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Introducing the Premier

KEX-M900 from Pioneer Electronics. An incredible 3-source unit that is,

to put it quite simply, the most advanced car audio system

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microprocessor, to be exact. Then, because

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EVERYTHING

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While the built-in 7-band



graphic EQ features the

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Additionally, the parametric bass and treble comes equipped with front and rear equaliza-

tion control for precise staging.

With your multi-play CD controller, you can then enjoy complete command over your Pioneer 6-disc magazine



changer, which is fully com-

patible with your Pioneer home multi-play CD system.

There's also a brand-new



disc title memory feature. So you can program the artist's

name to appear on the display



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The digital sound field control enables you to

transform your car into any one of four distinct music environments: studio, jazz club, concert hall or stadium. Each one possessing its own clear, unmistakable sound. So it's like

going to one of your favorite venues to hear your favorite artist per-

form.(Minus the ticket hassles.)

when their disc is being played.

Even the tuner we designed for this system is something out of the ordinary.

Our SUPERTUNER® IV[™] is the very first to come along



with singledigit

sensitivity. Which means it can now pick up more stations from greater distances and hold



For safety and convenience, we've also added a wireless remote that lets you control the

entire system without ever taking your eyes off the road. And with the learn fea-

ture, you can then program the remote to learn and operate

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ing carrying case that fits easily in your pocket. About the

only thing more exclusive than this extraordinary system is



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sacrifice them

to get CD sound in your car?

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These expert craftsmen will design and install your

system with the



utmost care and attention to detail. For more information and the name of the Premier dealer nearest you, give us a call at 1-800-421-1601.

We could go on, of course. But we think you've probably

() PIONEER

The Art of Entertainme

heard enough.

Some people can never leave well enough alone.



Optional: RM-3 rack-mount adapters; white front panel & knobs

S hortly after it was introduced, the Adcom GFP-555 preamplifier won widespread critical acclaim for outperforming other preamps costing two and three times more.

Never satisfied to rest on its reputation, Adcom has upgraded this superior product to make it better than ever. Born from the lineage of the affordable GFP-555 and inspired by the no-compromise GFP-565, the new GFP-555 II, together with any of Adcom's power amplifiers, will provide the serious music listener with a new, higher level of musical performance at a very reasonable cost.

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By increasing the size of its power supply and by lowering the output impedance, musical contrasts are dramatically detailed and lifelike.

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Altogether, these improvements deliver the thrill of an emotionally satisfying, live performance.

Improved Performance Features

The new GFP-555 II has been enhanced by several improvements:

- 1. A front panel control for easy and instant use, on demand, of signal processors.
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- 3. Front panel, six-source input controls allow listening to one source while recording another.
- 4. Choice of two outputs: MAIN allows the use of tone controls and filters with the protection of coupling capacitors; or BYPASS (the purist's approach), a direct coupled output for the shortest, simplest gain path.

<u>A Better GFP-555 or a</u> <u>Less Expensive GFP-565?</u>

The GFP-555 II is both. Designed to take the place of the highly successful GFP-555, it is actually an ingenious, less costly version of the GFP-565, with undiminished musicality and sonic impact.

Ask your authorized Adcom dealer for a demonstration of this remarkable stereo component. You'll be glad that Adcom can never leave well enough alone.



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Stereo Review.

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RHYTHM OF THE SAINTS .

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and KEF 105/3 speakers, see page 57. The Onkyo DT-9000 DAT deck and other tape recorders will be covered in a future issue. Design by Sue Llewellyn, photo by Tony Cordoza.

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It's not just how it's made, it's how well it's made.

Whether you're on a budget or just seeking maximum value, don't be fooled by bargains that sound cheap at the storethey just might sound cheap when you get home.

Even Denon's most economical receivers, such as the DRA-335R and DRA-435R, preserve sound quality *first*. (This is Denon's Design Integrity principle.) Both of these receivers employ electronic switching and elegant circuit topology for the most direct signal paths. This not only lowers noise and distortion; it greatly enhances reliability.

For superior audio quality, the finest components are used throughout the signal path, including polypropylene and polystyrene capacitors and metal film resistors. Competitive receivers use skimpy transformers and IC output stages, which restrict your system's dynamic range. Denon's discrete output transistors and substantial transformers give the DRA-335R and DRA-435R the power to drive even the most "difficult" soeakers.

At Denon lower cost need not preclude important features. Both the DRA-335R and DRA-435R feature Variable Loudness and full Integrated System (IS) remote control of a CD player, CD changer and cassette deck. The 16-station programmable tuners of the DRA-335R and DRA-435R feature improved AM NRSC deemphasis.

Even though the Denon DRA-335R and DRA-435R receivers pack in so many features for the price, never forget the real reason to buy a Denon: Sound.







BULLETIN

by Rebecca Day and William Livingstone

DIGITAL RECORDING TAX?

At a meeting held late last year with equipment manufacturers, a coalition of music-industry trade groups proposed a 71/2 percent royalty on digital audio tape (DAT) recorders and a 1.2-cent-perminute levy on blank DAT cassettes. The plan asks Congress to establish "a U.S. compulsory licensing and royalty scheme" beyond the Serial Copy Management System (SCMS) that would be applicable to all digital recording equipment and media. The plan would also include as-yet-unreleased formats such as recordable CD and Digital Compact Cassette (DCC).

Although equipment manufacturers are staunchly opposed to royalties, Congress is expected to take up the proposals in its winter session. Bills requiring that all DAT recorders entering the U.S. be equipped with SCMS circuitry died in the last legislative session.

DIGITAL COMPACT CASSETTE

Philips, which has been developing an alternative to DAT, a digital tape-recording system called Digital Compact Cassette (DCC), scheduled a "working demonstration" of the system for the January Winter Consumer Electronics Show in Las Vegas. Initial reports indicate that the Digital Compact Cassette will be the same size as a conventional audio cassette and that a DCC deck will play both standard analog tapes and the new digital tapes and record at least the digital ones. The copy-protection system used in the machines is expected to be similar to the Serial Copy Management System found in DAT decks. Philips says that the WCES demonstration is not a product introduction, but the first home DCC decks could appear in stores next year at a cost between \$500 and \$600.

MUSIC NOTES

ALLEN

A new recording by the Chick Corea Akoustic Band was set to be issued in January in a record number of formats. GRP promised it on cassette, LP, CD, DAT, and VHS videotape, and Pioneer scheduled it for release on laserdisc.... BMG Classics has released "The Complete Caruso: Including the Original Victor Talking Machine Co. Master Recordings," a boxed set of twelve digitally remastered cD's containing 238 selections recorded by the Italian tenor Enrico Caruso between 1902 and 1920.... The film composer John Williams has inaugurated a stateof-the-art recording studio built by the filmmaker George Lucas near San Francisco. Recorded there. Williams's new Sonv Classical album, "The Star Wars Trilogy." contains thirteen selections from his scores for the movie Star Wars and its secuels performed by the Skywalker Symphony Orchestra.

Musicians who received the Kennedy Center Honors in Washington in December are the jazz trumpeter Dizzy Gillespie, the mezzo-soprano Risë Stevens, and the composer Jule Styne.... The German conductor Wolfgang Sawallisch has been named to succeed Riccardo Muti as music director of the Philadelphia Orchestra.

HOME SHOPPING CHANNELS

Several mail-order services are available for consumers who want to shop from home instead of in record stores. The largest is Bose Express Music, which claims to be able to ship any CD, tape, or video currently available in the U.S. A catalog listing more than 45,000 titles is \$6, including a year of updates, but the price is refundable with your first order. Call (800) 233-6357 for information or to place an order.

... The Key Note Music Group sells CD's, DAT's, CD videos, and accessories at discount prices, but no LP's. The company publishes a bimonthly newsletter with reviews (\$9 for six issues refundable with the purchase of three CD's). Its range includes rock, pop, jazz, blues, folk, and classical. Orders are accepted by mail, 61 Bunker Hill Rd., Collinsville, CT 06022-0200; by phone, (203) 693-1723; or by fax, (203) 693-4032.... The Compact Disc Exchange of Sunnyvale, California, is an on-line service with 32,000 titles that can be ordered by modem. Payment is made by Visa, MasterCard, or personal check, and orders are shipped by UPS for \$2.75 plus 25¢ per disc. Call by computer, (408) 730-9015.... Acoustic Sounds specializes in rare, out-of-print LP's as well as CD's. The company's annual catalog costs \$3, and update fliers are free. Call (913) 825-8609 for information.

TCHAIKOVSKY GALA

The violinist Itzhak Perlman, the cellist Yo-Yo Ma, and the soprano Jessye Norman were among the performers in a gala concert in Leningrad in December celebrating the 150th anniversary of the birth of Peter Ilyitch Tchaikovsky. It ended with his 1812 Overture, and the American producer Peter Gelb followed Tchaikovsky's original plan of having cannons firing and church



bells ringing during the overture's finale, which had never been done before in Russia.

The Tchaikovsky gala was a co-production of PBS and CAMI Video from the United States with TV production companies from England, France, Germany, Japan, and other countries. It will be televised in the United States on PBS in March.

Learn to play Bach

CD Menu 1 Program Magazine 2 Title Magazine 3 Record CD to Tape 4 Disc Sequence 5 Random Play 6 Intro Scan Time Set

Press number to select Press MENU to exit menu

AMITCHICH

CD Magaz Mag Ti 46 CHOPIN 47 BACH 48 HANDEL 49 STRAUI 50 BARTOK Use ADJUST Then press Press MENU

It may have taken a musical genius to write the *Toccata and Fugue in D Minor*, but it shouldn't take a technical genius to play it.

-

The M-C6010 CD changer

Or at least, that's the thinking behind the Mitsubishi M-C6010, the world's first CD changer with on-screen commands.

The way we see it, you shouldn't have to spend the best years of your life figuring out how to work your audio equipment. So we've put the directions right on the TV screen in



front of you, in the form of menus that lead you through every function, step by step. And confirm what you're doing while you're doing it. There are menus that cover all the usual functions, like programming discs and recording them to tape.

And then there are menus for things that aren't usual at all. For instance, imagine being able to customize your CD library according

	INPUT CD	Biographics -	$\left(- \right)$
-			~
a			

The M-R8010 Home Theater receiver.

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in three easy steps.



to category. You name each magazine, and the next time you insert it into the changer, your title — "Sixties Classics" or "Elevator Greats" will appear on the screen. Or if you feel like browsing, you can call up the names of every magazine in your library with a quick flick of the remote control.

As a piece of video equipment, our CD changer is pretty impressive. But we could hardly expect you to buy it on looks alone, so we gave it all the technology any right-minded audiophile would insist on. Dual 18-bit linear D/A converters. 8-times oversampling during the filtering process. And digital de-emphasis, a special circuit for accurate playback of the high frequencies present on compact discs.

Of course, the best way to get the most out of all this technology is to make it part of a Mitsubishi Home Theater System, so your audio and video components can work together as a cohesive unit. Everything in the system—from our big screen TVs and VCRs to our CD changer and Home Theater receiver—operates the same way and can be controlled by a single learning remote.

With all of this in mind, picking out your next CD changer should be as easy as playing "Chopsticks."





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Sound as big as life...



Listening in the 90's

Today people have become more and more space conscious. Many apartment dwellers don't want to give up valuable floor space for large speaker systems. Others who are planning a surround sound or home theatre system simply don't have the room for more speakers in their listening rooms or hesitate to commit the floor or wall space to a good sounding pair of speakers.

Until now, serious music lovers have had little, if anything, to choose from that would produce a large, bigger-than-life sound in a small, compact size. Systems that fit one's space requirements have been woefully disappointing in sound quality.

<u>The RM 3000</u> Three Piece System

Polk's engineers had determined long ago that there were indeed certain technical advantages in sonic performance.

The small satellites can be located on shelves, mounted on a wall or placed on their own floor stands. They are very attractive and yet small enough to be hidden from view if desired.

The RM 3000 subwoofer is also small enough to sit behind your furniture and can be used on its side to fit into tight spaces. And since it is beautifully finished, it can be used as a piece of furniture.

<u>The Legendary</u> Sound of Polk

In the tradition of Polk Audio, Matthew Polk and his team of engineers were determined to make the RM 3000 sound better than any other speaker of its type.

Initial reactions have been filled with superlatives including Julian Hirsch of

Stereo Review magazine who says, "...they sound excellent...spectral balance was excellent—smooth and seamless."



small speaker systems. Both high and mid frequencies could be faithfully reproduced with superior transient response and dispersion characteristics, and the convenient, more flexible placement of small enclosures within the listening area could create an ideal sound stage. Unfortunately, reproducing the life-like, full body of the lower frequencies could not be achieved in a truly compact enclosure.

Polk's RM 3000 replaces the traditional pair of speakers with three elements, two compact midrange/tweeter satellites and one low frequency subwoofer system. This configuration makes it easy to properly and inconspicuously place the system within your listening room while offering superior Behind all these accolades is an impressive technical story.

The Technical Side

The big sound of the RM 3000 is due, in part, to the unique arrangement of the tweeter and midrange elements. This "time aligned system" delivers the high and mid frequencies at precisely the same instant. The result is a clear, lifelike and expansive presentation.

The cabinet materials selected for the satellites are over four times as dense as typical enclosures. The black matrix finish is a non-resonant polymer aggregate (FOUNTAINHEAD®). The gloss black piano and paintable white finishes are rigid ABS

The RM 3000's satellites measure 7"H x 4 1/4"W "x 5 3/8"D and are available in black matrix, gloss black piano or paintable white. The subwoofer is 12 112"H x 20"W x 12 1/2"D and is available with black wood grain sides and a black, mar-resistant top.





to live with.

surrounding a mineral filled polypropylene inner cabinet. Polk engineers have all but eliminated any "singing" or resonating of the satellite enclosure. You hear the effortless, free sound of a much larger system.

Most subwoofer systems look alike on the outside, but the Polk is worlds apart on the inside. Utilizing twin 6 1/2" drivers coupled to a 10 inch sub-bass



For deep, well defined bass, Polk uses twin drivers coupled to a sub-bass radiator. Normally, one subwoofer system is used for both channels. For those desiring even greater low frequency performance, a second subwoofer can be added, one fed by the left channel, the other by the right channel. radiator, the bass is tight and well defined. There is no tuned port to create "whistling" or "boominess" of the bass frequencies.

You Have To Hear It To Believe It

You really won't believe how good the RM 3000 sounds until you hear it. We invite you to your nearest authorized Polk dealer for a demonstration. You'll hear sound as big as life...from a speaker you can live with.

You'll hear the next generation of loudspeakers.



The Speaker Specialist®

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Where to buy Polk Speakers? For your nearest dealer, see page 138.

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LETTERS

Another Audio Myth?

Speaking of "Audio Myths" (Ian Masters, October issue), one audio superstition that wants debunking is that "matching" loudspeakers are needed for good stereo sound. There is no very good evidence that loudspeakers *stay* matched when you put them in two different places in the same room, so subject are they to their acoustic surroundings. Speakers that are initially dissimilar in size, shape, and innards can often do just as well.

Actually, if any speaker of a dissimilar "pair" tends to dominate the stereo sound stage (once dissimilar sensitivities are compensated for with the amplifier balance control), this is usually an indication that the dominant speaker suffers from egregious colorations, prominent spurious resonances, or sizzling directionality and that it should be rejected altogether.

The great advantage of using dissimilar loudspeakers is that repetitions of size and shape of furnishings have a way of unbalancing the design of asymmetric rooms and calling visual attention to themselves. Asymmetric loudspeakers avert this problem and thus, for some people, have a way of detaching themselves from the music and listener consciousness.

I know of several very high-quality high-fidelity systems that have "mismatched" loudspeakers. Three of them involve upgrades to stereo from deluxe monophonic systems of the middle 1950's, with huge corner Klipschorntype speakers having been retained to act in stereo concert with smaller rectangular loudspeakers of a later generation. In several other instances, the deliberate mismatch has been effected with equipment of the 1980's. A typical case is the combination of a Tannoy Edinburgh, in a cabinet not much smaller than a Klipschorn, with a Tannoy Little Red Monitor, a mere 2 feet high, set on a room-divider shelf. Visually the combination is right for its room, and it's very fine for music listening. Conceivably two Edinburghs could sound as good or better, but two of them in that room would amount to wretched excess, like casually leaning cellos or basses in two corners of the living room. It wouldn't do.

JOHN WITHEY Washington, CT

We welcome your letters. Please address correspondence to Editor, STEREO REVIEW, 1633 Broadway, New York, NY 10019. You should include your address and telephone number for verification. Letters may be edited for clarity and length. Ian Masters replies: 1, 100, have heard good stereo from nonidentical speakers, but not very often. Where both speakers come from the same manufacturer, as in your Tannoy example, there may be a reasonable chance of similar sound. Even if the designer didn't use precisely the same drivers for the middle and high frequencies, both speakers were probably designed to have similar spectral balance, except perhaps in the lowest octaves, and so they could sound fine together. That would be a special case, however; speakers from different companies are likely to have very different characters, and achieving a reasonable match with them would be almost impossible.

Certainly even identical speakers will sound different when operating in a real room, but it's no myth that the ideal is still for speakers in a stereo pair to sound as similar as possible, and that's much easier to achieve if they start out with matching characteristics.

CD Labeling

As a librarian who continues to agonize over the CD labeling issue, I would like to know what the collective judgment is regarding the use of the foilbacked labels that are sold by library supply houses specifically for use on the clear inner portion of CD's. We have been using these circular labels for about two years and have had no problems with them. We use a circular property stamp on the label and type in the CD's call number before placing the label on the disc. Does anyone know if there are any dangers from these inks or from the label adhesive?

> KAREN C. DRIESSEN Media Librarian University of Montana Missoula, MT

We weren't sure, so we checked with Digital Audio Disc Corporation. The reply was just as we had feared—that there is no general answer to your question. Provided that the adhesive on the labels contains no organic compounds, it is probably okay. But it may not be, and the manufacturing process used for a particular CD can also make a difference. We would guess that if you haven't had any trouble from this labeling technique in two years, you probably won't in the future (unless the labels themselves change). But that's just a guess.

Placido Domingo's French

I must object to Robert Ackart's statement, in his November review of Offenbach's *Les Contes d'Hoffmann*, that Placido Domingo's French is exemplary. Decipherable, yes. Better than Carreras or Pavarotti, yes. Good French, no! The dearth of French singers nowadays is unfortunate, and the neglect of French opera is attributable to this. It's not a question of nationality but of skill, training, determination, and, above all, of self-regard and self-assurance, which are so lacking in the musical institutions of France at this time.

Domingo is intelligent, and I'm French. If he really wanted to be understood, it would not be necessary for me to refer to the libretto.

RONALD-PIERRE CORBEIL Noyan, Quebec

Compact Disc Changers

Ken Pohlmann's test of six top CD changers in December ("Changing Times") was both interesting and informative, though he incorrectly cited as a drawback of the JVC XL-M403 that it lacks a random-playback feature. As an owner of this machine, I just wanted to let you know that it does have this feature, which is one of my favorites.

SCOTT ASHWILL Topeka, KS

Anita Baker

A happy correction to Phyl Garland's review of Anita Baker's "Compositions" in December: "Rapture" was not Baker's debut album; she's been singing beautifully for much longer. Her album debut was "The Songstress," recorded in 1983 and distributed on LP by Beverly Glen Music, Inc. It contains eight songs, and while it's not as stunning or polished as "Rapture," it is nevertheless required listening for a true Baker fan.

WILLIAM F. MCABEE Plano, TX

Applause

I applaud Richard Freed for complaining about the applause in the highly touted new recording of the Chopin piano concertos by Murray Perahia and Zubin Mehta on Sony Classical (December reviews). He might have added that there is other audience noise audible during the performances, thus defeating the CD format's main purpose, keeping the silences truly silent. I would never knowingly buy a live recording of anything and have canceled my membership in the CD club that foisted this one on me. DAVID CHAMBERLIN

Lancaster, PA

Correction

The price given for the Blaupunkt Nashville CM40 car cassette receiver in January "New Products" was incorrect. The correct price is \$400, and the companion CDC-01 CD changer is \$630.

Only Sony records the music,

SONY

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Number 6

Michael Hedges Plays Something Unusual. It's Called A Guitar.

The music Michael Hedges plays is unusual. Some say radical. It borrows from jazz, rap, folk, rock, funk, classical. And gives back something that goes beyond genre.

And one reason Hedges' music is so different is that his definition of a guitar isn't limited to six strings raw, chunky sound that Hedges achieves by hitting strings so hard

they rebound against the fretboard, creating a percussive feeling. On another song, *Point A*, he



The IID8's custom tweeter and woofer accurately recreate Michael Hedges' guitar

simultaneously. This is sonic territory

never before explored on guitar. But despite his lust for new toys – like 11- and 17string harp guitars, and a snazzy



Get a 10-song Up Close Michael Hedges CD compilation. Send \$5 check to: Boston Acoustics, Dept. U6, PO. Box 635, Holmes, PA 19043. Allow 4-6 weeks for delivery. Offer good until Feb. 28, 1991 or while supplies last.

and an EADGBE tuning. To Hedges, that's only a foundation.

Take, for example, the song, *The Rootwitch*, from his latest Windham Hill recording, *Taproot*. On it, Hedges employs a Martin D-28 in a BADEAB tuning. What's different here, is that Hedges uses neither strumming nor plucking on *The Rootwitch* – only hammer-ons, pull-offs and slaps. The result: a





The HD in HD8 means High Definition. By keeping rattle and diffraction to an absolute minimum, we've managed to create one of the tightest, cleanest bookshelf speakers you've ever heard. At any price.

shifts among six different keys. As Hedges plays chords and harmonics, he deftly changes key several times in the same phrase, using the TransTrem to bend each note 6-string bass with whammy bar-Hedges never lets his gear get the best of him. In fact, listening to his five releases leaves one wondering if he was born with twelve fingers on each hand.

Visit a Boston Acoustics dealer and hear Michael Hedges on a pair of HD8 Bookshelf Speakers.

Music this good should be heard on speakers this good.

Boston Acoustics

NEW PRODUCTS



AUDIO-TECHNICA

The ATH-M4X heads Audio-Technica's new line of midsize headphones. Its 40-millimeter drivers are designed to handle a wide dynamic range, and samarium-cobalt magnets are used for extra sensitivity and greater power-handling. The copper-clad, aluminum-wire voice coils have a low moving mass. Rated response is 20 to 22,000 Hz. Price: \$50. Audio-Technica, Dept. SR, 1221 Commerce Dr., Stow, OH 44224. *Circle 120 on reader service card*

PHILIPS

The Philips CDV600 combi-player incorporates the company's Bitstream Ibit digital-to-analog converter system. Features include digital frame memory and a fifty-button jog-shuttle remote unit to control special effects such as picture recall, freeze, and strobe. A twentyfour-character title can be stored for each disc, and as many as twenty audio tracks or video chapters per disc can be programmed. Favorite Track Selection enables users to store programs for up to 226 discs. A record-edit feature selects the maximum number of tracks that will fit on one side of a cassette and automatically pauses the unit when they have been played. Additional features include music scan, random play, and five-mode repeat. Price: \$1,099. Philips Consumer Electronics, Dept. SR, One Philips Dr., P.O. Box 14810, Knoxville, TN 37914. *Circle 121 on reader service card*





SANUS SYSTEMS

Component Foundations audio/video furniture from Sanus Systems is made of heavy-gauge 1-inch steel tubing and medium-density fiberboard shelves. The line is available in three-, four-, and fiveshelf units. Any two units can be attached with a "video bridge" shelf, which can hold any television set with a screen size up to 35 inches. Trim finishes available are walnut, oak, Fountainhead (a granite-like treatment), and black lacquer. The poles are spiked at the bottom, and the shelves come with small brass isolation spikes. The tubing can be filled with sand or shot to minimize resonance. Heights are 25, 35, and 45 inches, respectively, for the three-, four-, and fiveshelf units. Shelves are 35 inches long, the video bridge 22 inches long; depth is 18 inches. Prices: CF25, \$280; CF35, \$310; CF45, \$340. Sanus Systems, Dept. SR, 3178 Ryan Lane, Little Canada, MN 55117.

Circle 122 on reader service card

INFINITY

The Infinity Systems Infinitesimal Four is a three-piece speaker system. Its two satellites have Infinity's Emit-R planar tweeters and 51/4-inch long-throw woofers made with a proprietary injection-molded-graphite (IMG) cone material. Frequency response is given as 100 to 20,000 Hz ± 3 dB. The powered subwoofer has a 10-inch IMG cone driver and a 100-watt amplifier. It has a volume control, inputs for both amplified and line-level signals, and a crossover circuit with switchable cutoffs at 40 and 60 Hz. Satellite dimensions are 91/2 x 6 x 63/4 inches, and the subwoofer measures 131/4 x 131/4 x 13 inches. Finish of all three pieces is matte black. Price: satellites, \$420 a pair; subwoofer, \$630. Infinity Systems, Dept. SR, 9409 Owensmouth Ave., Chatsworth, CA 91311. Circle 123 on reader service card



New Products



DIGITAL STORAGE SYSTEMS

Acrylic CD and audio cassette holders from Digital Storage Systems can be placed either horizontally or vertically. The CD holders range in capacity from 22 to 105 discs, and the cassette holders can store from 14 to 352 tapes. Shown are the IxI-CD, which holds twenty-two discs (\$36); the 1x2-CD (\$48), which holds forty-four CD's; and the 1x1-CT (\$22), which stores fourteen cassettes. Colors are fluorescent green, pink, and blue, clear, and smoke. The holders come with antiskid rubber feet. Digital Storage Systems, Dept. SR, 1501 E. Chapman Ave., Suite 168, Fullerton, CA 92631. Circle 124 on reader service card



SAMMI SOUND

The SAAT bookshelf speaker system from Sammi Sound disguises its two satellite speakers as books. The spines are the speaker grilles, which cover two 3-inch woofers and a 1/2-inch Mylardome tweeter. The enclosures are highdensity particleboard covered with a brown leather-look vinyl. The subwoofer, with two 61/2-inch drivers, has a high-density particleboard cabinet covered with black vinyl; dimensions are $23\frac{1}{2} \times 12\frac{1}{2} \times 9\frac{3}{4}$ inches. Frequency response of the system is given as 50 to 20.000 Hz. Price: \$350. Sammi Sound Technology Corp., Dept. SR, 470 Stanford Rd., Danville, KY 40422. Circle 126 on reader service card

ONKYO

Onkyo's entry-level DX-1400 compact disc player uses eight-times-oversampling digital filters and dual 18-bit linear digital-to-analog converters. The converters are individually calibrated with Onkyo's AccuBit system, which is said to insure precise handling of each digital word's most significant bit for exceptional reproduction of low-level

signals and wide dynamic range. Operating features include twenty-track programming, CD-3 compatibility, a threemode time display, automatic timer play, repeat of a track, disc, or programmed sequence, and time edit for selecting tracks to record onto a cassette. Price: \$200. Onkyo, Dept. SR, 200 Williams Dr., Ramsey, NJ 07446.



COAST

Coast's CD-30 and CD-60 compact disc cases—which hold thirty and sixty discs, respectively—are made of thick foam padding covered with water-resistant nylon. Adjustable shoulder straps double as handles. Colors are red, blue, gray, or black. Each case comes with a free package of CD cleaners. Prices: CD-30, \$17.95; CD-60, \$31.95. Coast Manufacturing, Dept. SR, 200 Corporate Blvd. S., Yonkers, NY 10701. *Circle 125 on reader service card*



CLARION

Clarion designed the Model 6200CD "slimline" six-disc car CD changer to be mounted either vertically or horizontally. Its automatic disc locater memorizes which slots have discs, automatically skipping over empty ones to reduce access time, and its low-vibration suspension system absorbs shocks from road bumps. Features include dual digital-toanalog converters, a four-times-oversampling digital filter, and a three-beam laser pickup. The handheld FMC303 remote controller has a built-in FM modulator that makes it possible to add the changer to any car stereo system, even if the head unit lacks a CD or auxiliary input. Price: changer, \$530; controller, \$170. Clarion Corp., Dept. SR, 661 Redondo Beach Blvd., Gardena, CA 90247. *Circle 127 on reader service card*



NEW PRODUCTS

MARK LEVINSON

The Mark Levinson No. 28 preamplifier from Madrigal Audio Laboratories comes with a matching outboard power supply. The preamplifier features a Differential-In, Differential-Out (DIDO) circuit that is said to cancel commonmode noise and distortion. There are seven inputs, two of them balanced for use with sources supplying balanced outputs, as well as both balanced and standard unbalanced outputs to insure compatibility with all power amplifiers. Unbalanced outputs are provided for two tape recorders, and they can be defeated when not in use to avoid possible crosstalk or loading problems. Price: \$2,995; \$3,300 with optional phono stage, which can handle both movingmagnet and moving-coil cartridges. Madrigal Audio Laboratories, Dept. SR, P.O. Box 781, Middletown, CT 06457. *Circle 128 on reader service card*



MITSUBISHI

The Mitsubishi M-C4030 five-disc CD changer features variable intro scan; random play; repeat play of a program, disc, or track; index search; and twentytrack programming. There's a headphone jack with level control and a remote control for primary functions. The player uses dual digital-to-analog converters and four-times-oversampling digital filters. It is housed in an antiresonance chassis. Price: \$449. Mitsubishi, Dept. SR, 5757 Plaza Dr., Box 6067, Cypress, CA 90630.

Circle 129 on reader service card





ALTEC LANSING

Altec Lansing's Model 100 loudspeaker is a three-way acoustic-suspension system with two 8-inch woofers, a 4-inch cone midrange, and a $\frac{3}{4}$ -inch dome tweeter. Frequency response is rated as 40 to 20,000 Hz ± 3 dB, impedance as 6 ohms. Crossover points are at 250 and 3,500 Hz. The speaker measures $40\frac{1}{2}x$ 10 $\frac{3}{4}x$ 11 inches, and it is finished in black or walnut-grain vinyl. Price: \$500 a pair. Altec Lansing, Dept. SR, Milford, PA 18337.

Circle 131 on reader service card

LUXMAN

Luxman designed its R-115 receiver for wide dynamic range. The power amplifier has a two-stage pre-driver and output configuration and monolithic high-current emitter resistors for the output devices to reduce inductive distortion. Continuous power output is rated as 70 watts per channel into 8 ohms from 20 to 20,000 Hz with less than 0.03 percent total harmonic distortion. Features include a CD Straight switch, twenty AM/FM presets, six audio and two video inputs, a signal-processor switch and jacks, and cable-ready FM fine tuning. Price: \$850. Luxman, Dept. SR, 19145 Gramercy Pl., Torrance, CA 90501.

Circle 130 on reader service card



SETTLE FOR NORE!

Speakers are the most important part of your stereo system. It is the speaker that turns amplifier signal into sound and so ultimately determines what you hear. If your speakers do not perform well, your stereo system will simply not sound like music.

> The search for musically satisfying speakers, however, can lead to some very expensive products. And if you have already brught those high priced speakers, then you better not listen to Paradigms. But if you haven't, better not miss them. Why? Because from the time they were first introduced, Paradigm's sheer musical ability utterly amazed 1 steners... but what caused even more amazement was the unprecedented low price.

> New you can settle for more.... without more expense. Visit your authorized Paradigm dealer... and listen.

The critics agree:

"... the Paradigm is no more colored than speakers costing up to two or three times its price, and gave a consistently musical performance.. Conclusion: the Paradigm offers excellent performance..." Stereophile Magazine

"... natural, open and clear...excellent depth... lots of hall sound... big, expansive =oundstage... well defined... a rare achieven ent for any loudspeaker, but when the price is taken into account the Paradigm's per "ormance must be considered as nothing short of remarkable." Sound & Vision Magazine





In the U.S.: AudioStream, MPO Box 2410, Niagara Falls, New York 14302 In Canade Paradigm Electronics Inc., 457 Fenmar Drive, Weston, Ontario M9L 2R6

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SPECIAL CD OFFER

A Dorian Portrait

AMPLE the excitement of Dorian Recordings' special blend of music, acoustics, and technology! For STEREO REVIEW readers the company has prepared "A Dorian Portrait," a new compact disc sampler featuring Dorian's principal artists in more than 67 minutes of music. To get your copy, send in the coupon on this page with your check or money order for \$3.99, which includes postage and handling.

Dorian is a new company founded by Craig Dory and Brian Levine, two young men in their early thirties. Their clearly articulated approach to recordings combines distinctive musical repertory with state-of-the-art digital technology. Adhering to the philosophy of minimal miking, Dorian typically uses only two microphones in each session. Also key to the Dorian sound is the acoustical character of its usual recording locale, the nineteenth-century Troy Savings Bank Music Hall in Troy, New York.

Recordings on the Dorian label have quickly won a following among audiophiles and music lovers and among manufacturers of audio equipment, who often



use Dorian CD's in demonstrating their electronic components and speakers. These CD's have also gained the attention of STEREO REVIEW's editors, and we are happy to make this sampler available to

our readers below cost.

The twenty-two selections in "A Dorian Portrait" represent the varied mix of periods and styles contained in the company's catalog, ranging from the Renaissance to the Baroque to the Romantic. There are well-known items, such as the hornpipe from Handel's *Water Music* and *Greensleeves*, as well as unfamiliar selections. Anonymous pieces of early music are followed by works by Bach, Beethoven, Brahms, Schubert, Mendelssohn, and Smetana.

The performers on the sampler include the soprano Julianne Baird, the organist Jean Guillou, the pianist Antonin Kubalek, the lutenist Ronn McFarlane, and the harpsichordist Colin Tilney, who are all Dorian regulars. Also included are Jaime Laredo (violin), Stephanie Brown (piano), the Rembrandt Trio, and the New York Kammermusiker.

New artists making their debuts on Dorian Recordings are the Baltimore Consort (an early-music ensemble) and the pianist Andrew Rangell. The Baltimore Consort's appeal lies in its combination of authentic performance practices with elements of traditional folk music. Rangell's highly original



interpretations have caused him to be compared to the late Glenn Gould. Rangell and the Baltimore Consort are both represented in the sampler.

To receive your copy of "A Dorian Portrait," fill out the coupon below, clip it from the magazine, and send it with your check or money order for \$3.99 to Dorian Sampler, c/o Allegro Imports, 3434 S.E. Milwaukie Ave., Portland, OR 97202-2749. Checks should be made out to Allegro Imports. Orders from outside the United States must include a check or money order for US\$6.

Be sure to include the coupon with your order—no orders will be honored without it. We regret that we must limit the offer to one CD per coupon. All orders must be received by Allegro Imports by March 31, 1991. The offer is void after that date.

SPECIAL CD OFFER

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AUDIO Q&A

by Ian G. Masters



Flat Response for Demos

Recently, I was comparing speakers in an audio store, and I felt the pair I was listening to was a bit bass-shy. I increased the bass control on the amplifier a couple of notches, but the salesman stopped me, saying it should be left flat for a demo. Since the frequency-response curves of speakers usually drop at the high and low ends of the spectrum, isn't it necessary to boost the extremes to create a flatter response?

CHRIS MULLER Belton, MO

A There's nothing particularly sacred about flat response. After all, manufacturers provide tone controls so you can do exactly what you did. But the salesman is right that a flat (unequalized) input, or at least the same input, should be fed to all speakers in a demonstration for proper comparison. Hearing how they sound with a flat input will give you a better idea of their relative strengths and weaknesses.

It also gives each speaker its best shot in terms of distortion. Adjusting the tone controls to offset the limitations of a speaker forces it to do something it doesn't want to: The response drops at the extremes because the speaker is less sensitive at those frequencies, and to boost those parts of the spectrum means feeding a lot more power to the speaker than normal. That could cause the amplifier to clip or the speaker to misbehave in a number of ways. If a speaker needs a lot of this sort of help, it's probably not very good. Most modern, high-quality speakers have reasonably flat response at high frequencies and roll off only at

very low frequencies. Using conventional tone controls to maintain deep-bass response will typically cause a hump in the mid-bass; a multiband equalizer is much better for this purpose.

Off-Speed Tape Decks

I have used many different cassette decks for dubbing over the years, and I have noticed that they often run at slightly different speeds. Is there a simple adjustment I can make to correct the tape speed, or do the recorders have to go to the shop?

> GEORGE YAO East Elmhurst, NY

A Except for some early battery-operated models, I have only rarely encountered a cassette deck that was seriously off-speed. Compatibility problems between machines are much more likely to take the form of azimuth mismatches or Dolby mistracking. And even small speed differences are not noticeable for most of us (unless we are blessed—or cursed—with absolute pitch).

No two manufacturers handle speed control exactly the same way, so it would be difficult for me to give precise instructions. Even if I could, you would have to be able to tell when the adjustment was correct, and that would require test tapes, frequency counters, and so forth. I happen to have one deck that's fairly far off speed but otherwise offers some unusual features; I use it only for tapes I know I will be able to play back on the same machine, and this is clearly noted on the tapes. If you're not sure which decks your tapes were made on, or have only one current machine, it's worth getting the speed checked by a technician and fixed if necessary.

Secondary Speaker Levels

My receiver, like most, has connections and switching for two pairs of speakers as well as a switch position for running both pairs at once. The problem, however, is that there is no way to set the volume independently for the two pairs. Are there any receivers or amplifiers on the market with such independent speaker-level controls? If not, would it be a very difficult matter to add them?

LOREN B. DAVIS La Jolla, CA

A Level controls for speakers are not hard to come by, and they can easily be installed in the speaker lines either at the amplifier or in the rooms where the speakers are located. But since these controls are essentially variable resistors, all they can do is attenuate the signals to the attached speakers; maximum level is still determined by the setting of the receiver's volume control. Another drawback is that they can greatly increase the receiver's effective output impedance to the attached speakers, which can cause frequency-response anomalies.

The best way to provide independent control for multiple sets of speakers is to use a separate amplifier for each set. We know of at least two receivers—the Pioneer VSX-D1S and the Onkyo TX-SV70—that include this means of providing signals at different levels to two pairs of loudspeakers.

Cartridge Noise

I am considering the purchase of a moving-coil cartridge, and if I do get one I'll need some sort of step-up amplifier. I understand, however, that a transformer would reduce the overall signal-tonoise ratio significantly. Is there a way I can calculate the total SIN I'll end up with? TIM FERN

Washington, IN

A lt's not easy, but I wouldn't sweat the small stuff. The lion's share of the noise in your record-playing setup will come from the record itself, and a record's noise depends on what kind of past it has had, both in terms of its production by the record company and the care you have taken with it since. Even with a very well-cared-for record, the physical noise will overwhelm most sorts of electrical disruption that may creep in, and the disc's own noise will be the same no matter what sort of cartridge you use (providing it is capable of reproducing the noise).

Moving-coil (MC) cartridges do have one specific noise susceptibility, to AC hum. Any cartridge (and, in fact, any audio device) can pick up hum from surrounding electromagnetic fields, but because the output from an MC cartridge is so low, and therefore needs extra amplification, any interference it picks up will receive the extra amplification as well. This effect will not show up in a noise specification, however, as it has to do mostly with the placement of the cartridge and its wires relative to nearby equipment. The only way to find out if the cartridge you want will give acceptable results is to try it out, and be patient in trying new positions. All in all, it's fair to say that MC cartridges are usually more difficult to coax into perfect performance than their moving-magnet equivalents, and they cost more to boot.

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.

Finally, laver aC that reproduces all of the music, not just bits and bytes of i

A dcom's new GCD-575 Compact Disc Player has been worth waiting for. Now there's a CD player with analog audio circuits as advanced as its digital stages. Featuring a no-compromise Class "A" audio section, the GCD-575 is the first affordable CD player that delivers the long anticipated technical benefits of digital

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JAPAN ALDIO **Reported by Bryan Harrell**

DAT equipment, and although many

decks were tagged "prototype," the

TOKYO-Although the Japan Audio Fair is no longer as big and flashy as it was in the Eighties, when it was held in larger facilities at the Harumi exposition grounds, it still maintains a remarkable following. During the 1990 run, October 10-14, some 220,000 visitors went through the gates at the Sunshine City complex in Tokyo's Ikebukuro district.

The fair has changed in other ways as well. Up until just a few years ago, for example, manufacturers were discouraged from showing video equipment. In 1990, however, booths everywhere were dominated by large video screens, and it was clear that video and audio have become inseparable. Mitsubishi and Hitachi, in particular, actually emphasized video equipment.

Hitachi showed a prototype S-VHS VCR that uses deep-layer bias recording for a digital audio soundtrack in addition to the standard and VHS Hi-Fi analog soundtracks. Hitachi claims an audio signal-to-noise ratio of 93 dB and distortion of only 0.004 percent for the digital track.

DAT

Digital audio tape was the "big new thing" at the 1990 fair, just as it was last year and the year before that. Virtually every manufacturer showed

representatives manning booths made no secret about plans to release them pretty much as they were displayed. The real DAT attention grabbers were the portables. Sony displayed its DAT Walkman, while Kenwood showed a tiny DAT recorder prototype called the DX-7. Aiwa's HD-S1 portable (¥77,000, or about \$590 at the

exchange rate at press time) was shown along with a prototype "digital" microphone with an internal 1-bit, sixty-four-times-oversampling analog-to-digital converter.

Somewhat larger was the Denon DTR-100P portable, which had a rather low price tag (¥99,000, or about \$760). Its size and design recalled the early Technics and Sony portables, which were priced nearly three times as high.

Recordable CD's

Many Japanese consumers seem to be waiting for recordable CD's. Never mind the obstacles to creating an inexpensive system, the Japanese audiophile is accustomed to technical miracles and considers it only a matter of time before the products come on the market.

The most interesting recordable-CD



prototype at the fair was the Sony MO-009. Only slightly bigger than a normal portable CD player, it uses what Sony calls "magnetic field modulation" for recording. Sony also showed a much larger component version with numerous features including a sophisticated address system. The company claims that these prototypes are not for consumer use but will instead find applications in studios and other recording environments, as well as for industrial data storage. As with a conventional CD, the recording time is about 74 minutes. The CD's recorded with these devices, however, cannot be played on conventional CD players.

The CD's recorded on Kenwood's prototype can be played on any CD player, but the blanks can be recorded only once. This "write-once, readmany" system is expected to be used in stores for consumers to create "one-off" CD's for their personal use.

Other Developments

JVC showed a portable CD+G (compact disc plus graphics) player with a 4-inch LCD screen, finished in a stylish glossy black. Sansui showed a prototype CD changer that has a large round platform about the size of a turntable platter. Inside are three rings served by a "robot arm." One ring is the player, another is where you can stack up to five CD's for play, and the third ring is where you pick them up after they've been played. You could call it a digital three-ring circus, but Sansui calls it the Robot Changer.

Some of the old flash was still evident in car stereo, where Alpine and Kenwood showed systems featuring digital signal processing (DSP). Alpine's was installed in a Honda, but Kenwood's, with a wireless remote controller the size of an analog cassette, was shown in a bright red Tbird. The snazziest car was JVC's DeLorean, which was used to display portable video gear, and the snazziest car actually showing off car audio was a customized Mercury from the early Fifties outfitted with a JBL system.

MIRAGE M-1. RAVES FROM THE CRITICS.

WE'RE HAPPY TO REPORT IT RUNS IN THE FAMILY.

The Mirage M-1s have garnered their fair share of raves from the industry. They've invoked such comments as "...I'm completely bonkers over this product..." and "...The M-1 is and will be for many people their absolute reference."

Upon first listen, most people are astonished by their sonic transparency. The speakers virtually seem to disappear. In our view, that's the mark of a good loudspeaker.

We've extended that philosophy to the Mirage 60-Series loudspeakers as well. Each reflects an overall concern for naturalness, genuine musicality and transparency.

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For a free booklet of M-1 reviews from seven leading audio publications, write us or see your Mirage dealer.



AUDIO PRODUCTS INTERNATIONAL CORP. 3641 McNicoll Ave. Scarborough, Ontario, Canada M1X 1G5 (416) 321-1800 CIRCLE NO. 45 ON READER SERVICE CARD NEW MYBRID DESIGN TECHNOLOGY FROM ROCKFORD FOSGATE

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Hybrid Design (HD) is the next logical step. It is to audio electronics what the microchip is to computers.

HD eliminates hundreds of hand-soldered resistors, capacitors, diodes and transistors, in favor of surfacemount modules with zero signal loss.

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error for even lower distortion. And because only N-type devices are used, more power goes to your speakers, with less heat dissipation.

There's also a new analog computer protection circuit that protects each channel individually from abnormal current conditions. Without sacrificing performance, and without current limiting at the power supply.

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Like all Rockford Fosaate amplifiers, the new HDs are 2-ohm stable, bridgeable for simultaneous mono/ stereo output, handcrafted in the USA and computer tested to eliminate the slightest flaw.

See and hear the new Punch 30HD, Punch 45HD, Punch 75HD, Punch 150HD, Power 100HD, and the new Hybrid Design AF/2-HD and AF/4-HD active crossovers at your authorized Rockford Fosgate dealer.

And get a few things out of your system.

Look as good as you sound with custom accessories from Terface Interface At your Rockford Fosgate dealer. You can't miss us. A division of Rockford Corporation

For the Rockford Fosgate dealer nearest you, call (602-967-3565) (USA & Canada) International FAX: (602) 967-8132

CIRCLE NO. 63 ON READER SERVICE CARD

FROM THIS DAY FORWARD

T'S tempting to think that spending a lot of money on an audio or audio/video system will guarantee reliable, like-new performance forever, or at least for a very long time. Indeed, good stereo equipment is hardy stuff and should chug along rather uneventfully for years. But that doesn't mean problems won't arise from time to time. Although the causes of deteriorating sound can often be cleared up fairly easily, it's better to get into the habit of looking after your system before it starts making funny noises. Most potential problems can be averted by some simple, routine maintenance.

It's not just your equipment that needs attention, however. Even perfectly functioning components will deliver inferior sound if they are fed signals from recordings that have become dirty, worn, or damaged. The waning of the vinyl LP in favor of the more robust compact disc has made this consideration slightly less critical, perhaps, but there are still things you should do to preserve your precious music collection. The most obvious is to keep CD's in their cases when not in use, to help prevent scratches and accumulations of dust and dirt on their surfaces. The CD format is pretty tolerant of such indignities, to be sure, but it's not invincible; if a CD's surface is scuffed up enough, even the best of players will mute or mistrack.

If one of your discs does get begrimed, a slightly moist cloth will usually take care of it (wipe radially across the surface, not in a circular motion as you would use for cleaning an LP). Alternatively, there are a number of CD cleaning products on the market, including a few that require you only to put the disc into a slot for a few seconds to return it to pristine condition. Considering the average price of CD's, one of these cleaning systems might well be a good investment.

For tape, maintenance is confined largely to the hardware. There's not much you can do if an individual cassette gets damaged, although splicing kits do exist to help if a tape breaks, and replacement shells are available if something goes wrong with the one a tape came in. Both should be consid-



BY IAN G. MASTERS

How to keep your system, and your recordings, sounding as good as new — last in a series on the basics of audio.



ered last resorts, however, to be used only when a cassette is irreplaceable. Otherwise, storing tapes in their boxes away from extremes of temperature and humidity should keep them healthy almost indefinitely.

The one thing that can do serious damage to a tape is a stray magnetic field, whether from your equipment (TV sets, loudspeakers, and amplifiers have quite strong fields) or from nearby nonaudio sources, such as magnetic latches on cupboard doors. All of these can erase tapes, in part or completely, and should be avoided. Fortunately, a gap of about a foot between your tapes and any of these common sources of magnetism is almost always enough to prevent harm.

Record Care

Whereas cassettes and CD's take little effort to maintain, the opposite is true of LP's, and though the vinyl record may be a dying breed, many of us still have lots of them in our collections. As replacements become scarce, fastidious record care becomes more important than ever.

The first rule is to store LP's properly between playings. They should be kept on edge in their sleeves to minimize contamination from airborne dust, smoke, and so forth. Making sure that records fit snugly together on their shelves (without being crammed in) also promotes cleanliness and will help prevent warping as well. Never tilt your records up against a wall, as that almost guarantees warps. Always return records to their sleeves after use. If a record was supplied without an inner sleeve, it's a good idea to add one-inexpensive plastic liners are available from most audio stores.

When organizing your record shelf, it's also a good idea to give some thought to a filing system, particularly if your collection is large. This will simplify finding individual records and minimize random pawing through the collection. The less you have to flip the records back and forth, or slide them on and off the shelf, the better off they'll be.

Vinyl records should be cleaned regularly. The absolute minimum is to brush them before each play, to remove any dust that has evaded your other defenses. For records that have become more seriously contaminated, either through infrequent playing (more and more dirt sneaks onto the surface over time) or mishandling (fingerprints are the most common curse here), stronger medicine is required. Some of the most effective cleaning systems combine a special fluid with a brush or applicator, and these are very useful for tidying up the messiest discs in your collection (the brush can be used alone for routine cleaning). The watchword with fluid systems is to use them only when necessary, as there is always a risk that over-cleaning will do more harm than good: The more contact you have with the record surface, the greater the chance of inadvertently inflicting damage.

One byproduct of brushing is static buildup on the disc surface, which may attract more dust than brushing removes. Some brushes minimize this effect with conductive carbon-fiber bristles that tend to bleed off such electrical charges. Even more effective are antistatic guns, which can be very effective, provided they are used *after* every brushing.

Whatever products you use for record maintenance, it would probably be a reasonable precaution to buy enough



of the consumable elements to last a long time; many of them will likely disappear from the market before much longer.

Hardware Hygiene

Like the records it plays, the turntable in your system will require a relatively large amount of ongoing attention. Sometimes misadjustments can cause noises that are fairly easily eradicated, but too often playing problems damage LP surfaces, making the effects permanent. To insure that this doesn't happen, you should perform some checks regularly before troubles develop.

Start with the stylus. How it physically interacts with the disc will have a major effect on sound quality, and nothing that the rest of the system does can correct problems here. A quick visual inspection of the tip will show whether or not it has acquired a fuzzball; if so, clean it gently, back to front, with a soft brush (never with your fingertip). More stubborn accumulations can usually be removed with a liquid stylus cleaner.

Have a look periodically at the tiny cantilever tube that connects the stylus tip to the cartridge body (you will doubtless have to use a fairly powerful magnifying glass). This tiny part is very delicate and can easily become bent or cracked. Unless it breaks off entirely, you may never know it is damaged. It could, however, cause distortion or even damage your records; eventually the damaged cantilever will probably break and take a chunk of vinyl with it. Similar inspection of the stylus tip itself may reveal wear; if so, it is definitely time to replace at least the stylus assembly. (If you use your turntable fairly often, you probably can assume that you need a new stylus every year or two.) It may also be a reasonable time to upgrade the whole cartridge as well, which usually costs only a little more than a replacement stylus alone. If all is well with the cartridge, an occasional resetting of the stylus pressure and antiskating is usually a good ideathings can get out of whack over time, and a periodic adjustment will prevent the worst effects of such mechanical drift.

One of the most common causes of trouble in record playback is a turntable that isn't level. You should check

THE BASICS

yours often, as normal household activities, such as dusting around the system, can shift a turntable (as, in some cases, can vibrations from the sound itself). It doesn't have to deviate from level very much to degrade the sound; the best way to check is to buy a small spirit level and place it on a record on the platter. Gradually turn the record to make sure it is level in all directions. Adjustments can often be made by screwing the turntable's feet in and out appropriately or, failing that, by putting slips of paper under them until the unit is level.

Cassette Decks

At least one maintenance procedure should be carried out frequently on a cassette deck: routine cleaning to get rid of oxide that builds up over time on anything that comes into contact with the tape (particularly if you play a lot of old prerecorded cassettes, which were often duplicated on tape stock of dubious quality). You should take care that the heads, tape guides, capstan, and pinch-roller are free of oxide, as a buildup on any of them can cause the tape to skew as it goes by the heads; contamination on the heads themselves can seriously degrade high-frequency performance. Unfortunately, the heads and tape guides are difficult to reach in many decks, in which case your best bet is to use a special headcleaning cassette. Otherwise, a cotton swab and a drop of pure isopropyl alcohol (don't use rubbing alcohol. which often contains lubricants) or head-cleaning fluid will work well. Keep at it until you can no longer see a telltale brown smudge on the swab. Figure on a cleaning after every 10 to 12 hours of use. Oxide buildup can be difficult to spot, so don't wait until you see discoloration of the heads or capstan; it's better to assume it's there than to wait until it becomes audible.

You may also find it desirable to demagnetize your deck once in a while. Over time, metal parts that come into contact with the tape can pick up a residual magnetization, which can add noise during recording or even progressively erase the signals on already recorded tapes, causing a permanent loss of treble that will become worse with each playing.

Demagnetization is a tricky maneuver that can make matters worse instead of better if it is not done right, so the procedure is best performed by a special cassette designed for the purpose (available from several tape manufacturers). This is a battery-operated device that pops into the machine like a normal cassette and runs for a few seconds in the play mode. Fortunately, today's tape decks are much less susceptible to magnetization than older machines, so you needn't (and probably shouldn't) demagnetize your deck nearly as often as you clean it.

Other Checkpoints

From time to time you should check your CD player. There's not much you need to do, but remember that it oper-



ates optically, and just as dust can eventually contaminate the discs themselves, so it may have an effect on the laser lens within the player. In most machines, this lens is not directly accessible to the user, in which case you should not attempt to get inside the unit. But if you can see the lens, an occasional dusting with a small camel's-hair brush or photographic blower can prevent the buildup of dirt. There are also some cleaning discs on the market that are designed to perform this little chore automatically.

The rest of your system should need relatively little maintenance, and when it does, there will probably be some audible clues to alert you. For instance, the controls and switches on your electronic components can become dirty over time, with results that may range from a subtle scratching sound whenever you adjust them to a horrendous roar that can damage ears, tweeters, and neighborly relations. A shot of contact cleaner will usually put things right again, as long as you are able to get the cleaner inside the offending control.

The cables that join one component to another are fertile sources of difficulty, either subtle or gross. The most common problem with a system that has remained in one place for a long time is oxidation of the contacts. which can disturb the electrical connection between the cables and the components they are plugged into. This can sometimes cause intermittent operation, but it is more likely to degrade the sound in less dramatic ways: by reducing high-frequency response, for example, or by increasing noise, distortion, or radio-frequency interference (RFI).

Often simply unplugging and replugging the connectors will scrape off the film of oxidation and restore the system to normal. A squirt of contact cleaner is also a good idea, and it may retard further oxidation in the future. While you are at this task, which you should perform about once a year, it is wise to flex each of the cables and listen for crackles or other unwanted noises that might be caused by a faulty cord. If you hear anything of this sort, replace the cable.

Finally, audio systems have a maddening propensity to pick up unwanted noise in the form of 60-Hz hum. often for no apparent reason. You may find the source when checking out the cables between components, as it may be caused by a loose connection. If not, it may be the result of power cords running too close to the signal-carrying cables (which could be caused by something as simple as moving a lamp near the audio system). The remedy is usually to experiment with wire placement for lowest hum, an activity often accompanied by liberal quantities of swearing and-perhaps-gin.

An audio system is a complex thing, and it doesn't always take much to make it misbehave. By the same token, it takes relatively little effort to prevent the most common problems well worth it if high-quality audio is important to you.

TECHNICAL TALK

by Julian Hirsch



HOW WE TEST Speakers, Part I

AST month I discussed some of the difficulties in measuring those aspects of a loudspeaker's performance that correlate with its sound quality. In my opinion, the problem is virtually unsolvable. Nevertheless, I still try to measure some of a speaker's *actual* performance characteristics, as opposed to its purely subjective properties (its "sound"), which are difficult or impossible to convey in writing.

A basic problem, which I touched upon last month, is the total lack of industry-wide loudspeaker measurement standards. This was equally true in 1954, when I first attempted to make speaker measurements. At that time. there were also no meaningful standards for testing amplifiers, FM tuners, record players, or tape decks, either. My only recourse was to devise my own standards, within the limits imposed by the crude test equipment available to me and my own imperfect knowledge of the subject, in the hope that the measurement results might provide some clues to the real worth of a component.

Frequency response is certainly one of the key characteristics of a speaker (and of most other audio components). The problem is that a speaker has a

literally infinite number of frequency responses, different for each combination of various horizontal and vertical angles and distances from its drivers. No single response curve can give an unambiguous indication of a speaker's "true" response (one that supposedly correlates with its sound quality).

Some people, including me, feel that a plot of a speaker's power responseits total integrated acoustic power output versus frequency into the listening space-comes closest to matching its perceived sound character. Although power-response measurement is not a simple matter, a fair approximation can be obtained by measuring the speaker's response at a number of positions in the room, sampling the sound pressure at different angles and distances relative to its source. Combining these data can produce a single response curve whose shape gives a reasonable clue to the overall sound quality. Even this process involves a very large number of response measurements, however, and would be quite impractical for us to carry out. Clearly, a compromise procedure is necessary.

Measurements at different locations in our listening room have shown that there is little incremental improvement from averaging more than two curves as long as the curves are made with a warbling (frequencymodulated) test signal. In order to work out our procedure, we began with a pair of speakers having excellent dispersion and uniform output throughout the forward hemisphere, which had been calibrated laboriously (involving hundreds of outdoor measurements) by their manufacturer. By placing these speakers in their normal locations in the room and making a number of response measurements around the room, we eventually settled on a pair of response measure-

Tested This Month

SANSUI RZ-9500AV AUDIO/VIDEO RECEIVER DEFINITIVE TECHNOLOGY BP 10 SPEAKER SYSTEM ADCOM GFA-55511 POWER AMPLIFIER 3A MIDI-MONITOR SPEAKER SYSTEM ments (one from each speaker) using a single microphone at the other end of the room, placed on the axis of one speaker and about 30 degrees off the axis of the other. The driving sinewave signal swept from 20 to 20,000 Hz in 1 minute while being "warbled" several times a second over a onethird-octave range.

We were able to use just two measurement positions because, over much of the frequency range, when the measured output of one speaker went up, that of the other went down because of the different patterns of interference between the signals reflected from the room boundaries. Averaging the two curves normally yields a single reasonably smooth response curve

Frequency response is one of the key characteristics of a speaker. The problem is that a speaker has an infinite number of frequency responses, different for each combination of various angles and distances from its drivers.

that is consistent with the way the speaker sounds, which was the goal of the procedure.

Since we knew the true power response of the reference speakers, it was easy to derive a calibration curve that accounted for the absorption of high frequencies by the surfaces of our listening room (which proved to be negligible below 10,000 Hz and about 6 dB at 20,000 Hz). With that information, measurements on any conventional (forward-radiating) speaker could be corrected to derive a good approximation of its power response.

The result is not its *true* power response, however, and I prefer to call it a "composite corrected frequency response." The "composite" refers to an even less orthodox process we use in plotting the curve. The room measurements are useless for determining a system's response below a few hundred hertz, where the wavelength of the sound becomes comparable to the room dimensions and the standing waves in the room completely obscure the system's true bass response.

Fortunately, by measuring a woof-



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TECHNICAL TALK

er's output with the microphone very close to its cone (almost touching), we can obtain its true anechoic response, devoid of room influence. This curve is valid up to a few hundred hertz (depending on the size of the woofer cone). When we overlay the bass curve on the corrected room-response curve, there is usually an overlap of one or more octaves that gives a clue how to splice the two together. Admittedly, the result is about as nonrigorous as an acoustic measurement can get, but it does, in most cases, give a reasonable idea of a system's capabilities over the full audio spectrum in a single graph. The actual bass response in any particular room will certainly differ from our anechoic measurement, but that difference can go either way (up or down). At least the curve gives a reasonable idea of what the system can do compared with any other speaker measured in the same way-by now, that amounts to several hundred models.

During the past ten years or so, some alternative approaches to speaker-response measurement have appeared. Most of these involve fast-Fourier-transform (FFT) processes that drive the speaker with a narrow pulse (or a series of pulses) and process the output of the measurement microphone with a computer to derive its response free of interaction with room boundaries. We do use such an instrument (the IQS 401L) in our speaker measurements.

Although the FFT system can exclude much of the effect of room boundaries, it requires a fair amount of clear space in the measurement area. In practice, though the reflections of the sound from nearby room boundaries and furniture can often be eliminated or minimized in the analysis, this usually entails an unacceptable loss of resolution in the frequencyresponse measurement. We use FFT response plots principally to confirm the validity of our manipulations with the room-response and bass-response curves.

There are a number of additional measurements to be made on a speaker, most of which have little direct relation to its frequency response or even to how it sounds. Nevertheless, they can be at least as important to the user. Next month I will describe the measurements of distortion, impedance, polar dispersion, group delay, and power-handling ability.



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SANSUI RZ-9500AV AUDIO/VIDEO RECEIVER

Julian Hirsch, Hirsch-Houck Laboratories

HE Sansui RZ-9500AV is a versatile, powerful, yet affordably priced audio/video (A/V) receiver. Its main (stereo) power amplifier is conservatively rated at 100 watts per channel into 8ohm loads from 20 to 20,000 Hz with no more than 0.02 percent total harmonic distortion (THD). In addition, the RZ-9500AV has a pair of 30-watt surroundchannel (rear) amplifiers and a 40-watt center-channel (front) amplifier for use with its Dolby Pro Logic decoder.

Surround-sound capabilities aside, the RZ-9500AV is a stereo AM/FM receiver with a digital frequency-synthesis tuner driving its power amplifiers through a versatile digitally controlled preamplifier. Except for a large volume knob, the operating controls are all pushbuttons, and almost all of them are duplicated on the infrared remote control supplied with the receiver (the volume knob is turned by a small motor in remote operation).

In addition to its tuner, the RZ-9500AV has inputs for CD and phono sources and two audio tape recorders (Tape I is also labeled DAT but is equally suitable for an analog recorder). Other inputs provide for two VCR's and a videodisc player.

The input-selector buttons form a row across the panel below the large display window. In another group are buttons that control the receiver's signal-processing functions, including Dolby Pro Logic and three other surround modes—Natural, Hall, and Stadium. A SPACIAL button selects the degree of space enhancement, Normal or Wide, in any of the latter three modes. The SOURCE DIRECT button completely bypasses all tone-control and surround circuits.

As many as four additional sets of surround parameters can be programmed by the user into the receiver's memory and recalled at the touch of a button. The stored information can include relative channel levels, delay time, and tone-control settings. In the Dolby Surround mode, a CEN-TER MODE button toggles through Normal, Wide, Phantom, and off settings for reproduction of information encoded into the front center channel. A TEST TONE button activates a pinknoise signal to simplify setting channel levels in Dolby Pro Logic playback. The test signal, in 2-second bursts, appears sequentially in the left, center, right, and rear channels. Three buttons near the headphone jack are used to connect either or both of the two pairs of main speaker outputs and the rear and center speakers.

The tuner control buttons select either normal AM and FM reception or cable FM via a separate RF input connector. An auto/manual button selects automatic scan tuning or single-channel stepping with the up and down buttons above these controls. Interstation-noise muting and automatic stereo/mono switching operate only in the auto-scan mode.

At the right of the panel are controls affecting the frequency response and gain of the amplifiers. The buttons marked TREBLE, BASS, and SUPER BASS alter the frequency response. Pressing any one of them triggers a numerical readout in the display window that shows its setting in 2-dB steps from +10 to -10 dB. The settings are adjusted with a pair of up/down buttons identical in size to the tuning controls. The Super Bass control operates principally below 100 Hz; the others have more conventional characteristics. There are also adjustments for the center and rear levels relative to the (main) front level. Pressing the small round balance button displays a

TEST REPORTS

bar graph of the relative levels in the left and right channels. Above these controls, near the volume knob, is a loudness-compensation button.

The display window, occupying much of the upper half of the panel, presents the receiver's full operating status in legible orange or red fluorescent characters. The frequency of the tuned station, its preset channel number, and its call letters (if the user has programmed them into the preset memory) appear in large characters, and smaller characters are used for status indicators. To the right of the window is a keypad and other buttons used for storing up to thirty station frequencies in memory. The keypad also enables direct tuning to any station by frequency.

FEATURES

- Separate power amplifiers for front (main stereo), center, and rear (surround) channels
- Digital frequency-synthesis AM/FM tuner with thirty presets
- Auto-scan, preset scan, and manual step tuning; also direct tuning by entering frequency on keypad
- Adjustable digital delay for spatial enhancement
- Dolby Pro Logic surround-sound decoding
- Natural, Hall, Stadium, and as many as four user-created stereoenhancement surround modes
- Inputs for CD, phono, two audio tape decks, two VCR's, videodisc player
- player
 Dubbing from VCR-2 or videodisc player to VCR-1 or from any audio source to either audio recorder

- Source Direct switch to bypass signal-processing circuitry
 Composite and S-video output to
- monitor
- Separate coaxial inputs for 75ohm FM antenna and cable feed
- Bass, treble, and Super Bass tone controls
- Separate preamplifier outputs and power-amplifier inputs with removable jumpers
- Connections and switching for two pairs of front speakers
- Phantom-center-channel Dolby Pro Logic mode for use without center speaker
- Remote control of most functions of receiver and compatible Sansui tape decks and CD players; remote can be programmed to operate most other components

LABORATORY MEASUREMENTS

- Tuner Section (all figures for FM only except frequency response; measurements in microvolts, or μV, referred to 75-ohm input)
- Usable sensitivity: mono, 9.8 dBf (0.85 µV)
- **50-dB quieting sensitivity:** mono, 13 dBf $(1.25 \ \mu V)$; stereo, 35.5 dBf $(16.4 \ \mu V)$
- Signal-to-noise ratio at 65 dBf: mono, 80 dB; stereo, 75 dB
- Harmonic distortion (THD plus noise) at 65 dBf: mono, 0.05%; stereo, 0.09%
- Capture ratio at 65 dBf: 1.25 dB AM rejection: 56 dB
- Selectivity: alternate-channel, 64 dB; adjacent-channel, 4 dB
- Stereo threshold: 20 dBf $(2.75 \mu V)$
- Pilot and subcarrier leakage: 19 kHz, -66 dB; 38 kHz, -68 dB Hum: -78 dB
- Stereo channel separation at 100, 1,000, and 10,000 Hz: 42.5, 47, 37 dB
- Frequency response: FM, +0, -1 dB from 30 to 15,000 Hz; AM, -6 dB, 40 to 2,500 Hz

Amplifier Section

- 1,000-Hz output power at clipping: 145 watts into 8 ohms, 200 watts into 4 ohms, 218 watts into 2 ohms (one channel)
- Clipping headroom (relative to rated output): 1.6 dB
- Dynamic power output: 156 watts into 8 ohms, 253 watts into 4 ohms, 306 watts into 2 ohms
- Dynamic headroom: 1.9 dB
- Maximum distortion (20 to 20,000 Hz into 8 ohms); 0.11% at 20,000 Hz and 100 watts output
- Sensitivity (for a 1-watt output into 8 ohms): CD, 53 mV; phono, 0.29 mV
- A-weighted noise (referred to a lwatt output): CD, -75.5 dB; phono, -76.3 dB
- Phono-input overload (1,000-Hzequivalent levels): 150 to 185 mV from 20 to 20,000 Hz
- Phono-input impedance: 50,000 ohms in parallel with 170 pF
- Tone-control range: 100 Hz (bass), +6.2, -4.2 dB; 100 Hz (Super Bass), +4.8, -4.1 dB; 10,000 Hz (treble), +6.1, -7 dB
- Loudness-contour range: 50 Hz, +9 dB; 15,000 Hz, +6.5 dB

The RZ-9500AV's rear apron holds an imposing array of input and output connectors and jacks. These include record and play jacks for two audio tape decks and the audio sections of two video recorders as well as video connectors for two vCR's (both composite-video RCA jacks and S-video DIN sockets are provided). Similar connections are provided for a videodisc player, as are composite and Svideo monitor outputs.

There are separate stereo preamplifier outputs and main-amplifier inputs for the front and rear channels and single-channel connectors for the mono center channel. A small knob adjusts the channel balance for the surround modes.

In addition to the signal inputs for phono and CD, there are separate 75ohm coaxial FM inputs for an antenna and a cable feed and spring-loaded connectors for the supplied AM loop antenna. The speaker outputs are all spring-loaded clips that accept the stripped ends of speaker wires. There are two switched AC outlets.

The remote control is designed to operate more than just this receiver, and it has a correspondingly large number of buttons. It is preprogrammed for Sansui CD players and cassette decks and can "learn" the commands needed for most other remote-controlled components.

The RZ-9500AV, like most other A/V receivers, is fairly large and heavy. It measures 17 inches wide, 16¹/₈ inches deep, and 5¹/₈ inches high, and it weighs about 30¹/₂ pounds. Price: \$770. Sansui USA, Inc., Dept. SR, 1250 Valley Brook Ave., Lyndhurst, NJ 07071.

Lab Tests

We tested the RZ-9500AV's amplifiers with both front channels driving 8ohm loads. (Although we used the receiver in a surround-sound system with both audio and video programs, we did not measure the performance of the surround and center channels.) The amplifiers were preconditioned by operating for 1 hour with each channel delivering 33 watts into 8 ohms.

The main amplifiers were considerably more powerful than rated, delivering a clipping output of 145 watts per channel into the 8-ohm loads at 1,000 Hz. Output into 4 ohms was an impressive 200 watts per channel, which en-



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couraged us to try 2-ohm operation on one channel with the other driving 4 ohms. Output into the 2-ohm load, for which the unit definitely is *not* rated, was 218 watts. After those measurements, it was not too surprising to measure dynamic power outputs of 156, 253, and 306 watts into loads of 8, 4, and 2 ohms, respectively.

At no time during our tests or use did the receiver shut down or blow a fuse. The receiver's power supply can be switched for safer operation into low-impedance loads, with some reduction in its output capability into higher impedances, but our tests suggest that this would be necessary only in unusual cases.

The distortion (into 8 ohms) was about 0.008 percent at most frequencies from 50 to 5,000 Hz and power outputs up to more than 50 watts. At the rated 100 watts, the distortion was less than 0.02 percent from 20 to 10,000 Hz, rising to 0.11 percent at 20,000 Hz. At 1,000 Hz, the distortion into an 8-ohm load was less than the rated 0.02 percent from a couple of watts up to well over the rated 100 watts. Readings were only slightly higher with 4-ohm loads: less than 0.03 percent up to more than 150 watts output. As with most amplifiers, the 2ohm distortion figures were higher, but they were not at all excessive, reading about 0.04 percent up to 150 watts and 0.4 percent at 200 watts.

The CD input required a signal of 53 millivolts (mV) for a 1-watt reference output, with an A-weighted noise and hum level of -75.5 dB. Through the phono input the sensitivity was 0.29 mV, with a noise reading of -76.3 dB. The phono input overloaded at 1,000-Hz-equivalent levels between 150 and 185 mV from 20 to 20,000 Hz. The phono-input impedance was 50,000 ohms in parallel with 170 picofarads (pF), and phono frequency response was within +0.2, -0.7 dB of the RIAA curve from 20 to 20,000 Hz.

The bass and treble tone-control characteristics were conventional, with a sliding bass turnover frequency and treble curves hinged at about 1,500 Hz. The maximum range of the controls was somewhat less than average, however; they are rated at $\pm 8 \text{ dB}$ and sometimes measured slightly less. The Super Bass control's effect was limited to frequencies below 200 Hz, and most of it was below 100 Hz.

Combining it with the normal bass control produced a 15- to 20-dB boost or cut at the lowest audio frequencies.

With all tone controls set to their flat-response points and no signal-processing circuits in operation, the preamplifier section's audio frequency response was flat within ± 0.02 dB from 20 to 2,000 Hz and down 1.5 dB at 20,000 Hz. In the Source Direct mode the response was within $\pm 0, -0.015$ dB from 20 to 7,000 Hz and down 1 dB at 20,000 Hz. The loudness compensation boosted both low and high frequencies, with full effect at volume settings of -20 dB or lower. The maximum boost was about 10 dB at 20 Hz and 8 dB at 20,000 Hz.

The FM tuner section had an excellent usable sensitivity (mono) of 9.8 dBf. The 50-dB quieting sensitivity was 13 dBf in mono and 35.5 dBf in stereo. The other tuner performance measurements were generally good, although the FM distortion was lowest at 65 dBf and increased slightly at higher signal levels. A similar effect was apparent in the AM-rejection measurement: It was a very good 71 dB at 45 dBf but fell to 56 dB at 65 dBf.

The FM frequency response was within ± 0 , -1 dB from 30 to 15,000 Hz, and channel separation was better than 33 dB over the full range and better than 45 dB from 200 to 2,500 Hz. The AM response was typically restricted, down 6 dB at 40 and 2,500 Hz.

Comments

Judged solely as a stereo receiver, the Sansui RZ-9500AV was an excel-

lent performer overall, and its considerable power capability makes it a reasonable value at its price. Its FM tuner was one of the most sensitive we have encountered in a receiver and well above average in most of its other characteristics (the chief exception being its undistinguished image rejection, which would be of concern only in areas near busy airports). The AM tuner, despite its characteristically limited frequency response, sounded as good as any we have encountered in recent years.

In our use tests, the RZ-9500AV's surround-sound capabilities were very satisfying. We used the Dolby Pro Logic mode with videodiscs and found the spatial effects to be as good as we have experienced in use tests of other A/V receivers. Although the RZ-9500AV does not have an independent adjustment of echo density, as some costlier surround systems do, it can vary the delay time from 10 to 150 milliseconds, more than enough for any reasonable need.

The RZ-9500AV is an impressively powerful receiver, and we were pleased to find that (unlike some other high-power models) it is not particularly vulnerable to abuse, which can sometimes result in expensive damage. Like all A/V receivers, it is a complex instrument and takes a bit of practice to use with full effectiveness. Fortunately, the instruction manual leaves little to the imagination, and the results are well worth the effort of mastering the receiver's intricacies. *Circle 140 on reader service card*



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TEST REPORTS



DEFINITIVE TECHNOLOGY BP 10 SPEAKER SYSTEM

Julian Hirsch, Hirsch-Houck Laboratories

EFINITIVE TECHNOLOGY'S first product is an unusual loudspeaker that offers exceptional performance for its size and price. The BP 10 is a slender columnar speaker measuring 42 inches high, 9 inches wide, and 11½ inches deep and weighing about 60 pounds. Its exterior is completely black, and the four sides are covered by a fabric sleeve that fits snugly around the enclosure. The wood base and top plate have a glossy lacquer finish. The top cap is also available in solid oak. The gold-plated, multiway terminals, which accept dual banana plugs, are under the base, with a slot for the connecting cable.

There is no visible indication of the number, size, or configuration of the drivers. Actually, the BP 10 is a *bipolar* system (hence the "BP" designation) containing a pair of identical two-way speakers. One faces forward conventionally, and the other is on the rear panel, facing backward. Each consists of a $6\frac{1}{2}$ -inch woofer and a 1-inch dome tweeter, with the woofer located at the top of the cabinet and the tweeter just below it. Since the front and rear halves of the system radiate in phase over their full frequency range, their bass outputs augment each other. In this respect, the BP 10 is unlike dipole radiators such as large electrostatic speakers or similar planar systems in which the front and rear surfaces radiate out of phase and tend to cancel each other at low frequencies. Another result of the BP 10's bipolar design is that it operates best placed about 8 to 12 inches out from a wall—unlike planar systems, which must normally be placed several feet away from a wall.

The BP 10's two woofers share a common enclosure vented by a single ducted port at the bottom of the rear panel. According to the manufacturer, the bass-tuning system was computerdesigned to duplicate the loading of a transmission-line system in respect to its bass response and transient behavior while retaining the advantages of a simpler and less expensive cabinet.

There was no skimping on the design of the cabinet, however. Its sides are made of ¾-inch particleboard, with front and rear panels of 1-inch-thick Medite (a highly rigid composition material) and extensive internal bracing. The cabinet's rounded edges and narrow profile, plus its frameless cloth grille "sock," are designed to minimize diffraction, which can impart a boxy coloration to the sound and mar the spatial imaging.

If it becomes necessary to replace a driver or perform other internal servicing of the speaker, lifting the top plate reveals the drawstring that keeps the grille snug to the cabinet. After the drawstring is loosened, the grille can be slipped down or removed for access to the drivers or the crossover network. The designers chose a fourthorder Linkwitz-Riley network to give the BP 10 uniform response in the crossover region as well as optimum phase and transient response. The crossover frequency is not specified, but our measurements suggest that it is in the vicinity of 2,000 Hz.

The BP 10 uses rugged, high-quality drivers. The woofers have castmagnesium baskets, mineral-filled homopolymer cones with butyl rubber surrounds and dustcaps, high-temperature voice coils, and massive magnet structures. The fabric-dome tweeters have dual air chambers, one behind the dome and the other, con-

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TEST REPORTS

nected to the first chamber by a hole through the pole piece, behind the magnet structure. Definitive Technology says that the dual chambers lower the tweeter's resonance frequency, extend its frequency response, and reduce distortion. An aluminum voice coil, high-temperature wire, and ferrofluid damping enhance the tweeter's power-handling ability.

The BP 10 has a rated frequency response of 20 to 28,000 Hz, a nominal impedance of 6 ohms, and a sensitivity specification of 89 dB. It is recommended for use with amplifiers rated between 20 and 300 watts per channel. Price: \$1,100 a pair. Definitive Technology, Inc., Dept. SR, 11105 Valley Heights Dr., Baltimore, MD 21117.

Lab Tests

We installed the Definitive Technology BP 10 speakers about 12 inches in front of a wall, 7 feet apart, and 4 to 5 feet from the side walls of the room. They were angled a few degrees inward for best imaging at the preferred listening position.

The composite frequency response -a combination of the averaged room response of the two speakers at a single microphone position and a close-miked (effectively anechoic) measurement of the woofer response-was notably smooth and free from irregularities between 1,000 and 20,000 Hz, varying less than $\pm 2 \text{ dB}$ over that range. The bass response, combining the outputs of the drivers and the port (corrected for their relative dimensions), was within $\pm 2 \text{ dB}$ from 40 to 800 Hz. The combined curves overlapped for more than an octave, with a slight dip of 3 to 4 dB centered at 1,000 Hz (which may have been a measurement artifact). The smooth bass and midrange output (between 50 and 700 Hz) averaged about 3 dB higher than the output above 1,500 Hz. The overall response variation was only ±3.5 dB from 25 to 20,000 Hz. Even at 20 Hz, the output was down a mere 5 or 6 dB from the average level at higher frequencies.

A quasi-anechoic FFT response measurement confirmed the overall shape of the speaker's frequency-response curve, which sloped downward smoothly by about 4 or 5 dB from 700 to 15,000 Hz. Above 15,000 Hz, the on-axis response fell off linearly to about -14 dB at 28,000 Hz. The difference between an on-axis frequency-response measurement and one made 45 degrees off-axis was negligible below 10,000 Hz. At higher frequencies, the two response curves diverged, with a typical difference of about 12 dB up to about 17,000 Hz. The group delay was constant within ± 0.1 millisecond from about 3,000 to 25,000 Hz. Even in the woofer range, the delay remained less than 1 millisecond down to about 200 Hz.

The system's minimum impedance of 3.5 ohms occurred at 200 Hz. Impedance was 4 ohms at 35 Hz and 4.5 ohms from 5,000 to 10,000 Hz. The maximum was 8 ohms at 65 and 900

Our measurements showed that the Definitive Technology BP 10 speaker delivered an impressive amount of clean bass from its two small woofers.

Hz. The phase angle of the impedance was less than 22 degrees over the full 20- to 20,000-Hz range.

The BP 10 generated a 90-dB soundpressure level at 1 meter with an input of 2.83 volts of pink noise. At 1,000 and 10,000 Hz, our amplifier clipped (at 850 and 1,100 watts, respectively) before the speaker drivers were overloaded by a single-cycle high-power pulse. At 100 Hz, however, the woofer cone reached the limits of its suspension excursion at an input of 150 watts into its 4.7-ohm impédance.

The woofer distortion, with 2.83 volts input, was between 0.3 and 0.4 percent from 150 to 800 Hz. It increased smoothly at lower frequencies to 1 percent at 100 Hz and 1.6 percent at 80 Hz. The effective crossover frequency between the cone and port output was 75 Hz, where the distortion was about 2 percent from each source. The port distortion remained less than 2 percent down to 43 Hz, reaching 5 percent at 30 Hz.

Comments

Our measurements showed the Definitive Technology BP 10 to be an excellent speaker by any normal standards of performance. Not only did it have a smooth, flat frequency response, good dispersion, and very little evidence of cabinet diffraction or resonances, but it delivered an impressive amount of clean bass from its two small drivers.

As I have often pointed out, speaker measurements are but a part of the story. The final proof of performance lies only in the listening, and that was where the BP 10 proved to be all that was claimed for it. This slender, inconspicuous black box delivered an effortless, seamless sound essentially free of spurious emphasis (or de-emphasis) of any part of the spectrum.

The two small woofers not only reached down to the lowest musical frequencies, but they did so with surprisingly low distortion. Side by side with some other speakers twice its size, the BP 10 managed to hold its own (or better) in practically every comparison. The other speakers were somewhat more expensive than the BP 10, and, naturally, they sounded slightly different (which would be true of any speakers one might compare in this manner), but they and the BP 10 were inarguably peers.

The BP 10's imparted an excellent sense of space, probably in good measure a result of their rear-radiating drivers, whose output reflects from the wall behind them. These spatial properties were well demonstrated by the Chesky "Jazz Sampler, Vol. 1," a CD that has an interesting imaging test track. Short bursts of random noise pan between the left and right speakers and also go up, across, and down to the other speaker. Some speakers fail to reproduce the appearance of up/ down travel, whereas others, like the BP 10, convey the sensation in a surprisingly effective manner.

Another point in favor of the BP 10 is its relatively unobtrusive size and styling. Its shape makes it suitable for service as a pedestal supporting a small vase or sculpture. Since there is little in its appearance to suggest its function to a nonaudiophile, the BP 10 could add an attractive decorative feature to a room while serving at the same time as a truly outstanding speaker system.

It appears that Definitive Technology has hit the bull's eye squarely with its initial product. The BP 10 is an innovative solution to the problem of providing true high-fidelity sound from attractive and reasonably sized speakers at an affordable price. *Circle 141 on reader service card*

TEST REPORTS



ADCOM GFA-555II POWER AMPLIFIER

Julian Hirsch, Hirsch-Houck Laboratories

BOUT four years ago, we reviewed the Adcom GFA-555 power amplifier. This conservatively rated, affordably priced 200-watt amplifier acquitted itself handsomely in our tests and received high acclaim from other audio reviewers as well. The GFA-555 remained in the Adcom line until recently, when the company upgraded it to the GFA-555II, which is almost identical to the original but has several new construction and circuit features designed to enhance its performance.

To reduce the amplifier's already low distortion even further, the grounding system for its inputs has been changed to isolate them from the grounded sides of the speaker outputs. The basic circuitry of the amplifier has also been modified slightly to drive reactive loads with lower distortion.

Other differences between the original and new versions of the amplifier involve small details that individually may not make an appreciable change in its performance but collectively constitute a distinct refinement. For example, the gold-plated input phono jacks now have Teflon insulation, and the internal point-to-point wiring uses oxygen-free copper (OFC) wire. A red LED on the front of the amplifier glows when the thermal-protection circuit has shut it down, and the DC powersupply fuses, formerly inside the amplifier, are now on the rear so that they can be replaced more easily.

The output-transistor heat sinks that occupy most of the rear apron are now larger, for better cooling, and have rounded corners to make it easier (and safer) to handle the amplifier, which weighs more than 30 pounds. The 700-watt toroidal power transformer has been enlarged, potted, and electrically improved to reduce its operating temperature and provide more reliable operation with difficult, lowimpedance loads. Although the GFA-55II normally runs quite cool under home listening conditions, prolonged operation at high levels into multiple loudspeakers or very low-impedance speakers can raise its temperature to the point where the thermal-protection system shuts it down. To improve reliability under these conditions, Adcom offers an optional fan that comes on when the temperature exceeds 65° C (150° F). The fan speed increases proportionally as the temperature rises.

The eight output transistors in each channel of the GFA-555II operate without current-limiting circuits. The design relies on the DC power-supply fuses to protect the transistors against short circuits and other potential hazards. Each channel is rated to deliver 200 watts to an 8-ohm load or 325 watts into 4 ohms, from 20 to 20,000 Hz, with no more than 0.04 percent total harmonic distortion (THD), and red LED indicators on the front panel flash when the instantaneous distortion level exceeds I percent. A switch on the rear panel connects the channels for bridged operation to provide a mono output of 600 watts into 8 ohms with less than 0.05 percent distortion.

The Adcom GFA-555II measures 17 inches wide, 111/2 inches deep, and 73/8

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TEST REPORTS

inches high. Rack-mount adaptors are optional. The amplifier is normally finished in black, but a white front panel and white rack adaptors are available on special order at slightly higher cost. Price: black finish, \$750; white finish, \$800; optional cooling fan, \$100; rackmount adaptors, \$20.

Lab Tests

With both channels driving 8-ohm loads at 1,000 Hz, the outputs clipped at 288 watts per channel. Into 4 ohms, the power at clipping was 420 watts per channel. Although we did not make clipping measurements into 2 ohms, the dynamic output into a 2ohm load was 990 watts. Into 8 and 4 ohms, the respective dynamic output readings were 370 and 650 watts.

The input required for a reference output of 1 watt into 8 ohms was 120 millivolts (mV). The A-weighted noise level in one channel was -85.5 dB referred to 1 watt (-108.5 dB referred to the rated 200 watts output). The major contribution to this reading, however, was a 120-Hz power-supply component at -86 dB and a 240-Hz component at -90 dB. The other channel's noise spectrum was similar but lower by 16 to 20 dB over most of the frequency range. No hum or noise was audible in use.

A spectrum analysis of the harmonic components of a 1-watt, 1,000-Hz output into 8 ohms indicated 0.0156 percent THD. At 200 watts output, it was only 0.003 percent. The distortion at 200 watts increased to 0.009 percent at 10,000 Hz and 0.014 percent at 20,000 Hz.

Total harmonic distortion plus noise (THD + N) was between 0.0012 and 0.003 percent at output levels from 1 to 200 watts into 8 ohms and at frequencies from 20 to 2,000 Hz. It reached a maximum of 0.003 to 0.005 percent at about 7,000 Hz and decreased some-

what at higher frequencies. Measurements into 4-ohm loads produced similar readings at power outputs from 200 to 400 watts.

The GFA-555II's frequency response was flat within ± 0.05 dB from 10 to 50,000 Hz. Its power bandwidth (maximum power output at a given distortion level over a range of frequencies) was 267 watts into 8 ohms at 0.1 percent THD + N from 20 to 20,000 Hz. Into 4 ohms, it was 520 watts at 0.1 percent distortion from 60 to 12,000 Hz, falling to 500 watts at 20 Hz and rising to 528 watts at 20,000 Hz.

Comments

In our tests it was clear that the Adcom GFA-555II is a formidably powerful amplifier, much more powerful than its 200-watt rating would

The Adcom GFA-555II is a formidably powerful amplifier, much more powerful than its 200-watt rating would imply, and under most conditions it has remarkably low distortion.

imply, and that under most conditions of use it has remarkably low distortion even by the standards of today's amplifiers. The top of the cabinet and the heat sinks became quite hot during the preconditioning period and sustained high-power operation, but the thermal-protection circuit shut down the amplifier only once (it returned to operation in about 15 minutes, none the worse for wear).

Another test sample was equipped with the optional cooling fan. The fan was very quiet under the conditions of the test; it did not come on at all until

LABORATORY MEASUREMENTS

- 1,000-Hz continuous output power at clipping: 288 watts into 8 ohms, 420 watts into 4 ohms
- Clipping headroom (relative to rated output): 1.6 dB into 8 ohms, 1.1 dB into 4 ohms
- Sensitivity (for a 1-watt output): 120 millivolts
- Dynamic headroom: 2.7 dB into 8 ohms, 3 dB into 4 ohms
- Dynamic power output: 370 watts into 8 ohms, 650 watts into 4
- ohms, 990 watts into 2 ohms Harmonic distortion (1,000 Hz, 8
- ohms): 1 watt, 0.0156%; 200 watts, 0.0032%
- A-weighted noise (referred to a 1watt output): left channel, -85.5 dB; right channel, -101.5 dB

the amplifier was quite warm, and it turned rather slowly during much of the test. We noted, however, that the fan draws cooling air through the amplifier from the bottom to the top, not over the heat-sink fins, which are completely outside the cabinet and apparently not cooled at all by the fan. Still, as the instruction manual notes, the fan is really not needed in a normal home installation.

Used in a music system, the GFA-555II was, in effect, an invisible and inaudible amplifier. By this I mean that it never made its presence known by a hum, click, thump, or any other sound (electrical or acoustic) during operation or when it was turned on and off. Although it is fairly large, it fit unobtrusively on a shelf of the equipment rack, with only a single small, red LED indicating that it was "alive." It became no more than faintly warm during our use tests, further emphasizing that the fan would be superfluous for most users.

We also noted that when the amplifier was switched off while music was playing, there was no change in the sound for several seconds, after which it faded out smoothly. This effect is a testimonial to the amplifier's powersupply filter capacitors, which store enough energy to keep it going for a relatively long time (it also implies a considerable power capability at the lowest audio frequencies).

It came as no surprise to find that the GFA-55511 had no particular sonic character of its own. Clearly, it is a good choice for driving the most difficult speaker loads, especially those presenting a low or highly reactive load impedance. It is hard to imagine a speaker load that would overtax the GFA-55511 in a home system no matter how loud you like your music. In the interests of speaker (and personal!) survival, we never tried to push it to its limits in our listening tests.

I have only one note of caution about installing this amplifier in your system. Be very sure that there is no common ground between the input and output, and follow the warning in the instructions never to make any change of input or output connections while the amplifier is turned on. If these cautions are observed, the Adcom GFA-555II should be effectively "bulletproof."

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TEST REPORTS



3A MIDI-MONITOR Speaker System

Julian Hirsch, Hirsch-Houck Laboratories

UDIO DESIGN, located in Antibes, France, manufactures a line of loudspeakers marketed under the 3A brand name. The new Generation II Master series consists of four models differing in size and driver configuration but sharing many design concepts. The two-way Midi-Monitor, or MM, is the smallest model in the series.

As in the other Generation II Master speakers, the designers' major emphasis was on achieving linear phase response across the audio spectrum. To this end, they inserted no crossover elements in the woofer's signal path; direct coupling of the woofer to the amplifier also improves system damping. The 8-inch driver has a rigid woven-graphite cone with a distinctive textured surface. Its aluminum-ribbon voice coil is wound on a Kapton form for good stability at high temperatures. The woofer operates in a vented enclosure, with the duct opening on the rear of the cabinet.

Although the woofer's response rolls off naturally above 2,000 Hz at a rate of

4.5 dB per octave (increasing to 12 dB per octave at higher frequencies), the effective crossover to the 1-inch softdome tweeter is at 3,000 Hz. The back of the tweeter dome is loaded by a chamber in order to achieve a smoother crossover.

The compact 3A MM measures 15 inches high and 97/8 inches wide. Its front panel slopes back at an 11-degree angle, causing the depth to taper from 13³/₄ inches at the bottom to 11 inches at the top. Each speaker weighs 251/2 pounds. The left and right speakers are mirror images of each other. The left speaker's tweeter is about 2 inches to the left of center, and the right speaker's tweeter is offset an equal distance to the right. The acoustically transparent black cloth grille is on a rigid openwire frame to minimize diffraction, which could disturb the speaker's radiation pattern and frequency response. All around the tweeter the panel is covered with a 1/4-inch thickness of plastic foam to further reduce diffraction. The MM is designed to be mounted on stands well away from room walls, at heights between 20 and 36 inches (28 inches is said to be optimal).

The enclosure is constructed of $\frac{3}{4}$ inch Medite, a high-density particleboard, strengthened by internal partitions. The cabinet is finished in a glossy black lacquer. Heavy-duty multiway binding posts are recessed into the rear. The bottom surface is left unfinished, presumably so that the speakers can be firmly anchored to stands (as they should be in view of their weight and fine finish).

The 3A MM's specifications include an 8-ohm nominal impedance, a frequency response of 50 to $25,000 \text{ Hz} \pm 3$ dB on-axis and 50 to $20,000 \text{ Hz} \pm 3 \text{ dB at}$ 30 degrees off-axis, a sensitivity of 91 dB sound-pressure level (SPL) at 1 meter, and a power-handling capability of 80 watts rms or 120 watts of "music power." Price: \$1,100 a pair. 3A by Audio Design, imported by Eurosound, Dept. SR, 1060 Main St., River Edge, NJ 07661.

Lab Tests

For our listening and measurements, we placed the 3A MM speakers on 26-inch stands. We obtained highly satisfactory results with a minimum of experimentation.

Every 3A speaker is shipped with an individually plotted frequency-response curve made in the company's anechoic chamber. We occasionally receive such curves from speaker manufacturers for comparison with our test data, but as a rule there is little resemblance between the two. The 3A MM was a striking exception: Its anechoic frequency response was almost an exact duplicate of our composite corrected frequency-response measurement from 50 to 20,000 Hz. Although the two curves were derived in totally different ways, they agreed within 2 or 3 dB over the full range.

The 3A MM had an exceptionally uniform and smooth response, within ± 2 dB, from 35 to 2,000 Hz, and the tweeter range from 3,000 to 10,000 Hz was even smoother (within ± 1 dB) but averaged about 3 or 4 dB lower than the middle-frequency output. Between 12,000 and 16,000 Hz, the output returned to the level prevalent at low frequencies. These variations were also plainly visible on the response plots furnished with the speakers.

Although they confirmed the general shape of the composite response

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TEST REPORTS

curve, our quasi-anechoic FFT measurements also showed a sharp dip of about 6 dB at the 3,000-Hz crossover frequency (the warbled signal used for our room-response measurement masks such narrow response changes). When we measured the speaker's horizontal dispersion—on-axis response compared with response 45 degrees offaxis—there was a large dropout in the 45-degree curve between 1,000 and 3,000 Hz, with a depth of at least 15 dB at 2,400 Hz.

Further evidence of this irregularity was visible in the "waterfall" plot of the IQS FFT analyzer (a 3-D display of frequency and amplitude versus time). It appeared as a sustained ringing at about 3,000 or 4,000 Hz after the cessation of the signal impulse, continuing over the 2.75-millisecond duration of

The 3A Midi-Monitors sounded larger than one would expect from their size. This spaciousness appeared to be owing in good measure to their bass performance, which was definitely not in the "mini" or even "midi" category.

the measurement at a level approximately 20 to 30 dB lower than the system's output during the pulse.

Neither the source of this effect nor its significance is clear (it was not audibly identifiable while listening to the speaker). Aside from this anomaly, the system's horizontal dispersion was very good up to 7,000 Hz, but the off-axis output decreased rapidly at higher frequencies.

The system's impedance dropped to a minimum of 5.4 ohms at 240 and 12,000 Hz and reached a maximum of 29 ohms at the two bass resonances of 23 and 80 Hz. Its group delay (a measure of the linearity of the phase change with increasing frequency) was constant within less than 0.1 millisecond from 7,000 to 25,000 Hz, but there was a jog of 0.4 millisecond at 3,000 Hz, where we had found the response irregularity.

Sensitivity was a very high 93 dB at 1 meter with a 2.83-volt input (equivalent to 1 watt into 8 ohms). The woofer's distortion was low, between 0.3 and 0.6 percent from 85 to 2,000 Hz at a constant 2-volt input (corresponding to a 90-dB SPL in our sensitivity measurement). Below 85 Hz, most of the output came from the port, where the distortion rose from 2.5 percent at 80 Hz to 6 percent at 50 Hz.

Driven by a single-cycle burst at 100 Hz, the woofer cone reached its limit with a loud snapping sound at an input of 56 watts into its 10-ohm impedance. At 1,000 and 10,000 Hz, the driving amplifier clipped before the speaker was overloaded.

Comments

The 3A MM speakers sounded larger than one would expect from their size, without the cramped spatial feeling often associated with small speakers. This spaciousness appeared to be owing in good measure to the speakers' bass performance, which was definitely *not* in the "mini" or even "midi" category. The MM's could put out a powerful, room-filling 31.5-Hz tone without serious distortion.

On the other hand, the MM's often created a somewhat distant sound stage, especially with orchestral music. The sound source seemed to extend well behind the line of the speakers. The imaging tests on the Chesky JD37 Jazz Sampler CD showed that the speakers' ability to reproduce lateral and even vertical spatial effects accurately was first-rate, however.

Because the 3A MM's deep-bass performance was not obtained at the price of an elevated upper bass, reproduction of male voices was excellent and boom-free. Overall, the sound from the speakers was balanced and always highly listenable.

The manufacturer's literature describes the MM as a "Professional Control" speaker, which we assume to be a reference to a recording-studio control-room monitoring application. Its high efficiency, smooth response, and wide frequency range appear to be consistent with such service. And it could play at amazingly high levels without sounding strained.

For home service, the MM offers an exceptionally elegant appearance with its mirror-like lacquer exterior, compact size, and attractive shape. It also demonstrates convincingly that small size does not necessarily imply small sound.

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HE twelve recordings the editors of STEREO REVIEW have picked as the best of 1990 are announced on the following pages, along with the runners-up selected for 5 honorable mention. All of them are chosen for their musical interest. quality of performance, and exemplary recorded sound. All six of the award-winning pop albums are by established artists. Neil Young is the only performer who has been cited before (he won last year with his album "Freedom"). Among the classical winners, the late Leonard Bernstein's Berlin recording of Beethoven's Ninth will do much to perpetuate the memory of the leading American conductor of his time. The award to Girl Crazy reflects the gathering interest in the classics of the American musical theater. And a special award goes to the reissue on compact discs of recordings by a seminal American blues singer of the mid-1930's, Robert Johnson.-Christie Barter

STEREO REVIEW'S





BRITTEN: The Prince of the Pagodas. London Sinfonietta, Oliver Knussen conducting. VIRGIN. "A brilliant performance of one of the ultimate pieces of musical fantasy."

DON PULLEN RANDOM THOUGHTS



DON PULLEN: Random Thoughts. BLUE NOTE. "Dazzling flights of melodic invention and free-flowing creative energy."



MOZART: Così fan tutte. Kiri Te Kanawa, others; Vienna Philharmonic, James Levine conducting. DEUTSCHE GRAMMOPHON. "Suffused with a joyous spirit."

PAUL SIMON: The Rhythm of the Saints. WARNER BROS. "Redefines what pop music is all about."



CARLENE CARTER: I Fell in Love. REPRISE. "Alternately delights, surprises, and reaffirms an independent musical stance."



STEVE EARLE & THE DUKES: The Hard Way. MCA. "A gritty portrait of America today."





GIRL CRAZY (George and Ira Gershwin). Lorna Luft, Judy Blazer, David Carroll, David Garrison, Frank Gorshin; orchestra, John Mauceri conducting. ELEKTRA NONESUCH. "A honey."



VLADIMIR HOROWITZ: The Last Recording. SONY CLASSICAL. "Radiantly beautiful performances filled with a sense of joy and continuing discovery."



THE NEVILLE BROTHERS: Brother's Keeper. A&M. "Singing sweetly but speaking bluntly with a sensuous rhythmic thrust."



THOMAS HAMPSON: Songs from "Des Knaben Wunderhorn." TELDEC. "Enchanting."





LASSIS

NEIL YOUNG & CRAZY HORSE: Ragged Glory. REPRISE. "Serious play."



BEETHOVEN: Symphony No. 9. Soloists; Bavarian Radio Symphony Orchestra and Chorus, Dresden Staatskapelle, London Symphony, New York Philharmonic, L=onard Bernstein conducting DEUTSCHE GRAMMOPHON. "Marking a great crossroads in German history."



Beethoven · Symphony No. 9

ANYTHING GOES (Cole Porter). Frederica von Stade, Jack Gilford, others; London Symphony, John McGlinn cond. EMI/ANGEL.

BACH: Mass in B Minor. Soloists; chorus; Stuttgart Kammerorchester, Helmut Rilling cond. INTERCORD/KOCH.

BERNSTEIN: Serenade. SCHUMAN: Violin Concerto. Robert McDuffie; St. Louis Symphony, Leonard Slatkin cond. EMI/ANGEL.

BRUCKNER: Symphony No. 8. Vienna Philharmonic, Herbert von Karajan cond. DEUTSCHE GRAMMOPHON.

CARRERAS-DOMINGO-PAVAROTTI: In Concert. José Carreras, Placido Domingo, Luciano Pavarotti; Orchestras of the Maggio Musicale Fiorentino and Teatro dell'Opera di Roma, Zubin Mehta cond. LONDON.

ROSANNE CASH: Interiors. COLUMBIA.

COCTEAU TWINS: Heaven or Las Vegas. CAPITOL.

ENESCO: *Oedipe*. José van Dam; Orchestre Philharmonique de Monte-Carlo, Lawrence Foster cond. EMI/ANGEL.

HANDEL: Susannah. Lorraine Hunt; Philharmonia Baroque Orchestra, Nicholas McGegan cond. HARMONIA MUNDI.

JOHN HIATT: Stolen Moments. A&M. IVES: Symphony No. 2; other works. New York Philharmonic, Leonard Bernstein cond. DEUTSCHE GRAMMOPHON.

BARBARA LEA: You're the Cats. AUDIOPHILE.

MOZART: Keyboard Sonatas (complete). Anthony Newman. NEWPORT CLASSIC.

MOZART: Piano Sonatas Nos. 5, 11, 12, 13. Alicia de Larrocha. RCA.

SINÉAD O'CONNOR: I Do Not Want What I Haven't Got. CHRYSALIS.

PRINCE: Graffiti Bridge. PAISLEY PARK.

PROKOFIEV: *The Love for Three Oranges*. Soloists; Chorus and Orchestra of the Opera of Lyons, Kent Nagano cond. VIRGIN.

LOU REED AND JOHN CALE: Songs for 'Drella. SIRE.

THE REPLACEMENTS: All Shook Down. SIRE.

MARCUS ROBERTS: Deep in the Shed. Novus.

ROSSINI: Le Comte Ory. John Aler; Chorus and Orchestra of the Opera of Lyons, John Eliot Gardiner cond. PHILIPS.

SHOES: Stolen Wishes. BLACK VINYL.

MEL TORMÉ: A Night at the Concord Pavillion. CONCORD JAZZ.

WORLD PARTY: Goodbye Jumbo. CHRYSALIS.

SPECIAL INARD

ROBERT JOHNSON: The Complete Recordings. COLUMBIA. Outstanding among the year's reissues on CD, a compilation of all forty-one sides cut by the American blues singer and guitarist just before his early death in 1938.

SYSTEMS



Variations on an Oriental theme



by Rebecca Day

AST meets West in Ben Neeland's Bergenfield, New Jersey, home: A Mazda 626 sits next to a Mercury Merkur in the driveway, a Korean tea table hides an Advent subwoofer, and a Japanese-style audio cabinet by Drexel Heritage houses the electronic equipment.

It was the cabinet that established the Oriental theme of the Neeland home. Neeland was looking for an attractive piece of furniture that would hide a minimalist stereo system, and when he discovered the cherry cabinet in a Drexel Heritage catalog, he and his wife, Roz, began redecorating with Japanese prints and accessories.

Neeland replaced his old stereo system—a Zenith portable with a detachable speaker—with three Onkyo components and an Advent subwoofer/satellite system. An Onkyo TX-830 receiver sits in the bottom slide-out drawer, which was designed to hold a turntable. When Neeland started shopping he expected to get a turntable, too, but he decided it was unnecessary. "I realized CD's were replacing LP's," he said.

An Onkyo TA-R240 cassette deck is on the middle shelf, and the top component is a six-disc DX-C400 CD changer. Advent minispeakers are mounted on brassand-wood sconces, the wires hidden in the wall behind them. To improve low-frequency performance, Neeland added the Advent subwoofer, which is tucked inconspicuously under the tea table to the left of the cabinet.

The cabinet has a small drawer that Neeland uses to store cassettes. He took out the wire record dividers on the bottom of the cabinet, laid down a piece of acrylic to protect the finish, and slipped in a storage box for CD's. A handle screwed onto the side of the box makes it easy to pull out.

Neeland's CD collection is modest but growing. His forty discs (so far) include albums by Frank Sinatra, the Boston Pops, Julio Iglesias, and Liza Minnelli. Adapting the sound-booth concept from old-time record stores, he often rents CD's from the library to decide which ones to buy. He goes home, loads a magazine with discs, sits back in his recliner, and presses play on the remote control. Then the audition begins.





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TRANSDUCERS, SAME STUDIO MONITOR SOUND AS THE PROS. PLUS A 5-YEAR WARRANTY-

10 YEARS IF YOU BUY A PAIR ANYTIME BETWEEN OCTOBER 1, 1990 AND JANUARY 31, 1991. A HARMAN INTERNATIONAL COMPANY - 240 CROSSWAYS PARK WEST, WOODBURY, NEW YORK 11797 - 8500 BALBOA BOULEVARD, NORTHRIDGE, CA 91329. CIRCLE NO. 8 ON READER SERVICE CARD COMPACT DISC PLAYERS PAGE 80

> SHOPPING for audio components is a matter of finding which models, out of the hundreds available, offer the best combination of performance, features, appearance, size, and price for your needs. But before you begin going to stores, it helps to have an idea of just what is out there. Our buying guide, with specifications, features, and prices for a wide

range of audio components, is a good starting point. The listings are necessarily selective, concentrating on representative models in the main categories of equipment from companies whose products are widely distributed. (Tape recorders and blank tape will be covered in a future issue.) If a particular model or brand does not appear, that does not reflect on its quality. All information was provided by the manufacturers. List prices may change because of currency fluctuations, and actual selling prices are set by the individual dealer. For more information, contact the manufacturers (see address list on page 112) or their authorized dealers.

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TUENTABLES FAGE 90

TUNERS

101.70 ..

SPEAKERS PAGE 93

RECEIVERS PAGE 58

RECEIVER:

ACOUSTIC RESEARCH X-07 70-W/ch Receiver

Infrared remote to control power, volume, tuning, input selection, AR cassette-deck functions and AR CD-player functions. Features audio and video dubbing; close-tolerance metal-film resistors and film capacitors; concealed bass, midrange, treble, balance, loudness, mono, tape, VCR, tuning, and speaker-switching controls; 8 AM/8 FM station presets; gold-plated phono inputs. Inputs for MM phono; MC phono; tape; AUX; CD player; VCR 1; VCR 2; Tape 1; Tape 2; optional remote. Amp section: 70 continuous average W/ch from 20-20,000 Hz into 8 ohms with less than 0.03% THD, 80 W into 4 ohms; S/N 100 dBA. Tuner section: FM section 50-dB quieting sens stereo 40 µV (37.2 dBf); FM S/N (at 65 dBf) 75 dB stereo, 80 dB mono; THD stereo 0.3%; capture ratio 1.0 dB; AM rejection 60 dB; alt-ch sel 70 dB. 31/4 x 17 x 151/2 in; 25.1 lb \$800

AIWA

AXR-005 260-W A/V Receiver

AM/FM receiver with wireless learning remote control. Features Dolby Surround with 3 delay times and 5 surround modes; quartz-synthesis tuner with index tuning, 30 AM/FM station presets, 10-key direct-access tuning; 7-band graphic EQ with 6 factory-preset EQ curves that can be reprogrammed. 7-band spectrum analyzer with peak hold; 5 audio inputs, 3 S-video inputs; loudness control; motor-driven volume control with LED. Amp: (front) 120 W/ch min rms into 8 ohms from 20-20,000 Hz with <0.008% THD. (rear) 10 W/ch into 8 ohms at 1,000 Hz; S/N (IHF 66/1HF 78): MM phono 87/79 dBA, video/VDP/ tape/DAT/CD 105/85 dBA. Tuner: usable sens 11.2 dBf; S/N 78 dB (stereo); THD 0.4% at 1,000 Hz (stereo); cap ratio 1.2 dB; alt-ch sel 65 dB at 300,000 Hz; stereo sep 45 dB at 1,000 Hz. 17 x 51/8 x 141/s in; 21.2 lb \$770

AXR-004 100-W/ch Surround-Sound Receiver

AM/FM receiver with wireless remote. Dolby Surround with 3 delay times and 5 surround modes: quartz-synthesis tuner with index tuning, 30 AM/ FM station presets, 10-key direct-access tuning; 7-band graphic EQ with 6 preset EQ curves. 7band spectrum analyzer with peak hold; loudness control; motor-driven volume control with LED; 5 audio inputs, 2 S-video inputs. Amp: (front) 100 W/ch min rms into 8 ohms from 20-20,000 Hz with <0.03% THD, (rear) 10 W/ch into 8 ohms at 1,000 Hz; S/N (IHF 66/IHF 78): MM phono 87/79 dBA, video/VDP/tape/DAT/CD 105/85 dBA. Tuner: 50dB quieting sens 38.3 dBf (stereo); S/N 74 dB (stereo); THD 0.5% at 1,000 Hz (stereo); cap ratio 1.2 dB; alt-ch sel 60 dB at 400,000 Hz. 17 x 51/8 x 141/8 in; 21 lb \$550

BANG & OLUFSEN

Beomaster 6500 50-W/ch Receiver

Integrates with Beosystem 6500. AM/FM receiver with master control panel. Features frequencysynthesis tuning. Multiroom capability with Beolink 7000 A/V infrared system controller; powerlink connectors supply audio and digital data for B&O's Beolab powered speakers; 20 station presets. Amp: 50 W/ch rms into 8 ohms from 20-20,000 Hz ±1.5 dB with <0.09% THD; IM <0.1%; \$1N 78 dBA (phono), 80 dBA (tape). Tuner: 50-dB quieting sens 40 dBf; \$/N 70 dB; THD 0.2%; IM 0.1%; cap ratio 1.7 dB; adj-ch sel 10 dB; alt-ch sel 70 dB; AM rej 57 dB; ch sep 45 dB. 16½ x 3 x 12¾ in; 19.3 lb. White/black with polished aluminum......\$2,220



Beomaster 4500 20-W/ch Receiver

CARVER

HR-772 140-W/ch Receiver

HR-752 100-W/ch Surround-Sound Receiver

DENON

AVR-1010 4/6-Channel A/V Receiver

Six-channel/four-channel Dolby Pro Logic surround-sound A/V receiver with bridgeable channels. 4 Dolby modes for video, and 3 modes for audio or video sources; adjustable digital delay (0 to 40 msec in 5 msec steps.) 5 video ins, 3 video outs; 4 video ins, 3 video outs; 9 audio ins, 7 audio outs; front-panel inputs; 16 presets; last-station memory; mono subwoofer output; programmable remote. 6-ch mode: 100 W/ch front, 35 W/ch rear, 35 W/ch center; 4-ch mode: 70 W/ch center,



DRA-625RA 65-W/ch Receiver

AM/FM receiver with integral system remote control. Features variable loudness EQ; pre-out jacks; 3-way speaker terminals; 16 presets; lastchannel memory. THD 0.0095%; 1M 0.025%; FR 20-50,000 Hz ± 1.5 dB; S/N: phono 88 dB, FM 82 dB, CD/tuner/tape 98 dB.

FISHER

RS627B 100-W/ch Receiver

AM/FM receiver with Class AII circuitry. Quartz PLL-synthesis tuner; 24 presets; FM mute; source-direct switch; CD-record switch; remotecontrolled volume; 5-band graphic EQ. Remote control. 100 W/ch min rms into 8 ohms; FR 20-20,000 Hz; THD <0.05%; S/N 55 dB \$\$

HARMAN KARDON

All receivers feature a digital-synthesis, quartzlocking AM/FM tuner with seek tuning and a remote control.

hk990 Vxi 90-W/ch Receiver

hk880 Vxi 60-W/ch Receiver

Features 18-AM/FM presets; two A/V tape monitors; high-level CD inputs; external processor jacks; subsonic filter; tape copy selector. Amp: 60 W/ch cont avg into 8 ohms with <0.08% THD; 5/N 98 dB. Tuner: 50-dB quieting sens 36 dBf; AM rej 55 dB; cap ratio 1.0 dB _______ 5799

hk3500 50-W/ch Receiver

Features 16 AM/FM presets; 2 tape monitors; high-level CD, video, aux inputs; subwoofer output; 7-way tape-copy selector. Amp: 50 W/ch cont avg into 8 ohms with <0.09% THD ... \$619

hk3300 25-W/ch Receiver

16 AM/FM presets; 2 tape monitors; high-level CD, video inputs; subwoofer output. Amp: 25W/ ch cont avg into 8 ohms with <0.09% THD \$329

JVC

RX1010VTN 120-W/ch A/V Receiver

AM/FM receiver featuring Dolby Pro Logic with adjustable digital delay. Features 3 A/V inputs; 5 inputs/3 outputs; digital tuning with 40 AM/FM presets; 7-band graphic EQ; 10 EQ presets; MC and MM phono inputs; FL display; programmable A/V remote with LCD. 120 W/ch with 0.007% THD ..\$1,500 into 8 ohms RX903VBK. Similar to above. 100 W/ch ... \$950 RX503BK. Similar to above. 80 W/ch; without A/ V input/outputs \$360 RX403BK. Similar to above. 60 W/ch; 5-band graphic EO . \$320 RX302BK. As above, no remote control ... \$255 RX201BK. As above. 40 W/ch; no EQ \$230

KENWOOD

KR-V9020 130-W/ch A/V Receiver 4-ch A/V receiver with 130 W/ch front and 20 W/

ch rear, 7-band graphic EQ/spectrum analyzer, and video dubbing. Dolby Pro Logic circuitry, test-tone, center channel, and rear preamp outputs. Adjustable digital delay; programmable remote; 4 video inputs; 20 AM/FM presets; 10 EQ presets; on screen display; digital input. FR 10-100,000 Hz +0, -3 dB; THD 0.008%; S/N 100 dB. 50-dB quieting sens 37.2 dBf stereo; AM rej 57 dB; cap ratio 1.2 dB \$850

KR-V7020 100-W/ch A/V Receiver

4-ch A/V receiver with 100 W/ch front and 15 W/ ch rear, and video dubbing. Dolby Surround and digital-delay modes. 2 video inputs; rear preamp outputs; 30 AM/FM presets. Remote control. FR 10-50,000 Hz +0, -3 dB; THD 0.06%; S/N 100 dB. 50-dB quieting sens 38.2 dBf stereo; AM rejection 65 dB; cap ratio 2.0 dB \$499

KR-A5520 100-W/ch Receiver

Features remote control; 30 AM/FM station/name presets. FR 10-50,000 Hz + 0, - 3 dB; THD 0.06%; S/N 100 dB. 50-dB quieting sens 38.2 dBf stereo; AM rej 65 dB; cap ratio 2.0 dB \$399

LUXMAN

R-117 160-W/Ch AM/FM Receiver

Receiver with system remote control. Dual-gate MOSFET FM front end; Duo-Beta dual feedbackloop amp circuitry. 20 AM/FM presets; cable FM fine tuning; CD-direct, 3 video, MM/MC-phono inputs; subsonic filter; FM IF-bandwidth selector; pre-out/main-in and signal-processor jacks. Amp: 160 W/ch from 20-20,000 Hz into 8 ohms with 0.03% THD; S/N: MC 70 dB, MM 88 dB, CD/ tane/video 100 dB; IM 0.03%. FM section: 50-dB quieting sens 36.6 dBf (stereo); alt-ch sel 75 dB (narrow IF). AM section: S/N 50 dB \$1,200 R-115. Similar to above except 75 W/ch; 2 video inputs; no MC phono input. S/N: phono 88 dB. .. \$850 CD/tape/video 98 dB. 25.5 lb R-114. Similar to above except 50 W/ch into 2 ohms. Remote also compatible DC-113 CD changer, DC-114 CD changer and K-110W dual \$550 cassette deck R-113. Similar to above except 35 W/ch, no remote control. THD 0.08% \$400

MARANTZ

Century Collection RS 3559 125-W/ch A/V Receiver

Five amplifiers and remote. Dolby Surround; 6sector display; CD direct; 10-channel AM/FM memory; 30 presets; 3 video inputs \$1,000

RS 3555 50-W/ch Receiver

Four independent amplifiers and remote. Features CD direct; 2-color display; station character generator \$500

RS2253CB 50-W/ch Receiver

Features surround-sound capability; uniphase circuit design; remote control \$250

MCINTOSH

MAC 4300V 100-W/ch Receiver

Features MPX filter; 6 AM/FM station presets; signal-strength indicator; loudness control; 1, 2, and 1+2 speaker selector; 5-band equalizer; scan; headphone jack; remote control. Amp: THD 0.02%; IM 0.02%; FR 20-20,000 Hz + 0, -0.5 dB; SN 100 dBA. Tuner: S/N 75 dB stereo; FR 20-15,000 Hz +0, -1.0 dB stereo; THD 0.08% at 1,000 Hz. 181/2 x 6 x 14 in; 34.5 lb \$2,995

MAC 4280 75-W/ch Receiver

Features MPX filter; 5 AM/FM station presets; signal-strength indicator; Power Guard circuit; 1, 2, and 1+2 speaker selector; 3-band equalizer; scar; headphone jack. Amp: THD 0.03%; IM 0.03%; FR 20-20,000 Hz + 0, -0.5 dB; 100 dBA. Tuner: S/N 75 dB stereo; FR 20-15,000 Hz, ± 0.5 dB stereo; THD 0.1% at 1,000 Hz. 181/4 x 51/4 x 151/2 in; 25 lb \$1,995



Mitsubishi M-R8010

MITSUBISHI

M-R8010 125-W/ch A/V Receiver AM/FM receiver with Dolby Pro Logic Stadium, Club, and Theater Surround. On-screen menus; subsonic and high-cut filters. 16 AM/FM presets; programmable remote; clipping indicator; center channel outputs; preamp connections; 6 A/V inputs, 1 monitor, and 2 audio tape outputs. FR 20-20,000 Hz; THD 0.05%; S/N 80 dB \$1,299

M-R7020 80-W/ch A/V Receiver

AM/FM receiver with on-screen menus. Subsonic and high-cut filters. 16 AM/FM presets; programmable remote; low-level surround and centerchannel outputs; preamp connections; 6 A/V inputs (including S-VHS); monitor, audio/video tape outputs; phono input. FR 20-20,000 Hz; THD 0.05%; S/N 80 dB..... \$999

NAD

Model 7400 Monitor Series 100-W/ch Receiver

Bridgeable AM/FM stereo receiver with powerenvelope circuitry. Features soft-clipping circuit. 14 random AM/FM presets; MM/MC switch on discrete 4-transistor phono preamp; semiparametric tone controls; bass EQ; preamp out/main in. 100 W/ch rms; +5.7 dB dynamic headroom. Rack mountable \$999

Model 7100X Monitor Series 60-W/ch Receiver

Bridgeable AM/FM stereo receiver with powerenvelope circuitry. Features soft-clipping circuit. 14 random AM/FM pre-sets; MM/MC switch on discrete 4 transistor phono preamp; bass EQ; preamp out/main in; remote control. 50 W/ch rms \$749

Model 7240PE 40-W/ch Receiver

AM/FM receiver featuring soft-clipping circuit; high-current output stage; low-noise phono preamp. Speaker imp selector; bass EQ. 40 W/ch rms; +6 dB dynamic headroom \$479

NAKAMICHI

TA-4A 100-W/ch A/V Receiver Features Stasis power amplifiers (two internal

amplifiers for high/low impedance source). Multiregulated isolated-ground power supply; four



high-Q twin-varicap diode tuner; FET differential preamp. Tone, variable loudness and mute controls; MM/MC phono preamp with defeatable subsonie filter; quartz-PLL tuner with 10 presets; 5 audio and 3 video inputs; system remote control with multiroom expansion capability. Amp: 100 W/ch cont avg into 8 ohms; FR 20-20,000 Hz ±0.5 dB; THD <0.1% at 20-20,000 Hz; S/N >100 dB. Tuner: 50-dB quieting sens 37.5 dBf stereo; cap ratio 2.0 dB; alt-ch sel 65 dB. 17 x 5 x 14% in; 33 lb \$1,295

Receiver1 80-W/ch Receiver

Features Harmonic Time Alignment (HTA) amplifier circuitry. Isolated-ground topology; multiregulated power supply; wide-bandwidth video buffer amp; quartz-locked frequency-synthesis PLL tuner; dual-gate MOSFET; ceramic resonator multiplex section; isolation buffer at output stage of tuner section. System remote control; multiroom control capability; motor-driven volume control; pre-out/main-in jacks; 10 FM/AM station presets; remote A/B speaker selection capability; 3 video inputs, 2 video outputs. FR 20-20,000 Hz +0, -0.5 dB; S/N >100 dB; THD <0.1%; 50-dB quieting sens (mono) 14.7 dBf, (stereo) 37.5 dBf. 17 x 4 x 141/2 in; 24.25 lb \$899

Receiver3 37-W/ch Receiver

Features isolated-ground topology; multiregulated power supply; quartz-locked frequency-synthesis PLL tuner; dual-gate MOSFET. System remote control; multiroom control capability; motorized volume control; pre-out jacks; 10 FM/ AM station presets. FR 20-20,000 Hz + 0, -0.5 dB; S/N >98 dB; THD <0.1%; 50-dB quieting sens (mono) 15.7 dBf, (stereo) 38.5 dBf; cap ratio 2.0 dB. 17 x 4 x 10% in \$349



Onkyo TX-SV90PRO

ONKYO

TX-SV90PRO 290-W A/V Receiver

5 low-imp-drive amp sections, discrete outputs. Features Dolby Pro Logic decoder; additional hall and matrix surround modes; adjustable digital delay; 20 random-access presets with batteryfree backup; cable fine tuning (25,000 Hz steps); S-video connectors; front-panel camcorder inputs; simulated stereo; dynamic bass expander; R1 remote compatible with supplied programma-.....\$1,100 ble control ...

TX-SV50PRO 200-W A/V Receiver

Low-impedance-drive amp sections, discrete outputs. 70 W/ch front, 30 W/ch rear. Features Dolby Pro Logic; hall and matrix surround modes; room-to-room capability; 6 audio-input and 3 video-input selectors; adjustable digital delay; pre-out jack for center output; 30-station random-access tuning; classified memory scan; FM-mute switch and tuning-level switch; headphone jack; five-way binding-post speaker terminals; sleep timer; R1 remote compatible; universal "learning" programmable remote controller \$750 included .

TX-844 60-W/ch Receiver

Low-impedance-drive discrete outputs. Features



RECEIVERS

3 mode APR (Automatic Precision Reception) tuner section; 40 random-access presets with battery-free backup; 6-category classified memory scar; room-to-room remote-control capability; selective tone control; simulated stereo; 10key direct-station tuning; sleep timer; RI remote compatible with supplied controller. Can be used with HR-10W, HE-10, and HE-50AC multipleroom accessories. 60 W/ch into 8 ohms.... \$350

Integra Series

Integra TX-890 125-W/Ch Receiver

Discrete output circuitry and low-impedance drive capability. Features FM tuner with 5-mode APR (Automatic Precision Reception) system to improve reception: A/B antenna, RF (distant/local), IF bandwidth (wide/narrow/S-narrow), hiblend (on/off), and stereo/mono; dual FM antenna inputs. 20 station presets with battery-free backup; cable FM fine tunning (25 kHz steps); dynamic bass expander; selective tone control with 50-Hz boost; digital input; MM/MC phono inputs; rec out selector; sleep timer; pre-out/main-in jacks; RI remote compatible. Controller and side panels included. 125 W/ch min rms into 8 ohms; dynamic power 380 W/ch into 2 ohms. \$820



Pioneer VSX-DIS

Integra TX-870 105-W/ch Receiver

OPTIMUS BY RADIO SHACK STAV-3200 100-W/ch A/V Receiver

AM/FM receiver. Features Dolby Surround; digital-synthesis tuner; protection circuits; sub filter button. 30 station presets; two-way tape dubbing while listening to another source; video-dubbing button: mono/FM mute off button; alphanumeric display for preset memory number, radio frequency, program source, signal strength. 100 W/ ch rms into 8 ohms from 20-20,000 Hz with no more than 0.05% THD; FR 20-20,000 Hz ± 1 dB; S/N 85 dB, phono. 95 dB, aux. Tuner: AM rej 60 dB; FM sens 1.7 μ V at 3% THD; cap ratio 2.5 dB; S/N 72 dB. 17½ x 5½ x 15 in; 26¼ lb...... \$500

STAV-3000 100-W/ch A/V Receiver

AM/FM receiver. Features digital-synthesis tuning; protection circuits; subfilter button. 8 preset buttons with 8 AM/16 FM presets; two-way tape dubbing while listening to another source; videodubbing button; mono/FM mute off button. 100 W/ch rms into 8 oh ms from 20-20,000 Hz, with no more than 0.05% THD; FR 20-20,000 Hz $\pm 1 dB$; S/



Philips FR-70

N 85 dB, phono, 95 dB, aux. Tuner: AM IF rej 60 dB; FM IHF sens 1.7 μ V at 3% THD; cap ratio 2.5 dB; S/N 72 dB. 17¹/₃ x 5¹/₈ x 15 in; 23³/₈ lb ... \$400

PHILIPS

FR 980 125-W/ch A/V Receiver

FR-70 70-W/ch Receiver

PIONEER

VSX-DIS 380-W A/V Receiver

Mode A: 130 W/ch into 8 ohms from 20-20,000 Hz with <0.005% THD, 40 W/ch at 8 ohms, 1,000 Hz with 0.08% THD (rear and center). Mode B: 70 W/ ch at 8 ohms from 20-20,000 Hz with <0.005% THD (front and rear), 40 W/ch at 8 ohms, 1,000 Hz with 0.08% THD (rear). Features two digital signal processors; Dolby Pro Logic surround with digital processing and auto input balance; 5 digitally simulated sound fields; adjustable delay time. Multiroom/source capable with optional MR-100; 2 center mono outputs; full-mode recording selector; source-direct switch; remote; 6 video inputs; video adaptor loop; 5 audio inputs; splitscreen video enhancer, with five preset levels in memory; S-video terminal; 30 AM/FM presets; HITS (Hyper Intelligent Tuning System) with ID's for 30 stations: custom memory tuning; motorized volume control; auto dimmer; preamp-output/power-input terminals (front, rear, center); A/V inputs for VCR-3 on frontpanel; 120/90/60/30-minute sleep timer. 165/8 x 65/8 x 18 in; 32 lb\$1,350

VSX-9700S 370-W A/V Receiver

125 W/ch at 8 ohms from 20-20,000 Hz with <0.005% THD (front), 40 W/ch at 8 ohms, 1,000 Hz with 0.08% THD (center and rear). Features Dolby Pro Logic surround with digital delay (15/

VSX-4700S 250-W A/V Receiver

SX-2700 65-W/ch Receiver

PROTON

AV-6410 100-W/ch A/V Receiver

Features Aphex Aural Exciter circuitry; Schotz II Tuner; variable loudness control; moving-coil phono preamp. 18½ x 3¾ x 15½ in. \$900



Proton AV-6410

D940 40-W/ch A/V Receiver

ROTEL

RX855 50-W/ch A/V Receiver

AM/FM receiver with dual mono power supply. Features digital-synthesis tuning; direct signal paths; 8 AM/FM presets; inputs for MM and MC phono, CD, tuner, video, tape 1 and tape 2. Amp:

Noted audio critics agree about the new PS·3 Speaker System:



The PS•3 Micro Monitor[™] System is finished in genuine oak veneer. Each Point Source[™] satellite is less than 7½ inches high, about 5 inches wide and 4¾ inches deep, to fit anywhere while delivering superb stereo imaging. The nationally advertised price of the complete system is just \$599.95, a remarkable value.

⁶⁶The speakers that have caught my ear in the past few months have been small and remarkably compact.

...you can hear the bass evenly throughout the room regardless of where you put the woofer.

The sound was lively, full of punch and power, and extremely true on the nuances..., ??

– Howard Blumenthal, HI-TECH HOME

⁶⁶Imaging was well focused. The PS•3 also sounded startling for its diminutive size, with lots of presence and warm, rich bass.⁹⁹

- CD Review

66...the PS·3 satellites sound smooth and natural. They do their job with clarity... The woofer continues the smooth work....

...impressive imaging. All the instruments and voices seem to be in just the right place. If the PS•3 speakers were sold like magic elixirs, I would have bought a case!**?**





4...any listener would assume that another, larger system was playing. The sound in our listening room was smooth and well balanced...??

– Julian Hirsch, Stereo Review

Don't choose any speaker system without first hearing and seeing the new PS•3. Visit a Design Acoustics dealer near you. Write today for dealer list, full reviews, and color brochure.

Dial 1-800-933-9022 for dealer names, full reviews, color brochure and details on a no-obligation home trial.

RECEIVERS

RX850A 30-W/ch Receiver

SANSUI

RZ-9500AV 100-W/ch A/V Receiver

AM/FM receiver with five amplifiers. Features Dolby Pro Logic; variable digital delay; motorized volume; electronic bass/treble; quartz-PLL digital-synthesis tuner. Three additional surround modes; four surround preset memories; test-tone generator; source-direct switch; 4 audio/3 video inputs; rear and center preamp outputs; power-amp inputs; tape/video monitor outputs; 30 random AM/FM presets; cable FM connection; preset scan; manual tuning; 70-key learning remote. 100 W/ch min rms into 8 ohms from 20-20,000 Hz <0.02% THD; FR 10-70,000 Hz ±3 dB; S/N 73 dB (phono MM) and 85 dB (CD/ video). Tuner: usable FM sens 0.2 dBf; 50-dB quieting sens 17.2 dbf stereo; S/N 70 dB stereo; cap ratio 1.5 dB; THD 0.2% mono and 0.3% stereo. Black finish \$770

RZ-7500AV 100-W/ch A/V Receiver

RZ-3500 50-W/ch Receiver

AM/FM receiver. Features 4 audio/1 video inputs; 2 tape-monitor outputs; motorized volume; 30 AM/FM presets; preset scan; manual tuning; 20key remote. 50 W/ch min rms into 8 ohms from 20-20,000 Hz; s/N 73 dB (phono MM) and 90 dB (video/CD). Tuner: usable FM sens 13.2 dBf; 50dB quieting sens 17.2 dBf (mono) and 40 dBf (stereo); S/N 76 dB (mono) and 70 dB (stereo); capture ratio 1.5 dB; separation 40 dB (1,000 Hz at 65 dBf); THD (1,000 Hz at 65 dBf) 0.3% (mono) and 0.5% (stereo). 16% x 4¼ x 13¼ in \$350



SCOTT

RS1250 100-W/ch Surround-Sound Receiver

AM/FM receiver. Features PLL-synthesis tuning; Dolby Surround Sound; 7-band graphic equalizer with spectrum analyzer. Includes 52-function remote control with 8 CD functions; 12 AM/FM presets; 4 equalizer memory presets; 30-minute sleep timer; dual 5-segment LED peak power meters; loudness switch; speaker A/B/A + B surround switch; headphone jack; equalizer defeat switch; inputs CD, VCR, phono, tape 1, tape 2. Amp: 100 W/ch rms into 8 ohms; FR 20-20,000 Hz <0.09% THD; s/N, phono 60 dB, tape/CD/VCR 80 dB. Tuner: sens 1.9 μ V/10.8 dBf; AM image rej 35 dB at 1.4 MHz; FM THD; stereo 1.0%, mono 0.5%; AM THD 2.0%. 17½ x 5½ x 14½ in ... \$500

SHARP

SA-R75AV 75-W/ch A/V Receiver



Sharp SA-R55AV

SA-R55AV 55-W/ch A/V Receiver

SHERWOOD

RV-1340R 240-W A/V Receiver

RA-1240R 70-W/ch A/V Receiver

SONY

STR-D2020 130-W/ch A/V Receiver

STR-AV1020 120-W/ch A/V Receiver

Dolby Pro Logic; programmable remote control; dual-room link control; 7-band electronic graphic EQ; spectrum analyzer; station index; motorized volume; 3-video inputs; video edit; cursor control; index tuning; 30-station presets; auto-tuning; direct access. Amp: FR phono 10-70,000 Hz \pm 0.5 dB, CD 10-70,000 Hz \pm 1 dB; THD 0.008%; S/N phono 79 dB, CD 85 dB. Tuner: 50-dB quieting sens 38.3 dBf stereo; AM sens 50 dB. 17 x 5% x 13% in; 23.6 lb.

STR-AV720 80-W/ch A/V Receiver

Elite Series

STR-GX10ES 150-W/ch A/V Receiver

Programmable remote. Features 150 W/ch cont into 8 ohms, 20-20,000 Hz, with 0.007% THD; Spontaneous Twin-Drive power supply design; copper-plated G-chassis design constructed with nonmetallic compound; separate power supplies for system control and audio circuit stages; audio/ video switching capability (3 video sources); video and tape dubbing capability; S-video terminals; defeatable subsonic filter; 3-band, low noise, high-gain negative-feedback-type tone controls; source-direct switch; quartz frequencysynthesis tuning; wave-optimized digital stereo decoder; 20 station presets. Tuner: S/N 84 dB; THD 0.08%; sel 90 dB; sep (at 1,000 Hz) 60 dB\$1,200



Sony STR-GX10ES

STR-GX7ESII 120-W/ch A/V Receiver

Programmable remote control. Features 120 W/ ch continuous into 8 ohms, 20-20,000 Hz, with 0.008% THD; Spontaneous Twin-Drive power supply design; G-chassis design constructed with nonmetallic compound; separate power transformers for system control and audio circuitry; audio/video switching capability (3 video sources); S-video terminals; low-noise, negativefeedback-type tone controls; source-direct

BECEIVEBS

STR-GX5ESII 80-W/ch A/V Receiver

TEAC

AG-75 75-W/ch A/V Receiver

TECHNICS

SA-GX700 100-W/ch A/V Receiver

AM/FM receiver with wireless remote. Features 3band parametric EQ; constant Q filter; slope control; 6-preset EQ memories; 15-band spectrum analyzer; LCD readout remote control; quartzsynthesis digital tuning; digital-delay circuitry; 4 audio inputs; 2 VCR inputs. Amp: FR 7-70,000 Hz ± 3 dB CD-VCR1-VCR2-tape, 7-70,000 Hz ± 0.8 dB phono; THD 0.008%; SIN 70 dB. Tuner: 50-dB quieting sens 40.2 dBf stereo; AM supression 50 dB; cap ratio 1; alt-ch sel 65 dB. 17 x 5¼ x 11% in; 22 lb \$\$500

SA-GX500 80-W/ch A/V Receiver



Technics SA-GX700

SA-GX300 60-W/ch A/V Receiver

AM/FM receiver with 36-key A/V wireless remote control. Features 7-band graphic EQ with LED controls; quartz-synthesis tuning; 24-channel preset memory; internal cooling fan; loudness

VECTOR RESEARCH VRX-9200R 120-W/ch Receiver

VRX-8200R 110-W/ch Receiver

VRX-6200R 65-W/ch A/V Receiver

VRX-3600R 40-W/ch A/V Receiver

ҮАМАНА

RX-1130Ti 310-W Surround-Sound Receiver

4-ch AM/FM A/V receiver with 5-mode surround including Dolby, natural, hall, simulated stereo, live and continuously variable delay time (10 ms to 30 ms). Features computer servo-lock tuning system; 24-segment signal-strength meter; 8 au dio. 3 video inputs; rear-level control; front/rear pre-main coupling terminals; banana-plug-compatible speaker terminals; center defeat bass, mid, and treble controls; 8-position rec out selector; 16-station random-access preset tuning with multistatus memory; sleep timer; continuously variable loudness; motorized volume control with LED indicator. Includes learning multifunction remote control with RS integrated system compatibility. Front ch: 125 W/ch rms into 8 ohms; FR 20-20,000 Hz; total harmonic distortion 0.015%. Rear ch: 30 W/ch into 8 ohms at 1,000 Hz; total harmonic distortion 0.08%. Titanium finish; 37 lb



Yamaha RX-930

RX-930Ti 220-W Surround-Sound Receiver

4-ch AM/FM receiver with 3-mode surround sound including Dolby, natural, and simulated surround. Features direct PLL IF count synthesizer tuning; 16-station random-access preset tuning with multistatus memory; 12-segment signalstrength meter; center defeat; bass and treble controls; rear-level control; 8-position rec out selector; front/rear pre-main coupling terminals; 8 audio, 3 video inputs; motorized volume control with LED indicator; sleep timer; continuously variable loudness. Includes learning multifunction remote control with RS integrated system compatibility. Amp section: Front channel: 85 watts per channel into 8 ohms; FR 20-20,000 Hz; THD<0.15%. Rear ch: 25 W/ch into 8 ohms at 1,000 Hz; THD 0.08%. Titanium finish; 26 lb \$849

RX-830Ti 170-W Surround-Sound Receiver

RX-530 50-W/ch Receiver

AMPLIFIERS

POWER AMPLIFIERS

ACCUPHASE BY MADRIGAL P-500 250-W/ch Amplifier

P-102 50-W/ch Amplifier

ACOUSTIC RESEARCH A-07 70-W/ch Amplifier

ADCOM

GFA-555II 200-W/ch Amplifier

GFA-545 100-W/ch Amplifier

GFA-535 60-W/ch Amplifier

ARAGON BY MONDIAL DESIGNS Model 4004 200-W/ch Amplifier

Features 2 toroidal transformers; quad-array transistor; gold-plated connectors; Monster Cable output cables; convection air cooling. S/N 120



ARCAM

Delta 120 100-W/ch Amplifier

Twin mono configuration. Each amp has separate power supply and toroidal transformer; bi-wired. 100 W into 8 ohms; 150 W into 4 ohms; peak output current \pm 25 amperes 1.......\$1,100

AUDIO BY VAN ALSTINE FET-Value 500 200-W/ch Amplifier

Model 240E 120-W/ch Amplifier

 Fully complementary MOSFET circuitry. Features precision metal resistors; precision film capacitors; high-voltage, high-current semiconductors. 120 W/ch into 8 ohms; THD<0.01%. 13 x 14 x 7 in; 27 lb</td>

AUDIO DESIGN ASSOCIATES PF-300 150-W/ch Amplifier

PBA-50 50-W Mono Amplifier

AUDIOLAB BY ARTECH Model 8000P 100 W/ch Amplifier

Linear slew-free-design with DC servo feedback. Features dual-tracking bias system; individually regulated power supplies; electronic auto-muting system; metal-film resistors; polystyrene and polypropylene capacitors; epoxy glass printed circuit boards. S/N > 90 dB; FR 20-20,000 Hz

AUDIO RESEARCH

Classic 150 140-W Hybrid Mono Amplifier

Hybrid mono amplifier with matched FET in front end and vacuum tubes in triode configuration output. Features tube protection circuit; crosscoupled circuit. Standby switch; auto muting; balanced output. 140 min W cont avg into 1-2-4-8 ohms from FR 7-100,000 Hz = 3 dB. 19 x 10½ x 16½ in; 110 lb \$4,995

D-125 120-W/ch Hybrid Amplifier

Classic 30 30-W/ch Hybrid Amplifier

Stereo hybrid amplifier with matched FET in front end and vacuum tubes operating in triode configuration in output. Features auto DC-balance servo circuit; automatic bias correction adjusts for incoming line voltage. Front-panel fusing for line and screen. 30 min W/ch cont avg from FR 15-50,000 Hz - 3 dB. 19 x 7 x 14 $\frac{1}{2}$ in; 46 lb ... \$2,295



AudioSource AMP One

AUDIOSOURCE

AMP One 60-W/ch Amplifier

Stereo amplifier with toroidal power transformer. Features soft clipping output circuitry reduce distortion; dual analog power output meters; separate L/R output level controls; MOSFET construction; switchable to 170 W mono. 60 W/ch cont avg into 8 ohms; FR 20-20,000 Hz; THD < 0.04%. $16\% \times 2\% \times 11\%$ in; 14.3 lb...5300

AUDIRE

Crescendo 75-W/ch Amplifier

Noble I 75-W Mono Amplifier

B&K COMPONENTS

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AMPLIFIEBS

ST-202 PLUS 200-W/ch Amplifier

ST-202 150-W/ch Amplifier

Features gold-plated connectors and ability to drive 8- and 4-ohm loads. 150 W/ch continuous from 20-20,000 Hz with no more than 0.09% THD into 8 ohms; FR 5-45,000 Hz ± 3 dB; s/N 95 dB; dynamic headroom 1.1 dB; slew rate 11 V/µsec. 200 watts into 4 ohms. 19 x 6 x 15 in; 30 lb . \$698

BEDINI

BA-803 250 W/ch Amplifier

BEL

Model 2002 100-W/ch Amplifier

Dual-mono construction with balanced output; each channel consists of two Class A amplifiers; independent power supply for each channel. Features input shutdown and status/fault indication of temperature, frequency, output, and load faults in all four amplifiers. 100 W/ch cont avg into 8 ohms; 200 W/ch cont avg into 4 ohms; input imp 22 kilohms; high-level sens 1400 mV; gain 26 dB; bandwidth 3-250,000 Hz with input filter. 5-yr warranty. 19 x 7¼ x 14¼ in; 52 lb\$3,395

Model 1001 50-W/ch Amplifier

BELLES RESEARCH OCM 500 250-W/ch Amplifier

Class AB stereo amplifier with Isolinear design. Clipping indicators, multiple input connections, toroidal transformers. Balanced input provides monoblock operation. FR 1-100,000 Hz; THD 0.2%; damping factor 200. 19 x 5/4 x 17 in; 65 lb. \$2,495

Belles 150 100-W/ch Amplifier

BERNING

EA-2101 100-W/ch Tube Amplifier



Carver Silver Seven-t Mark II

BOULDER

Boulder 500 150-W/ch Amplifier

BRYSTON

6B 500-W/ch Amplifier

4B 250-W/ch Amplifier

Class-AB design with bridging switch. Features 1,500-sq in heat-sink area; regulated power supply to all voltage gain stages; ch sep back to line cord; red LED clipping indicator. 200 W/ch, 800 W bridged into 8 ohms; FR 20-20,000 Hz; THD 0.01%; 1M 0.01%; slew rate 60 V/ μ sec; power bandwidth 1-100,000 Hz; damping factor 500 at 20 Hz, 8 ohms; input sens/imp 1.25 V/50k ohms. 51,795

CAMBRIDGE AUDIO

A100 I10-W/ch Power Amplifier

CARVER

Silver Seven-t Mark II 550-W Mono Amplifier Transfer Function modified amplifier features shock-isolation mounting. Lighted analog power meter. Black finish. FR 20-20,000 Hz; THD 0.5%; S/N >100 dB A-weighted. 7x 111/2 x 14/2 in \$1,000

TFM-45 375-W/ch Amplifier

Stereo magnetic-field amplifier with transfer function calibration. Features voltage into 2, 4, 8 ohms; analog power meters. 375 W/ch into 8

AV-64 Amplifier

TFM-15 100-W/ch Amplifier

Transfer function modified amplifier featuring dual analog meters with level selection. A/B speaker switching; L/R input-level controls. FR 20-20,000 Hz; THD 0.1%; S/N 100 dB A-weighted. 3½ x 19 x 12 in \$400



Cello Encore

CELLO

Encore 60-W Mono Amplifier

CONRAD-JOHNSON

Premier One B 150-W/ch Amplifier

MF200 200-W/ch Amplifier

COUNTERPOINT

SA-220 220-W/ch Hybrid Amplifier

Tube input, MOSFET output design featuring 1 kV transformer and copper-plated chassis. Analog protection circuitry not in signal path; bridgeable to 700 W mono; drives imp loads to 1 ohm. Available in black or silver finish. FR 1.2-200,000



Counterpoint SA-220

AMPLIFIERS

SA-100 100-W/ch Hybrid Amplifier

DB Systems

DB-6A 40-W/ch Amplifier

DENON

POA-2400A 200-W/ch Amplifier

POA-800 50-W/ch Amplifier

DISCRETE TECHNOLOGY LSIIa 140-W/ch Amplifier

ELECTROCOMPANIET BY MUSIC & SOUND IMPORTS Ampliwire 100 100-W/ch Amplifier

Forté Audio

Model 1a 50-W/ch Amplifier

Dual-channel, noninverting power amp using FET/bipolar front-end topology and operating in pure Class A throughout front-end and poweroutput stages. Input stage is direct coupled and



Hafler XL280

FOSGATE-AUDIONICS S-150 125-W/ch Amplifier

Amplifier designed for use with surround audio systems. Features discrete fully complementary circuitry; defeatable bass filter; input-level control; soft-clipping circuit. FR 20-20,000 Hz; 125 W/ch into 8 ohms; 200 W/ch into 4 ohms; THD and IM < 0.05\%. \$849 T-150. 3-channel version of above \$999

M-60 MKII 35-W Mono Amplifier

GOLDMUND BY INTERNATIONAL AUDIO Mimesis 3 100-W/ch Amplifier

Mimesis 6 80-W/ch Amplifier

Features proprietary self-compensating symmetrical circuitry; protection circuits. S/N >80 dB; slew rate >100 V/µsec. 19 x 13¼ x 2¼ in; 27.6 lb......\$3,390

HAFLER

XL600 305-W/ch Amplifier

Excelinear near-zero-phase-shift circuit with J-FET double-differential push-pull cascoded 'tubelike' input and current-mirroring in 2nd stage. 16 MOSFET outputs; direct coupled; stable into all loads; high capacitance (72,000 mFd); gold-plated inputs and outputs; mono bridging switch: variable-speed DC fan cooling. 305 W/ch into 8 ohms with THD < 0.08% from 20-20,000 Hz; 1M

XL280 145-W/ch Amplifier

SE240 120-W/ch Amplifier

J-FET double-differential push-pull cascoded input stage. 8 lateral MOSFET outputs; bridging switch; gold-plated input jacks; five-way binding posts for speaker connections. Power handling 120 W/ch into 8 ohms from 20 to 20,000 Hz; 175 W/ch into 4 ohms; 350 W bridged mono into 8 ohms; FR 4-40,000 Hz \pm 0.5 dB; THD 0.025%; IM 0.005%; slew rate 45 V/µsec; S/N >100 dB; damping factor 300 at 1,000 Hz into 8 ohms. 17 x 5½ x 5549

SE120 60-W/ch Amplifier

HEYBROOK BY D'ASCANIO AUDIO P-3 100-W/ch Amplifier

Hand-assembled with toroidal transformer capable of 30-amp output. Features circuits designed with close-tolerance, high-quality components. Thick aluminum chassis acts as a heat sink over entire surface. 100 cont average W/ch from 20-20,000 Hz into 8 ohms with no more than 0.05% THD, 120 W into 4 ohms; S/N 60 dB; IM 0.05%; instantaneous peak current \pm 30 A. 17 x 4 x 12 in; 181b.....\$1,398

JRM

Power Tower 250-W/ch Amplifier

KENWOOD

L-1000M 130-W/ch Amplifier

AMPLIFIERS

KINERGETICS

KBA-75 Platinum Series 75-W/ch Amplifier Features Class A operation; 75 W/ch into 8 ohms,

150 W/ch into 4 ohms, 300 W into 2 ohms; 1-kVA power supply; dual-mono construction; multiple high-power output transistors with wide linear region, servo-controlled DC output. Low-impedance drive capability; slew rate 65 V/ μ scc; 19 x 17 x 15½ in\$1,795

KRELL

KSA-250 250-W/ch Amplifier

KST-100 100-W/ch Amplifier

LAZARUS

Model 200/200 200-W/ch Hybrid Amplifier

LINN

LK280 80-W/ch Amplifier

80 continuous average W/ch from 20-20,000 Hz	•
companion to LK1 preamplifier. 1234 x 3 x 104	ż
in; 191b\$1,595	5
LK280 Spark, Dual-mono version)

LUXMAN

M-117 200-W/Ch Amplifier

M-113 50-W/ch Amplifier

Amplifier with low-impedance drive capability. Features dual-FET per channel input stage, highcurrent bipolar output transistors; Duo-Beta dual feedback-loop circuitry to widen bandwidth and improve transient response; STAR circuit topology to reduce noise and distortion; high-energy power supply. Peak-clip indicators; gold-plated input terminals; 5-way speaker terminals; adjustable input sens. 50 W/ch from 20-20,000 Hz into 8 ohms; 180 W/ch into 2 ohms; 140 W/ch into 4 ohms, 90 W/ch into 8 ohms; bridged output 700 W; THD 0.03% at rated power; SN 116 dB; IM 0.005%; slew rate 15 V/µsec; damping factor 100 (50 Hz, 8 ohms). 17/4 x 5½ x 14½ in; 19 lb . \$600

MADISON FIELDING PA 700 150-W/ch Amplifier

Features dual mono design; 150 W/ch MOSFET amplifier with tube type sound. FR 20-20,000 Hz; THD 0.01; imp 4 ohm min. 19 x 3½ x 14¼ in \$1,350 PA 750. As above but 75 W/ch stereo \$800

MARK LEVINSON BY MADRIGAL No. 20.5 100-W Mono Amplifier

Class-A highly biased mono amp with fully regulated power to all audio stages; internal spike and surge suppression; RF filtering of raw AC from outlet to reduce noise; separate positive and negative supply rails each with individual toroidal power transformer; full-wave bridge rectification, and filter capacitors to prevent cross modulation between rails; electronic regulation to refine power used by signal-carrying circuits; 3 high-current devices to drive output stage; electronic protection against abuse; all gain stages controlled at clipping; balanced inputs with Camac connectors; Neutrik/XLR connector; internal switching to adjust for operation at 90-240 V AC. 100 W/ch into 8 ohms, 200 W into 4 ohms.

No. 27 100-W/ch Dual Mono Amplifier

Two separate mono amps on one chassis; raw AC current filtered by two separate circuits to remove unwanted frequencies and reduce transformer core saturation and mechanical hum; surge limiting circuit; 729 VA toroidal transformer in each channel; separate power supplies; audio signals processed through two Class A cascaded voltage gain stages and three current gain stages; cascoded differential input stage; Class AB output stage. Camac connector or three-pin Neutrik XLR connector input. 200 W/ch into 4 ohms, 350 W/ch into 2 ohms; sens 141 mV; voltage gain 26 dB. 17½ x 6½ x 18 in \$3,795

MCINTOSH

MC-2600 600-W/ch Amplifier

MC-7270 270-W/ch Amplifier

Features autotransformer; L/R channel gain control; bridgeable to 540 W mono. Peak-reading, peak-locking power meters; meter selector. Power output: 270 W/ch both channels driven from 20-20,000 Hz with less than 0.02% THD; IM <0.02% if instantaneous peak power output is less than 600 W/ch both channels driven; FR 20-20,000 Hz + 0, -0.25 dB; damping factor >30; input impedance 20,000 ohms; switchable input sensitivity, 0.75 or 2.5 V (level control provided for higher input voltages). Power Guard: THD<2% with up to 20 dB overdrive at 1 kHz. 16/4 x 7/4 x 14/2 in; 82 lb\$2,499

MC-754 100-W/ch Amplifier

MELOS

Triode 125 Plus 125-W/ch Amplifier

MERIDIAN

Model 205 100-W Mono Amplifier

Class AA mono amplifier with toroidal highcurrent power supply. Features fully complementary circuit design; music sense circuit turns on amplifier when signal is detected. 100 W into 8 ohms. 14 x 6¼ x 4 in ea. \$1,790/pr

MUSEATEX

Melior 100-W/ch Amplifier

Class AB power amplifier with float charge supply. THD 0.25%; slew rate 75 V/µsec; high-level sensitivity 1,000 mV; 100 W cont avg into 8 ohms, 180 W cont avg into 4 ohms; FR 20-20,000 Hz. 23 lb......\$1,995

STR-55 50-W/ch Amplifier

Class AB power amplifier with float charge supply. THD 0.25%; slew rate 75 V/ μ sec; high level sensitivity 1000 mV; power 50 W/ch cont into 8 ohms, 95 W/ch cont into 4 ohms; FR 20-20,000 Hz. 18 lbs......\$1,590



NAD Model 2600A

NAD

Model 2600A Monitor Series 150-W/ch Amp

Model 2400 Monitor Series 100-W/ch Amplifier Bridgeable amplifier with power envelope circuitry. Features soft-clipping circuit. Input level controls. 100 W/ch rms; + 5.7 dB dynamic headroom. Rack mountable \$599

NAIM

NAP 140 45-W/ch Amplifier

Features dual power supply rectification; each audio channel has own pair of smoothing capacitors; thermal trip protection. 45 W/ch cont into 8 ohms; input imp 22 kilohms; FR 5-40,000 Hz ± 3 dB. 8 x 3 x 11¼ in \$1,245
NAKAMICHI PA-7AII 225-W/ch Amplifier

Features Stasis topology; utilizes two internal amplifiers for high- and low-impedance sources. 700-W toroidal power transformer; bridge rectifiers; electrolytic filters; 18 transistors per ch; Rib Framework chassis. 225 W/ch cont avg from 20-20,000 Hz with no greater than 0.05% THD into 8 ohms; 340 W/ch max into 8 ohms; FR 20-20,000 Hz +0, -0.2 dB; S/N >120 dB; damping factor >60; dynamic headroom 1.7 dB; power bandwidth 5-50,000 Hz (8 ohms, 112.5 W, 0.05% THD). .. \$2,195 171/8 x 77/8 x 161/8 in; 62.7 lb PA-5AII. Similar to above but 150 W/ch. 171/8 x 6¼ x 16% in; 47.4 lb \$1,550

ONKYO

Grand Integra M-508 200-W/ch Amplifier

Dual-mono design with low-impedance drive capability. Features Real-Phase transformer to eliminate current fluctuations; high-current capability. Calibrated high-speed power meters; peakpower meters; variable inputs with left/right channel level controls. 200 W/ch min rms into 8 ohms; FR 20-20,000 Hz; THD 0.003%; S/N 120 dB; IM 0.003%. Dynamic power 460 W/ch into 4 ohms, 685 W/ch into 2 ohms, 860 W/ch into 1 ohm. 181/4 x 71/4 x 163/4 in; 55 lb \$1,200

Integra M-504 165-W/ch Amplifier

Dual-mono design with low-impedance drive capability. Features Real-Phase transformer to eliminate current fluctuations; high current capability. High-speed peak-power meters; heavyduty speaker terminals. 165 W/ch min rms into 8 ohms; frequency response 20-20,000 Hz; total harmonic distortion 0.003%; signal-to-noise ratio 120 dB; intermodulation distortion 0.003%: damping factor 140. Dynamic power 350 W/ch into 4 ohms, 530 W/ch into 2 ohms. 181/4 x 71/4 x 16% in; 46 lb \$830

Integra M-502 140-W/ch Amplifier

Dual-mono design with low-impedance drive capability. Features 4-way speaker selector. 140 W/ ch min rms into 8 ohms; FR 20-20,000 Hz; THD 0.005%; S/N 120 dB; IM 0.004%; damping factor 140. Dynamic power 290 W/ch into 4 ohms, 425 W/ch into 2 ohms. 171/8 x 71/4 x 161/8 in; 41 lb \$650



Onkyo Grand Integra M-508

PARASOUND

HCA-1200 200-W/ch Amplifier

High-current discrete amplifier. Features toroidal transformer; 57 amps peak current; 5-way terminal; 60-MHz output transistor; gold-plated input jacks; front-panel level controls FET driver; mono BTL switchable. FR 8-90,000 Hz; THD <0.08%..... \$775

HCA-800II 90-W/ch Amplifier

High-current discrete amplifier. Features 60-MHz output transistors; gold-deposited 36,000-

µF electrolytic capacitors; mono bridging with rear-panel switch; gold-plated RCA jacks; 1/4-in phone jack; 5-way terminals; front-panel level controls; speaker A/B terminals; headphone jack; relay protection; 19-in rack mountable. FR 20-20,000 Hz ±0.5 dB; total harmonic distortion <0.1%; signal-to-noise ratio >104 dB; intermodulation distortion <0.1%; damping factor >120. 17¼ x 3¾ x 11¼ in \$395

PHILIPS

AV1002 6-Channel Amplifier

100 W x 1, 100 W x 2 plus 50 W x 2, or 100 W x 3. Discrete amplifier featuring three separate heat sinks.\$1,000

PIONEER

M-91 200-W/ch Amplifier

Features independent L/R mono construction; finned, twin cast-iron enclosed transformers; honeycomb insulator feet; copper transformer plate; honeycomb heat sink; film condensor; regulated power supply; copper foil PC board; nonswitching circuit; two pairs of speaker outputs; CD-direct input with volume control; Urushi-finish front panel; rosewood finished vinylcovered side panels. 200 W/ch into 8 ohms; FR 20-20,000 Hz; THD 0.003%. 18 x 61/2 x 17 in; 60 lb.....\$1,400

M-72 100-W/ch Amplifier

Features 2/4-ch configuration, 100 W/ch x 2 or 50 W/ch x 4. auto output selector; 3 inputs (processing front, center, and rear) for 4-channel configuration; 2 or 4 speaker outputs; Urushi-finish front panel; rosewood-finished vinyl-covered side panels. 100 W/ch x 2 or 50 W/ch x 4 into 8 ohms; FR 20-20,000 Hz; THD 0.01%. 18 x 61/2 x 161/4 in; 53.9

A-757 120-W/ch Amplifier

120 W/ch cont avg from 20-20,000 Hz into 8 ohms with no more than 0.003% THD \$750

PROTON

D1200 100-W/ch Amplifier

Dynamic Power on Demand (DPD) circuit, delivers up to 1,500 W/ch (2 ohms) at peak demand with 6 dB headroom. Features one-touch bridging and wide-range power-output meters. 161/2 x 4¼ x 9¾ in; 33 lb \$700

PS Audio

100C 120-W/ch Amplifier

Class AB outputs. Features 5-way binding posts; gold-plated input jacks. 120 W/ch into 8 ohms, 200 W/ch into 4 ohms; THD 0.02%; S/N -100 dB; slew rate 250 V/µsec; damping factor 200. 19 x 6 x 15 in; 35 lb\$1,195

QUAD

Model 606 140-W/ch Amplifier

Power amplifier with feed-forward error correction (current dumping) combines Class A operation with Class B. Protection circuitry uses sensor on AC-input side of power supply to integrate current over time. No fuses or relays located in signal path. THD (continuous in 8 ohm resistive load, any level up to 130 W): <0.01% at 20 Hz, <0.01% at 1,000 Hz, <0.03% at 20,000 Hz; FR 20-20.000 Hz -0.25 dB. 123/4 x 51/2 x 91/2 in; 27 lb \$1,295

Model 306 60-W/ch Amplifier

Power amp with feed-forward error correction (current dumping) combines Class A operation with Class B. Protection circuitry uses sensor on AC input side of power supply to integrate current over time. No fuses or relays located in signal path. THD (continuous in 8 ohm resistive, load any level up to 50 W): <0.01% at 20 Hz, <0.01% at 1,000 Hz, <0.03% at 20,000 Hz; FR 20-20,000 Hz -0.25 dB. 123/4 x 23/4 x 81/4 in; 11 lb \$695

OUICKSILVER AUDIO

Model 8417 60-W Mono Tube Amplifier Hand-wired, tube design using no transistors or circuit boards; matched pair 8417s, 12AX7, 12AU7. two 5AR4s. 60 W cont from 20-20,000 Hz

into 8 or 4 ohms. Can drive 0.5 ohm loads. 914 x 6 x 14³/₈ in; 30 lb ea \$1,575/pr

ROTEL

RB870BX 100-W/ch Amplifier

Class AB amplifier; bridgeable with RA870 (integrated amp) for 300 watts mono. Power handling 100 W/ch into 8 ohms. FR 4-100,000 +0.5 dB, 3.0 dB; THD <0.03% from 20-20,000 Hz; S/N 110 dB; IM <0.03%; damping factor 180; input imp 22,000 ohms. 171/2 x 43/8 x 131/8; 201b ... \$499



Philips AV 1002

JEFF ROWLAND

Model 1 60-W/ch Amplifier

Features differential mode and single-ended inputs for a maximum preamplifier compatibility, single gain stage with no negative feedback; single-stage differential FET circuitry utilizing no input, coupling or compensation capacitors; 600 VA toroidal transformer to power 24 150W bipolar output transistors: 60 W/120 W/215 W RMS into 8/ 4/2 ohms. bridgeable to 240 W mono into 8 ohms. FR 0.3-300,000 Hz -3 dB; THD <0.25%, 1,000 Hz, 20W; slew rate 70 V/µsec; sens 136 mV, 1 W, 8 ohms; damping factor >200, 20-20,000 Hz; input imp 100K, 20K or 3K ohms. 17 x 5¼ x 15 in; 48 lb\$3,100

SHERWOOD

AM-7040 200-W/ch Amplifier

Amplifier with high-speed MOSFET output stage with high instantaneous current capacity. Features Class AB design; complete relay protection; independent left and right power transformers; variable and fixed inputs; complementary symmetry input stage with matched transistor pairs; overload protection; heavy gauge conductors. Power-level indicator; video sound input; loudness control. 200 W/ch min rms into 8 ohms; FR 20-20,000 Hz; THD < 0.025%; IM distortion 0.015%; S/N 125 dBA; sep at 1,000 Hz 70 dB. 17% x 6¾ x 15¼ in \$699

SONANCE

Sonamp 260X3 60-W/ch Amplifier

Toroidal power transformer; discrete output

AMPLIFIEBS

SONY

TA-N77ES 270-W/ch Amplifier

Features Spontaneous Twin-Drive power supply; low-impedance drive capability; mono operation at 580 W/ch into 8 ohms from 20-20,000 Hz with 0.007% THD; chimney-style heat sinks; fixed and variable inputs; 2 independent protection circuits; peak-level power meters; 2 sets of speaker terminals. 270 W/ch cont into 4 ohms, 20-20,000 Hz with 0.006% THD; damping factor 100; slew rate 150V/µsec, 300V/µsec\$1,200

TA-N110 45-W/ch Amplifier

Features 3 built-in digital delay modes; variable delay times; built-in video switching capability; input attenuator; 3-way input switch; 2 sets of speaker terminals. 100 W/ch continuous into 8 ohms, 20-20,000 Hz with 0.08% THD \$300

SOUNDCRAFTSMEN

Pro-Power Ten 2/3/4-Channel Amplifier

A5002 250-W/ch Amplifier

Class H Vari-Proportional circuitry and autobuffer for continuous operation into 2 ohms, 4 ohms, and 8 ohms. Features auto crowbar-protection circuit for output protection without current limiting; 20 LED/ch indicators; front-panel switching for 2 pairs of speakers; clipping indicators; input-level controls. Output power 250 W/ ch into 8 ohms, 375 W/ch into 4 ohms continuous rms, 20-20,000 Hz at <0.09% THD; S/N >105 dB; slew rate >50 V/ μ s; IM <0.02%; dynamic headroom >2 dB.

Pro-Power Four 205-W/ch Amplifier

Pro-Reference Two 100-W/ch Amplifier

MOSFET amp with 20-LED power meters. Features switching for 2 pairs of speakers; clipping indicators; charcoal finish; rack-mounting. 100 W/ch into 8 ohms, 200 W/ch into 4 ohms, cont rms, 20-20,000 Hz at <0.05% THD; S/N > 105 dB ... \$69

PCR800 205-W/ch Amplifier

Phase-control-regulated MOSFET amp. 205 W/ch cont rms; 20-20,000 Hz into 8 ohms; THD 0.05%; S/N > 105 dB; 18 lb; 8¼ x 5 x 12 in \$499



SOUNDSTREAM DA-1 MK II 200-W/ch Amplifier

System 1 series component features fully discrete Darlington transistor circuitry to minimize need for current limiting; bridgeable to 600 W mono into 8 ohms; 90 amp peak. Drives up to 4 pairs of speakers simultaneously; dual front-panel overload indicators; optional RSS-2 speaker selectors can be used individually or daisy-chained, allowing up to 4 pairs of speakers to be controlled by R-1 remote. FR 20-20,000 Hz \pm 0.1 dB; S/N >110 dBA; THD <0.1%; slew rate >35 V/µsec. 17 x 5% x 14 in; 35 lb.

Sumo

Andromeda II 200-W/ch Amplifier

Class AB MOSFET design, fully balanced from input to output. Operation pure Class A except Class AB output stage. 400 W/ch into 4 ohms; THD 0.05% into 8 ohms, 0.1% into 4 ohms; IM 0.05%; rise time 2 μ sec; slew rate 115 V/ μ sec; damping factor >500.19 x 7 x 163/ in... \$1,499

The Nine Plus 65-W/ch Amplifier

Polaris 100-W/ch Amplifier

SUPERPHON

Model 400S 200-W/ch Amplifier

MOSFET solid-state power amplifier utilizing independently regulated input and large signal stages through separate transformer. Input stage employs active current-sourcing, voltage gain is Class A MOSFET. 350 W/ch into 4 ohms ... \$1,499

TECHNICS

SE-A100 170-W/ch Amplifier

Features 1 voltage and 1 current amplifier per ch; Class AA bridge circuitry; massive power supply; 3 transformers (left-ch current amp, right-ch current amp, L/R voltage amps) using LC-OFC windings; 91,200- μ F filtering; magnetic isolation; vibration damping. 170 W/ch into 8 ohms; dynamic headroom 0.7 dB. 17 x 8¼ x 18¼ in; 70 lb \$1,900

SE-M100 115-W/ch Amplifier

8x oversampling digital filter and four 20-bit D/A converters. Features digital-direct drive with unity-gain circuitry; twin-mono construction. Optical and coaxial digital outputs. Amp: 115 W/ch min rms into 8 ohms; total harmonic distortion 0.005%; frequency response 20-20,000 Hz; damping factor 110; signal-to-noise ratio 98 dB. Digital section: total harmonic distortion 0.005% at 1,000 Hz; signal-to-noise ratio 100 dB; FR 2-20,000 Hz ± 0.3 dB. 17 x 6/4 x 15% in; 35.2 lb \$1,100



Threshold SA/12e

THRESHOLD

SA/12e Stasis 275-W Mono Amplifier

Noninverting complementary-symmetry mono amp with J-FET in front-end signal path and proprietary Stasis output stage; binary topology in pure Class A voltage amp connected directly to loudspeaker load and operated with high-amperage current mirror also in pure Class A; outputstage bias accuracy maintained through Threshold's proprietary optical-bias technology. DCcoupled front-end gain stages are biased for Class A operation at all signal levels; subject to cascode shielding and two stages of current regulation; power supply: two 1,200-watt toroidal transformers, 250,000 µF capacitance, 62,000 µF of frontend decoupling; output stage: 64 high-speed, 250watt, 200-volt, 20-ampere devices. Input imp switchable between 50,000 ohms unbalanced through RCA connectors and 600 ohms balanced through locking XLR connectors; thermal protection circuitry. 275 watts pure Class A operation 20-20,000 Hz into 8 ohms, at 0.1% distortion; slew rate 50 V/µS; current capability 70 amps cont, 200 amps peak; noise <100 dB; output imp <0.03 ohm at 20-20,000 Hz. 19 x 83/4 x 27; 120 lb \$7,200

SA/10e Stasls 175-W Mono Amplifier

As SA/12e except lower power and power supply with single 1,200-W toroidal transformer, 186,000 μ F capacitance, 62,000- μ F of front-end decoupling. Output stage: 44 high-speed 250-W, 200-V, 20-amp rated devices. 175 W pure Class A operation, 20-20,000 Hz into 8 ohms at 0.1% distortion; current capability 60 amps cont, 200 amps peak. 19 x 83/4 x 17/4 in; 79 lb \$5,200

SA/6e Stasls 125-W Mono Amplifier

As SA/10e except lower power and power supply with single 800-W toroidal transformer, 124,000- μ F capacitance; 1,900- μ F front-end decoupling. Output stage: 28 high-speed 250-W, 200-V, 20amp rated devices. 125 W pure Class A operation 20-20,000 Hz into 8 ohms at 0.1% distortion; current capability 50 amps cont, 135 amps peak. 19 x 8¼ x 13¼ in; 56 lb. \$3,950

S/200 Stasis 100-W/ch Amplifier

УАМАНА

MX-1000U 250-W/ch Amplifier

600,000 μ F x 2 power-supply capacitance. Features hyperbolic conversion amplification cir-

AMPLIFIERS

cuit; A+B+C speaker switching; 26-segment LED power-level meters; independent left and right level controls; 4-digit numerical poweroutput display; LED meter and digital peak-hold display; meter display load selectors; compatible with banana plugs. 260 watts per channel into 8 ohms; frequency response 20-20,000 Hz; THD <0.003% \$1,199

MX-830Tl 170-W/ch Amplifier

MX-630Ti 135-W/ch Amplifier



ACCUPHASE BY MADRIGAL C200V Preamplifier

Preamp with 11 inputs; separate tone controls for each ch with selectable turnover frequencies; some inputs and outputs accessible from front panel. Inputs for MM phono, MC phono, tape, tape 2, tape 3; aux, phono 2, phono 3, CD player, tuner; line 2; line 3. Max output 8.0 V; MM phono sens 0.5 mV for 0.5-V output at 1,000 Hz; MM phono input overload level 300 mV; 30 lb . \$6,000

ADCOM

GFP-565 Preamplifier

Features 1% Roederstein metal-film resistors and metallized-film capacitors on a double copperplated, glass-epoxy printed circuit board. All stages operate in pure Class A mode; separate headphone amplifier; three sets of outputs: 1) Bypass (direct-coupled output), 2) Lab (directcoupled output with tone controls, filter, loudness contour and mono modes), 3) Normal outputs. Can record from one input while listening to another input; loudness contour control; signalprocessor loop; 5 high-level inputs and 1 phono input (MC, MM). FR 5-90,000 Hz ±0.5 dB; THD (line) 0.0025%, (phono) 0.009%; S/N (line) >100 dBA, (phono) >95 dBA; sens (line) 205 mV, (phono) 23 mV; ch sep >75 dB at 1,000 Hz. Black finish. 17 x 3 x 113/s in; 11 lb \$800 GFP-565W. As above with white front ..., \$850

GTP-500II Preamplifier/Tuner

Preamplifier with built-in tuner. 1% Roederstein resistors in all critical application; wireless remote control included. Remote sensors available for control from different rooms. Preamp section features inputs for MM phono; tape 1; tape 2; CD player; tuner. Tuner section features quartz-referenced digitally synthesis tuning; auto up and down scan; 8 AM/FM presets; 5-LED signalstrength display; high-blend circuit; 2 sets of

GFP-555II Preamplifier

Features two-sided copper-plated circuit board for low noise and hum; 1% Roederstein resistors and film capacitors used throughout; switchable phono-input capacitance; switchable gain on phono input; tape dubbing; separate headphone amp; 2 sets of outputs (AC coupled, DC coupled); bypass output; signal-processor loop; 5 pairs of high-level inputs. Can record from one input while listening to another input. Inputs for MM phono; MC phono; tape; tape 2; CD player; tuner; video. FR 5-85,000 Hz ±0.5 dB; S/N (line) 100 dBA, (phono) 90 dB; THD (line) 0.003%, (phono) 0.02%; sens (line) 200 mV, (phono) 2.3 mV. 17 x 3 \$500 x 11% in; 11.5 lb GFP-555W. As above with white front \$550

ARCAM

Delta 110 Preamplifier

Features built-in 1-bit, D/A converter. Two switched digital inputs; 5 analog inputs; MM/MC phono inputs; 2 tape loops; separate toroidal power transformers for digital and analog sections; standby mode for warm-up; front-panel switching for 2 speaker pairs; remote control \$1,500

AUDIO BY VAN ALSTINE Omega Preamplifier



Audio Research SP14

AUDIO DESIGN ASSOCIATES ADP-8 Preamplifier

8-input capability. Features 5 stereo source inputs; 3 stereo tape inputs; 1 stereo signal-processor loop input; 3 main outputs; 3 tape outputs; 1 processor loop output; volume. balance, bass, mid, treble, and source-selection controls; 1 switched outlet. Input imp <47 kilohms; maximum input level 8 volts; Output imp > 100 ohms; maximum output level ± 12 volts; FR 20-20,000 Hz ± 0.25 dB; THD 0.05%; S/N 85 dB. 3½ x 19 x \$995

AUDIO RESEARCH SP14 Hybrid Preamplifier

Hybrid design using FET's and vacuum tubes. Features shielded toroidal power transformer; 7 inputs; auto muting; manual muting; bypass con

SP9 MkII Hybrid Preamplifier

On-board power supply; auto mute circuit for warmup, voltage drop; switchable muting; 2 tape inputs, 2 tape outputs; 2-position tape-monitor switching; gold-plated input/output jacks; shielded toroidal power transformer; 2 6DJ8 vacuum tubes (1-irf phono, 1-in line stage); compatible with many MC cartridges; black front panel extra. FR 5-50,000 Hz (high level, ± 0.5 dB), magnetic phono, ± 0.3 dB of RIAA, 30-40,000 Hz; max output 2 V rms; distortion <0.01% at 2 V rms out; input imp 50k ohms (all high level)\$1,795

AUDIOSOURCE

Pre-One Preamplifier

Features built-in MC head amplifier; 6 FET inputs with electronic switching; 2 main outputs; bass EQ circuitry; tape-to-tape dubbing; S/N > 100 dB; THD <0.008%; FR 10-100,000 Hz. 16½ x 2½ x 11½ in. 8 lb \$250

B&K COMPONENTS

BEDINI

BC-866 Preamplifier

BELLES RESEARCH OCM 55 Preamplifier

Dual-chassis fine-level preamplifier with external power source. Features 5 line inputs; 2 tape outputs, double tape loop; 2 preamp outputs. Phono interface optional. FR 2-100,000 Hz; THD 0,01%; high-level sens 50 mV. Each chassis I9 x 2½ x 10 in, 22 lb\$1,750

Belles 55 Preamplifier

BRYSTON

12B Preamplifier

Features moving-coil input; inverts polarity for MM phono but not MC phono output. Available with balanced output. FR 22-20,000 Hz ± 0.05 dB; high-level sens 50 mV; MM phono sens 1.25 mV

ANP

for 0.5 V output at 1,000 Hz; MM phono overload 200 mV: phono S/N 30 dB (MM), 80 dB (MC)\$1,695

BP4.2 Preamplifier

Features 2 pairs balanced inputs and 1 pair of balanced outputs; does not invert polarity. FR 22-20,000 Hz ±0.05 dB; sens 50 mV \$995

.5B Preamplifier

Inverts polarity for phono outputs only. Available with balanced output. FR 22-20,000 Hz ±0.05 dB; high-level sens 50 mV; MM phono sens 1.25 mV for 0.5 V at 1,000 Hz; MM phono overload 200 mV; MM phono S/N 80 dB; MC phono S/N 80 \$750

Carver C-5

CAMBRIDGE AUDIO C100 Preamplifier

Features toroidal power transformer. Dedicated headphone amplifier stage. Five inputs; phono stage for MM and MC cartridges; two tape loops; gold-plated phono sockets. Output voltage 300 mV (passive), 1 V (active); S/N 80 dB (MM), 75 dB (MC), 94 dB (line); input sens 4.5 mV (MM), 0.5 mV (MC), 300 mV (line) \$760

CARVER

C-19 Hybrid Reference Preamplifier

Features Sonic Holography circuitry; 6DJ8 tubes; Wonder Caps; wide circuit traces; no ICs in primary signal path. Dual external processor loops; 5 inputs including MM and MC phono and CD direct; dual tape-monitor loops with dubbing; individual L/R tone controls with variable turnover; headphone output with speaker-defeat switch; subsonic filter; phase switch. FR 1-60,000 Hz = 0.3 dB; THD 0.07%; MM phono sens 1.5 mV; MM phono S/N 86 dB; MC phono S/N; max output 7 V. 12 lb \$1,000

CT-17 Preamplifier/Tuner

Combination asymmetrical charge-coupled detection AM/FM tuner and preamplifier with Sonic Hologram Generator. Preamplifier features Dolby Pro Logic 5-ch surround-sound processor with rear volume, hall and stadium ambient effects; 7 inputs including CD direct, MM phono input; 2 video sound; simulated-stereo synthesis for mono video; 3-way tone controls; dual tape monitors; high-cut filter; remote control with separate input/record selector and extra remote volume control for room-to-room capability. Tuner features 20 AM/FM presets with preset scan; stereo/mono; auto/manual controls. Preamplifier section: FR 1-60,000 Hz ±0.3 dB; THD 0.01%; max output 7 V. Tuner section: quieting sens 36.1 dBf; stereo sens 20.1 dBf; cap ratio 1.4 dB; AM suppression 73 dB; alt-ch sel 58 dB; FM THD 0.02%; S/N 79 dB. 16 lb \$800

C-11 Sonic Holography Preamplifier

Preamplifier with Sonic Hologram Generator. Features video sound Precognition circuit; 5 inputs including MM and MC phono; external-processor loop; dual tape-monitor loops with dubbing. L/R tone controls with variable turnover; loudness EQ; headphone output with speakerdefeat switch; subsonic filter; adjustable MM phono capacitance. FR 1-60,000 Hz -0.3 dB; THD 0.05%; max output 7 V. 6 lb \$580

Pro-Phile Series

CT-6 Sonic Holography Preamplifier/Tuner Features asymmetrical charge-coupled FM circuitry. 20 random AM/FM station presets; FM mono; preset scan; auto-scan/manual tuning; 3level signal-strength indicator; 4 audio inputs; 2 tape inputs w/dubbing; MM phono input; bass. treble, and loudness equalization; balance control: motorized volume control; headphone jack; 28-button remote control. Preamp section: FR 20-20,000 Hz ±1 dB; THD0.1%; signal-to-noise ratio 74 dB A-weighted. Tuner section: IHF sensitivity, mono 10.3 dBf, stereo 21.3 dBf; AM rejection 74 dB; capture ratio 1.5. 19 x 13/4 x 10 in \$550

C-5 Sonic Holography Preamplifier

Dual-zone preamplifier. Handles 2 different output signals simultaneously, one for remote sound system. 6 audio inputs; 2 tape inputs w/dubbing; MM phono input; bass, treble, and loudness equalization; balance control; motorized volume control; headphone jack; 33-button remote control; mini-phone remote-sensor input for infrared relay system. Frequency response 20-20,000 Hz ±1 dB; THD 0.1%; signal-to-noise ratio 74 dB Aweighted. 19 x 1¼ x 10 in \$450

CONRAD-JOHNSON PV11 Tube Preamplifier

Uses cathode follower outputs and solid-state voltage regulator designed for minimal AC imp; regulated filament power supplies. Audio circuits features 1% tolerance. mil-spec-deposited tinoxide resistors; capacitors are polystyrene; volume control tracks within 0.5 dB; auto muting at turn-on, turn-off; 2 tape-recorder loops with 2way dubbing; 5-function mode switch. Max output 40 V rms; FR 2-100,000 Hz; THD <0.5%; IM <0.5%; hum and noise (20-20,000 Hz): phono 72 dB below 10 mV input, high level 84 dB below 2.5 V output; output imp < 200 ohms; 16 x 3³/₄ x 10 in; 15 lb \$1,685

PF1 Preamplifier

All FET-design with distortion-canceling circuit. All audio circuit and power-supply capacitors are polypropylene or polystyrene; precision metalfilm resistors throughout. Input for phono, tuner, CD, tape 1, tape 2. FR 2-75,000 Hz +0/-3 dB; max output 10 V; THD 0. 1%; IM 0. 1%; line gain 21 dB; phono gain 40 dB. 19 x 31/2 x 121/2 in; 15.5 lb\$1,295

COUNTERPOINT

SA-2 Tube Preamplifier

Features two 6DJ8 vacuum tubes per channel. Utilizes four tubes as rectifier, pass device, reference voltage, and error amplifier. Bias control; inputs for MC phono. FR 0.5-350,000 Hz; THD variable as a function of bias control; S/N 93 dBA; 19 x 2 x 11¾ in; 16 lb\$1,145

Soild-8 Preamplifier

Line-level FET preamplifier without RIAA phono stage. 6 line, 2 tape inputs w/dubbing. FR 1-500,000 Hz ±1 dB; THD 0.03%; S/N 87 dB. 19 x 2¼ x 10 in; 14 lb \$595

DENON

DAP-2500 Digital Preamplifier

Preamplifier with digital section featuring 4xoversampling filter and 4 push-pull Super Linear converter system; 2 digital inputs (1 optical, 1 coaxial); coaxial digital tape-monitor loop; optical isolators; D/A-converter output jacks. source direct switch; MM/MC preamplifier; 2 video inputs; 1 video output; system remote control for Denon power amps.....\$1,000

PRA-1500 Preamplifier

MM and MC phono inputs. Features unity-gain interface amplifier. 2 tape-monitor loops; sourcedirect mode; balanced output connections; 2 video inputs; I video output; mono wideband and subwoofer outputs. Includes Denon system remote control and remote power control for Denon power amps..... \$500

DISCRETE TECHNOLOGY LS III Preamplifier

Solid-state preamplifier with high-current supply. Features aluminum rack-mountable enclosure; designed for one of 3 different amplifier modules; direct-coupled circuit; volume and power controls; switchable cartridge loading; switchable gain; Distech cable; modular construction; low-impedance main outputs. With MC With line-amplifier module \$1,895

FORTÉ AUDIO Model 2 Preamplifier

Dual-channel, noninverting hybrid topology, low-noise, matched integrated gain devices enhanced with discrete pure Class A biasing, active constant-current sourcing, and imp buffering. Accepts input from high- and low- output MC and MM cartridges; 4 high-level sources and tape recorder. Record/monitor facilities for recorder allow listening to one source while recording another; internal selection of resistive and capacitive cartridge loading; selectable cartridge gain of 40, 50, 60 dB. External power supply; goldplated signal connectors; glass-epoxy circuit boards. THD <0.02% at 3 V; noise < 100 dBA referenced to 1 V input; gain + 20 dB; input imp 25,000 ohms; output imp 470 ohms. 19 x 134 x 7 in\$1,100

GOLDMUND BY INTERNATIONAL AUDIO Mimesis Preamplifier

Features 1 phono input; 3 line-level inputs; 2 full tape loops; optional 4th-line input instead of phono stage; phase switch; muting switch; selfadjusting MC phono input. FR 0-850,000 Hz ±3 dB; S/N >95 dB; Ch sep > 90 dB. 19 x 1¼ x 1243 in; 13.2 lb\$4,490 As above without phono stage \$3,990

HAFLER

Iris Preamplifier

Integrated system with pure FET Class A design utilizing C-MOS switching and a passive fiberoptic volume/balance control. 5 high-level inputs, two tape inputs; external-processor loop, and patented MM/MC phono stage; outputs: record 1, record 2, external-processor out, line; knob-con-trol remote. FR 20-20,000 Hz ± 0.1 dB; THD 0.005% line, 0.002% MM, 0.009% MC; S/N MM -87 dBA, MC -80 dBA, 94 dBA line; 17 x 3 x 81/2 \$900 in:9lb Without remote control \$700

SE-100 Preamplifier

All-discrete J-FET devices in the signal path; lowimpedance power supply; power-on delay cir-

AMPLIFIEBS



majier mis

HEYBROOK BY D'ASCANIO AUDIO C-3 Preamplifier

JRM

JRM Preamplifier

KENWOOD

L-100C Preamplifier

MM/MC phono selector. Features 6 inputs: 1 balanced, 2 line, 2 tape, 1 phone; 4 outputs: 1 balanced, 1 RCA preamp, 2 tape; motor-driven volume control; LED indicators; remote control. Frequency response 5-100,000 Hz +0, -3 dB; total harmonic distortion 0.003% at 1 V; signal-tonoise ratio 85 dB (phono), 100 dB (unbalanced). 17% x 3% x 15%; 19.8 lb.......\$1,100

KINERGETICS

KDP-100 Digital Preamplifier

Line-level preamp with AES/EBU standard interface; 8x-oversampling DSP; four 18-bit D/A converters; 2 digital inputs; 4 analog inputs; 2 video inputs. Features rhodium-plated RCA jacks. 12 separate power supplies, full dual-mono circuitry. \$1,895

KPA-2 Preamplifier

Line preamplifier with patented hysteresis distortion-canceling circuits. Features dual-mono with 2 toroidal transformers; 1 processor loop; servo loop to eliminate DC offset; no capacitors in signal path. 7 audio inputs; 1 tape output; 1 positive and 1 inverted output. Slew rate 60 V/ μ sec; 19 x 3³/₄ x 12³/₈ in; 12 lb \$995

KRELL KBL Preamplifier

Fully discrete, DC-coupled, Class A line preamplifier with dual-mono, double-regulated external power supply. Two balanced inputs, balanced output; 6 selectable high-level inputs \$4,250

KSL Preamplifier

LAZARUS

Balanced Deluxe Hybrid Preamplifier

Features balanced differential circuitry; separate chassis and power supply for balanced differential circuitry; hybrid circuitry features tubes and FET's; phono stage for low-output moving-coil cartridge. Six inputs; volume control with balance attenuators; AC power/standby switching; auto-muting function; six-position record selector; XLR output connectors; Tiffany jacks for phono inputs, CD inputs and main outputs. sens 0.2-mV; input overload (phono) 100 mV; input overload (line) 25 V; noise - 85 dB at 2 mV input; output imp 10 ohms

Cascade Deluxe Hybrid Preamplifier

LINN

LK1 Preamplifier

Microprocessor-controlled preamplifier with independently adjustable input-level matching. Features keyboard lockout; all switching and level adjustments electronic on board; remote control. Inputs for MM and MC phono; two tape decks; aux; tuner. 10½ x 3 x 10½ in; 9 lb . \$1,195

LUXMAN

TP-117 Preamplifier/Tuner/Remote Controller

Dual preamps in one chassis provide independent source selection and volume control for two sets of components. Features RF TV modulator; separate regulated power supplies; AM/FM tuner with computerized tuning and 4-stage FM front end. 20 AM/FM station presets with auto-seek tuning; cable FM fine tuning (25 kHz steps); motor-driven volume controls with auto preset; multifunction remote control; pre-out/signal processor jacks; video switching with buffer amplifiers; CD-direct input. Amp section: FR 20-20,000 Hz \pm 0.5 dB; THD 0.006%; SN 86 dB (phono), 96 dB (CD/tape/ video). FM section: 50-dB quieting sens 38 dBf (stereo); cap ratio 1.5 dB; alt-ch sel 68 dB. AM section: S/N 50 dB. 17/4 x 4/4 x 13 in ..., \$1,250

TP-114 Preamplifier/Tuner

Features Duo-Beta feedback circuitry. Star-cir-

MARK LEVINSON BY MADRIGAL No. 26 Preamplifier

High-gain preamplifier with matrix-style DC switching. Features hermetically sealed silver contacts with gold plating; 6 line-level inputs: CD. tuner, aux-1, phono/aux-2, tapes 1 and 2; 2 tape inputs; nonbuffered tape outputs; absolute phase of main outputs; stereo/mono operation selectable on front panel; independent switchable gain for each channel; internal-gain adjustment switches for each channel, gain 6, 12, or 18 dB at the unbalanced ouput, 12, 18, or 24 dB at the balanced output; dual-mono design. PLS-226 chassis with 3 power supplies, 2 for unregulated DC current for 2 audio channels, 3rd supplies power to relay control circuit; two toroidal transformers; Faraday shields said to reduce AC line coupled noise; 9 gold-plated contacts for connecting cable; 4 discrete, independent regulators; 3-pin Neutrik XLR connectors; all-aluminum chassis. Output imp 40 ohms; line input imp 14,000 ohms; phono input imp MC 825 ohms, MM 47,000 ohms; phono gain: MM 38/44 dB, MC 58/64 dB. Preamp: 171/2 x 23/4 x 131/8 in; PLS-226 75/8 x 23/4 x 13½ in; 32 lb \$5,295 With low-gain phono only \$5,215 Without phono\$4,470

MCINTOSH

C-34V A/V Preamplifier

C-35 A/V Preamplifier

MERIDIAN

Model 603 Preamplifier with D/A Converter Features D/A conversion through 256x oversampling, dual-differential PDM bit-stream circuitry. Automatically matches source sampling rate (32

AMPLIFIERS

Model 201 Preamplifier

MOTIF BY CONRAD-JOHNSON MP11 Preamplifier



Museatex Melior preamplifier (top) and Melior power amplifier

MUSEATEX

Melior Digital Preamplifier

NAD

Model 1700 Monitor Series Preamplifier/Tuner

Model 1300 Monitor Series Preamplifier Features MC phono preamp; external processor loop; infrasonic filter. Bass EQ; null switch; semiparametric tone controls (bass switchable to 50, 100, 250 Hz, treble switchable to 3,000, 6,000, or 12,000 Hz; ± 12 dB boost/cut); 2-way tape dubbing. Max output 12 V. Rack mountable ... \$339

Model 1000 Monitor Series Preamplifier

NAIM

NAC 72 Preamplifier

Features matched and time-aligned filter. Two tape, tape monitor, two phono, and CD inputs. Input sens: MM 2 mV at 47 kilohms; MC 100 µV at 470 kilohms; main outputs 0.775 V at 47 kilohms; overload margin 40 dB. 11½ x 3 x 8 in... \$1,245

NAKAMICHI CA-7A Preamplifier

CA-5AII Preamplifier

Features 5 high-level inputs; phono input; copies between 2 tape decks in either direction; recording deck monitors copying procedure; gold-plated inputs and outputs; MM- or MC-cartridge phono input; output level; bass; balance; treble; lownoise FETs; bipolar transistors; multiregulated isolated-ground power supply; S/N >95 dBA; THD <0.002% at 20-20,000 Hz; FR 1-100,000 Hz +0, -3 dB. 17% x 2½ x 11¼ in; 11.3 lb ... \$1,095

ONKYO

Grand Integra P-308 Preamplifier

Integra P-304 Preamplifier

Independent, magnetically shielded power supplies for each amplification block. Features Delta power supply with Real Phase transformer. Dual record-output selector; adjustable phono gain and load imp; 8 inputs including MM/MC phono jacks. FR 0.8-170,000 Hz +0, -3 dB; THD 0.0005% (tuner, CD); S/N 92 dB (MM). 18/4 x 4 x 15% in; 17 lb \$530

P-3200 Preamplifier

Features selective tone control; CD direct input; simulated-stereo circuitry; direct play function; motorized volume control; RI system remote control compatible; side panels optional ... \$270

PARASOUND

C/PT-1000R Preamplifier/Tuner

Class A FET design. Features gold-plated jacks; 2 pair line output; variable loudness contour; mono switches; 16 AM/FM presets; remote control. FR 5-80,000 Hz; THD <0.004%; S/N 92 dB. 17¼ x 4 x 10¼ in; 17 lb \$550

P/FET-900 Preamplifier



Proton AP-600T

PHILIPS

AV1001 Preamplifier

Features S-video inputs and outputs, Dolby Pro Logic surround-sound decoder, digital sound processor and Bitstream D/A converter; test-tone generator; three center-channel modes and preset rear-channel delay time of 20 µsec; control adjustments for 5 hall sizes, adjustable reverberation time, adjustable individual left-rear and right-rear delay time; surround channels lowpass and high-pass filter. 9 audio inputs; 5 composite NTSC video inputs for CDV, DBS, two VCR's and one aux source; 5 S-type Y/C video inputs; A/V recording outputs; master switching matrix with display; video outputs; 52-button universal programmable LCD learning remote that controls AV1001 and 9 other components \$2,000

PIONEER

C-91 Reference A/V Preamplifier

C-72 Reference A/V Preamplifier

Motorized rotary volume control; local power off; 5 audio inputs; 2 video terminals for inputs and outputs; 3 video terminals for input only; Svideo connector; A/V recording selector; twoway video dubbing; multiroom capable with optional MR-100; Urushi-finished front panel; rosewood finished vinyl-covered side panels. 18 x 6½ x 16½ in; 31.88 lb \$\$50

AMPLIFIEBS

PROTON

AP-600T Preamplifier/Tuner

Features variable wattage amp to accommodate speaker selection; incorporates Schotz II Tuner; 18 FM/9 AM presets; mono/stereo switch; variable loudness control. \$600

AP-1000 A/V Preamplifier

PS AUDIO

Model 6.0 Preamplifier

Line-level preamp with 6 inputs. Straight-wire, high-level bypass switch; touch-sensitive switching \$499

QUAD

Quad 66 Preamplifier

5 analog inputs and extensive filter and tone controls. Tilt control offers flat, increasing, or decreasing FR slopes in 7 steps of 1 dB each; two steps of high-frequency filtering, rolloffs at 7,000 Hz, 5,000 Hz; bass control shelves bass down 5 dB max with rolloffs at 50 Hz and 200 Hz, for control of low-frequency noise and speaker boundary effects. All controls activated from remote control with rotary volume and balance, push-buttons for other functions, operates all Quad 66 series components. Frequency response (phono) 30-20,000 Hz ±0.5 dB; frequency response (line) 20-20,000 Hz ±0.2 dB; total harmonic distortion <0.05%; sensitivity (phono) 3mV with options of 1 mV or 200 µV, signal-tonoise ratio 75 dB; sensitivity (aux 1/aux 2) 300 mV, signal-to-noise ratio 93/99 dB; sensitivity (CD) 300 mV, signal-to-noise ratio 99 dB; sensitivity (tuner) 100 mV, signal-to-noise ratio 93 dB. 12¼ x 3¼ x 10 in; 7.5 lb \$1,500

Quad-34 Preamplifier

Features tilt control as in Quad 66; bass control; inputs for disc, tape, tuner, aux; 3 push-button filters; bass lift and step. Distortion, any input, 0.5%. Residual noise, A-wtd volume control at minimum -105 dB; frequency response ± 0.3 dB any input (except phono), phono ± 0.5 dB. \$795

QUICKSILVER AUDIO

Quicksilver Tube Preamplifier Features two 12AX7s, two 12FQ7s, two 6X4s and 12AU7 vacuum tubes \$1,595

ROTEL

RTC850 Preamp/Tuner

Dual-gate MOSFETS in tuner front end. Features 16 AM/FM station presets; digital-synthesis tuning; direct signal paths; inputs for MM/MC, CD, tape, and video; multifunction remote; motorized volume control. Tuner section: 50-dB quieting sens, mono 15.2 dBf, stereo 37.2 dBf; AM rej 58 dB; cap ratio 1.0 dB narrow; maximum signal-tonoise ratio 75 dB stereo, 80 dB mono; alt-channel selectivity 70 dB wide; AM suppression 57 dB; IHF sensitivity 10.8 dBf mono; channel separation 45 dB at 1.000 Hz; total harmonic distortion 0.07% mono and 0.25% stereo. Preamplifier section; frequency response 20-20,000 Hz \pm 0.2 dB; total harmonic distortion <0.004%; signal-tonoise ratio 100 dB. 17½ x 3½ x 13½ in; 12 lb \$499

RC870BX Tube Preamplifier

JEFF ROWLAND Consonance Preamplifier

Features microprocessor-controlled volume and switching. 5 unbalanced line inputs and 1 phono input; balanced and unbalanced output; userstored level setting for all inputs; fluorescent display; optional remote control; separate remote receiver. Line section: frequency response 0.08-600,000 Hz - 3 dB; gain 16 dB; total harmonic distortion <0.012%; input imp 100 kilohms, 10 kilohms or 600 ohms; output imp 150 or 300 ohms. Phono section: FR 0.15-220,000 Hz - 3 dB; gain 0 dB; THD <0.04%. 13¼ x 2½ x 15 in ... \$3,350



SHERWOOD

AP-7020 Hybrid Preamplifier

Discrete pure complementary amplifier; switchable MM/MC phono gain amplifier; active high and subsonic filter. Loudness switch; crossover for subwoofer; gold-plated phono jacks; switchable tone-control turn over frequency; direct switch (tone bypass); rec-out selector switch; 2 sets of pre amp output jacks; external-processor in/out jack; muting switch; balanced in/outs; 3 tape and processor loops; 2 tone controls. Frequency response 20-150,000 Hz + 0.5, -3 dB; total harmonic distortion 0.005%; signal-to-noise ratio 80 dB (MM), 75 dB (MC) 17½ x 4½ x 11 in ... \$359

SONOGRAPHE BY CONRAD-JOHNSON SC1 FET Preamplifier

SONY

TA-E77ESD Digital Preamplifier

SOUNDCRAFTSMEN

Pro-Control 422 Preamplifier/Equalizer

C-MOS preamplifier/EQ with independent line and tape switching for 8 inputs: CD, tuner, phono. 2 tape monitors, 3 A/V monitors, signal-processing loop. Allows independent listening and tape recording or multiroom applications. Includes a subsonic filter and direct mode to bypass all tone controls, EQ, and unnecessary circuitry. Dual 10band EQ featuring ±15 dB control and exclusive differential/comparator output balancing. Auto-Bridgeable amplifier. Frequency response 20-20,000 Hz ± 0.1 dB; total harmonic distortion < 0.005%; phono signal-to-noise ratio 97 dB; S/N 116 dB. Rack-mount front panel. 19 x 51/4 x 101/2 \$849 in. Pro-Control Four Preamplifier. As above, without equalizer. Has 2 signal-processing loops. 19 x . \$849 31/2 x 101/2 in . Pre-Control Three Preamplifier. As above, with only 2 tape monitors and one signal-processing loop \$549

Pro-PT Five R Preamplifier/Tuner

C-MOS switching. Features infrared remote control; 16 station presets, 3 inputs; audio mute; 2 tape monitors; dubbing; variable loudness control; spectral gradient for CD. FR 20-20,000 Hz ± 0.5 dB; S/N 80 dB for phono, 100 dB for high level. Mono 50 dB quieting is 12½ dB. Rackmount front panel. 19 x 3½ x 11½ in \$599

Pro-Control One Preamplifier

C-MOS switching. CD, phono, tuner, AV inputs and 2 tape monitors with dubbing. Variable loudness control; high and low filters; headphone output. Frequency response 20-20,000 Hz ± 0.5 dB; total harmonic distortion <0.008%; signal-tonoise ratio 80 dB for phono; 100 dB for high level. Rack mount front panel. 19 x 3 x 10 in \$329

SOUNDSTREAM

C-I MK II A/V Preamplifier

System 1 series component featuring dual-mono Class A circuitry and discrete component signal path. Separate power supply for audio and switching circuits to minimize noise in audio signal; digital switching circuitry links Soundstream products. Audio/video dubbing: disc-totape or tape-to-tape; separate record and listen circuitry permits simultaneous recording and listening or viewing; inputs for phono/aux, tape 1, tape 2, CD, tuner. Audio/video functions include VCR 1, VCR 2, videodisc, TV (output only); optional accessories: plug-in dual-mono phonopreamp card, remote-controlled AC power strip, and multiroom/simultaneous source network. Includes wireless remote for control of C-1, T-1, and DA-1 components; programmable to control 10 separate components. Frequency response 20-20,000 Hz ±0.1 dB; total harmonic distortion <0.05%; signal-to-noise ratio >100 dBA; input imp 30,000 ohms; input sens <100mV for 0.5V out. 17 x 31/8 x 111/2 in; 15 lb \$1,495

MPLIFIERS

SUMO Athena Preamplifier

Features built-in moving-coil head: discrete circuitry using 1% metal-film resistors and metalized polypropylene capacitors: gold-plated input/ output jacks: separate record/mode select functions; subsonic filter; high-level bypass; lasertrimmed volume control. Frequency response 20-20.000 Hz ± 0.1 dB; total harmonic distortion/ intermodulation distortion less than 0.01% below 18-V output: signal-to-noise ratio MC 80 dBA. MM 85 dBA, high level 100 dB. 19 x 1¼ x 8¼ in \$729

SUPERPHON

Revelation II Preamplifier

TECHNICS

SU-A200 A/V Preamplifier

SU-A6MK2 Preamplifier

Features infrasonic filter; shelving tone controls; selectable turnover frequencies; audio muting; inputs for MM/MC phono, 3 tape decks, CD, tuner, computer, VCR, TV \$800

SU-A40 Preamplifier

THRESHOLD

Model FET Nine/e Preamplifier

Dual-ch noninverting field-effect transistor preamp. Accepts inputs from high- and low-level MC, MM, or other velocity-output phono cartridges, 3 high-level sources, and 2 tape decks with full flexibility in record/monitor signal routing. Cartridge section uses single gain-variable preamplification stage for MC and MM cartridges. Cartridge loading selected by internal DIP switch assemblies. Signal-path topologies and powerregulation circuits derived from FET Ten/e research. External power supply in separate chassis. Circuit boards are military-grade glass-epoxy with gold-over-nickel-over-copper-plated paths. Gold-plated connectors with Teflon insulation. Precision metal-film and wirewound resistors used throughout. Controls for program source selector; monitor signal selection; ch balance;



Yamaha CX-830Ti

audio level. FR bandwidth DC-125.000 Hz at -3 dB; THD 0.01% at 3 V rms 20-20.000 Hz into 10.000-ohm load: high-level input imp 25.000 ohms, nominal. 19 x 1³/₄ x 11 in \$2.500

УАМАНА

CX-2000 A/V Preamplifier

Digital preamp with 8x-oversampling 18-bit digital filter and dual D/A converters. Features auto sampling frequency switching; direct output; 4 video inputs; 4 digital inputs; 1 optical and 2 coaxial digital audio rec outputs; 10 analog audio inputs; 5 audio and 2 video rec outs; 12 position rec-out selector: source-direct switch; provisions for simultaneous A/V recording on 2 VCR's; 6position MM or MC cartridge load selector. Continuously variable loudness control. Titanium finish with wood side panels. 33 lb \$1,499

CX-830Ti Preamplifier

CX-630Ti Preamplifier

Features 6 audio and 2 video inputs, 4 audio and 2 video outputs; 2 audio and 1 video rec output; 6-position rec-out selector; source-direct switch; provisions for simultaneous recording on two VCR's; -40 dB continuously variable loudness control; MM and MC cartridge switch; bass, treble, and midrange with frequency turnover controls and defeat; subsonic filter; 2 remote controlled AC outlets. Includes RS integrated system remote with 33 keys. Titanium finish \$449



ACOUSTIC RESEARCH

AR A-07 75-W/ch Integrated Amplifier Can switch video and corresponding audio signals; 110 watts per channel into 4 ohms; can supply up to 25 amps; twin power supplies; switchable sidechain feedback tone controls; filters and provision for MM and MC cartridges. Frequency response 15-20,000 Hz; total harmonic distortion 0.03%. \$500

AR A-05 50-W/ch Integrated Amplifier

50-W/ch integrated amp; side-chain feedback tone control introduces minimal sound degradation; 75 W/ch into 4 ohms; can supply up to 15 amps. Frequency response 15-20,000 Hz; Total harmonic distortion 0.03% \$400

AR A-03 30-W/ch Integrated Amplifier

30-W/ch integrated amp; no tone controls; 40-W/

ARCAM

Delta 90.2 70-W/ch Integrated Amplifier

Features toroidal power transformer. Aluminum casing: MM/MC, CD, tuner. 2 tape-rec inputs; independent listen and rec controls; mono switch; headphone input. 70 W/ch into 8 ohms; THD 0.02% at 1,000 Hz. 17 x 3½ x 11½ in; 18 lb. Black \$750

Alpha 2 30-W/ch Integrated Amplifier

ARISTON ACOUSTICS BY EUROSOUND Ariston Integrated Amplifier

Class AB bipolar integrated amp. Features remote control; headphone jack; moving magnet input. 31.4 watts per channel into 8 ohms; power bandwidth 9-30,000 Hz. 12³/₄ x 4 x 9³/₄ in. Satinblack finish \$499

AUDIO BY VAN ALSTINE

Omega 150 75-W/ch Integrated Amplifier

AUDIOLAB BY ARTECH

BELLES RESEARCH

Soloist 100-W/ch Integrated Amplifier

Features 5 stereo inputs; 2 stereo tape out; double tape loop; gold-contact relay switching. Phono interface optional. FR 0.1-60,000 Hz. 19 x 4 x 17 in, 33 lb. \$1,995

CAMBRIDGE AUDIO

P70 60-W/ch Integrated Amplifier

Features toroidal transformers with tuned reservoir capacitors. Passive tone controls with bypass circuit; discrete headphone amplifier. Five inputs: phono (for both moving-magnet and moving-coil cartridges), CD, tuner, aux, and separate

AMPLIFIEBS

CREEK AUDIO BY MUSIC HALL Model 6060 60-W/ch Integrated Amplifier

Model 4040/S2 40-W/ch Integrated Amplifier

DENON

AVC-3000 5-Channel Integrated Amplifier

Features Dolby Pro Logic circuitry with digital delay. 5 channels for stereo front, mono center, and stereo rear; surround effects include 4 Dolby modes for video, 6 modes for audio or video sources including hall, stadium, live. Variable delay from 5 to 40 μ sec in 5- μ sec steps. Center amp has two sets of output terminals; on-screen display and LCD front-panel; 3-position detail and sharpness controls; 4 S-video inputs; 3 S-video output; 8 video inputs; 4 video output; 14 audio inputs; 9 audio output; wide-band composite-video output; programmable 62-key learning remote control; system keys operate Denon integral system components. 80 W/ch front, 35 W

AVC-1000 210-W/ch 6-Channel Integrated Amp

Features Dolby Pro Logic circuitry with digital delay. 6 channels for stereo front, two center, and stereo rear; bridging capability; surround effects include 4 Dolby modes for video, 3 modes for audio or video sources, including hall, simulated, live; cinema switch compensates for theater sound mixes; including bass boost; variable delay from 5 to 40 µsec in 5-µsec steps. On-screen display and LCD front-panel; 4 S-video inputs; 3 S-video outputs; 5 video inputs; 3 video outputs; 10 audio inputs; 8 audio outputs; mono subwoofer output; two-mode rec-out selector combines video and audio sources to dub special sound tracks; programmable 62-key remote control; system keys operate Denon integral system components. 6-channel mode: 55 W/ch front, 25 W center, 25 W/ch rear; 4-channel mode: 55 W/ch front, 55 W/ch rear \$700

PMA-1060 105-W/ch Integrated Amplifier

DUAL

PA5030 30-W/ch Integrated Amplifier

30 W/ch high-current output capability and MC phono input. Black \$199

GRUNDIG

A-903 100-W/ch Integrated Amplifier

HARMAN KARDON

All integrated amps feature discrete components in signal path, MM/MC phono inputs, and selectable power-supply voltage unless otherwise noted. HK6900 170-W/ch Integrated Amplifier

HK6600 90-W/ch Integrated Amplifier

Features phase-correct loudness. 2-way tape copy; rec-out selector; tone defeat; mono switch;



Harman Kardon HK6900

HK6200 45-W/ch Integrated Amplifier

Нітасні

HA-V5EX 50-W/ch Integrated A/V Amplifier

JVC

AXZ1010TN 100-W/ch Digital Integrated Amp Class A operation. Features 18-bit D/A converter with 8x-oversampling digital filter and K2 interface; separate layout for digital and analog circuits; 3 digital connectious? I optical, I coaxial, I input/output for DAT; high-gain phono EQ for M/MC cartridges; bass-response control; re-

KENWOOD

KA-129 125-W/ch Integrated Amplifier/EQ

Features 7-band graphic EQ with 5 presets. Full circuit protection; EQ recording capability. Digital input; 5 audio, 2 video-sound inputs; headphone jack; remote control. 125 W/ch min rms into 8 ohms; FR 20-20,000 Hz; THD 0.05% . \$399

LINN

Intek 50-W/ch Integrated Amplifier

LUXMAN

LV-117 110-W/ch Digital Integrated Amp

Features dual 16-bit D/A converters and 4x-oversampling filter. Low-impedance drive capability; 3 differential FET input and predriver stages per channel; star circuit topology to reduce noise and distortion. Line-straight switch for all source inputs; video switching; signal processor/pre-out jacks; optical and coaxial digital inputs. 110-W/ch cont avg from 20-20,000 Hz into 8 ohms; dynamic output 300-W/ch into 2 ohms, 250-W/ch into 4 ohms; 160-W/ch into 8 ohms; THD 0.05%; S/N 97 dB (line-straight); IM 0.02%; slew rate 12 V/µsec; damping factor 50 (50 Hz, 8 ohms) \$1,200 LV-113. Similar to LV-117 except 65-W/ch; no MC phono inputs. Dynamic output 190-W/ch into 2 ohms, 150-W/ch into 4 ohms; 90-W/ch into 8 ohms; S/N 84 dB (phono), 96 dB (other analog inputs) \$750

LV-112. 55-W/ch Integrated Amplifier

Discrete driver/power-amp stages and bipolar output devices. Features low-impedance drive capability; Duo-Beta dual feedback-loop to widen bandwidth and improve transient response; star circuit topology to reduce noise and distortion. Line-straight, subsonic filter switches; 6 inputs including front-panel aux-input; DAT/tape select/dubbing, DAT/tape monitor, loudness compensation buttons. 55-W/ch cont avg from 20-20,000 Hz into 8 ohms; dynamic output 150-W/ch into 2 ohms, I20-W/ch into 4 ohms; 80-W/ch into 8 ohms; THD 0.05%; S/N 84 dB (MM phono), 95 dB (other analog inputs); IM 0.02%; slew rate 20 V/ ascc; damping factor 30 (50 Hz, 8 ohms). \$550



Linn Intek

AMPLIFIERS

MADISON FIELDING

CA 700 60-W/ch Integrated Amplifier

Features 7-band 24-step digital EQ; 4-tone memory; electronic volume control; remote control. FR 20-20,000 Hz; THD 0.01; 60 W/ch MOSFET amplifier; imp 4 ohm min. 19 x 3½ x 14¾ in ... \$1,500

MARANTZ

PM-84G 105-W/ch Integrated Amplifier

Features Quarter-A design; AVSS (Automatic Voltage Supply Shift); matched complementary MOSFET output devices; CD/phono direct switch; tone-defeat switch; separate monitor/dubbing selectors for 2 tape decks plus VCR; built-in MC step-up transformer; switches for mono mode, subsonic filter, muting, speakers on/off; THD 0.015%; rosewood side panels...\$1,100

PM-74DBL 105-W/ch Integrated Amplifier

Features Quarter-A design; AVSS (Automatic Voltage Supply Shift); CD/phono direct switch; tone-defeat switch; separate monitor/dubbing selectors for 2 tape decks; tone defeat; switches for mono mode, subsonic filter, muting, speakers on/off; IM 0.03%; THD 0.03% 5750

PM-65AVBL 65-W/ch Integrated Amplifier

MCINTOSH

MA-6200 75-W/ch Integrated Amplifier. Also rated for 100 W/ch into 4 ohms. 42 lb\$1,899

MISSION

Cyrus II 60-W/ch Integrated Amplifier

Features high peak-current delivery; nonmagnetic, polypropylene and polystyrene capacitors; separate listen and record selectors; inputs for CD, tuner, hi-fi, video, tape, and MM and MC phono cartridges; headphone jack. 60 W/ch; FR 20-20,000 Hz; THD 0.003% at 1,000 Hz into 8 ohms; S/N 83 dB; slew rate 10 V/µsec; damping factor 100. Matte black or Nextel gray \$799

NAD

Model 3400 Monitor 100-W/ch Integrated Amp Bridgeable stereo amplifier with power-envelope circuitry and soft-clipping circuitry. Normal/lab inputs; preamp out/main in; semiparametric tone controls: bass EO. Remote control 100 W/ch

Model 3240PE 40-W/ch Integrated Amplifier

Features power-envelope and soft-clipping circuitry; high current. Bass EQ; speaker impedance selector. 40 W/ch rms; +6 dB dynamic headroom \$399

Model 3225PE 25-W/ch Integrated Amplifier

Features power-envelope circuitry; soft-clipping circuitry; discrete 4 transistor phono preamp. Preamp out/main amp in. 25 W/ch rms; +4 dB dynamic headroom \$249

NAIM

NAIT 2 18-W/ch Integrated Amplifier Features four switch-selectable inputs: one for MM phono; three for tuner, tape, auxiliary; tape monitor/mute function; amplifier section bypassable. Input sens phono 2.5 mV at 47 kilohms; tuner, auxiliary 75 mV at 47 kilohms; tape output level and imp 75 mV at 1 kilohm, source. 10³/x 3 x 8 in \$825

ONIX AUDIO BY MUSIC HALL OA21 50-W/ch Integrated Amplifier

Inputs for MM or MC phono, tape, CD player, tuner. Features 300-VA toroidal input transformer; 20,000 μ farad capacitors; MM or MC board. 50 W/ch into 8 ohms; slew rate 150 V/ μ sec; FR 15-40,000 \pm 3 dB \$750

OA20 35-W/ch Integrated Amplifier

Inputs for MM, CD player, tuner, and tape . \$399

ONKYO

A-RV400 100-W/ch Integrated A/V Amplifier

Integra Series

A-8800 100-W/ch Integrated Amplifier

A-8700 105-W/ch Integrated Amplifier

A-8500 80-W/ch Integrated Amplifier

OPTONICA BY SHARP SM-A75 4-Ch A/V Integrated Amp

Features 11 surround effects; 35 W x 4; 3 userprogrammable modes; 2 monitor output controls; FL display; A/V cross playback; wireless remote control; adjustable time delay; adjustable feedback level; dubbing selection; 9 audio inputs/5 video inputs; 3 audio outputs/4 video outputs. signal-to-noise ratio 89 dB (75 dB phono); 1M 0.8%; CD FR 15-30,000 Hz front, 15-17,000 Hz rear \$600

PHILIPS

FA-80 100-W/ch Integrated Amplifier

Features Philips linear-drive power supply. Class A mode with 20 W/ch. Source-direct switching with auto tone defeat; 11 inputs: phono (MM and MC cartridges), CD or CDV, tuner, three aux, three tape recorders or VCR's and signal processor \$599

FA-50 70-W/ch Integrated Amplifier



Onkyo Integra A-8700

PIONEER

Elite A-91D 120-W/ch Integrated Amplifier

VSA-1000 5-Ch A/V Integrated Amplifier

Features Dolby Pro Logic surround-sound processor with digital delay. 4 mode: Dolby Surround, stadium, simulated stereo, studio. 154position memory remote control; 2 S-video input/ output terminals; 2 video monitor outputs with 1 S-video terminal; pre-out/power-in for front, rear, and center; 7 video inputs; 6 audio inputs; video signal selector and video adaptor loop; 3position acoustic memory; on-screen display. 100 W/ch into 8 ohms with 20-20,000 Hz with 0.1% THD. Rear channels: 30 W/ch into 6 ohms from 20-20,000 Hz with 0.1% THD; center channel 30 W/ch into 6 ohms from 20-20,000 Hz with 0.1% THD. 16% x 6% x 16% in; 26.5 lb \$1,000

A-757 100-W/ch Integrated Amplifier

PROTON

AM-656 60-W/ch Integrated Amplifier

AMPLIFIERS

D540 40-W/ch Integrated Amplifier

High-current, high-dynamic power amplifier with Dynamic Power On Demand (DPD) circuitry. Features phono section with MC/MM phono selections; active volume control; anticlipping circuit. 40-W/ch cont from 20-20,000 Hz; FR 20-20,000 Hz \pm 0.2 dB; S/N 85 dB₁ 105 dB (A-wtd); dynamic headroom 6 dB. Dynamic power rating: IHF 20 ms at 8 ohms, 160 W; 4 ohms, 280 W; 2 ohms, 380 W; 100 ms at 8 ohms, 150 W; 4 ohms, 220 W; 2 ohms, 230 W; 200 ms at 8 ohms, 150 W; 4 ohms, 190 W; 2 ohms, 200 W. 16½ x 3½ x 12½ in; 19.1 lb. \$380

Revox

B250-S 150-W/ch Integrated Amplifier

ROTEL

RA840BX4 50-W/ch Integrated Amplifier

As above but 30 W/ch \$299

SANSUI

AU-X911DG 100-W/ch Integrated Amplifier

AU-X611AV 80-W/ch Integrated Amplifier

AU-X301i 65-W/ch Integrated Amplifier

SCOTT

STA-1200 125-W/ch Integrated Amplifier/Tuner Comes with separate AM/FM quartz-synthesis tuner. Features 7-band graphic equalizer; rotary

SHERWOOD

AI-1210R 100-W/ch Integrated Amplifier



Revox B250-S

SOUNDSTREAM RA-100 50-W/ch Remote-Room Amplifier

Bridgeable to 100 W mono. Features remotecontrollable volume, balance, system on/off, bass and treble controls, and master level; variable line outputs/input for a local audio source. Wallmounting brackets included; optional wired keypad or wireless remote control. FR 20-20,000 Hz; S/N > 95 dB; THD < 0.1%. 9 x 1% x 12 in; 5 lb \$695

TANDBERG

3032 120-W/ch Integrated Amplifier

Features MOSFET and bipolar circuitry; separate MM and MC inputs; servo loop for DC stability; fully remote controlled. 60-500 W; FR 1.6-250,000 Hz; S/N 68 dB for phono MC, 72 dB for phono MM, 74 dB for other inputs; THD 0.09%. 17½ x 5½ x 14 in \$1,649

TECHNICS

SU-V90D 100-W/ch Integrated Amplifier

SU-AV55 50-W/ch A/V Integrated Amplifier

SU-V660 90-W/ch Integrated Amplifier

VECTOR RESEARCH

VA-800 35-W/ch Integrated Amplifier

Features C-MOS input switching; gold-plated binding posts; toroidal power transformer. Amplifier section: 35 W/ch into 8 ohms, 50 W into 4 ohms; total harmonic distortion 0.09%; IM 0.1%; FR 10-50,000 Hz; damping factor 100. Preamp section: signal-to-noise ratio 78 dB for phono, 95 dB for CD/tape. \$250

ЧАМАНА

AX-900U 130-W/ch Integrated Amplifier

AVX-700Ti 65-W/ch Integrated A/V Amplifier

AVX-500Ti 80-W/ch Integrated A/V Amplifier

AX-630Ti 85-W/ch Integrated Amplifier

COMPACT DISC PLAYERS

ACOUSTIC RESEARCH CD-06 CD Player

4x oversampling, 16-bit dual D/A converters. Computer-driven laser-swing arm; dual D/A converters; random-access programming of up to 20 tracks; scanning, play, pause, and volume performed by remote control. Fixed-level and variable output; digital output. FR 4-20,000 Hz, ±0.5 dB; THD 0.007%; S/N 105 dB; ch sep 92 dB. 171/4 x

ADC

CD-1000E CD Player

16-bit linear D/A converter. Features multifunction remote control; random 16-track programming; skip forward/back; ff/rev; repeat track, disc, or program; 7-pole (7th-order) analog filtering: 3-beam laser. Displays current track number, elapsed time of current track, remaining time on disc, program on disc, program in memory. Frequency response 20-20,000 Hz, ±0.5 dB; THD 0.005%; signal-to-noise ratio 96 dBA. 17 x 31/2 x 117/ in; 10.5 lb \$249

Model 1440 CD Changer/Receiver

4x oversampling, 16-bit D/A converter, 6-disc magazine and single-disc tray, built-in AM/FM receiver. Features 3-beam laser; two pairs of inputs for tape and video sources; speaker and headphone outputs; 32-track programming; programming for 10 magazines; random play; LCD indicators; remote control: 16 FM/8 AM presets; black finish. 60 W/ch into 8 ohms; FR 20-20,000 Hz ±0.5 dB; S/N 88 dBA; 17 x 43/4 x 14 in; 23 lb. \$700 Model 1446. As above, white finish \$700 Model 1320. Similar to above. Black finish: 25 W/ ch into 8 ohms; no single-disc tray. 81/2 lb . . \$600

ADCOM GCD-575 CD Player

4x oversampling, dual 16-bit D/A converters. Selectable analog frequency/phase contouring circuitry, fixed and variable outputs, 3-beam laser, plays 3-in CD's. Programs up to 24 tracks in any sequence; repeats disc, track, program, or any selected sequence or phrase; audible fast scan and fast forward. Displays total tracks up to 20. Timer display. Remote transmitter. FR 5-20,000 Hz + 0.1, -0.5 dB; S/N 105 dB; THD 0.0025%; ch sep 95 dB; IM 0.00018%; 17 x 31/2 x 111/4 in; 12 1b; black . \$600 GCD-575. White front panel \$650

AIWA

80

XC-004 CD Player

4x oversampling, 18-bit dual D/A converters. Features linear bit shift system; 3-beam laser; auto blank system. 20-track programming; 20-selection music calendar; peak search; manual program edit; 3-way repeat; program time counter; 3in CD compatibility; index search and timer standby mechanism; random; repeat; headphone jack with level control. Includes wireless remote





control. FR 20-20,000 ±0.5 dB; THD 0.004% at 1,000 Hz; S/N 105 dB; ch sep 90 dB at 1,000 Hz. 17 x 41/2 x 133/4 in; 10.6 lb \$440

XC-M600 CD Changer

4x oversampling, dual D/A converters, 5-disc carousel. Features 32-track programming; 3-in CD compatibility; 3-way repeat; continuous playback; random play; 10-key music selection and 5key disc selection. Includes wireless remote control. FR 2-20,000 ±1.5 dB; THD 0.04%; S/N 90 dB; ch sep 85 dB. 17 x 4 x 14¾ in; 12.1 lb..... \$330

ARCAM

Delta 70.2 CD Player

4x oversampling, dual 16-bit digital-to-analog converters. Features 20-track programming; 3speed search; track skip; direct/variable audio outputs; headphone output; digital output. Frequency response 10-20.000 ±0.1 dB; signal-tonoise ratio 105 dB; dynamic range 96 dB. 17 x 31/2 x 10% in; 14 lb. Black \$1,195 Remote control \$100

ARISTON ACOUSTICS BY EUROSOUND

Ariston CD Player

4x oversampling, 6-bit dual D/A converters. Swinging arm laser scanning assembly; error warning and active functions; remote control; track replay/skip; gold-plated outputs; digital and analog outputs; headphone output; automatic play of whole disc; 3-in CD compatability. FR 2-20,000 Hz; S/N >100 dB; THD <0.0025%. 121/4 x 3¼ x 11¼ in \$799

AUDIO BY VAN ALSTINE **Omega CD Player**

4x oversampling and dual 16-bit D/A converters. Features custom hybrid output stages and film coupling capacitors; filter drivers with 1/2-amp current drive at 200 V/µsec; exact channel phasegain tracking. Drawer loading; 20-track (and index number) programming; repeat; skip forward/ back; time/track display. Wireless remote control optional. 161/2 x 3 x 111/2 in; 9 lb \$495

BANG & OLUFSEN

Beogram 6500 CD Player

4x oversampling, dual 16-bit D/A converters. Integrates into the Beosystem 6500. Features wide range of programming capabilities; 3-in CD compatibility; displays: track time, elapsed playing time, remaining time, track index and number. FR 3-20,000 Hz ±0.3 dB; S/N > 110 dBA; THD < 0.0025% at 0 dB; ch sep > 101 dB. $16\frac{1}{2} \times 3 \times 12\frac{3}{4}$ in; 14.1 lb. Polished aluminum with glossy black or glossy white\$1,140

Beogram 4500 CD Player

16-bit oversampling, dual D/A converters. Integrates with Beosystem 4500 for full remote control. Bessel elliptical analog filter; separate power supplies for digital and analog sections. Skip forward/back; direct access by track number; plays 3-in CD without an adaptor. Black and silver finish. FR 3-20,000 Hz, ±0.3 dB; S/N 110 dBA; THD 0.0025%; ch sep >101 dB; dynamic range >96 dB. 161/2 x 3 x 121/4 in; 10 lb \$800

CAMBRIDGE AUDIO CD3 CD Player

16-bit, 16x oversampling digital filter. Utilizes CDM1/mk2 fully suspended, die-cast aluminum chassis and transport mechanism; toroidal transformer; discrete power supplies for both digital and analog stages; no analog filtering stage; optical and digital output. 20-track programming; 3speed search; track and index point selection; wireless remote control. Dynamic range 96 dB; S/N >100 dB; ch sep >100 dB; THD 0.0025% at 1,000 Hz \$1,860



Carver TLM-3600

CARVER

TLM-3600 CD Changer

8x oversampling, dual 18-bit D/A converters. Features Digital Time Lens sound enhancement circuitry. 10-disc magazine; 32-track random programming; intro scan; random play; search, repeat, skip, scan functions; remote control. FR 5-20,000 Hz ±0.2 dB; THD0.005%; S/N 110 dB Aweighted. 19 x 41/4 x 131/4 in \$700

TL-3300 CD Player

8x oversampling and dual 18-bit D/A converters. Features Digital Time Lens circuitry for AAD CD's to restore original ambient effects. 22-track programming with dedicated keypads on remote and panel; 3-in CD capability; 3-way repeat; skip and scan functions; remote compatible with Carver receivers. FR 5-20,000 Hz ± 0.2 dB; THD 0.002% at 1,000 Hz; S/N 100 dB; ch sep 90 dB; dynamic range 100 dB. 8 lb \$700

TL-3200 CD Player

8x oversampling and dual 16-bit D/A converters. Features Digital Time Lens circuitry for AAD CD's to restore original ambient effects. 32-track programming with dedicated remote keypad; remote volume control; shuffle play with delete option; intro scan; 3-in CD capability; 3-way repeat; skip and 2-speed scan functions; remote compatible with Carver receivers. FR 2-20,000 Hz ±0.2 dB; THD 0.005% at 1,000 Hz; S/N 100 dB; ch sep 90 dB. 8.5 lb \$450

CONRAD-JOHNSON

DF1 CD Player/Preamplifier

Dual D/A converters, built-in preamplifier, Features noise-shaping circuitry that yields 16-bit

COMPACT DISC PLAYERS

DENON DCD-3560 CD Player

20-bit, 8x-oversampling digital filter, four 20-bit LAMBDA converters. Features four MSB linearity adjustments per converter; optical isolation between digital and analog stages; pick-up chassis of nonresonant bulk molding compound; 20track programming; random play; remote volume control; direct track access; index mode; time search; 3-way repeat; auto space; auto edit; timer play; dimmer display; music-calendar program display; 3-in CD compatibility; optical and coaxial digital outputs; balanced analog outputs; Denon integral system. FR 2-20,000 Hz ± 0.2 dB; S/N [20 dB; dynamic range 100 dB; THD 0.0015%; ch sep 110 dB at 1,000 Hz

DCD-2560 CD Player

20-bit, 8x-oversampling digital filter, four 20-bit LAMBDA converters. Features MSB linearity adjustments; 16x-oversampling optical isolation between digital and analog stages; pick-up chassis of nonresonant bulk molding compound; Digital pitch control with ±9.9% range in 0.1% steps; digital fader; peak-search mode; 20-track programming; random play; remote volume control; direct track access; 3-way repeat; auto space; auto edit; timer play; dimmer display; musiccalendar program display; 3-in CD compatibility; optical and coaxial digital outputs; compatible with Denon integral system. FR 2-20,000 Hz ±0.2 dB; s/N 116 dB; dynamic range 100 dB; THD 0.0018%; ch sep 110 dB at 1,000 Hz \$750

DCD-860 CD Player

DCD-660 CD Player

DCM-777 CD Changer

8x-oversampling, 20-bit D/A converters with MSB

DCM-350 CD Carousel Changer

LA-2000 Combi-Player



Denon DCD-660

DUAL

FISHER

AD752 CD Player

DAC199B CD Changer

18-bit, 8x-oversampling digital filter, dual 16-bit D/A converters, five-disc carousel. Features 32track programming; 31-function wireless remote; selection memory and title memory; 3-in CD compatibility; random play; intro scan; scan,

GOLDSTAR

GCD-646R CD Player 3-beam laser and linear-skating loading mecha-

3-beam laser and linear-skaling loading mechanism. Features remote control; 20-track programming; shuffle play; music search; repeat; headphone jack; display showing elapsed/total time. track number, repeat, and memory ... \$250

GRUNDIG

CD-9000 CD Player

HAFLER Iris CD Player

HARMAN KARDON HD7600II CD Player

1-bit PWM D/A converter. Features separate power supplies for display, transport, analog, and digital sections; 3-beam laser pickup; fiber-optic and coaxial digital input/output. 30-track programming; index search A/B repeat; audible 2speed cue/review; fixed and variable analog outputs with gold-plafed jacks; headphone jack; remote control. \$699

HD7500II CD Player

1-bit PWM D/A converter. Features separate power supplies for display, transport, analog, and digital sections; 3-beam laser pickup. 30-track programming; index search; A/B repeat; audible 2-speed cue/review; fixed and variable analog outputs; headphone jack; remote control. \$529

HD7450 CD Player

1-bit PWM D/A converter. Features separate power supplies for display, transport, analog, and digital sections; 3-beam laser pickup. 30-track programming; remote control; audible 2-speed cue/review \$429

HITACHI

DA8200SW CD Player

DAC-70SW CD Changer

Features 2 six-disc magazines; direct program remote with volume; independent magazine/disc exchange; 32-track programming; direct, randora, scan/repeat play; skip/manual search; realtime counter; track-time counter; programmable

GOMPACT DISC PLAYEBS

VIP RX6EX Combi-Player

8x-oversampling, 1-bit D/A converter. Plays CD's and videodiscs. Multifunction remote control; hor res 425 lines \$699

JVC XLZ1010TN CD Player

XLG512NBK CD Player

XLZ431BK CD Player

XLM403BK CD Changer

KENWOOD

DP-7020 CD Player

8x oversampling, dual 20-bit D/A converters. Features optical digital output; vibration-damping design; remote control; random-track memory; 20-track direct access; 3-in CD compatibility. FR 2-20,000 Hz \pm 0.5 dB; S/N 110 dB; THD 0.0025% at 1,000 Hz. 17/4 x 5 x 12% in; 13 lb...... \$469

DP-M6620 CD Changer

LVD-300 Combi-Player

KINERGETICS

KCD-40 Gold Series CD Player

KRELL

MD-1 CD Turntable Top-loading CD transport featuring the CDM-3 CD-ROM drive utilizing Philips swing-arm laser servo, proprietary circuitry; four-point isolation, infinite leveling capability; remote control \$5,400

LUXMAN

D-105U Tube CD Player

8x oversampling, dual 18-bit D/A converters. Features BRID hybrid-circuit design using twin-triode vacuum-tube amplification in analog output stages; Duo-Beta dual feedback-loop amp circuitry to widen bandwidth and improve transient response; optical and coaxial digital outputs; metal chassis and component shielding; highmass magnetic disc clamper; 3-beam laser pickup. 32-track programming; random play; auto edit/fade-out for CD taping; auto scan/pause; timer/power-off memory; 9-key remote control. Frequency response 5-20,000 Hz, ± 1 dB; total harmonic distortion 0.05%; S/N 105 dB; dynamic range 92 dB; ch sep at 1,000 Hz 90 dB. 17/4 x 5/yz 13/y in; 18.7 lb. \$1,200



Marantz DC3587

DZ-112 CD Player

DZ-111 CD Player

DC-114 CD Changer

8x oversampling, dual 18-bit D/A converters, 6-

MAGNAVOX

CDB630 CD Player

4x oversampling, dual 16-bit D/A converters. 36button infrared remote control; A/B repeat; dual FTS; FTS title; random play; edit mode; scan/fast scan. 16½ x 3 x 11 in \$400

CDB624 CD Player

CDB586 CD Changer

CDC552 CD Carousel Changer

CDV-305 CD Combi-Player

MARANTZ CD94 CD Player

4x oversampling, dual 16-bit converters. Features digital outputs with link for optional CDA-94 separate D/A converter; favorite-track selection, memorizes over 200 disc programs; shuffle play; random play; intro scan; three independent power supplies for digital, analog, and mechanical sections; wireless remote with full programming capabilities; black rosewood side panels ______\$1,700

CD3577 CD Player

Dual 16-bit D/A converters. Features 20-track music programming; synchro dubbing; coaxial digital output; timer; 27-key remote control; 3-in CD compatible. FR 4-20,000 Hz; THD 0.005%; 5/N 100 dB \$450

DC3587 CD Changer

4x oversampling, dual 16-bit D/A converters, 5disc carousel. Features biaspheric glass lens in

COMPACT DISC PLAYERS

DC2484 CB CD Changer

6-disc magazine. Features 3-beam laser pickup; remote control \$330

MCINTOSH MCD 7007 CD Player

4x oversampling, dual 16-bit D/A converters. 18bit dynamic range; antijamming motorized frontloading tray. Programmable directly from short scan of each track; three-speed search; remote control; damaged disc/mute error correction indicator; digital output jack; headphone jack with volume control. Frequency response 20-20,000 Hz +0, -0.3 dB; total harmonic distortion 0.0012% at 1,000 Hz; signal-to-noise ratio 107 dBA; ch sep 102 dB at 1,000 Hz. 16% x 5½ x 13 in; 18 lb. \$1,995

MERIDIAN

Model 208 CD Player/Preamplifier

Model 206 CD Player

MISSION

Cyrus PCM II CD Player

4x oversampling, dual 16-bit D/A converters with post-D/A filter. Features 5 separate internal power supplies for analog and digital circuits; analog stages can be driven externally by optional Cyrus PSX power supply; digital output with 100-ohm removable loading plug. 29 function remote with display shut down; absolute phase inversion; low-loss 60 x 1-dB stepped volume control; 20track programming with recall; 3-speed search; 3mode time display; scan; program; direct-track access; index selection. FR 20-20,000 Hz; S/N 96 dB; THD0.003% at 0 dB. 17 x 3 x 13½ in ... \$849



Mitsubishi M-C4030

MITSUBISHI

M-C2050 CD Player

1-bit D/A converters. Features 20-track programming; calendar display; audible scan; intro scan; random play; remote control. 3-in CD compatibility; headphone jack \$349

M-C6010 CD Changer

8x oversampling, dual 18-bit D/A converters, 5disc nagazine. Features 20 programs per magazine for 50 magazines; on-screen display; tape edit; audible scan; index search; random play; remote control. 3-in CD compatibility; video input for CD+G decoder; video ontput; optical and coaxial outputs and headphone jack ... \$899

M-C4030 CD Changer

4x oversampling, dual 18-bit D/A converters, 5disc magazine. Features 20-step programming; audible scan; index search; random play; remote control. 3-in CD compatibility; headphone jack. \$449



NAD Model 5170

MUSEATEX Melior CD Player

NAD

Model 5100 Monitor Series CD Player

Model 5340 CD Player

18-bit, 8x-oversampling digital filter, 16-bit D/A converter. Features serial digital output; variable and fixed outputs. Includes remote control with volume control \$399

Model 5170 Monitor Series CD Changer

4x oversampling, 16 bit D/A converter, 6-disc magazine, and single-play drawer. Features serial digital output; intro scan; random play of all discs; 32-track programmable memory; remote control with volume. Rack mountable \$699

NAKAMICHI CDPlayer4 CD Player

8x oversampling, 18-bit D/A converter. Linearphase 3rd-order Bessel-type analog filtering; regulated power supply; isolated ground topology; floating disc-drive mechanism. 3-in disc compatible; memory play; repeat play; system remote terminal; digital output terminal; headphone output with level control; wireless remote control. FR 5-20,000 Hz ± 0.5 dB; S/N >100 dBA; THD 0.0035%; ch sep >95 dB. 17 x 4 x 12½ in; 11 lb. \$349

CDPlayer2 CD Changer

CDPlayer3 CD Changer

ONKYO

Integra DX-7500 CD Player

Integra DX-5700 CD Player

8x oversampling, dual 18-bit D/A converters with individual 2-MSB calibration. Features opto-coupling; 3-beam laser pickup; linear motor laser transport; Poly-Sorb vibration damping. 3-in CD capability; 20-track programming; 20-track random music calender display with 3-position dimmer control; time edit function; shuffle play; 4 repeat modes; variable headphone output; fixed and variable analog outputs; coaxial and optical digital outputs. \$580



Nakamichi CDPlayer2

DX-2800 CD Player

Four AccuPulse D/A converters. Features optical digital output; special damping for transport mechanism to eliminate vibrations; random play; motorized volume control; 2-mode display dimmer switch; 10-key direct track access on front panel......\$380

DX-C510 CD Changer

8x oversampling, dual 18-bit D/A converters with

GOMPACT DISC PLAYERS

DX-C310 CD Changer

8x oversampling, dual 18-bit D/A converters with MSB calibration. Features 3-beam laser pickup. Random play; 40-track programming; 4 repeat modes; fluorescent with supplied controller \$420

OPTIMUS BY RADIO SHACK CD-1650 CD Player

2x oversampling and 16-bit D/A converter. Features 3-beam laser. Memory programming; automatic search; repeat play; random play; pause and cue; audible search: digital display; remote control. FR 5-20,000 Hz ±1 dB; S/N 92 dB; THD 0.006%, 1,000 Hz \$240



Onkyo DX-C510

CD-6100 CD Changer

PANASONIC

SL-PS352 CD Player

4x oversampling, dual D/A converters. Features high-speed linear-access system; large insulation feet. Music matrix; 20-track programming; skip and search; track/disc/program repeat; FL display; 3-in CD compatibility; auto cue; multifunction time mode \$180

SL-PC363 CD Changer

PHILIPS

CD-80 CD Player

4x oversampling, dual TDA-1541-A SI Gold Crown 16-bit D/A converters. Single-beam pivoted Radialinear laser mechanism with die-cast frame; double thickness copper tracks on the circuit boards; damped copper capacitors; four independent power supplies. 35-key remote control; auto music scan; favorite-track selection; optical and coaxial digital outputs; fixed and variable analog outputs. \$799

CD-840 CD Player

CD-60 CD Player

4x oversampling, dual 16-bit D/A converters. Features Radialinear drive mechanism; motorized volume control; digital audio output terminal; optical and coaxial digital outputs; headphone jack with volume control; favorite-track selection; auto music scan. Includes multifunction remote control. \$429

Model 875 CD Changer

CDV-600 CD Combi-Player

1-bit Bitstream D/A converter with 256x oversampling. Plays 3- and 5-in CD's, 5-in CDV's, 8- and 12-in videodiscs. Features CX noise reduction for analog soundtracks; 50-button jog/shuttle infrared remote control; digital-frame memory with freeze, strobe, and picture recall; record edit feature; 5-mode repeat; random play; shuffle play; 20-chapter/track programming; auto music scan; two-speed scan; S-video output; optical digital output. Audio: FR 2-20,000 Hz ± 0.5 dB; S/N >100 dB; dynamic range >97 dB; THD <0.002% at 1.000 Hz. Video: horizontal resolution 425 lines; S/N 49 dB. 17¼ x 4½ x 16 in \$1,029

CDV-500 CD Combi-Player

CDV-400 CD Combi-Player

4x oversampling, dual 16-bit D/A converters. Plays 3- and 5-in CD's, 5-in CDV's, 8- and 12-in videodiscs. Features CX noise reduction; 42-button infrared remote control; record edit feature; favorite-track selection; 5-mode repeat capability; shuffle play; 20-chapter/track programming; auto music scan; two-speed scan; random play; bilingual/one-channel sound capability; S-video output; coaxial digital output. Audio: FR 3-20,000 Hz ± 0.5 dB; S/N 98 dB; dynamic range 94 dB; THD 0.003% at 1,000 Hz. Video: horizontal resolution 425 lines; S/N 48 dB. 16½ x 5 x 16¼ in \$599

PIONEER

PD-73 CD Player

PD-8500 CD Player

Features 20-bit, 8x-oversampling digital filter. True 20-bit dual-balanced zero-cross distortion free D/A converter; accu-focus system; low-loss laser pickup; Class A FET buffer amp; 4-part, 7regulator power supply with bifilar transformer; antiresonance and vibration designs. Random play; index search; 3-mode repeat; 24-track programming; CD-deck synchro; music window display; time fade editing and auto program editing; digital level control and one-touch digital fader; headphone output; 20-track music calendar; optical and coaxial digital outputs; remote control; optional timer. 16% x 5% x 12% in; 17½ lb . \$620

PD-7500 CD Player

PD-6500 CD Player



PD-M92 CD Changer

PD-M630 CD Changer

COMPACT DISC PLAYERS

CLD-92 Combi-Player

Plays all laserdisc media: LD, CD, 3-in CD, CDV. Features 20-bit, 8x-oversampling digital filter. True 20-bit zero-cross distortion-free D/A converter. 8-bit digital field memory; digital time base corrector; 3-line logical comb filter for Svideo output; copper-plated honeycomb chassis; speedy alpha turn mechanism with dual-centering mechanism. Plays both sides of LD continuously; visual intro scan; picture-window filing system; digital tilt and height servo; S-video terminal; twin visual calendars; 20-chapter/track programmability; random play for CD; remote control with jog and shuttle dial; 10-key direct access chapter/track search; auto program edit for CD. 425 line hor res; 50 dB video S/N ratio. 18 x 5¼ x 18% in; 28% lb \$2,000

CLD-3080 Combi-Player

Plays all laserdisc media: LD, CD, 3-in CD, CDV. Features 20-bit, 8x-oversampling digital filter. True 18-bit zero-cross distortion-free D/A converter. 8-bit digital field memory; digital time base corrector; 3-line logical comb filter for Svideo output; honeycomb chassis; speedy alpha turn mechanism with dual-centering mechanism. Plays both sides of LD; visual intro scan; picturewindow filing system; digital tilt and height servo; dynamic-extension switch for deep black color reproduction; S-video terminal; twin visual calendars; 20-chapter/track programmability; random play for CD; remote control with jog and shuttle dial; 10-key direct-access chapter/track search; auto program edit for CD. 425 line hor res; 50 dB video S/N ratio. 161/8 x 51/8 x 171/4 in; 28% lb \$1,400

CLD-1080 Combi-Player

20-bit, 8x-oversampling digital filter, D/A converter with double-step noise shaping, plays CD's and videodiscs. Features Honeycomb chassis; disc stabilizer. Digital tilt and height servo; twin visual calendars; 24-chapter/track programmability; random play for CD; remote control for CD; visual intro scan; 10-key direct access chapter/track search; 2 sets of audio/video outputs; headphone output. 425 line hor res; video S/N 48 dB. 16% x 4% x 16% in; 16½ lb \$600

PROTON

AC-620 CD Player

QUAD Ouad 66 CD Player

REALISTIC BY RADIO SHACK MD-1000 Combi-Player

4x oversampling. Plays 3-in and 5-in audio CD's and 8-in, 12-in videodiscs. Features digital fluorescent display with music calendar; search; intro scan; random play; repeat; still-frame functions; headphone jack with volume control; multifunction remote control. 16% x 4% x 15% in ... \$500

REVOX

B226-S CD Player

ROTEL

RCD-855 CD Player

SANSUI

CD-X711 CD Player

CD-X311 CD Player

CD-3100M CD Changer

SHARP DX-R840BK CD Player

DX-C5000 CD Changer

2x-oversampling, 6-disc magazine. Features 32-

SHERWOOD CD-1192R CD Player

8x oversampling, dual 18-bit D/A converter. Features 16-track programming; random play; disc/ track elapsed-time display; 4-way repeat; headphone jack with level control; numerical keys for direct search; can insert extra space between tracks for auto-search-capable recordings; standalone remote or Digi-Link remote control. Frequency response 2-20,000 Hz ± 0.5 dB; S/N >110 dB; THD 0.0024%. 17% x 2% x 10% in \$329

CDM-1260R CD Changer



Sansui CD-3100M

SONOGRAPHE BY CONRAD-JOHNSON SD-1B CD Player

SONY

CDP-X77ES CD Player

45-bit, 8x oversampling digital filter. Features optical and coaxial digital outputs; noise shaping; digital sync; servo stabilizer; linear drive; 20-track programming; repeat play; shuffle play; direct access; index search; fader; remote control $_{\rm FR}$ 2-20,000 Hz \pm 0.3 dB; S/N 117 dB; distortion 0.0015%. 18% x 5 x 14% in 37.6 lb... \$1,700

CDP-X55ES CD Player

45-bit, 8x oversampling digital filter. Features optical digital output; noise shaping; digital sync; servo stabilizer; linear drive; 24-track programming; repeat play; shuffle play; direct access; index search; peak-level search; auto space; fader; remote control; 20-track music calendar. FR 2+20,000 Hz \pm 0.3 dB; S/N 115 dB; distortion 0.0018%. 18% x 5 x 14% in; 27.7 lb \$900

CDP-X33ES CD Player

8x oversampling, 18-bit D/A converter. Features optical digital output; noise shaping; digital sync; servo stabilizer; linear drive; 24-track programming; repeat play; shuffle play; direct access; index search; peak-level search; auto space;

COMPACT DISC PLAYERS

fader; remote control; 20-track music calendar. FR 2-20,000 Hz ±0.3 dB; S/N 113 dB; distortion 0.002%. 17 x 5 x 14% in; 24.3 lb \$580

CDP-990 CD Player

CDP-790 CD Player

CDP-C85ES CD Changer

8x oversampling, 18-bit D/A converter, 5-disc carousel. Features optical digital outputs; noise shaping; digital sync; servo stabilizer; custom file; 32-track programming; repeat play; shuffle play; direct access; peak-level search; fader; remote control; music calendar. FR 2-20,000 Hz $\pm 0.3 dB$; S/N 110 dB; distortion 0.0025%. 18⁵/₈ x 5 x 15¹/₄ in; 18 lb. \$500

CDP-C705 CD Changer

8x oversampling, dual 18-bit D/A converters. 10disc magazine. Features noise shaping; servo stabilizer; remote control; custom file; shuffle play; repeat play; variable line out; 5-disc/20track direct access; headphones with volume control. FR 2-20,000 Hz \pm 0.3 dB; S/N 105 dB; distortion 0.0035%. 17 x 4¼ x 15 in; 13 lb. \$380

TEAC

PD-365 CD Player

4x oversampling, 16-bit dual D/A converter. Features 3-beam laser pickup; 4-digit LED display; 16-selection random memory programming; 2way repeat; remote control. FR 20-20,000 Hz ± 1 dB; THD 0.005% at 1 KHz; dynamic range 92 dB; S/N 105 dB. 17% x 3% x 11½ in; 7½ lb ... \$250 PD-265. As above, 4x oversampling. FR 5-20,000 Hz ± 1 dB; THD 0.005% at 1,000 Hz; S/N 90 dB. 17% x 3% x 10% in; 7 lb ... \$230

PD-700M CD Changer

4x oversampling, dual D/A converters, 6-disc magazine. 3-beam laser pickup. Features 32track multidisc random playback; multifunction fluorescent display; 3-way repeat; front-loading disc cartridge. Includes 10-key remote control. FR 5-20,000 Hz ± 1 dB; S/N 93 dB; THD 0.01% at 1,000 Hz. 17½ x 4 x 13½ in; 11.4 lb \$370

TECHNICS SL-P1300 CD Player

8x oversampling, four MASH D/A converters. Features separate digital and analog power supplies; high-speed linear-motor access system. 10button keypad; auto-cue; A/B repeat; $\pm 8\%$ pitch control; optical and coaxial digital outputs; 2speed search dial; audible pause; rocker switch for mixing; cueing by CD time code; balanced outputs; skip keys; 2-speed audible search; repeat track, disc, and program; headphone jack with level control; line out via unbalanced (phono) pin connectors; subcode output; cue search; remote control. 16% x 6% x 14% in \$1,800

SL-PS70 CD Player

Eight 1-bit MASH D/A converters. Features optical digital output; linear motor transport; just time edit; synchro editing; auto fader; peak-level search; random play; auto cue; FL display with music matrix. FR 2-20,000 Hz ± 0.3 dB; THD 0.003%; S/N 112 dB, 17 x 5 x 131/s in; 11.4 lb \$450

SL-P370 CD Player

SL-PC45 CD Changer

SL-PC25 CD Changer

VECTOR RESEARCH VCD-420R CD Player

4x oversampling, dual D/A converter. Music calendar; 3-in CD compatible; 5-way repeat; shuffle play; 28-function remote control. FR 20-20,000 Hz ± 0.5 dB; S/N >100 dB; THD <0.004%; ch sep >90 dB; dynamic range >95 dB. 17 x 3/4 x 12 in; 10 lb \$\$300

VCD-628R CD Changer



Yamaha CDX-2020

YAMAHA

CDX-2020 CD Player

8x oversampling MSB D/A converters for 22-bit linearity. Features direct output; digital de-emphasis circuitry; current isolation system; shuntregulated power supplies and independent transformers; heavy-duty chassis with pinpoint damping system; high-speed linear motor; floating suspension system; glass-lens 3-beam laser pickup with built-in head amplifier in die-cast aluminum chassis. 20-bit digital volume control; optical and coaxial digital outputs; 3-in CD compatibility: 5-way repeat; 24-track programming; direct-track access; 3-way music search; index search; calendar display; random play; gold-plat

CDX-920Ti CD Player

CDX-930Ti CD Player

CDX-730Ti CD Player

8x-oversampling with noise shaping, dual 18-bit D/A converters. Features 18-bit data output from digital filter; optical digital output. 3-mode program play; tape-edit function; program file; 4way repeat; 25-track programming; calendar display; 3-way music search; front-panel headphone jack with level control; RS integrated system remote control; titanium finish....\$349 CDX-730. As above, black.......\$349

CDC-610U CD Changer

CDC-805Ti CD Changer

CDV-1700Ti Combi-Player

TUNER

ACCUPHASE BY MADRIGAL T-107 FM Tuner

Electronic tuning; 12-station random memory; auto sweep for FM reception; double-tuned front end rejects interference and IM; differential-gain linear FM detector; IF filters with flat group-delay characteristics; resonator-controlled stereo demodulator; multipath and signal-strength meter; MPX filter; muting switch. FM section: 50-dB quieting sens, 17 dBf; S/N stereo 85 dB; FR 10-16,000 Hz, ± 3 dB; cap ratio 1.5 dB; AM sup 80 dB; adj-ch rej 30 dB. Champagne-gold or anodized-black finishes. $17/_{2} x 4/_{3} x 13$ in; 13 lb \$1,800

ACOUSTIC RESEARCH T-06/R AM/FM Tuner

Built-in infrared receiver can be linked to A-07 amplifier and/or RD-06 cassette deck. FM section: 50-dB quieting sens, mono 14.6 dBf, stereo 37.2 dBf; AM rej 60 dB; cap ratio 1.5 dB; S/N 78 dB mono, 73 dB stereo (at 65 dBf A-wtd); FR 30-15.000 Hz, ±1.0 dB; sep 45 dB. AM section: S/N 50 dB. 17/4 x 3½ x 10% in; 13.38 lb \$400

ADCOM

GFT-55511 AM/FM Tuner

ARCAM

Alpha 2 AM/FM Tuner



AudioSource TNR One

AUDIOSOURCE TNR One AM/FM Tuner

Quartz digital PLL tuning; 20-station memory presets; auto scanning and auto muting; digital display. Alt-ch sel 65 dB; cap ratio 1.0 dB; S/N 76 dB stereo, 70 dB mono. 16½ x 2¼ x 11¼ in; 8.38 lb. \$230

CARVER TX-11b AM/FM Tuner Digital quartz-synthesis tuner with asymmetrical



TX-12 AM/FM Tuner

TX-10 AM/FM Tuner

DENON

TU-660 AM/FM Tuner

TU-460 AM/FM Tuner

Quartz-lock digital tuner with 30 station presets. Features last-channel memory; auto-scan tuning; manual step tuning; RF attenuator switching. Includes Denon Integral System remote for control from Denon IS receivers, preamps, and A/v amps. FM 50 dB quieting sens 38.5 dBf stereo, 15.3 dBf mono; S/N 82 dB mono, 78 dB stereo; cap ratio 1.5 dB; sep 45 dB at 1,000 Hz \$240

GRUNDIG T-903 AM/FM Tuner

Quartz-synthesis tuner with 19 station presets. Features integrated automatic PLL decoder; automatic or manual station search for FM and manual search for AM; ceramic resonators in PLL stereo decoder for better channel separation; Buffered LF outputs. Station presets memorize functions, mono and stereo; muting switch; memory scan; LCD panel. Sens at 75 ohms, mono < 1 μ V, stereo < 35 μ V; distortion, stereo at 1,000 Hz < 0.4%; S/N at 40,000 Hz, stereo, 73 dB; selectivity 70 dB ± 300 Hz; FR 10-15,000 Hz. \$449

HAFLER

Iris FM Tuner

SE-130 AM/FM Tuner



Hafler Iris

HARMAN KARDON

Citation Twenty-Three AM/FM Tuner

TU9600 AM/FM Tuner

Features 24 presets; digital fine tuning; 2 antenna inputs; FM stereo pilot and subcarrier noise reduction; 2-volt output; hi-blend circuit; remote control. Black or champagne finish \$429

TU909 AM/FM Tuner

Digital-synthesis, quartz-locking design. Features 6 AM/12 FM presets; black-out LCD. FM section: 50-dB quieting sens 38.2 dBf (stereo); AM rej 45 dB; cap ratio 1.5 dB; adj-/alt-ch sel 5/70 dB; S/N 72 dB (stereo); stereo sep 45 dB at 1,000 Hz. Black finish. 17% x 2½ x 14½ in; 10 lb \$229

JVC

FX1010TN AM/FM Tuner Quartz-PLL digital-synthesis tuner with Optica-

TUNEBS

link system for reduced noise. Features 40 AM/FM station presets: auto memory: preset scan: variable stop level; dB signal-strength indicator: 6column alphanumeric display; 2 antenna inputs: program memory and monitor for recording off air unattended; signal generator for recording calibration \$480

KENWOOD L-1000T FM Tuner

LUXMAN

T-117 AM/FM Tuner

T-111 AM/FM Tuner

MAGNUM DYNALAB FT-11 FM Tuner

MARANTZ ST SICC AM/FM

ST 54CG AM/FM Tuner

MCINTOSH MR-7083 AM/FM Tuner

Features 8 AM/FM station presets; PLL Multiplex decoder; Spatial audio processor; signalstrength-activated noise suppression; low-impedance loopstick antenna; scan or manual tuning; auto center channel AM station tuning. 50-dB $\begin{array}{l} \mbox{quieting sens. mono 15 dBf, stereo 37 dBf; usable \\ \mbox{sens } 11.25 dBf; AM rej > 78 dB; cap ratio 1.5 dB; \\ \mbox{alt-ch sel 70 dB; FR } 20-15,000 Hz + 0, -1 dB; \\ \mbox{separation } 50 dB. 16\% x 5\% x 13 in $1,699 \end{array}$



NAD Model 4225

MISSION Cyrus AM/FM Tuner

NAD

Model 4225 AM/FM Tuner

Features 1F filters; switchable blend circuit. 14 random AM/FM presets. S/N >75 dB \$249

NAKAMICHI ST-7 AM/FM Tuner

ONKYO

Integra T-909011 FM Tuner

Integra T-4700 FM Tuner

4 mode APR reception system with manual override; 7-varactor/MOSFET RF section; Isohex power supply; 6-category classified scan with programmable alphanumeric ID; 40 random-access presets; full or category preset scan; FM fine tuning (25 or 50 kHz steps); dual antenna inputs; variable output; RI system remote compatible with supplied controller. \$450

Integra T-4500 AM/FM Tuner

3-mode APR reception system: IF bandwidth (wide/narrow), hi-blend (on/off), and stereo/ mono: all modes can be overridden. Features RF section with 5 varactor diodes. Antenna attenuator switch: local/distant switch; 8-segment signalstrength indicator; 40 AM/FM station presets with classified memory scan; battery-free memory backup; RI system remote compatible. FM: 50-dB quieting sensitivity 36.1 dBf (stereo); cap ratio 1.3 dB; S/N 73 dB (stereo); stereo sep 45 dB at 1.000 Hz. AM: S/N 40 dB. 17/k x 33/k x 14/2; in ... \$320

PARASOUND T/DO-260 II AM/FM Tuner



Onkyo Integra T-4500

PHILIPS FT-50 FM Tuner

PIONEER

Elite F-91 AM/FM Tuner

Digital-synthesis tuner. Features ARTS (Active Real-Time Tracing System) with IF filter; digital decoding; 4-ganged tuning capacitor; MOSFET circuit; 24 AM/FM station presets; 3-position muting level; remote compatible; honeycomb chassis. THD 0.02%; alt-ch sel 85 dB; S/N 92 dB \$600

F-656 AM/FM Tuner

F-447 AM/FM Tuner



Pioneer Elite F-91

PROTON

AT-670 AM/FM Tuner

PLL synthesis circuitry with Schotz II tuning. Features rotary knob; 2-color display; 18 FM, 9 AM presets: remote capability. 50-dB sens 32 µV mono, 30µV stereo; AM rejection.65 dB; cap ratio 1.0 dB; S/N 83 dB mono, 74 dB stereo. 181/2 x 43/8 x 15% in: 15.5 lb \$400

Model 440 AM/FM Tuner

Features Schotz Noise Reduction; digital station readout; 12 station presets; memory backup holds station settings for 2 weeks when unplugged; adjustable rear-panel output level. FM section: 50-dB quieting sens mono (15.3 dBf), stereo (33.2 dBf); AM sup 60 dB; cap ratio 1.5 dB: sep 45 dB at 1,000 Hz; FM usable sens mono 1.8 µV (10.3 dBf); THD stereo 0.2%, mono 0.05% at 1,000 Hz; S/N 70 dB stereo, 75 dB mono; FR 20-20,000 Hz ± 0.2 dB; alt-ch rej 55 dB; adj-ch rej 90 dB. AM section: sens 300 µV with built-in antenna. 161/2 x 21/2 x 93/4 in: 15 lb \$300



Sansui TU-X301i

OUAD FM4 FM Tuner

Designed for use with Quad 44 preamp. No controls except 8 pushbuttons to store/recall station presets, tuning knob, power switch; bargraph meter to indicate signal strength, centerchannel tuning. Dedicated microprocessor recalls desired station from memory, tunes it, automatically sets muting, automatic frequency control levels. Stations stored in memory remain for up to 5 years with power disconnected. Available in anthracite grey. Mono distortion 0.05%, stereo 0.1%; cap ratio 2.5 dB; sel 53 dB; image/IF rejection 80/100 dB; frequency response 20-15,000 Hz + 0, -1 dB; crosstalk 40 dB at 1 kHz; pilot-tone suppression 60 dB; deemphasis switchable 50/75 µsec; 8 x 15/8 x 51/8 in; 6 lb \$695

REVOX

B260-S FM Tuner

Stores 60 preset stations with reception modes in nonvolatile memory, allows user to arrange stored stations into separate groups for scanning. Signal-to-noise ratio less than 80 dB; total harmonic distortion 0.07%; FR 20-15.000 Hz ±0.5 dB: 171/4 x 41/4 x 13 in; 15.5 lb \$1,675

ROTEL **RT870 AM/FM Tuner**

Quartz-PLL tuner with 16 AM/FM presets. Features 4 regulated power supplies; active filter network; shielded dual-gate MOSFET front end; FM noise-filter selector: digital signal-strength readout. 50-dB quieting sens 37.2 dBf stereo, 14.8 dBf mono; AM rej 58 dB; cap ratio 1.0 dB; alt-ch sel 60 dB wide. 80 dB narrow; S/N 75 dB stereo, 80 dB mono; FR 30-15,000 Hz ± 0.5 dB; sep 48 dB at 1,000 Hz. 171/2 x 25/8 x 127/8 in; 8.5 lb \$399

SANSUI

TU-X711 AM/FM Tuner Quartz-PLL synthesis tuner with digital decoder. Features RF-mode selector; IF-bandwidth selector; record calibrator; 2 separate antenna inputs; 30 random presets and numeric keypad for station recall; preset scan. Usable sensitivity 10.8 dBf; 50-dB quieting sensitivity 16.2 dBf (mono); total harmonic distortion <0.009% (mono), 0.02% (stereo); signal-noise ratio 98 dB (mono). 91 dB (stereo); alt-ch selectivity 60 dB (wide),75 dB (narrow). 173/4 x 37/8 x 121/2 in; 11.2 lb. Black finish..... \$500

TU-X301i AM/FM Tuner

Quartz-PLL digital-synthesis tuner with 30 AM/ FM station presets. Features numeric keypad for instant recall; 5-sec preset scan. FM section: 50dB quieting sens 18.0 dBf (mono), 38.0 dBf (stereo); signal-to-noise ratio 79 dB (mono). 73 dB (stereo); total harmonic distortion 0.1% (mono), 0.15% (stereo). 17 x 23/8 x 101/8 in; 6.2 lb. Black-matte finish \$220

SHERWOOD TD-7010R AM/FM Tuner

Quartz-PLL synthesis tuning system. Features 3 pairs of IF ceramic fillers; MOSFET front end. Digi-Link remote system; digital display; auto/ manual scan; 30 station presets with scan; switch; 10-segment signal-strength meter; hi-blend switch; FM mute switch; AM bar antenna. Usable sens 9.8 dBf; 50 dB quieting sens 36.1 dBf (stereo), 19.2 dBf (mono); FR 10-15 Hz ±3 dB; THD 0.25% (stereo). 0.15% (mono); stereo sep at 1,000 Hz 50 dB; cap ratio 1.5 dB; alt-ch sel 70 dB. 17% x 3¼ x 8¾ in \$200

SONY

ST-S730ES AM/FM Tuner

Features radial power-supply design; automatic microprocessor-exclusion-circuit master clock; wave-optimized IF system; WODD wave- optimized direct detector/digital stereo decoder; direct comparator circuitry. S/N 92 dB stereo, 100 dB mono; THD 0.0075% stereo, 0.004% mono; sensitivity 10.3 dBf/0.9 µv; selectivity (at 400 kHz) 70 dB; sep (at 1 kHz) 70 dB. 181/2 x 33/8 x 143/4 in; 12.6 lb \$550

SOUNDCRAFTSMEN **Pro-Tuner Four AM/FM Tuner**

Digital quartz-PLL tuner with 16 station presets; 5-digit station readout; auto-scan tuning; and active high-blend filter. 19-in rack-mount front panel. IHF sensitivity 1.6 µV; S/N 75 dB; distortion 0.08%. 19 x 21/8 x 12 in \$379



Sonv ST-S730ES

SOUNDSTREAM T-1 AM/FM Tuner

Features defeatable blend circuit to reduce stereo background noise by 9 dB; knob in 50,000 Hz steps for tuning off-frequency stations; separate audio and switching power supplies. Flywheelassisted manual tuning knob for fine adjustment; 16 presets and station search; strength indicator; R-1 remote accesses major tuner functions. 50dB quieting sens 14.8 dBf; AM rejection 60 dB; cap ratio 1.5 dB; alt-ch sel 65 dB; S/N >82 dB mono >79 dB stereo; THD at 6,000 Hz: 0.12%

mono; 0.2% stereo. AM section: S/N 20 dB; THD 0.5% \$795

SUMO

Aurora AM/FM Tuner

Digital-synthesis tuner with rotary tuning. Features auto seek forward/reverse; 8 FM, 8 AM presets; tunes FM in 50,000 Hz increments for fine tuning; dynamic impulse noise-reduction system; linear-phase IF filters. Gold-plated output jacks. 50-dB quieting mono 16 dBf, stereo 34 dBf; usable sens 11 dBf mono; alternate-channel selection 75 dB; cap ratio 1.0 dB; S/N mono 85 dB, stereo 82 dB. 19 x 13/4 x 83/4 in \$749

TECHNICS

ST-G70 AM/FM Tuner

Twin-tuner design with 39 AM/FM station presets. Features Class AA circuitry; DC twin-quartz circuitry; DC linear switching MPX filter; auto IFbandwidth selection. 10-key random access; auto-scan; FM signal-strength indicator ... \$380

ST-G460 AM/FM Tuner

Quantz-synthesis tuner with 39 AM/FM station presets. Features DC circuit construction; DC linear switching MPX filter; 19,000-Hz pilot signal auto canceler; wide-band quadrature detector. Multifunction FL display; FM-mode switch FM specs: sens 10.8 dBf; 50-dB quieting sens 18.1 dBf (mono), 38.1 dBf (stereo); THD 0.05% (mono), 0.1% (stereo); S/N 80 dB (mono), 73 dB (stereo); FR 4-18,000 Hz +0.5/-1.5 dB; alt-ch sel 65 dB; cap ratio 1.0; image rej 55 dB; AM rej 55 dB; stereo sep 50 dB at 1,000 Hz, 40 dB at 10,000 Hz \$240

VECTOR RESEARCH VU-1000 AM/FM Tuner

Quartz-PLL tuner with 16-AM/FM presets: memory back-up, auto scan. FR 30-15,000 Hz; THD mono/stereo 0.08%/0.2%; S/N mono/stereo 82 dB/ 77 dB \$220

ЧАМАНА TX-2000 AM/FM Tuner

24 station presets. Features computer servo lock tuning; digital fine tuning; multistatus station memory; 2-mode station display; RS remote control compatibility; 4 tuning modes; 2 position IF-mode selector; ch sel 90 dB. Includes remote control. Titanium finish with side panels ... \$749

TX-930Ti AM/FM Tuner

24 station presets. Features computer servo- lock tuning; digital fine tuning; 2-position IF mode selector; 2 antenna inputs with selector switch; high-blend function; high-gain AM loop antenna; RF attenuator on/off switch. 24-segment signal meter; 6 way multistatus station memory; optional RS compatible remote control; rounded frontpanel design. Titanium finish \$399 TX-930. Same but with black finish \$399

TX-540Ti AM/FM Tuner

PLL IF count synthesis tuning. Features 2-position IF-mode selector. 20 station presets; 4-way multistatus station memory; high-blend switch; 24-segment signal-quality meter; low-impedance, high-gain AM loop antenna; auto search and manual tuning; RS remote control compatibility. Tita-\$299 nium finish. 9 lb TX-540. Same but with black finish \$299

TUBNTABLES

ACOUSTIC RESEARCH ES-1 Manual Turntable

EB-101 Manual Turntable

ARISTON ACOUSTICS BY EUROSOUND

Icon II Semiautomatic Turntable

Belt-drive turntable. Features remote power supply; fitted acoustic mat; 4 isolating feet; full spring suspension. 2 speeds (33½ and 45 rpm). W&F 0.08%; rumble 75 dB. Black finish ... \$499

Q-Deck Mk II Semiautomatic Turntable

BANG & OLUFSEN Beogram 4500 Automatic Turntable

Integrates with Beosystem 4500 for full remote control; built-in phono preamp; 3-point leafspring suspension; tangential tracking; accepts B&O MMC1-5 cartridges. Black and silver finish. W&F 0.06%; DIN-weighted rumble >80 dB. 16¹/₂ x 3 x 12³/₄ in; 11.7 lb. \$499



Bang & Olufsen Beogram RX 2

Beogram 6500 Turntable

Integrates with Beosystem 6500. Features builtin preamplifier for B&O MMC pickup cartridge; B&O tangential tonearm and suspended subchassis. W&F <0.03% wrms; speed deviation < $\pm 0.02\%$; rumble >80 dB DIN weighted; FR 20-20,000 Hz ± 1 dB; S/N >80 dBA; THD <0.02% at



Beogram TX 2 Automatic Turntable

Beogram RX 2 Automatic Turntable

Belt-drive turntable with pendulum-suspended chassis and straight pivoting tonearm; 33 and 45 rpm; fixed headshell. Recommended tracking force 1-1.5 g; w&F 0.035% DIN; rumble -75 dB; 16½ x 2½ x 18 in; 13 lb. \$299

DENON

All Denon turntables employ servo-speed control and are noncontact, microprocessor controlled using magnetic speed detection.

DUAL

CS 7000 Semiautomatic Turntable

CS5000 Semiautomatic Turntable

Belt-drive turntable with hall-effect motor and 4point full-floating suspension system. Features quartz-monitored 3-speed electronic control; optimum-pivot tonearm design; acoustic mat; cueing lever; 33½, 45, and 78 rpm. w&F 0.015% wrms; rumble <56 dB DIN unwtd. Black or walnut wood base \$500

CS455 Automatic Turntable

Belt-drive automatic turntable with four-point suspension. Features adjustable tracking force; detachable ½-inch headshell; floating subchassis; viscosity-damped cueing device. Wooden base

with bla	ack-satin finish S	300
	Same as above except semiautom	
operatio	on \$	270

GOLDMUND BY INTERNATIONAL AUDIO Goldmund Studio Turntable

Studietto MK2 Turntable

Features tonearm mounted on anodized-aluminum armboard; protection against overload and voltage surge

HEYBROOK BY D'ASCANIO TT-3 Series II Manual Turntable

J. A. MICHELL ENGINEERING BY ARTECH ELECTRONICS GyroDec MK II Turntable

JVC

ALFQ555BK Automatic Turntable

Direct-drive turntable with cordless DC servo direct-drive motor. Features automatic recordsize and speed selector; low-mass straight tonearm; high-stability cabinet support system; large insulators; arm cueing control; double-servo quartz control \$240

ALF353BK Automatic Turntable

Turntable with automatic record-size and speed selector. Features DC servo motor; arm cueing control; plug-in cartridge connector system; lowmass straight tonearm \$175

KENWOOD

KD-4020 Automatic Turntable

Automatic quartz-PLL direct-drive turntable with plug-in phono cartridge. 33% and 45 rpm; linear-tracking; straight tonearm. W&F >0.05\%; rumble 70 dB (DIN-weighted); effective tonearm length 5% in; tracking error $\pm 5^{\circ}$. Cartridge: FR 20-20,000 Hz; output voltage 2.5 mV. 17% x 4% x 13% in; 8.6 lb.

LINN

LPI2 Manual Turntable

TUBNTABLES

Alexandria Mark IV Manual Turntable

Belt-drive turntable without tonearm. 33¹/3- and 45-rpm speeds; high-torque AC motor; adjustable spring suspension; record-coupling system. Black piano finish. 19¹/4 x 6 x 14¹/8 in \$1,195

Paris Turntable

PIONEER

Elite PL-90 Automatic Turntable

Direct-drive turntable featuring coreless, quartz-PLL DC servo motor with stable hanging rotor. Features straight tonearm made of aluminum and ceramics; 33½- and 45-rpm play speeds; 14-inch platter. w&F 0.018%. 23½ x 8½ x 17 in ... \$950

PL-910 Automatic Turntable

Belt-drive turntable with DC servo-motor. Features statically balanced linear tracking tonearm; 33½- and 45-rpm play speeds; 0.6-mm diamond stylus. Wow-and-flutter 0.06%. 16½ x 4 x 14 in; 6.2 lb. \$400

PL-670(BK) Automatic Turntable

Direct-drive turntable with stable hanging rotor. Features dynamic resonance absorber; T4P Pmount cartridge adaptor; polymer/graphite straight tonearm; automatic disc-size selector. W&F 0.025%. 4½ x 16½ x 14½ in \$175

REVOLVER BY MUSIC HALL Revolver 21 Turntable

Revolver Turntable



Museatex Meitner AT 2

Revolver Rebel Turntable

Includes	tonearm	and	cartridge.	Blue	marble		
finish					. \$425		
Black sat	in finish .				. \$399		

REVOX

B291-S Automatic Turntable

Sherwood

PF-117OR Automatic Turntable

Direct-drive turntable featuring DC servo motor and pitch control with strobe. Features frontpanel operating controls; fully automatic start, stop, and return; repeat; diecast alloy platter; 45 rpm center adaptor; 2 speeds. Max tracking error $+2.6^{\circ}, -1^{\circ}$; w&F 0.06%. 17½ x 4½ x 15 in . \$159

SONOGRAPHE BY CONRAD-JOHNSON SG-3A Manual Turntable

SONY

PS-FL7II Automatic Turntable

PS-LK520 Automatic Turntable

Fully automatic linear-tracking turntable. Features direct drive, PLL quartz-lock operation; Pmount compatibility, 33% and 45 rpm; gel-filled feet; remote control capable. W&F0.035%; S/N 75 dB; effective tonearm length 3 inches; max tracking error $\pm 0.1^\circ$, 1° x $3^\%$ x 14% in; 13 lb ... \$270

SOTA

Deluze Star Sapphire III Turntable

Manual 2-speed belt-drive turntable with variable speed control and strobe. Features 22-lb subassembly for maximum isolation; exclusive inverted bearing with sapphire disc; single-piece 11-lb platter, rim drive; vacuum hold-down system: low-level pressure, continuous through play, adjustable vacuum; acrylic vacuum supermat; allwood top; speed control panel; heavy-duty dust-cover with oak finish. Rumble $-88.2 \, dB$; speed accuracy $\pm .02\%$; speed adjustment 5%. Oak or blackwood finish. $20\% \times 7\% \times 16\%$ in; 44 lb \$1.795 African rosewood \$52,095

Deluxe Sapphire III Turntable

Turntable with inverted sapphire bearing. Features 12-lb platter on 22-lb subassembly; 4-point corner weights and matching 4-spring design; regulated DC drive, fully damped, fully isolated

servo motor; P-mount cartridge \$90

MARANTZ

MUSEATEX

Meitner AT 2 Turntable

Axis Manual Turntable

Linn Basik

arm; 24-pole synchronous motor; 12-in zinc-aluminum alloy die-cast platter with felt mat; hard-

ened tool-steel spindle; adjustable 3-point spring-

suspension subchassis; heavy-gauge stainless-

steel base plate; solid hardwood base; optional

45-rpm adaptor. W&F 0.04% wrms; rumble -60 dB unwtd; speed accuracy $\pm 0.04\%$. 17½ x 5½ x

14 in \$1,295

Two-speed belt-drive manual turntable with pi-

voted arm. Plays 331/3-rpm LP's and 45-rpm sin-

gles. Speed accuracy 0.1%; W&F 0.05%; rumble

-75 dB DIN; effective tonearm length 284 mm;

16 lbs \$895

Basik Turntable. Two-speed belt-drive turntable

with Akitu tonearm \$550

Belt-drive turntable featuring semiautomatic DC-

TT-2462CB Semiautomatic Turntable

ONKYO

Integra CP-1057FB Automatic Turntable

OPTIMUS BY RADIO SHACK LAB-2250 Automatic Turntable

Belt-drive turntable. Features linear-tracking tonearm; power-failure protection; elliptical diamond stylus; cue button; 2 speeds; aluminum diecast platter. w&F 0.1%; S/N 55 dB; effective tonearm length 132 mm; FR 20-20,000 Hz; tracking force 2-3 g. $14/4 \times 3/4 \times 13/4$ in; 8.61b. \$150

ORACLE Delphi MK IV Manual Turntable Belt-drive turntable without tonearm. Available



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GRUIGHFIELD

1 Crutchfield Park, Dept. SR, Charlottesville, VA 22906

TUBNTABLES

Jewel Turntable

TECHNICS

SL-1200MKII Manual Turntable

Direct-drive quartz-controlled manual turntable with 33¹/₃- and 45-rpm speed control. Features gimbal-suspended tonearm with height adjustment; brushless DC motor; ±8% quartz-locked pitch control; quick start and stop; pop-up stylus light; aluminum die-cast cabinet; anti-resonant viscoelastic base. W&F 0.025%........\$550

SL-MA1 Automatic Turntable

Direct-drive turntable with P-mount cartridge and phase-locked-loop quartz lock. $33\frac{1}{5}$ - and 45rpm speed control; w&F 0.012% wrms; rumble -80 dB; effective tonearm length 230 mm; max tracking error + 0°32' (inner groove), +2°32' (outer groove). 17¼ x 6¼ x 16 in; 19.8 lb .. \$490

SL-QD33 Automatic Turntable

Direct-drive turntable with P-mount cartridge. Features 2 motors; quart2 lock; ultra-low-speed brushless DC motor for platter drive; pivoting arm; end-of-disc detection; soft-touch front-panel controls. Remote-control compatible through some Technics receivers. 33¹/₃- and 45-rpm; strobe. w&F 0.012% wrms; rumble -78 dB; effective tonearm mass 7.5g, length 230 mm; max tracking error $\pm 2^{\circ}$. 17 x 4¹/₂ x 14³/₄ in \$200

Turntables Without Tonearms SP-10MK2A Turntable

Quartz-synthesis direct-drive turntable with high torque for full speed in 25° of rotation. Features electronic, mechanical braking for speed change in 0.3 sec; separate power supply. Includes remote-control unit. 33/45/78-rpm; w&F 0.025% wrms $\pm 0.035\%$; rumble -70 dB (DIN B); speed drift within $\pm 0.002\%$. $14\frac{1}{2} \times 4 \times 14\frac{1}{2}$ in; 20.9 lb......\$1,400 SH-10B7. Optional base......\$950

SP-15 Turntable

THORENS BY BLR ELECTRONICS Phantasie Turntable

92 STEREO REVIEW FEBRUARY 1991



Thorens TD 320 Mk II

TD 520 Semiautomatic Turntable

TD 320 Mark II Semiautomatic Turntable

TD 318 Mark II Semiautomatic Turntable

TD 280 Mark II Semiautomatic Turntable

VECTOR RESEARCH VT-320 Automatic Turntable

ЧАМАНА

TT-500U Automatic Turntable

TT-400U Automatic Turntable

SPEAKEBS

ACOUSTIC RESEARCH

TSW-A Series

Features polypropylene woofers and midrange drivers.

TSW 910-A 4-Way Speaker

Floor-standing acoustic-suspension column speaker with Tetra-Helix tweeter-mounting plate. Features two 12-in woofers (one frontfiring, one rear-firing); 8-in lower-midrange driver; two 61/2-in midranges; 1-in titanium-dome liquid-cooled tweeter with acoustic lens; split crossover network. Power handling 35-400 W; imp 4 ohms; FR 28-32,000 Hz - 3 dB; crossover points 200, 550, 5,500 Hz; sens 90 dB with 2.83 V rms input at 1 meter on axis. Solid walnut or oak top/bottom with cloth-covered black-vinyl-veneer cabinet and black grille cloth. 153/4 x 523/4 x 181/2 in; 140 lb \$2,200/pr

TSW 610-A 3-Way Speaker

Floor-standing acoustic-suspension speaker with Tetra-Helix tweeter-mounting plate. Features 12-in woofer; 6^{1/2}-in midrange; ^{3/4}-in titanium-dome liquid-cooled tweeter with acoustic lens. Power range 15-175 W; imp 4 ohms; FR 40-40,000 Hz - 3 dB; sens 90 dB with 2.83 V rms input at 1 meter on axis. Solid walnut or oak top and bottom with black-vinyl-veneer cabinet and black grille cloth. 14 x 321/8 x 131/4 in; 57 lb \$1,000/pr

TSW 410-A 3-Way Bookshelf Speaker

Bookshelf acoustic-suspension speaker with Tetra-Helix tweeter-mounting plate. Features 8-in woofer: 61/2-in midrange; 3/4-in titanium-dome liquid-cooled tweeter with acoustic lens. Power range 10-100 W; imp 4 ohms; FR 46-40,000 Hz, -3 dB; sens 89 dB with 2.83 V rms input at 1 meter on axis. Solid walnut or oak top and bottom with black-vinyl-veneer cabinet and black grille cloth. 121/4 x 241/2 x 113/4 in; 30.5 lb \$600/pr

TSW 210-A 2-Way Speaker

Bookshelf acoustic-suspension speaker with Tetra-Helix tweeter-mounting plate. Features 8-in woofer; 34-in titanium-dome liquid-cooled tweeter with acoustic lens. Power range 10-100 W; imp 8 ohms; FR 54-40,000 Hz - 3 dB; sens 87 dB with 2.83 V rms input at 1 meter on axis. Solid walnut or oak top and bottom with black-vinyl-veneer cabinet and black grille cloth. 93/4 x 175/8 x 83/8 in: 15.3 lb \$380/pr

Spirit Series

Model 162 3-Way Speaker

Acoustic-suspension design with coupled carbon-loaded polypropylene woofer and 1-in treated-cloth dome liquid-cooled tweeter. OFC internal wiring; gold-plated 5-way binding posts; highspeed film caps in HF networks; biwire and biamp capabilities; frameless grille; walnut or black-ash woodgrain vinyl finish. Power handling 10-175 W; frequency response 45-22,000 Hz -3 dB; sens 91 dB; imp 4 ohms. 91/8 x 365/8 x 135/8 in; 43.3 lb \$1,200/pr

Model 142 3-Way Speaker

Acoustic-suspension design with carbon-loaded polypropylene woofer and liquid-cooled tweeter; direct-coupled woofer and midbass; OFC internal wiring: gold-plated 5-way binding posts; highspeed film caps in HF networks; biwire and biamp capabilities; frameless grille. Walnut or black-ash woodgrain vinyl finish. Power handling 10-100 W; FR 52-25,000 Hz -3 dB; sens 90 dB; imp 4 ohms. 91/8 x 251/8 x 11 in; 23.3 lb \$800/pr

Model 122 2-Way Speaker

Acoustic-suspension design with carbon-loaded



polypropylene woofer and liquid-cooled tweeter; direct-coupled woofer; OFC internal wiring; goldplated 5-way binding posts; highspeed film caps in HF networks; frameless grille. Walnut or blackash woodgrain vinyl finish. Power handling 10-80 W; FR 62-25,000 Hz -3 dB; sens 90 dB; imp 8 ohms. 7½ x 15½ x 8¾ in; 11.25 lb \$350/pr

STC 660 Subwoofer/Satellite System

Series Tuned Cavity system featuring two 6-in woofers: enclosure uses two tuned cavities in series configuration. Satellites feature magnetically-shielded-drivers in black cabinet with choice of oak or walnut trim \$588/sys

AR Powered Partners 570 2-Way Speaker

Self-contained powered speaker system with shielded drive units and versatile mounting system. Features 5-in long-throw woofer and 1-in liquid-cooled tweeter. Power on/off; LED poweron indicator; rotary volume, bass and treble control; crossover at 5,000 Hz. Frequency response 40-25,000 Hz; amp power 35 W ... \$475/pr

ADC

SoundImage 5502/5504 3-Way Speaker

8-in woofer; 8-in passive radiator; 4-in midrange; two 1/2-in tweeters. Power handling 200 W; FR 44-20,000 Hz ±3 dB; sens 90 dB; imp 6 ohms; crossover points 500 and 4,000 Hz. Black or walnut. 29¼ x 14 x 11¼ in \$700

Soundshaper 3025 Subwoofer/Satellite System

2-way model 3010 bookshelf-size speaker and Model 3015 subwoofer. Model 3010 features 4-in woofer and 1/2-in dome tweeter, ferrofluid-cooled tweeter; wall-mounted bracket. FR 85-24,000 Hz ±3 dB; sens 88 dB ±1 dB SPL/W/m; imp 6 ohms; power handling 50 W rms, 150 W max; crossover point 5,000 Hz. Model 3015 subwoofer features 8inch woofer. FR 41-165 Hz ±3 dB; sens 88 dB ±1 dB SPL/W/m; imp 4 ohms ±10%; power handling 50 W rms. 150 W max; crossover point 110 Hz. Satellites 11 x 7 x 51/k in; 5.5 lb; subwoofer 71/2 x 11 x 17 in; 15.5 lb \$500

SoundImage 5002/5004 3-Way Speaker

Vented bookshelf speaker with 61/2-in woofer; 3in ferro-fluid cooled midrange; two 1/2-in tweeters. Power handling 100 W; FR 65-20,000 Hz ±3 dB; sens 89 dB; imp 6 ohms; crossover points 1,800 and 4,500 Hz. Black or walnut finish. 113/4 x 15 x 7% in; 13 lb \$400

A/D/S/

M15/90 3-Way Speaker

Vertically aligned drivers (two 10-in woofers and 5-in midrange in separate subenclosure, 1-in dome tweeter); woofers near floor, midrange at top, to control boundary effects. Features copolymer diaphragms; 4th-order (24 dB per octave) Linkwitz-Riley crossovers at 200 and 2,000 Hz; stainless-steel voice-coil former; magnetic cooling fluid in midrange and tweeter; biwire compatible. Frameless perforated-steel grilles; walnutveneer or black finish. Power handling 300 watts continuous; frequency response 26-22,000 Hz ±3 dB; sensitivity 87 dB sound-pressure-level/ watts/meter; impedance 4 ohms. 111/2 x 471/4 x 151/4 \$2.600/pr in; 110 lb ea . M12/90. Similar to M15/90 except two 8-in woofers: same midrange and tweeter. Power handling 250 watts continuous; frequency response 34-22,000 Hz ±3 dB; sensitivity 87 dB SPL/W/m; 101/2 x 431/4 x 141/4 in; 83 lb ea \$1,800/pr

SAT7 3-Way Speaker

7-in woofer, 11/2-in copolymer dome midrange, and I-in polypropylene dome tweeter; 4th-order Linkwitz-Riley crossover network; acoustically isolated floating-baffle design. Can be integrated with a/d/s/ SUB12 subwoofer. Power handling 150 watts continuous; frequency response 40-20,000 Hz; crossover points 700, 4,000 Hz, 24 dB/ octave; imp 4 ohms. Walnut-veneer or black finish. 81/8 x 171/8 x 101/4 in \$1,400/pr

SAT5 2-Way Speaker

Features cabinet designed by Frogdesign; 5-in woofer and 1-in polypropylene-dome tweeter; 4th-order Linkwitz-Riley crossover network; acoustically isolated floating-baffle design. Can be intergrated with a/d/s/ SUB10 or SUB12 subwooler. Power handling 75 W cont; FR 60-20,000 Hz; crossover point 2,000 Hz, 24 dB/octave; imp 4 ohms. Walnut-veneer or black finish. 87/8 x 171/8 x 10¾ in \$650/pr

L9e 3-Way Bookshelf Speaker

Vertically aligned drivers (81/2-in Stifflite woofer, 11/2-in midrange, and 1-in copolymer soft-dome tweeter); woofer driven by wet wound, two-layer, oxygen-free copper voice coil wound on stainless-steel former; tweeter driven by oxygenfree copper voice coil wound on Kapton former. Linkwitz-Riley crossover at 2,000 Hz. Glass fiber damping, acoustic-suspension enclosure with diffraction-corrected front baffle and flush driver mounting; black fabric grille; walnut-veneer or matte-black laminate finish. Power handling 125 W cont; FR 38-22.000 Hz ± 3 dB; sens 92 dB SPL/ Wm; imp 4 ohms; 113/8 x 215/8 x 101/4 in; 40 lb \$800/pr ea. . . .

Miniature Speakers L400e 2-Way Speaker

Acoustic-suspension design with 7-in long-excursion Stifflite woofer, 1-in copolymer tweeter.

Features aluminum enclosure (black textured urethane with convex-steel grille); wall mountable. Power handling 100 W cont; FR 60-20,000 Hz ±3 dB; crossover 2,000 Hz with 12 dB/octave slope; sens 88 dB SPL/W/m; imp 4 ohms. Black or white finish. 7% x 11% x 7% in \$650/pr

L200e 2-Way Speaker

Acoustic-suspension design with 4-in long-excur-

SPEAKEBS

sion woofer, 1-in copolymer tweeter; brushedaluminum enclosure (textured urethane with convex-steel grille); wall mountable. Power handling 50 W cont; FR 85-20,000 Hz ± 3 dB; crossover 2,000 Hz with 12 dB/octave slope; sens 86 dB SPL/W/m; imp 4 ohms. 4½ x 6½ x 8½ in . \$400/pr

Subwoofers

SUB12 Powered Subwoofer

SW4 Subwoofer

10-in subwoofer in bandpass enclosure . . \$600 ea SW2 Subwoofer. Similar to above; designed to fit between floor or ceiling \$400 ea

In-Wall Speakers

750iL 3-Way In-Wall Speaker

In-wall speaker with infinite-baffle design. Features 7-in long-excursion copolymer woofer, 1½in dome midrange, and 1-in copolymer-dome tweeter. 4th-order Linkwitz-Riley 3-way crossover network; biwired capability with dual isolated grounds; dual remote mount; magnetically isolated high- and low-pass-network enclosures; zero-diffraction isolated flush baffle design; castaluminum mounting system. Power handling 60 W cont; FR 45-20,000 Hz; crossover points 1,000, 4,000 Hz, 24 dB/octave; imp 4 ohms. Walnut or black finish. 9/4 x 17/4 x ½ in \$1,200/pr

Model 400i/s 2-Way In-Wall Speaker

Model 300i/s 2-Way In-Wall Speaker

ADVENT

Advent Heritage 2-Way Speaker

Advent Legacy II 2-Way Speaker

Floor-standing speaker with 1-in parabolic-dome tweeter and 10-in woofer. Features ferrofluidfilled tweeter and aluminum-coil woofer. Power handling 100 W rms; FR 38-23,000 Hz \pm 3 dB; sens 90 dB SPL/W/m; imp 6 ohms; crossover point 2,000 Hz; THD < 1% above 100 Hz at 10 W; resonance 51 Hz \pm 3 Hz. Oiled pecan top and

Mini-Advent Subwoofer/Satellite System

Advent Prodigy Tower 2-Way Speaker

Advent Baby II 2-Way Bookshelf Speaker

Bookshelf speaker with 6½-in woofer and ½-in polycarbonate ferrofluid-filled hard-dome tweeter. Min power 50 W rms; FR 60-21,000 Hz ± 3 dB; imp 6 ohms. Cabinet with oiled solid-wood top and black textured-vinyl over fiberboard. 11 x 16½ x 6¼ in; 13 lb \$250/pr

ALLISON ACOUSTICS IC-10 Image-Control Speaker

IC-9 3-Way Speaker

Two 8-in woofers in push-pull arrangement, $3\frac{1}{2}$ in convex midrange, 1-in convex tweeter on angled baffle for image enhancement. Dual input for biamping or biwiring; crossover points 350, 3,750 Hz; auto-resetting Power Shield; switch for corner or wall placement. 6 ohms nominal. Power handling 20-200 W/ch; sens 90 dB SPL/2.83 V/m; FR - 3 dB at 32 Hz, -8 dB at 23.5 Hz. Walnut or black veneer. 16 x 40 x 11 in. \$1,500/pr IC-8. As above, with 10-in woofers; frequency response - 3 dB at 34 Hz - 8 dB at 25 Hz; 16 x 36 x 11 in. \$1,000/pr

IC-7 2-Way Speaker

Floor-standing system with 8-in woofer, 1-in convex midrange; crossover at 2,000 Hz; Power-Shield speaker protection; angled baffle for image enhancement; switch for corner or wall place-

a/d/s/ M12/90



AL Series

AL-130 3-Way Speaker

Acoustic-suspension speaker with two 8-in pushpull woofers, 3½-in midrange, 1-in convex tweeter. Power handling up to 200 W with clipping 10% of the time; sens 90 dB SPL/2.83 V/m; 6 ohms nomimal, min 4 ohms; crossover points 450, 3,750 Hz; suggested amplifier power 15-200 W. Oak, walnut, black woodgrain vinyl. 12½ x 37½ x 14½ in; 57 lb. \$1,100/pr

AL-120 2-Way Speaker

Acoustic-suspension speaker with two 6-in woofers, 1-in convex tweeter. Power handling 200 watts clipping 10% of the time; sensitivity 90 dB SPL/2.83 V/m; 6 ohms nominal, minimum 4 ohms; crossover points 100, 2000 Hz; suggested power 15-200 watts per ch. Oak, walnut, black woodgrain vinyl, 11½ x 23½ x 11½ in; 33.2 lb. \$600/pr AL-115. As above, with 8-in woofer, power handling 150 W; crossover point 2,000 Hz; suggested amplifier power 15-150 W/ch. 11½ x 20 x 10 in; 22 lb. \$440/pr

ALTEC LANSING

Model 512 4-Way Powered Speaker

Acoustic-suspension floor-standing speaker with two 10-in woven carbon-fiber woofers, $6\frac{1}{2}$ midbass of the same material, polyimide/diamond coated 2-in midrange and 1-in tweeter. Features control panel on top of speaker for built-in triamplifier; automatic on/off switch. FR 20-22,000 Hz ± 3 dB. Power: 250 W into 4 ohms, 75 W into 8 ohms; sens 90 dB SPL/W/m; imp 8 ohms. 13 x 57 x 13 $\frac{1}{2}$ in; 120 lb/ca.

Model 510 3-Way Speaker

Acoustic-suspension design with two 10-in carbon-fiber woofers, 2-in midrange, 1-in dome tweeter, each with polyimide vacuum-deposited titanium. Features bi-amp capability and adjustable crossover. Power handling 150 W nom, 300 W max; sens 93 dB SPL/W/m; imp 4 ohms; 12 x 46 x 13½ in _______\$1,600/pr

Model 505 3-Way Speaker

PSW-10 Subwoofer

Model 205 3-Way Speaker

Acoustic-suspension design with 8-in carbon-

System 3 Subwoofer/Satellite System

Features two satellites, each with two 3-in carbon-filled polypropylene drivers and one $\frac{1}{2}$ -in dome tweeter with ferrofluid cooling. Subwoofer module has two 8-in long-throw carbon-filled polypropylene woofers. Power handling 80 W nom, 160 W max; FR 32-20,000 Hz ± 3 dB; sens 90 dB; imp 4 ohms; crossover points 180 Hz, 4,500 Hz. Satellites 4 x 8 $\frac{1}{2}$ x 3 $\frac{3}{4}$ in; subwoofer 4 x 9 $\frac{3}{4}$ x 3 $\frac{3}{4}$ in.

ITW 260 Subwoofer

Model 105 2-Way Bookshelf Speaker

ITW 265 2-Way In-Wall Speaker

Model 55 2-Way Indoor/Outdoor Speaker

AMERICAN ACOUSTICS DS 1010 3-Way Speaker

D5550E 4-Way Speaker

DS 66 2-Way Speaker

AAL Series

AAL 154 4-Way Speaker

Vented speaker with 15-in fiber-cone woofer, 4-in and 3-in ferrofluid-cooled midranges, and 3¼-in round horn-loaded quartz tweeter. Power handling 125 W rms; frequency response 40-20,000 Hz; sens 92 dB SPL/W/m; imp 4 ohms. 18½ x 29 x 15 in \$500/pr

AAL 103 3-Way Speaker

Vented speaker with 10-in fiber-cone woofer, 4-in ferrofluid-cooled cone midrange, and 3¼-in round horn-loaded quartz tweeter. Power handling 75 W rms; FR 55-20,000 Hz; sens 91.5 dB SPL/W/m; imp 4 ohms. 15 x 24 x 10½ in . \$360/pr

APOGEE

Duetta Signature 2-Way Ribbon Speaker

Caliper Signature 2-Way Ribbon Speaker

Midsize 2-way ribbon speaker. Features trapezoidal woofer ribbon; narrow-canted combination midrange/tweeter ribbon; crossover circuitry. Anthracite, taupe or custom finishes. Power handling 150 W cont; FR 30-20,000 Hz; SPL 105 dB; imp 3 ohms. 24 x 48 x 2 in; 70 lb ea \$2,995/pr

Centaur 2-Way Hybrid Speaker

Hybrid speaker features a dipole midrangetweeter tibbon and an 8-in long throw polypropylene woofer in acoustic suspension enclosure. Power handling 150 W cont; FR 38-20,000 Hz; SPL 107 dB; imp 5 ohns. Black grille with agate or walnut fascia. 15 x 46 x 11 in; 65 lb ea. \$1,495/pr

ATLANTIC TECHNOLOGY Pattern 3-Piece Powered System

Magnetically shielded satellites each have two 3½-in cone drivers; bass module has two 6½-in woofers, separate 15-W amplifiers for woofers and midrange/tweeters; built-in dynamic equalization, bass level control; master volume control on bass module; 3 pairs of RCA inputs. Power handling 120 W max; FR 50-20,000 Hz ± 3 dB; sens 90 dB SPL/W/m. Satellites 4 x 7½ x 4 in; 31 b ea, Bass module 19 x 12½ x 8½ in; 29 lb \$499/sys



Altec Lansing System 3

AUDIOSOURCE

AUDIRE

Image 1 Ribbon Speaker

Full-range ribbon speaker with line-source-array driver arrangement. Center-driver section covered in black grille cloth lined with finished walnut. Min power 50 W; FR 30-20;000 Hz; imp 1.9 ohms. 36 x 72 x 2½ in; 150 lb ea... \$6,500/pr

AVID

Model 232CP 3-Way Speaker

Features 10-in polypropylene woofer, $4\frac{1}{2}$ -in integral edge cone midrange, and 1-in soft dome tweeter in a bass-reflex enclosure. Ferrofluidcooled voice coils in tweeter and midrange. Power handling 150 W cont; FR 40-20,000 Hz – 3 dB; sens 90 dB SPL/W/m; crossover frequencies 650 and 5,000 Hz; imp 8 ohms. 15 x 28 x 10³/4 in \$600/pr

Model 80CP 2-Way Speaker

Features 8-in polypropylene woofer, and 1-in soft-dome tweeter in acoustic-suspension enclosure. Ferrofluid-cooled voice coils in tweeter. Power handling 70 W cont; FR 53-20,000 Hz - 3 dB; sens 88 dB SPL/W/m; crossover frequency 3,000 Hz; imp 8 ohms. 12 x 19½ x 8¾ in . \$300/pr

Ахюм

AX 52-Way Speaker

10- and 5-in woofers and 1-in dome tweeter. FR 29-22,000 Hz ± 2 dB; sens 87 dB; imp 4 ohms; crossover points at 180 and 3,000 Hz. Dark, natural, or black oak finish with black knit grille. 12 x 36 x 12 in: 80 lb/pr\$1,699/pr

AX Subwoofer

AX 32-Way Speaker

8- and 5-in woofers, and 1-in dome tweeter. FR 36-22,000 Hz ± 2 dB; sens 88 dB; imp 4 ohms; crossover points 180 and 3,000 Hz. Dark, natural, or black-oak finish with black knit grille. 10 x 36 x 10 in; 66 lb/pr. \$899/pr

AX 2 2-Way Speaker

AX 1.5 In-Wall 2-Way Speaker

Features $6\frac{1}{2}$ -in woofer and $\frac{1}{4}$ -in dome tweeter; choice of 18 grille colors. FR 45-22,000 Hz ± 2 dB; sens 89 dB; imp 6 ohms; crossover 3,500 Hz. Black knit grille. 14 x 19 x 1 in; 16 lb/pr \$328/pr

AX 1.5 Bookshelf Speaker

BANG & OLUFSEN

Beovox Penta 3-Way Speaker Five-sided bass-reflex speaker. Features four 5in woofers, four 3-in midranges, one 1-in dome tweeter (vertically aligned). Finished in brushed stainless steel with black grille. FR 40-20,000 Hz $+4_{-} = 8$ dB. 5 x 59 x 5% in; 37.5 lb ea. \$2,200/pr

Beovox 5000 2-Way Speaker

Bass-reflex speaker with two 5-in woofers and one 1-in dome tweeter. Power handling 60 W cont; imp 8 ohms; FR 60-20,000 Hz; sens 89 dB SPL/W/m; crossover frequency 3,500 Hz; THD <0.2% from 250-6,000 Hz. 17¼ x 33½ x 3 in; 24.5 lb. Available in blue and gray \$1,096/pr

Beovox 3000 2-Way Speaker

Bass-reflex speaker with one 5-in woofer and one l-in dome tweeter. Power handling 45 W cont; imp 8 ohms; FR 75-20,000 Hz; sens 87 dB SPL/W/ m; crossover frequency 3,500 Hz; THD <1% from 250-6,000 Hz. $15 \times 17\% \times 3$ in; 11.2 lb. Available in blue and gray.

Beovox Cona Subwoofer

RL 35 2-Way Bookshelf Speaker

B&W LOUDSPEAKERS Matrix 801 Series 2 Speaker

Matrix 803 2-Way Speaker

Bass-reflex, dynamic speaker with 7th-in woofer and 1-in dome tweeter. Bass alignment filter; matrix cabinet. Sens 90 dB SPL/W/m; power handling 90-200 watts; imp 8 ohms; FR 30-20,000 Hz ± 2 dB \$3,000/pr

CM2 Matrix Mini 2-Way Speaker

Floor-standing 4th-order Butterworth vented system consisting of CMI head module crossing over at 150 Hz into subwoofer section. Matrix enclosure design. Overload protection circuit. Column finish in black, white, nextel gray, walnut. Power handling 200 W; imp > 4 ohms. 6%x39%x 8%2 in; base 10 x 9%2 in \$1,750/pr

CM1 2-Way Bookshelf Speaker

DM640 3-Way Speaker

DM620 2-Way Speaker

Bass-reflex speaker with 7³/₄-in woofer and 1-in metal-dome tweeter. Features biwiring. Sens 91

LM1 2-Way Speaker



Bose Model 401

CWM 8 2-Way In-Wall Speaker

V202 2-Way Speaker

B-I-C AMERICA

Venturi V830 3-Way Speaker Speaker with 8-inch carbon-impregnated poly-

Venturi 630 3-Way Speaker

Venturi V620 2-Way Speaker

Speaker with 6-inch woofer and 34-inch polylaminate soft-dome tweeter. Power handling 10-120 watts; FR 49-20,000 Hz ± 3 dB; sens 90 dB SPL/ W/m; imp 8 ohms; crossover point 3,000 Hz. 9 x 23 x 11 in; 24 lb/ca. \$329/pr

BOSE

Model 901 Series VI Speaker

Features Direct/Reflecting Acoustic-Matrix design with active equalizer and eight rear-facing, one front-facing 4/2-inch full-range drivers. Pentagon-shaped cabinet with injection-molded core; walnut-veneer cabinet panels; active equalizer with midbass/midtreble slide control and tape-monitor switch; five-year warranty. Power handling unlimited in noncommercial application; impedance eight ohms; dynamic range 106 dB. Equalizer: 13 x 2/4 x 4/6 in. Speaker: 12/8 x 21x 13 in. Price includes equalizer..... \$1,499/pr

Model 601 Series III Direct/Reflecting Speaker

Floor-standing speaker system with tweeters and one woofer mounted above main enclosure in free-space-array configuration. Two 8-in cone woofers; four 3-in cone tweeters; subport enclosure system with slotted port. Power handling 200 watts continuous; impedance 8 ohms ... \$999/pr

Model 401 Direct/Reflecting Speaker

Model 301 Series II Direct/Reflecting Speaker

Ported bookshelf speaker system with 8-in woofer, two 3-in tweeters. Features dual-frequency crossover; tweeter-protection circuit. Particleboard cabinet with walnut-grain or black-vinyl finish; five-year warranty. Power handling 75 W max rms; imp 8 ohms; 10½ x 17 x 9½ in . \$399/pr

Model 6.2 Direct/Reflecting Speaker

Model 4.2 Direct/Reflecting Speaker System

Compact bookshelf speaker with 8-in woofer, $2\frac{1}{2}$ -in axial-mounted tweeter. Features dualchamber bass system with slot-port design; auto tweeter protection circuit. Teak-vinyl finish; five-year warranty. Power handling 75 W max rms; imp 8 ohms. $\frac{9}{2}$ x 18 x 10 in; 15 be as $\frac{3399}{p}$

Acoustimass 5 Subwoofer/Satellite System

Acoustimass 3 Subwoofer/Satellite System

Acoustimass bass module and two magnetically shielded cube enclosures. Features 5¹/₄-in woofer and two 2¹/₂-in wide-range speakers that operate above 200 Hz. Black or white finish; optional accessories include wall/ceiling mount brackets. Power handling 50 W cont. Cube enclosure: 4¹/₂ x 3¹/₂ x 4¹/₂ in. Bass module: 14 x 8 x 8 in ... \$599 ea

power handling 25-150

BOSTON ACOUSTICS T Series

T1030 3-Way Speaker

Floor-standing acoustic-suspension speaker with two 8-in copolymer woofers, 6½-in copolymer midrange in subenclosure, and 1-in CFT 5 ferrofluid-cooled tweeter. Features tapered-grille design to reduce sonic diffraction. Power handling 15-150 W rms; frequency response 40-20,000 Hz ± 3 dB; sensitivity 90 dB SPL/W/m; impedance 8 ohms; crossover frequencies 250 Hz, 2,500 Hz. Tall slender enclosure. 10¼ x 42½ x 12¼ in. Walnut veneer. S1,200/pr Black vinyl

T930 3-Way Speaker

Floor-standing acoustic-suspension speaker with 10-in copolymer cone woofer, $6^{1/2}$ -in copolymer cone midrange, and 1-in CFT 5 dome tweeter. Power handling 15-125 W/ch rms; frequency response 42-20,000 Hz \pm 3 dB; sens 90 dB SPL/W/ m; imp 8 ohms; crossover points 350 and 2,500 Hz. Comes in hand-finished walnut veneer or woodgrain vinyl. $36^{3/4}$ x 10½ x 12 in. Walnut veneer.

Vinyl		•	•		ł	•			ł	•		.,		•	•	•	•	•	\$700/pr

T830 3-Way Speaker

SubSat Six Subwoofer/Satellite System

Designer In-Wall Speaker Series

Each speaker is water resistant and has a mattewhite finish that can be painted to match room deco. Includes mounting hardware; brackets available for installation in new construction. SW-10 Powered Subwoofer

Model 380 2-Way Speaker

Model 350 2-Way Speaker

Model 325 2-Way Speaker

A Series

A120 2-Way Bookshelf Speaker

Vented enclosure with 10-in passive radiator, 6½in midrange, 1-in CFT 3 ferrofluid-cooled dome tweeter. Tapered grille to reduce sonic diffraction. Power handling 15-150 W rms; FR 40-20,000 Hz ± 3 dB; imp 8 ohms; sens 90 dB SPL/W/m. 12% x 24½ x 9¾ in ______\$420/pr

A70 Series II 2-Way Bookshelf Speaker

A60 Series II 2-Way Bookshelf Speaker



Boston Acoustics A70 Series II

HD7 2-Way Speaker

CAMBRIDGE PHYSICS G-66 II 3-Way Speaker

G-33 II 2-Way Speaker

CAMBRIDGE SOUNDWORKS

Available through mail order only. Ensemble by Henry Kloss

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CANTON

Floor-Standing Speakers Ergo 120 4-Way Speaker

Fonum 600 3-Way Speaker

Bookshelf Speakers

Karat 930 2-Way Speaker

Bass-reflex speaker with 9-in woofer; 1-in aluminum/manganese-dome tweeter. Imp 4 ohms; FR 30-30,000 Hz; sens 92 dB SPL/W/m; crossover at 2,800 Hz. Oak, walnut, mahogany, white, or black finish. 10 x 17 x 10 in \$1,000/pr

Fonum 400 3-Way Speaker

Bass-reflex speaker featuring 9-in woofer, 1¹/₄-in fabric-dome midrange and ¹/₄-in fabric-dome tweeter. Black grille. Power handling 70 W; Imp 8 ohms; FR 55-26,000 Hz; crossovers 900, 5,000 Hz. Black finish. 10¹/₄ x 18¹/₈ x 9¹/₄ in ... \$600/pr

Fonum 300 2-Way Speaker

Bass-reflex speaker features 8-in woofer, l-in fabric-dome tweeter. Black grille. Power handling 50/80 W; imp 8 ohms; FR 38-26,000 Hz; crossover point 2,500 Hz. Black finish. 8³/x x 13³/ x 77% in \$450/pr

In-Wall Speakers

InWall 9 2-Way Speaker

Features 9-in woofer and 1-in aluminum/manganese-dome tweeter. White grille. Power handling 80/110 W; imp 4 ohms. 10¼ in sq \$600/pr

SPEAKEBS

In Wall Sub Subwoofer

Minispeakers

GL 300 F 2-Way Speaker

Plus S 2-Way Speaker

Subwoofers

Plus E Subwoofer

Acoustic-suspension speaker features 12-in woofer. Imp 4 ohms; FR 18-120 Hz; crossover point 120 Hz; sens 91 dB SPL/W/m. Black, white, or walnut finish. 14 x 22 x 14 in; 60 lb ea. \$900 ea

Plus C Subwoofer

Compact passive 12-in-cone subwoofer. FR 22-120 Hz; power handling 75(2x) W; sens 89.9 dB SPL/W/m; imp 4 ohms. Black, white, or walnut finish. $14\frac{3}{4}x$ $13\frac{3}{8}x$ $13\frac{3}{4}$ in; 26.25 lb \$600 ea

CARVER

The Amazing Loudspeaker, Platinum Edition

The Amazing Loudspeaker, Silver Edition

CELESTION

SL700 2-Way Speaker

Sealed-box speaker with metal-dome tweeter and 2-part roll woofer surround. Features braced Aerolam cabinet of 12-liter volume. Power handling 120 W. With integral stand \$3,299/pr

System 6000 Subwoofer

Celestion 5000 2-Way Speaker

Stand mounted speaker features 8-in polyolefin woofer and patented ribbon/midrange tweeter.

Uses separate chambers for bass and ribbon unit with twin figure-8 cabinet braces. Walnut-veneer finish......\$2,099/pr

SL600 Si 2-Way Speaker

Speaker with metal-dome tweeter and 6-in plastic woofer. Features cabinet with Aerolam, an aluminum honeycomb construction \$1,999/pr

SL6 Si 2-Way Speaker



Canton Plus C subwoofer

DL8 Series 2 2-Way Speaker

DL6 Series 2 2-Way Speaker

Sealed-box design with 8-in woofer and 1-in metal-dome tweeter. Available in simulated American walnut and black finish \$449/pr

DL4 Series 2 2-Way Bookshelf Speaker

Sealed-box design with 6-in woofer and 1-in metal-dome tweeter \$359/pr

Celestion 3 2-Way Bookshelf Speaker

Features 5-in woofer and 1-in pure-titanium tweeter. Designed for use near wall \$280/pr

CERWIN-VEGA Digital Series

D-9 3-Way Speaker

D-5 3-Way Speaker

D-2 2-Way Speaker

2-way speaker system with 10-in woofer in a castaluminum frame and 1-in voice-coil horn. Features high-frequency protection circuit breaker; direct-radiating vented enclosure. Power handling 5-125 W; FR 30-20,000 Hz; sens 94 dB; imp 8

Sat-6 Subwoofer/Satellite System

SW-12B Subwoofer

Vented direct-radiating subwoofer compatible with most 4/8 ohm speakers. Features 12-in floorfacing woofer built on a diecast aluminum frame with 7 lb magnet. Power range 5-125 W; sens 92 dB W/m. Woodgrain vinyl finish. 1314 x 251/2 x 161/4 in; 48 lb \$320 ea

AT Series

AT-15 3-Way Speaker

3-way bass-reflex speaker includes two-fuse protection. 15-in woofer; 2 5-in midranges; dome tweeter. Power 5-400 W; sens 102 dB SPL/W/m; imp 4 ohms; 19 x 36½ x 18½ in; 85 lb . \$1,080/pr

AT-10 3-Way Speaker

Similar to AT-15 with 10-in woofer, one 5-in midrange. Power handling 5-150 W; sens 95 dB; imp 6 ohms. $14 \times 28\frac{1}{2} \times 13\frac{1}{2}$ in; 40 lb ... \$620/pr

SE Series

300SE 3-Way Speaker

280SE 3-Way Speaker

Floor-standing bass-reflex speaker with 12-in cone woofer. Features 6-in cone midrange; 1-in VC horn-loaded elliptical-dome tweeter. Power handling 5-155 W; FR 32-20,000 Hz ± 3 dB; sens 96 dB SPLW/m; imp 6 ohms. Finished in black vinyl. 14½ x 25½ x 11½ in; 45 lb \$690/pr

200SE 2-Way Bookshelf Speaker

CLEMENTS

Reference RT-7 2-Way Speaker

DAHLQUIST DQ-20 3-Way Speaker

DQ-8 2-Way Speaker

Vertical-phase-array design with long-throw 8-in woofer, and 1-in aligned-fiber dome tweeter. Woofer operates in vented enclosure and tweeter is mounted on separate time-aligned baffle. Min power 30 W rms; imp 8 ohms. Black ... \$850/pr

M Series

M-907 3-Way Speaker

M-905 2-Way Speaker

Front-firing tuned-port speaker with cast frame 8in woofer and 1-in dome tweeter. Power handling 20 W min to 125 W max; sens 91 dB; imp 8 ohm. Genuine walnut or oak enclosure, spaced grille with solid-walnut trim. 13½ x 24 x 12 in . \$680/pr

M-903 2-Way Speaker

DCM

Time Window 3

Folded transmission-line speaker with 8-in cone woofer, 6½-in cone midrange, and two ¾-in softplastic-dome tweeters. Features time-coherent point-source configuration; adjustable high- and middle-frequency output, narrow/wide image control; utilizes acoustic antidiffraction lenses. FR 24-20,000 Hz; Power handling 10-500 W; sens 90 dB; imp 8 ohms. Dark oak with brown grille. 16¼ x 39¼ x 12½ in; 45 lb\$1,499/pT

Time Window 1A Speaker

Hybrid transmission-line speaker intended for floor placement; two 6½-in cone woofers with acoustic lens; two ¼-in soft-plastic-dome tweeters with acoustic lens. Features wide-angle sound distribution; pinpoint imaging properties; cylindrical back and triangular-prism front; optimized for min time-dispersion error. Power handling 10-200 W; sens 91 dB; imp 8 ohms; dark oak with brown grille. 15 x 36 x 11¼ in; 32 lb... \$949/pr

TimeFrame TF600 3-Way Speaker

Floor-standing speaker with 6½-in polyproylene midbass coaxially mounted ¼-in dome tweeter with acoustic lens for point-source imaging, 6½in woofer, 2 rear-firing ¼-in dome tweeters. Staggered transmission-line enclosure terminates in one rear vent. FR 30-20,000 Hz; power handling 10-250 W; sens 92dB; imp 6 ohms. Dark oak with brown grille. 17 x 41 x 8¼ in; 47 lb..... \$699/pr

TripleTime 3-Piece System

DEFINITIVE TECHNOLOGY BP-10 2-Way Speaker

Bipolar radiating speaker with two 6½-in mineralfilled cast-basket midranges, two 1-in dual-chamber dome tweeters. Features aluminum voice coil; ferrofluid-cooled tweeters; Linkwitz-Riley

DENNESEN ELECTROSTATICS Dennesen Class A 3-Way Speaker

Floor-standing slot-loaded bass module/electrostatics hybrid speaker with 10-in downward firing woofer; $6\frac{1}{2}$ -in midrange; four 3-in electrostatic tweeters. Phase corrected and time aligned. Power handling 200 W cont; FR 25-35,000 Hz ± 2.5 dB; sens 90 dB SPL/W/m; imp 8 ohms. Oiled walnut finish. 14 x 54 x 12 in; 80 lb ... \$3,500/pr Electronic crossover for biamping \$375

Dennesen 2-Way Bookshelf Speaker

Acoustic-suspension, electrostatic hybrid speaker with 5-in woofer/midrange and three 3-in electrostatic tweeters. Phase corrected and time aligned. Power handling 100 W cont: FR 55-20,000 Hz; sens 92 dB SPL/W/m; imp 8 ohms. Oiled walnut finish. 10 x 16 x 9 in; 20 lb \$950/pr

DESIGN ACOUSTICS PS-3 Subwoofer/Satellite System

PS-9 3-Way Speaker

Acoustic-suspension speaker with downfiring 8in long-throw woofer, 5¼-in midwoofer, ¼-in. ferrofluid-cooled soft-dome tweeter. Acoustically-treated baffle; crossover points 200 and 3,000 Hz; sens 90 dB; FR 47-20,000 Hz; power handling 15-250 W \$500/pr

PS-8C 2-Way Speaker

Acoustic-suspension speaker with 8-in woofer, 1in ferrofluid-cooled soft-dome tweeter. Acoustically treated baffle; crossover point 2,800 Hz; sens 90 dB; FR 50-20,000 Hz; power handling 15-200 W \$380/pr

PS-6A 2-Way Speaker

Acoustic-suspension speaker with 6½-in woofer and ¾-in ferrofluid-cooled soft-dome tweeter. Shielded for video use. Acoustically treated baf-

Energy Model 4.1e



EMINENT TECHNOLOGY LFT-VI Planar Doublet Speaker

ENERGY

Model 22.3 3-Way Speaker

Model 22.1 2-Way Bookshelf Speaker

Model 4.1e 2-Way Speaker

Model 3.1e 2-Way Bookshelf Speaker

EPI

Model 150 Series 2 3-Way Speaker

Features 10-in woofer. Power handling 120 W/ch continuous; imp 8 ohms; sens 91.5 dB. Woodtrimmed base and a pewter grille. 38 in high, 16.5 in wide \$499/pr

Model 110 Series 2 2-Way In-Wall Speaker

Features 6½-in midbass transducer; low-mass design. Power handling 60 W continuous; impedance 8 ohms; sensitivity 90 dB. Gray grille with optional off-white or rose-colored wrap . \$299/pr

Model 100 Series 2 3-Way Bookshelf Speaker

ESS

AMT-Monitor 2-Way Speaker

Flocr-standing speaker with 211/2 x 211/2-in Heil air-motion transformer with mylar diaphragm.

SPEAKEBS

Features 12-in passive radiator; 12-in woofer. Power handling 35-400 W; FR 35-23,000 Hz ±3 dB; sens 91 dB SPL/W/m; imp 6 ohms. Oiled walnut finish. 181/2 x 41 x 12 in; 82 lb . . \$1,250/pr

PS-1220 3-Way Speaker

Floor-standing passive-radiator speaker with 12in woofer. Heil air-motion transformer tweeter with 101/2 x 101/2-in radiating area, 4-in midrange with hi-temp voice coil. Power handling 10-200 watts; FR 28-23,000 Hz ±1 dB; sens 93 dB SPL/ W/m; imp 4 ohms. Solid walnut finish. 12 x 141/4 x 34 in; 65 lb \$598/pr

PS-920 2-Way Bookshelf Speaker

Passive-radiator speaker with 8-in woofer, Heil air-motion transformer tweeter-midrange with 103/8 x 103/8-in radiating area. Power handling 5-100 W; FR 38-23.000 Hz ±1 dB; sens 91 dB SPL/ W/m; imp 4 ohm. Solid-walnut finish. 111/2 x 22 x 11 in; 37 lb \$438/pr

Focus

High-Definition 2-Way Speaker

Floor-standing speaker with 8-in woofer, 11/4-in tweeter. Features cabinets made of 14-layer Pox-Pulp; internal bracing; solid-oak end pieces; phase-aligned drivers in separate sub-enclosures to improve imaging. FR 32-20,000 Hz ± 2 dB; sens 89 dB SPL/W/m; imp 8 ohms; power handling 30-200 W/ch. 12 x 47 x 12 in \$1,450/pr

Model .5 High-Definition 2-Way Speaker

Bookshelf speaker with Pox-Pulp cabinet; 8-in woofer; 1-in dome tweeter. FR 45-20,000 Hz ±3 dB; nominal imp 8 ohms, min imp 4.8 ohms; power handling 30-150 W/ch; sens 90 dB SPL/W/ m; 12 x 19 x 12 in; 27 lb \$650/pr

FOSGATE-AUDIONICS AS-802 2-Way In-Wall Speaker

Sealed, flush-mount speaker with 8-in polypropylene woofer and 1-in ferrofluid-coupled softdome tweeter. Designed for center channel and full-system application. 18 dB/octave crossover with air-core inductor; 250-V low-loss film capacitors. Variable tweeter control. FR 40-22,000 Hz; imp 8 ohms; sens 89 dB SPL/W/m \$995/pr

LF-212 In-Wall Subwoofer

Subwoofer with dual-voice-coil 12-in polypropylene woofer. Features direct input or crossover for use with AS-602, AS-802, or DS-802. FR 22 Hz; imp 4 ohms. 18 x 20 x 18 in; 48 lb ... \$595 ea

AS-602 2-Way In-Wall Speaker

Flush-mount speaker with 61/4-in polypropylene woofer/midrange and 1-in soft-dome tweeter. Designed for main, surround, and extension applications; compatible with LF-212 sub system. Features 12 dB/octave crossover with air-core inductors; automatic reset tweeter protection circuitry. FR 75-22,000 Hz; power range 10-100 W. 81/2 x 12 x 23/4 in \$425/pr

FRIED

G/3 3-Way Speaker

Floor-standing transmission-line speaker with 10-in polypropylene woofer; 61/2-in midrange; 3/4in dome tweeter. With series crossover networks and duocone drivers; transmission-line loading of midrange. FR 23-22,000 Hz ± 3 dB; power range 10-200 W rms; sens 91 dB SPL/W/m; imp 8 ohms. Walnut and oak finishes. 16 x 44 x 18 in: 100 lb \$2.660/pr

Full-transmission-line-loaded speaker with 61/2-in duocone woofer; 34-in dome tweeter. Features series networks; pyramid shape. Frequency response 60-22,000 Hz ± 3 dB; power range 10-250 W rms; sens 91 dB SPL/W/m; imp 8 ohms. 101/2 x 131/2 x 151/2 in; 20 lb \$1,450/pr

R/4 3-Way Speaker

Column loudspeaker with 10-in polypropylene woofer with vented pole piece; 51/4-in polypropylene midrange with vented pole piece; 1-in dome tweeter with ferrofluid damping. Features builtin tilt-back pedestal with line loading for midrange and line-tunnel loading for bass. FR 32-



Fried Beta

20,000 Hz ± 3 dB; power range 25-100 W/ch; sens 90 dB; imp 8 ohms. 12 x 32 x 101/2 in; 35 lb ea..... \$1,195/pr

A/3a 2-Way Speaker

Speaker with 8-in damped polypropylene woofer; 1-in damped dome tweeter; computer-aligned line tunnel for improved bass. FR 32-20,000 Hz ±3 dB; power handling 25-100 W; imp 8 ohms; sens 89 dB. Walnut veneer finish, black grille. 13 x 23 x 10½ in \$680/pr

Beta 2-Way Bookshelf Speaker

Bookshelf speaker with 61/2-in polypropylene woofer; composite tweeter with 2-in cone and 3/8in dome. Features polypropylene cones; series filter crossover; distributed bass-loading freeflow filter system. Walnut or black-ash. 8 x 131/2 x 8 in \$345/pr

Duo Subwoofer

Floor-standing subwoofer with 10-in cone woofer. Features dual-voice-coil polypropylene driver. FR 30-100 Hz ±3 dB; power range 20-200 W; sens 90 dB SPL/W/m; imp 8 ohms. Walnut or black-ash finish \$350 ca

GOODMANS OF ENGLAND H.I.M. 440 3-Way Speaker

Bass-reflex speaker with 12-in woofer, 4-in midrange, and 1-in tweeter. Features infinite baffle design; level controls for midrange and tweeter, Min power 10 W; FR 30-20,000 Hz; sens 98 dB SPL/W/m; imp 8 ohms; crossover points 1,000, 4,000 Hz. Black finish. 15 x 35 x 17 in; 66 lb еа...... \$899/рг

H.I.M. 110 2-Way Speaker

Bass-reflex speaker with 8-in woofer and 1-in soft-dome tweeter. Features level control for tweeter. Min power 10 W; FR 45-20,000 Hz; sens 98 dB SPL/W/m; imp 8 ohms; crossover point 4,000 Hz. Black finish. 10 x 20 x 12 in; 24 lb

M5 2-Way Bookshelf Speaker

Bass-reflex speaker with 8-in woofer and 34-in polyimide-dome tweeter. Min power 15 W; sens 88 dB SPL/W/m; impedance 8 ohms. 10 x 16 x 8 in; 28 lb/pr \$349/pr

The Maxamp 2-Way Powered Speaker

Bass-reflex, 25-W powered speaker with 5-in woofer and 34-in dome tweeter. FR 65-20,000 Hz; sens 86 dB SPL/W/m; imp 8 ohms. Black finish. 7 x 10 x 7 in; 18 lb/pr \$329/pr

M3 2-Way Bookshelf Speaker

Bass-reflex speaker with 61/2-in woofer and 3/4-in polyimide-dome tweeter. Min power 15 W; sens 88 dB; imp 8 ohms. 9 x 15 x 7 in; 22 lb/pr \$249/pr

B-Max Subwoofer

Subwoofer with two 6-in drivers. FR 30-150 Hz; impedance 8 ohms; crossover 150 Hz. 8 x 24 x 9 in; 22 lb ea \$249 ea

HAFLER

Model 400 3-Way Speaker

Floor-standing speaker with tuned transmissionline design; mirror-image array consisting of 1-in soft dome tweeter, two 61/2-in midrange woofers, and 8-in rear mounted woofer; sloping baffle; rear-mounted ports; pedestal base. Gold-plated 5-way input jacks; spike feet. FR 30-20,000 Hz; sens 92 dB SPL/W/m; nom imp 8 ohms; min power 20 W/ch. Dark-oak veneer finish with black grille. 101/2 x 403/4 x 12 in; 58 lb ea \$1,095/pr

Model 200 2-Way Bookshelf Speaker

Features mirror-image array with 1-in soft dome tweeter, and 61/2-in midrange woofer; sloping front baffle; rear-mounted port. Gold-plated 5way input jacks. FR 50-20,000 Hz; sens 88 dB SPL/ W/m; nom imp 4 ohms; min power 20 W/ch. Dark-oak veneer. 81/2 x 101/4 x 141/4 in ... \$450/pr

HARTLEY PRODUCTS The Reference Tower 2-Way Speaker

Floor-standing speaker with four 61/2-in thermoplastic woofers and four 1-in dome tweeters. Crossover point 3,600 Hz; power handling 5-300 W; imp 4 ohms at 100 Hz, 5 ohms at 1,000 Hz; FR 24-25,000 Hz. Wood cabinet w/removable knit grille. 44 1/2 x 171/2 x 18 in \$1,500/pr Mini-Tower. As above, two 61/2-in thermoplastic woofers and 1-in hybrid dome tweeter. Crossover point 3,100 Hz; power range 5-150 W; imp 4 ohms; FR 32-25,000 Hz \$660/pr

Subwoofers

All Hartley subwoofer cabinets are constructed with oak and walnut veneers and internally lined with a 3/4-in thick cellulose-wadding material. SW-24 Subwoofer

Infinite-baffle enclosure. Power range 25-300 W: imp 5 ohms; FR 16 Hz ± 3 dB. 36 x 501/4 x 22 in; 250 lb \$1,295 ea

SW-10 Subwoofer

Air-column enclosure. Power range 15-100 W; imp 6 ohms; FR 25 Hz ± 3 dB. 18 x 24 x 18 in; 70

HEYBROOK BY D'ASCANIO AUDIO HB-3 3-Way Speaker

Hand-assembled acoustic-suspension speaker with 10-in doped-cone woofer; 41/2-in doped-cone midrange and 34-in soft-dome tweeter; removable rear panel for bi- and triamping; walnut or black-

SPEAKEBS

ash finish. FR 35-20,000 Hz ± 3 dB; power range 15-200 W. 13³/₈ x 25 x 11³/₈ in; 46 lb ... \$1,598/pr

HB-200 2-Way Speaker

Dual-reflex-tuned speaker with 6½-in woofer and metal-dome tweeter. Black-ash or walnut finish. FR 34-22,000 Hz; sens 88 dB; nom imp 8 ohms; power range 15-100 W. 11 x 18 x 9 in ... \$999/pr

HB-100 2-Way Speaker

Infinite-baffle speaker with 8-in woofer and metal-dome tweeter. Black or woodgrain finish. FR 50-20,000 Hz; sens 89 dB; nom imp 8 ohms; power range 15-100 W. 11 x 19 x 10 in ... \$649/pr

Point Five 2-Way Bookshelf Speaker

ICON ACOUSTICS Icon Parsec 3-Way Speaker

Hon-raised of way opeaker with 1-in metal-dome tweeter, 6½-in polypropylene midrange, and 10in graphite-impregnated woofer. Crossovers use only polypropylene and polystyrene capacitors; internal wiring from AudioQuest; 2 pairs of goldplated 5-way binding posts for optional biwiring. Recommended power 50-350 W; FR 25-22,000 Hz ± 3 dB; sens 87 dB SPL/W/m; imp 8 ohms; crossover points 350 Hz, 1500 Hz. Comes in braced cabinets finished in walnut, oak, or black oak veneer. 12 x 47 x 16 in; 95 lb ea... \$1,495/pr

INFINITY

IRS Beta 5-Way Speaker

Includes (per side) four servo-controlled 12-in woofers, each with polypropylene/graphite injection-molded cones; 2 upper bass/midrange planar push-pull drivers which act as dipole; low-mass EMIT transducer with neodymium magnets for upper midrange; low mass/neodymium EMIT's from IRS V (in dipole configuration) for lower treble; SEMIT (smaller aperture EMIT) which extends response beyond 44 kHz. The system operates in biamp mode and includes the IRS V servo control unit; active and passive crossover control. Monster Cable for all internal wiring. Power handling 75-300 W cont (mid/tweeter), 150-500 W cont (bass); imp 4 ohms; FR 15-45,000 Hz, ±2 dB. Crossover frequencies: 100, 750, 4,500, 10,000 Hz. Woofer module: 161/2 x 643/4 x 141/2 in; mid/tweeter module: 17 x 643/4 x 1 in; base footprint 18 x 17 in; 215 lb \$11,950/sys

Kappa Series

9 Kappa Reference Standard 5-Way Speaker

Features two 12-in cast frame woofers; 5-in polypropylene/graphite midbass; 3-in edgewound midrange; rear-firing EMIT k tweeter; SEMIT k supertweeter. Internal crossovers; biampable. Monster Cable for all internal wiring. Oak solids and veneer high-density particleboard with furniture-grade lacquer finish. FR 29-45,000 Hz; ± 3 dB; crossover frequencies 80, 800, 4,500 Hz; power handling 60-340 W/rms; sens 89 dB SPL/W/ m; imp 4-6 ohms. 21½ x 59½ x 8 in ... \$2,998/pr

7 Kappa Reference Standard 3-Way Speaker

Similar to 9 Kappa without midbass or supertweeter; 12-in woofer, 3-in midrange, and EMIT k tweeter. Monster Cable for all internal wiring. Power handling 40-200 W rms; imp 4-6

5 Kappa Reference Standard 2-Way Speaker

Bookshelf design featuring 6½-in graphite woofer and EMIT k tweeter. Monster Cable for all internal wiring. Power handling 20-100 W rms; FR 49-45,000 Hz, ± 3 dB; sens 87 dB SPL/W/m; imp 4 ohms; crossover frequency 4,500 Hz. Oak hardwood solids and veneers. 10½ x 17 x 9 in \$798/pr

SM Series

SM 153 3-Way Speaker

Floor-standing bass-reflex design with 15-in woofer, two 4½-in midranges, and 2-in Polycell tweeter. Power handling 300 W cont; FR 44-25,000 Hz \pm 3 dB; sens 102 dB SPL/W/m; crossover frequencies 500 and 5,500 Hz; imp8 ohms. Walnut vinyl finish. 17¼ x 40 x 12½ in \$1,198/pr

SM 112 2-Way Speaker

RS Series



Infinity 7 Kappa

RS Powered Subwoofer

RS 4001 3-Way Speaker

RS 3001 2-Way Speaker

RS 2001 2-Way Speaker

Environmental Reference Standard Series

ERS 600 2-Way In-Wall Speaker

Features 6-in graphite woofer and polyspherite tweeter; independent tweeter control ... \$350/pr

Modulus System

Modulus 2-Way Bookshelf/Wall-Mount Speaker Modulus speakers can be used as bookshelf/ satellite speakers or wall/pedestal mounts. Features 5¼-in graphite woofer and EMIT tweeter. Triangular iso-tip feet; wall bracket/self-damping isolation mounting plate.......\$1,000/sys

Modulus Powered Subwoofer

JAMO

Concert Series

Concert VII 3-Way Speaker

Bass-reflex speaker with 1-in dome tweeter, $6\frac{1}{2}$ in midrange and $6\frac{1}{2}$ -in woofer. Power handling 300 W cont; 300 W peak power: FR 24-22,000 Hz ± 3 dB; crossover points 150, 4,000 Hz; imp 8 ohms. 11\% x 36\% x 12\% in; 62 lb \$1,698/pr

Concert V 3-Way Speaker

Concert II 2-Way Bookshelf Speaker

Wall-Mount Speakers

Art 2-Way Speaker

Converta 2-Way Speaker

Dish-shaped wall mount/hanging speaker with 4in woofer and 2-in tweeter. Power handling 50 watts continuous; frequency response 80-20,000 Hz; crossover point 2,500 Hz: impedance 8 ohms. Black, white, steel, mint green, pink, or violet finish. 9¼-in diameter; 4½ lb ... \$398/pr

Magic Series

Magic 10 3-Way Speakers

Bass-reflex system with 8-in woofer, 31/4-in midrange, and 1-in dome tweeter. Power handling 100 W cont; max power 140 W; FR 43-20,000 Hz; crossover points 1,500, 4,000 Hz; imp 8 ohms. Black finish. 11 x 181/4 x 85/8 in \$398/pr

Magic 8 3-Way Speakers

Bass-reflex system with 61/2-in woofer, 2-in midrange, and 1-in dome tweeter. Power handling 80 W cont; max power 120 W; FR 47-20,000 Hz; crossover points 1,500, 5,000 Hz; imp 8 ohms. Black finish. 91/8 x 161/8 x 81/8 in \$298/pr

S-100 2-Way Bookshelf Speaker

Bass-reflex speaker with 1-in dome tweeter and 5-in woofer. Power handling 60 W cont; FR 45-20,000 Hz; crossover 3,500 Hz; imp 8 ohms. Black or white finish. 61/3 x 101/4 x 81/4 in . \$298/pr

SAT-300 2-Way Speaker

Bookshelf or wall-mount speaker with 4-in woofer and ¼-in dome tweeter. Power handling 50 W cont; FR 80-20,000 Hz; crossover point 3,500 Hz; imp 8 ohms. Black or white finish; mounting kit included. 51/8 x 8 x 3 in \$260/pr

SW-300 Subwoofer

Subwoofer with dual 8-in woofers. Features push-pull coupling between woofers. Includes individual adjustment of bass level up to 4 dB. Power handling 100 watts continuous; frequency response 30-20,000 Hz; crossover point 200 Hz; impedance 8 ohms. Black or white finish, 81/8 x 13¼ x 18% in \$349 ca

JBL

Model 250 Ti 4-Way Speaker

14-in woofer, 8-in lower midrange, 5-in polypropylene midrange, and 1-in titanium-diaphragm tweeter. Features symmetrical-field-geometry magnet structure. Power 400 watts continuous; impedance eight ohms; crossovers at 400, 1,400, 5,200 Hz; sens 90 decibels SPL/W/m. Black lacquer finish. 221/2 x 52 x 141/4 in; 126 lb \$2,499

Harbor Series

S119 Catalina 2-Way Speaker

Omnidirectional speaker. Features 41/2-in titanium-laminate woofer, 8-in high-polymer laminate woofer. Power handling 100 watts; sensitivity 88 decibels; imp 8 ohms. 40 lb \$849 ea

S118 Mackinac 3-Way Speaker

Bookshelf speaker with 1-in titanium dome tweeter. 5-in high-polymer mid-bass; 8-in polymer-laminate woofer. Power handling 150 W; sens 81 dB; imp 8 ohms. 42 lb..... \$579 ea

S116 Montauk 2-Way Speaker

Bookshelf speaker with 1-in titanium dome tweeter, 61/2-in high-polymer woofer. Power handling 125 W; sens 91 dB; imp 8 ohms. 33 lb \$349 ea

L. Series

L100t3 3-Way Speaker

Floor-standing speaker with 12-in aquaplas-laminate woofer, 5-in polymer-laminate midrange, and 1-in titanium-diaphragm tweeter. Power handling 400 W cont; FR 35-27,000 Hz; crossover points 800 and 4,500 Hz; sens 91 dB SPL/W/m; imp 8 ohms. Oak- or walnut-veneer finish. 141/2 x 36¼ x 15¼ in; 58 lb ea \$1,458/pr

L80t3 3-Way Speaker

Floor-standing speaker with 10-in aquaplas-lami-

nate woofer; 5-in polymer-laminate midrange; 1in titanium-diaphragm tweeter. Power handling 300 W cont; FR 40-27,000 Hz; crossover points 800 and 4,500 Hz; sens 90 dB SPL/W/m; imp 8 ohms. Oak- or walnut-veneer finish. 123/4 x 32 x 14¼ in; 44 lb ea \$1,158/pr

L20t3 2-Way Bookshelf Speaker

Features 61/2-in polypropylene woofer and 1-in titanium-dome tweeter. Power handling 100 watts cont; FR 55-27,000 Hz; crossover point 3,000 Hz; sens 88 dB SPL/W/m; imp 8 ohms. Oakor walnut-veneer finish. 91/4 x 151/2 x 81/8 in; 14 lb ea......\$638/pr



JBL Model 250 Ti

XPL Series XPL 160 3-Way Speaker

Floor-standing with 1-in titanium-dome tweeter, 3-in titanium mid-bass, 10-in aquaplas-laminate woofer. Power handling 600 W; sens 90 dB, imp 6 ohms. Black-lacquer finish. 62 lb \$1,249 ea XPL 140. As above, with 8-in diecast polymer laminate woofer. Power handling 400 W; sens 87 dB. 55 lb \$999 ea

XPL 90 2-Way Bookshelf Speaker

Features 1-in titanium-dome tweeter, 61/2-in polypropylene woofer. Power handling 400 W; sens 87 dB; imp 6 ohms \$649 ea

LX Series

LX55 3-Way Speaker

Floor-standing speaker with 10-in polymer-laminate woofer, 5-in midrange and 1-in titaniumdome tweeter. Power handling 200 W cont; FR 40-20,000 Hz; sens 92 dB SPL/W/m; imp 8 ohms; crossover points 800, 4,000 Hz. Walnut or black finish. 13¼ x 26¼ x 12 in \$838/pr

LX22 2-Way Bookshelf Speaker

Features 61/2-in polymer-laminate woofer and 1-in titanium-dome tweeter. Power handling 125 W cont; FR 45-20,000 Hz; sens 90 dB SPL/W/m; imp 8 ohms; crossover point 3,000 Hz. Walnut or black finish. 10 x 151/4 x 81/4 in \$378/pr

ProPerformer Series

Pro III Plus 3-Way Shielded Speaker

A/V monitor with 1-in titanium-dome tweeter, 5in polymer midrange, and 8-in dual voice coil woofer. Features magnetic shielding. Power handling 100 W max; sens 90 dB SPL/W/m; imp 8 ohms \$659/pr

Pro VIII 2-Way Shielded Speaker

Wall-mount speaker with 1-in titanium-dome tweeter, 61/2-in high-polymer-laminate woofer; optional wall and ceiling-mounting hardware; magnetic shielding. Power handling 150 W cont; sens 90 dB SPL/W/m; FR 55-27,000 Hz; imp 8 ohms; crossover point 3,000 Hz \$429/pr

Pro III 2-Way Speaker

A/V monitor with 1-in titanium-dome tweeter, 5in polymer mid-bass. Features magnetic shielding; die-cast enclosure. Power handling 100 W max; sens 87 dB SPL/W/m \$299/pr

JBL Series

JBL3800 3-Way Speaker

Floor-standing speaker with 8-in polymer-laminate woofer, 5-in midrange and 1/2-in titaniumdome tweeter. Power handling 150 W cont; FR 50-23,000 Hz; sens 89 dB SPL/W/m; imp 8 ohms; crossover points 800 and 4,500 Hz. Oak finish \$558/pr

JBL2800 2-Way Bookshelf Speaker

Features 8-in polymer-laminate woofer and 1/2-in pure-titanium dome tweeter. Power handling 125 W cont; FR 55-23,000 Hz; sens 89 dB SPL/W/m; imp 8 ohms; crossover frequency 2,500 Hz. Oak finish. 11 x 221/2 x 91/2 in; 20 lb ea \$358/pr

Subwoofers

B460 Subwoofer

Bass system consists of JBL 2245H 18-in driver mounted in 8 cu ft vented enclosure. 3rd-order quasi-Butterworth design featuring die-cast aluminum frame; foam surround; edge-wound voice coil with 4-in diameter; 20-lb high-flux symmetrical-field-geometry magnet structure to reduce second-harmonic distortion; 1-in-thick densitycompressed wood enclosure. Min recommended power 200 W; imp 8 ohms; crossover point 63 Hz (external crossover); sens 94 dB SPL/W/m. 243/4 x 38¼ x 24¼ in \$2,150 ea

B380 Subwoofer

Bass system with 15-in woofer and 4-in ribbonwire voice coil in a vented alignment. Features hand-crafted oiled black-walnut-veneer cabinet; biamp option with BX63A; max recommended power 600 W; crossover frequency 63 Hz; sens 90 dB SPL/W/m; 20³/₄ x 27¹/₂ x 17 in \$899 ea

JENSEN

Model 3152 3-Way Speaker

Bass-reflex design. 15-in woofer, 5-in cone midrange, and 3-in ferrofluid-filled cone tweeter. Power handling 80 W rms; sens 94 dB SPL/W/m; FR 33-21,000 Hz; imp 8 ohms. Hickory finish. 181/2 x 32 x 111/2 in; 351/2 lb ea \$400/pr

Model 3080 2-Way Speaker

Floor-standing, bass-reflex design with 8-in dual woofers and 3-in ferrofluid-filled dynamic cone tweeter. Power handling 60 W rms; sens 91 dB SPL/W/m; FR 43-21,000 Hz; imp 6-8 ohms. Hickory finish. 101/2 x 381/2 x 13 in \$360/pr

J. S. ENGINEERING Model 2A

12-in and 10-in cone woofers, 61/2-in cone and 2-in dome midranges, and 1-in dome tweeter. Front of speaker is angled 8°. FR 25-24,000 Hz ±2 dB; power handling 50-350 W; sens 90 dB SPL/W/m; imp 8 ohms. 18 x 47 x 16 in at bottom, 11 in at top; 150 lb \$2,700/pr

SPEAKEBS

Infinite Slope Model 1.2 2-Way Speaker

Sealed, floor-standing speaker with 7-in and 8-in cone woofers and 1-in dome tweeter. Features Infinite Slope crossover; patented phase-shift bass loading; front of speaker angled 15°. Available in oak, walnut, black gloss. FR 40-20,000 Hz ± 2 dB; power range 10-150 W; imp 8 ohms; sens 90 dB SPL/W/m. 13 x 29 x 14½ in; 55lb \$1,250/pr

Infinite Slope Model .6A 2-Way Speaker

Subwoofer

KEF

Reference Series Model 105/3 4-Way Speaker

Floor-standing 6-driver system features Uni-Q

upper-midrange/tweeter driver with ¼-in softdome tweeter located at apex of 6½-in uppermidrange driver's cone. Two 6½-in lower midrange driver's, above and below Uni-Q driver; two 8-in woofers in coupled cavity configuration with 6½-in output port; force-canceling rod joining woofers eliminates enclosure vibrations; conjugate load-matching network gives speaker uniform resistive impedance; separate mid/tweeter and woofer input terminals facilitates biamplifying or biwiring. Power handling 300 watts continuous; FR 49-20,000 Hz ± 2.5 dB; sens 93 dB SPL/ 2.83 V/m; imp 4 ohms. Walnut or black-ash vencer. 11 x 43½ x 16 in; 93 lb ea.... \$3,500/pr

Model 104/2 3-Way Speaker

Model 103/3 3-Way Bookshelf Speaker

Coupled-cavity bass-loading speaker with woofer operating resonant chamber vented at bottom of enclosure. Features 8-in cone woofer; 6-in polypropylene-cone midrange; 1-in ferrofiuidcooled soft-dome tweeter; hybrid crossover network with built-in passive crossover and outboard active bass equalizer with controls for contour and extension. Conjugate load-matched passive crossover presents amp with uniform imp at all frequencies. Power handling 200 W max; FR 50-20,000 Hz, ± 2 dB; sens 92 dB SPL/W/m; imp 4 ohms. Walnut, black-ash, or rosewood finish. 10% x 22% x 12½ in; 37.5 lb ea..... \$1,490/pr

Model 102/2 3-Way Speaker

Features Uni-Q driver with $6\frac{1}{2}$ -in polypropylenecone midrange and $\frac{3}{4}$ -in soft-dome tweeter. Bass system employs $6\frac{1}{2}$ -in long-excursion woofer in single coupled cavity enclosure. Boundary-assisted alignment provides flat response when system is placed against a wall; conjugate loadmatching network gives speaker uniform resistive impedance. Power handling 150 W continuous; FR 50-20,000 Hz ± 2.5 dB; sens 89 dB SPL/ 2.83 V/m; imp 4 ohms. Walnut or black-ash veneer. 8½ x 20 x 10¼ in; 24 lb ea \$1,000/pr

Model 101/2 2-Way Bookshelf Speaker

C Series

Features polymer woofer diaphragms; fluid-cool tweeters; gold-plated input terminals. Terminals accept heavy-gauge wire, 4-mm banana plugs, and dual banana plugs on ³/4-in centers.

C85 3-Way Speaker

Floor-standing speaker with Uni-Q two-way tweeter/midrange driver and 8-in polyproylenecone woofer in vented enclosure. Uni-Q combines 1-in soft-dome tweeter and 8-in polyproylene-cone midrange; separate mid/tweeter and woofer terminals for biamplifying or biwiring. Power handling 250 W cont; FR 40-20,000 Hz ± 3 dB; sens 90 dB SPL/2.83 V/m; imp 4 ohms. Simulated walnut or black-ash finish. 9¼ x 34¼ x 12½ in; 41 lb ea.

C65 2-Way Speaker



KEF Model 103/3

C55 3-Way Bookshelf Speaker

C200SW Subwoofer

Features 8-in polypropylene woofer in singlecoupled-cavity enclosure. Contains passive 120-Hz crossover for satellite; satellites can be

C25 2-Way Bookshelf Speaker

KINDEL

Purist LT 2-Way Speaker

P-105 2-Way Speaker

KINERGETICS

SW-100 Powered Subwoofer

KINETIC AUDIO Trapezoid 4-Way Speaker

Floor-standing, ported speaker with 12-in polypropylene woofer, $6^{1/2}$ -in polypropylene midrange, $1^{1/4}$ -in synthetic-dome tweeter with magnetic-liquid cooling/damping, 1/4-in syntheticdome supertweeter with magnetic-liquid cooling/ damping. Features 5-way heavy-duty binding posts. Linear-phased driver arrangement in mirror-image pairs; front-mounted fuse and level controls. Crossover points 90, 2,000, 7,000 Hz; frequency response 18-22,000 Hz ± 1.5 dB; power handling 20- 200 W; sens 92 dB SPL/W/m; im 98 ohms. Walnut veneer; grille has nonresonant frame. 16 x 40 x 14 in; 115 lb...... \$2,000/pr

KLH

17 V 2-Way Bookshelf Speaker

Tuned port speaker with $6\frac{1}{2}$ -in woofer, 1-in dome tweeter. FR 40-20,000 Hz ± 3 dB; crossover point 1,800 Hz; sens 88 dB SPL/W/m; min power 25 W/ ch; imp $6\frac{1}{4}$ nom/min ohms. Black lacquer or oak veneer. 9 x 19 x 11 in; 43 lb/pr \$580/pr

Illusions 3 Satellite System

3-piece system with bandpass woofer design. Features two 4½-in woofers, two 6½-in woofers, 1-in dome tweeter, black knit grille. FR 45-20,000 Hz ± 3 dB; crossover points 150, 3,000 Hz; sens 86 dB SPL/W/m; min power 50 W/ch; imp 5/4 nom/min ohms. Black-lacquer or oak-veneer finish. Satellite 6 x 9 x 5 in; woofer module 9 x 15 x 8 in; 32 lb/sys

AV-3001 2-Way Bookshelf Speaker

Ported speaker with 8-in woofer, 1-in dome tweeter. FR 40-22,000 Hz \pm 3 dB; crossover point 2,800 Hz; sens 90 dB SPL/W/m; min power 5 W/ ch; imp 10/8 nom/min ohms. Oak-vinyl finish with brown-knit grille. 15 x 17 x 12 in, 47 lb ... \$399/pr 7201. As above, sens 89 dB SPL/W/m; imp 8/6 nom/min ohms. 12 x 19 x 12 in; 52 lb ... \$399/pr

AV-5001 3-Way Speaker

Passive-radiator tower design with 12-in woofer, 5-in midrange cone driver, 1-in dome tweeter. FR 20-22,000 Hz ± 3 dB; crossover points 900, 2,800 Hz: sens 91 dB SPL/W/m; min power 5 W/ch; imp 10/8 nom/min ohms. Oak-vinyl finish with blackknit grille. 15 x 43 x 12 in; 50 lb ea ... \$299 ea

Model 7001 2-Way Speaker

Ported mini-bookshelf speaker with 5-in woofer, l-in dome tweeter. FR 80-22,000 Hz ± 3 dB; crossover point 2,800 Hz; sens 86 dB SPL/W/m; min power 5 W/ch; imp 8/6 nom/min ohms. Oak vinyl finish with brown-knit grille. 6 x 11 x 6 in; 15½ lb/pr \$260/pr

62C Speaker

KLIPSCH

Klipschorn 3-Way Speaker

Horn-loaded floor-standing speaker features K-33-E woofer, K-55-M midrange, and K-77-M tweeter. Power handling 100 W cont; FR 35-17,000 Hz, ±3 dB; sens 104 dB SPL/W/m; imp 8 ohms. 31/4 x 52 x 28½ in; 167 lb. Price depends on finish, from \$2,798/pr

Chorus II 3-Way Speaker

Floor-standing speaker featuring 15-in subwoofer (K-48-E), horn-loaded tractrix midrange (K-61-E) and horn-loaded tweeter (K-79-K). Vented box enclosure; built-in riser base. Power handling 100 W cont; FR 39-20,000 Hz, \pm 3 dB; sens 101 dB SPL/W/m; imp 8 ohms. 18½ x 39 x 15½ in; 89 lb ea. Price depends on finish, from\$1,698/pr

Forté II 3-Way Speaker

Floor-standing speaker featuring horn-loaded tractrix drivers for midrange (K-61-K) and horn-loaded tweeter (K-75-K); 12-in voice coil vented woofer (K-25-K); 12-in sub bass radiator (KD-15). Vented box enclosure; built-in riser base. Power handling 100 W cont; FR 32-20,000 ± 3 dB; sens 99 dB SPL/W/m; imp 8 ohms. $16\frac{1}{2} \times 35\frac{1}{3}$ k $12\frac{1}{4}$ in; 56 lb ea. Price from \$1,198/pr

Heresy II 3-Way Speaker

kg⁴ 2-Way Speaker

kg³ 2-Way Speaker



Klipsch kg⁴

kg² 2-Way Speaker

Features rear-mounted sub bass radiator (KD-10), 8-in polymer woofer (K-9-K), and a horn tweeter (K-72). Vented box enclosure. Power handling 65 W cont; FR 35-20,000 Hz, ± 3 dB; sens 90½ dB SPL/W/m; imp 4 ohms; crossover frequency 1,800 Hz. $13/4 \times 18\% \times 111/2$ in; 28 lb ea. Price depends on finish, from \$438/pr

LINN

DMS Isobarik 3-Way Speaker Isobarik-loading floor-standing speaker with 12in and 9-in woofers, 5-in midrange, two ³/₄-in

Kaber 2-Way Speaker

Floor-standing tower speaker with two 5-in woofers and ¾-in tweeter. Woofers operate at different enclosure resonance and crossover points. Can be triwired or triamped. Includes integral base stand. Walnut or black-ash finish \$1,995/pr

Helix II 2-Way Bookshelf Speaker

Ported speaker with 8-inch woofer and ¼-inch dome tweeter. Can be biwired or biamped. 10 x 20 x 11 inches. Simulated black-ash \$895/pr

LUXMAN

S-505 2-Way In-Wall Speaker

MAGNEPAN

Magneplanar Tympanl-IVa 3-Way Speaker

Combination planar-magnetic and ribbon tweeter with biamplification option. FR 30-40,000 Hz ±3 dB; power handling 300 W max; sens 87 dB SPL/ W/m; imp 4 ohms bass, 3 ohms midrange/tweeter; crossover frequencies 400, 3,000 Hz. Off-white.

MG 2.6/R 2-Way Speaker

Combination planar-magnetic/ribbon speaker featuring 609-sq-in bass section and $\frac{1}{4}$ -in x 40-in ribbon-tweeter section. Power handling 200 W cont; FR 37-40,000 Hz ± 3 dB; sens 87 dB SPL/W/ m; crossover at 1,000 Hz; imp 4 ohms. Blonde or black-oak side rails; white, black, gray or brown grille cloth. 22 x 71 x $\frac{1}{4}$ in \$1,950/pr

MG 1.4 2-Way Speaker

Full-range planar-magnetic speaker featuring 428-sq-in bass section and 1½-in x 45-in tweeter section. Power handling 200 W cont; FR 40-18,000 Hz ± 3 dB; sens 87 dB SPL/W/m; crossover frequency 1,000 Hz; imp 5 ohms. Blonde or black-oak side rails; white, black, gray, or brown grille cloth. 22 x 60 x 1¼ in; 85 lb/pr ... \$980/pr

SMGa 2-Way Speaker

Full-range planar-magnetic speaker featuring 370-sq in bass section and 1½-in x 38-in tweeter section. Power handling 100 W cont; FR 50-18,000 Hz \pm 3 dB; sens 85 dB SPL/W/m; crossover frequency 2,400 Hz; imp 4 ohms. Blonde or black-oak side rails; white, black, gray, or brown grille cloth. 19 x 48 x 1¼ in; 60 lb/pr ... \$575/pr

M&K

MX-1000CC Powered Subwoofer System

Center-channel system with two 5-in polypropylene midranges, three 1-in soft-dome tweeters and powered subwoofer with two 12-in drivers. Designed for surround-sound systems. Features two inputs for center channel; bass level control; upper-frequency rolloff control...... \$1,995 ea

V-100 Powered Subwoofer

Features 200 W rms power amp to drive 12-in dual voice-coil polypropylene subwoofer. Externally mounted filter adjustment. FR 20-125 Hz. Black-oak finish. 15¼ x 16 x 18¼ in. ... \$995 ea

VX-4 Subwoofer

12-in driver. Features adjustable low-pass filter. FR 40-125 ±3 dB; 50 W cont. Black \$475 ea

S-100 2-Way Speaker

Satellite speaker with two 5-in polypropylene midranges and three 1-in soft-dome tweeters. Features back-panel switches for midrange and treble. Satin-graphite lacquer finish \$995/pr

Satellite 2B 2-Way Speaker

SX-7 2-Way Bookshelf Speaker

JOHN MAROVSKIS

Janis System 3a Powered Subwoofer

12-in slot-loaded subwoofer. Amp section: basslevel adjust; continuously variable woofer phase;
SPEAKERS

50 W rms into 8 ohms; THD < 0.05% at 20 Hz and 50 W; S/N 90 dB for 50 W. Woofer module: FR 30-100 Hz ± 1.0 dB; sens 85 SPL/W/m; crossover point 100 Hz; imp 8 ohms. Oiled walnut or whiteoak finish; wood grille. Woofer module: 18 x 18 x 18 in. Amp: 14 x $3\frac{1}{2}$ x 9 in. 87 lb/sys ... \$950/sys

Janis W1 Subwoofer

MARTIN-LOGAN

The Monolith III Hybrid Electrostatic Speaker Floor-standing curvilinear electrostatic panel speaker mounted atop tuned subwoofer box. Designed for wide dispersion without use of lenses. Constant voltage crossover provides phase coherency. Features 2-ft x 4-ft electrostatic cell for 100-24,000 Hz and a 12-in low-mass cone subwoofer with 2-in voice coil that is down 3 dB at 24 Hz; electronic crossover. Power handling 500 W cont; FR 28-24,000 Hz, ±2 dB; sens 90 dB SPL/W/m; imp 6 ohms. Available in a variety of finishes. 25 x 75 x 13½ in; 165 lb ea ... \$7,000/pr

With passive crossover \$6,500/pr The CLS II Electrostatic Speaker

The Sequel II Hybrid Electrostatic Speaker

Floor-standing electrostatic/subwoofer system. Features visually transparent electrostatic transducer that operates from 200-24,000 Hz; 30° seamless horizontal disperson in a vertical linesource format; 1-ft x 4-ft electrostatic cell; 10-in subwoofer in tuned chamber with matrix voice coil. Power handling 300 W cont; frequency response 26-24,000 Hz ± 3 dB; sensitivity 89 dB SPL/W/m; impedance 6 ohms. Oak or black finish. 14½ x 74 x 13½ in; 110 lb ea \$2,500/pr

MB OUART

Quart Pure 3-Way Speaker

Floor-standing speaker with 1-in titanium-dome tweeter, 2-in aluminum-dome midrange, 8-in butyl-rubber-surround woofer. Power handling 160 W cont; FR 28-32,000 Hz. Finishes include oak, walnut, white or black matte, cherry, pine, and raw oak. 12 x 44 x 14 in; 82 lb \$3,000/pr

Quart 690 MCS 2-Way Speaker

Tower design with 1-in titanium-dome tweeter, 8in woofer. Power handling 100 W cont; FR 35-32,000 Hz. Oak, walnut, black or white lacquer finishes; special finishes include pine, cherry, granite, marble, raw oak, and high-gloss black or white. 10% x 33% x 11% in; 39 lb \$1,500/pr

Quart 490 MCS 2-Way Bookshelf Speaker

MB 310 Subwoofer

12-in woofer; FR 25-100 Hz; sens 87 dB SPL/W/m; min. amp power 50 W; crossover frequency 100 Hz. Walnut, oak, black or white lacquer finishes. 16 x 19 x 15 in; 40 lb. \$849 ca

Quart 190 2-Way Bookshelf Speaker

Quart 90M 2-Way In-Wall Speaker

Features 1-in titanium-dome tweeter, 8-in woofer. Power handling 100 W cont; FR 46-32,000 Hz. White matte finish; 10³/₄ x 12 x 3³/₄ in \$599/pr

MCINTOSH XR 240 3-Way Speaker

12-in woofer, 6½-in midrange, and 1-in dome tweeter in sealed cabinet. Solid-state currentsensor protector for tweeter; overload-protection fuses; Power Guard circuit prevents clipping. Power handling 300 W max; FR 20-20,000 Hz; sens 86 dB SPL/W/m; crossover points 375 Hz, 1,200 Hz; imp 8 ohms. Oak, walnut, or black-onash veneer finish. 15 x 43¼ x 13¼ in ... \$2,298/pr

XRT 18 Subwoofer/Satellite System

Bass cabinet containing 12-in woofer and 6-in midrange and column containing sixteen 1-in dome tweeters. Features 3-ampere fast-acting fuse for woofer and midrange and 1.25-ampere fuse for tweeters. Cabinet constructed of highdensity fiber board with walnut-veneer exterior. FR 20-20,000 Hz; sens 86 dB SPL/W/m; power handling 150 W cont, 500 W peak; min power 30 W; imp 8 ohms; crossover points 350, 1,500 Hz. Bass cabinet: 17½ x 27¼ x 11¼ in, tweeter column: 10½ x 57¼ x 1¼ in; 108 lb ... \$4,998/pr

XL 10 2-Way Speaker

8-in woofer, 1-in dome tweeter, and 10-in controlled-mass passive radiator. Tweeter protected by 0.6-amp fuse. Power handling 100 W max; imp



XL 1W Subwoofer

XL 1 2-Way Bookshelf Speaker

MERIDIAN

D600 Digital Powered Speaker System

Triamplified vented-box design with built-in 4xoversampling digital filter and 16-bit D/A converter. Features 6½-in woofer, 6½-in midbass, and 1in metal-dome tweeter. Selects between digital and analog inputs; 2 analog, 2 digital, and 1 digital/optical input. Includes wireless system remote control. 70 W x 3; FR 36-20,000 Hz; SPL 110 dB. 8¼ x 35½ x 11½ in; 70 lb ea. Rosewood, walnut, or black ash

M20II 2-Way Powered Speaker

M200 Powered Subwoofer

Floor-standing coupled-cavity design with two 8in woofers. Woofers each rear-loaded by sealed enclosures, share common, ported output chamber; electronic crossover with stereo high-pass preamp-level outputs plus 175-W amplifier; highdensity particleboard enclosure with internal bracing. Balanced low-level and high-level inputs: selectable crossover point. FR 18-50 Hz; max output >110 dB SPL. Black-ash finish with black-glass top. 10½ x 26% x 16% in ... \$1,600 ea

MIRAGE BY API M3 3-Way Speaker

Floor-standing bipolar radiator utilizing proprietary transducers. Features 10-in polyflex-treated carbon-filled polypropylene woofer with $1\frac{1}{2}$ -in voice coil; two $4\frac{1}{2}$ -in tri-laminated carbon-filled polypropylene cone midranges (1 front, 1 rear). For biwire or biamp hookup. Power handling 250 W cont: FR 25-23,000 Hz ± 2 dB; sens 85.5 dB SPL/W/m; crossover frequencies 400, 2,200 Hz; imp 6 ohms. 19 x 53 x 9 in; 130 lb ea. \$2,500/pr

Model 760 2-Way Speakers

Floor-standing, bass-reflex design with two 8-in carbon-filled polypropylene woofers with stitched butyl-surround, and 1-in ferrofluidcooled soft-dome tweeter. Power handling 200 W cont; FR 20-20,000 Hz ± 3 dB; sens 89 dB SPL/W/ m; imp 6 ohms. Black-ash or walnut-vinyl veneer finish. 12 x 37 x 15 in; 62 lb ea \$1,000/pr

Model 360 2-Way Bookshelf Speaker

Bass-reflex speaker design with 8-in carbon-filled polypropylene with stitched butyl-surround woofer, and 1-in soft-dome ferrofluid-cooled tweeter. Power handling 100 W cont; FR 40-20,000 Hz ± 3 dB; sens 88 dB SPL/W/m; crossover frequency 2,800 Hz; imp 8 ohms. Black-ash or walnut vinyl finish. 10 x 20 x 8 in ... \$400/pr

MISSION

Mission 765i 2-Way Speaker

Floor-standing column. Two 8-in polypropylene midbass drivers with 2-in voice coils; 1-in super

SPEAKERS

elliptical dome tweeter with ferrofluid cooling. $1\frac{1}{2}$ -in MDF. Sealed box, adjustable and removeable carpet piercing spikes; biamping/biwiring connectors. Crossover point 2,500 Hz; 93 dB SPL; FR 35-20,000 Hz \pm 3 dB; imp 4 ohms; power 250 W rms. Natural rosewood and black-ash wood veneers. $10\frac{1}{2} \times 40 \times 14$ in; 110 lb \$1,999/pr

Cyrus 782 2-Way Speaker

Mission 762 2-Way Bookshelf Speaker

Bass-reflex speaker with 8-in plastiflex midbass and $\frac{1}{4}$ -in ferrofluid-cooled fabric-dome tweeter. Features $\frac{1}{4}$ -in fiber board cabinet; flared, tuned port; 5-way binding posts. Power handling 125 W rms; FR 50-20,000 Hz \pm 3 dB; sens 93.5 dB SPL/ W/m; imp 8 ohms; crossover point 4,300 Hz. Simulated black-ash veneer. $\frac{9}{4} \times 16\frac{5}{4} \times 11\frac{1}{4}$ in; 21 lb ea.

Mission 761 2-Way Bookshelf Speaker

2-way speaker with 6½-in midbass, ¼-in ferrofluid-cooled soft-dome tweeter. Features transverse-folded cabinet; 5-way binding posts. Power handling 100 W rms; FR 58-20,000 Hz ±3 dB; sens 89 dB SPL/W/m; nom imp 6 ohms; crossover point 4,200 Hz. Simulated black-ash veneer. 8½ x 15 x 8½ in; 13 lb \$289/pr

MONITOR AUDIO

Studio 10 2-Way Bookshelf Speaker Anodized gold metal-dome tweeter, 6-in anodized aluminum-ceramic woofer. FR 40-30,000 Hz ± 3 dB; imp 8 ohms; sens 88.5 dB SPL/W/m; power 20-200 W. Rosewood, black-ash, walnut, oak finishes. 8 x 16 x 10 in \$3,000/pr

Gold Series

MA1200 Gold 2-Way Speaker

MA700 Gold 2-Way Bookshelf Speaker

Monitor Series

Monitor 14 3-Way Speaker

Monitor 9 2-Way Bookshelf Speaker

1-in metal-dome tweeter, 6½-in impregnated woofer. Infinite-baffle design. FR 55-20,000 Hz ±3 dB; imp 8 ohms; sens 88 dB SPL/W/m; power handling 15-100 W. 100% MDF cabinet construction. 8 x 14½ x 8¼ in......\$499/pr

MORDAUNT-SHORT

MS 3.50 2-Way Speaker

Transmission-line speaker with 8-in woofer and l-in aluminum-dome tweeter. Min power 15 W; FR 45-22,000 Hz ± 5 dB; sens 90 dB SPL/W/m; imp 8 ohms; crossover point 4,000 Hz. Black-ash finish. 9 x 35 x 15 in; 40 lb ea...\$899/pr

MS 3.30 2-Way Speaker



Museatex Melior One

MS 3.10 2-Way Speaker

Reflex speaker with 5-in woofer and $\frac{1}{4}$ -in aluminum-dome tweeter. Min power 15 W; FR 75-20,000 Hz ± 5 dB; sens 88 dB SPL/W/m; imp 8 ohms; crossover point 5,000 Hz. Black-ash finish. 7 x 11 x 8 in \$249/pr

MOREL

Duet 2-Way Speaker

6-in wooter and 1th-in ferrofluid-cooled softdome tweeter. Features Hexatech winding (aluminum wire wound hexagonally) in tweeter; double-magnet woofer Hexatech voice coil. Power handling 150 W rms; FR 40-22,000 Hz ± 2 dB. Black lacquer finish. 8 x 15 x 12 in; 20 lb \$995/pr

Encore Satellite/Subwoofer System

2-way satellites with 6-in woofer and 1.1-in dome tweeter. Power handling 120 W rms; FR 90-22,000 Hz. 7 x 11 x 9 in; 16 lb. Black-lacquer finish. Subwoofer contains dual 9-in woofers in pushpull configuration; built-in 90-Hz crossover. Power handling 150 W rms; FR 30-90 Hz. Matteblack finish. 12 x 20 x 14 in; 32 lb..... \$990/sys

MUSEATEX

Melior One Speaker

Full-range planar speaker. FR 30-20,000 Hz ±5 dB; sens 90 dB; power 30 W. Mahogany finish with black grille; 60 lb ea. \$2,250/pr

NAIM

NA IBL 2-Way Speaker 6-in woofer and ¼-in dome tweeter. Features active crossover. FR 45-20,000 Hz ±3 dB; sens 86.5 dB SPL/W/m; imp 6 ohms; power handling 65

NEAR

Symphony No. 1 CS-4000 CL 3-Way Speaker

2 woofers, 6½-in midrange, and eight 2-in tweeters in array. Features infinite-baffle design. Max power 250 W; imp 8 ohms; crossovers 400 and 2,500 Hz. 26¼ x 44½ x 15½ in \$4,180/pr

Concerto V CS-302 M 3-Way Speaker

12-in woofer, 6-in midrange, and two 2-in tweeters. Features infinite-baffe enclosure. Max power handling 150 watts; imp 8 ohms; crossover points 400 and 2,500 Hz. Walnut finish. 26 x 28 x 15 in \$2,200/pt

NEAR-50M 3-Way Speaker

Tuned-port, floor-standing speaker with 8-in metal-cone woofer; 4-in metal-alloy midrange; and 3/-in metal-dome tweeter. Power handling 20-150 watts; FR 32-25,000 Hz ± 1.5 dB; crossover points 250 and 4,000 Hz; sens 89 dB SPL/W/m; imp 8 ohms nom. Walnut. \$1,540/pr

NEAR-40M 2-Way Speaker

NELSON-REED

Model 8-02/B 3-Way Speaker

Floor-standing, slot-loaded speaker with 8-in Bexetrene-cone woofer, 4-in cone midrange, and ¼-in soft-dome tweeter. Features proprietary 22element crossover; biampable; 3-amp fast-blow fuse for thermal protection. Ajustable bass loading. Frequency response 32-20,000 Hz ± 2 dB; sens 92 dB SPL/W/m; imp 8 ohms nominal; power handling 250 W; crossover points 150 Hz and 4,500 Hz. Oiled-oak, walnut, or diamond-lacquer finish. 12 x 36 x 15 in; 60 lb \$1,290/pr

Model 6-02/B 2-Way Bookshelf Speaker

NHT

Model Two 3-Way Speaker

M100 3-Way Speaker

Vented speaker with 10-in 4-layer voice coil woofer, 6½-in midrange, 1-in ferrofluid-cooled, fabric-dome tweeter. Max power 450 W/ch; FR 29-24,000 Hz ± 3 dB; nom imp 8 ohms; sens 88 SPL/W/m. Matte black finish. 13 x 31 x 16 in; 60 lb ca \$600 ea

Model 1.3 2-Way Speaker

Sealed speaker with 6½-in polypropylene woofer and 1-in ferrofluid-cooled dome tweeter. Features angled baffle. Frequency response 50-

ray. 9% x . \$899/pr

SPEAKEBS

Model One 2-Way Speaker

Sealed speaker with 6½-in woofer, 6½-in midrange, 1-in dome tweeter. Features angled baffle; magnetic shielding. FR 63-22,000 Hz \pm 3 dB; nom imp 8 ohms; min power 20 watts. Black or white and grille. 7 x 12 x 10 in; 11 lb ea \$340/pr

Model Zero 2-Way Speaker

SW-1 Subwoofer

NILES

Model 300 2-Way In-Wall Speaker

8-in polypropylene woofer with rubber edge and 1-in soft-dome tweeter. Features slide switch crossover. Min power 10 W/ch; FR 40-20,000 Hz ±3 dB; sens 89 dB SPL/W/m; imp 8 ohms; crossover point 2,500 Hz. Pearl-white finish and grille cover. 10¼ x 14¼ x 3¼ in; 12 lb ... \$460/pr

Онм

4XO Inverted-Cone Speaker

Bass-reflex speaker features coherent-line source (CLS) conical-surface driver; gold-plated 5-way binding posts; gold internal connectors; lead-lined cabinet; Monster Cable internal wiring; casters; ferrofluid cooled; protection circuits. Standard finish walnut or oak, also available in rosewood, black or white lacquer. Power handling 500 W cont; FR 32-23,000 Hz ± 4 dB; imp 8 ohms. 15½ x 40 x 15½ in \$2,500/pr

2XO Inverted-Cone Speaker

FRS 92-Way Speaker

CAM 32 SBA 2-Way Bookshelf Speaker

FRS 5 2-Way Bookshelf Speaker

Corner-mounted tweeter, 6-in woofer, ferrofluid-

cooled driver. Sub-bass activator; 5-way binding post; protection circuits. Power handling 125 W peak; FR 48-20,000 Hz ± 4 dB; imp 8 ohms. Oakvinyl veneer. 11½ x 11½ x 11½ in \$450/pr

OPTIMUS BY RADIO SHACK Mach Two 3-Way Speaker

Vented, ferrofluid cooled with 15-in woofer, 5-in cone midrange, 4-in dual-radial superhorn tweeter. Level controls for midrange and tweeter. Max power 160 W: sens 94 dB SPL/W/m \$520/pr

Model 950 2-Way Speaker

Bass-reflex speaker with 15-in woofer and ferrofluid-cooled tweeter. Features tuned-port design; removable grille. FR 50-20,000 Hz; power handling 100 W; sens 90 dB SPL/W/m; imp 8 ohms. Oiled walnut, 19½ x 23¼ x 11¼ in \$340/pr

PARADIGM

Studio Monitor 3-Way Speaker

Floor-standing design. Features twin 8-in woofers with diecast chassis, mineral-filled copolymer polypropylene cone, Kapton voice-coil former; 1-in laminated textile-dome tweeter, ferrofluid cooled and damped. Individually calibrated, phase corrected 2nd- and 3rd-order crossovers. Medite baffle. FR 28-20,000 ± 2 dB; sens 91.5 dB; power range 15-200 W at 10% clipping. Triwirable and triampable. Walnut, oak, or black-ash wood finish. 11½ x 42½ x 16½ in; 90 lb \$1,950/pr

Export Monitor 2-Way Speaker

8-in woofer with high-pressure diecast chassis, mineral-filled laminated copolymer polypropylene cone, Kapton voice-coil former; 1-in laminated textile-dome tweeter, ferrofluid cooled and damped. Individually calibrated, phase-corrected 4th-order crossover. Medite baffle. FR 28-20,000 Hz \pm 2 dB; sens 88.5 dB; power range 15-100 W. Biwirable and biampable. Walnut, oak, or black-ash finish. 10½ x 24 x 14; 35 lb... \$840/pr



Phase Technology PC 8.5

Compact Monitor 2-Way Speaker

6-in woofer with high-pressure diecast chassis, mineral-filled laminated copolymer polypropylene cone, Kapton voice-coil former; 1-in laminated textile-dome tweeter, ferrofluid cooled and damped. Individually calibrated, phase-corrected 3rd-order crossover. Medite baffle. FR 40-20,000 Hz \pm 2 dB; sens 88 dB; power range 15-100 W. Biwirable and biampable. Walnut, oak, or black-ash veneer. 8½ x 15½ x 12; 23 lb ... \$600/pr

7se 2-Way Speaker

8-in woofer with high-pressure diecast chassis, copolymer polypropylene cone, Kapton voicecoil former; 1-in polyimide dome tweeter, ferrofluid cosled and damped. Phase-corrected 2ndorder crossover. FR 32-20,000 Hz \pm 2 dB; sens 91 dB; power range 15-100 W. Walnut or black-ash vinyl finish. 10½ x 24 x 11% in; 28 lb... \$490/pr

AMS-200 In-Wall Speaker

PHASE TECHNOLOGY PC 8.5 3-Way Speaker

PC 90 Subwoofer

PC 40 Mk II 2-Way Bookshelf Speaker

Acoustic-suspension phase-coherent speaker with 5¼-in solid-piston woofer; 1-in solt-dome tweeter. Accepts banana plugs. Power range 15-80 W; FR 70-20,000 Hz ± 3 dB; sens 89 dB SPL/W/ m; imp 4 ohms. Walnut, stained-oak, and lightoak finishes. 6½ x 9¼ x 5¼ in; 10 lb ... \$380/pr

ES Series

730-ES 3-Way Tower Speaker

435-ES 2-Way Bookshelf Speaker

8-in bass/midrange and 1-in ferrofluid-cooled soft-dome tweeter. Features asymmetrically mounted tweeter. Power handling 80 watts; FR 45-20,000 Hz ± 3 dB; sens 92 dB SP1/W/m; nominal imp 8 ohms; crossover point 2,500 Hz. Black-ash or dark-oak vinyl finish. 12 x 22½ x 10½ in \$300/pr

PC 60/50 Subwoofer/Satellite System

3-piece system consisting of 2 PC60 satellites and PC50 subwoofer. Power handling 25-150 watts; FR 30-20,000 \pm 3 dB; sens 87.5 dB SPL/W/m; imp 8 ohms; crossovers 150 and 1,200 Hz ... \$830/sys

CI-40 2-Way In-Wall Speaker

5¼-in solid-piston woofer, 1-in soft-dome tweeter. Features auto-resetting thermal breakers; 5way binding posts; screened woofer back; 5-year warranty. FR 55-20,000 Hz; power handling 15-80 W; imp 4 ohms. \$380/pr

SPEAKERS

CI-SUB In-Wall Subwoofer

In-wall subwoofer with 6 x 9-in damped fel-cone woofer. FR 20-90 Hz; power handling 25-100 W; imp 4 ohms. \$225 ea

PHILIPS

FB825 3-Way Speaker

8-in soft-coated woofers, 5½-in soft-coated midrange and Isophase planar ribbon tweeter. Rounded-edge closed-box enclosure with two separate woofer enclosures; MDF acoustic-damping baffle with solid-wood edge trim; poweroverload-protection system. Banana-plug-compatible input connectors. Power handling 250 W cont. Dark-walnut foil-finished cabinet . \$800/pr

FB-815 3-Way Speaker

FB-790 3-Way Bookshelf Speaker

8-in soft-coated woofers, 1-in ferrofluid-cooled softdome midrange, ¼-in ferrofluid-cooled softdome tweeter; computer-optimized tuned ducted port. auto overload-protect system. Power handling 90 W cont; FR 37-20,000 Hz; sens 89 dB SPL/ W/m; crossover points 3,000 Hz, 10,000 Hz; nom imp 4-8 ohms. Dark-walnut oil finish. 12 x 23 x 9 in; 15.4 lb ea. \$300/pr

PINNACLE

PN 8+ 2-Way Bookshelf Speaker

PN Sub + Subwoofer

PN 6+ 2-Way Bookshelf Speaker

PIONEER

TZ-9 3-Way Speaker

TZ-7 3-Way Speaker

Two horizontally mounted 8-in woofers (front,

POLK AUDIO

SRS 1.2TL Signature Reference 3-Way Speaker Incorporates proprietary Stereo Dimensional Array technology for improved imaging. Features 15-in planar sub-bass radiator; eight 6½-in trilaminate-polymer midbass drivers; four SL3000 1-in trilaminate polymer-dome tweeters. FR 10-26,000 Hz; power handling 1,000 W cont; imp 6 ohms.



Polk Audio SRS 3.1TL

Oiled oak or walnut finish. 21 x 63½ x 13½ in; 185 lb......\$3,400/pr

SRS 3.1TL Signature Reference 3-Way Speaker Tower-style speaker with proprietary Stereo Di-

RTA 15TL Monitor 3-Way Speaker

SRS 4.1TL Signature Reference 3-Way Speaker

RTA 8TL Monitor 3-Way Speaker

Real-Time-Array floor-standing speaker with two 6½-in trilaminate-polymer midbass drivers, and 1-in silver-coil polymer-dome tweeter. Power handling 250 W cont; FR 30-26,000 Hz; nom imp 6 ohms. Black-ash, walnut, and oak-vinyl finishes. Genuine walnut and oak veneer available at extra cost. 16 x 28 x 9¼ in; 48 lb . \$650/pr

RM3000 Satellite Subwoofer System

Three-piece system featuring two satellites with $\frac{1}{4}$ -in dome tweeter and $\frac{3}{2}$ -in driver. Patented subwoofer has two $\frac{6}{2}$ -in drivers and one 10-in sub-bass radiator. Power handling 125 W/ch; FR 42-18,000 Hz; imp 8 ohms. Available in black matte, piano black, and white finishes. Satellites: 7 x $\frac{4}{x}$ x $\frac{5}{2}$ in. Woofer: $\frac{12}{2}$ x $\frac{20}{4}$ x $\frac{13}{13}$ in; 46 lb total. \$750/pr

Monitor 10 Series 2 3-Way Speaker

Monitor 5 Jr. + Series 2 3-Way Speaker

In-Wall Speakers

AB-900 Architectural Reference Speaker

Two in-wall satellite speakers with one 2½-in driver and one ¾-in tweeter; satellites: 6½ x 4 x 3¼ in; one subwoofer with two 6½-in drivers: 4¼ x 3¼ in. Power handling 150 W/ch; imp 8 ohms; FR 40-20,000 Hz \$800/sys

AB-700 Architectural Reference 2-Way Speaker

PRECISE ACOUSTICS 600 BL 3-Way Speaker

Floor-standing, bass-reflex speaker system with 1-in tweeter, 6¹/₂-in midrange, 10-in woofer. Ebony or graphite grille. Black satin or walnut finish. \$1,500/pr

400 BL 2-Way Speaker

Floor-standing, bass-reflex system with 1-in tweeter, 8-in woofer. Ebony or graphite grille. Black satin or walnut finish. \$1200/pr 300 BL. Same as above, except in bookshelf size. \$750/pr

Monitor 9 2-Way Speaker

Monitor 5 2-Way Speaker

Bass-reflex speaker with 8-in woofer and 1-in dome tweeter. Features 9-element crossover. FR 32-45,000 Hz; power handling 80 W max \$399/pr

PSB SPEAKERS BY LENBROOK Stratus Gold 3-Way Speaker

10-in long-throw woofer, 6-in midrange, 1-in aluminum-dome tweeter. Power handling 10-250 W; crossover point 2,200 Hz; woofer crossover point 250 Hz; FR 36-20,000 Hz \pm 1.0 dB; sens 88 dB;

SPEAKEBS

imp 4 ohms. Black, light or dark oak finish. \$2,000/pr

New Stratus 2-Way Speaker

8-in long-throw woofer, 1-in aluminum-dome tweeter. Power handling 10-200 W; crossover point 1,800 Hz; FR 40-20,000 Hz ± 1.5 dB; sens 88 dB; imp 6 ohms. Black, light or dark oak finish. \$1,400/pr

CS 180 Tower 2-Way Speaker

PSB 40 MKII 2-Way Speaker

HW-I 2-Way In-Wall Speaker

6½-in polypropylene woofer, ¼-in textile-dome tweeter. Power handling 5-75 W; crossover point 2,400 Hz; FR 56-20,000 Hz ± 2 dB; sens 89 dB; imp 8 ohms. Off-white finish. \$350/pr

PSB 30 MKII 2-Way Speaker

QUAD

ESL-63 US Monitor Electrostatic Speaker

REALISTIC BY RADIO SHACK Nova 18 2-Way Speaker

Nova 16 2-Way Speaker

REVOX

Duetto 2-Way Speaker

Piccolo Satellite/Subwoofer System

Satellite speakers may be used with or without companion subwoofer. Satellites feature 4½-in midrange driver; ½-in dome tweeter. Subwoofer features 10½-in woofer. Power handling 70 W cont; FR 48-22,000 Hz ± 3 dB; sens 86 dB SPL/W/ m; imp 4 ohms; black finish. Satellites: 5½ x 8½ x 5½ in. Subwoofer: 14½ x 15½ x 14½ in Satellites. \$390/pr Subwoofer. \$400 ea

ROGERS

LS5/9 2-Way Speaker

Power handling 100 W; FR 50-16,000 Hz ± 3 dB; imp 8 ohms; sens 87 dB SPL/W/m. 11 x 18% x 10% in; 38 lb. Walnut, teak, or black \$2,595/pr

Studio 1a 2-Way Speaker

Features aluminum-dome tweeter and biwirable crossover. Power handling 220 W; FR 45-20,000 Hz ± 3 dB; imp 8 ohms; sens 89 dB SPL/W/m. 12 x 25 x 12 in; 40 lb. Walnut, teak, or black \$1,399/pr

LS3/5a 2-Way Bookshelf Speaker

LS2a 2-Way Bookshelf Speaker

SANSUI

Vintage SP-100i 2-Way Shielded Speaker

SW-S7.7U 3-Way Subwoofer/Satellite System

Two SP-XO.7Ú acoustic-suspension satellites with 5-in polypropylene midrange and $\frac{1}{2}$ -in softdome tweeter, and one SP-W7U subwoofer with two 6-in woofers in ported cabinet. Power handling 60 W/ch rms into 6 ohms; FR 55-22,000 Hz; sens 88 dB SPL/W/m. Crossover point at 200 and 6,000 Hz. Satellites: oak grain or black wood grain. 7 x 11³/₄ x 71/₈ in; 10 lb. Subwoofer: black textured finish. 9³/₄ x 19 x 11³/₈ in; 26 lb. \$370/sys

SHAHINIAN ACOUSTICS Obelisk 3-Way Speaker

ARC 3-Way Speaker

ELF 2-Way Speaker

Double Eagle Stereo Subwoofer

SHURE

HTS50CF Center-Channel Speaker System

HTS50SW Subwoofer

HTS50LRS Surround-Sound Speaker

SIGNET

SL280 2-Way Speaker

Includes 8-in polypropylene woofer with rubber surround and injection-molded magnesium frame and 1-in ferrofluid-cooled aluminum-dome tweeter. Features vented enclosure; biwired option; crossover with air-core inductors, polypropylene capacitors, and OFC wire. Power handling 20-150 W; FR 40-25,000 Hz; sens 89 dB 2.83 V/m; nominal imp 8 ohms; crossover point 3,000 Hz. Oak veneer. 9/4 x 25 x 12% in 37 lb.... \$900[pr

SL230 3-Way Subwoofer/Satellite System

SNELL

Type A-IIIi 4-Way Speaker

Floor-standing, acoustic-suspension speaker with curved baffle to eliminate diffraction, mechanically isolated midrange enclosure. floorloaded woofer, and rear-loaded supertweeter for accurate room response. Hand-adjustment of crossover values for specific drivers assures acoustic performance virtually identical to reference speaker. Features 12-inch high-power longexcursion mass-loaded mechanically isolated

SPEAKERS

Type C-III 3-Way Speaker

LCR-500 2-Way Speaker

Features two 6½-in cast frame polypropylene woofers and two ¾-in aluminum-dome shielded tweeters. Designed for front placement in home theater systems; utilizes a special driver configuration to limit vertical directivity and maximize voice intelligibility. FR 80-20,000 Hz; imp8 ohms. High-gloss black finish. 9½ x 22 x 7 in \$1,598/pr

Type Q 2-Way Speaker

Type K-II 2-Way Bookshelf Speaker

Acoustic-suspension speaker with 8-inch polypropylene woofer and one $\frac{3}{4}$ -inch ferrofluidcooled soft-dome tweeter. Hand-adjusted crossover values. Dual inputs for optional biwiring or biamping. Power handling 100 watts rms; FR 70-20,000 Hz ± 2 dB; sens 90 dB SPL/W/m; nom imp 8 ohms; crossover 2,700 Hz. Oak, dark oak, walnut, or black veneer. 11 x 18 x 9 in ... \$465/pr

SUB-500 Subwoofer

SONANCE

Sonance 45 2-Way In-Wall Speaker

8-in polypropylene woofer and 1-in soft-dome tweeter. Features woofer with butyl rubber surround, cast frame, and treated-fabric dust cap. Tweeter with acoustic chamber and pole piece. 4th-order crossover at 2,700 Hz with 24 dB/oct Bessel slopes, realized with low-loss capacitors and high-current chokes. Power handling 5-100 W; FR 35-22,000 Hz \pm 2 dB; sens 90 dB; imp 8 ohms. Available in white ABS with choice of cloth or metal grille, new construction, or retrofit brackets. 12 x 16 x 3½ in, 12 lb....... \$650pr

PSW2 In-Wall Subwoofer

Sonance IIIc 2-Way In-Wall Speaker



Snell Type K-II

SAM1 Powered Subwoofer

SPEAKERLAB

Auricle 57 3-Piece Speaker System

Two 8-in band-pass woofers, 5-in x 57-in planar dipole ribbon midrange, and 5-in x 57-in planar dipole ribbon tweeter. Min power 30 W; FR 23-20,000 Hz; sens 90 dB SPL/W/m; crossover point 150 Hz; non imp 8 ohms. Oiled oak finish; black knit grille. 13 x 71 x 6 in; 35 lb \$1,800/sys

ST5 3-Way Speaker

Two 8-in woofers, 6½-in cone midrange, and 1-in dome tweeter in bandpass enclosure. Min power 40 W; FR 20-21,000 Hz; sens 92 dB SPL/W/m; crossover points 150, 3,000 Hz; nom imp 4 ohms. Oiled oak finish; black knit grille. 12 x 42 x 14 in; 75 lb \$799/pr

DAS 4 2-Way Speaker

SL210 Subwoofer

SPICA

TC-50 2-Way Bookshelf Speaker

Acoustic-suspension speaker with 6-inch cone woofer and 1-inch dome tweeter. Features triangular shape allowing system to be within 15° of absolute phase from 350-5,000 Hz. FR 58-16,500 Hz \pm 3 dB; power handling 25-50 watts, 100 watts peak; sens 83 dB SPL/W/m; imp 4 ohms. Available in oak, walnut, or black finishes. 13 x 15½ x 11¼ in. 21 lb each

SYNTHESIS BY CONRAD-JOHNSON LM 310 3-Way Speaker

10-inch woofer; 7-inch midrange; 1-inch dome tweeter. Light or dark oak cabinet with radiused hardwood edges. FR 25-20,000 Hz ± 2 dB; power handling 200 W cont; sens 91 dB SPL/W/m; imp 8 ohms; 13½ x 45½ x 14½ in; 70 lb ea... \$3,250/pr

LM 210 2-Way Speaker

Ported speaker with 6½-inch polypropylene woofer; 1-in dome tweeter. Light or dark oak cabinet with radiused hardwood edges. Power handling 80 W cont; FR 46-20,000 Hz ± 2 dB; sens 90 dB SPL/W/m; imp 8 ohms; 10½ x 33½ x 10½ in. \$1,195/pr

TANNOY

Edinburgh 2-Way Speaker

DC3000 3-Way Speaker

J30 3-Way Speaker

M15 2-Way Speaker

TECHNICS

SB-CX700 3-Way Speaker

12-in Mica-cone woofer, 4-in midrange, 1-in Mica-dome tweeter, and 13-inch passive radia-

tor. Features rigid nondiffractive cabinet; vertical in-line speaker alignment; tweeter attenuator; auto reset thermal relay protection for tweeter. Power handling 200 W, 100 W DIN; sens 90 dB SPL/W/m; FR 25-45,000 Hz (at 16 dB below average level); nominal impedance 6 ohms; crossover points 400 and 3,500 Hz. 14% x 351/2 x 121/4 in; 51.8 lb \$700/pr

THIEL

CS 3.5 Coherent Source 3-Way Speaker

Floor-standing speaker with 10-inch cone woofer, 4-inch cone midrange, and 1-inch dome tweeter. Features complete time coherence via sloping baffle; complete phase coherence via synthesized first-order crossover system; 3-dimensional sculpted antidiffraction baffle; electronic bass equalizer; magnetic distortion-reducing drivers; cast-magnesium driver chassis; polypropylene crossover capacitors; 30-mm-thick cabinet panels; genuine wood veneer. Power handling 250 watts rms; FR 23-20,000 Hz ±2dB; sens 89 dB SPL/W/m; imp 4 ohms. Teak, oak, walnut, black, and rosewood finishes. 13 x 42 x 13 in. 75 lb each \$2,650/pr

CS 1.2 Coherent Source 2-Way Speaker

Floor-standing speaker with sloping baffle. Features metal-dome tweeter. Woofer features castmagnesium chassis; polypropylene diaphragm; sculpted speaker grille. Power handling 150 watts rms; FR 52-18,000 Hz ±2 dB; sens 87 dB SPL/W/ m; impedance 8 ohms; heavy internal bracing. Finished with teak, walnut, oak, rosewood, or black laminate, 11 x 37 x 11 in. 47 lb ea \$1,250/pr

3A BY AUDIO DESIGN Adagio 3-Way Speaker

100% carbon-woven cone subwoofer; soft-dome tweeter with back chamber; Medite front panel. FR 30-25,000 Hz ± 3 dB on axis, 30-20,000 Hz ± 3 dB at 30° off axis; power handling 160 W rms; sensitivity 94 dB; impedance 8 ohms . \$1,299/pr

MM 2-Way Speaker

Carbon-woven with vitrified surround; softdome tweeter with back chamber. Power handling 80 W rms; FR 50-25,000 Hz; sens 91 dB; imp 8 ohms\$1,099

TRIAD SPEAKERS

System Seven Woofer/Satellite System

Consists of System Seven Satellite and System Seven Woofer. Features 1-inch ferrofluid-cooled dome tweeter and 5-inch cast-basket, treatedpaper-cone midrange for each satellite; 12-inch polypropylene-cone woofer for the woofer system with built-in 70-W (into 8 ohms) amplifier. Satellites: power handling 100 watts continuous; FR 140-20,000 Hz ±2 dB; sens 88 dB SPL/W/m; imp 8 ohms; crossover point 2,500 Hz. Woofer: FR 28-110 Hz ±3 dB; input imp of speaker level 1,000 ohms; input imp of line level 47 kilohms. Black or white finish; exotic veneers available at extra cost. Satellite: 51/2 x 10 x 51/2 in. Woofer: 13 x 13 x 13 in \$1,000/sys

System Five 2-Way Speaker

Ported speaker with 534-in treated-paper woofer with rubber surround, 21/2-in polypropylene-cone ferrofluid-cooled tweeter. Power handling 75 W cont; FR 75-16,000 Hz ± 3 dB; sens 88 dB SPL/W/ m; nom imp 8 ohms. Oak or walnut finishes; exotic veneers available at extra cost. 61/8 x 12 x 5% in; 7 lb \$440/pr

System Six In-Wall Woofer/Satellite System

Consists of In-Wall System Six Satellite and In-Wall System Six Woofer. Features 4-inch ferrofluid-cooled mylar-dome tweeter, 31/2-inch treated-paper-cone midrange for satellite. 8-inch polypropylene-cone woofer with built-in 70-W amplifier for woofer. Satellite: power handling 50 watts cont; FR 160-20,000 Hz; sens 89 dB SPL/W/ m: nom imp 6 ohms; crossover point 3,200 Hz. Woofer: FR 42-160 Hz ±3 dB; nom imp 8 ohm. Satellite: 53/4 x 73/4 x 4 in. Woofer: 141/4 x 141/4 x 4 in \$600/sys

VANDERSTEEN Model 3 3-Way Speaker

Floor-standing speaker featuring 10-in diecast basket with curvilinear cone-acoustic coupler; 8in diecast basket with curvilinear polycone woofer; 41/2-in diecast basket, curvilinear polycone with ferrofluid voice-coil cooling; 1-in critically damped, metal-alloy, dual-chamber dome tweeter with ferrofluid voice-coil cooling. Utilizes Fast Fourier Transform analysis during all stages of assembly. Biwirable. Power handling 100-200 W into 8 ohms; FR 26-30,000 Hz ± 3 dB; sens 88 dB SPL/W/m; imp 4 ohms; crossover frequenices 600 Hz, 5,000 Hz. 16 x 48 x 101/4 in; 97 lb . \$2,395/pr

Model 1B 2-Way Speaker

Floor-standing speaker featuring 8-in diecast basket with curvilinear polycone woofer and 1-in dual-chamber polymer-dome tweeter. Woofer system includes rear slot-loading with 4th-order filter. Utilizes Fast Fourier Transform analysis during all stages of assembly. Power handling 20-100 W; FR 38-20,000 Hz ± 3 dB; sens 90 dB SPL/ W/m; imp 6.8 ohms; crossover point 2,800 Hz. 12 x 36 x 10 in: 50 lb \$650/pr

VELODYNE ULD-18 Powered Subwoofer

Floor-standing subwoofer with servo-controlled long-throw 18-inch driver with 3/4-inch peak-topeak linear travel; 400-W amplifier. Level con-



Wharfedale Coleridge

trol. FR 15-85 Hz ±3 dB; crossover point 85 Hz. Walnut, oak, or black finish. Cabinet: 23 x 31 x 22 in; amp: 31/2 x 17 x 11 in \$2,595 ea

Servo 1200 Powered Subwoofer

Powered subwoofer features integrated Class at AB amp; 12-inch woofer. Passive crossover at 85 Hz; active crossover adjustable from 60 to 100 Hz. Power handling 100 watts cont; FR 25-100 Hz; Black. 161/4 x 181/4 x 181/4; 60 lb \$895 ea

WHARFEDALE

Coleridge 2-Way Speaker 8-in mineral-filled polypropylene woofer, 1-in titanium-dome tweeter in alloy housing. Features cast-aluminum chassis; sandwich-mounted bass units; down-firing flared-reflex port. Gold-plated 4-way speaker terminal with biwiring option. Power handling 100 W cont; FR 45-20,000 Hz; sens 89 dB SPL/W/m; nom imp 8 ohm. Black-ash \$1,600/pr and wood veneers ...

2130 Subwoofer/Satellite System

Subwoofer uses two 8-in woofers with push-pull configuration. Satellite uses 4-in midrange drivers; two 3/4-in metal-dome tweeter. Satellite: FR 40-200,000 Hz ±3 dB; sens 89 dB SPL/W/m; crossover point 150 Hz. Subwoofer: FR 150-20,000 Hz ±3 dB; sens 89 dB SPL/W/m; crossover point 5,500 Hz. Black-vinyl finish. Subwoofer: 8 x 13 x 20 in; 27.5 lb. Satellite: 5 x 9 x 5 in; 13.25 lb \$700 ea

410 2-Way Speaker

Ported design with 63/4-in woofer, 7-in metaldome tweeter. FR 45-20,000 Hz; sens 89 dB SPL/ W/m; crossover point 3,500 Hz. Black-vinyl fin-metal-dome tweeter. 11 x 7 x 7 in \$400/pr

Delta 70 2-Way Speaker

8-in woofer and 34-in polyimide, soft-dome tweeter. Features tuned-port enclosure. Power handling 100 W continuous; FR 40-20,000 Hz ± 3 dB; sens 89 dB SPL/W/m; crossover point 3,500 Hz; nom imp 8 ohms. Black-oak vinyl finish. 11 x 21 x 8 in; 16.5 lb ea \$450/pr

Active Diamond Plus 2-Way Speaker

41/2-in woofer and 3/2-in tweeter; built-in 20-W amp with 3rd-generation monolithic devices; tunedport enclosure; 5th-order crossover. On/off switch; volume control. FR 50-20.000 Hz; crossover point 3,500 Hz. Black-oak vinyl finish. 7 x 9 x 8 in; 18 lb ea \$350/pr

Diamond MK III 2-Way Speaker

Features 41/2-in woofer and 1/4-in tweeter; fifthorder crossover; tuned-port enclosure. Power handling 100 W cont; FR 50-20,000 Hz; 86 dB SPL/ W/m; imp 8 ohms. Black- or white-oak vinyl finish. 7 x 9 x 8 in; 15.5 lb ea \$300/pr

YAMAHA

NS-1 2-Way Speaker

Acoustic-suspension speaker; aluminum, nickel, cobalt magnets in woofer and tweeter. 61/4-inch mica-impregnated polypropylene woofer and 11/4inch soft, resin-coated, cotton-dome tweeter. Features magnetic shielding; tweeter-level control. Polyurethane-coated birch cabinet. Power handling 60 watts \$998/pr

YST-S1 2-Way Speaker

2-way field-isolation system with 6-inch polypropylene multirange driver and 1-inch soft-dome tweeter. FR 28-20,000 Hz. Black \$700/pr

YST-S300A 2-Way Speaker

Features 61/2-in multirange driver, 1%-in air woofer, and 34-in soft-dome tweeter; compatible with all active-servo amplifiers. Power handling 60 W cont; FR 25-40,000 Hz. Black oak finish. 9 x 171/8 x 10% in \$350/pr

YST-SW100 Powered Subwoofer

Features two 7-in cone drivers, 11/4-in air woofer; line and speaker inputs; magnetic shielding; continuously variable high-cut filter. 70 W into 5 ohms; FR 21-180 Hz; Black finish \$399 ea

DIRECTORY OF MANUFACTURERS

Accuphase (see Madrigal)

Acoustic Research, 330 Turnpike St., Canton, MA 02021-2703 (617) 821-2300

ADC, 707 E. Evelyn, Sunnyvale, CA 94086 (415) 266-8551

Adcom, 11 Elkins Rd., East Brunswick, NJ 08816 (201) 390-1130

a/d/s/, One Progress Way, Wilmington, MA 01887 (800) 522-4434

Advent, 25 Tri-State Int'l Office Ctr., Lincolnshire, IL 60069 (800) 323-0707

Aiwa, 35 Oxford Dr., Moonachie, NJ 07074 (201) 440-5220

Allison Acoustics, 1590 Concord St., Framingham, MA 01701 (800) 225-4791

Altec Lansing, Rt. 6 & Rt. 209, Milford, PA 18337-0277 (717) 296-4434

American Acoustics, 555 W. Lamm Rd., Freeport, IL 61032 (815) 232-2000

Apogee, 35 York Ave., Randolph, MA 02368 (617) 963-0124

Aragon by Mondial, 2 Elm St., Ardsley, NY 10502 (914) 693-7199

Arcam, Box 381, Highland Lakes, NJ 07422-0381 (201) 764-8958

Ariston (see Eurosound)

Artech, Box 1165, Champlain, NY 12919 (514) 631-6448

Atlantic Technology, 575 University Ave., Norwood, MA 02062 (617) 762-0202

Audio by Van Alstine, 2202 River Hills Dr., Burnsville, MN 55337 (612) 890-3517

Audio Design Associates, 610 Mamaroneck Ave., White Plains, NY 10605 (914) 946-9595

Audiolab (see Artech)

Audio Research, 6801 Shingle Creek Parkway, Minneapolis, MN 55430 (612) 566-7570

AudioSource, 1327 N. Carolan Ave., Burlingame, CA 94010 (415) 348-8114

Audire, 9576 El Tambor Ave., Fountain Valley, CA 92708 (714) 968-1236

Avid. Box 192, Marlboro, NH 03455 (603) 876-4400

Axiom, Box 82, Hwy. #60, Dwight, Ontario P0A 1H0 (705) 635-2222

B&K Components, 1971 Abbott Rd., Lackawanna, NY 14218 (716) 822-8488 B&W Loudspeakers, Box 653, Buffalo, NY 14240 (416) 751-4520

Bang & Olufsen, 1150 Feehanville Dr., Mount Prospect, 1L 60056 (708) 299-9380

Bedini, 13410 Sayre St., Sylmar, CA 91342

(818) 367-7922 BEL, 2530 Berryessa Rd., #126, San Jose, CA 95132 (408) 259-8648

Belles Research, 1237 E. Main St., Rochester, NY 14609 (716) 482-8850

Berning, 12430 McCrossin Lane, Potomac, MD 20854 (301) 926-3371

B.I.C. America, 895-E Hampshire Rd., Slow, OH 44224 (216) 928-2011

Bose, The Mountain, Framingham, MA 01701

(508) 879-7330 Boston Acoustics, 70 Broadway, Lynnfield, MA 01940 (617) 592-9000

Boulder, 4850 Sterling Dr., Boulder, CO 80301

(303) 449-8220 Bryston, 57 Westmore Dr., Rexdale, Ontario M9V 3Y6

(416) 764-1800 Cambridge Audio, 22 Parsons Dr., Swampscott, MA 01907 (617) 592-4966

Cambridge Physics, Fisk Mill Complex, Box 192, Marlboro, NH 03455

(603) 876-4400 Cambridge Sound Works, 154

California St., Newton, MA 02158 (800) 252-4434 Canton, 915 Washington Ave. S., Minneapolis, MN 55415-1245

(612) 333-1150 Carver, Box 1237, Lynnwood,

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BEST RECORDINGS OF THE MONTH

Stereo Review's critics choose the outstanding current releases

PAUL SIMON: "THE RHYTHM OF THE SAINTS"

HE saints don't have natural rhythm. They inherited the beat from African slaves imported to the New World and forced to practice, if not embrace, Catholicism. In order to worship their old gods, each of which was identified with a specific rhythmic pattern, the slaves gave the saints someone else's beat. This led to double-edged religion: singing to St. Anthony while dancing to Ogun, the god of iron.

Paul Simon knows how to cut both ways as well. "The Rhythm of the Saints" swings to the sounds of Brazil and Africa while puzzling out the meaning of modern life as one American sees it. This album, like its predecessor, "Graceland," beautifully combines the sensual and the intellectual. Angst is as lush as a tropical forest, heartbreak as soft as a warm breeze.

As with "Graceland," sweet, chimy guitar sounds dominate "Rhythm, featuring the nimble fretwork of Cameroon native Vincent Nguini. But this album does something new: It fills the music up to the brim with Afro-Brazilian rhythm. Drums pound together in unison or slap delicately in an intricate latticework of beats. In Further to Fly, eleven separate percussionists create a gentle tumbling effect out of one primary samba pattern and a wealth of graceful, pinpoint accents. The arrangements in "Rhythm" come together to rock and to roll, but not in a way you've ever heard before.

Many of the song lyrics present Simon's dry wit and cool-eyed intelligence in unexpected ways, too. While the flowing, conversational style that has been his hallmark is present here in a few places, elsewhere he shows little concern for transparent, easily digestible messages. In *The Obvious Child*, for instance, he uses a number of evocative phrases—"the cross is in the ballpark," "why deny the obvious child"—but the overall meaning of the



Paul Simon: redefining pop

song, with its fractured narrative, is not immediately clear. Understanding comes slowly for much of "Rhythm," in small bursts of revelation.

Musically and lyrically, the album is more complex than anything Simon has done before. Listening to it is a rich, heady experience. For more than twenty-five years Paul Simon has been one of America's finest songwriters. With "The Rhythm of the Saints," he once again redefines what pop music is all about. Ron Givens

PAUL SIMON: The Rhythm of the Saints. Paul Simon (vocals and guitar); other musicians. The Obvious Child; Can't Run But; The Coast; Proof; Further to Fly; She Moves On: Born at the Right Time; The Cool, Cool River; Spirit Voices; The Rhythm of the Saints; WARNER BROS. 26098-1, © 26098-4, © 26098-2 (45 min).

RICHTER PLAYS MOZART

LTHOUGH the Mozart bicentenary year has barely begun, the commemorative recordings already issued and the announcements of those yet to come add up to a terrifying quantity, probably more than Mozart himself would have been able to hear in his brief lifespan and surely more than most of us are likely to confront directly. Amid all the various "integral" sets and cycles, we may lose sight of individual releases that are not intended to be parts of such projects. One that cannot be overlooked is the single Philips CD of three of the keyboard sonatas recorded live at a recital at the Barbican Centre in London by Sviatoslav Richter in March 1989.

The piano sonatas have been coming at us thick and fast lately, in complete cycles played on both period instruments and modern ones by established Mozart "specialists" and newcomers to the material. Richter has recorded little Mozart, and I cannot imagine his undertaking such an integral project. I cannot imagine, either, performances of any of the sonatas to surpass these three. One of the last works in the cycle, the muchabused "Sonata facile" in C Major, K. 545, is framed here by two early ones, K. 282 in E-flat Major and the grand Sonata in A Minor, K. 310. In all of them Richter's approach is so beguilingly direct and unfussy that it almost defies the use of the term "interpretation." His playing shines with uncon-

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BEST RECORDINGS OF THE MONTH

trived purity, with true, uncluttered simplicity.

In brilliant contrast to the studied "simplicity" of those performers who surround the striking of each blanched note with pregnant silences betokening some deep and painful spiritual mystery, Richter's playing is marvelously alive. This is not meditation but the most straightforward, refreshing music-making, alive with the color, animation, wit, charm, drama, and overall variety that Mozart, after all, did nothing to conceal. Nothing is understated, and no phrase is burdened with a single excessive gesture. The music sings, it dances, it sparkles. Every element, from the deceptive naïveté of K. 545 to the real drama of K. 310, is scaled to the most credible proportions.

Personally, I could do without the applause after each work, and I think Philips could have eliminated it without cutting into the music at all. But it's a minor inconvenience, and the sound is excellent, ideally focused for the balance between warmth and brightness in these performances. If all the furious Mozart-year activity gives

ITZ/DGC



The Posies



Sviatoslav Richter: the most refreshing music-making

us only one record of this supreme excellence, all the fuss will have been worthwhile. *Richard Freed*

MOZART: Piano Sonatas in E-flat Major (K. 282), C Major (K. 545), and A Minor (K. 310). Sviatoslav Richter (piano). PHILIPS © 422 583-2 (48 min).

STOP AND LISTEN TO THE POSIES

Pick one: The Posies are (a) the latest college-radio darlings to get a major record deal, (b) rigorous, if skewed, pop formalists, (c) a Nineties reincarnation of the mid-Sixties Hollies, (d) a great band burdened with an unnecessarily cute name, (e) all of the above. If you chose (e), give yourself a cigar, however politically incorrect that may be. And then run out and buy a copy of "Dear 23," the band's DGC debut. It is, despite a bit of artsy overreach, one of the more impressive rock-and-roll artifacts of the new decade.

Part of its impact is simply aural $d\dot{e}j\dot{a}$ vu. In fact, if you're an aging baby boomer (or a younger rock scholar), the first thing that will hit you about the Posies—literally, when the soaring harmonies of the opening My Big Mouth kick in—is their astonishing resemblance to the Hollies in the glory days of that sadly underrated Brit Invasion outfit, when they were cutting singles proving that melodic charm and guitar-driven instrumental punch weren't mutually exclusive. But the Posies are more than just the Hollies redux. Clarke-Hicks-Nash-style vocals, massed acoustic/electric guitar ensembles, and adorable tunes notwithstanding, these guys are a gutsy modern band with a personal, subtly ironic take on pop (and the world) that's light-years removed from mid-Sixties romantic naïveté.

The principal architects of the Posies' sound and sensibility are its coleaders and songwriters, Kenneth Stringfellow and Jonathan Auer, two Seattle youngsters who also seem to have learned well (in fact, too well) from the late, lamented dB's. So for all the album's funny, knowing lyrical concepts (the Beatles allusion in Golden Blunders, the subtle Dylan goof in Everyone Moves Away) and tart-andpowerful instrumental work, there are also moments when the sentiments are too obliquely expressed, the song structures too deliberately convoluted, and the whole enterprise finally starts to seem just a tad too clever for its own good. Overall, though, the most impressive tracks in "Dear 23"-Mrs. Green (amusing, insinuating psychedelia) and Flood of Sunshine (a rag-

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ingly beautiful ballad)—make it easy, even obligatory, to forgive the occasional undergraduate pretensions, as does the absolutely sensational-sounding production by John Leckie. What we've got here is pop-craft of such a high order that carping seems almost ungrateful.

Of course, I'm not sure the world (or at least that part of the world that bought Milli Vanilli records without embarrassment) particularly needs smart contemporary music made from nonchalantly retro raw materials. But if it does, "Dear 23" is the least selfconscious example of the genre since, say, the last World Party album, and as such it's a definite keeper. More, please. Steve Simels

THE POSIES: Dear 23. The Posies (vocals and instrumentals). My Big Mouth; Golden Blunders; Apology; Any Other Way; You Avoid Parties; Suddenly Mary; Help Yourself; Mrs. Green; Everyone Moves Away; Flood of Sunshine. DGC/ WARNER BROS. © D5G-24305, © 24305-D2 (48 min).

A DELIGHTFUL NEW "HÄNSEL UND GRETEL"

HE new EMI/Angel recording of Humperdinck's opera Hänsel und Gretel is pure enchantment, a fairy tale for children of all ages endowed with wonderful, inventive music. Yes, the music is heavily influenced by Wagner, as we have been told countless times, but if the harmonies are reminiscent of Bayreuth, the melodies and orchestral textures are put to special and successful use in evoking an endearing land of make-believe. The conductor, Jeffrey Tate, is to be praised for his enormous contribution to the success of the performance: the musical balances, the delicacy of the orchestral playing and choral singing, the aspect of performance that Stanislavski called "through-going action," unifying and propelling all components. Everything's done con amore.

No Hänsel und Gretel could be more glitteringly cast, but the artists work together so that the totality of performance is paramount. Anne-Sofie von Otter as Hänsel and Barbara Bonney as Gretel sing together as if these roles were written for them. The simple artlessness of their performances is the art that conceals art. As the Witch, Marjana Lipovšek sings rather than cackles the part (a frequent fault in opera-house productions); only in the moments of broadest play does she use, effectively, a "witchlike" tone. As the Mother and Father, Hanna Schwarz and Andreas Schmidt delineate their very different characters with good effect and with attention to musical values. Barbara Hendricks's Sandman and Eva Lind's Dew Fairy, equally well cast, are sung with loving concern for music and text.

As the Gingerbread Children, the Tölzer Children's Choir sings charmingly, and the Bavarian Radio Sym-



Conductor Jeffrey Tate

phony Orchestra plays with commendable sensitivity. Indeed, I cannot imagine a more satisfying *Hänsel* than this one and take pleasure in recommending it to anyone who loves children, fantasy, and appealing music.

Robert Ackart

HUMPERDINCK: Hänsel und Gretel. Anne-Sofie von Otter (mezzo-soprano), Hänsel; Barbara Bonney (soprano), Gretel; Marjana Lipovšek (mezzo-soprano), Witch; Hanna Schwarz (mezzosoprano), Mother; Andreas Schmidt (baritone), Father; Barbara Hendricks (soprano), Sandman; Eva Lind (soprano), Dew Fairy. Tölzer Knabenchor; Symphonie-Orchester des Bayerischen Rundfunks, Jeffrey Tate cond. EMI/ ANGEL © 54022-2 two CD's (103 min).

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CLASSICAL

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□ BEETHOVEN: String Quartets (complete). Guarnieri Quartet. RCA 60456-2-RG two CD's (Op. 18); 60457-2-RG two CD's (Opp. 59, 74, 95); 60458-2-RG two CD's (Opp. 127, 130-133, 135). "Expressive readings that achieve great poetic insight" (November 1968).

CHICAGO SYMPHONY: The Centennial Collection. RCA 60206-2-RG three CD's. Released on the occasion of the orchestra's hundredth anniversary, containing fifteen recordings by as many conductors over a fifty-five-year period, 1929-1984.

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DURCELL: Come Ye Sons of Art; Love's Goddess Sure. Munrow. EM1/ ANGEL CDM-63482. "Ravishing" (August 1977).

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

MATRACA BERG: Lying to the Moon. Matraca Berg (vocals); vocal and instrumental accompaniment. The Things You Left Undone; I Got It Bad; Lying to the Moon; I Must Have Been Crazy; You Are the Storm; and four others. RCA © 2066-4-R. © 2066-2-R (36 min).

Performance: Star quality Recording: Excellent

Get used to her exotic first name, pronounced Muh-TRAY-suh, because twenty-six-year-old Matraca Berg has come to stay. In one of the most dazzling debuts in contemporary country music, Berg proves herself an uncommonly mature songwriter, moving away from the contrived woman-as-victim subject matter that has sustained country's girl singers for too long and striking a nerve with women hungry for songs that reflect how they really feel about themselves in the Nineties.

Whether the songs are resoundingly commercial (the defiant, Rosanne Cashlike Baby, Walk On) or achingly real (the autobiographical mountain ballad Appalachian Rain), the situations Berg sets up test the self-sufficiency and character of her heroines, revealing them in all their frailties and strengths. Adept at twining elements of bluegrass, folk, punk, and country-rock into sophisticated, resounding melodies, Berg also knows the value of observation, speaking volumes about a Southern hairdresser (Alice in the Looking Glass) with the declaration, "She greets all her clientele by first and middle name."

Berg scores, too, as a singer of shimmering sexuality, from the jazz purring of *I Got It Bad*, one woman's dizzying spiral into love, to the full-voiced declarations of *The Things You Left Undone*, one of several songs bitterly dedicated to her ex-husband. Kudos are also in order for producers Wendy Waldman and Josh Leo for letting Berg have her head and for keeping things lean when needed. Berg co-wrote her first hit at age eighteen (the Karen Brooks/T. G. Sheppard

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POPULAR MUSIC

duet Faking Love), after which she disappeared to take stock of her life. This time the daughter of a nuclear physicist and the late songwriter Icie Berg isn't going anywhere except straight up the charts. It's hard to remember any new artist who deserved it more. A.N.

MARY-CHAPIN CARPENTER: Shooting Straight in the Dark. Mary-Chapin Carpenter (vocals, guitar); vocal and instrumental accompaniment. Going Out Tonight; Right Now; The More Things Change; When She's Gone; Middle Ground; Can't Take Love for Granted; and five others. COLUMBIA © CK 46077, © CT 46077 (42 min).

> Performance: Thoughtful Recording: Very good

As one-half of a relationship, Mary-Chapin Carpenter must be a terrific pain in the neck. Always pushing to know where the romance stands, constantly



Matraca Berg: here to stay

dissecting the conversation to see what's *really* being said, she brings to mind novelist Edith Wharton, who once commented, "If only we'd stop trying to be happy, we could have a pretty good time."

That nagging quality might occasionally make Carpenter heavy company, but as a songwriter, it stands her in pretty good stead. In her third Columbia album, Carpenter continues to prove herself a literate, affecting communicator, an illuminator of dark corners and a collector of tossed-away feelings. "Sometimes I wonder if you've ever heard/The sound of a broken heart," she says in the slinky blues of *The More Things Change*. "It ain't real pretty/It ain't the thing that nice folks talk about." Okay, so the woman has an attitude, too. But Carpenter, who works out of the folk tradition, with a tip of the hat to country-rock, isn't really such a tough girl after all, even though you might think so after hearing the confrontational, driving You Win Again, a bitter phone call delivered to an answering machine. After all, underneath the anger, she pleads for some kind of ending to a relentless situation. And in most of the other songs, she sets up a friendly, acoustic framework on which to hang her songs of restlessness, disappointment, and the disintegration of love.

But this is also a woman who knows how to kick up her heels, particularly in *Down at the Twist and Shout*, and it's hard to imagine a sweeter little song than *Halley Came to Jackson*, a look at how the streaking comet affected one small family. As in her last album, "State of the Heart," Carpenter shows that she hopes to expand the boundaries of commercial country music. In a perfect world of Carpenter's design, country music would embrace a more thoughtful view of the world, a less cartoonish idea of the relationship between the sexes, and a more melodious way of talking about it all.

That's probably asking for the sun, the moon, and the stars, especially since the singer/songwriter presents fewer up-tempo tunes than last time to soften the intensity of her plea. But, as Wharton suggests, you might forget about all that other stuff for a while and just enjoy the music at hand. A.N.

DARYL HALL AND JOHN OATES: Change of Season. Daryl Hall and John Oates (vocals and instrumentals); other musicians. So Close; Starting All Over Again; Sometimes a Mind Changes; Change of Season; I Ain't Gonna Take It This Time; Everywhere I Look; and six others. ARISTA AL-8614, © AC-8614, © ARCD-8614 (57 min).

Performance: Return to form Recording: Very good

"Change of Season" marks a creative rebirth for Daryl Hall and John Oates. It ranks with their strongest previous albums, providing a vocal showcase on a par with "Voices" and communicating a casual, neighborly hybrid of folk and soul roots with the polished ease of the classic "Abandoned Luncheonette." The duo's return to form is heartening after their lackluster debut for Arista ("Ooh Yeah!"), which followed a string of hit-filled mid-Eighties albums on RCA that were rather chilly and programmatic. "Change of Season" suggests that they've grown tired of the old formulas and felt some sort of ground-level reevaluation was in order.

Only in one song here, the albumopening So Close, do Hall and Oates

POPULAR MUSIC

lunge for the commercial jugular. A radio-friendly power ballad produced by Jon Bon Jovi and Danny Kortchmar, it is representative of that genre's excesses. Moodwise, "Change of Season" really begins with the second cut, Starting All Over Again. Originally a minor early-Seventies hit for Mel and Tim on the Stax label, it is sung in close harmony against a spare backdrop, becoming a statement of renewed intent for Hall and Oates. They follow it with ten songs that refocus their agenda, moving from the increasingly synthetic environs of the dance floor and pop charts to something a little more up-close and personal.

Relieved of the tension and clatter that inhabit contemporary music like a migraine, Hall and Oates's new material wistfully reflects on somewhat more traditional views of love and commitment. The notion of change comes from both songwriters: from Oates, who wrote the title track, and from Hall, who sings about "feeling out of season" in Halfway There. Though they may feel out of sync with other things, they are back in touch with each other as songwriters and singers who have rediscovered the joy of harmony. Change of Season features a conversational exchange of lines, and nearly every song boasts lacy, angelic background harmonies. An effortless merging of melodious pop, folkie intimacy, and smooth, Philly-soul backbone graces such songs as Hall's Sometimes a Mind Changes and Oates's Only Love. Ubiquitous producer and songwriter Dave Stewart (co-founder of Eurythmics) contributes the atmospheric Heavy Rain, which is followed by an acoustic take of So Close that's closer in spirit to the album as a whole than the Bon Jovi/Kortchmar version.

Regardless of how the album fares in an overcrowded marketplace, Daryl Hall and John Oates have every right to be proud of "Change of Season." If you're a lapsed fan, don't make the mistake of passing it up. *P.P.*

K.T. OSLIN: Love in a Small Town. K.T. Oslin (vocals, keyboards); vocal and instrumental accompaniment. Come Next Monday; Oo-Wee; Mary and Willie; Love Is Strange; Momma Was a Dancer; New Way Home; and three others (four others on CD). RCA © 2365-4-R, © 2365-2-R (39 min).

Performance: Dietetic Recording: Very good

RCA

K.T. Oslin has a hard act to follow. Her first two albums went Platinum and earned her three Grammy awards, and the second one, "This Woman," established her as a writer and performer capable of shining brightly in almost any form of popular music. All that sets up high expectations, expectations that Os-



CLINT BLACK

HE songs in "Killin' Time," Clint Black's million-selling debut album of 1989, were lyrically straightforward and laced with enough catchy melodic hooks to win him two Country Music Association awards in two years. Black never wrote about any subject matter outside the traditional canon, and yet he covered the familiar ground in a fresh, exciting manner. Even his songs of defeat had a positive glow about them, turning his losses into triumphs.

Now comes the follow-up, "Put Yourself in My Shoes," an album that does everything the first one did but shows Black to be a writer of even greater poise and agility. In an extremely varied set, he again maps out the domestic and emotional terrain of the traditional workingclass male, but he redraws the borders for both the stereotypical country protagonist and the music he appreciates. The title song, for example, achieves a big-band sound without employing the usual swing instrumentation, Black's bluesy harmonica taking center stage. And in a nifty circling motif, the song has the feuding man and woman of the story exchange roles until they both see the error of their ways. In decades past, a virile country singer wouldn't be caught dead hinting that he might put himself in a woman's shoes-someone might think he wears her dresses, too.

But the men in Black's songs (most of which were co-written with band member Hayden Nicholas) are less bound by conventions in other ways as well. Musically, they sit around and listen to Jimmy Buffett as much as they do George Strait, and so they naturally cotton to a song like *The Gulf of Mexico*, a tune that combines Buffett's South of the Border musings with Strait's exotic backdrop for romance (Marina Del Rey). These are modern men—men who are looking for real relationships rather than instant gratification. And while they're making One More Payment to a Western-swing groove, they're also wondering whatever happened to that one special woman (Where Are You Now), or pondering what their lives will be like once they've forsaken the adolescent rowdiness and selfdestruction of This Nightlife.

In other words, Black's protagonists are men who want to grow up, not postpone adult responsibilities as long as possible. Most of them feel as comfortable with an introspective ballad as with a hard-driving bluegrass tune.

Just as Black went from CMA Horizon Award winner to nominee for Entertainer of the Year—in other words, from promising newcomer to seasoned professional—in just twelve months' time, his second album moves him on down the road to proving himself a talent worthy of playing with the best in the Big Time. His catch-and-choke tenor wrestles every nuance from a lyric, and his plain-spoken delivery hedges no bets on his emotions. Whether he'll succeed in redefining the masculine priorities in a changing world is another matter. But he makes mighty fine music while mulling it over.

Alanna Nash

CLINT BLACK: Put Yourself in My Shoes. Clint Black (vocals, guitar, harmonica); vocal and instrumental accompaniment. Put Yourself in My Shoes; The Gulf of Mexico; One More Payment; Where Are You Now; The Old Man; This Nightlife; Loving Blind; A Heart Like Mine; The Goodnight-Loving. RCA © 2372-4, © 2372-2 (31 min). lin's new album, "Love in a Small Town," doesn't quite satisfy.

As before, the singer/songwriter draws small but intimate profiles of the lives of everyday people, embuing them with captivating and heartrending qualities in their quest for love and the little joys that make for a meaningful existence. Momma Was a Dancer, for example, with its infectious, bouncy beat, is a perfect vignette of Southern life in the Fifties. Like the character in the song, Oslin is a good ol' gal with a heart the size of her native Texas, and she's capable of great tenderness, whether she's examining the empty lives of Mary and Willie, two lovers who never met-and who probably wouldn't have liked each other if they had-or detailing the heartbreak of having to find a New Way Home to avoid the house of a former sweetheart.

But most of the songs in "Love in a Small Town" are tunes that Oslin wrote or co-wrote several years ago, such as Cornell Crawford and the bluesy Still on My Mind, her third-ever song and first ballad. Oo-Wee, which she describes as "great married sex," and Come Next Monday likewise have some years on them. All of these are good songs, but most of them lack the full emotional resonance Oslin set up in her best work, 80's Ladies and Hold Me. The album is weakened most, however, by the inclusion of two standards from the Forties and Fifties, You Call Everybody Darling and Love Is Strange, the latter presented with what sounds like synthesized drums. That's a symptom of the inconsistency of this record, but then, inconsistency often results when three different teams of producers try to shape a project, something Oslin opted for at the beginning in the hope of tapping each producer's strength. She also demanded a stripped-down sound.

"Love in a Small Town" is uneven, to say the least, but the best songs have enough good things going for them sensational melodic hooks, engaging lyrical statements, and Oslin's trademark soulful vocals—to warrant attention. Think of it as the completion of a trilogy, the culmination of everything Oslin's written up to now. Like the small town of the title, the album is a delightful side trip. But it's only a resting place for an artist on her way to bigger and better destinations. A.N.

GLENN PHILLIPS: Scratched by the Rabbit. Glenn Phillips (guitars, autoharp, keyboards); Bill Rea (basses, acoustic guitar, keyboards); John Boissiere (drums). Scotland; Theme from (Dawn of the Prehistoric Newton); Calling Back; The Berlin Wall; Go to Sleep; and four others. EAST SIDE DIGITAL © 80434, 80432 (37 min).

Performance: One of a kind Recording: Good

To say that Glenn Phillips plays guitar is like saying Michael Jordan takes shots at

the basket. Phillips doesn't just play; he attacks his instrument, wringing life from it in multihued bursts of sound. In his ongoing search for new routes of expression, he has custom-built a small skyscraper of rack-mounted effects and pedals, but he's no slave to technology. Instead, he humanizes his electronic arsenal in creating what he refers to as "emotional instrumental music." It can be as calm as the eye of a hurricane or as tempestuous as the hurricane itself.

His compositions for space-age guitar unfold in a theme-and-variations style. The themes possess grandeur and authority, while the variations are playful and extreme in their improvisational reach. In Theme from (Dawn of the Prehistoric Newton) and Howl the guitarist talks in tongues with a scuffed-up, tubular growl. At the other extreme, Go to Sleep and The Rain's to Blame are meditative and serene, with Phillips's guitar and Bill Rea's bass trading whispered secrets. "Scratched by the Rabbit," Phillips's eighth album, is out on the East Side Digital label, and if you want more of this extraordinary guitarist's recordings, write to Snow Star Records, 1467 Canoochie Dr., Atlanta, GA 30319. P.P.



K.T. Oslin: so far, so good

THE POSIES: Dear 23 (see Best of the Month, page 118)

TIM RYAN. Tim Ryan (vocals); vocal and instrumental accompaniment. A Little Love Won't Hurt a Thing; I Can See Through Blue; Doin' Hard Time in the Dog House; You Don't Owe Me a Thing; Cowboy's Sweetheart; Dance in Circles; and four others. EPIC © ET 45270, © EK 45270 (41 min).

Performance: On his way, but Recording: Very good

Country's newest "hat act" is Tim Ryan, a twenty-six-year-old Montanan who lassoed a major-label recording contract after only six weeks in Nashville. That's not so surprising considering that he's blessed with marketable good looks and that he grazes his musical pony in the same pasture as George Strait, out on the back-forty of Westernswing, ballads, and rhythm numbers that combine cowboy imagery with honkytonk drive (Cowboy's Sweetheart). As a singer, Ryan is somewhat thin-voiced but unusually self-possessed, slipping into a charming falsetto when least expected, as in Marty Robbins's You Don't Owe Me a Thing, and demonstrating exceptional vocal control throughout the set, which producer Buddy Killen has dressed with the requisite sashaying fiddles and tear-jerking steel guitars. But Ryan's original material, co-written with Alex Harvey, shows him to be primarily a radio act, fashioning pat, "lite" country songs about the cowboy way of liferodeoing, barn dancing, and smooth romancing. With meatier fare, Ryan could develop into a comer. Right now he's A.N. just a pleasant diversion.

SAMUELLE: Living in Black Paradise. Samuelle (vocals); vocal and instrumental accompaniment. Black Paradise; So You Like What You See; Greedy Man; I'm So in Love; Take My Heart; Stay; and four others. ATLANTIC © 82130-4, 82130-2 (51 min).

Performance: Pop minimalism Recording: Satisfactory

Samuelle Prater, formerly lead singer with the popular urban-contemporary group Club Nouveau, has a pleasing enough voice, but, like the vocal ensemble he once anchored, he takes a minimalist approach to music. Each selection consists primarily of a catchy groove that soon wears out its welcome as it is repeated again and again without musical development or much variation. As a result, you can listen to a few bars of any one of these songs and then skip the rest, because you know it'll sound exactly alike. *P.G.*

PAUL SIMON: The Rhythm of the Saints (see Best of the Month, page 117)

LES TAYLOR: That Old Desire. Les Taylor (vocals); vocal and instrumental accompaniment. Every Time 1 Think It's Over: Shoulda, Coulda, Woulda Loved You; Knowin' You Were Leavin'; Ole Tin Roof; A Southern Breeze; Wild Mountain Rose; and four others. EPIC © ET 45329, © EK 45329 (39 min).

Performance: Tiresome Recording: Good

Formerly a front man for the country group Exile, Les Taylor emerges in his first solo album as a totally forgettable entity. Despite the glossy production, this is the most flaccid of blue-eyed soul, and Taylor sings it in a strained, raspy voice—the kind a white boy gets when he spends a lifetime trying to sound black. A.N.

VANILLA ICE: To the Extreme. Vanilla Ice (vocals); vocal and instrumental accompaniment. Ice Ice Baby; Yo Vanilla; Stop That Train; Hooked; Ice Is Workin' It; Life is a Fantasy; Play That Funky Music; and eight others. SBK © K4-95325, © K2-95325 (58 min).

Performance: Slushy Recording: Mediocre

The immediate success of Vanilla Ice, despite a rather pedestrian style of rapping, may indicate that conservative America is turning on to hip-hop. Nothing here is as gross as 2 Live Crew or as politically threatening as Public Enemy. And if Ice can't match the pizzazz of M. C. Hammer, at least in tunes like Ice Ice Baby he can be catchy. Still, except for the trivial pursuit of identifying which pop hits Ice has plundered musically to back up his sophomoric couplets, this album offers very little diversion. What a meltdown. R.G.

STEVE WINWOOD: Refugees of the Heart. Steve Winwood (vocals, guitar, keyboards, Hammond organ, vibes, drums); other musicians. You'll Keep On Searching; Every Day (Oh Lord); One and Only Man; I Will Be Here; and four others. VIRGIN 1-91405, © 4-91405, © 2-91405 (48 min).

Performance: Restrained Recording: Very good

"Refugees of the Heart" is a more honest, artistic effort from Steve Winwood than its commercially oriented predecessor, "Roll with It." Here, Winwood sculpts meditative tone poems that are closer in mood and spirit to his Sixties work with Traffic than anything he's previously done on his own. The ghostly, mournful sound of that old band is evoked in You'll Keep On Searching, with Randall Bramblett's saxophone paying a haunting tribute to Traffic's late horn man, Chris Wood.

Winwood's singular touch on the keyboards and unique sense of timing as a player of *many* instruments are evident all over the album. The 10-minute centerpiece, *In the Light of Day*, is a tour de force of trance music: Vibes and gamelan-type keyboards swirl while Winwood intones dreamlike lyrics. Not everything is that inspired, and portions of the album skirt outright boredom. Will Jennings's lyrics are not always equal to the tantalizing mystery of Winwood's music. Still, "Refugees" contains some top-shelf Winwood: contemplative, introverted, and sincere. *P.P.*

TAMMY WYNETTE: Heart Over Mind. Tammy Wynette (vocals); vocal and instrumental accompaniment. Let's Call It a Day Today; I'm Turning You Loose; Suddenly Single; What Goes with Blue; Just for a Minute There; Half the Way Home; and four others. EPIC © ET 46238, © EK 46238 (31 min).

Performance: Solid Recording: Very good

Tammy Wynette has had her trials through the years—how could we forget

Ethel Merman (above) starred in the original show, and Lorna Luft (right) sings her role in the new recording. The historic 1982 discovery of eighty crates of long-lost the plaint

show-music manuscripts from the 1920's and 1930's-scores by the Gershwins, Rodgers and Hart, Kern, Porter, and others-should coincide with the widening public recognition of show music as arguably America's greatest contribution to the music of this century. Luckier still that the CD revolution should come along to revitalize the record industry and, in the process, help spur complete recordings of this unique treasure trove. The latest to be accorded full original-version recording is George and Ira Gershwin's Girl Crazy, the 1930 Broadway musical comedy that starred Ethel Merman (her Broadway debut), Ginger Rogers, and comedian Willie Howard (in a role planned for Bert Lahr). And what a honey of a new recording it proves to be.

From the opening notes of Gershwin's overture, the music sparkles under John Mauceri's crisp, spirited direction-and how bright and refreshing everything sounds in Robert Russell Bennett's original orchestration (as edited by Larry Moore and Russell Warner). Lorna Luft, playing the Merman role (not the role her mother, Judy Garland, played in the 1943 movie version), wisely doesn't try to out-Merman Merman (who could?), but she belts out the show's two original showstoppers, I Got Rhythm and Sam and Delilah, exuberantly and most appealingly. She also makes a winning case for one of the show's forgotten songs, Boy! What Love Has Done to Me.

In the Ginger Rogers role, Judy Blazer sometimes has a whiny edge to her voice, and she never gets beneath the surface of the plaintive lyrics of But Not for Me. But her duets with the excellent David Carroll in Embraceable You and Could You Use Me? are models of delightful, on-target show-music singing, as are the recurring quartet versions of Bidin' My Time. David Garrison's Treat Me Rough has the right wry flair, and, in a comic reprise of But Not for Me, Frank Gorshin (yes, the Riddler of TV's old Baiman series) serves up some clever impressions of Chevalier, Jolson, and Durante, although he misses with his try at Eddie Cantor.

The album also makes a persuasive case for several other long-neglected Gershwin gems, most especially the sprightly *Cactus Time in Arizona* and the rip-roarin' *Bronco Busters*. And Vicki West's playful version of *Barbary Coast* almost makes that one seem a better song than it is.

As the first in a projected series of recordings of all of George and Ira Gershwin's shows (sponsored jointly by the Library of Congress and Mrs. Ira Gershwin and supervised by the theater archivist and Elektra Nonesuch producer Tommy Krasker), this *Girl Crazy* is definitely cause for rejoicing. Next on the agenda is *Strike Up the Band* in both its 1927 and 1930 versions. One of our century's greatest songwriting teams is at long last getting the kind of complete, authentic recordings they've so long deserved and haven't had. *Roy Hemming*

GIRL CRAZY (George and Ira Gershwin). Lorna Luft, Judy Blazer, David Carroll, David Garrison, Frank Gorshin, others; orchestra and chorus, John Mauceri cond. ELEKTRA NONESUCH © 79250-4, © 79250-2 (73 min).

"GIRL CRAZY"

the five marriages, the kidnapping, the house on fire, the visit to the Betty Ford clinic?—but her new album shows her to be totally in control of her performance skills.

After building a career on her appeal to women struggling to stand by their men, Wynette now offers an entire set of songs for women who are standing alone these days, primarily the over-forty woman who is Suddenly Single ("If I wasn't over thirty/I might just move back in with Mom and Dad") and trying to carve out her own identity. The surprise is how solid and well-crafted the songs are, how tuneful and contemporary, and how devoid of cliché and the stereotype of victimization. In fact, one tune, Half the Way Home, even manages to treat the theme of lifelong friendship and impending death with evenhanded emotion. Although Bob Montgomery's production is fairly formulaic and pickby-number, Wynette is never undone, shining in every cut, from the plucky, Donna Fargo-like I'm Turning You Loose to the intelligent ballad of remembrance Just for a Minute There. With more albums like this one, Wynette could be on top again. A.N.

ZZ TOP: Recycler. ZZ Top (vocals and instrumentals). Concrete and Steel; Lovething; Penthouse Eyes; Tell It; and six others. WARNER BROS. 26265-1, © 26265-4, © 26265-2 (40 min).

Performance: Down and dirty Recording: Good

These shaggy dogs haven't learned any new tricks in the five years since their last album, but that is not a criticism. True to its name, "Recycler" is a familiar compost of blues and boogie, basically unchanged from back when ZZ Top was considered grungy and uncool by the same rock-tastemaker crowd that later danced themselves legless to Sharp Dressed Man. "Recycler" captures the turbo-charged roar of a band that loves Texas, the blues, and wild women, in no particular order. The lyrics pose questions no deeper than what your average Saturday-night rowdy would think to ask, such as, "Hey baby, what's the deal?" But ZZ Top has figured out a way to bring together two cherished worldsjunk food and sex-in the lascivious Burger Man.

They lock into a formidable John Lee Hooker-style boogie in My Head's in Mississippi, sounding like they're kneedeep in tequila by the time they hit the lines, "Last night I saw a naked cowgirl/ She was floating across the ceiling." Elsewhere, they ogle the scenery in different gears. In Lovething, they're cruising in first, then Penthouse Eyes shifts into second as they pick up speed. By Tell It, they're rolling in third, and most of the rest of the album purrs in overdrive. How can you argue with a machine that's a no-frills recycler of oldfashioned-electric blues, as long as it **P**.*P*. gets you where you're going?

TUCK ANDRESS: Reckless Precision. Tuck Andress (guitar); Ray Brown (bass). Man in the Mirror; (Somewhere) Over the Rainbow/If I Only Had a Brain; Louie Louie; Body and Soul; Sweet P; Stella by Starlight; and four others. WINDHAM HILL JAZZ © WT-0124, WD-0124 (49 min).

Performance: Deft Recording: Excellent

Guitarist Tuck Andress and his wife, singer Patti Cathcart, better known as Tuck and Patti, have one of the most original musical acts going. What they do falls somewhere between folk, jazz, and pop, but I do the duo an injustice by even suggesting that they be categorized—they really have a style all their own. If you have heard them perform, you undoubtedly noticed Tuck's refined and dexterous guitar work, which is all you will hear in "Reckless Precision," his first solo album. (Don't worry, Tuck and Patti are still very much together.)



Guitarist Tuck Andress

Except for one selection, *Grooves of Joy*, Andress's work here was done without punch-ins, overdubs, or other forms of editing. This set lets us hear a fascinating musical mind at work, and Andress has the technique required to transmit his thoughts directly to the guitar. Jazz fans will find this album more than satisfying, and it ought to gladden ears in other circles also. *C.A.*

ANDRÉ PREVIN: Uptown. André Previn (piano); Mundell Lowe (guitar); Ray Brown (bass). Between the Devil and the Deep Blue Sea; A Sleepin' Bee; Come Rain or Come Shine; Stormy Weather; Over the Rainbow; Let's Fall in Love; Day Dream/Prelude to a Kiss; Good Queen Bess; and five others. TELARC ^(D) CD-83303 (58 min).

Performance: Expert Recording: Excellent

AZZ

André Previn's second Telarc jazz release offers no surprises. It is a typically tasteful, superbly executed program of well-chosen material. You will probably recognize all thirteen selections, most of them by Harold Arlen or Duke Ellington. Previn gives each tune new meaning, much in the way he lovingly "rewrote" such Broadway musicals as My Fair Lady and West Side Story in his and Shelley Manne's Contemporary albums more than three decades ago. Like "Af-ter Hours," its predecessor, "Uptown" is a set of tranquil trio performances in which piano, guitar, and bass blend into a mellow whole. Bassist Ray Brown is back for this outing, but Joe Pass, who performed so memorably in the previous set, has been replaced by guitarist Mundell Lowe. He moves through these songs with characteristic elegance, giving the group a gentler sound. Few musicians have Previn's ability to straddle the jazz-classical fence and work both sides equally well. C.A.

CLARK TERRY: Having Fun. Clark Terry (trumpet, flugelhorn, vocals); Red Holloway (alto and tenor saxophones); John Campbell (piano); Major Holley (bass, "zoom-zoom" vocals); Lewis Nash (drums). Mumbles; Ask Me Now; Meet the Flintstones; The Nearness of You; It Isn't Easy Being Green; The Snapper; and six others. DELOS DE 4021 (71 min).

Performance: Splendid fun Recording: Excellent

After more than forty years of playing superb jazz, Clark Terry needs no intro-duction. "Having Fun," his latest album, not only lives up to its name but is one of the most delightful releases I have heard in a very long time. The program is a varied one, ranging from double-talk scat vocals in Never and the celebrated Mumbles to straight-ahead bop of a very high caliber. Pianist John Campbell, drummer Lewis Nash, and the bassist, the late Major Holley, lay a solid rhythmic foundation for solos by Terry and some engaging work by saxophonist Red Holloway, who has never sounded better. In one selection, Don't Blame Me, alto saxophonist Bunky Green makes a guest appearance that results in a fine study in contrasting styles. Holley dishes up his specialty-Slam Stewart-like vocal duets with his bass fiddle-in Kermit the Frog's immortal It Isn't Easy Being Green and his own Mule's Soft Claw. Mostly, however, this is a set of unadulterated bop, beautifully played and superbly recorded. C.A.

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CLASSICAL MUSIC

Discs and tapes reviewed by Robert Ackart, Richard Freed, David Hall, Eric Salzman, and David Patrick Stearns

BEETHOVEN: String Quartets, Op. 59 ("Razumovsky"): No. 1, in F Major; No. 2, in E Minor; No. 3, in C Major. Vermeer String Quartet. TELDEC © 2292-46016-2 two CD's (113 min).

Performance: Outstanding Recording: Excellent

Beethoven did not create a more ingratiating, warmhearted opening for any of his works than he assigned to the cello in the F Major Quartet, which stands first in the set of three with which he immortalized the name of Count Andreas Kirilovitch Razumovsky. Marc Johnson's statement of that cello theme in the Vermeer Quartet's new recording fits the mood and the spirit ideally, as few others have done since the unforgettable performance by the Busch Quartet on Columbia 78's (transferred to an early LP that has long since been a collector's item). That auspicious beginning gives instant assurance that this is to be an exceptional realization, not only of the F Major but of the entire set, as is richly confirmed in the listening. What these peerless players give us is a heady blend of old-fashioned warmth and communicativeness with exemplary demonstrations of modern standards of both taste and technique. More persuasive performances of any of these three quartets are simply not to be found among current recordings, and the sound quality does full justice to the musical excellence. The set is a thoroughgoing joy. It is also a reminder that the Vermeer's recordings of Beethoven's late quartets are already available on individual CD's, leaving only the Op. 18 set to complete what is surely the most distinguished contemporary cycle of these works. R.F.

BRAHMS: Symphony No. 1, in C Minor, Op. 68; Variations on a Theme by Haydn, Op. 56a. Philadelphia Orchestra, Riccardo Muti cond. PHILIPS © 426 299-4, 426 299-2 (68 min).

BRAHMS: Symphony No. 3, in F Major, Op. 90; Alto Rhapsody, Op. 53. Jessye Norman (mezzo-soprano); Choral Arts

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Schiff, Solti, Barenboim: happy give and take

s a salute to the Mozart bicentenary, or to Georg Solti, or possibly to both, London/Decca has issued a generously filled, superstellar disc of Mozart concertos-one each for one, two, and three pianoswith Daniel Barenboim, András Schiff, and Sir Georg himself, who conducts the English Chamber Orchestra from the keyboard. The solo assignments are exactly the reverse of what one might have expected: Schiff, one of London Records' most prominent "exclusive art-ists," is not the common denominator here but is heard only in the Triple Concerto in F Major, K. 242. Barenboim, who rarely appears on this label, takes part in both of the multiple-soloist works but only those. It turns out that it is Solti, whom we would have expected only at the third keyboard in K. 242, a role often filled by a conductor, who is not only Barenboim's partner in the Double Concerto in E-flat Major, K. 365, but also the sole pianist in the great D Minor Concerto, K. 466. Solti made several chamber-music recordings as a pianist many years ago, and more recently he has recorded duos with Murray Perahia and Schiff, but this appears to be his first concerto showcase as pianist, as well as his first recorded collaboration with Barenboim, his designated successor as music director of the Chicago Symphony.

It is indeed the collaboration with Barenboim that is the most winning of the three performances, more than ingratiating with its vivacity, elegance, and unmistakable sense of happy give and take. But if the Triple Concerto is somewhat less fetching, it is surely for no other reason than that the music itself has so much less in it. The performance is actually very much on the same level, even a bit tidier in the orchestral playing, and again sounds as if the performers are finding stimulation in the joy of playing with one another as well as in the music.

On his own in K. 466, Sir Georg's playing is a bit more reserved, in keeping with the darker nature of the work, but again agreeably direct and alive, free of the gratuitous emotive gestures this already dramatic music simply doesn't need. While other pianists may bring more sparkle to the fast sections in the *Romanze* and the finale, Solti's clean line and tasteful animation make for a good deal of overall enjoyment; only at the very end does the spirit seem to fade.

However you may feel about this performance of the solo concerto, the exceptional realizations of the two multipiano concertos, which by themselves would have constituted full value for the handsomely recorded disc, make it quite irresistible. Richard Freed

MOZART: Concerto in E-flat Major for Two Pianos (K. 365); Concerto in F Major for Three Pianos (K. 242); Piano Concerto No. 20, in D Minor (K. 466). Georg Solti, Daniel Barenboim, András Schiff (piano); English Chamber Orchestra, Georg Solti cond. LONDON © 430 232-4, © 430 232-2 (78 min).





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Society of Philadelphia; Philadelphia Orchestra, Riccardo Muti cond. PHILIPS © 426 253-4, () 426 253-2 (50 min).

Performances: In the Italian manner Recordings: Rich, soft-focus

In Brahms's C Minor Symphony, Riccardo Muti neither follows the rugged Teutonic path of the work's major Austro-German interpreters nor emulates the blazing fierceness of his great compatriot Arturo Toscanini. The emphasis is on lyrical flow, and even in the turbulent outer movements there is Classical restraint-no heaven-storming here. The middle movements come off best. The Haydn Variations and the Third Symphony, on the other hand, are better suited to Muti's interpretive bent.

Muti's Verdian side comes to the fore in the infinitely moving Alto Rhapsody, whose Goethean text moves from chilling misanthropy to redemptive hope. Jessye Norman, normally billed as a soprano, negotiates the wide-ranging vocal line with the greatest of ease and with

Chorus: Hanover Band, Roy Goodman dir. NIMBUS () NI 5241 (48 min).

Performance: Cautious Recording: Appealing

MOZART: Requiem (K. 626). Barbara Schlick (soprano); Carolyn Watkinson (contralto); Christoph Pregardien (tenor); Harry van der Kamp (bass); Choir of the Netherlands Bach Society; Amsterdam Baroque Orchestra, Ton Koopman cond. ERATO @ 2292-45472-2 (47 min).

Performance: Superbly dramatic Recording: Excellent

MOZART: Requiem (K. 626). Lynne Dawson (soprano); Jard van Nes (contralto); Keith Lewis (tenor); Simon Estes (bass); Philharmonia Chorus and Orchestra, Carlo Maria Giulini cond. SONY CLASSICAL () SK 45577 (60 min).

Performance: Lugubrious Recording: Good

Bet you thought (if you thought about it at all) that Constanze Mozart gave her



Riccardo Muti: lyrical Brahms

a depth of feeling equaled or surpassed by few other vocal artists, and the men's contingent of Philadelphia's Choral Arts Society enhances the redemptive episode with tonal body and warmth. It is a pleasure, too, to hear the soloist, chorus, and orchestra so well balanced. These two discs mark the completion of Muti's traversal of the major Brahms orchestral repertory, and I am inclined to pick the coupling of the Third Symphony and the Alto Rhapsody as the most desirable of D.H. the lot.

HUMPERDINCK: Hänsel und Gretel (see Best of the Month, page 120)

MOZART: Requiem (K. 626). Gundula Janowitz (soprano); Julia Bernheimer (mezzo-soprano); Martyn Hill (tenor); David Thomas (bass); Hanover Band husband's Requiem to his favorite pupil. Franz Xaver Süssmayr, to complete after his death. That, at any rate, is the familiar story. But H. C. Robbins Landon has a slightly different version of the tale. The well-known American musicologist points out that Constanze first gave the incomplete Requiem to one Joseph Eybler, Mozart's most talented pupil and his true favorite. Eybler did a considerable amount of work on the piece before giving it up. Only then did Constanze take the work to Süssmayr, who began again from Mozart's sketches.

Eybler's work survives; Robbins Landon considers it superior to Süssmayr's and has therefore incorporated it, along with his own emendations and completions, into his edition of the Requiem. It is this edition that has been recorded, for the first time, by the Hanover Band. The

edition includes the work of no fewer than five hands: Mozart, Eybler, Süssmayr, another pupil by the name of Freystädtler, and Robbins Landon himself. The Eybler/Robbins Landon sections are, in fact, thinner and more cautious than the rest. He then has to go back to Süssmayr, whose work is more extrovert, more emotional, cruder, and more powerful-more in the style of Haydn or Spontini than of Mozart himself. The results are decidedly mixed.

The Robbins Landon edition may suit the cautious and rather characterless olde-musick style of the Hanover Band, but it will never win friends and influence people the way the traditional version does. Süssmayr may not have been a great or even an especially Mozartean composer, but "his" Requiem succeeds because it has a consistent point of view reflecting, if nothing else, the passion and urgency of the circumstances that brought it into being.

Listen to Ton Koopman's recording. Here is an "early-music" version that has character as well as dynamic and dramatic power. The clean and careful Hanover Band seems to reflect its origins as a cooperative organization; the Amsterdam Baroque Orchestra takes on the clear and powerful artistic profile of its conductor and music director. Koopman's Mozart/Süssmayr Requiem is a consistent and overwhelming experience and, quite simply, one of the best recordings of this work ever made.

Carlo Maria Giulini's recording of the Requiem can be quickly summed up. A completely and traditionally Romantic version, it is heavy, introverted, and lugubrious. It is long, too, 12 minutes longer than the Hanover Band's recording and more than 13 minutes longer than Koopman's. E.S.

MOZART: Piano Sonatas (see Best of the Month, page 117)

SCHUBERT: Symphony No. 5, in B-flat Major (D. 485); Symphony No. 8 in B Minor (D. 759, "Unfinished"). London Classical Players, Roger Norrington cond. EMI/ANGEL © 4DS-49968, O CDC-49968 (48 min).

Performance: Revelatory Recording: Very good

SCHUMANN: Symphony No. 3, in E-flat Major, Op. 97 ("Rhenish"); Symphony No. 4, in D Minor, Op. 120. London Classical Players, Roger Norrington cond. EMI/ANGEL @ 4DS-54025, @ CDC-54025 (57 min).

Performance: Virile Recording: Excellent

Although the program notes accompanying these discs offer no specifics, it seems reasonable to suppose that the performances adhere to the same gener-al conditions as Roger Norrington's peri-od-instrument Reethoven cycle: A = 430 od-instrument Beethoven cycle: A = 430pitch, gut-strung violins and violas without chin rests, cellos without end pins,

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etc. The sound in the Schubert Symphony No. 5, at all events, is much like that in Norrington's recordings of the early Beethoven symphonies. His tempos and phrasing are brisk and pointed. The sharp accentuation lends tension and allows for no sentimental swooning whatever. I would question only the swift pacing of the finale, which is close to Mozart's *Presto* in the corresponding movement of the *Haffner* Symphony. Overall, this performance offers a thoroughly bracing listening experience.

The reading of the Unfinished Symphony, given the innumerable performances of it in concert and on records done with heavy vibrato and lugubrious phrasing, is even better, indeed a welcome revelation comparable to the expert cleaning of a Rembrandt painting. The lighter-textured string sound contributes much to the effect, making the entrance of trombones and timpani at climactic moments stunningly dramatic. The slow movement benefits a great deal from Norrington's sense of flow and the lighter sonority of the climaxes compared with what we hear from modern instruments. The con moto marking is meticulously observed (as it is in the Fifth Symphony also), and for the first time I didn't feel that the movement was too long. The minimal use of vibrato throughout makes a big difference, too. Both performances open up the ears and mind and go straight to the heart as well. Good, clean sound from EMI's Abbey Road Studio No. 1.

Aside from the toned-down vibrato, the "period" aspect of Norrington's Schumann is less apparent than in his Schubert and Beethoven. Since chin rests were in general use when the Rhenish and D Minor Symphonies were first performed, in the 1840's and 1850's, and adjustable cello pins had also begun to come into use, perhaps those refinements were also used for these recordings. In any case, Norrington's London Classical Players, now augmented to fifty, make a fine big sound, and the mix of natural and valve horns in the opening pages of the Rhenish creates a wonderfully raspy sonority. Notable in the D Minor Symphony is the intensely dramatic phrasing of the extended introduction. While Norrington's tempos are generally brisk, he doesn't push. The scherzo is taut and rugged, but in the finale he opts for a very steady pulse with no sense of hurry, except in the final rush home in the coda, which is superbly articulated. While there is not quite the same sense of rediscovery as in the Schubert pairing, these are still splendidly fresh readings that make Schumann's orchestral textures seem considerably cleaner than usual. The sound is fullbodied, with a bit more string presence in the D Minor. D.H.

COLLECTIONS

VLADIMIR ASHKENAZY: Live in Moscow. Mussorgsky: Khovanshchina, Prelude. Beethoven: Piano Concerto No. 3, in C Minor, Op. 37. Ravel: Daphnis and Chloe, Suite No. 2. Tchaikovsky: The Nutcracker, Waltz of the Flowers. Vladimir Ashkenazy (piano); Royal Philharmonic Orchestra, Vladimir Ashkenazy cond. MCA © MCAC-6466, © MCAD-6466 (67 min).

VLADIMIR ASHKENAZY: In Moscow. Tchaikovsky: Symphony No. 4, in F Minor, Op. 36. Rachmaninoff: Piano Concerto No. 2, in C Minor, Op. 18. Andrei Gavrilov (piano); Royal Philharmonic Orchestra, Vladimir Ashkenazy cond. EMI/ANGEL © 54003 (78 min).

Performances: Variable to excellent Recordings: Good live pickups

Among the happier outcomes of the changing political order in the Soviet Union has been its welcoming, after years of expatriation, of such great musicians as Mstislav Rostropovich, Vladimir Horowitz, and Vladimir Ashkenazy. Ashkenazy's homecoming was marked by a pair of concerts at the Great Hall of the Moscow Conservatory on October 11 and 12, 1989, shortly before the demise of the Berlin Wall. His farewell to Russia twenty-six years earlier was as one of his country's great pianists. He returned both in that role, with prowess unimpaired, and as an accomplished conductor with his own Royal Philharmonic Orchestra, which he insisted be included in the invitation. While he undertook the dual role of conductorpianist for one concert, the other featured fellow Tchaikovsky Competition laureate Andrei Gavrilov as soloist. The whole business was televised throughout Europe, and the EMI team of John Fraser and Mark Vigars undertook the recording both for the Royal Philharmonic's own RPO label, licensed to MCA in this country, and for EMI/Angel. Although a sense of occasion does come through in the audience response, the performances as such are something of a mixed bag.

The MCA recording begins auspiciously with a wonderfully poetic reading of Mussorgsky's Khovanshchina Prelude, after which Ashkenazy, as soloist and conductor, gives an elegantly classical performance of the Beethoven C Minor Concerto, notable for beauty of execution in the solo opening pages of the slow movement. Interesting, too, is Ashkenazy's very free, almost improvisatory, treatment of the first-movément cadenza that Beethoven composed some years after completing the work. The second suite from Ravel's Daphnis receives a rather low-voltage performance, though a highly poetic one throughout the famous solo-flute episode. Tchaikovsky's "Waltz of the Flowers" comes as a welcome encore.

The Tchaikovsky Fourth for EMI/Angel could have used a more decisive opening fanfare, but the performance gathers fire and vitality as it progresses, winding up with a real fire-and-brimstone finale. The Rachmaninoff Second Concerto has its ups and downs. Soloist and conductor are in less than total agreement on tempo at the first-movement recapitulation, but the slow movement is played with great beauty of tone and phrasing by pianist and orchestra alike. There is also memorable string playing in the extended cantabile episodes toward the close. Gavrilov shows his virtuosity at its most brilliant in the development section of the finale.

The recorded sound on the two discs is remarkably fine given the circumstances of public performance, but the spacious Great Hall does tend to dilute violin tone to some degree. There is otherwise a good sense of spatial perspective and excellent lateral imaging in both of these recordings. D.H.

IVAN DAVIS. Czerny: Variations on La Ricordanza. Schumann: Faschingsschwank aus Wien, Op. 26. Liszt: Polonaise No. 1, in C Minor; Reminiscences de Norma. Ivan Davis (piano). AUDIO-FON © CD 72004 (69 min).

Performance: Excellent Recording: Vivid

No one needs to be reminded of Ivan Davis's total identification with the sort of repertory on this CD, and it offers an especially effective program, framing one of Schumann's most substantial but hardly overexposed works with three rarely heard period showpieces. The Schumann and Liszt's Reminiscences de Norma were first issued on an Audiofon LP back in 1981, and the two shorter works shared a 1985 issue with a side of Grieg. The performances and the vivid analog sound were both impressive then and are no less so now on this generously filled CD. R.F.



Roger Norrington: revelatory Schubert

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FEBRUARY

BACKBEAT

THE THING WITH FEATHERS

by Steve Simels

OOKING back at the Eighties—the loathsome decade when, as Jimmy Breslin observed, President Reagan's popularity proved senility was a communicable disease—it's hard to decide what was the most annoying pop-cultural trend. Institutionalized greed? Officially sanctioned racism? Anti-sex hysteria? All awful and all very Eighties, to be sure. But for rock fans, at least, almost as noxious was the trivialization of great old rock-and-roll songs in commercial jingles.

These days, the general critical consensus seems to be that Michael Jackson committed the most heinous crime in that regard when he licensed the Beatles' Revolution for a Nike ad. But for me there was one rock TV spot even more offensive, a now mercifully retired ad for Time magazine. It began, over a soundtrack featuring the Byrds' Turn, Turn, Turn, with a montage of celebrity faces (Mother Teresa, Joan Collins) linked solely by their status as post-modern icons in the best Entertainment Tonight manner. But then, thanks to a bit of editing sure to consign some account executive to a private circle of Hell, it moved on to Nancy Reagan bawling over the plight of a poor ghetto kid as (get this) the line "a time to weep" played in the background.

Well, yipes, as Bugs Bunny would say. The most gloriously humane of Sixties songs (and bands) juxtaposed with an administration whose every utterance belied the spirit of the music. Talk about cognitive dissonance. And quintessentially Eighties cognitive dissonance at that.

I doubt I would have been quite so upset if *Time* had trashed, say, a Bee Gees song, so I suppose it's all a question of whose ox is being gored. Still, the point is that the Byrds—one of the three or four greatest American bands of all time—deserve better than being reduced to some weird kind of retronostalgia. And now, I am happy to report, they're finally getting it with the release of a magnificent four-CD package from CBS called, simply, "The Byrds."



Byrds Roger McGuinn, Chris Hillman, Gene Clark, David Crosby, and Mike Clarke

Listening to the set, which was superbly compiled by rock historian Bob Irwin (with help from the band), one realizes a lot of things, not the least of which is that the Byrds were one astoundingly innovative outfit. Tom Petty, whose music owes the band an enormous (and acknowledged) debt, nails that point succinctly in the liner notes. "The Byrds," he writes, "created one of the handful of original sounds in all of rock-and-roll history." That's certainly true-the Byrds' trademark chiming guitars and angelic harmonies are as instantly recognizable as the Bo Didley beat or the Chuck Berry guitar intro-but it's also something of an understatement. In fact, the list of things the Byrds did first (and usually best) is almost staggering: introducing serious lyrical content to the Top 40; inventing folk-rock, country-rock, and jazz-rock; making albums that were unified artistic statements rather than collections of singles; legitimizing the electric twelvestring as a rock instrument. Any one of those would have been an accomplishment worthy of a career for most groups, but the Byrds did them all, almost casually, and in the process became the only rock band ever to have influenced (overtly) both the Beatles and the Velvet Underground, not to mention a horde of contemporary groups whose fans may not even be aware of the originals.

And that, not to put too fine a point on it, is why I'm so thrilled about the new CD anthology. All the best album cuts from the entire span of the Byrds' career are here, brilliantly remastered or (often) remixed. The set also contains revelatory outtakes-including legendary "lost" Gram Parsons vocals from the "Sweetheart of the Rodeo" sessions and gorgeous mid-Sixties originals like Gene Clark's The Day Walk-plus four brand-new tracks reuniting Roger McGuinn, Chris Hillman, and David Crosby in the studio for the first time in nearly twenty years. One of the new tracks, an unadorned remake of their 1965 JFK tribute, He Was a Friend of Mine, may rank with the finest things they've ever done. The set is clearly a feast for fans.

But it's also more than that. It's a stunning and long-overdue reminder of what these guys accomplished, and thus precisely the kind of history lesson that younger rock fans-who may think this sound was invented by R.E.M.-should hear from time to time. That may seem a little condescending-today's kids hardly need relics like me telling them about vanished Golden Eras. Still, I plead mitigating circumstances, since there are moments in "The Byrds"-the majestic middle section of Bells of Rhymney, the wordless finale of Goin' Back, the solos in Eight Miles High-when I think I might be hearing the most beautiful music in the world. On reflection, of course, I realize that's hyperbole, but at other times, even as 1 type these words, I'm not always so sure. The bottom line is, buy the set and decide for yourself.

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