound, at least as far as music listening is concerned. The AVR-1000's "topnotch" Dolby Pro Logic processor provides excellent channel separation in a small space, Morgan says, and its DSP-derived ambience modes will let her perceptually enlarge her studio apartment by turning it into a concert hall, jazz club, or some other venue. Although the receiver offers several ambience settings, Morgan suggests sticking to the "live" and "jazz" modes, whose effects are subtle and directed toward small spaces.

Morgan stayed with Denon on the CD front, recommending the DCM-440 five-disc carousel changer for its ease of use, long playing time, matching appearance, and compatibility with the receiver's remote control. The last thing the owner of a small apartment needs is a table full of remotes.

Selecting speakers was Morgan's biggest challenge. "Speakers too large will dominate the room both sonically and physically," he says. And since in this case they must be placed against a wall shared by a neighboring apartment, he had to be sensitive to the folks next door.

Taking all that into account, Morgan

\$1,500 SYSTEM Sassafras Audio, Montgomeryville, Pennsylvania

Denon DCM-44D CD chanyer (\$400) Denon AVR-1000 receiver (\$650) Boston Acoustics HD8 speakers (\$250 a pair) Boston Acoustics HD5 speakers (\$150 a pair) chose the 11 x 18 x 7-inch Boston Acoustics HD8 speakers. "They deliver great sound and imaging and have surprising bass and volume output for their modest price and small footprint," he says, adding that they won't rattle the neighbors, either. Morgan completed the system with a pair of Boston Acoustics HD5 bookshelf speakers for the surround/DSP effects channels. He suggests placing them along the studio's rear wall, either on a bookshelf or mounted on the wall with brackets.

Once our studio dweller has refueled her bank account, the move into home theater will be simple and relatively inexpensive, costing just over \$1,000. Morgan's upgrade plan calls for replacing the customer's old 20inch TV with the Philips 27S200 27inch stereo TV (\$580) and adding a Philips Model 6625 VHS Hi-Fi VCR (\$429) and a Boston Acoustics Model 404 center-channel speaker (\$129). The TV set has on-screen display, an easy-to-use remote that also controls the VCR, and audio/video inputs. Another bonus: It's covered by a generous warranty of two years on parts and one year in-home service.



DEALER'S CHOICE

Indoor/outdoor stereo for \$3,000

HREE grand-give or take a few bucks-is the amount a Cleveland couple has set aside to lay the foundation for a home entertainment system. No longer satisfied with the performance of their aging rack system, they're eager to upgrade to a high-quality audio rig that includes a CD player and a tape deck. It must be easy to operate via remote control and, above all, do a great job of reproducing their favorite new-age and jazz recordings at moderate levels. In short, they want the best sound they can get for \$3,000. And since they spend most of their time during the summer out on the patio, they want music there, too. While audio is the priority now, they'll be ready to talk about home theater in the near future.

The couple presented their hit list to Greg Puntel, audio/video specialist at Audio Craft in Cleveland. But before mapping out a system, he asked them to jot down a wish list so that he could try his best to accommodate future additions. Home theater was wish number one. They also thought it would be nice to be able to listen to the tape deck indoors while the CD player serenaded the patio—but only if it could be done inexpensively. And, as long as they were wishing, in-wall speakers in the kitchen and master bedroom would be great.

Puntel divided the project into three stages, starting the couple off with a pair of Adcom components—the GTP-

WAGNER

DAN

PHOTO:

500II tuner-preamplifier and the GFA-2535 four-channel amplifier. "These components are reliable and straightforward to use," he says. Two of the amp's 60-watt channels can power the main speakers in the family room while the other two power a pair of speakers on the patio. Puntel even came up with a no-cost way to accommodate the couple's wish for simultaneous-source capability.

"For the outdoor speakers, we'd run a patch cord from the preamp's Tape 2 outputs and into the amplifier's Pair 2 inputs," he explains. "That gives us the ability to select what we want to listen to in the main area by pressing the Listen selector and choosing what we want to listen to outdoors on the Record selector." Outdoor volume would be controlled by a hard-wired volume control (actually an attenuator) installed in a weatherproof box.

When it came to source components, Puntel singled out Yamaha's CDC-735 five-disc CD changer, for its ability to provide many hours of uninterrupted barbecue music, and Denon's DRM-510 cassette deck, which he says is a good performer for a reasonable price.

For main speakers, Puntel chose a pair of Phase Technology's three-way PC6.5's for their "good sound and high value." And for the patio, he went with a pair of Polk Audio AW/M3 outdoor speakers. The tab for the Stage One components: \$3,149.

Puntel warned the couple that Stage Two—home theater—would put a bigger dent (nearly \$5,400) in their checking account. Component additions include a Yamaha DSP-E200 Dolby Pro Logic processor-amp (\$499), which packs three 25-watt amps to power center-channel and surround speakers, a Yamaha CDV-870 laserdisc player (\$699) for high-quality source material, and Mitsubishi's HS-U56 VHS Hi-Fi VCR (\$599) and CS-35MX2 35-inch direct-view stereo TV (\$2,599).

Puntel's home theater upgrade would also enlist a pair of Phase Technology's 2T speakers (\$200 a pair) for the surround channel and the company's PC center-channel speaker (\$300) to insure uniform sound across the front. And to make the best of Hollywood's dynamic film soundtracks, he would add Miller & Kreisel's VX4 powered subwoofer (\$495).

Fortunately, Stage Three is modest by comparison. Puntel would add two pairs of Polk Audio AB700 in-wall speakers (\$399 a pair), one for the kitchen and one for the master bedroom: each pair would have its own inwall volume control. He would also bump main-channel power up to 100 watts using Adcom's brawny GFA-545II amplifier (\$550) and reassign the GFA-2535 to secondary-speaker duty.

Although Puntel's plan involves three stages, no equipment is wasted in the process. "The ability to grow with the system is a must," he says.

\$3,000 SYSTEM Audio Craft, Cleveland, Ohio

Yamaha CDC-735 CD changer (\$429) Denon DRM-510 cassette deck (\$250) Adcom GTP-50011 tuner-preamplifier (\$600) Adcom GFA-2535 power amplifier (\$600) Phase Technology PC6.5 speakers (\$900 a pair) Polk Audio AW/M3 outdoor speakers (\$280 a pair) Remote volume control (\$90)



DEALER'S CHOICE

A killer home theater for \$4,500

o the forty-something couple walking into Bjorn's Audio/Video in San Antonio, it's like entering a time warp. Neither one of them has set foot in a hifi store since the early Seventies. But the turntable, receiver, and speakers that have served them faithfully for more than two decades are starting to give way, so they have decided it is time to spring for an updated system.

Being largely unfamiliar with advancements in audio and video over the past twenty years, the couple wants to proceed slowly. They're interested in equipment that is simple in concept and operation, yet flexible enough to accommodate future expansion. Size is also a concern: They don't want components that take up a lot of space. And, most important, they want a system that will stand the test of time-just as their aging system has. On the plus side, they recently purchased a 27-inch TV (to replace their ailing Admiral) and they want to assimilate it with the new gear. Figuring they owe it to themselves, they have budgeted \$4,500.

Faced with this formidable list of requirements, shop owner Bjorn Dybdahl prescribed a system built around Yamaha's RX-V870 audio/video receiver. The five-channel Dolby Pro Logic receiver will handle the couple's current A/V needs as well as any addons that might come up later, he says. It delivers a reasonable amount of power-80 watts to the left, center, and right front speakers and 25 watts each to the surround speakers-and offers four ambience modes for music.

WAC

PHOTO



The RX-V870 also comes with a learning remote control.

Answering the customers' pleas for longevity, operational simplicity, and space efficiency, Dybdahl chose the Pioneer Elite CLD-52 combi-player, which plays both CD's and laserdiscs. Although you can buy combi-players with more features, Dybdahl selected the CLD-52 for its superior audio and video performance. He notes that it does offer automatic flip-side play, though, which he says is the most important laserdisc feature of all.

The CLD-52 serves as the primary source, with the receiver's tuner offering a second choice. Since the couple claims no interest in recording tapes and has no cassette library, Dybdahl earmarked the rest of their budget for a surround-sound speaker package that would make the most of laserdisc movie soundtracks as well as surround-encoded TV programs.

For seamless left-to-right integra-

tion, Dybdahl routinely recommends three identical speakers across the front. In this case, he says, Klipsch Academy speakers are a naturalthey're efficient in terms of both size and input sensitivity, they offer excellent sound, and they fit the budget. The Academy speakers also have a broad horizontal dispersion, which helps to widen the soundstage and increase seating flexibility.

For the surround channel, Dybdahl recommended a pair of space-saving Klipsch IW-100 in-wall speakers. He'd mount them in the back wall of the listening room, about a foot down from the ceiling for unobtrusiveness and enhanced reflectivity. As a finishing touch, Dybdahl added the Klipsch SW-12 subwoofer. Realistic bass performance, he says, is a key ingredient of home theater. The component ticket: \$4,409-nearly \$100 under budget.

Dybdahl knows this Texas couple will be ecstatic with their new home theater for the first several months. But eventually they'll develop an irresistible urge for a big screen-one to match the sound. His solution is Pioneer's Elite Pro96, a \$4,000 projection set with a whopping 50-inch screen. He also recommends Sony's SLV-700HF VCR (\$529) so that they can record TV programs in stereo.

In the end, the component list is short and sweet, just as the customers ordered: two new source components to replace their ancient duo and six manageable speakers-three on a bookshelf, two in the wall, and the subwoofer behind a chair. "It's a killer compact system," Dybdahl says.

\$4,500 SYSTEM Bjorn's Audio/Video, San Antonio, Texas

Pioneer Elite CLO-52 combi-player (\$950) Yamaha RX-V870 A/V receiver (\$899) Three Klipsch Academy speakers (\$400 each) Two Klipsch IW-100 in-wall speakers (\$360 a pair) Klipsch SW-12 subwoofer (\$1,000)



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THE NEW LS SERIES FROM THE SPEAKER SPECIALISTS OF





DRIVERS



BY DANIEL KUMIN

BUYING a car stereo head unit is relatively simple. Choose your medium—CD, cassette, MiniDisc, DCC, eight-track, whatever—create a checklist of features and functions, and then buy the best model you can afford that fits into your car's dashboard.

By contrast, selecting car stereo *speakers* is rather complex. There are three basic options: You can upgrade factory speakers (if your car has any) with direct-fit replacements that mount in the cutouts the manufacturer stamped into your car's steel underbody. Or you can replace factory speakers with differentsize models, installed in new or modified locations that you (or your installer) create in the door and side panels, rear deck, dashboard, or wherever acoustics and creativity lead. Finally, you can buy or fabricate entirely new speaker panels or enclosures, presumably custom fit and designed to complement your car's interior and to deliver optimal operating conditions for the speakers you've selected.

Obviously, these approaches can be combined. For example, you might choose to install high-end component speakers (a

The ins and outs of choosing car speakers The ADS 320i/s two-way package (S570) includes pairs of 5½-inch woofers, 1-inch tweeters, and 12-dB-peroctave passive crossovers (not shown). The crossovers are set at 2.5 kHz and include tweeter-level controls. Recommended power is 20 to 100 watts. Polk Audio's C4 subwoofer (\$350) is a uniquely shaped bandpass design with two pairs of 6 x 9-inch woofers configured in push-pull fashion. Response is said to roll off acoustically at 12 dB per octave below 45 Hz and above 150 Hz.

> Altec Lansing's ALS 46 plate speaker (S110 a pair) fits into a standard 4 x 6-inch cutout. It features a $3\frac{1}{2}$ -inch carbonfibel woofer and a $\frac{1}{2}$ -inch tweeter. Frequency response is given as 80 Hz to 20 kHz \pm 3 dB. Mounting depth is 13% inches.

The aluminum tweeter element in Advent's Model 6.9i 6 x 9-inch coaxtal (\$149 a pair) is Inductively coupled to the woofer's voice coil, which in addition to creating a single acoustic center eliminates the need for a crossover.

Killer bass is the raison d'être of JBL's 1200GTi 12-inch subwoofer (\$299), which is said to handle excursions of up to 1³/₅ inches without bottoming out. Its usable frequency range is given as 20 to 300 Hz and power handling as 600 watts continuous.



Jensen pegs the bandwidth of its JTX3469 6 x 9-inch triaxial (S130 a pair) at 30 Hz to 26 kHz. The oval woofer is combined with a 2-inch Mylar midrange driver and a 1%-inch tweeter. Sensitivity is given as 92 dB. Maximum mounting depth is 3½ inches.



The Kicker KS80 Substation subwooter (\$349 a pair) from Stillwater Designs sports an 8inch driver in a ported enclosure that's just 18 inches wide. Power handling is given as 150 watts continuous and frequency response as 29 Hz to 1 kHz ±3 dB.

MB Quart's QM 328 CX threeway speaker combo (S549) includes pairs of 6½-inch woofers, 4-inch midranges, ¾-inch titanium-dome tweeters, and 12-dB-peroctave crossovers. The tweeters can be surface- or flush-mounted. System bandwidth is 38 Hz to 32 kHz.

QUART

MTX's vinyl-covered Music Modules provide alternatives to standard-cutout speakers. The RM262, RM282, and RM252 (from left) have a 6-, 8-, or 5¼-inch woofer, respectively, and a 1-inch softdome tweeter. Prices are \$220, \$240, and \$200 a pair. JL Audio's Toyota Smartbox (S850) is designed to fit behind the seat in Toyota pickup trucks. It features two 10-inch woofers and recessed panels for component mounting. The Miramar, Florida, based company sells custom speaker boxes for a number of popular vehicles.



QUART

The Mark II Kappa EMIT-N tweeter (S220 a pair) is an updated version of the tweeter Infinity uses in its famous Reference Standard V home speaker. It features a microthin etched-Kapton diaphragm and a 3.5-kHz crossover.

Boston Acoustics' Pro Series 6.2 two-way speaker set (\$400) packs pairs of 6¼-inch woofers, 3-kHz crossovers, and 1-inch dome tweeters with three-way mounting kits. Frequency response is given as 55 Hz to 20 kHz ± 3 dB. separate woofer and tweeter, for example) in the front doors while retaining factory-installed 6 x 9's in the reardeck cutouts. But however you slice and dice the interior of your car, the ultimate choices boil down to a few classic issues: cost, appearance, and system-design concept. If you don't have a personal design philosophy, don't worry: Your installer almost certainly will.

There are as many theories of speaker placement as there are car models and custom installers. The first question usually concerns frontspeaker placement: In the doors, or in the dash? High up near ear level, or lower down? Then comes the issue of "rear-fill" speakers: How much "fill" is necessary? How wide-range should it be? How should it be directed? For more elaborate systems, the question may be whether to install a centerchannel speaker. And what about bass reproduction? Do you need giant subwoofers, or will smaller bass drivers suffice?

All of these questions can be argued both (or more) ways, and in combination they can create a decision-making labyrinth. The first step in unraveling it should almost always be to collaborate with an experienced, knowledgeable installer who has years of laboriously acquired empirical wisdom pertaining to your particular vehicle. And though any installer will have biases, he or she should always put your preferences first—except where they are demonstrably wrong-headed.

Stock or Not?

The fundamental reason for using stock speaker locations is often a matter of cost and practicality. Obviously, in a leased or company-owned vehicle going hog-wild with the Saw-Z-All is out. In general, using stock locations can save big bucks by requiring less labor and, indirectly, by restricting the system design to more modest speaker configurations. Stock locations are not always ideal, however. Cars with speakers down low in the kick panels or in the bottom corners of the doors are sticky wickets, and those with tiny dash speakers aimed toward the windshield can be equally problematic.

But don't automatically turn up your nose at systems that make use of stock cutouts. Carmakers increasingly take acoustics into account these days when designing automotive interiors and selecting speaker spots. As a result, speaker locations that promote good dispersion and proper imaging are becoming much more common. On the aftermarket side, speaker makers have developed some clever designs that fit many stock cutouts. Accurate. efficient, and good-sounding drivers packaged in slim-profile frames are abundant.

Common up-front cutout sizes are 4-inch round or 4 x 6-inch oval in the dash and 4-, 51/4-, or 61/2-inch round in the doors. In the rear, 51/4- or 61/2-inch round and 5 x 7-inch or 6 x 9-inch oval are typical. With few exceptions, factory-installed speakers range from half-decent to downright poor in sonic ability and from moderate to truly wimpy in power-handling ability. Fortunately, aftermarket options in all of the standard sizes (and more) are legion, and surprisingly good sound is available from the best of them. Most are two-way "coaxial" designs in which a tweeter is suspended over the woofer on a sort of bridge (three-way "triaxials" are also common, but not technically necessary-most were created more for marketing than engineering reasons).

> OAXIALS have some real advantages: low cost, packaging efficiency (you get two speakers in one hole), and a common acoustical center. Drawbacks include limited power handling (usually) and some odd diffraction effects from the tweeter's shadowing the main driver's midrange output. More signifithat most coavials

cant is that most coaxials require larger-size cutouts, which means they often wind up playing to your feet from kick panels or other less-than-optimal locations. Nevertheless, with smart selection, appropriate electronics and amplification, and some sensible compromises, an all-stock-location system— $5\frac{1}{4}$ -inch coaxials up front and 6 x 9's in the rear, for example—can sound remarkably good.

Accommodating high-end speaker separates usually means abandoning stock locations and cutting into door panels or the dash (or both). Two-way component packages-separate woofers, tweeters, and crossover modules-are the most popular, but there are three-way packages, too. Many deliver good sound with a wide dynamic range, and they have the big plus of letting you position the tweeter (which delivers musical information in the critical mid- to high-frequency range) for optimal imaging, while the woofer goes wherever it fits. (A given interior might dictate, however, that a tweeter be located as much as a foot or more away from its woofer, and on a different plane, which may be far from ideal.) The down side, of course, is a higher total system cost and the necessity to cut two holes instead of one. Most component systems can (and usually should) handle substantially more power than coaxials, which means higher-power and thus more expensive amplifiers.

A new generation of two-piece, twoway component packages employing super-compact, super-efficient neodymium-magnet tweeters can often be accommodated by locating the woofer in a stock door or dash cutout and the tweeter-which requires a minimal cutout, if any-on an adjacent surface. The tweeter in such packages is often seated in an "eyeball" mounting bracket that lets you swivel its dome for maximum flexibility. In cars that have only small (31/2- or 4-inch) dashboard cutouts, a component system may be the only way to get true hi-fi speakers up front. In such cases a door cutout for the woofer is usually required; the tweeter can be surfacemounted nearby or placed in the dash, depending on its layout.

OMETIMES the decision of how to upgrade front speakers is made for you because there's only one practical spot to install a larger (5- to 6-inch) coaxial or a pair of component drivers. But a good number of cars offer both dashboard and door locations. Many installers have a strong preference for one or the other, whether for sonic, aesthetic, or ease-of-installation reasons. Many cars clearly lend themselves to one kind of placement rather than the other, and a credible, experienced installer who makes a strong case either way should be listened to carefully.

It is possible to make a few generalizations, however. The front speakers deliver most of the sound that initially reaches the ear and therefore largely determine the timbre and stereo image that the brain will perceive. Choosing speaker locations that will deliver accurate tonal balance and a realistic "soundstage" is important. Consequently, you should try to place tweeters and "mid-woofers" (also called midbass drivers) high in the doors or unobstructed in the dash: Middle to high frequencies aimed at your thigh or midriff lose most of their openness and sparkle. If you're shopping for a car as well as a car stereo you can tell a lot about the potential of its stock speaker locations by listening to the standard radio. Even though the over-

It's important to select locations for speakers/that will deliver accurs te tonal balance and a ealistic oundstage.

all sound is liable to be rather cheesy, if there's a solid, well-defined image, the prospects for a speaker upgrade employing the stock cutouts are bright.

As a rule (by no means universal), front speakers mounted high in the doors produce more lateral-moving sound, which tends to contribute a more spacious quality. On the other hand, speakers mounted in the dash usually deliver more frontal sound, which often creates a more stable stereo image—usually with better instrument and voice localization but less ambience.

The trouble with car stereo, of course, is that once the speakers are installed, they're not easy to reposition. Nevertheless, there is a way to experiment if your plan calls for twoor three-way systems with the woofers

in stock (or custom-fitted) door-panel cutouts and the tweeters elsewherein the dash or doors, or on the windshield pillars or windowsills. Install the woofers permanently, but wire the tweeters temporarily with enough extra cable to try them in different locations (you can use double-stick adhesive pads to hold them in place). Try a variety of spots over an extended listening period-drive around for a day or so with each arrangement until you settle on the one that sounds best to your ears. Assuming you select practical locations, the rest is easy. (If you're installing coaxials, you can perform a similar trial installation by hanging home minispeakers at different cutout locations.)

Rearward, Ho!

Most car stereo veterans agree that in a typical installation, where the driver and front passenger are the intended audience, full-range rear speakers are secondary. A certain amount of "rear-fill" gives body to the sound and, paradoxically, helps solidify front imaging. It is also necessary to blend the output of rear-mounted subwoofers seamlessly with that of fullrange speakers up front. But as a rule, the level of the rear speakers should be significantly lower than that of the front ones, or music will sound unnatural. So rear speakers need not meet all of the performance standards of front speakers, and their location is usually less critical. In sedans, the rear deck is the obvious mounting location (though reflections from the rear window can add undesirable comb-filtering effects). Rear side panels are usually good locations in both sedans and hatchbacks-and are one of the stock spots in many recent vehicles.

While most cost-no-object systems devote expensive, high-performance component speakers to rear-fill chores, budget-conscious shoppers often use less expensive coaxials. In most cars, the stock rear cutoutsusually 6 x 9 inches or 61/2 inches—are perfectly adequate. In many simple four-speaker systems the rears are the main source of low bass, so sufficient cone size, dynamic range, and power handling are among the factors that count. Wisely selected and sensibly installed, a quality 6 x 9 can do the job just fine, reducing amplifier demands and installation time and saving money. But in some cases, rearward component speakers may justify themselves by permitting unusual tweeter placement to create a particular effect or by conserving rear-deck real estate

for subwoofers. Once again, a knowledgeable installer who's experienced with the car in question and has a clear vision of the finished system is the best source of advice. Moreover, there are tricks of the trade—such as angling rear speakers to avoid reflections or cross-firing them—that can improve the front-seat imaging.

Front and Center?

A big trend in high-end car-fi is the center speaker, custom-mounted middash and fed either a pure mono signal or a "center" signal derived by a processor much like a Dolby Pro Logic home theater decoder. The argument for a center channel goes something like this: Physical constraints and acoustics normally prevent good, tight imaging from coexisting with adequate separation and spatial qualities, but by combining widely spaced left and right front speakers with a center speaker, you can have the best of both worlds.

Center speakers can help pull it all together when properly installed and matched in level. On the other hand, those that are improperly applied can actually degrade the natural soundstage. A center speaker also represents considerable added expense: an extra speaker, a custom enclosure or extensively modified dashboard, (possibly) a processor, and another amp channel-to say nothing of installation costs. My advice is to try for a truly fine-sounding two-channel setup first. If, after living with it for a few months, you still feel the front image is lacking. try some experiments with an add-on center-channel speaker to see whether it improves the sound quality.

Sub Selections

Judging from the ads and features in car-fi magazines, you might think that six or eight enormous subwoofers are absolutely required for full-range mobile sound. Get real: In many cars, a four- or five-speaker system—using the *right* drivers, in the right places, with the right electronics and installation—is all it takes to deliver virtually unfettered bass and volume levels high enough for any rational listener (highdecibel rap and house fans, read on).

Nevertheless, there *are* cases that demand more low-frequency whomp: musical taste, a noisy vehicle (road and engine noise mask bass dramatically), a car lacking suitable locations for adequate full-range speakers. Even so, a single 8- to 12-inch bass driver, with a well-chosen crossover point and ample wattage (subwoofers

INSTALLER INVESTIGATIONS

You'b do well to choose a car stereo installer the way you might select a contractor to remodel your kitchen: Get several bids, investigate plenty of references, and take a hard look at examples of each installer's work. Many installers keep a portfolio of photos on hand to show what they have done on a variety of cars, and often they can put you in touch with satisfied customers. Experience should be your overriding concern: Custom installation is a complex combination of art, craft, and science—let the apprentices learn on someone else's vehicle.

Try to find an installer whose past work includes a few examples of your car's make and model, ideally with a system similar to the one you are contemplating. Occasionally an installer will be able to arrange a quick "test drive" in a car and system similar to your own—you can't beat that for achieving a sense of security.

There are two basic types of installers: free-lancers who install equipment only and don't sell it, and installers associated with an autosound retailer. Free-lancers may have less of an axe to grind regarding brand and model preferences, but dealer installers often have more resources to help you fine-tune your component selection. Either way, the installer's input regarding what will fit and work best in your car—particularly if he can boast long and successful experience—should be considered invaluable.

It's an old saw, but you can tell a lot about a craftsman by the appearance of his tools and shop (I hope no one ever applies that to my office). Although a certain amount of untidiness in the heat of an install is inevitable, look for a wellequipped, well-organized, and well-run operation: Empty beer bottles and trashedout interior panels lying about are usually a bad sign.

Finally—and most important—pick an installer with whom you feel comfortable. You must be able to tell this person what you want, and he must be capable of communicating to you why it is or isn't a good idea. Clear, good-natured, two-way communication is the key to a pleasant experience and a first-class job. —D.K.

are notoriously power-hungry), is often all you need. Doubling or even quadrupling the number of low-frequency drivers and the amount of power for them will yield only a modest increase in overall low-frequency output.

While elaborate, custom-made, multichambered "compound" subwoofer enclosures are popular in highend circles (and they can deliver superb performance), they're hardly necessary. One or two low-frequency drivers mounted in a rear deck (an "infinite-baffle" arrangement that uses the trunk as the enclosure) can deliver excellent bass performance. A plain-vanilla sealed-box acoustic-suspension cabinet is another simple solution. Several manufacturers have introduced compact and inexpensive subwoofer systems intended for dropin trunk or hatch-area mounting. These, too, can deliver a good-sounding, no-fuss bass fix at a considerably reduced installation cost.

As with any engineering project, research is the key to deploying a car stereo system. And that goes double when it comes to choosing speakers. Listen to lots of them, ideally in lots of cars. Make rational choices, and don't be swayed by puffed-up claims or "sound-off" advertising—unless you're planning to go the competitive-car-stereo route. Know what *your* sonic goals are, and design your system to achieve them—not for prestige, appearance, or cachet.

Thanks to Richard Clark of Autosound 2000 and Micah Sheveloff of Connecticut's Audio Coupe for their help in researching this article. —D.K.



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The Must-Have CLASSICS That Make The Melody Linger On!

HERE have always been (and probably always will be) divisions and subdivisions within popular music—and plenty of dedicated, vociferous partisans for each of them. Curiously, the two most contentious pop "tributaries" during 1958, STEREO REVIEW's first year—the Tin Pan Alley/Broadway-style "song standard" and the newer but mainstream-bound rock-and-roll have both continued to flow nonstop for the past thirty-five years. From time to time there have been crossover efforts between the two camps (by Barbra Streisand, Linda Ronstadt, Robert Palmer, Sting, and others). But, by and large, east is still east and west is still west in the pop world.

The older of these genres has never actually had a commonly agreed-upon name the way rock, jazz, or country does. Some call it "standard pop," reversing the tag to call the songs "pop standards." New York disc jockey Rich Conaty was among the first to refer to it as "classic pop"—and more and more performers and listeners now agree that's the right term for it. Just as symphonic and operatic classics of previous centuries have survived into ours, this form of pop music has survived just about every musical development or fad of the past ninety years, from ragtime to rap, and shows every sign of continuing to flourish well into the next century.

At the risk of oversimplification, classic pop is essentially a melodic, thirty-two-bar form of popular music, with rhyming lyrics that are generally romantic in theme. Within that framework the songs can range from silly and simplistic to sophisticated and profound. Many were originally written for Broadway shows, Hollywood movies, or specific singers (and orchestras) by such well-known songwriters as Gershwin, Kern, Porter, Arlen, Rodgers, Rainger, Berlin, Mercer, and Van Heusen.

The best of these songs lend themselves to varying musical arrangements and interpretations by different performers. Rosemary Clooney, Tony Bennett, Mabel Mercer, Harry Connick, Jr., and Frank Sinatra, for example, can all plumb the depths of the same song in ways their counterparts in most other genres can't with a single composition. This attribute is not only the bedrock of classic pop's staying power, but also provides today's

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record collectors with a fantastic treasure trove that alone deserves the accolade "classic."

Just as the CD revolution of recent years has brought a dramatic upsurge in recording activity, so too has it spurred the busy recycling and remastering of older recordings that were once on LP's, 45's, and even 78's. As a result, nowhere today is there as much blurring of sources from multiple decades than in the area of classic pop. Accordingly, although all of the following recordings have indeed been released-in their cited forms-since STEREO REVIEW's launch in 1958, some of the contents may have been available in earlier incarnations as well. The main point in my selectionarranged in a very loose kind of "must-have" priority-is that they're all top of the line!

ELLA FITZGERALD First Lady of Song (Verve 517 898)

Referring to his work with his brother George, Ira Gershwin once said: "I never knew how good our songs were until I heard Ella sing them." For more than seven decades, a lot of us have felt the same about Ella Fitzgerald's way with most other songwriters as well. This new three-CD compilation of fifty-one songs she recorded between 1949 and 1966 is prime evidence. In track after track (some of them from her legendary "Composers' Songbook" series), she puts her clear, natural tone, impeccable phrasing, undiluted good taste, and savvy sense of fun at the service of the songs. They've never been served better.

FRANK SINATRA

The Capitol Years (Capitol 94317) No male singer has sustained such high standards or exerted such influence in classic pop for as many decades as Sinatra. The crème de la crème is in this two-CD set compiled in 1990 from sessions between 1953 and 1962. Working mostly with arranger/conductor Nelson Riddle, Sinatra was at his freest and most rhythmically secure, and his interpretations had a freshness. character, warmth, bite, and easy hipness that he never quite matched in other periods.

BING CROSBY

The Crooner (Columbia 44229) Along with Fitzgerald and Sinatra, the trail"I never knew how good our songs were until I heard Ella sing them." —Ira Gershwin on Ella Fitzgerald

blazing Crosby still holds an honored place as one of the top three superstars of classic pop. Although he recorded well into the 1970's, he was never better than in his freewheeling early days (the late Twenties to the middle Thirties). Many of those recordings remained out of print until remastered in 1988 for this revelatory, sixty-fivetrack, three-CD compilation.

JUDY GARLAND AT CARNEGIE HALL (Capitol 90013)

In a career that sometimes seemed like an out-of-control roller-coaster ride, the night of April 23, 1961, at New York's Carnegie Hall, marked a legendary peak for Judy Garland as one of this century's greatest singers. Whether Garland is tenderly shaping an intimate ballad or belting out a song to a *pow* finish, there's a magic and electricity to this two-CD program that few singers have ever even approached.

FORTY YEARS OF TONY BENNETT (Columbia/Legacy 46843)

It's fascinating to hear how Tony Bennett's voice and style have matured over the years represented by the eighty-seven tracks, from 1950 to 1989, compiled for this 1991 four-CD set. Whether his heart's in San Francisco or Astoria, Bennett's a master at getting to the sensual heart of a song without any phony, macho bravado.

ROSEMARY CLOONEY

Girl Singer (Concord 4496)

The understated title of this 1992 release masks one of the best albums the extraordinary Rosemary Clooney has ever made. She now probes more
meaningfully into the lyrics than she did in her early days-without any loss in the warmth of her sound or the gently swinging buoyancy of her style.

THE NAT KING COLE COLLECTION (Capitol 99777)

Nat King Cole's singing still exemplifies masculine grace, warmth, and honest passion better than the singing of anyone else in classic pop, especially when he's caressing a ballad. In this 1992 four-CD compilation, with no fewer than 100 songs recorded between 1946 and 1965, he makes even the most forgettable Fifties drivel unforgettable.

BARBRA STREISAND

The Broadway Album (Sony 40092)

Although she's long straddled a hybrid of contemporary styles (well represented in the 1992 three-CD set "For the Record"). Streisand is still at her best with traditional show music, as in this 1985 album-treating it with the kind of imagination, energy, brightness, love, and quirky irreverence that few other singers can equal.

BARBARA LEA

You're the Cats (Audiophile 252)

Why Barbara Lea isn't better known is a real baffler. This favorite of so many other singers has been making terrific recordings since the mid-Fifties. This one, from 1989, shows off her smooth, sultry, always insightful ballad style the best.

BOBBY SHORT

Guess Who's in Town? (Atlantic 81778)

Bobby Short has probably done more than any other singer to keep in circulation hundreds of songs that never quite made it as standards but definitely deserve continued hearings. This 1987 set of eleven by Andy Razaf, some written with Fats Waller and Euble Blake, is at the top of that list, and everything in it is sung with Short's distinctive blend of caustic awareness and life-affirming snap.

DORIS DAY 16 Most Requested Songs

(Columbia/Legacy 48987) Although she recorded less and less after becoming the movies' top box-

Classic pop stars: opening page, Frank Sinatra. Counterclockwise from top, opposite page: Barbra Streisand, Doris Day, Nat King Cole, Fred Astaire, Judy Gariand, "Miss" Peggy Lee, **Rosemary Clooney, and Tony Bennett**









More classic pop stars: Liza Minnelli (top, making like her mother) and song historian-turnedinterpreter Michael Feinstein office draw for most of the Sixties, Doris Day has few equals in classic pop as a creamy-voiced, warmly sunny, sexy singer (forget the movie virgin image!). This 1992 compilation neatly spans the best of her big-band and movie days.

PEGGY LEE

Best of the Capitol Years (Capitol 90552)

When it comes to classic pop at its most intimate and subtle, there's no one quite like Peggy Lee. Even at a sonic level just a smidgen above a purr, there's a refreshingly uncynical, springlike tang to her singing, as in this sixteen-track compilation from the Sixties and Seventies.

LIZA MINNELLI AT CARNEGIE HALL (Teiarc 85502)

Sure, Liza Minnelli learned from her mother and sometimes sings like her. But she's honed her own natural talent in decidedly individual ways, with an innate musicality, a faultless sense of rhythm, an expressive intensity, and a visceral energy that few can match. It's all here in this stunning, two-CD program, which was taped live in 1987.

MICHAEL FEINSTEIN Isn't it Romantic (Elektra 60792)

Michael Feinstein has grown from a dedicated song historian to a uniquely insightful interpreter in his own right. He's at his best in this easygoing set of ballads—some of them dreamily romantic, some warmly wide-eyed, some lightly swinging—and all with terrific Johnny Mandel big-band arrangements.

STARRING FRED ASTAIRE (Columbia 44233)

His dancing so dominated his image that many forget how masterly a singer Astaire was—on records as well as on the screen. His phrasing was natural and engaging, and he caught the very heartbeat of a song in a laidback way that was simultaneously relaxed, graceful, elegant, witty, and unaffected. This 1989 two-CD compilation of thirty-six beautifully remastered tracks from the Thirties and Forties includes some that had never previously been released.

ANN HAMPTON CALLAWAY (DRG 1411)

After stealing the show in several of Ben Bagley's estimable "Broadway Revisited" albums, Callaway finally got an album to herself in 1992—and what a knockout! Her multi-octave range, stylistic virtuosity, and taste shine through all fifteen tracks.

JULIE WILSON SINGS THE COLE PORTER SONGBOOK (DRG 5208)

Julie Wilson's somewhat frayed singing/speaking style is perfect for projecting Porter's knowingly wise, sometimes saucy, occasionally impudent, always gracefully elegant songs—and she gets right to the pith of every phrase of the generous thirty songs on this 1989 disc.

JO STAFFORD

Collectors Series (Capitol 91638)

Stafford may have retired from active recording in the early 1960's, but there's been no stop in the reissues of her discs, dating back to her pre-solo years as lead singer with Tommy Dorsey's Pied Pipers. Her cool, smooth, vibrato-free voice made her unequaled in long-lined ballads, but she could also swing jauntily. This twenty-sixtrack compilation from the Forties and Fifties includes many gems that were long out of print.

MEL TORMÉ & THE MARTY PAICH DEK-TETTE

Reunion (Concord 4360)

Tormé has come a long way from his insipid Velvet Fog days—not only in the expansion of his vocal range but also in the broad spectrum of material he now handles with such stylish aplomb. This 1988 set, with songs ranging from *Snow White* and *Pinocchio* to Jobim, Ellington, and Chick Corea, also shows how much more there is to classic pop than just a trip down Nostalgia Road.

JONATHAN & DARLENE'S GREATEST HITS (Corinthian 101CD)

The concert and opera worlds have Victor Borge, Anna Russell, and La Gran Scena. Classic pop has Jonathan and Darlene Edwards, who blithely wander off key, miss notes, garble the rhythm, or otherwise mess things up. Actually, it's Jo Stafford and Paul Weston behind the hilarity—in delicious spoof mode. The fourteen tracks in this 1987 compilation offer the unforgettable best from their Fifties and Sixties bestsellers.

Roy Hemming has been a STEREO REVIEW Contributing Editor since 1974. He is the author of The Melody Lingers On: The Great Songwriters & Their Movie Musicals and coauthor with David Hajdu of Discovering Great Singers of Classic Pop.

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CLOCK radios are fine for rousing souls from the depths of a dream state or for listening to the banter of talk-radio personalities while sipping your morning coffee. But when it comes to playing music, most of them just don't cut it. Sure, you can crank up the livingroom system while you're in the bedroom or kitchen, but that's like listening to a concert from the parking lot—and you disrupt the whole household or, worse, your landlord. That's why compact hi-fi systems are so popular: They don't take up much space, so you can put them almost anywhere, they offer the same basic features as fullsize audio equipment, they're easy to assemble, and—most important—many deliver decent sound quality. Shelf systems are the perfect choice for condos and apartments or any place where a secondary hi-fi ensemble is desired or space is limited—college dorms, summer cottages, even the office (provided your boss allows it). They open up a whole new vista of listening opportunities, and they do it without costing a fortune.



Y BOB AKLOSKO

One of the electronic components of Yamaha's CC-5 system is a 50-watt-per channel integrated amplifier and ambience processor that uses patented servo technology to achieve 40-Hz response from the system's two 4¾-inch woofers. There is also a separate CD player/tuner and a dual-well cassette deck with Dolby C. Stacked up, the three components reach the same height as the speakers—13½ inches. Price; S999.





The Philips FW70 CD system features an equalizer offering ten preset curves, five fixed and five programmable, 50-wattper-channel power output, and a pair of three-way bass-reflex speakers, each with a 6-inch woofer. The tuner has thirty AM or FM presets with station-name display, the dual-well autoreverse cassette deck has Dolby C, and there is a remote control. Overall dimensions are 23% x 13½ x 10 inches. Price: \$999.

The heart of Sherwood's SS-1500R system Is a three-channel amplifier rated to deliver 90 watts to an 8-inch-cone subwoofer and 35 watts each to a pair of two-way satellites. The electronics stack, which includes a separate CD player and a three-in-one unit combining a double cassette deck, an equalizer, and a tuner with the amp, is 143% inches high, the same as the speakers, and 143% in inches wide. Price: \$600.





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The compact 8%-inch-wide x 12½-inchtall electronics section of Sharp's CD-C6300 system houses a six-disc CD changer with thirty-two-track programming, a dual-well cassette deck, an AM/FM tuner with thirty station presets, and a 50-watt-per-channel integrated amplifier with a five-band stereo graphic equalizer. The amp uses patented servo circuitry that is said to enhance the bass output of the small three-way speakers. Price: \$800.





JVC's MX-C7 system is designed for creatures of habit: It automatically memorizes preferred volume and EC settings for each source and also adjusts for the time of day (morning, afternoon etc.). The system sports a six-disc CD changer plus a single-play drawer, and the seven-band equalizer has fifty preset curves. Price: \$1,000.





The nerve center of Bose's Lifestyle Music System is the slim Model 10 CD player/tuner/controller, which supports two independent listening zones and features an RF remote control with a range of more than 200 feet. The powered Acoustimass 3 speaker trio comprises two 4½-inch-tall satellites, each with a 2½-inch driver and a 20-watt amplifier, and a $18½ \times 7\% \times 8½$ -inch bass module with a 5¼-inch woofer and a 50-watt amp. Price: \$1,498.



Nakamichi's SoundSpace7 system employs a cleverly engineered CD section: Its ordinary-looking single-disc tray provides access to six additional discs in a "stocker" mechanism hidden next to the CD platter. The control center, which measures 21 x 4% x 32%inches, also includes an AM/FM tuner and a 30-watt-per-channel amplifier. The speakers are 17% inches tall and each houses a 6%-inch woofer and a 1-inch soft-dome tweeter. Price: \$1,250.

The lion's share of today's shelf systems are equipped with a CD player of some sort, so it's a good idea to decide whether you want a single-play or multidisc system before you hit the shopping trail. If you're leaning toward multidisc, then it's a matter of choosing between a carousel-type changer that handles three, four, or five discs, a standard six-disc-magazine setup, and a few unconventional configurations-like Nakamichi's seven-disc scheme (this page) or Fisher's unique twenty-four-disc changer (next page). In terms of features, most compact disc players are similar: In addition to the usual scan and repeat/random-play modes, they let you program the playback order of twenty or more tracks. In terms of operation, pay attention to how long it takes the machine to access a disc-it will vary from system to system.

If your mini-system plans call for LP playback, prepare to improvise: Turntables are excluded from all but a handful of the cheapest systems. So unless you're willing to settle for mediocre sound, you'll have to add a turntable to the system—just make sure there's a phono input.

THER standard equipment includes an AM/FM tuner-

often with more presets than the average person knows what to do with—and a dual-well cassette deck. Double decks may not deliver the highest fidelity, but they are very practical for dubbing tapes.

In terms of power, a shelf system that puts out 30 to 50 watts per channel should be adequate for most spaces. In the case of a very large room, focus on systems that deliver at least 50 watts per channel. Also be sure to audition "biamped" systems, which use separate amplifiers to reproduce the low and high frequencies; they may play louder, if not sound better, than singleamp packages.

Two-way or three-way speakers with 5- or 6-inch woofers—often ported to boost bass output—are typical. Some systems also employ circuitry to enhance the low end, and a couple Fisher's DCS994 system is a heavyweight in terms of features, boasting a Dolby Pro Logic receiver and the company's new Studio 24 CD changer/management system—a jukebox-like carousel that holds twenty-four discs. Rated power output is 100 watts each to a pair of twoway bass-reflex speakers and 15 watts each to a magnetically shielded centerchannel speaker and two surround speakers (not shown). Price: \$1.000.





The carousel-type three-disc CD changer that tops off Radio Shack's Optimus System 710 enables you to change two discs while the third is playing as well as to program a twenty-track sequence. The package also includes a dual-well cassette deck and 40-watt-per-channel amplifier, a seven-band equalizer and AM/FM tuner, and a pair of 15%-inch-tall speakers, each with a 6½-inch woofer, a 2¼-inch tweeter, and a ceramic "super tweeter." Price; \$700.

The LCX-01 is Aiwa's smallest minisystem to date. It features a CD player with twenty-track programming, an AM/ FM tuner, an autoreverse cassette deck, and a 15-watt-per-channel amplifier—all housed in two components that measure just 5% x 11% x 8% inches when stacked. Key features include BBE sound processing, which is said to enhance the reproduction of midrange and high frequencies, and a back-lit wireless remote control with a mute/dimmer button. The two-way bass-reflex speakers have 5%-inch woofers. Price: \$550.





You could watch movies with surround sound in a dorm room with Ploneer's CCS-470 system, which features a Dolby Surround receiver that delivers 30 watts each to two front speakers and 5 watts apiece to a pair of rear surround speakers. The system also has a six-disc CD changer, three ambience modes, and automatic tape-editing. Price: \$975.



Sony's MHC-3750 is a biamplified package with two bass modules that receive 30 watts apiece and a pair of satellites that get 20 watts apiece. The system features a CD changer with a single slot that provides access to an internal five-disc mechanism, and it includes a programmable seven-band equalizer. Price: \$1,150.



Denon's D-80 system features a 10%inch-wide x 12½-inch-tail titanium-finish electronics stack consisting of a 30-wattper-channel receiver with a processor loop and a tuner with thirty AM/FM presets, a six-disc CD changer, and a dual-well autoreverse cassette deck with Dolby C noise reduction and one-button CD-to-tape recording. A Super Dynamic Bass circuit is said to enhance lowfrequency output. The three-way bassreflex speakers have 5¼-inch woofers, 2-inch tweeters, and 1¼-inch dome "super tweeters." Price: \$1,008.



To achieve a surround-sound effect without using additional speakers, Technics provides a fourth driver, fixed to the outer corner of the cabinet on a pivoting bracket, with each of the threeway speakers in its SC-CH655 system. The system has four 8½-inch-wide electronic components: a carousel-type three-disc CD changer, a dual-well cassette deck, a surround processor with karaoke and ambience modes, a graphic equalizer, and a 50-watt-per-channel receiver that also sends 8 watts to each surround driver. Price: \$1,050. even include a bass module. All of this looks great on paper, but the only sure way to gauge sound quality is to listen. If there's a weak link in the chain, it's likely to be the speakers.

0, however, keep in mind where and how you plan to use the system. If you want background music in an office, you don't have to be as picky-just make sure music sounds reasonably balanced and clear. If, on the other hand, you plan to put a mini-system in a home rec room-where game playing demands a loud musical accompaniment-you should be more critical of the sound quality. If music sounds tinny, or boomy and muffled, move on to another model. Also, be wary of systems that begin to sound fuzzy at half volume or less.

A word on operation: Put the system through its paces *before* you buy it. Is it easy to operate? When you hit the CD play button, does the preamp automatically switch into the CD mode? Such subtle amenities can greatly enhance your enjoyment. Does the remote control suit you? With some systems, it may be the *only* way to operate certain functions.

If tape dubbing is high on your list of priorities, make sure the recording procedure is easy to follow. Ask for a demonstration; failing that, ask for an owner's manual. Dolby B noise reduction is standard, but what about Dolby C? If CD editing is important to you, run through the programming procedure before committing to the system. It should be intuitive.

Finally, does the system offer the extras that matter to you? An equalizer can be helpful in shaping the sound to your taste, for example. A few systems offer ambience presets or some form of surround processing. Such perks may or may not be important to you—it all depends on what you have in mind. One thing's for sure—you'll be able to wake up in style if one of those perks is an alarm-clock mode.

BEST of MONTH

STEREO REVIEW'S CRITICS CHOOSE THE OUTSTANDING CURRENT RELEASES

Matthew Sweet's "Altered Beast," Between Melodic Heaven and Grungy Hell



ATTHEW SWEET has never served his pop songs quite straight up. There's usually been a tincture of dissonance or untidiness around the edges, a nod toward life's realities rather than the nevernever land of pop dreamers. On his superb new album, "Altered Beast," Sweet smudges his perfect little songs with a sooty smear—squawking guitars here, angry lyrics there—making for an ugly/pretty pastiche that is revealing in its honesty. An unkempt jewel in the

rough, the album is suspended halfway between a melodic heaven and a grungy hell, its lack of polish ultimately more absorbing than a batch of sweet Beatlish nothings.

"Altered Beast" tends more toward the scraggly-sounding, mixed-up confusion of *Divine Intervention* than the piquant pop tunes that kept the track company on "Girlfriend," Sweet's 1991 breakthrough album. He sounds measurably more perturbed, saddened, even downright irate here. His usual cast of

peerless New York guitarists-Robert Quine, Richard Lloyd, and Ivan Julianpitches in with prickly leads that serve as musical analogues to Sweet's rancor. In The Ugly Truth, with Byron Berline's fiddle flying, Sweet concocts a countryrock hoedown filled with such troubling lines as "You don't want to die / But the living gets you down / . . . Ah, you simply cannot hide from the ugly truth." (If you don't get the point the first time, the song's reprised in a clenched-teeth, full-tilt version later in the album.) Many of the songs are written in minor keys. including Do It Again, in which a pretty melody and chugging rhythm support a cheerless set of lyrics about a couple that take turns hurting each other. The moral of the story is that bad love is better than none at all. This sense of constriction is even more explicit in the next song, In Too Deep, where the singer's sense of entrapment is conveyed with a series of hellish images. Sound bites from the movie Caligula further contribute to a subtextual aura of dissolution and rabid surrealism.

Near the end, the album seems to take a turn toward the tragic, with intimations of lost loved ones (Evergreen) and abject despondency (Falling) clouding the already overcast landscape. In Falling, Sweet sings, "And every day takes something away / Until there's nothing left to say." "Altered Beast" is so deeply felt and grippingly confessional that it seems an album made less with an audience in mind than as a means of therapy and expression, and in that context, it is very much in a class with Robyn Hitchcock's "Respect," R.E.M.'s "Automatic for the People." and Lou Reed's "Magic and Loss." No, it is not a powerpopper's nirvana this time out. But it sure feels real. Parke Puterbaugh

MATTHEW SWEET

Dinosaur Act; Devil with the Green Eyes; The Ugly Truth; Time Capsule; Someone to Pull the Trigger; Knowing People; Life Without You; Intro; Ugly Truth Rock; Do It Again; In Too Deep; Reaching Out; Falling; What Do You Know; Evergreen ZOO 72445-11050 (55 min)



Barrence Whitfield and Tom Russell Invent Hillbilly Voodoo

A first, they seem an odd pairing soul singer Barrence Whitfield, often talked about in the same breath as Little Richard, and Tom Russell, master of the thinking man's country song. But one spin through their irresistible new collaboration, "Hillbilly Voodoo," and you'll know they were made for each other, with Russell putting words and ideas in Whitfield's mouth that certainly never set up housekeeping there before, and Whitfield finding the funk in Russell's social politics.

Together, Whitfield and Russell rave through a variety of terrific material,

adding a slow R&B stroke to Lucinda Williams's song of longing and fulfillment, I Just Want to See You So Bad. a whiff of Rastafarian cool to Jimmy Driftwood's What Is the Color of the Soul of a Man, and prideful joy to Van Morrison's Cleaning Windows. Whitfield's soulful rasp and Russell's conversational, beat-poet baritone don't set off many sparks when they rub up against each other, and so the duo wisely trade leads from song to song and mix their supporting vocals low behind an impeccably stripped-down production, which flirts wildly with Memphis blues, island rhythms, and smoky European bistro panache. With few exceptions, most of this works just fine, as when Whitfield's sideline participation makes Russell's jazzy send-up The Cuban Sandwich, a twisted tale of meat, cheese, premeditated crime, and a powder-red bra, perfect for any New York City street-corner band.

Whitfield and Russell call this amalgam of country blues, jazz, soul, skiffle, and backbeat grooves "hillbilly voodoo," hence the album title. That's probably as good a handle as any, but it doesn't hint at the surprising spiritual and humanistic connection this music makes in the pure celebration of conjugal culture mix. Don't take my word for it, though. Drag out your alligator teeth, chicken bones, and lizard eyeballs and get voodoo-fied. Then tell all your rowdy hillbilly friends. *Alanna Nash*

BARRENCE WHITFIELD WITH TOM RUSSELL Hillbilly Voodoo

Long Black Train: The Cuban Sandwich: Jack Johnson: I Just Want to See You So Bad: You Can't Get That Stuff No More: Blind Willie McTell: Ice Water: The Definition of a Fool: Chocolate Cigarettes: What Is the Color of the Soul of a Man: Mississippi You're on My Mind: Cleaning Windows

EAST SIDE DIGITAL 80692 (42 min)

Two Faces of Stravinsky in Dazzling Two-Piano Performances

W LADIMIR ASHKENAZY and his younger colleague Andrei Gavrilov present two very different sides of Stravinsky in their dazzling new London CD of four of his works written or arranged for two pianos. The Concerto and Sonata for Two Pianos are both in the composer's most stringent Neoclassical vein, while the piano versions of *Le Sacre du Printemps* (*The Rite of Spring*) and the brief *Scherzo a la Russe* represent his Russian-primitivist vein.

Composed in Hollywood in 1944 and performed here in Stravinsky's own keyboard transcription, *Scherzo à la Russe* harks back in spirit to the Shrovetide Fair episode in *Petrouchka*. Conceived for a Russian film with a World War II setting that never got off the ground, it wound up as a repertory piece for Paul Whiteman's Blue Network broadcasts.

The Concerto for Two Pianos, begun in southern France in 1931 and finished in Paris in 1935, was intended for performance by Stravinsky and his son, Soulima. Neoclassical in that idiom's most rigorous, even monumental form, it sets the two pianos against each other instead of melding them into an integrated musical texture. The episodic "sonata-allegro" opening movement is followed by a delicate *Notturno* slow movement. The set of four sharply contrasted variations that make up the third movement let the virtuoso pianists strut their stuff. The prelude-and-fugue finale combines a strong gestural element with strict polyphony. The Two-Piano Sonata, another product of Stravinsky's wartime exile in Hollywood, is more intimate in tone, as well as friendlier to the ear. The first movement suggests Ravel's Sonatine, the Bach-like second movement consists of a theme and variations leading to a thoughtful conclusion, and the carefree finale includes a charming Russian-flavored middle section.

One thinks of *Le Sacre* as a daring orchestral tour de force, but Stravinsky's own four-hand piano version was published in 1913, eight years *before* the full orchestral score. In any case, a firstrate keyboard rendition like the one here

BEST of MONTH



shows the work in a fresh perspective, F making the harmonic structure more apparent and enabling one to hear elements at the lower end of the tonal spectrum that tend to get lost in the orchestral hurly-burly.

I can hardly imagine finer realizations of this music. I have heard some pretty deadly, dry-as-dust performances of the Two-Piano Concerto; Ashkenazy and Gavrilov bring it to stunningly vital life. The sonata is elegance itself, the Scherzo à la Russe is a delight, and Le Sacre is an absolute knockout, not merely as a virtuoso vehicle but even more for the haunting poetry that comes through. The recorded sound-from Brangwyn Hall, Swansea, Wales-is perfect. David Hall

STRAVINSKY: Scherzo à la Russe; Concerto for Two Planos; Sonata for Two Pignos: Le Sacre du Printemps Ashkenazy, Gavrilov LONDON 433 829 (68 min)

Live from New York: Kurt Masur Conducts the Franck Symphony in D Minor

ÉSAR FRANCK'S Symphony in D Minor has gone in and out of fashion with some frequency over the years, and it has weathered interpretive approaches as striking in their differences as the vicissitudes of public favor. Not too long ago many conductors seemed to regard the work as a sort of devotional icon-a "cathedral in sound"-and went at it with the kind of reverential grandiosity they applied to the symphonies of Franck's Austrian contemporary and fellow church organist Anton Bruckner. Most German conductors-from Wilhelm Furtwängler to today's young Claus Peter Flor-have been susceptible to this notion in performing the symphony, but Otto Klemperer was not (he was generally no slow coach in Bruckner, either), and neither is Kurt Masur, whose new Teldec recording of the work with the New York Philharmonic is the most refreshing account of it in years.

Straightforwardness has always stood out as one of Masur's interpretive virtues. He is not one to lard an already quite expressive piece with gratuitous emphases and self-conscious staging. To be sure, "straightforward" can some-times be a euphemism for "pedestrian" "prosaic," but Masur's clear-eyed or

accounts of such pieces as the Tchaikovsky "Pathétique" and the Dvořák "New World" symphonies bespeak, and successfully convey, the most genuine sort of respect and affection for the music. In the Franck symphony, too, he simply clears away all extraneous matter to allow the work's structure, its colors,



and its fine tunes to make their own persuasive points. It is not merely an idiomatic reading but a noble one, with an irresistibly natural flow, impeccable balance between the orchestral choirs, and downright gorgeous playing from every stand.

Adrian Boult's somewhat more fiery performance, recorded in 1960, has been revivified on a Chesky CD, and Pierre Monteux's possibly definitive one with the Chicago Symphony is due for sonic refurbishing in RCA's Living Stereo series next year, but at present Masur and Teldec provide the most enticing combination of musical and sonic appeal-and yet another strong case for live recording. The appended performance of Franck's symphonic poem Les Éolides, which apparently was not recorded live, is an agreeable encore, though not a very generous one, and its textures are not as clear as the symphony's. The symphony alone, however, is very full value for the frequency of playing that Masur's bracing way with it is likely to encourage. **Richard Freed**

FRANCK: Symphony in D Minor; Les Éolides New York Philharmonic, Masur TELDEC 74863 (48 min)

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POPULAR MUSIC



Luke Haines of the Auteurs: angst for the memories

THE AUTEURS New Wave

CAROLINE 1735 (42 min) Performance: Distinctive Recording: Crisp

New Wave nives: Of at reast the guise of a second-half comeback in the guise of a ew Wave lives! Or at least it's making a British trio, the Auteurs. Fronted by Luke Haines (who writes the songs, plays piano and guitar, and sings in an angst-ridden nasal voice not unlike Robyn Hitchcock's), the Auteurs craft moody, melodic tunes, closer in complexion to those of the early Eighties than the early Nineties. Haines is a brooder who tends toward minor keys and bleak but arresting lyrics that obsess on the darker side of showbiz and celebrity. "New Wave" reflects on stars in both senses of the word; when Haines sings "Don't trust the stars" (in the song of the same name), he's dissing celebrities and mystics alike, bringing to the fore a good dose of the healthy skepticism that got the original New Wave rolling.

Musically, the album is a sensual delight, with Haines and accomplices tracing edgy, *noir*-styled meditations with a hand as deliber-

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ate and an aesthetic as firmly in place as the Velvet Underground's. There's beauty and sadness to be divined in numbers like *Bailed Out* (in which elemental guitar lines and onefinger piano parts effectively counterpoint Haines's vocal) and *How Could I Be Wrong* (with its air of weary ennui). In the midst of unfailingly tuneful settings, Haines dryly dispenses pearls of wisdom like "Junk shop clothes will get you nowhere" (from *Junk Shop Clothes*). Most impressive, the Auteurs manage to sound simultaneously jaded, exotic, and fresh. *PP*.

DAVID BAERWALD Triage A&M 5392 (52 min) Performance: Scary Recording: Very good

Listen to this album with the blinds drawn, the doors triple-locked, and all the lights on. David Baerwald has a nasty story to tell about the way we live in the USA today. Corruption—personal, political, sexual, societal—runs through "Triage" like a polluted stream. From the sadist in A Secret Silken NEW RECORDINGS REVIEWED BY CHRIS ALBERTSON, FRANCIS DAVIS, PHYL GARLAND, RON GIVENS, ROY HEMMING, ALANNA NASH, PARKE PUTERBAUGH, AND STEVE SIMELS

World to the Travis Bickle-type in Nobody to the son who's been poisoned by his father's love affair in A Bitter Tree, Baerwald refuses to blink away the troubles he's seen. But unlike the extremism of this album's cover-bloody hands in front of an American flag on the front, a wiretapper about to commit suicide on the back-Baerwald's music modulates his fury. Like his earlier solo album and his work with David + David, "Triage" is brooding but essentially mellifluous pop-rock. The gloss of this music is sometimes offset by distorted guitars or disorienting sound effects, but Baerwald's discipline, especially in the exquisite crafting of these tunes, makes his ranting all the more effective. This is the work of a man who's been driven to the edge, but maintains just enough sanity to give us a full, horrible report. R.G.

BLACK 47 Fire of Freedom SBK 80686 (69 min) Performance: Powerful Recording: Okay

• h, Mammy dear/We're all mad over here/Living in America." This plaint explains the dilemma faced by Larry Kirwan, who leads the astonishing Irish-American rock band Black 47. In their first full-length album, "Fire of Freedom," Kirwan clearly delineates the dislocation felt by young Irish emigrés in the United States, fugitives from a land that itself continues to struggle for a clear identity. This double dose of disorientation is brought home with Kirwan's plaintive vocals and brutally frank songwriting. The political side of life-songs about the oppression of the Irish. James Connolly, and Black 47-and the personal side of life-love affairs that are killed by separation an ocean away, as in Funky Ceili (Bridie's Song) and Sleep Tight in New York City/Her Dear Old Donegal-become all of a tragic piece. The music, which combines American rock bombast (drum machines, synthesizers) with traditional Irish spice, bolsters Kirwan's bilateral vision with a passion. "Fire of Freedom" is a terrific debut. R.G.

THE CACTUS BROTHERS

LIBERTY 80473 (35 min) Performance: Duh

Recording: Very good

f you feel compelled to buy just one record this year by a band with an electric dulcimer and dobro—one that's been described as "a cross between Van Halen and Flatt & Scruggs," or "Ricky Skaggs meets U2"—this is it. Just remember, they may be former members of Walk the West, but they still write lyrics like, "My love has done jumped the track / It's gonna take a big train to pull it back." Watch out, Johnny Cash. Not! A.N.

RAY CHARLES My World WARNER BROS. 26735 (45 min) Performance: Some new grooves **Recording: Satisfactory**

o matter what he sings, Ray Charles always sounds like nobody but himself. It is that firm sense of artistic identity that enables Charles to sail successfully through this new set, shifting, at times, into some contemporary pop grooves. The opening title song blasts off with a hip-hop beat. For a moment, you might think you have inserted the wrong disc, but when Ray shouts out and launches into an unexpected musical plea for global cooperation, the disparate elements begin to jell. Later, the thunderous beat of a New Jack approach to production prevails in nearly half the selections here. It takes a bit of getting used to, but Charles. a master of rhythm and textures, feeds on these settings, using their energy to propel him to exhilarating musical highs. This is true in One Drop of Love, a message song with a kick, and None of Us Are Free, with its exuberant vocal backing. And speaking of back-up, if you listen closely you'll hear the gospel-steeped voice of Mavis Staples, especially in Love Has a Mind of Is Own

The high point of the set is a riveting reading of Leon Russell's A Song for You, which displays the interpretive brilliance that has elevated Charles to a category of his own. He also turns in a comfortably rusty-voiced version of If I Could and puts a soulful spin on Paul Simon's Still Crazy After All These Years. transforming it into a slow-burning blues. Now that is the Ray Charles we know and P.G. love.

LISA GERMANO Happiness

CAPITOL 98691 (51 min) Performance: Adolescent trance **Recording: Good**

isa Germano, John Mellencamp's former fiddle player with one previous indie-label album behind her, is a throwback to the psychedelic era, when feathery, whispered vocals atop swirls of sound and beat suggested the euphoria and numbed-out bliss of good dope. That's also when lyrics such as "Love is everywhere and I could have it . . . happiness is just around the corner from forgiveness" seemed, if not profound, well, heavy, dude. Germano rarely uses her violin as a melodic

ECORDS

2



still (uh-huh) the right one, solo instrument, but rather like a guitar, for low-key, sustained rhythmic tension and fanciful fills to bolster her often atonal instrumental bed. But it's her voice and her words she really wants you to appreciate, in songs about how she'll only listen to mom and dad once they're dead, and how she wants you to take her to your castle, since "mine got lost somewhere." And don't miss her version of These Boots Are Made for Walkin'. It's enough to make Billy Ray Cyrus want to take off his shirt. But, of course, what isn't? A.N.



GUTTERBALL MUTE 61510 (49 min) Performance: Ragged and real **Recording:** Ditto

hese guys are a sort of post-punk supergroup: leader Steve Wynn was in the Dream Syndicate, guitarist Stephen McCarthy was with the Long Ryders, and the other members were involved with similarly highly regarded but negligible-selling bands (the Silos, House of Freaks). What apparently unites them (apart from a healthy cynicism about the record business) is an understanding of the basic rock verities, a flair for noise, and a penchant for spontaneity. The music they make here-better than anything any of them have done previously-is spooky, late-night, riff-driven guitar-rock, the sort of sounds-likethey're-jamming-but-they're-not-really stuff you hear on old Dylan outtakes with the Band, or what you might have heard if Lou Reed had ever fronted Neil Young's Crazy Horse. In other words, it's the garage band of your dreams-a smart, unpretentious ensemble that in a better world would be on MTV about every 5 minutes. Anybody who thinks threechord roots-rock with an attitude is an exhausted genre ought to get hold of Gutterball, and fast. S.S.

PENELOPE HOUSTON AND HER BAND The Whole World

HEYDAY 029 (48 min) Performance: A certain coolness **Recording:** Good

enclope Houston, of the late-Seventies San Francisco punk band the Avengers, will never be mistaken for Whitney's sister. Singing with a kind of Suzanne Vega-ish dryness, and backed by an avant-garde acoustic band (imagine Pentangle meets early Fleetwood Mac), Houston goes a long way on attitude and cryptic, slightly hallucinogenic lyrics, mostly about confounded relationships and Life's Big Quests. Gone are the politics that ruled her Avengers incarnation (this is her second independent effort), unless you count sexual politics right up there with fascist capitalists. Houston has a tendency to sing flat, which makes you listen to the players more,

TALES FROM THE VAULTS

THE J. GEILS BAND Anthology

RHINO 71164 (two CD's, 144 min) From their early-Seventies album cuts (still the best white blues this side of the Rolling Stones) to their MTV-era pop singles, and a bunch of new-to-CD rarities (the studio version of Where Did Our Love Go), this is a near-perfect collection from the coolest party band Boston ever produced. Just get the midprice Atlantic reissue of their debut S.S. album to flesh it out and you're set.

LET IT ROCK: THE BEST OF THE GEORGIA SATELLITES

ELEKTRA 61336 (74 min)

After Keep Your Hands to Yourself I dismissed these guys as one-hit wonders doing a lame Stones/Faces act (little did I know that I was more accurately describing the then-unknown Black Crowes). Listening to this generous twenty-track best-of collection, however, it has become embarrassingly obvious to me that this was, in fact, a classic American band, with emotionally compelling songwriting, a devastating instrumental attack, and the sense of fun that only the really great ones have. So mea culpa, y'all. And while you're buying this be sure to pick up Satellite leader Dan Baird's recent solo album as well. S.S.



THE BEST OF NEBO: STAY WITH WE

COLUMBIA/LEGACY 52432 (62 min) By now NRBQ is such an institution that people have forgotten how their early Columbia albums were dismissed as a failed "Next Beatles" hype. Of course, those who actually listened to the records at the time knew right away that the band was special, and so it's gratifying-and overdue-to have this stuff back in circulation. Pick hit: the album track of C'mon Everybodyhands down the best cover anybody has ever done of an Eddie Cochran song. S.S.

POPULAR MUSIC

not a bad thing here. For while the band has a sweet. almost European sound (accordion, melodica, and autoharp mixed in with guitar, mandolin, and percussion), Houston favors angry sputterings, as on Sugarburn, where she informs the object of her turbulent affections. "Sugar burns my mouth like you do." A fun date? Probably not. An arresting record? Cuff me AN



THE IGUANAS MARGARITAVILLE/MCA 10748 (65 min) Performance: Lacks fire Recording: Very good

he Iguanas, a five-man band from New Orleans, aim for a naturalistic fusion of New Orleans, Tex-Mex, and Latin styles, and on a strictly academic level, they achieve that goal in this first album for Jimmy Buffett's Margaritaville label. But between the bandstand and the studio something got lost in translation, because the performances lack fire, passion, and intensity. Weak vocals are part of the problem; the band has no strong singers, and they fail to make a visceral connection with the material. In Nervous, the singer doesn't convey edginess so much as boredom. Later, the line, "I feel my heart in the grip of a dark and dangerous love," is read so indifferently that it might as well come from the back of a cereal box.

The Iguanas are musically well-manicured. featuring two tenor saxes, a guitarist who doubles on accordion, and a bass player whose solid bottom has anchored Alex Chilton, among others, but their performances here have been polished to an overly high and mannerly gloss. Breaking out in a ragged sweat would have suited the music better. P.P.

> JAMES INGRAM Always You WARNER BROS. 45275 (43 min) Performance: Superb sweet singing **Recording:** Satisfactory

but James Ingram has such a superb voice that

thers might shout, bark, growl, scream,

and rap their way through recordings,

it's enough to simply hear him sing. Building on the tradition of soul crooning established in earlier decades, he is presented here in tastefully fashioned romantic settings that permit him to display his irresistible way with a ballad. There is no huffing, puffing, or grunting. Instead, Ingram is permitted to cast a spell with his velvety voice as he interprets several quality songs, including the pensive A Baby's Born, the socially aware Sing for the Children, and the pretty Any Kind of Love. While Ingram is a masterly balladeer, this does not mean that

he is technically limited. Without disrupting the mood he has created, he deftly weaves in some dazzling vocal effects à la Al Jarreau or George Benson. He does so without ever breaking his cool, and that is the mark of a real master PG

WENDY JAMES

Now Ain't the Time for Your Tears DGC 24507 (38 min)

Performance: Pop-punk redux **Recording: Ragged but right**

hat a strange collection: Elvis Costello writes the tunes, then conveys them to Wendy James (with no apparent face to face meeting), the former voice of Transvision Vamp. The songs are the kind of short, sweet, pop-punk nuggets Costello can't or won't sing at this point in his career-he's far too dense and complex for that now-so he's put them in the hands of a singer whose sense of irony and intellect are far less developed. The songs have the wit, succinctness, and drive that have been missing from Costello's own records of late, and James, hovering vocally somewhere between Debbie Harry's pop diva and Wendy O. Williams's porn-punk tramp, does them justice. This Is a Test, clocking in under 2 minutes, and Puppet Girl, with its Who-like stutter ("cut-cut-cut your strings"), are instant standouts, but London's Brilliant has got the best line: Making reference to "digging up the bones of Strummer and Jones," it's a Clash-back to 1977 that will put a smile on the face of anyone who nightclubbed and pogo'ed through punk's heyday. P.P.

GORDON LIGHTFOOT Waiting for You REPRISE 45208 (36 min) Performance: Paint by numbers Recording: Good

arly in his career, Gordon Lightfoot sang easy-to-remember songs about people, places, and things. Early Morning Rain, For Lovin' Me, and even Sundown, from a later period, had story lines and melodies that burrowed into the brain. Now, Lightfoot sounds so world-weary and jaded about love that he can barely speak. spitting out his words in a staccato style that suggests he's merely concerned with filling an album, and the sooner the better. In ballads such as Only Love Would Know and Waiting for You, this old folkie bemoans the lack of passion in his beloved. Maybe if he showed some himself, he'd get some in return. AN

James Ingram: soul crooning



Wendy James: Hello, Elvis!

BILL MORRISSEY & GREG BROWN **Friend of Mine** PHILO 1151 (39 min) Performance: Old shoe

Recording: Good

Bill Morrissey, whose documentary-style songs of bleak love and withered hope have already spawned a cult following, and sometime sidekick and songwriting friend Greg Brown have teamed for the record they weren't destined to make-a collection of songs they didn't write. Their choice of covers is eclectic-a mixed bag of folk, rock, and blues by Chuck Berry, Ferron, Willie Dixon, Jagger/Richards, and Hank Williams, among others. And although they turn in haunting versions of the traditional Baby, Please Don't Go and Danny O'Keefe's underrated The Road, the question is why. Morrissey's dyingman vocals are always compelling, no matter what the material. But aside from the duo's obvious pleasure in recording laid-back versions of the songs they always play when they meet at parties or after a day of fishing, the album's most lasting impression is that Morrissey and Brown should stick to what they do best-writing songs like nobody else in the universe A.N.



NEW ORDER Republic QWEST/WARNER BROS. 45250 (47 min) **Performance:** Irresistible **Recording: Good**

et's hear it for the disco band with the human face. New Order uses space-age electronics to make music, but technology never robs the group of its ability to express personal emotions. Even on 1989's "Tech-

POPULAR MUSIC

nique," where sequencers threatened to overwhelm the arrangements, a human pulse was still beating somewhere amongst the largely mechanized rhythms. Now, with "Republic," they've backed off the synths a little, cranked up the guitars a little, and shown that they care more about hooks-per-minute than beats-perminute. Despite the often brooding, elliptical lyrics, the album is relentlessly catchy. Even Liar-which seems to be about the band's hate for the people who ran its original British label into ruin-has a kind of Bachrach/David Meets Robocop techno-lilt to it. But none of this irresistible sheen takes away from the forcefulness and gravity of the music. New Order has always preferred to dance on the dark side, but never as compellingly as on "Republic. RG

K.T. OSLIN Songs from an Aging Sex Bomb/ K.T. Oslin's Greatest Hits RCA 66227 (47 min) Performance: Most for the money Recording: Very good

s Nashville starts boasting of its new Performers who've changed the stereotype of the female country singer from the complacent "Stand by Your Man" image to that of the independent modern woman, it's good to remember that K.T. Oslin deserves more than a round of applause. A true trailblazer. Oslin was writing intelligent and sly feminist pop tunes about inner resources vs. victimization long before Mary-Chapin Carpenter ever got a record contract. This greatest-hits package, with Oslin's signature tune 80's Ladies, also contains reworkings of two old favorites-New Way Home, done up less sad and more sultry than the original version. and the remarkable sexual/psychic showdown Hold Me. Two of the three new songs here don't go very far beyond the clichés of overweight-means-lonely (Feeding a Hungry Heart) and don't-do-one-night-stands-in-theage-of-AIDS (You Can't Do That). But the atmospheric Get Back in the Saddle, about surviving the gut-wrenching pain of failed love, is an "A" list contender. All in all, you'll buy this for Oslin's been-around-the-track-afew-times wisdom, and for the way that she seldom bypasses the heart on her way to the head. A.N

PERE UBU

Story of My Life 1MAGO 21024 (41 min) Performance: You know the feeling **Recording:** Good

pere Ubu mellowing? Well, not exactly, although Cleveland's foremost avantgarde rock band does essay an actual love song here (Kathleen), with lyrics, if not a melody, that could conceivably be sung by Garth Brooks. Most of "Story of My Life," however. is the usual Ubu mix of spectacular musicianship, vaguely industrial noise-making, affectingly allusive poetry, and endearingly overwrought vocals by frontman David Thomas. The album is somewhat stripped-down, production-wise, compared to the last two, and nothing here is as overtly radio-friendly as Waiting for Mary from "Cloudland" or I Hear They Smoke the Barbecue from "Worlds in Collision." But from the opening notes of Wasted, which brackets a sort of postmodern sea chanty with a ferociously rocked-out instrumental section, it's clear the band's feisty intelligence and sly humor are still very much with us. Pick hit: The title song, in which Thomas's deadpan recitation of some unusual childhood traumas is an absolute hoot. Highly 2.2 recommended.

CELINDA PINK Victimized SRO 0076 (32 min) Performance: Don't mess with her Recording: Very good

She's bluesy, ballsy, and full of rue, and corny enough to boast in her liner notes. Special thanks to Pete for breaking my heart. The inspiration from that enabled me to write songs straight from my heart and soul." Pink, who goes for the beret-and-beatnik look, and has been a staple of Nashville clubs for some eighteen years, may consider her raw and heartfelt tunes of abandoned love a tad on the country side. But they're a lot closer to R&B and old-fashioned blues-Bessie Smith could've sung most of them with nary a thought to rhinestones and cowpokes. Pink's songs come from a ravaged throat that's doubtless seen its share of cheap whiskey and angry words, and it can summon up growls or caress a lyric with the tenderness of a new mother. Call her a honkin' cross between Bonnie Raitt and K.T. Oslin. And dig it. A.N.

QUICKSAND

Slip POLYDOR 517 685 (39 min) Performance: Intense Recording: Very good

uicksand is composed of equal parts punk, metal, and angst. Ouicksand is also subtle. These facts may seem to contradict each other, but the gnashing guitars, convoluted riffs, bellowed vocals, and stranger-in-astrange-land-called-adolescence lyrics of this quartet are carefully layered, like a well-built onion. The men of Quicksand can bludgeon home a musical point if they want to, but more often they create just as much or more power by underplaying the fury and brutality of the genres they juxtapose. Melody isn't as important as riffs, which get piled on and peeled off to create a surging kind of dynamism. Vocalist Walter Schreifels has an emotional range that seems to extend only from frustration to anger in these songs about young-life crises, but his forcefulness is bracing. He sings the somewhat disjointed lyrics with the sort of speedup, slow-down delivery that today's snazzier rappers use, adding another off-the-beat rhythmic accent to the music. Most punk and metal clomp along like only one rhythm is allowed, but Quicksand is, at times, downright sinuous. The more you listen to Quicksand. the more you hear. The more you hear, the more you like. R.G.

SAFFIRE-THE UPPITY BLUES WOMEN

Broad Casting ALLIGATOR 4811 (63 min) Performance: Best foot forward **Recarding:** Good

ince the duo's last album, "Hot Flash," Saffire-the Uppity Blues Women have lost back-up bass player Earlene Lewis, added mandolinist/fiddler Andra Faye McIntosh. and fleshed out their overall sound with organ and electric guitar. More important, the two Women-Ann Rabson (piano, vocals) and Gaye Adegbalola (vocals, guitar, and harmonica)-have toned down the bawdiness and brassiness that made Saffire seem more like a gimmick than a viable act. The double entendres are still to be found, as are feminist songs about menstruation and gynecology. But the program, which ranges from wellwrought originals (Adegbalola's It's Alright for a Man to Cry, Rabson's Dr. Blues) to creative arrangements of Hank Williams's Mind Your Own Business and Louis Jordan's Is You Is or Is You Ain't My Baby, sounds designed to play on their musical strengths rather than on the emotional response of an agitated audience of over-forty females. Several of the selections need extra oomph, but Rabson's expressive



Pere Ubu: looking for Garth Brooks?

and fluid piano playing, whether barrelhouse. boogie-woogie, or bordering on jazz, and Adegbalola's lead vocals, full of barely contained pain, usually save the day. Saffire is increasingly looking less like an opening act at femme festivals and more like a deserved headliner in time-honored blues clubs. A.N.

SILVERFISH Organ Fan

CREATION/CHAOS/COLUMBIA 53316 (55 min) Performance: Breathtaking **Recording: Abrasive**

gly is as ugly does. Silverfish wants to rub your face in the nastiness of life until you ley Rankine in the opening cut of "Organ can taste it. "I have this feeling in my spine /

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Starclub: obvious genuflections to the Fab Four

Fan." And when her psychic bomb goes off, we're hit by shards of attitude on gender war, sex as violence, violence as sex, suicide as attention-getting, women as power pigs, and other niceties. Rankine's vocals take disaffection to new heights of spite, and the force of her barbed-wire voice is great enough to cut through concrete. Even more, her singing is strong enough to cut through the wall of distortion set up by the Silverfish guitarist, Fuzz, whose relentless punk-meets-metal riffing is as lacerating as it is inventive. During Mary Brown, his guitar begins with spirals of fury and then goes even further, like an industrialstrength dentist's drill, as Rankine screams about taking bloody revenge on male-chauvinist slime. The rest of the album is just as hellish, but "Organ Fan" is still exhilarating to experience, like a thorough psychic scourging. Ugliness can be beautiful. RG

NINA SIMONE

The Best of Nina Simone/The Colpix Years ROULETTE 98584 (68 min) Performance: Early recordings Recording: Generally good

N in a Simone first attracted public attention in 1958 with her raptly understated interpretation of George Gershwin's I Loves You Porgy. Her early recordings revealed that she had forged a unique piano style by fusing gospel, folk, blues, and jazz with her extensive training in classical music. And her voice was a rich, reedy instrument of rare expressiveness. Simone reached her peak during the mid-Sixties, when she became known as "the high priestess of soul," composing and interpreting message songs that made her the voice of the civil-rights movement, and later the more turbulent Black Revolution. Then there was a long silence. For most of the past two decades, she has lived abroad, becoming a ghostly cult figure.

This new reissue draws from her earliest recordings on the long-defunct Colpix label, before she became known as an artist-activist. Since I am familiar with the treasures on those early albums. I must confess a certain amount of dissatisfaction at some of the choices made here. How could Billy Vera and Michael Cuscana, who produced this compilation, have chosen a version of *I Loves You Porgy* featuring singing violins and marred by a thin tunnel

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sound? And why did they overlook her interpretation of the Fields-McHugh composition *Blues for Porgy* from the wonderful "Nina at Newport" album?

Still, there are some special moments to be found in this set, including the rousing folksy opener. Children Go Where I Send You, and three selections from her memorable "Forbidden Fruit" album. And while, admittedly, it would be impossible to capture the full range of Simone's gifts in little more than an hour, this disc is, at best, only a start. Now, if a more extensive Colpix follow-up were planned, or if Philips and RCA, labels for which Simone also recorded, would open up their vaults to let her soar again, the public might rediscover this sorceress of soul. PG.

LISA SOKOLOV Angel Rodeo LAUGHING HORSE 1007 (56 min) Performance: Melodically challenged Recording: Very good

isa Sokolov lives in a demonic, swirling world of free-form experimental pop-jazz. where it's a mark of creative adventure to whinny like a horse and whisper-rasp like Linda Blair in The Exorcist. Backed by longtime collaborators David Gonzalez on guitar and Badal Roy (of Miles Davis fame) on tablas, and by bassist Mike Richmond (former leader of the Mingus Dynasty Big Band after Charles's death). Sokolov says she uses her tonal, or sometimes atonal, and textural range to probe "a primal place where human emotion is forged." On several songs, including an off-the-ceiling remake of Ding Dong the Witch Is Dead, and Clay Jug, modeled after the Indian poetry of Kabir, she displays exceptional pitch control and disciplined vocal exuberance. Then again, she might also drive you to the edge. A N

STARCLUB

ISLAND 514 320 (49 min) Performance: Reminiscent Recording: Good

Gee, the name of this band is virtually the same as the name of the place—the Star Club—where the Beatles played in Hamburg in 1962. And gee, the first couple of tunes in this album—*Hard to Get* and *Let Your Hair Down*—have a rubbery soulfulness. Despite

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POPULAR MUSIC





INSANE JANE Each Finger

SKY 5041 (54 min)

The music on this Atlanta band's sophomore effort is hard to get a handle on initially, inhabiting, as it does, a seemingly awkward space between punk, metal, and basic rock-and-roll. But once you catch the witty MC5 reference in the lyrics to I'mFlying it all starts to make sense, and pretty soon lead singer Yellow (who has garnered deserved comparisons to Patti Smith and Janis Joplin) will have you completely hooked. Smart, kinetic stuff, hampered only slightly by a low-budget-sounding production job. S.S.



THE BEST OF JOHN KAY & SPARROW

COLUMBIA/LEGACY 53044 (60 min) Actually, the best of Steppenwolf (the personnel is almost identical) before they changed their name, shifted their primary focus from electric blues to hard rock/pop, and found commercial success. (In fact, a couple of songs here turned up later on Steppenwolf albums, the main difference being that these versions are nowhere near as well played or produced.) No great shakes, but an interesting curio. *S.S.*

KISS

Alive III

MERCURY 514 777 (67 min) As stunningly original as its title. S.S.

MUCH ADO ABOUT NOTHING

EPIC SOUNDTRAX 54009 (59 min) Question: Does Emma Thompson intoning "Hey nonny nonny" over a bed of strings qualify as Elizabethan Rap? Whatever the answer, Patrick Doyle's music for writer/ director/actor Kenneth Branagh's latest bid for early knighthood strikes these ears as—in Shakespearean movie score terms just okay. Less icky than Nino Rota's



Romeo and Juliet perhaps, but also far less gripping than Ennio Morricone's soundtrack for the Mel Gibson Hamlet. S.S.

STEREO MC'S Connected

GEE STREET 514 061 (57 min)

The beats go on for the Stereo MC's, and so do the exhortations for people to get their lives together on and off the dance floor. The prime example is the title tune, which became a big hit despite its rather fuzzy advice that everyone get to know "the gaping hole called reality." It's better if you don't analyze the philosophy here but concentrate instead on the religiously funky rhythms.

STIGMATA A GO GO

POW WOW 7431 (41 min)

Any band whose name simultaneously evokes the Stations of the Cross and the dance segment of TV's old Hullabaloo! is okay with me, but these youngsters make an interesting racket regardless. Lead singer/guitarist Gary Greenblatt sounds a bit like Lou Reed and a little like Paul Westerberg, and the basic instrumental sound is somewhere between early-Velvet Underground and Hüsker Dü. The fly in the ointment? With the exception of Engine Fire, a postpunk Friday on My Mind, none of the songs here are quite as memorable as they should be. But my guess is these guys will get better-and fast. S. S.

CAROL THOMPSON

Carolan's Welcome: Harp Music of Ireland DORIAN 90176 (71 min)

Friends helping Ms. Thompson (harp) on this beguiling program of mostly unfamiliar Irish tunes include Billy McComiskey, a virtuoso on the button accordion and concertina. It's all pretty as a bunch of shamrocks and refreshing as a misty breeze from the old country. I love the continental waltzes in which McComiskey shines. High marks all around. *William Livingstone*

CURTIS WRIGHT

LIBERTY 97825 (32 min)

Curtis Wright has paid his dues around Nashville, writing songs for Shenandoah and Ronnie Milsap. On his debut album, all nine numbers have "potential hit" stamped all over them. Wright's hillbilly tenor isn't particuarly distinctive—he sounds amazingly like Ricky Skaggs in *1 Tripped Over Your Memory*, and a lot like Steve Warriner in the ballads—but his presentation is so engagaging it doesn't matter. A.N. those obvious genuflections to the Fab Four, Starclub never tries to reincarnate them. Indeed, with all the chimey guitar here, these guys could just as easily have called themselves Troubadour, after the club where the Byrds flocked together. In contrast to the tunefulness of its music, in the lyrics Starclub likes to grumble about what's wrong with life. When the tempos are snappy enough, that's all right—the group's sweet melodies, crisp harmonies, and tangy guitar leads compensate for its apathy. But when things slow down, it's more fun to contemplate what the actual Star Club was like thirty years ago. *R.G.*

KT SULLIVAN Crazy World DRG 1413 (56 min) Performance: Gorgeous Recording: Excellent

ast year a West Coast showbiz friend asked if there was any major new singing talent in New York City who shouldn't be missed on an upcoming trip. My reply was limited to one name: KT Sullivan. She didn't have an album then, but she does now--and what a honey it is! This young lady can sing Jerome Kern, Cole Porter, Vincent Youmans, Dorothy Fields, and Dietz & Schwartz better than many who've been singing these same songs for decades, and she also proves that newer songwriters like Amanda McBroom, Addy Fieger, and Danny Apolinar belong in the same pantheon. They are all represented in this debut program, along with a lovely new ballad by concert pianist Byron Janis. Most of the fourteen tracks are in a relatively mellow, soft-lights mood, but Sullivan and arranger/ conductor/pianist Mike Renzi keep the basic pulse moving along beautifully throughout. My only complaint is that Sullivan didn't include her great version of the Fieger-Apolinar While We're Here, with which she's stopped many a show. But let's not quibble when everything else is so terrific. RH

BOB TELSON Calling You

WARNER BROS. 45181 (39 min) Performance: Delightfully eciectic Recording: Excellent

The name Bob Telson might sound vaguely familiar, though you might have trouble remembering what exactly he does. Perhaps that's because he could be called the ulimate fusionist, a guy who keeps popping up in the most surprising places where he makes some of the most surprising music. Telson's name might register with theater buffs—he composed the stunning score for *The Gospel at Colonus*, a New Wave adaptation of the Oedipus story. Film buffs might recall him as the composer of *Calling You*, the theme song from the movie *Bagdad Cafe* and the title track of this exceptional album.

The major portion of this disc is devoted to eight selections Telson composed for choreographer Twlyla Tharp's *Sextet*. Here he ranges freely through creative sources, fusing Latin rhythms with jazz, gypsy music, rock-androll, Middle Eastern sounds, and just a touch of the Caribbean, as well as a curious element best identified as Telson's own musical spirit. The result is a wonderful mix and a perfect antidote for ennui. *PG.*



POPULAR MUSIC



DIRTY DOZEN BR Jelly

COLUMBIA 53214 (52 min) Performance: Disappointing Recording: Very good

ow that Jelly's Last Jam has brought Jelly Roll Morton's name to the Broadway stage, we are seeing a rash of tributes on CD. One of these is by the Dirty Dozen Brass Band, a New Orleans group whose praises I have sung in these pages on other occasions. Not this time, I'm afraid. The DDBB does not play in the traditional New Orleans style, but often imbues its music with the feel of classic jazz. One would think that Morton's music would be perfect for this band, but there is a stiffness about their approach here. Only once, on Dead Man Blues, does the album truly get into Jelly's groove and capture the spirit of old. The song has been combined with a trumpet intro (Mr. Ray "J"), and features only trumpeter Gregory Davis and pianist Eddie Bo, who is not a regular member of the DDBB, but ought to be. Together, Davis and Bo eloquently reflect the tradition that Morton's music represents. But the rest of the album is shackled by a formula that has one instrument soloing while the rest provide a background of dull unison arrangements. Guitarist Danny Barker, a marvelous storyteller who played in one of Morton's last bands, is heard talking between some of the selections, but he is lending authenticity to a set that essentially misses the mark. C.A.



SUSANNAH McCORKLE From Bessie to Brazil CONCORD 4547 (60 min) Performance: Too hodgepodgy **Recording: Very good**

tylistically, Susannah McCorkle is as versatile as anyone singing today. But sometimes too much versatility on an album can be a drawback. On this one, McCorkle jumps all over the place, and far too much. She freely varies her approach to standards by Arlen, Berlin, and Rodgers & Hart, from brightly driving to softly wistful, then wails downhome style through Paul Simon's Still Crazy After All These Years, slips gently into the easygoing rhythms of two Brazilian songs, switches gears for a gravely-voiced stab at Bessie Smith's My Sweetie Went Away, and sultrily purts Thief in the Night (à la early Ethel



Dirty Dozen Brass Band: It's trad, dad

Waters). Many of the individual tracks are McCorkling good, but they just don't mesh as a program for an album-unless, of course, you're willing to do some selective reprogramming of your own. R.H.

FLIP PHILLIPS **Try a Little Tenderness** CHIAROSCURO 321 (70 min) Performonce: Super **Recording: Excellent**

n an age where synthesizers are capable of emulating almost any instrument and can come frighteningly close to faking a whole orchestra, it is a particular pleasure to hear the almost prohibitively expensive real thing. Recently, I greeted tenor saxophonist Scott Hamilton's lush strings album with a combination of praise and wonder, pointing out how such music has been all but killed by a sagging economy. Well, things must be looking up, because here's another well-polished gem. This time it's veteran tenor man Flip Phillips who has surrounded himself with genuine strings, and the result is equally engaging.

Phillips is not usually associated with tenderness; on the contrary, forty years ago, when other players were oozing out mood music, Phillips was stomping hard and blowing up a storm. His vigorous work with the Woody Herman band and his almost orgiastic solos with Jazz at the Philharmonic are what most will remember, but this album reveals a mellower side, a beautiful ballad outing that has him playing both tenor and bass clarinet against a rich string weave created by Dick Hyman. As always, Chiaroscuro has included a spoken track, and Phillips uses it to introduce the album's closer, If I Had a Penny, a song that he wrote and with which he makes his singing debut. He's no Sinatra, but we've all heard a lot worse. This is a beautiful album. and that little bit at the end gives it a charming personal touch. C.A.

Collection

STARS OF THE APOLLO

COLUMBIA/LEGACY 53407 (two CD's, 85 min) Performance: Lots of fun Recording: Okay

ompiled by this magazine's Chris Albertson and originally marketed as a double-LP in the early 1970's, "Stars of the Apollo" is an enjoyable anthology of jazz and jive in celebration of the Apollo Theatre, Harlem's showplace. All but five of the twenty-eight performances are from the 1920's, 1930's, or 1940's, and although none was actually recorded at the Apollo, every last one of them succeeds in providing a sense of the visceral showmanship favored by Harlem audiences in those decades.

Perhaps in keeping with this aim, Duke Ellington is represented by You're Just an Old Antidisestablishmentarianist, a punchy feature for Ray Nance that hardly qualifies as major Ellington. Likewise, despite a vocal by Jimmy Rushing and a breathy tenor solo by Don Byas, Lose the Blackout Blues is only middling Count Basie. But Billie Holiday, Ella Fitzgerald, and Sarah Vaughan are represented at their formidable best, and the numbers by Bessie Smith, Buck and Bubbles, Butterbeans and Susie, the Mills Brothers, Bill "Bojangles" Robinson, Hot Lips Page, Big Maybelle, and a host of others are both characteristic and priceless. Three of my own favorites: From Monday On by Ella Logan with the Spirits of Rhythm featuring the irrepressible Leo Watson, Four Day Creep by Ida Cox and an all-star band featuring Charlie Christian, and Harlem Woogie by Jimmy Johnson and His Orchestra, with Red Allen's blistering trumpet amply a compensating for Anna Robinson's whiny and out-of-tune vocal ED.

MBU

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A frequent collaborator with the drummer Art Blakey was Hank Mobley, a tenor sax player, who is on the sampler in *When I Fall in Love*. Art Blakey and the Jazz Messengers are featured in *Mirage*. Others on the CD include Curtis Fuller, Milt Jackson, Joe Wilder, Duke Jordan, George Wallington, and Lee Morgan.

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

BEETHOVEN: String Quartets Nos. 6 and 7 Cleveland Quartet TELARC 80229 (64 min) Performance: Pollshed and vital Recording: First-rate

dozen years ago the Cleveland Quartet recording of the complete Beethoven string quartets was one of the prize chambermusic items in the RCA Victor catalog. Now, with a different first violinist, William Preucil, and violist, James Dunham, we have the start of a new Cleveland cycle for Telarc. Departing from the standard format of packaging the early, middle, and late quartets together, this CD pairs the last of the early quartets, Op. 18, No. 6, and the first of the great "Razumovsky" series, Op. 59, No. 1. The early Op. 18 quartet has some unusual features, such as the "offbeat" scherzo and the intensely expressive introductory pages of the finale. And in the first and finest of the "Razumovskys," with all four movements in sonata form, Beethoven at one stroke transformed the intimate stringquartet medium into one that could accommodate as much structural and expressive content as his epochal "Eroica" Symphony.

The Clevelanders turn out a trim and dynamic reading of Op. 18, No. 6, with an absolutely dazzling scherzo and a very effective contrast between the melancholic and the carefree folk-dance elements in the finale. The "Razumovsky" No. 1 gets as fine a performance as one could possibly wish, with a splendid blend of finesse and intensity in the opening movement, great brilliance and wide dynamics in the scherzo, and a deeply moving expressive quality in the famous adagio. Preucil handles the transitional cadenza into the finale with surpassing elegance.

Though Telarc recorded these quartets in two different locales—the Academy of Arts and Letters in New York City and Mechanics Hall in Worcester, Massachusetts—the sonics are remarkably consistent, with a full tonal body and satisfying ambience. I look forward to the rest of this Beethoven cycle. D.H.

BERLIOZ: Symphonie Fantastique

Orchestre Revolutionnaire et Romantique, Gardiner PHILIPS 434 402 (53 min) Performance: Scary Recording: Clear but not dry

ohn Eliot Gardiner here takes "authentic" performance about as far as one can imagine it going short of bringing the composer back from the dead. He recorded this Berlioz warhorse at the old hall of the Paris Conservatoire, the site of its 1830 première, using the original version of the score before Berlioz tinkered with the orchestration. The original orchestration is not a big revelation, but the hall is. It sounds like a small, unresonant space, and with Gardiner's use of the original orchestral seating arrangement, which Berlioz designed to bring out the layers of the scoring, the music comes through with unvarnished clarity. The resulting splashes-and clashesof color are even more startling than those in Roger Norrington's celebrated 1989 EMI recording, the first attempt at a historically informed recorded performance of this work.

That doesn't mean Norrington's version is superseded; the two recordings are very differ-

TALES FROM THE VAULTS

eutsche Grammophon has delved

Deutsche Grammophon has delved into its considerable archives and come up with a lighthearted approach to reissuing older recordings: the new "Mad About ..." series. The first twenty CD's offer something for everyone, ranging from "Mad About Bach" to "Mad About Sopranos." Beethoven, Chopin, Mozart, Puccini, and Tchaikovsky also get discs of their own, and the other genres you might be mad about include tenors, guitars, violins, piano, and romance.

All of the CD's feature cover illustrations by the cartoonist Roz Chast, of New Yorker magazine fame. The inserts all have amusing "Did you know?" sections where you can discover Jeopardy-worthy facts, such as that the word Baroque comes from the Portuguese baroco, meaning a pearl of irregular shape, or that Vivaldi was known as "The Red Priest" because he was a redhead and a clergyman. Just the thing for a musical trivia game.

ent experiences. Norrington favored a stringdominated sonority, but Gardiner has aimed for a more even blend of winds and brass. Norrington's tempos are often more deliberate, perhaps in an attempt to show the dance influences in the music but possibly as a concession to the technical frailties of his ensemble. The playing of Gardiner's group is more suave but often less bracing, though the overheated, hallucinatory aspects of Berlioz's sound world aren't slighted. The Witch's Sabbath is particularly wonderful, with hints of grotesque humor amid the horror-a quality not often found outside of Charles Munch's recordings of the work. Whatever the merits of Gardiner's recording as a performance, the curiosity factor alone makes it worth its price. It should certainly put to rest the notion that authentic performances are always anemic and boring. D.P.S.

BRAHMS: Intermezzos, Op. 117 and Op. 118, No. 2; Capriccio, Op. 76, No. 1; Rhapsodles, Op. 79 Ivo Pogorelich (piano) DEUTSCHE GRAMMOPHON 437 460 (53 min)

Performance: Overdeliberate Recording: Good

o call these interpretations "expansive" would be an understatement; almost every item is thoroughly devitalized by a mindnumbing deliberateness that makes momentum unsustainable. Brahms, in his symphonic guise as well as his solo pieces, is all too often subjected to a "monumentalizing" approach that makes no pretense at serving the music. In this case it is a pretext for exhibiting some fine finger work but little concern with substance. and all the annotative references to Dostoyevsky, Freud, Rilke, and "Tarkovskian images of flame, wind and tree ... poems poised in the eternal moment of infinity, sculpted in time by Ivo Pogorelich" cannot make it more than that. R.F.

DONIZETTI: Lucia di Lammermoor

Studer, Domingo, Pons, Ramey, others: Ambrosian Opera Chorus; London Symphony, Marin DEUTSCHE GRAMMOPHON 435 309 (two CD's, 138 min) Performance: Stirring Recording: Excellent

The orchestral element of this recording conducted by Ion Marin is opulent, theatrical, and accurate (the horn playing deserves special mention), enabling Donizetti's seemingly unquenchable melody to pour forth richly and most satisfyingly. The greatest attraction here, though, is the singing of the two principal roles.



The lyrico-dramatic soprano Cheryl Studer has recorded memorable performances as Salome, Marguérite in Faust, and Elisabeth in Tannhäuser, and her Lucia is on the same distinguished level. Her opening aria, "Regnava nel silenzio." is more of a vocalise than the eerie and foreboding ghost story it should be, but from Edgardo's entrance to the conclusion of the Mad Scene she builds an affecting characterization through expert technical use of her well-disciplined voice and tasteful dramatic coloration. No less remarkable-and possibly even more so-is Placido Domingo's lyric outpouring as Edgardo. He gives unstintingly of his appreciable artistic resources. singing in true lyric-tenor style, beautiful of tone and refined of phrase.

In other roles, the baritone Juan Pons creates a burly Enrico without much nuance, but surely no Raimondo has been richer-voiced than the bass Samuel Ramey's. Anthony Laciura is effective as Normanno, and Fernando de la Mora and Jennifer Larmore give solid portrayals of Arturo and Alisa, respectively. In this instance, however, the total performance is even greater than the sum of its parts. It has an impulsion, an excitement shared by all involved. Of all the recent recordings of Donizetti's masterpiece, this one puts it across most fully. Warmly recommended. *R.A.*

MAHLER: Symphony No. 8

Soloists; Southend Boy's Choir; Philharmonia Chorus and Orchestra. Sinopoli DEUTSCHE GRAMMOPHON 435 433 (two CD's. 83 min) Performance: Brilliant Recording: Bright

Mong the fourteen current CD versions of Mahler's "Symphony of a Thousand," as the Eighth is sometimes called, the real standouts are Klaus Tennstedt's 1986 digital recording with the London Philharmonic on EMI, Georg Solti's 1971 analog recording with the Chicago Symphony on London, and Leonard Bernstein's live recording from the 1975 Salzburg Festival, issued by Deutsche Grammophon in 1991. Giuseppe Sinopoli's new realization of the gigantic score is a close contender for inclusion in this company.

Part I, a huge, sonata-form setting of the ninth-century hymn Veni Creator Spiritus (Come, Creator Spirit), is dominated by the choral forces, which do themselves proud all the way. Sinopoli's remarkable command of the musical architecture throughout the movement puts him virtually on a par with Solti.

The nine soloists come to the fore in Part II, an hour-long setting of the final scene from Part Two of Goethe's *Faust*. Mahler sought

Teldec Revives Das Alte Werk

as Alte Werk was among the earliest of the early-music labels, painstakingly laying the groundwork with recordings of music performed on period instruments in period styles starting in the early 1960's, only to fade away just as such things became wildly fashionable. After a hiatus of several years while its parent company, Telefunken, was transforming itself into Teldec, Das Alte Werk has now been resurrected and brought up to date. Gone are the creaky, tentative ensembles in which the players seemed to have learned their Instruments only an hour or so before facing the microphones. The first releases are firstclass all the way.

Now—as then—the series is dominated by Nikolaus Harnoncourt and the Concentus Musicus Wien. They have evolved a takeit-or-leave-it style that, despite many historically authentic characteristics, inhabits its own idiosyncratic world. With a penchant for monumentality that seems antithetical to a "correct" performance, Harnoncourt is the Otto Klemperer of early music.

Nowhere is this more apparent than in his landmark new recording of Mozart's 1775 comic opera La Finta Glardiniera ("The Fake Garden-girl"), for which a complete score was discovered only in recent years. Harnoncourt responds to the buffo elements with uncharacteristic buoyancy, but he never lets you forget the music has weightler underpinnings. Through the force of his personality and the depth of his knowledge of Mozartean style, he gives the work a presence and dimension it has never previously had on record. He also has a close to ideal cast, including the sopranos Edita Gruberova and Dawn Upshaw.

Harnoncourt's recording of early Mozart choral music—the "Credo" Mass and the cantata Litaniae de Venerabill Altaris Sacramento, both from 1776—makes a revealing counterpoint to La Finta. Clearly, much of this supposedly sacred music is operatic arias and ensembles in disguise, sometimes having little to do with the meaning of the text, though there are moments of sincerity as well as abundant musical ingenuity.

Harnoncourt seems even more at home in three of Haydn's middle symphonies, No. 30 ("Alleluja"), No. 53 ("L'Imperiale"), and No. 69 ("Laudon"). Among his more formal works of that period, they include little of the outrageous experimentation Haydn sometimes indulged in. They seem like more mature works here than previous recordings would suggest, making the CD well worth investigating.

The first release also includes a provocative collection of Scarlatti sonatas played by



Conductor Nikolaus Harnoncourt

the harpsichordist Glen Wilson. Instead of taking the usual mellifluous approach toward Scarlatti, Wilson seems more interested in finding the music's peasant blood, emphasizing the tangy harmonies with a vividness that's pleasantly surprising.

Finally, the Milan-based Baroque ensemble II Giardino Armonico has launched a Vivaldi series with the six Op. 10 chamber concertos, which have some fairly eccentric programmatic passages. The performances are too vivid and earnest for background music. And despite occasionally wayward pitch, the recorder soloist, Giovanni Antonini, Is a witty, engaging player. D.P.S.

MOZART: La Finta Giardiniera

Soloists; Concentus Musicus Wien, Harnoncourt TELDEC DAS ALTE WERK 72309 (three CD's, 194 min)

MOZART: Mass in C Major ("Credo," K. 257); Litaniae de Venerabili Altaris Sacramento (K. 243)

Concentus Musicus Wien, Harnoncourt TELDEC DAS ALTE WERK 72304 (61 min)

HAYDN: Symphonies No. 39 ("Alleluja"), No. 53 ("L'Impériale"), and No. 69 ("Laudon") Concentus Musicus Wien, Harnoncourt

TELDEC DAS ALTE WERK 76460 (66 min)

D. SCARLATTI: Sonatas Wilson (harpsichord)

TELDEC DAS ALTE WERK 46419 (60 min)

VIVALDI: Concerti da Camera, Vol. 1 Il Giardino Armonico

TELDEC DAS ALTE WERK 73267 (49 min)





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nothing less here than to reconcile the realm of reason with divine compassion, which is embodied in the figure of Gretchen, who had been wronged by Faust in earthly life but pleads for his salvation in the life beyond. Musical unity is achieved in the final "Chorus Mysticus" as the Veni Creator theme is heard in combination with the redemptive paean. The male soloists range from decent (the veteran bass Hans Sotin as the Pater Profundus) to excellent (the baritone Thomas Allen as the Pater Profundus) to superb (the tenor Keith Lewis in the cruelly difficult solo for Doctor Marianus). The women—the sopranos Cheryl Studer, Angela Maria Blasi, and Sumi Jo and



the contraltos Waltraud Meier and Kazuko Nagai—are all a joy to the ear, especially Blasi as "a penitent" (Gretchen).

In the very opening pages of Part II, Sinopoli fails to achieve the solemn sense of repose this orchestral episode needs to set the stage for what follows, but that impression may stem from the recording itself, done in the brightish ambience of London's All Saints Church in Tooting. Balances are excellent on the whole. except for a somewhat recessed organ sonority (also lacking a solid pedal bass) at the beginning of Part I. In general, the sound is very immediate, as it is in the Solti recording, which remains the most viscerally thrilling, though the Sinopoli is a close second. In terms of realizing the work's philosophical and spiritual import, however, the greater humanity of the Tennstedt and Bernstein versions makes them indispensable. D.H.

SAINT-SAËNS: Symphony No. 3 MESSIAEN: L'Ascension Matthes; Orchestre de la Bastille, Chung DEUTSCHE GRAMMOPHON 435 854 (69 min)

Performance: Glorious Messiaen Recording: Messiaen better

For most prospective buyers, the main event on this disc will be the Saint-Saëns "Organ" Symphony, but the perfectly fine performance under Myung-Whun Chung, with the organist Michael Matthes, comes no closer than any other to challenging Charles Munch's magnificent version with the Boston Symphony Orchestra. As remastered recently for RCA Victor's Living Stereo CD reissue series, that 1959 recording is sonically competitive with any digital one.

But Messiaen's L'Ascension, probably the most frequently performed of his orchestral works, is a great deal more than a mere "filler," and it has never sounded as grand as it does here. Although Chung's tempos in these "four symphonic meditations" are consistently broader than what we had come to regard as the norm, his performance is remarkable for its sweeping momentum. Together with the brilliance of his brass, in particular, as set off in DG's spacious sound, it adds up to sheer glory, as Messiaen intended. The glory more than justifies duplicating the Saint-Saëns, if it comes to that, and there will, after all, be people who think of that work as the "filler" probably lots of them after this disc gets a hearing. R.F.

R. STRAUSS: Le Bourgeois Gentilhomme, Suite; Divertimento, Op. 86

Orpheus Chamber Orchestra DEUTSCHE GRAMMOPHON 435 871 (68 min) Performance: Witty Recording: High-quality

Richard Strauss was flirting with Neoclassicism even before Stravinsky. After Der Rosenkavalier in 1911, Strauss wrote music for Molière's comedy The Bourgeois Gentleman, and there are at least two chamber-orchestra suites based on the keyboard music of Couperin, including the Divertimento, Op. 86, from the early Forties. The Molière production was

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• MANITAS DE PLATA: Gypsy Flamenco. VANGUARD 8018. Recordings from 1963 by the Connoisseur Society of the guitarist John Steinbeck called "a great and savage artist."

• EZIO PINZA. RCA VICTOR 61245. Arias and songs by the legendary bass recorded between 1927 (the year after his Met Opera debut) and 1952 (four years after his Broadway debut in *South Pacific*).



ERNARD VIDAL/EMI

Sarah Chang: flawless technique

a failure, but it eventually led to the opera Ariadne auf Naxos. In the meantime. Strauss (never one to let anything go to waste) arranged his incidental and ballet music into a witty and delightful concert suite. The score, based on a variety of eighteenth-century sources, is—something like Stravinsky's (later) Pulcinella—a clever, elegant, and quite contemporary (c. 1912) commentary on a bygone world. It is a not-so-little masterpiece of its kind.

The Couperin orchestrations are less vivid: Strauss picked some of the French composer's lesser pieces and immersed himself in them (without really understanding them) as a sort of escape from a war-torn world gone mad. While Stravinsky went on from *Pulcinella* to create a world-view and a whole school of twentieth-century music, Strauss retreated into an escapist past, a Rococo world that never was.

These excellent performances by the conductorless ensemble Orpheus were recorded at the Performing Arts Center of the State University of New York in Purchase. *E.S.*

> TCHAIKOVSKY: Violin Concerto Chang; London Symphony, C. Davis BRAHMS: Hungarian Dances Nos. 1, 2, 4, and 7 Chang; Feldman EMI 54753 (49 min) Performance: Marvelous fiddling

Recording: Warm and lifelike

Arvelous fiddling? Astounding fiddling from an eleven-year-old playing a threequarter-size violin. Sarah Chang here fully lives up to the legend already in place: Her technique is flawless, her tone is ripe and beguiling, and more impressive still are the unfailing tastefulness and maturity of vision that inform her playing. She is without question one of the most striking new talents to come along in years.

What I do have to question, however, is whether she is yet as fully comfortable relating

Manitas & Plata GYPSY FLAMENCO

• RACHMANINOFF: Plano Concerto No. 3. KHACHAT URIAN: Plano Concerto. Kapell. VAI AUDIO 1027. Transferred first to LP and now to CD from acetate air checks of mid-1940's live performances. "[William] Kapell's vital planism is amply evident throughout the Rachmaninoff" (April 1978).

to an orchestra in a concerto as she is in solo pieces. Much as there is to enjoy and admire in her traversal of the Tchaikovsky concerto, I had the feeling that Colin Davis was being especially careful and deferential in his conducting, at the expense of the sort of full-scale give-and-take one wants in such a work. Whether that approach does, indeed, reflect a degree of inexperience on Chang's part, or simply a gratuitous overcautiousness on Davis's, the result is a performance I would hesitate to recommend as a "basic" or only version, even while vastly enjoying and admiring the enchanting solo playing.

No reservations at all about the Brahms dances (in the Joachim arrangement), which Chang brings off with freedom and fire in the happiest and fullest sort of co-ordination with her unfailingly sympathetic pianist, Jonathan Feldman. The sound is lifelike in the warmest sense throughout the disc. I look forward with the keenest interest to what this truly exceptional young artist may offer in the future. R.F.

TIPPETT: A Child of Our Time

Haymon, Clarey, Evans, White: London Symphony Chorus and Orchestra. Hickox CHANDOS 9123 (73 min) Performance: Mostly very good **Recording: Strikingly immediate**

ichael Tippett's twentieth-century "passion." A Child of Our Time, begun in 1939 and first performed in 1944, was inspired by the story of a young Jewish refugee in Paris who assassinated a German diplomatic official to protest the persecution of his family and people. Tippett sought to universalize the story; while the central part of the oratorio focuses on the plight of the "child" and his family, the first and third parts deal with larger issues. As powerful and achingly beautiful as Tippett's own music is, the work achieves a special impact through his use of Negro spirituals at crucial turning points of action and thought, where they serve a purpose similar to that of the traditional Lutheran chorales in Bach's passions.

Among the three other performances available on CD. Colin Davis's analog recording on Philips has "tremendous fire and urgency" (as I noted in these pages back in 1976) and a nearly unbeatable team of soloists. Tippett's own 1992 recording for Collins Classics is certainly an important document, but one could hardly expect him at age eighty-seven to rekindle the fire of youth. André Previn's 1986 version with the Royal Philharmonic. the Brighton Festival Chorus, and four top British oratorio singers has considerable warmth and conviction, but not enough dramatic punch.

In comparison, the new recording under conductor Richard Hickox offers a great chorus-the spirituals will really grab you!and magnificent sound. The best of the four African-American soloists is the bass, Willard White. The others (Cynthia Haymon, Cynthia Clarey, and Damon Evans). while creditable. are no match for Davis's or Previn's vocalists.

In general Hickox's approach is distinctly broader than the taut Davis reading. If your pocketbook permits, get both, but on no account pass this music by. DH

VERDI: Don Carlo

Sylvester, Millo, Chernov, Furlanetto, Ramey, Zajick, others: Metropolitan Opera Chorus and Orchestra, Levine

SONY 52500 (three CD's, 203 min) Performance: Mostly excellent Recording: Very good

Recordings of Verdi's monumental and powerful Don Carlo are not undertaken lightly, and it is not surprising that all the modern versions of this exceptional opera have been distinguished efforts. That this new entry can stand tall against formidable competition may be attributed to a finely honed vocal ensemble under James Levine's watchful eye. And the dark aura and vibrant passions of Verdi's large-scale drama are eloquently conveyed by the Metropolitan Opera orchestra in festive form.

Most of the singers have risen to the challenge. Vladimir Chernov's warm and darkhued baritone invests Posa's music with a suavely Italianate character. Samuel Ramey delivers the Grand Inquisitor's stern pronouncements in a triumphant combination of sonorous bass grandeur and flowing cantabile, and the mezzo-soprano Dolora Zajick's tempestuous Eboli reaches its proper culmination in a fiery "O don fatale."



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BALAKIREV: Islamey TCHAIKOVSKY: Children's Album MUSSORGSKY: Pictures at an Exhibition

Olli Mustonen (piano)

LONDON 436 255 (65 min)

Olli Mustonen made a powerful impression in his first London recording, of works by Shostakovich and Alkan: I felt he had lived intimately with the music and felt it deeply. The present release suggests a far more casual acquaintance with the material and no very deep convictions—except, perhaps, a notion that the listener must be shocked into attentiveness through exaggerated effects and calculated distortions. Little pleasure to be had here. *R.F.*



BRAHMS: Sonatas for Violin and Piano Dumay: Pires DEUTSCHE GRAMMOPHON 435 800 (72 min)

Among the numerous recordings of these three sonatas are some fine performances by Big Name players, but there is always room for new ones as affecting as these. Augustin Dumay (violin) and Maria-João Pires (piano) make an exceptional duo: really attuned to Brahms, to the idea of chamber music, and to each other as partners. A distinguished release. *R.F.*

PAINE: Selected Piano Works Denver Oldham

NEW WORLD 80424 (two CD's, 98 min) John Knowles Paine (1839-1906), the first American composer to be trained in Europe, wrote piano music owing debts to Chopin, Schumann, and Liszt but with a rougher-hewn, more individual voice breaking through periodically. There are lots of ingratiating discoveries here, but they'd be more impressive if Denver Oldham played them as if *he* were impressed. He runs through many of these pieces with minimal weight and passion, as though they were French parlor music. *D.P.S.*

D. SCARLATTI: Sonotas

Ivo Pogorelich (piano) DEUTSCHE GRAMMOPHON 435 855 (60 min)

A choice selection of fifteen Scarlatti harpsichord sonatas elegantly played on the modern piano. Ivo Pogorelich has a pulsing détaché style that is remarkably simple and beautiful, and it forms the basis of an approach to this music that is at once true to its period and yet pianistic. He is sometimes a bit free with tempo and phrase markings, but otherwise he sticks closely to the scores, and he gives a clear and colorful shape to each piece. Nice, close piano sound with a pleasant depth. E.S.



R. STRAUSS: Symphonic Music from Four Operas Berlin Philharmonic, Mehta SONY 47197 (64 min)

The Waltz Sequence from Der Rosenkavalier, which includes part of the prelude, was Strauss's attempt to displace the various arrangements done by other hands. His suite from Intermezzo and lyrical Symphonic Fantasy from Die Frau ohne Schatten were intended to rescue material from operas that had been unsuccessful From Die Liebe der Danae we have two brief lvrical-dramatic bits arranged posthumously by Strauss's friend and collaborator Clemens Krauss. These agreeable chips from the master's work bench are superbly played by the Berlin Philharmonic, conducted with great verve by Zubin Mehta. First-class recorded sound. DH

CAROL ROSENBERGER

Reverie

DELOS 3113 (71 min)

Carol Rosenberger's serene renditions of contemplative piano pieces by Ravel, Schumann, Fauré, and others make this recital perfect for late-night listening. Standouts include a Chopin mazurka, a Liszt *Consolation*, and Debussy's Arabesque No. 1, the theme music for the PBS astronomer Jack Horkheimer, better known as the Star Hustler. The excellent sound emphasizes warmth but has plenty of ping for the piano's upper octaves. Dreamy in every sense of the word.

William Livingstone

KYOKO TAKEZAWA

French Violin Sonatas

RCA 61386 (52 min)

Kyoko Takezawa has recorded some technically impressive performances, but none as fearlessly personal as the disarmingly intimate one of the Debussy sonata on this CD. A masterpiece of expressive sound gradation, it ranks with the finest previous recordings of this piece. Unfortunately, Takezawa lacks the recklessness needed to put over the Ravel sonata, and all of her wizardry isn't quite enough to make one care about the somewhat routine Violin Sonata No. 1 by Saint-Saëns. The pianist in all three works is Rohan De Silva. D.P.S.

As the tormented King Philip, the bass Ferrucio Furlanetto meets all the demands of intelligence and musicality, but the role needs more gravity. Michael Sylvester, a reliable tenor, is not disappointing as Don Carlo, his first major recorded role, but he needs a more caressing, Italianate way with his phrases to make it a memorable portrayal. Dramatically, the soprano Aprile Millo has the measure of the Queen's victimized character; vocally, delicate pianos alternate with strident and wavery fortes above the staff.

The subsidiary roles, undertaken by Met stalwarts, form a stronger ensemble than any other on records. But there is a strange acoustic and rhythmic vagueness to Kathleen Battle's Celestial Voice that suggests overdubbing—a less than heavenly effect imposed on an otherwise praiseworthy enterprise. GJ.

WAGNER: Faust Overture; Opera Excerpts

Marc: Seattle Symphony, Schwarz DELOS 3120 (69 min) Performance: Mixed bag Recording: Very good

This third volume of Wagnerian bits from Seattle has good and not-so-good points. Among the good ones is soprano Alessandra Marc. Her voice has the range to handle the mezzo-soprano of Brangäne's Warning from *Tristan* with warmth and ease. Elsa's Dream from *Lohengrin* falls nicely on the ear but lacks the requisite tension, mainly because conductor Gerard Schwarz's tempo is decidedly on the slow side. The other plus for "Wagner 3," as the disc is titled, is an impassioned, highly dramatic reading of the *Faust* Overture. The allegro is faster than usual, but it works, and this piece gets by far the best orchestral playing in the collection.

I find little in the performances of the Siegfried Forest Murmurs, the Tristan preludes, or the extended version of Wotan's Farewell and Magic Fire Music from Die Walküre to stir my adrenals. I have never been convinced by the various efforts to do Wotan's Farewell without his voice, nor am I happy about the way the Tristan "suite" sandwiches the very brief Brangäne excerpt between the Act I and Act III preludes (the latter has fine string playing but lacks the concluding English-horn solo). The recording as such is fine. I just wish the programming were not so scrappy. D.H.

Collection

FRIEDRICH GULDA Gulda Non-Stop SONY 52499 (54 min) Performance: Unique

Recording: Good live take Non-Stop" in the title of this program, recorded live in Munich in November 1990, refers to the pianist Friedrich Gulda's unique recital format, in which the individual



pieces follow upon one another without much of a pause-and in some cases without any, the final chord of one turning itself into the beginning of the next. Two pairs of his own jazz-inflected compositions flank Mozart's D Minor Fantasia and lead to two Debussy preludes, three pieces by Chopin (the middle one an especially fetching performance of the Barcarolle), a Schubert impromptu. and a final group of Viennese bonbons arranged by Gulda: two numbers from Act II of Die Fledermaus and the traditional Fiakerlied. If you accept this format, and the frequent bursts of applause, you may find yourself wondering why we haven't heard more in the last thirty years from an artist of his keen insights and broad range of musical sympathies. Well-R.F. judged, lifelike piano sound.

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Movie Sound at Home

s anyone who cares must know by now, the soundtracks of movies on video are functionally the same as the soundtracks on the 35-millimeter film prints used for theatrical display. In fact, the easiest way to put a soundtrack on a disc or tape is to take the film-or the magnetic recording used to make the film-and play it directly (with adaptations for variant noise-reduction schemes) into the recording system that produces the video version. Yet, while that might be the easiest way, it is not the only way, or even the usual one. More often, I am told, the elements that are combined to make a movie soundtrack undergo a careful remixing to suit home viewers.

In a recent telephone conversation, John Kellogg, a Dolby Laboratories cinema consultant, described some of the steps that were taken to prepare the forthcoming video version of the film 1492. First, and surprising until you think about it, the materials drawn upon were not those for the 35-millimeter release, but rather those for the 70-millimeter six-track magnetic prints. Next, the usual cinema dubbing facility was avoided in favor of an ordinary room approaching domestic proportions and containing a much smaller screen. Finally, home loudspeakers were installed instead of theater reproducers.

What exactly is then done to movie soundtracks to "suit" them to home consumption, and how much of a dilution of the theatrical experience does it entail? According to Kellogg and others, these are some of the measures taken: First, the uptilted brightness deemed necessary to punch high frequencies through a theater's perforated movie screen may be tamed. Second, the dynamic range will often be "adjusted," because 1) the degree of loudness that is thrilling in a large movie house can too easily turn into "blasting" in a small, acoustically reflective room, and 2) the sound engineers cannot know what sort of audio equipment a home viewer will use, but they can assume that not all of it will be particularly rugged.

For the same reason, they put serious consideration into the bass content of their efforts, which makes a good case for working with the 70millimeter six-track elements. On a six-track Dolby Stereo film print, Tracks 2 and 4 are usually subwoofer or "boom" tracks, and it is easy to simply turn them up or down. With 35millimeter elements, the bass content is already immersed in the final mix and cannot be as easily manipulated.

You may be as mystified as I was to learn of how much trouble Hollywood is taking to make your videocassettes and laserdiscs treasurable possessions, particularly since we can be certain that theatrical exhibitors don't want people staying home to watch movies. The answer to the puzzle, if there is one, seems to be that the home video market has become too valuable to movie producers not to be pampered, whereas the major movie-

Cinema theaters are largish, and they are therefore typically fitted with wide-range public-address systems employing controlled-directivity horn loudspeakers in the front. Aside from their electroacoustic efficiency, such horn systems, being quite directional, are advantageous because they avoid creating unwanted reflections (which might even be echoes in very big theaters), and hence are able to put more of the audience in the near field-the area of the sound field in which acoustical energy coming directly from the speaker is dominant over ambient energy coming from reflective surfaces. Near-field listening enhances speech intelligibility, and that is what theaters have to do to be successful.

In the smaller rooms of domestic settings, it is difficult to position oneself outside the near field, even when highly nondirectional loudspeakers are used. You're just too close to the sound sources for it to be otherwise. I have found that if wide-dispersion audiophile-type loudspeakers can make singing voices intelligible, they will never do worse with the speaking

Many audiophiles are being told they need new and different audio systems to do justice to cinema sound. The actual case may be the opposite, however.

house owners are satisfied with their audience draws, at least for now.

Meanwhile, enjoying Hollywood's unqualified support, home viewers can pause to take stock of what a living-room theater really requires to make the most of the entertainment being offered. Clearly, if video-released motion pictures are being mixed to sound most effective in domestic settings, and if we want to hear what the mixers intended us to hear, we must pay some attention to the equipment they have used. Many audiophiles who are also videophiles are being told they need new and different audio systems to do justice to cinema sound. That may not be the case, however. Consider loudspeakers.

voices of cinema soundtracks. And if they can make large pipe organs and percussion ensembles roar, they will do much the same for train wrecks, earthquakes, and megaton explosions. There are those who argue that the sound of horn-loaded speakers is the authentic sound of cinema, and they do have a point. Trouble is, those horns will not sound the same in a small room as in a big one. And if the cinema sound engineers have conditioned the soundtracks for small rooms without horn speakers, the whole matter becomes moot anyway.

So when you start to assemble your home theater, don't plan on an entire new array of speakers—or at least not until you've tried what you have.



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