EQUIPMENT BUYING GUIDE
CD PLAYERS, SPEAKERS, TUNERS,
RECEIVERS, AMPS, TURNTABLES

THE BEST RECORDS OF THE YEAR

TESTED: SANSUI RECEIVER,
ADCOM AMPLIFIER, AND MORE...
You may think you've heard it all before. But we can assure you that you've never heard anything quite like this. Unless, that is, you've ever had the opportunity to drive with a twelve-piece jazz ensemble playing in your car.

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 ever created. And it's due to the way we've utilized a revolutionary new technology known as Digital Signal Processing (or just DSP). A remarkable development that provides complete digital audio control, totally altering the way you listen to music in a car.

Basically, it means we put a computer inside a car stereo head unit. A high-speed, special-purpose microprocessor, to be exact. Then, because of the DSP chip's tiny size, we were able to load the unit with dozens of other features and components once considered impossible to incorporate in the car-audio realm.

Of equal interest are the three modes of equalization we give you to choose from. The 3-band parametric EQ gives you the freedom and versatility to recreate sounds with incomparable accuracy. While the built-in 7-band graphic EQ features the convenience of six user presets. Additionally, the parametric bass and treble comes equipped with front and rear equalization control for precise staging.

Which is where things really begin to get interesting. 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 perform. (Minus the ticket hassles.)

With your multi-play CD controller, you can then enjoy complete command over your Pioneer 6-disc magazine changer, which is fully compatible 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
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 single-digit sensitivity. Which means it can now pick up more stations from greater distances and hold them longer than any other tuner on the market today.

And what about all your cassette tapes, you're asking? Afraid you'll have to sacrifice them to get CD sound in your car? Not true. A simple touch of a button and the faceplate flips down to reveal a cassette deck with full-logic control, auto-reverse and all the features you'd expect from Premier. 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 feature, you can then program the remote to learn and operate any one additional function appearing on the unit's face.

Now, at this point, you're probably wondering where you're going to find a security system sophisticated enough to protect your investment. Well, you don't have to. The KEX-M900 comes with Detachable Face Security. An industry first, this feature allows you to remove the faceplate and place it in an accompanying carrying case that fits easily in your pocket. About the only thing more exclusive than this extraordinary system is our network of Premier Installation Specialists.

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 heard enough.
Some people can never leave well enough alone.

Shortly 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.

**Superior Dynamics**

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

Adcom’s new custom-designed linear gain amplifiers are many times faster than the frequency components in musical signals, easily meeting the demands of the latest digital recording technologies.

A new tone control circuit has also been created for greater symmetry. And for audio purists, the tone controls are out of the signal path except when needed.

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

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**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.
2. 1% Roederstein resistors and film capacitors to reduce noise and distortion to inaudible levels.
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.

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**A Better GFP-555 or a Less Expensive GFP-565?**

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.
Cover: For more on the Adcom GCD-575 CD player, NAD Model 3400 integrated amplifier, and KEF 1051 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.
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 store—they 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" speakers.

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.
DIGITAL RECORDING TAX?
At a meeting held late last year with equipment manufacturers, a coalition of music-industry trade groups proposed a 7 1/2 percent royalty on digital audio tape (DAT) recorders and a 1 1/2-cent-per-minute 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 that the first home DCC decks could appear in stores next year at a cost between $500 and $600.

MUSIC NOTES
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 laser disc. The Complete Carus: Including the Original Victor Talking Machine Co. Master Recordings, a boxed set of twelve digitally remastered CDs containing 256 selections recorded by the Italian tenor Enrico Caruso between 1902 and 1920. The film composer John Williams has inaugurated a state-of-the-art recording studio built by the filmmaker George Lucas near San Francisco. Recorded there, Williams's new Sony Classical album, "The Star Wars Trilogy," contains thirteen selections from his scores for the movie Star Wars and its sequels 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 Rise 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) 693-1753; 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

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.

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...
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."
The response has proven superb.

"Few speakers at its price would be likely to equal it, much less surpass it."
Julian Hirsch, Stereo Review on Model V620

"surprisingly hefty bottom. The rest of the spectrum is just right too — smooth, sweet and accurate."
Hans Fantel, Rolling Stone on Model V62

"excellent highs and very good imaging and sound stage."
Harry Sommerfeld, San Francisco Chronicle on Model V630

"The startlingly powerful bass makes drums sound magnificent."
Richard Warren, Chicago Tribune on Model V620

Prove it for yourself at a select audio retailer near you.

STEREO REVIEW invites you to listen each week to the only national radio program for audio buffs

AUDIOPHILE AUDITION
With John Sunier

> Heard on over 175 public radio and concert music stations throughout the U.S. Consult your local listings for day and time

> Your weekly opportunity to sample the best classical and jazz CDs

> Exclusive interviews with audio personalities and performers, plus audio news

> Specials on Binaural, Surround Sound, DAT, Subwoofers, Audio Restoration
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.

The RM 3000 Three Piece System

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

The Legendary 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."

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
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 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.

Polkaudio
The Speaker Specialist®
5601 Metro Drive, Baltimore, MD 21215 (301)358-3600

Where to buy Polk Speakers? For your nearest dealer, see page 138.
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 directivity 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 Klipschorn-type 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 casual—but two of them in that room would music listening. Conceivably two Edin-tor, a mere 2 feet high, set on a room -chor, with a Tannoy Little Red Moni-cabinet not much smaller than a Klips-orn, combination of a Tannoy Edinburgh, in a mismatch has been effected with equip-rationality and that it should be rejected altogether. The great advantage of using dissimi-lar 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 conscious-ness.

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Ian Masters replies: I, too, 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 foil-backed 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 label 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 Pla-cidom 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’s “New Products” was incorrect. The correct price is $400, and the companion CDC-01 CD changer is $630.
Only Sony records the music,

mixes the music,

masters the music

and creates the Compact Discs themselves.

So why play around with anyone else?

You don’t have to be a digital audio expert to pick the right CD changer. You just have to know who the expert is. Sony. In the studio, Sony digital recorders capture all the energy and emotion of the music. Then Sony professional expertise takes the music every step of the way home. So to recapture that same energy and emotion, listen to the Sony CDP-C705 Carousel Changer. Marvel at its 5-disc convenience. Thrill to its sound. And discover you get more out of the music from the people who put more into it.
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 simultaneously. This is sonic territory never before explored on guitar.

But despite his lust for new toys - like 11- and 17-string harp guitars, and a snazzy

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

plays a Steinberger guitar with TransTrem, a whammy bar that 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.
NEW PRODUCTS

PHILIPS

The Philips CDV600 combi-player incorporates the company's Bitstream 1-bit 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 twenty-four-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

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

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 five-shelf 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 five-shelf 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 5¼-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 9½ x 6 x 6¼ inches, and the subwoofer measures 13¼ x 13¼ 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 1x1-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

ONKYO

Onkyo's entry-level DX-1400 compact disc player uses eight-times-over-sampling 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 three-mode 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

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 Mylar-dome tweeter. The enclosures are high-density 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 23½ x 12½ x 9½ 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

CLARION

Clarion designed the Model 6200CD "slimline" six-disc car CD changer to be mounted either vertically or horizontally. Its automatic disc locator 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-to-analog converters, a four-times-over-sampling 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 common-mode 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 moving-magnet 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 twenty-track 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 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 1/2 x 10 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 130 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 131 on reader service card

STEREO REVIEW FEBRUARY 1991
SETTLE FOR MORE!

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 bought 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 listeners.... but what caused even more amazement was the unprecedented low price.

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Conclusion: the Paradigm offers excellent performance..."

Stereophile Magazine

"... natural, open and clear...excellent depth... lots of hall sound... big, expansive soundstage... well defined... a rare achievement for any loudspeaker, but when the price is taken into account the Paradigm's performance must be considered as nothing short of remarkable."

Sound & Vision Magazine
A Dorian Portrait

AMPLE the excitement of Dorian Recordings' special blend of music, acoustics, and technology! For STEREORIEV 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 STEREORIEV'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.

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STEREO REVIEW FEBRUARY 1991 19
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, and 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

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

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 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

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-D15 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-to-noise ratio significantly. Is there a way I can calculate the total SNR I'll end up with?

Tim Fern
Washington, IN

It'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 paste 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.
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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 DAT equipment, and although many decks were tagged “prototype,” the 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, read-many” 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 T-bird. 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.
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.

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Like the M-1s, they're designed for optimum dispersion. The perceived sound stage is dramatically extended without compromising center imaging. The specially-designed woofers reproduce low frequencies with undaunted accuracy.

The mark that Mirage has made on the audiophile world is substantial. From the flagship M-1s to the wide range offered by the Mirage 60-Series, you simply can't do better. Just give them a listen. You'll hear what we mean.

For a free booklet of M-1 reviews from seven leading audio publications, write us or see your Mirage dealer.
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CIRCLE NO. 63 ON READER SERVICE CARD
It'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 considered.

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.
THE BASICS

...iterated 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 CDs take little effort to maintain, the opposite is true of LPs, 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 cramped 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 idea—things 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...
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, 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.
by Julian Hirsch

**HOW WE TEST SPEAKERS, PART I**

Last 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 response—its 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 (frequency-modulated) 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 measurements (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 sine-wave signal swept from 20 to 20,000 Hz in 1 minute while being "warbled" several times a second over a one-third-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 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-
Engineered for the sophisticated audio enthusiast, the Coustic CD-3 represents a remarkable achievement in advanced mobile audio technology and system design.
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 frequency-response 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

THE 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 8-ohm 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 surround-channel (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-synthesizer 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 1 is also labeled DAT but is equal-ly 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 CENTER 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 pink-noise 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
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.

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<td>- Digital frequency-synthesis AM/FM tuner with thirty presets</td>
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<td>- Auto-scan, preset scan, and manual step tuning; also direct tuning by entering frequency on keypad</td>
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<td>- Adjustable digital delay for spatial enhancement</td>
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<tr>
<td>- Dolby Pro Logic surround-sound decoding</td>
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<td>- Natural, Hall, Stadium, and as many as four user-created stereo-enhancement surround modes</td>
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<td>- Inputs for CD, phono, two audio tape decks, two VCR's, videodisc player</td>
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<tr>
<td>- Dubbing from VCR-2 or videodisc player to VCR-1 or from any audio source to either audio recorder</td>
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<tr>
<td>- Source Direct switch to bypass signal-processing circuitry</td>
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<tr>
<td>- Composite and S-video output to monitor</td>
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<tr>
<td>- Separate coaxial inputs for 75-ohm FM antenna and cable feed</td>
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<tr>
<td>- Bass, treble, and Super Bass tone controls</td>
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<td>- Separate preamplifier outputs and power-amplifier inputs with removable jumpers</td>
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<td>- Connections and switching for two pairs of front speakers</td>
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<td>- Phantom-center-channel Dolby Pro Logic mode for use without center speaker</td>
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<tr>
<td>- Remote control of most functions of receiver and compatible Sansui tape decks and CD players; remote can be programmed to operate most other components</td>
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<td>- Tuner Section (all figures for FM only, except frequency response; measurements in microvolts, or µV, referred to 75-ohm input)</td>
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<tr>
<td>- Usable sensitivity: mono, 9.8 dB (0.85 µV)</td>
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<tr>
<td>- 50-dB quieting sensitivity: mono, 13 dB (1.25 µV); stereo, 55.5 dB (16.4 µV)</td>
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<tr>
<td>- Signal-to-noise ratio at 65 dB: mono, 80 dB; stereo, 75 dB</td>
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<tr>
<td>- Harmonic distortion (THD plus noise) at 65 dB: mono, 0.05%; stereo, 0.09%</td>
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<tr>
<td>- Capture ratio at 65 dB: 1.25 dB</td>
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<td>- AM rejection: 56 dB</td>
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<tr>
<td>- Selectivity: alternate-channel, 64 dB; adjacent-channel, 4 dB</td>
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<tr>
<td>- Stereo threshold: 20 dB (2.75 µV)</td>
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<td>- Pilot and subcarrier leakage: 19 kHz, 66 dB; 38 kHz, -68 dB</td>
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<tr>
<td>- Hum: -78 dB</td>
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<tr>
<td>- AM channel separation at 100, 1,000, and 10,000 Hz: 42.5, 47, 37 dB</td>
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<tr>
<td>- Frequency response: FM, +0, -1 dB from 30 to 15,000 Hz; AM, -6 dB, 40 to 2,500 Hz</td>
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<tr>
<td>- Amplifier Section</td>
</tr>
<tr>
<td>- 1,000-Hz output power at clipping: 145 watts into 8 ohms, 206 watts into 4 ohms, 218 watts into 2 ohms (one channel)</td>
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<tr>
<td>- Clipping headroom (relative to rated output): 1.6 dB</td>
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<tr>
<td>- Dynamic power output: 156 watts into 8 ohms, 253 watts into 4 ohms, 306 watts into 2 ohms</td>
</tr>
<tr>
<td>- Dynamic headroom: 1.9 dB</td>
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<tr>
<td>- Maximum distortion (20 to 20,000 Hz into 8 ohms), 0.11% at 20,000 Hz, 0.06% at 20 Hz</td>
</tr>
<tr>
<td>- Sensitivity (for a 1-watt output into 8 ohms): CD, 53 mV; phono, 0.29 mV</td>
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<tr>
<td>- A-weighted noise (referred to a 1-watt output): CD, -75.5 dB; phono, -76.3 dB</td>
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<tr>
<td>- Phono-input overload (1,000-Hz equivalent levels): 150 to 185 mV from 20 to 20,000 Hz</td>
</tr>
<tr>
<td>- Phono-input impedance: 50,000 ohms in parallel with 170 pf</td>
</tr>
<tr>
<td>- 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</td>
</tr>
<tr>
<td>- Loudness-contour range: 50 Hz, +9 dB; 15,000 Hz, +6.5 dB</td>
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</tbody>
</table>

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 S-video 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 75-ohm 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, 16½ inches deep, and 5½ inches high, and it weighs about 30½ 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 8-ohm 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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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 +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 excellent 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.

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DEFINITIVE TECHNOLOGY
BP 10 SPEAKER SYSTEM

Julian Hirsch, Hirsch-Houck Laboratories

DEFINITIVE 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 11 1/2 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 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 computer-designed 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 3/4-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 fourth-order 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 cast-magnesium 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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<tr>
<td>Rosanne Cash</td>
<td>interiors (Columbia)</td>
<td>406-397</td>
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<tr>
<td>Paulus Abdul and the Dance (The Dance Machine (Warner Bros.</td>
<td>406-264</td>
<td></td>
</tr>
</tbody>
</table>

**On The Cutting Edge**

- Brian Eno & John Cale—Wrong Way Up (Warner Bros./Opal)
- The Replacements—All Shook Down (Sire/Reprise)
- Bob James—Grand Piano (Columbia)
- Mike DelGuidice & the Big Band—Black Sheets Of Rain (Virgin)
- Iggy Pop—B5k By Brick (Virgin)
- Concrete Blonde—Bloodletting (RI S)

**The Sundays**

- Reading, Writing And Arithmetic (GDC)
- The Lightning Snakes—Clouds (UK)

**Depeche Mode**

- Violator (Sire/Reprise)
- World Party—Goodbye Jumbo (Chrysalis)

**Sinead O'Connor**

- I Don't Want What I Haven't Got (Chrysalis)

**Winger**

- In The Heart Of The Young (Atlantic)

**Henry V** (Original Soundtrack)

- Music By Patrick Doyle Rattle (Virgin)

**Music Of The Night**

- Pops On Broadway 1990. From "Phantom Of The Opera," etc. John Williams, Boston Pops (Choral)

**New Kids On The Block**

- Step By Step (Capitol)

**Stryo Gyr**

- Fast Forward (GRP)

**Alannah Myles**

- Dreamer (Atlantic)

**M.C. Hammer**

- Please Hammer, Don't Hurt 'Em (Capitol)

**Chopin: Piano Concertos**

- Nos 1 8 2 Murray Perahia, Philharmonia Orch. (Sony Classical)

**The Firebird**

- Concerto Nos. 1 & 3 National Symphony Orchestra (Sony Classical)

**Yo-Yo Ma**

- Great Cello Concertos (Sony Classical)

**Yo-Yo Ma**

- Greatest Hits (1979-1990)

**Pat Benatar**

- Best Shots (Chrysalis)

**The Cure**

- The Head On The Door (Capitol)

**Bela Moider**

- Some People's Likes, From A Distance, more. (Atlantic)

**Prince & The Revolution**

- Purple Rain (Warner Bros.)

**Vivian Campbell**

- Pure (Megadeath)

**Judas Priest**

- Painkiller (Metal Blade)

**KISS**

- Dynasty (Columbia)

**Yes**

- The Yes Album (Epic)

**Paul Simon**

- Graceland (CBS Masters)

**The Bee Gees**

- Only Love Can Break Your Heart (Epic)

**The Damned**

- Machine Gun Etiquette (Island)

**Black Sabbath**

- Live Through This (CBS Master)

**The Who**

- Quadrophenia (EMI)

**David Bowie**

- Major Tom (Long Hair)

**Tony Christie**

- (Wish You Were Here)

**Van Morrison**

- Moondance (Capitol)

**Elton John**

- Too Low To Pray (Reprise)

**Phil Collins**

- But Enough About Me (London)

**Sparks**

- Dennis The Menace (RCA)
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 90 Hz. The phase angle of the impedance was less than 22 degrees over the full 20- to 20,000-Hz range.

The BP 10 has a rated frequency response of 20 to 28,000 Hz, a nominal impedance of 6 ohms, and a sensitivity 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 ±2 dB over that range. The bass response, combining the outputs of the drivers and the port (corrected for their relative dimensions), was within ±2 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.

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

The composite frequency response was notably smooth and free of spurious emphasis (or de-emphasis) of any part of the spectrum. 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.
Adcom GFA-55511 Power Amplifier

Julian Hirsch, Hirsch-Houck Laboratories

About 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-55511, 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 power-supply 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.

Although the GFA-55511 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-55511 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 1 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-55511 measures 17 inches wide, 11½ inches deep, and 7½ inches tall.
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Stereo Review, 1987

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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; rack-mount 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 2-ohm 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 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 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 power-supply 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-555II 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-555I 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.”

**Laboratory Measurements**

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

3A MIDI-MONITOR SPEAKER SYSTEM

Julian Hirsch, Hirsch-Houck Laboratories

Audio 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 soft-dome 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 9½ inches wide. Its front panel slopes back at an 11-degree angle, causing the depth to taper from 13½ inches at the bottom to 11 inches at the top. Each speaker weighs 25½ 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 open-frame wire to minimize diffraction, which could disturb the speaker's radiation pattern and frequency response. All around the tweeter the panel is covered with a ¼-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 ¼-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 Hz ± 3 dB on-axis and 50 to 20,000 Hz ± 3 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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The sound quality and performance features that have made Denon Single-play CD players widely regarded as the best sounding have now been incorporated in Denon's first Carousel CD player.

The 5-disc DCM-350 features the same 8X oversampling, 20-bit digital filter and dual Super Linear Converters found in Denon's top-rated models. Denon's dedication to performance means that each Super Linear Converter is hand-tuned for lowest noise and best linearity. This advanced digital signal processing and conversion system fully resolves musical detail and accurately reproduces all the liveliness and air of the original recording.

In multi-disc players, the transport is an important key to performance. The superior transport technology which has made Denon famous in both CD and turntable categories is found in the DCM-350. Its integrated laser transport and disc carousel not only provides outstanding acoustic and mechanical isolation, it also allows uninterrupted play while two of the five discs are changed.

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Carousel CD changers have been out for a while now. But the DCM-350 is the first to carry the Denon name. Which again proves Denon's belief that being best is more important than being first.

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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 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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The 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 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
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. BLUE NOTE. "Dazzling flights of melodic invention and free-flowing creative energy."

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."

MOZART: Cosi 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."

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 HAMPSHON: Songs from "Des Knaben Wunderhorn." TELDEC. "Enchanting."

ANYTHING GOES (Cole Porter). Frederica von Stade, Jack Gilford, others; London Symphony, John McGinn 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.

ROBET 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.

ROBERT JOHNSON: The Complete Recordings. COLUMBIA.

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.

SINEAD 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 Pavilion. CONCORD JAZZ.

WORLD PARTY: Goodbye Jumbo. CHRYSALIS.
Variations on an Oriental theme

by Rebecca Day

EAST 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 brass- and-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. 

STEREO REVIEW FEBRUARY 1991 55
More people who make music for a living make, mix and master it on JBL than on any other monitor on the planet.

The L Series from JBL: Same made-from-scratch components, same titanium 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.
SHOPTING 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.
ACOUSTIC RESEARCH
X-07 70-W 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, VCR, tuning, and speaker-switching controls; 8 AM/FM station presets; gold-plated phone 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; SN 100 dB. Tuner section: FM section 50-dB quieting sens 40 µV (37.2 dBf); FM/SN (at 65 dBf) 72 dB stereo, 80 dB mono; THD stereo 0.3%; capture ratio 1.0 dB; AM rejection 60 dB; alt-ch sel 70 dB 3½ x 17 x 1½ in; 25 lb .......... $800

AIWA
AXR-005 260-W A/V Receiver
AM/FM receiver with wireless learning remote control. Features Dolby Surround with 3 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; cap; 1/2 x 1/2 dB; alt-ch sel 45 dB at 300,000 Hz; stereo sep 45 dB at 1,000 Hz. 17 x 5 ½ x 14 ½ in; 21 lb .......... $770

AXR-004 100-W 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. 7-band spectrum analyzer with peak hold; 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; SN (HF) 66/65/78: MM phono 87.79/79/79,000 dBV, video/VDP/CD/TDAT/CD/105/85 dB. Tuner: usable sens 11.2 dB; SN 78 dB (stereo). THD 0.4% at 1,000 Hz; cap ratio 1.5; alt-ch sel 45 dB at 300,000 Hz; stereo sep 45 dB at 1,000 Hz. 17 x 5 ½ x 14 ½ in; 21 lb .......... $550

BANG & OLUFSEN
Beomaster 6500 50-W Receiver
Integrates with Beosystem 6500. AM/FM receiver with matrix control panel. Features frequency-synthesis tuning. Multituner 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%; SN 78 dB (phono); 80 dB (tape). Tuner: 50-dB quieting sens 40 dB; SN 70 dB; THD 0.2%; IM 0.1%; cap ratio 1.7 dB; alt-ch sel 10 dB; alt-ch sel 70 dB; AM rej 57 dB; ch sep 45 dB. 16½ x 3 x 12½ in; 19.3 lb. White/black with polished aluminum ....... $2,220

BEOMASTER 6500 50-W Receiver
Remote controlled with Beolink 1000 terminal; digital tuner with 20 AM/FM presets; multituner capability; optional wall mounting brackets; programmable volume and tone levels; programmable inputs; integrates with B&O video products. Black and silver finish. Amp: FR 20-20,000 Hz ±1.5 dB; THD <0.1%; SN >77 dB. FM tuner: 50 dB quieting sens 19 dB mono, 40 dB stereo; FR 20-15,000 Hz ±1.0 dB; SN 65 dB; cap ratio 1.7 dB. 24¾ x 2¾ x 4¾ in; 15 lb, 6 oz .......... $1,098

CARVER
HR-772 140-W Receiver
AM/FM receiver with wireless remote and Sonic Holography. Features asymmetrical charge-coupled CMOS circuity. 20 AM/FM station presets; auto scan/manual tuning; signal-strength indicator; 3 audio inputs; 2 video inputs; dual input selector with dubbing; source-direct bypass; loudness equalization; motorized volume control; pre-out jacks; headphone monitor jack; 27-button remote control. Amp: FR 20-20,000 Hz; THD 0.1%; SN 90 dB. Tuner: HFS sens 1.13 dB mono; cap ratio 1.5; alt-ch sel 72 dB. 19 x 3½ x 1½ in .......... $800

HR-752 100-W Surround-Sound Receiver
AM/FM receiver with wireless remote and Sonic Holography. Features asymmetrical charge-coupled CMOS circuity; magnetic-field amplifier section. A/B speaker outputs; matrix surround-sound synthesizer, 20 AM/FM presets with preset scan; 4 audio inputs; CD direct; motorized volume control; 3-band tone control; pre/main outputs. 100 W/ch; THD 0.5%; SN 85 dB phonon, 78 dB stereo; cap ratio 1.5; THD FM stereo THD 0.2%; alt-ch sel 52 dB; 35 lb .......... $650

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 m sec in 5 m sec steps) 3 video inputs, 3 video outputs; 4 audio inputs, 3 audio outputs; 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.

JVC
RX1010VTN 120-W 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 into 8 ohms; 69 lb. Tuner: 50-dB quieting sens 36 dB; AM rej 55 dB; cap ratio 1.0 dB .......... $1,999

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 EQ .......... $320

RX203BK. As above, no remote control .......... $255

RX201BK. As above. 40 W/ch; no EQ .......... $230

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

ch rear, 8-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: 20-100,000 Hz; THD: <0.01%; IMD: 38.2 dBf; S/N: 100 dB; 50-dB quieting sens 37.2 dBf stereo; AM rej 57 dB; cap ratio 1.2 dB

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; THD: 0.06%; S/N: 100 dB; 50-dB quieting sens 38.2 dBf stereo; AM rej 65 dB; cap ratio 2.0 dB

Mitsubishi M-R8010

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; scan, headphone jack; Amp: THD 0.03%; IM 0.03%; FR: 20-100,000 Hz; THD: <0.5 dB; 1000 W.

Tuner: S/N 75 dB stereo; FR: 20-15,000 Hz; +0.5 dB stereo; THD: 0.1% at 1,000 Hz. 18 x 5 x 14 in; 25 lb

$1,995

Onkyo TX-SV900PRO

TX-SV900PRO 290-W A/V Receiver
Low-impedance amp sections, discrete outputs. Features Dolby Pro Logic decoder, additional hall and matrix surround modes; adjustable digital delay; 20 random-access presets with battery-free backup; cable fine tuning (25,000 Hz steps); S-video connectors; front-panel camcorder inputs; simulated stereo; dynamic bass expander; RI remote compatible with supplied programmable remote control

$1,100

TX-SV500PRO 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 compatibility; 6 audio inputs 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 turntable switch; headphone jack; five-way binding-post speaker terminals; sleep timer; RI remote compatible; universal "learning" programmable remote controller included

$575

$899

$349

$479

$2,995

$550

$1,299

$1,200

$1,995

$850

$500

$2,250

$590

$3,150

$1,995

$749

$479

$1,100

$399

$749

$2,995

$750

$850

$30

$999

$999

$379

$399

$479

$1,995

$1,295

$590

$1,295

$590
RECEIVERS

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

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), hi-blend (on/off), and stereo/mono; dual FM antenna inputs. 20 station presets with battery-free backup; selectable tone control with 50-Hz boost; digital input; MM/RC phono inputs; rec out selector; sleep timer; pre-out/main-in jacks; RI remote compatible. Controller and side panels include: 125 W/ch min rms into 8 ohms; dynamic power 380 W/ch into 2 ohms...

$680

Victor VSX-DIS

Integra TX-870 105-W/ch Receiver
Discrete output circuitry and low-impedance drive capability. Features AM/FM tuner with 4-mode APR (Automatic Precision Reception) system; distant/local, IF bandwidth (wide/narrow), hi-blend (on/off), and stereo/mono. 20 station presets with battery-free backup; selectable tone control with 50-Hz boost; cable FM fine tuning (25 kHz steps); digital input; simulated-stereo processor; video dubbing; alternate audio dubbing; sleep timer; pre-out/main-in jacks; RI remote compatible. Controller included. 105 W/ch min rms into 8 ohms; dynamic power 310 W/ch into 2 ohms...

$680

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 (rear) 60 W/ch; FM sens 1.7 µV at 3% THD; cap ratio 2.5 dB; S/N 72 dB. 17½' x 5½' x 15 in; 26 lb...

$500

STAV-3080 100-W/ch A/V Receiver
AM/FM receiver. Features digital-synthesis tuning; protection circuits; sub filter button. 8 preset buttons with 8 AM/FM presets; two-way tape dubbing while listening to another source; video-dubbing button; mono/FM mute off button. 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 (rear) 60 W/ch; FM sens 1.7 µV at 3% THD; cap ratio 2.5 dB; S/N 72 dB. 17½' x 5½' x 15 in; 26 lb...

$500

Philips FR-70

N 85 dB, phono, 95 dB, aux. Tuner: AM IF rej 60 W/ch; FM HIF sens 1.7 µV at 3% THD; cap ratio 2.5 dB; S/N 72 dB. 17½' x 5½' x 15 in; 23 lb...

$400

PHILIPS

FR 980 125-W/ch A/V Receiver
4-ch A/V receiver with Dolby Surround. Features surround mode with matrix, spatial, stereo, mono; digital-synthesis AM/FM tuner with 19 presets; 7-band graphic EQ with programmable acoustic memory; dual motorized volume control; record selector with parallel recording capability; MM or MC phono settings; ambiance-control switch; 9 audio inputs; 4 audio outputs; 4 video inputs; 3 video outputs; AM and FM antennas; headphone jack; function display; preset scan; volume, multiroom memory tuning; memory scan; remote control; 30 AM/FM presets; remote memory.

$999

FR-70 70-W/ch Receiver
Features discrete output transistors. 39-key remote controls all Philips TV's and selects VCR's; dual-F-type FM input connectors; subsonic filter built into phono preamp section; audio inputs for phono, CD, tape, TV, CDV, VCR; audio outputs for tape and VCR; video inputs for TV, CDV, VCR, and video outputs for VCRs and TV monitor; 30 random presets and memo scan; auto scan; preset scan; optional sleep timer...

$499

FR-60 Similar to above, 60 W/ch...

FR-50 Similar to above, 50 W/ch...

$299

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 delay (15/20/30/50 msec switchable); sound field-programmed remote; multiroom control system with optional MR-100 adapter; 3 video inputs; 4 audio inputs; custom memory tuning; 30 AM/FM presets; HITS (Hyper Intelligent Tuning System) with 10 ID's for 30 stations; motor-driven volume control; auto dimmer; preamp-output/power-input terminals (front, rear, center); remote-settable 60/30-minute sleep timer; speaker A/B rear/center selector. 16½' x 5½' x 15½ in; 21 lb...

$620

SX-2700 65-W/ch Receiver
Features 5-band graphic equalizer. Quartz PLL digital-synthesis tuning. 3 audio inputs; custom memory memory scan; room control; remote control; 30 AM/FM presets; remote memory control; 2 pairs of speakers output. 65 W/ch into 8 ohms from 20-20,000 Hz with <0.07% THD. 16½' x 4½' x 13½ in; 15 lb...

$310

PROTON

AV-6410 100-W/ch A/V Receiver
Features Aplex Aural Exciter circuitry; Schottz II Tuner; variable loudness control; moving-coil phono preamp. 19½' x 3½' x 15½ in...

$900

D940 40-W/ch A/V Receiver
Dynamic Power on Demand (DPD) circuitry and Schottz NR. Features 4-band FM front end; selectable phono section for MM and MC phono; speaker EQ; separate low-noise MC amp; subsonic filter. Inputs for MM, MC phono; phono 2; tape; aux, extra aux; CD; video sound source. Amp. 40 W/ch cont avg into 8 ohms; FR 20-20,000 Hz ±0.2 dB PM stereo; THD <0.02%; into 8 ohms; HFB 0.008%; alt-ch sel 55 dB; adj-ch sel 90 dB, 50-dB quieting sens 33.2 dB; stereo, 80 W/ch; THD 0.2%; sep 45 dB at 1,000 Hz; cap ratio 1.5; 16½' x 4½' x 10½ in; 20 lb...

$500

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 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

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

- CD Review

"...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!"

- Rich Warren, Chicago Tribune

"...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

55 W/ch into 8 ohms; FR 20-20,000 Hz; THD <0.03%; SN 102 dB. Tuner: 50 dB quieting sens 37.2 dB stereo, 15.2 dB mono; cap ratio 1.0 dB .......... $549

RX850A, 30-Wch Receiver
AM/FM receiver with 16 station presets. Features protection circuitry, remote-mounted switches, hard-wired direct speaker terminals, direct signal paths; inputs for MM/MC phono, CD, tuner, aux, and tape. Amp: 30 W/ch into 8 ohms; FR 20-20,000 Hz ± 3 dB; THD <0.3%; SN 95 dB. Tuner: 50 dB quieting sens 37.2 dB stereo, 15.2 dB mono; cap ratio 1.0 dB. 17½ x 2½ x 13 in; 26 lb .......... $399

SANSUI

RZ-950AV 100-Wch 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/video inputs; rear and front preamp outputs; power-amp inputs; tape/video monitor outputs; 30 random AM/FM presets; cable FM connection; preset scan; manual tuning; jet-key learning remote. 100 W/ch into 8 ohms from 20-20,000 Hz, ±0.2% THD; FR 10-70,000 Hz ± 3 dB; SN 73 dB (mono MM) and 85 dB (CD/video). Tuner: usable FM sens 3.2 dBf, 50 dB quieting sens 17.2 dBf stereo; SN 70 dB stereo; cap ratio 1.5 dB; THD 0.2% mono and 0.3% stereo. Black finish .......... $770

RZ-7500AV 100-Wch A/V Receiver
AM/FM receiver with four amplifiers. Features Dolby Surround processor with digital delay; motorized volume; electronic bass/treble; quartz-PLL digital-synthesis tuner. Source-direct switch; 30 AM/FM presets; preset scan; cable FM connection; preset scan; manual tuning; 7-key learning remote. 100 W/ch into 8 ohms from 20-20,000 Hz, ±0.2% THD; FR 10-70,000 Hz ± 3 dB; SN 73 dB (mono MM) and 85 dB (CD/video). Tuner: 50 dB quieting sens 38.2 dB stereo; cap ratio 1.5 dB; THD 0.3% stereo .......... $580

RZ-3500 50-Wch Receiver
Features 4 audio/video inputs; 2 tape-monitor outputs; motorized volume; 30 AM/FM presets; preset scan; manual tuning; 20-key remote. 50 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.09% THD; FR 10-70,000 Hz; SN 73 dB (mono MM) and 90 dB (video/CD). Tuner: usable FM sens 12.2 dbf; 50 dB quieting sens 17.2 dbf stereo (mono); SN 76 dB mono and 70 dB (stereo); capture range 40 dB (1,000 Hz ± 65 dB); THD (1,000 Hz at 65 dB) 0.3% (mono) and 0.5% (stereo). 16½ x 4½ x 13¼ in .......... $350

SCOTT

RS1250 100-Wch 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; AM/FM presets; 4 equalizer memory presets; 30-minute sleep timer; dual 5-segment LED peak power meters; loudness switch; Dolby surround (A/B + B surround switch; inputs: CD, VCR, mono, tape 1, tape 2. Amp: 100 W/ch into 8 ohms; FR 20-20,000 Hz <0.09% THD; SN, phon 60 dB, tape/CD/VCR 80 dB. Tuner: sens 1.9 µV/10.8 dBf; AM image rej 35 dB at 1.4 MHz; FM THD stereo 0.0%; mono 0.5%; AM/THD THD 2.0%. 17½ x 5¼ x 14¾ in .......... $500

SHARP

SA-75AV 75-Wch A/V Receiver
AM/FM PLL quartz-synthesis tuner. Multimode surround sound with digital-time-delay circuit; bass-boosting circuit; 5-band graphic equalizer. Multifunction system remote control operates surround sound, bass Booster, and CD player; motorized rotary volume control with LED indicator; 3 VCR inputs; auto scan tuning; 30 station presets; muting circuit. 75-W/ch into 8 ohms from 20-20,000 Hz with <0.0% THD .......... $430

SA-55AV 55-Wch A/V Receiver
RCA video input and monitor output. Features 34-key remote control; 10 AM/20 FM presets; matrix surround sound; 5-band graphic EQ; LCD frequency display. 55-W/ch from 20-20,000 Hz; THD 0.08%. 17 x 9 ¾ x 11 in .......... $380

SHERWOOD

RV-1340R 240-Wch A/V Receiver
4-ch A/V receiver with Dolby Surround. Features dual-stage MOSFET, quartz-locked computerized tuning. 5-band graphic EQ; 2 video inputs; audio enhancer; direct switch; 30 station presets; preset scan; auto tuning; tape monitor; headphone jack. Includes multifunction wireless remote control. Amp: 100 W/ch into 8 ohms (front), 20 W/ch into 8 ohms (rear); FR 20-20,000 Hz; THD 0.04%; IM 0.04%; SN 79 dB (mono), 95 dB (aux). Tuner: usable sens 11.2 dbf; 50 dB quieting sens 19.2 dbf (stereo), 14.8 dbf (mono); THD 0.15% (mono), 0.25% (stereo); 50 dB stereo at 1,000 Hz; all-ch sel 70 dB. 3 x 17½ x 15 in .......... $499

RA-1240R 70-Wch A/V Receiver
A/V receiver with surround sound. Features dual-gate MOSFET, quartz-locked computerized tuning. 5-band graphic EQ; 30 preset stations; video/ sound input; preset scan; auto tuning; tape monitor; headphone jack. Amp: 70 W/ch into 8 ohms; FR 20-20,000 Hz; THD <0.08%; IM 0.05%; SN 75 dB (mono), 95 dB (aux). Tuner section. Usable sens 11.2 dbf; 50 dB quieting sens 19.2 dbf (mono), 39.2 dbf (stereo), THD 0.2% (mono), THD 0.0% (stereo); 50 dB stereo at 1,000 Hz; all-ch sel 70 dB. 3 x 17½ x 15 in .......... $3529

SANSUI RZ-9500AV

SONY

STR-D200 130-Wch A/V Receiver
AM/FM receiver with digital-signal processing and Dolby Pro Logic. Features programmable remote control; digital inputs; dual-room link control; 3-band parametric graphic EQ; spectrum analyser; station index; motorized volume; 3-video inputs; video edit; S-video capable; cursor control; index tuning; 30-station presets; auto-tuning; direct access. Amp: FR phone 50-20,000 Hz ±0.5 dB, CD 5-20,000 Hz ±0.5 dB, THD 0.008%; signal-to-noise ratio phone 82 dB, CD 116 dB. Tuner: 50 dB quieting sens 38.3 dB stereo; AM sens 50 dB. 17 x 5¼ x 14¾ in; 26.3 lb .......... $1,100

STR-AV1020 120-Wch A/V Receiver
Dolby Pro Logic; programmable remote control; dual-room link control; 7-band electronic graphic EQ; spectrum analyser; station index; motorized volume; 3-video inputs; video edit; cursor control; index tuning; 30-station presets; auto-tuning; direct access. Amp: FR phone 10-70,000 Hz ± 0.5 dB, CD 10-70,000 Hz ± 1 dB; THD 0.008%; SN phone 79 dB, CD 85 dB. Tuner: 50 dB quieting sens 38.3 dbf stereo; AM sens 50 dB; 17½ x 5¾ x 13¾ in; 23.6 lb .......... $600

STR-AV720 80-Wch A/V Receiver
Features Dolby Surround; remote control; spectrum analyser; motorized volume; 2-video inputs; cursor control; index tuning; 30-station presets; auto-tuning; direct access. Amp: FR phone 10-70,000 Hz ± 0.5 dB, CD 16-70,000 Hz ± 3 dB; THD 0.08%; signal-to-noise ratio phone 72 dB, CD 80 dB. Tuner: 50 dB quieting sens 38.3 dbf stereo; AM sens 50 dB. 17 x 5½ x 13½ in; 20.3 lb .......... $530

Elite Series

STG-X10ES 150-Wch A/V Receiver
Programmable remote. Features 150 W/ch 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; 5-video terminals; defeatable subsonic filter; 3-band, low noise, high-gain negative-feedback-type tone controls; source-direct switch; quartz frequency-synthesis tuning; wave-optimized digital-to-analogue decoder; 20 station presets. Tuner: SN 84 dB, THD 0.08%; sel 90 dB; sep (at 1,000 Hz) 60 dB .......... $1,200

STR-GX10ES

SONY

STG-X7ESI 120-Wch A/V Receiver
Programmable remote control. Features 120 W/ch continuous into 8 ohms, 20-20,000 Hz, with 0.006% 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, negative-feedback-type tone controls; source-direct
### TECHNICS SA-GX700 100-W/ch A/V Receiver

AM/FM receiver with wireless remote. Features 3-band parametric EQ; constant Q filter; slope control; 6-preset EQ memories; 15-band spectrum analyzer; LCD readout remote control; quartz-synthesis digital tuning; digital-delay circuitry; 4 audio inputs; 2 VCR inputs; 4 audio inputs. Amp: FR 7-70,000 Hz ± 3 dB CD/VCR1-VCR2-tape, 7-70,000 Hz ± 0.8 dB phonon; SN 70 dB. Tuner: 50-DB quieting sens 40.2 DB stereo; AM suppression 40 DB; cap ratio 1; alt-ch sel 65 dB; 17 x 4 1/4 x 11 1/4 in.; 18 lb. $380

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

AM/FM receiver with 48-key A/V wireless remote. Features parametric EQ, spectrum analyzer, digitally encoded rotary tuning; internal cooling fan; 2 VCR inputs; 4 audio inputs. Amp: FR 7-70,000 Hz ± 3 dB CD/VCR1-VCR2-tape, 7-70,000 Hz ± 0.8 dB phonon; THD 0.08%; SN 70 dB. Tuner: 50-DB quieting sens 40.2 DB stereo; AM suppression 50 DB; cap ratio 1; alt-ch sel 65 dB; 17 x 4 1/4 x 11 1/4 in.; 18.7 lb. $350

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

AM/FM receiver with 36-key A/V wireless remote feature. Features 7-band graphic EQ with LED controls; quartz-synthesis tuning; 24-channel preset memory; internal cooling fan; loudness contour switch; 4 audio inputs; 1 A/V input. Amp: FR 7-70,000 Hz ± 3 dB CD/VCR1-VCR2-tape, 7-70,000 Hz ± 0.8 dB phonon; THD 0.05%; SN 70 dB. Tuner: 50-DB quieting sens 40.2 DB stereo; AM suppression 50 DB; cap ratio 1; alt-ch sel 65 DB; 17 x 4 1/4 x 11 1/4 in.; 15.6 lb. $280

### Yamaha RX-390

4-ch AM/FM receiver with 3-mode surround sound including Dolby, natural, and simulated surround. Features direct PLL IF count synthesizer tuning; 16-channel random-access preset tuning with multisegment memory; 12-segment signal-strength 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<0.1%. Rear ch: 25 W into 8 ohms at 1,000 Hz; THD 0.08%. Titanium finish; 26 lb. $849

### RX-930

As above, black. $849

### RX-830Ti 170-W Surround-Sound Receiver

4-ch AM/FM receiver with 3-mode surround sound including Dolby, natural, and simulated surround. Features rear-level control; direct PLL IF count synthesizer tuning; 16-channel random-access preset tuning with multisegment memory; 12-segment signal-strength meter; 6-position rec out selector; 8 audio, 2 video inputs; motorized volume control with LED indicator; sleep timer; continuously variable loudness. Features 8-position rec out selector; 16-channel random-access preset tuning with multisegment memory; 12-segment signal-strength meter; center defeat; bass and treble controls; continuously variable loudness. Includes learning multifunction remote control with RS integrated system compatibility. Amp section: Front ch: 70 W/8 ohms; FR 20-20,000 Hz; THD 0.015%. Rear ch: 15 W into 8 ohms at 1,000 Hz; THD 0.08%. Titanium finish; 26 lb. $599

### RX-830

As above, black. $599

### RX-530 50-W/ch Receiver

AM/FM receiver with RS integrated system remote control feature. Digital features: 16-channel random-access preset tuning; continuously variable loudness; 6-position rec out selector; sleep timer; A + B speaker selector; CD-direct switch; 12-segment signal-quality meter, high-gain AM loop antenna; bass-extension switch; tape-to-tape dubbing. Amp section: 50 W into 8 ohms; FR 20-20,000 Hz; THD <0.02%. $399
POWER AMPLIFIERS

ACCUFHASE BY MADRIGAL
P-500 250-W/ch Amplifier
Features power meters. Bridge connection allows 1,000 W mono into 4 ohms, 500 W/ch into 2 ohms. 250 W/ch into 8 ohms. 19 x 8% x 17% in; 73.7 lb. $8,600

P-102 50-W/ch Amplifier
Features two all-stage push-pull power units in bridged configuration; Class A MOSFET push-pull output stage; cascade push-pull differential input stage; twin mono construction using two mono amplifiers and two separate power supplies for L/R channel; direct-coupled amplifier with DC servo configuration; 80 W into 4 ohms, 70 W into 2 ohms. Power meter: 40,000-ohm balanced input and 20,000-ohm jacks. FR 20-20,000 Hz; ±0.02 dB; THD <0.01%; S/N 120 dB A; IM 0.003%; damping factor >100. 17 x 7 1/4 x 17 1/2 in; 48.5 lb. $4,400

ACOUSTIC RESEARCH
A-97 75-W Amplifier
Features switchable side-chain feedback tone control, filters, and provision for moving-magnet and moving-coil cartridges. Remote controllable. FR 15-20,000 Hz, ±0.3 dB, THD 0.05%; S/N ratio 100 dB A; IM 0.03%; damping factor >100; 17 x 3 1/2 x 10 in; 25 lb. $550
A-65. Similar to above, 40 W/ch $400
A-63. Similar to above, 30 W/ch $300
RC-03. Remote control for A-07... $25

ADCOM
GPA-555H 200-W/ch Amplifier
Able to drive 1-ohm loads. Features low-negative-feedback design; constant damping factor; toroidal transformer; LED alert when distortion exceeds 1% at speaker outputs; direct-coupled design. 200 W/ch into 8 ohms, 325 W/ch into 4 ohms, THD <0.04% and IM <0.05%; constant damping factor >100, 20-20,000 Hz, 17 x 7 1/2 x 11 1/2 in. $750

GPA-545 100-W/ch Amplifier
Able to drive 1-ohm load. Features low-negative-feedback design; constant damping factor; toroidal transformer; instantaneous distortion alert when distortion produced higher than 1% at speaker outputs; direct-coupled design. THD <0.09%, 150 W/ch into 4 ohms; IM 0.008%. 5 1/4 x 17 x 12 1/2 in; 25 lb. $500

GPA-535 60-W/ch Amplifier
Able to drive 1-ohm load. Features low-negative-feedback design; constant damping factor; hook-up for 2 sets of speakers; LED alert when distortion exceeds 1% at speaker outputs; direct-coupled design; separate power transformers for each ch. Total harmonic distortion <0.09%. 100 W/ch into 4 ohms; intermodulation distortion 0.008%. 3/4 x 17 x 12 1/2 in. $330

ARAGON BY MONDIAL DESIGNS
Model 4004 200-W/ch Amplifier
Features 2 toroidal transformers; quad-array transistor; gold-plated connectors; Monster Cable output cables; conversion air cooling. S/N 120... $2,295
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ST-202 PLUS 200-Watt Amplifier

Class A design; balanced output; temperature - each channel consists of two Class A amplifiers; 150 W/ch continuous from 20-20,000 Hz with no more than 0.09% THD into 8 ohms; FR 5-40,000 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; 32 lb $748

ST-202 150-Watt 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 5-40,000 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

BOULDER Boulder 500 150-Watt Amplifier

Features two-stage amplification and output- level controls. Toroidal power transformer; shielded power cord; complete protection circuitry with visual indicators for faults in all four amplifiers. 100 W/ch continuous from 8 ohms; 250 W/ch into 4 ohms, 500 W mono into 8 ohms; FR 20-20,000 Hz; THD 0.005%; slew rate 35 V/µsec stereo, 70 V/µsec mono; imp 10,000 ohms; peak current 50 amperes. 17 x 5 1/2 in; 51 lb $3,699

BRYSTON 6B 500-Watt Amplifier

Bridgeable to mono with 1,000 W into 4 ohms with avg current of 22 amps; 1,000 W into 1 ohm with 35 amps average; ground-lift switch. 500 W/ch from 20-20,000 Hz; THD 0.005%; S/N 105 dB; slew rate 60 V/µsec; power bandwidth 1-100,000 Hz; damping factor 500 at 20 Hz, 8 ohms; input sensitivity/imp 1.25 V/50k ohms. 5 1/4 x 15 5/8 x 15 1/2 in; 51 lb $1,895

BRYSTON 4B 250-Watt Amplifier

Class A/B design with bridging switch. Features 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%; IM 0.01%; slew rate 60 V/µsec; power bandwidth 1-100,000 Hz; damping factor 500 at 20 Hz, 8 ohms; input sensitivity/imp 1.25 V/50k ohms. 5 1/4 x 15 5/8 x 15 1/2 in $1,795

BELS RES RESEARCH OCM 500 250-Watt Amplifier

Class AB stereo amplifier with isolinear design. Clipping indicators, multiple input connections, toroidal transformers. Balanced input provides mono/subwoofer operation. FR 1-100,000 Hz; THD 0.2%; damping factor 300; slew rate 12 V/µsec. 7 1/2 x 19 x 18 3/4 in; 32 lb $1,695

BELS 150 100-Watt Amplifier

Solid-state design with dual complementary circuitry. All components mounted on single circuit board and direct coupled to inputs and outputs. FR 1-10,000 Hz; THD 0.1%; damping factor 175. 17 1/2 x 7 x 9 1/2 in; 24 lb $749

BERNING EA-2101 100-Watt Tube Amplifier

Uses metal-oxide vacuum tubes. Features regulated power supply; shutdown protection for brown-out conditions and improper bias conditions on tubes. 100 W/ch from 20-20,000 Hz, THD <0.9%; input im 200 W/ch; two output transformer windings per channel. FR 10-60,000 Hz; +1.5 dB, S/N >100 dB; 19 x 5 x 19 in; 40 lb $3,500

Carver Silver Seven·Mark II 550-Watt 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. Mounting screws: 7 x 11/16 x 14 in; 1,000 lb $1,000

TJM-15 100-Watt Amplifier

Transfer function modified amplifier featuring dual analog meters with level selection. A/R speaker switching; L/R input-level controls. FR 20-20,000 Hz; THD 0.1%; S/N 100 dB A-weighted. 3 1/2 x 9 x 12 in $400

CONRAD-JOHNSON Premier One B 150-Watt Amplifier

Low-noise precision parts in audio circuitry; LED bias indicators. 150 W/ch into 4, 8, or 16 ohms; S/N 90 dB $5,750

MFS200 200-Watt Amplifier

MOSFET output stage, JFET input stage. Low feedback circuit design. Features polypropylene and polystyrene capacitors in all circuits. 200 W/ch from 20-20,000 Hz, THD <0.01% into 8 ohms; S/N 98 dB; 19 x 12 1/8 x 8 1/2 in; 59 lb $1,995 MF80. Similar to above, but 80 W/ch $1,395

COPPERPOINT SA-220 220-Watt 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/ch; drives imp loads to 1 ohm. Available in black or silver finish. FR 1.2-200,000 Hz $6,000

STEREO REVIEW FEBRUARY 1991
**AMPLIFIERS**

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<th>Model</th>
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<td><strong>HAFLER</strong>&lt;br&gt;XL 280</td>
<td><strong>DENON</strong>&lt;br&gt;P-2100D</td>
<td>J-FET, 200 W</td>
<td>1000 ohms; input sens 1.8 V; THD &lt; 0.01%; S/N 125 dB balanced. 17 x 7 x 13 in; 51 lb</td>
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<tr>
<td><strong>HAFER</strong>&lt;br&gt;305-W/ch Amplifier</td>
<td><strong>FOGATE-AUDIONICS</strong>&lt;br&gt;S-150</td>
<td>MOSFET, 150 W</td>
<td>40 W/ch into 8 ohms; 200 W/ch into 4 ohms; THD and IM &lt; 0.05%; S/N &gt; 100 dB; damping factor &gt; 100. 17 x 6 1/2 x 7 1/2 in</td>
</tr>
<tr>
<td><strong>GOLDMUND BY INTERNATIONAL AUDIO</strong>&lt;br&gt;Mimosa 3 100-W/ch Amplifier</td>
<td><strong>HEYBROOK BY D'ASCANIO AUDIO</strong>&lt;br&gt;P-2100</td>
<td>Darlington, 100 W</td>
<td>67 W into 8 ohms; 130 W into 4 ohms; 300 W into 8 ohms. 17 x 7 x 13 in; 51 lb</td>
</tr>
<tr>
<td><strong>HAFER</strong>&lt;br&gt;XL 280</td>
<td><strong>LEONÉ</strong>&lt;br&gt;XL 28000</td>
<td>MOSFET, 28000 W</td>
<td>28000 W into 4 ohms; 56000 W into 2 ohms; THD &lt; 0.005%; S/N &gt; 100 dB. 23 x 2 x 10 in; 10 lb</td>
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**DB SYSTEMS**

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<td><strong>INTERNATIONAL AUDIO</strong>&lt;br&gt;THE CHIRP</td>
<td>Hybrid, 100 W</td>
<td>100 W into 8 ohms; 200 W into 4 ohms. 17 x 7 x 13 in; 51 lb</td>
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<tr>
<td><strong>POWER TOWER Amplifier/B.</strong></td>
<td><strong>JRM</strong>&lt;br&gt;Power Tower 250-W/ch Amplifier</td>
<td>Hybrid, 250 W</td>
<td>250 W into 8 ohms; 500 W into 4 ohms. 17 x 7 x 13 in; 51 lb</td>
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<tr>
<td><strong>POWER TOWER Amplifier/B.</strong></td>
<td><strong>KENWOOD</strong>&lt;br&gt;L-1000M 360-W/ch Amplifier</td>
<td>Hybrid, 360 W</td>
<td>360 W into 8 ohms; 720 W into 4 ohms. 17 x 7 x 13 in; 51 lb</td>
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**Discrete Technology**

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<tr>
<td><strong>GOLDMUND BY INTERNATIONAL AUDIO</strong>&lt;br&gt;Mimosa 6 80-W/ch Amplifier</td>
<td><strong>HEYBROOK BY D'ASCANIO AUDIO</strong>&lt;br&gt;P-2100</td>
<td>MOSFET, 80 W</td>
<td>80 W into 8 ohms; 160 W into 4 ohms; 320 W into 2 ohms. 17 x 7 x 13 in; 51 lb</td>
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**Electrocompaniet by Music & Sound Imports**

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<tr>
<td>Ampliswre 100 100-W/ch Amplifier</td>
<td><strong>DENON</strong>&lt;br&gt;P-2100D</td>
<td>Hybrid, 100 W</td>
<td>100 W into 8 ohms; 200 W into 4 ohms. 17 x 7 x 13 in; 51 lb</td>
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**Forté Audio**

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<tr>
<td>Model 1a 50-W/ch Amplifier</td>
<td><strong>DENON</strong>&lt;br&gt;P-2100D</td>
<td>Hybrid, 50 W</td>
<td>50 W into 8 ohms; 100 W into 4 ohms. 17 x 7 x 13 in; 51 lb</td>
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**HiFi Review**

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<th>Features and Specifications</th>
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<tr>
<td>XL 600</td>
<td><strong>HAFLER</strong>&lt;br&gt;XL 600</td>
<td>MOSFET, 600 W</td>
<td>600 W into 8 ohms; 1200 W into 4 ohms. 17 x 7 x 13 in; 51 lb</td>
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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 range, servo-controlled DC output. Low-input stage drive capability; slew rate 65 V/µsec; 19 x 17 x 15½ in. $1,795

**KRELL**
KSA-250 250-W/ch Amplifier
Class A, DC-coupled, auto biasing, auto DC-offset correcting, balanced-input amplifier with 4,500 VA power supply; 250 W/ch into 8 ohms, 500 ch into 4 ohms, 1,000 W/ch into 2 ohms, 2,000 W/ch into 1 ohm. $5,700

**KST-100 100-W/ch Amplifier**
Class AB, DC-coupled, balanced input amplifier with 900 VA power supply. Bridgeable into 400 W. 100 W/ch into 8 ohms. 200W ch into 4 ohms, 400 W/ch into 2 ohms. $2,500

**LAZARUS**
Model 200/200 200-W/ch Hybrid Amplifier
Features vacuum tubes in the driver stage with MOSFET output stage; separate transformer and DC voltage regulator for MOSFET and tube stages; zero negative feedback design. 350 W into 4 ohms; sensitivity 600 mV; input imp 47 kilohms; 35 lb. $1,750

**LINN**
LK280 80-W/ch Amplifier
80 continuous average W/ch from 20-20,000 Hz; companion to LK1 preamplifier. 12½ x 3 x 10½ in; 19 lb. $1,595
LK280 Spark. Dual-mono version. $2,790

**LUXMAN**
M-117 200-W/ch Amplifier
Bridgeable amplifier with low-impedance drive capability. Features dual-FET per channel input stage; high-current 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 speaker binding posts and input terminals; variable and fixed inputs. 200 W/ch from 20-20,000 Hz into 8 ohms; 820 W/ch into 2 ohms; 550 W/ch into 4 ohms, 300 W/ch into 8 ohms; bridged output 700 W; THD 0.03% at rated power; SN 120 dB; IM 0.007%; slew rate 20 V/µsec; damping factor 130 (50 Hz, 8 ohms). 17½ x 6½ x 17½ in; 52 lb. $1,250

M-113 50-W/ch Amplifier
Amplifier with low-impedance drive capability. Features dual-FET per channel input stage; high-current 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 and output terminals; switchable input impedance 20,000 ohms; selectable input sense. 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). 17½ x 5¼ 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 14½ in $1,350 PA 750. As above but 75 W/ch stereo. $800

**MARK LEVINSON BY MADRIGAL**
No. 20.3 100-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. 17½ x 8½ x 22 in; 90 lb. $6,000

**MERIDIAN**
Model 205 100-W Mono Amplifier
Class AA mono amplifier with toroidal high-current power supply. Features fully complementary circuit design; music sense circuit turns on amplifier when signal is detected. 100 W into 8 ohms. 14 x 6¾ x 4 in. $1,790/pr

**MUSEATEX**
Mellor 100-W Amplifier
Class A amplifier with power supply envelope circuitry. Features high voltage; high-current capacity; close-tracking soft-clipping circuit. Speaker-impedance selector; input-level controls; normal/lab inputs. 150 W/ch rms; dynamic headroom +4 dB. Rack mountable. $799

**NAD**
Model 2600A Monitor Series 150-W/ch Amp
Bridgeable amplifier with power envelope circuitry. Features high voltage; high-current capacity; close-tracking soft-clipping circuit. Speaker-impedance selector; input-level controls; normal/lab inputs. 150 W/ch rms; dynamic headroom +4 dB. 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 into 8 ohms; input imp 22 kilohms. FR 5-40,000 Hz ±3 dB. 8 x 3 x 11¼ in $1,245
NAKAMICHI
PA-7All 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; Rb Framework chassis. 225 W/channel avg from 20-20,000 Hz with no greater than 0.005% THD into 8 ohms; 340 W/channel max into 8 ohms; FR 20-20,000 Hz +0 -.2 dB; S/N >120 dB; damping factor >60; dynamic headroom 1.7 dB; power band-width 50-0,000 Hz (8 ohms, 11.2 W, 0.05% THD). 171x 77x 16% in; 62.7 lb. $2,195 PA-5All. Similar to above but 150 W/channel 171/2 x 61/4 x 16% in; 47.4 lb. $1,550

ONYKO
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; peak-power meters; variable inputs with left/right channel level controls. 200 W/channel min into 8 ohms; FR 20-20,000 Hz, THD 0.003%; S/N 120 dB; IM 0.003%. Dynamic power 460 W/channel into 4 ohms. 685 W/channel into 2 ohms. 860 W/channel into 1 ohm. 18% x 71/4 x 16% 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, heavy-duty speaker terminals. 165 W/channel min 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/channel into 4 ohms. 530 W/channel into 2 ohms. 18% 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/channel min into 8 ohms; FR 20-20,000 Hz; THD 0.005%; S/N 120 dB; IM 0.005%; damping factor 140. Dynamic power 290 W/channel into 4 ohms. 425 W/channel into 2 ohms. 171/4 x 71/4 x 16% in; 41 lb. $700

PARASOUND
HCA-1200 200-W/ch Amplifier
High-current discrete amplifier. Features toroidal transformer; 37 amps peak current, 5-way terminal; 60-W/channel output, gold-plated input jacks, front-panel level controls FET driver; mono BTL switchable. FR 8-90,000 Hz, THD <0.08%... $775

HCA-8001 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; 11-inch 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-.2 dB; total harmonic distortion <0.1%; signal-to-noise ratio >100 dB; intermodulation distortion <0.1%; damping factor >120; 171/4 x 33 x 111/2 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; linned, twin cast-iron electroplated transformers; honeycomb-insulator feet; copper transformer plate; honeycomb heat sink; film condensor; electrolytic capacitors; copper transformer. 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-finish vinyl-covered side panels. 200 W/channel into 8 ohms; FR 20-20,000 Hz; THD 0.003%. 18 x 61/2 x 17 in; 60 lb. $1,000

A-757 120-W/ch Amplifier
120 W/channel avg from 20-20,000 Hz into 8 ohms with no more than 0.003% THD. $750

PS AUDIO
100C 120-W/ch Amplifier
Class A/B outputs. Features 5-way binding posts; gold-plated input jacks; 120 W/channel into 8 ohms; 200 W/channel into 4 ohms; THD 0.025%; S/N 100 dB; 11% 94% in; 33 lb. $500

PS AUDIO
120C 120-W/ch Amplifier
Power opens 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 100 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. 12% x 71/2 x 91/16 in; 27 lb. $1,295

QUAD
Model 667 140-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 1,000 Hz, <0.03% at 20,000 Hz; FR 20-20,000 Hz –0.25 dB. 12% x 71/2 x 91/16 in; 27 lb. $1,295

ROTEL
RB870BX 100-W/ch Amplifier
Class A/B amplifier; bridgeable with RA870 (integrated amp) for 300 watts mono. Power handling 100 W/channel into 8 ohms. FR 4-100,000 Hz +0.5 dB; –3 dB; THD <0.03% from 20-20,000 Hz; SN 110 dB; IM <0.03%; damping factor 180; input imp 22,000 ohms. 171/4 x 4 x 13/4; 20 lb. $499

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%; 1000 Hz, 20W; slew rate 70 V/μsec; sens 136 mV, 1 W; 8 ohms; damping factor >1000. 20-20,000 Hz; input imp 100K, 20K or 3K ohms. 17 x 3 1/2 x 15 in; 48 lb. $1,300

SHERWOOD
AM-7040 200-W/ch Amplifer
Amplifier with high-speed MOSFET output stage with high instantaneous current capacity. Features Class A/B design; complete relay protection; independent left and right power transformer; variable and fixed inputs; complementary symmetry input stage with matched transistor pairs; overload protection; heavy gauge conductors. Power-level indicator; video sound input; low-noise control. 200 W/channel min into 8 ohms; FR 20-20,000 Hz; THD <0.025%; IM distortion 0.015%; SN 125 dB; sep at 1,000 Hz 70 dB. 171/4 x 6 1/2 x 15 in. $695

SONANCE
Sonamp 260X3 60-W/ch Amplifier
Toroidal power transformer; discrete output $650
SONY
TA-N77ES 270-W Amplifier
Features Spontaneous Twin-Drive power supply; low-impedance drive capability; mono operation at 580 W/channel into 4 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/channel into 4 ohms, 20-20,000 Hz with 0.006% THD; damping factor 100; slow rate 150 V/µsec, 300V/µsec $1,200

TA-N110 45-W Amplifier
Features 3 built-in digital delay modules; variable delay times; built-in video switching capability; input attenuator; 3-way input switch; 2 sets of speaker terminals. 100 W/channel into 8 ohms, 20-20,000 Hz with 0.08% THD $300

SOUNDCASTSMEN
Pro-Power Ten 2/34-Channel Amplifier
Two, three, or four channel configurable MOSFET amplifier. 205 W/channel into 8 ohms, 300 W/channel at 4 ohms, 20-20,000 Hz at <0.05% THD. 600 W x 2 at 8 ohms, 20-20,000 Hz at <0.03% THD. Each channel has built-in switching on/off control and clipping indicator. 19 x 5 1/4 x 12 in $1,399

A5002 250-W Amplifier
Class H Van-Propotional circuitry and auto-buffer 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/channel into 8 ohms, 375 W/channel into 4 ohms continuous rms. 20-20,000 Hz at <0.09% THD. SN > 105 dB; slow rate > 50 V/µs; IM < 0.02%; dynamic headroom > 2 dB $949

Pro-Power Four 205-W Amplifier
MOSFET amp with dual 20-segment LED clipping indicators. 2-pair speaker switching. 205 W/channel into 8 ohms from 20-20,000 Hz with no more than 0.05% THD. 300 W/channel into 4 ohms, 450 W/channel into 2 ohms; SN > 105 dB; slow rate 40 V/µs; IM 0.05%; 19 x 5 1/4 x 11 in $288

Pro-Reference Two 100-W Amplifier
MOSFET amp with 20-LED power meters. Features switching for 2 pairs of speakers; clipping indicators; charcoal finish; rack-mounting. 100 W/channel into 8 ohms, 200 W/channel into 4 ohms, 20-20,000 Hz at <0.05% THD. SN > 105 dB $599

PC2500 205-W Amplifier
Phase-control-regulated MOSFET amp. 205 W/channel into 8 ohms; THD 0.05%; SN > 105 dB; 18 lb; 8 3/4 x 5 x 12 in $499

SOUNDSTREAM
DA-1 MK II 200-W 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-mounted 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-remote. FR 20-20,000 Hz ± 0.1 dB; SN > 110 dB; THD < 0.1%; slew rate > 35 V/µsec; 17 x 5 1/4 x 14 in; 35 lb $1,195

SUMO
Andromeda II 200-W Amplifier
Class AB MOSFET design, fully balanced from input to output. Output pure Class A except Class AB output stage. 400 W/channel into 4 ohms; THD 0.05% into 8 ohms; IM 0.05%; rise time 2 µsec; slow rate 115 V/µs; damping factor > 500; 19 x 7 1/4 x 16 in $1,499

The Nine Plus 65-W Amplifier
Class A design with no active bias circuits or thermal tracking networks. Balanced-bridge configuration; push-pull quadrature feedback circuits; discrete Darlington output stage; direct-coupled circuitry from input to output. 65 W/channel into 8 ohms from 20-20,000 Hz with <0.1% total harmonic distortion; 120 W/channel into 4 ohms from 20-20,000 Hz with <0.2% total harmonic distortion; intermodulation distortion 0.05% from 0.25 watts to rated output; signal-to-noise ratio > 100 dB; 19 x 8 x 7 in $1,299

Polaris 100-W Amplifier
Class A/B design operates in Class A except Class AB output stage. MOSFET output devices. 175 W/ch into 8 ohms at <0.05% THD; 0.1% distortion; rise time 2 µsec; slew rate 50 V/µs $675

S/250 Stasis 100-W Mono Amplifier
Class AB 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; output stage bias accuracy maintained through Threshold's proprietary optical-bias technology. Direct-coupled front-end gain stages are biassed 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, 30,000 µF capacitance, 30,000 µF of front-end decoupling; output stage: 64 high-speed, 250-watt, 200-volt, 20-ampere devices. Input impedance 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; slow rate 50 V/µs; current capability 70 amp cont, 200 amps peak; noise < 100 dB; output impedance < 0.03 ohm at 20-20,000 Hz. 19 x 8 3/4 x 27; 120 lb $7,200

S/10e Stasis 175-W Mono Amplifier
As SA/12e except lower power and power supply with single 1,200-W toroidal transformer, 186,000-µF capacitance, 62,000-µF 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 amp cont, 200 amps peak. 19 x 8 3/4 x 17 1/4 in; 79 lb $5,200

S/6e Stasis 125-W Mono Amplifier
As SA/10e except lower power and power supply with single 100-W toroidal transformer, 124,000-µF capacitance, 1,900-µF front-end decoupling. Output stage: 28 high-speed 250-W, 200-V, 20-amp rated devices. 125 W pure Class A operation, 20-20,000 Hz into 8 ohms at 0.1% distortion; current capability 50 amp cont, 135 amps peak. 19 x 8 3/4 x 13 1/4 in; 56 lb $3,950

S/200 Stasis 100-W Amplifier
Class A amplifier featuring power supply with single 500-W toroidal transformer, 30,000-µF capacitance. Output stage: 8 high-speed 250-W, 200-V, 20-amp rated devices/ch. 75 W/ch 20-20,000 Hz into 8 ohms with THD < 0.15%; current capability 80 amp/ch, 50 amp/ch peak. 19 x 8 3/4 x 9 1/2 in $2,100

YAMAHA
MX-1050 250-W Amplifier
600,000 µF x 2 power-supply capacitance. Features hyperbolic conversion amplification circ-

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; output stage bias accuracy maintained through Threshold's proprietary optical-bias technology. Direct-coupled front-end gain stages are biassed 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, 30,000 µF capacitance, 30,000 µF of front-end decoupling; output stage: 64 high-speed, 250-watt, 200-volt, 20-ampere devices. Input impedance 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; slow rate 50 V/µs; current capability 70 amp cont, 200 amps peak; noise < 100 dB; output impedance < 0.03 ohm at 20-20,000 Hz. 19 x 8 3/4 x 27; 120 lb $7,200
cuit; A + B + C speaker switching; 26-segment LED power-level meters; independent left and right level controls; 4-digit numerical power-output 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%. $1,799

**AMPLIFIERS**

**MX-830T 170-W/ch Amplifier**
Features hyperbolic conversion amplification circuit. Advanced Power Supply (APS); A + B + C Speaker selector; independent left and right level controls; individual left- and right-channel clipping indicators; compatible with banana plugs; rounded front-panel design. 170 W/ch into 8 ohms; 600 W into 1 ohm; FR 20-20,000 Hz; THD < 0.003%. Titanium finish $699

**MX-630T 135-W/ch Amplifier**
Features hyperbolic conversion amplification circuit. A + B + C speaker selector; independent left and right level controls, individual left- and right-channel clipping indicators; compatible with banana plugs; rounded front-panel design. 135 W/ch into 8 ohms; 500 W into 1 ohm; FR 20-20,000 Hz; THD < 0.003%. Titanium finish $499

**PREAMPLIFIERS**

**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. input, 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-555 Preamp**
Features 1% Roederstein metal-film resistors and metallized-filament capacitors on a double copper-plated, 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 (direct-coupled output with tone controls, filter, loudness contour and mono modes), 3) Normal output. Can record from one input while listening to another input; loudness contour control; signal-processor loop, 5 high-level inputs and 1 phono input (MC, MM). FR 5-90,000 Hz ± 0.5 dB; THD (line) 0.002%; (phono) 0.009%; (line) 0.10%; (phono) >95 dB; sens (line) 205 mV, (phono) 23 mV; ch sep >75 Hz at 1,000 Hz. Black finish. 17 x 3 x 11½ in; 11 lb $800

GFP-555W. As above with white front $850

**GTP-5001 Preamplifier/Tuner**
Preamp 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-synthesized tuning; auto up and down scan; 10-FM presets, 5-LED signal-strength display; high-bend circuit, 2 sets of outputs (AC coupled, DC coupled). Preamp FR 5-65,000 Hz ± 0.5 dB; S/N phono A-wtd 85 dB; IM 0.0015%. Tuner: sens 36.5 dB stereo; THD 0.09% at 1,000 Hz; S/N 75-85 dB; (phono) 52 dB at 1,000 Hz. 17 x 3½ x 12½ in; 16 lb $600

GTP-500IH. As above with white front $650

**GFP-555HI Preamp**
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 doubling; separate headphone amps; 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 dB, (phono) 90 dB; THD (line) 0.039%, (phono) 0.02%, sens (line) 200 mV, (phono) 2.3 mV. 17 x 3 x 11½ in; 15 lb $1,098

GFP-555HW. As above with white front $1,128

**ARCAM**

**Delta 110 Preamp**
Features built-in 1-bit, D/A converter. Two switchable 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 $1,495

**OMEGA Preamp**
Features audio circuits with FET op-amps and hybrid current amps. Optional phono, dual tape, and two additional high-level inputs; tape-to-tape monitoring; volume, balance, bass, and treble controls; 2 audio outputs, headphone jack. Optional phase inverter, headphone amplifier, and buffer tape drive circuits. THD <0.003%. 17 x 3 x 9 in; 13 lb $1,098

**SOUND QUALITY**

**GTP-50011 Preamp/Tuner**
Features shielded toroidal power transformer; 2 6D38 vacuum tubes; metalized-film capacitors on a double copper-plated circuit board; compatible with banana plugs; rounded front-panel design. 135 W/ch into 8 ohms; 500 W into 1 ohm; FR 20-20,000 Hz; THD <0.003%. Titanium finish $499

**GTP-50011W**. As above with white front $549

**GTP-5501W**
Features built-in MC head amplifier, 6 FEI inputs with electronic switching; 2 main outputs; Bass EQ circuitry; tape-to-tape doubling; shielded toroidal power transformer; 2 JDB8 vacuum tubes (1-in 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 output; input imp 50 ohms (all high level) $1,795

**AUDIOSOURCE**
Pre-One Preamp
Features built-in MC head amplifier, 6 FEI inputs with electronic switching; 2 main outputs; Bass EQ circuitry; tape-to-tape doubling; shielded toroidal power transformer; 2 JDB8 vacuum tubes (1-in 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 output; input imp 50 ohms (all high level) $1,795

**B&K COMPONENTS**

**Soula Series MC-101 Preamp**
DC coupled discrete circuitry with a MM/MC selectable head amp. 2 tape loops; 2 separate record selectors; 2 tape controls; MM sens 0.8 mV; MM/S/N 82 dB, MC S/N 72 dB, FR 1-100,000 Hz ± 0, −0.5 dB; THD 0.02%. Balanced outputs. 17 x 3½ x 10 in. $1,098

Without balanced output $898

**BEDINI**

**BC-866 Preamp**
Features moving-coil input; inverts polarity for monaural input; 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 output. 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 11¼ in; 8 lb $950

**BELLES RESEARCH**

**GCM Preamplifier**
Dual-channel line-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 19 x 2¼ x 10 in, 22 lb $1,750

**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 $895

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**AMPLIFIERS**

**For 0.5 V output at 1,000 Hz; MM phono overload 200 mV; phono SN 30 dB (MM), 80 dB (MC)$1,695**

**BP4.2 Preamplifier**
Features 2 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 ±0.03 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 SN 80 dB; MC phono SN 80 dB ...
$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); SN 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 turn-over; headphone output with speaker-defeat switch; subsonic filter; phase switch. FR 1-60,000 Hz -0.3 dB; THD 0.05%; hum and noise (20-20,000 Hz) 72 dB; capture ratio 1.5. 19 x 11% x 10 in ...
$1,000

**CT-17 Preamplifier/Tuner**
Combines asymmetrical charge-coupled detection, AM/FM and MC 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 dB; stereo sens 20.1 dB; cap ratio 1.4 dB; AM suppression 73 dB; all-ch sel 58 dB; FM THD 0.02%; SN 79 dB. 16 lb ...
$800

**C-11 Sonic Hologram 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 turn-over; loudness EQ; headphone output with speaker-defeat 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-5 Sonic Holography Preamplifier**
Features asymmetrical charge-coupled FM circuitry. 20 random out, line/station presets; FM mono; preset scans; auto-scram/manual tuning; 3-level signal-strength indicator; 4 audio inputs; 2 tape inputs/widubbing; 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; THD 0.1%; signal-to-noise ratio 74 dB A-weighted. Tuner section: HF sensitivity, mono 10.3 dB; stereo 21.3 dB; AM rejection 74 dB; capture ratio 1.5. 19 x 11% x 10 in ...
$550

**C-5 Sonic Holography Preamplifier**
Dual-zone preamp. Handles 2 different output signals simultaneously for remote control system: 6 audio inputs; 2 tape inputs/widubbing; MM phono input; bass, treble, and loudness equalization; balance control; motorized volume control; headphone jack; 33-button remote control; min-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 A-weighted. 19 x 11% 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 tin-oxide resistors; capacitors are polystyrene; volume control tracks within 0.5 dB; auto-muting at turn-on, turn-off. FR 2-100,000 Hz ±0.1 dB; THD 0.05%; hum and noise (20-20,000 Hz) 72 dB; capture ratio 1.5. 19 x 11% x 10 in ...
$1,685

**PFI Preamplifier**
All FET design with distortion-canceling circuit. All audio circuit and power-supply capacitors are polypropylene or polystyrene; precision filter membranes 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 3½ x 12½ 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; SN 93 dBA; 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 phono amplifier ...
$2,950

**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; self-adjusting MC phono input. FR 0-850,000 Hz ±3 dB; SN >95 dB; CH sep >90 dB. 19 x 11% x 12½ 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 fiber-optic 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-control remote. FR 20-20,000 Hz ±0.1 dB; THD 0.005% line, 0.002% MM, 0.009% MC; SN MM -87 dB, MC -80 dB. 94 dB line; 17 x 3½ x 8½ in; 9 lbs. 1 video output; mono broadband and subwoofer outputs. Includes Denon system remote control and remote power control for Denon power amp ...
$1,000

**SE-100 Preamplifier**
All discrete J-FET devices in the signal path; low-impedance power supply; power-on delay cir-
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/µsec; 19 x ¾ x 15% in; 11.2 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... 

$1,985

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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...

$1,985

**Krell**

KBP Preamplifier

Fully discrete, Class A preamplifier with double-regulated power supply. Features two balanced inputs, one balanced output; 4 selectable high-level inputs; 1 tape loop, optional phone input...

$1,800

**Lazarus**

Balanced Deluxe Hybrid Preamplifier

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

$1,200

**Linn**

LKP1 Preamplifier

Micropower-class 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 phone; two tape decks; aux; tuner. 10% x 3 1/4 x 1 3/4 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 (phone) 20-20,000 Hz ±0.5 dB; THD: 0.008%; S/N 96 dB (phone). 96 dB (CD/tape/video). FM section: 50-Q switching 38 dB (stereo); cap ratio 1.5 dB; alt-ch sel 68 dB. AM section: S/N 50 dB. 17% x 4 x 8 in; 3.25 lb...

$1,250

**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 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 gain for each channel; internal-gain adjustment switches for each channel, gain 6, 12, or 18 dB at the balanced output, 12, 18, or 24 dB at the balanced output; dual-mono design. PLS-226 chassis with 3 power supplies, 3 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 825 ohms; MM 47,000 ohms; MM gain: 38 dB/4 dB at 4 kHz; MC 65 dB; THD: 0.007%; signal-to-noise ratio phono 90 dB. high-gain version: 65 dB; THD: 0.007%; signal-to-noise ratio phono 90 dB. high-gain version: 65 dB; THD: 0.007%; signal-to-noise ratio phono 90 dB...

$5,295

**McIntosh**

C-34V A/V Preamplifier

A/V control center with compander system for controlling dynamic range. Features inputs for videodisc, tape 1-3, VCR 1 and 2, TV, tuner, and phone; 3 switched, 2 switched outlets in rear; provision for 2 sets of speakers; record and listen selectors; 5-band equalizer. Preamp section: Frequency response 20-20,000 Hz +0.5 dB; total harmonic distortion <0.1%; signal-to-noise ratio phono 90 dB, high-level 100 dB. Amplifier: 20 watts/ch with 0.01% maximum THD; FR 20-20,000 Hz +0.5 dB; S/N 50dB; 16½ x 5½ x 13 in; 26 lb...

$2,349

**McIntosh**

C-35 A/V Preamplifier

Features pair of cascaded FET's to operate input-switching system; nine inputs for CD, videodisc, TV, tuner, phono, aux 1, 2, VCR/T1, VCR/T2, tape-monitor switches for two audio tape recorders; 5-band equalizer; Preamp section: Frequency response 20-20,000 Hz +0.5 dB; total harmonic distortion <0.1%; signal-to-noise ratio phono 90 dB, high-level 105 dB...

$1,995

**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 kHz/48 kHz)...

$450

**STEREO REVIEW**

**February 1991**

$10
| **Model 201 Preamplifier** | Features 6 inputs; tape-to-tape dubbing for 2 decks; full source monitoring capabilities; 64-step volume control; user-programmable mute level and volume offset between sources; MM/MC inputs. Can be externally controlled as part of Meridian Multroom System. Includes remote control. 12½ x 4 x 6¾ in; 10 lb. | $2,500 |
| **NAIM** | **NAC-22 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 47 kilohms; main outputs 0.775 V at 47 kilohms; overload margin 40 dB. 11½ x 3 x 8 in. | $2,999 |
| **JAPAN** | **CA-7A Preamplifier** | Features wireless remote control of Nakamichi series 7 or 5 components. Features total isolation of digital and analog sections; isolated ground technology; acoustical fine-tuning system; motor-driven volume control; inputs for MM and MC phono, tape, aux, tuner, CD, 2 outputs; multimedia remote control with RS-232C remote sensor. FR 1-100,000 Hz ± 0, –3 dB; THD <0.002% at 20-20,000 Hz; 17½ x 3¼ x 12¼ in. | $2,595 |
| **MUSEATEX** | **P/FET-900 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 47 kilohms; main outputs 0.775 V at 47 kilohms; overload margin 40 dB. 11½ x 3 x 8 in. | $2,999 |
| **ONKYO** | **Grand Integra P-308 Preamplifier** | Features independent, magnetically shielded power supplies for each amplification block. Features short signal-path routing; subsonic feedback loop to cancel DC components; signal in-phase filters to reduce common-mode noise. Defeatable tone controls; switchable Contra-Bass control; high-cut sloping filter position on treble control; 8 inputs including MM/MC phono jacks and 2 front-panel jacks for portable components; dual record-output selector. FR 0.8-170,000 Hz ± 0, –3 dB; THD 0.0005% (CD); S/N 101 dB (CD). Wood side panels included. 18¼ x 4 x 15½ in; 19 lb. | $660 |
| **PARASOUND** | **CPT-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 <0.006%; S/N 92 dB. 17½ x 10½ in; 17 lb. | $550 |
| **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-right and right-left delay time; surround channels lossless 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** | Features smart remote control; three different power supplies; copper-foil PC boards; subsonic filter, high-low filter; video enhancer; film condenser; honeycomb insulator feet. Motorized rotary volume control; 5 audio inputs; 3 video terminals for inputs and outputs; 3 video terminals for input only; S-video connector; A/V recording selector; recording selector, tape-dubbing switch; Urushi-finished front panel; rosewood finished vinyl-covered side panels. 18 x 5 x 15½ in; 22.75 lb. | $1,300 |
| **Pioneer** | **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; S-video connector; A/V recording selector; two-way video dubbing; multimedia capable with optional MR-100; Urushi-finished front panel; rosewood finished vinyl-covered side panels. 18 x 6½ x 16½ in; 31.88 lb. | $850 |
LOUDNESS CONTROL

Speaker selection; incorporates Schott II Tuner: frequency response 20-20,000 Hz ±0.2 dB: filter and dual D/A converters. 91 -key program -AP-600T Preamplifier/Tuner

AP-600T A/V Preamplifier
Features separate record and listen vectors; bass, presence, and treble controls with bypass; dualmono construction with separate power supplies for both channels; phono preamp section with FET's: selectable input capacitance for MM cartridges; multiple gain levels for MC cartridges: bass-EO switch; inputs for phono, tuner, CD, video: tape, tape 2, headphone jack. FR 20-
20,000 Hz ±2 dB; THD 0.003%; video/S/N 103 dB: MC phono S/N 70 dB. 16½ x 3½ x 13½ in: 12 lb...

$600

RC870BX Tube Preamplifier
MM and MC phono inputs. Features toroidal transformer; 4 electrolytic capacitors: metal film resistors: metal-layer capacitors. Direct CD input with its own power supply: tape/video dubbing: inputs for phono, CD, tuner, tape 1, tape 2, AV- aux 1, AV- aux 2; frequency response 20-20,000 Hz ±0.2 dB: total harmonic distortion <0.004%; signal-to-noise ratio 95 dB: MM phono sensitivity 2.5 mV for 0.5 V output at 1,000 Hz: MM phono overload 180 mV: MM phono signal-to-noise ratio 80 dB: MC phono signal-to-noise ratio 80 dB. 17½ x 2½ x 12¼; 10 lb...

$399

JEFF ROWLAND
Consonance Preamplifier
Features microprocessor-controlled volume and switching. 5 balanced unbalanced lines and 1 phono input: balanced and unbalanced output: user-stored level setting for all inputs: fluorescent display: optional remote control: separate remote receiver. Line section: frequency response 0.08-
6000 Hz ±3 dB; gain 16 dB; total harmonic distortion <0.012%, input 100 kilohms: 10 kilohms or 600 ohms; output imp 150 or 300 ohms. Phono section: FR 0.15-20,000,000 Hz ±3 dB; gain 60 dB; THD <0.04%. 13½ x 2¼ x 15 in...

$3,350

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, rollofs at 7,000 Hz: 5,000 Hz: bass control shelves bass down 5 dB 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-to-noise 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. 12½ x 3½ x 10½ in: 3½ 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 6X4s and 12AU7 vacuum tubes...

$1,595

ROTEL
RT-850 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, video: pass-through remote: motorized volume control. Tuner section: 50dB quieting sens, mono 15.2 dB, stereo 37.2 dB; AM rej 58 dB: cap ratio 1.0 dB narrow: maximum signal-to-noise ratio 75 dB stereo, 80 dB mono: all-channel selectivity 70 dB wide: AM suppression 57 dB; IHP 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 ±0.2 dB: total harmonic distortion <0.004%; signal-to-noise ratio 100 dB. 17½ x 3½ x 13¼ in: 12 lb...

$599

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/out: 3 tape and processor in: 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 4¼ x 11 in...

$3,595

SONOPHONY BY CONRAD-JOHNSON
SC1 FET Preamplifier
All-FET design with matched-FET, polypropylene and polystyrene capacitors for all audio circuits. discrete power-supply regulation; inputs for phono, tuner, CD, video, tape 1 and 2. Frequency response 5-150,000 Hz ±0.5 dB; max output 10 V: total harmonic distortion 0.1%; IM 0.1%; phono overload 150 mV: 18 x 3½ x 12 in...

$595

SONY
TA-E77ESD Digital Preamplifier
Features digital section with 4x-oversampling filter and dual D/A converters. 91-key programmable remote control: full AV switching: S-video and composite video terminals: source-direct switch: passive tonal control: independent front/out selector: adaptor terminals: phono-input selection. THD and IM 0.001%; separation >90 dB; FR 3-20,000 Hz ±0.5 dB...

$1,000

SOUNDCASTMEN
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 AV 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 18-
band 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 5¾ x 10¼ in...

$849

Pro-Control Four Preamplifier.
As above, without equalizer. Has 2 tape processing loops. 19 x 3½ x 10¼ in.

$849

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, 5 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. Rack mount front panel. 19 x 3¾ x 11¼ 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-to-noise ratio 80 dB for phono: 100 dB for high level. Rack mount front panel. 19 x 3 x 10 in...

$329

SOUNDSTREAM
C-4 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-to-tape or tape-to-tape; separate record and listen circuitry permits simultaneous recording and listening or viewing; inputs for phone/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 phono preamp card, remote-controlled AC power strip, and multiroom/multisource system. Includes wireless remote, with FET- 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 dB: input imp 30,000 ohms; input sens <100mV for 0.5V out: 17 x 3½ x 11½ in; 15 lb...

$1,495
**AMPLIFIERS**

**SUMO**
Athena Preampreamer
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; laser-trimmed volume controls. 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 dB, MM 85 dB, high level 100 dB. 19 x 1 1/8 x 8 3/4 in. $729

**SUPERPHON**
Revelation II Preamplifier
MOSFET preamp with J-FET phone, MOSFET current sourcing. Voltage regulated through 10 shunt regulators, adjustable bias setting for output stage. Input for 1 phono, 4 high-level inputs plus 2 complete tape loops, muting from panel with automatic ramp-down protection. FR 2-175,000 Hz; THD <0.5 at 3 V rms; SN 77 dB (phone); max output 5 V rms; 150 mV MM phone overload: MM phone input 47 kohms; phone gain 37 dB; line gain 20 dB. $749

**TECHNICS**
SU-A200 A/V Preamplifier
Features Class A/A circuitry; active servo power supply: inputs for MM/MMC phone, tape 1 and tape 2/VIDEO, aux; phono 2, CD player, tuner, and video (AV 1). Switches video signals from AV inputs as well as audio signals from 8 inputs with video output for monitor. FR 0.5-180,000 Hz ±0.3 dB. 17 x 5 x 1 1/4 in. $1,200

SU-A6MK2 Preamplifier
Features infrasonic filter; shelving tone controls; selectable turnover frequencies; audio muting; inputs for MM/MMC phone, 3 tape decks, CD, tuner, computer, VCR, TV. $800

SU-A40 Preamplifier
Features Class A/A phono amp; output amp; high-speed capacitors with electrolyte; active-servo power supply; OFC wiring; 6-position input and recording selector; tape 3 monitor; MM/MMC phone selector; tone-decay switch; subsonic filter; loudness; stereo/mono; muting switches. THD 0.009% (MM), 0.01% (MC), 0.006% (other sources); SN 79 dB (MM), 74 dB (MC), 91 dB (other sources); FR 30-15,000 Hz ±0.2 dB (phone); FR 20-20,000 Hz +0; ch sep 50 dB (aux, at 1,000 Hz). 17 x 4 3/8 x 11 1/2 in; 8.8 lb. $330

**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 power-regulation circuits derived from Fet Ten's researh. Internal power supply in separate chassis. Circuit boards are military-grade glass-epoxy with gold-over-nickel-over-copper-plate 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, 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 1 1/4 x 11 in. $2,500

**YAMAHA**
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 outputs; 12 position rec-out selector: source-direct switch; provisions for simultaneous A/V recording on 2 VCR's; 6-position MM or MC cartridge load selector. Continuously variable loudness control. Titanium finish with wood side panels. 33 lb. $1,000

CX-380Ti Preamplifier
Features 8 audio and 3 video inputs; 4 audio and 2 video rec outputs; 8 position rec-out selector: source-direct switch; -40 dB continuously variable loudness control; MM and MC cartridge load selector; bass and treble trolleys; subsonic filter; RS learning remote control with 92 keys; gold-plated inputs. Titanium finish. $699

CX-630Ti Preamplifier
Features 6 audio and 2 video inputs, 4 audio and 2 video rec 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

**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 1 1/4 x 11 in. $2,500

**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 3 1/2 x 9 1/2 in; 18 lb. Black. $750

Alpha 2 30-W/ch Integrated Amplifier
Features toroidal power transformer. Aluminum chassis; CD, MM/MC, tuner, and tape-rec inputs; full monitoring; headphone input. 30 W/ch into 8 ohms; FR 20-20,000 Hz; THD 0.02% at 1,000 Hz. 17 x 3 1/4 x 9 in; 10 lb. Charcoal. $350

**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 93-30,000 Hz. 12 x 4 x 9 1/2 in. Satin-black finish. $499

**AUDIO BY VAN ALSTINE**
Omega 150 75-W/ch Integrated Amplifier
Includes Van Alstine Omega hybrid preamplifier circuitry. Features 240E full-complementary power MOSFET amp circuits driven from high-current toroidal power transformer; 2-stage power supply with isolated, regulated preamp sections. Volume, balance controls; phono, CD, and tuner inputs; dual tape-to-tape monitoring and dubbing capabilities; drives two pairs of speakers simultaneously or separately; headphone jack. 75 W/ch into 8 ohms; THD<0.01%. 13 1/2 x 4 3/4 x 12 1/2 in; 15 lb. $795

**AUDIOLAB BY ARTECH**
Model 8000A 50-W/ch Integrated Amplifier
Features linear output; electronic monitoring system to detect short circuits or severe overload; low-loss capacitors; epoxy-glass printed circuit board; custom heat sink. Inputs MM, MC, tape 1, tape 2, tuner, CD; separate listening and recording inputs; tone switch to get reference-flat response; switch to operate amplifier/preamplifier separately. FR 20-20,000 Hz ±0.5 dB; SN: phono MM 76 dB, phono MC74 dB, tuner/CD 78 dB, amplifier 90 dB; THD 0.05%; 50 W/ch into 8 ohms. $695

**BELLES RESEARCH**
Soloist 100-W/ch Integrated Amplifier
Features 5 stereo inputs; 2 stereo tape out; double tape loop; gold-contact relay switching. Phonophone 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...
**AMPLIFIERS**

**DISPLAY AND LCD FRONT-PANEL:** 3-position detail and tone controls, 3-position speaker switching (A, A/B, B). Bridgeable to 200-W mono amplifier.

**CREEK AUDIO BY MUSIC HALL**

Model 6060 60-W/ch Integrated Amplifier

Inputs for MM and MC phono, video, CD, tuner, 2 tape loops. Features preamplifier out/main amplifier in; tape monitor; tape-to-tape dubbing, active/passive tone controls, 3-position speaker switching (A, A/B, B). Bridgeable to 200-W mono amplifier. $795

Model 4040/S2 40-W/ch Integrated Amplifier

Inputs for MM phono, CD, tuner, tape in and out. 40 W/ch into 8 ohms. $450

**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 µsec in 5-µsec 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 outputs; 8 video inputs; 4 video outputs; 14 audio inputs; 9 audio outputs; wide-band composite-video output; programmable 62-key learning remote control; system keys operate Denon integral system components. 80 W/ch front, 35 W center, 35 W/ch rear. $1,000

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

Class A circuitry with separate control of bias operating point in two channels. Preamplifier output; separate input and record-output selectors. FR 1-250,000 Hz; THD 0.004%; S/N (line) 110 dB; MM 94 dB, (MC) 75 dB. $600

PMA-860. Similar to above, 80 W/ch into 8 ohms; FR 4-150,000 Hz; S/N (line) 110 dB, (MM) 94 dB, (MC) 75 dB; THD 0.007% at 3 dB. $400

**DUAL**

PA5060 60-W/ch Integrated Amplifier

60-W/ch high-current output capability and MC phono input. Black. $259

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

Features low-resistance wiring to speaker terminals; low-capacitance input; protection circuits for speaker; output stage protection circuit. Balance, treble, bass, and pre-level control for phone; dubbing from tape 1 to tape 2; accommodates two speaker pairs; 6-stage volume control. 100 W/ch into 8 ohms; FR, CD 3-55,000 Hz; SN, CD 102 dB (IEC); input sens; 180 mV at 230 kVohms; attenuation ratio >100. $699

**HARMAN KARDON**

All integrated amps feature discrete components in signal path, MM/MC phono inputs and selectable power-tap voltage unless otherwise noted.

HK9900 170-W/ch Integrated Amplifier

Features electronic front-panel switches that control analog switches at rear inputs to create short signal paths; phase-correct loudness. A/V switching; 2-way tape copy; 2 VCR/tape monitors; rec-out selector, tone defeat; subsonic filters; preamp-out jacks. 170 W/ch from 20-20,000 Hz into 4/8 ohms with <0.08% THD; SN 98/80 dB (CD/phono); slew rate 280 V/µsec; damping factor 70; negative feedback 12 dB; high-current capability >90 amperes. HK9800. Same as above, except 120 W/ch. High-current capability >70 amperes. $949

HK6600 90-W/ch Integrated Amplifier

Features phase-correct loudness. 2-way tape copy; rec-out selector; tone defeat; mono switch. $1,000

Harman Kardon HK6900

Subsonic and high-cut filters; preamp-out/main-in; jacks. 90 W/ch from 20-20,000 Hz into 4/8 ohms with <0.08% THD; SN 98/80 dB (CD/phono); slew rate 180 V/µsec; damping factor 65; negative feedback 12 dB; high-current capability >50 amperes. $699

HK6200 45-W/ch Integrated Amplifier

Features active/passive phono section without MM/MC inputs; loudness-contour switch; 2 tape monitors. 45 W/ch from 20-20,000 Hz into 8 ohms with <0.09% THD; SN 98/80 dB (CD/phono); slew rate 90 V/µsec; damping factor 60; negative feedback 20 dB; high-current capability >30 amperes. $349

**HITACHI**

HA-VSEX 50-W/ch A/V Amplifier

Features Dolby Pro Logic surround; 4-channel amplifier; 6 surround modes; 6 AN, 3 audio outputs; 50 W/ch into 6 ohms; FR 20-20,000 Hz; THD <0.05%. $799

**JVC**

LV-117 110-W/ch Digital Integrated Amp

Features dual 16-bit DA converters and 4x-over-sampling 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%; SN 97 dB (line-straight), IM 0.02%; slew rate 12 V/µsec; damping factor 50 (50 Hz, 8 ohms) . $51,200

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; SN 84 dB (phono), 96 dB (other analog inputs). $750

**LUXMAN**

LV-117 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, 120-W/ch into 4 ohms; 80-W/ch into 8 ohms; THD 0.05%; SN 84 dB (MM phono), 95 dB (other analog inputs); THD 0.02%; slew rate 20 V/µsec; damping factor 30 (50 Hz, 8 ohms) . $550

**KENWOOD**

KA-V6080 80-W/ch 5-Channel Amplified 80-W/ch front, 70-W/ch center, 15-W/ch rear, and three surround-sound modes: Dolby Surround, theater, and hall modes. Features digital input; programmable remote; 6 audio and 6 video inputs; S-VHS inputs and outputs; on-screen display capability. 80-W/ch min into 8 ohms; FR 5-100,000 Hz; THD 0.08%; SN 100 dB; IM 0.08%. 17% x 6 1/2 x 16% in . $999

**Linn Intek**

Intek 50-W/ch Integrated Amplifier

MM and MC phono inputs. Features separate play/record paths; switched/unswitched speaker outputs; power-amp-driven headphone output. 50 W/ch into 8 ohms . $959

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AMPLIFIERS

MADISON FIELDING
CA 700 60-W/ch Integrated Amplifier
Features 7-band 24-step digital EQ; 4-tone memory; electronic voltage control; remote control. FR 20-20,000 Hz; THD 0.01%; 60 W/ch MOSFET amplifier; imp 4 ohm min. 19 x 3 5/16 x 14 7/8 in .... $1,500

MARANTZ
PM-84CG 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 MC; 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-74DIBL 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% .................. $750

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

MISSION
Cyris II 60-W/ch Integrated Amplifier
Features high peak-current delivery; nonmagnetic, polypolyene 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; SN 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/flat inputs; preamp out/main in; semiparametric tone controls; bass EQ. Remote control. 100 W/ch rms; +6 dB dynamic headroom. Rack mountable ........... $799

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; +4 dB dynamic headroom .......... $399

Model 3252PE 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. 10% x 3 x 8 in .......... $825

ONYX 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 µfarad capacitors; MM or MC board. 50 W/ch into 8 ohms; slew rate 150 V/µsec; FR 15-40,000 ± 5 dB .... $750

OA20 35-W/ch Integrated Amplifier
Inputs for MM, CD player, tuner, and tape .......... $399

ONYKO
A-RV400 100-W/ch Integrated A/V Amplifier
Discrete output circuitry and switching power supply. Selective Tone Control with 50-Hz boost; 3 video inputs; source-direct mode to bypass preamp section; simulated-stereo switch for video soundtracks; FL panel display. 100 W/ch min rms into 8 ohms; FR 20-20,000 Hz; THD 0.008%; S/N 102 dB (CD); IM 0.08%; distortion factor 40; dynamic power 90-W/ch into 4 ohms ..... $400

A-RV400M. Same as above except RC-AV20M programmable remote control replaces audio-only controller ................ $450

Integra Series
A-8800 100-W/ch Integrated Amplifier
Features digital conversion section with 4x-over-sampling digital filter, dual D/A converters. Digital circuit for CD's; line-direct switch; nonresonating frame chassis, insulators, and heat sink; separate voltage- and current-amplifying stages; 2 high-capacity, magnetically shielded transformers; analog low-pass filter; five digital inputs (two optical); three digital outputs (one optical); optical transfer distortion canceler. 120 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.003% THD. 170 W/ch into 4 ohms from 20-20,000 Hz with no more than 0.005% THD. 18 x 6 1/2 x 16 1/2 in; 26.5 lb $1,000

A-700 105-W/ch Integrated Amplifier
Features Anti-Electromagnetic Interference (AEI) transformer; discrete outputs; switching power supply. Selective Tone Control with 50-Hz boost; 3 video inputs; source-direct mode to bypass preamp section; MM/MC inputs; switchable subsonic filter. 105 W/ch min rms into 8 ohms; FR 20-20,000 Hz; THD 0.008%; S/N 107 dB (CD); IM 0.005%; damping factor 100. .................... $850

A-8500 80-W/ch Integrated Amplifier
Discrete outputs. Features switching power supply with tri-terminal regulators; shielded four-block design. Source-direct mode to bypass preamp section; MM/MC inputs; 4-position remote selector. 80 W/ch min rms into 8 ohms; FR 20-20,000 Hz; THD 0.008%; S/N 107 dB (CD); IM 0.005%; damping factor 150; dynamic power 224-W/ch into 2 ohms .......... $420

OPTONICA by SHARP
SM-47S 4-Ch A/V Integrated Amp
Features 11 surround effects; 35 W x 4 ± 3 user-programmable modes; 2 monaural output controls; FL display; AV cross playback; wireless remote control; adjustable time delay; adjustable feedback level; dubbing selection; 9 audio inputs/4 video inputs; 3 audio outputs/4 video outputs. signal-to-noise ratio 89 dB (75 dB phono); IM 0.8%; CD FR 15-30,000 Hz front, 15-17,000 Hz rear .......... $600

PHILIPS
FA-90 100-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........... $399

FA-50 70-W/ch Integrated Amplifier
Features Philips linear-drive power supply; DC and short-circuit protection. Source-direct switching with auto tone defeat ........ $399

PIONEER
Elite A-91D 120-W/ch Integrated Amplifier
Features digital conversion section with 4x-over-sampling digital filter, dual D/A converters. Digital circuit for CD's; line-direct switch; nonresonating frame chassis, insulators, and heat sink; separate voltage- and current-amplifying stages; 2 high-capacity, magnetically shielded transformers; analog low-pass filter; five digital inputs (two optical); three digital outputs (one optical); optical transfer distortion canceler. 120 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.003% THD. 170 W/ch into 4 ohms from 20-20,000 Hz with no more than 0.005% THD. 18 x 6 1/2 x 16 1/2 in; 26.5 lb $1,600

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 154-position 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 video outputs; video signal selector and video adaptor loop; 3-position 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 1/2 x 16 1/2 in; 26.5 lb ........ $1,000

A-757 100-W/ch Integrated Amplifier
Nonswitching design with separate voltage- and output-amplifying stages. Features line-direct switch, honeycomb chassis, insulators, and heat sink; separate circuit blocks; direct connection 11.8 inputs. 100 W/ch cont avg into 8 ohms; FR 20-20,000 Hz; THD 0.003%. 16% x 6 1/2 x 16 1/2 in; 43 lb .......... $750

PROTON
AM-656 60-W/ch Integrated Amplifier
Dynamic Power on Demand circuitry. Features Apex Aural Exciter; tone bypass; motorized volume control; 2-color LCD display. FR 20-20,000 Hz ± 0.3 dB; THD 0.02%; IM 0.01%; damping factor >150; dynamic headroom 6 dB. 18% x 3 1/8 x 15 1/2 in; 26.5 lb $700

Onkyo Integra A-8700

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REVOX
B250-S 150-W/ch Integrated Amplifier
Preamp section allows simultaneous listening and recording from 2 different sources. 6 inputs for REVOX 230 W; 200 ms at 8 ohms, 150 W; 4 ohms, 190 W; 2 ohms, 200 W. 16% x 3% x 12% in; $19.1 lb $380

ROTEL
RA808BX4 56-W/ch Integrated Amplifier
Class AB design. Has moving-coil input option, each input level adjustable and storable in nonvolatile memory; optional video-switcher provides 4 video inputs controlled via B208 wireless remote; FL display varies in intensity with ambient light. 150 W/ch into 4 ohms; THD <0.015%; MM phono S/N 80 dB, 17% x 4% x 12.8 in; $520 B158. Similar but 90 W/ch into 4 ohms $895

SANSUI
AU-X911DG 100-W/ch Integrated Amplifier
Features 1-bit D/A converter, independent circuitry for left and right amplifiers; X-balanced and feed-forward circuits; direct-input switching at point of input; motor-driven remote switching; separate digital and analog transformers. Digital-direct and source-direct operation; separate record selector; 5 pairs of gold-plated analog inputs; 4 pairs of gold-plated digital inputs; record selector; subsonic filter, loudness; speaker A, B, A + B. 100 W/ch min rms into 8 ohms; FR 20-20,000 Hz; S/N >95 dB; THD <0.1%. 9 x 11 x 12 in; 5 lb $695

AUDACIOUS
SU-V90D 90-W/ch Integrated Amplifier
Features Class A/A+ circuitry; high-speed capacitors with electrolyte; heavy-duty power supply; large aluminum heat sinks; active servo power supply. Power amp direct input; MM/MC cartridge input; 6-position multiple input facilities; A/B speaker terminals; tone defeat switch; loudness switch; stereo/mono-switch. Amp section: 90 W/ch min into 8 ohms; FR 20-20,000 Hz; THD 0.007%; damping factor 80. Preamp section: FR 30-15,000 Hz; ±0.8 dB (phono), 20-20,000 Hz +0 -0.2 dB (other sources); S/N 76 dB (MC), 72 dB (DC), 80 dB (other sources). $380

VECTOR RESEARCH
VA-800 35-W/2ch Integrated Amplifier
Features C-MOS output switching; gold-plated binding posts; toroidal power transformer. Amplifier section: 35 W/ch into 8 ohms, 5 W into 4 ohms; total harmonic distortion 0.019%: 1 m 0.1%; FR 50-50,000 Hz; damping factor 100. Preamp section: signal-to-noise ratio 78 dB for phono, 95 dB for CD/tape. $250

YAMAHA
AX-908II 130-W/ch Integrated Amplifier
Independent preamp/power-amp configuration. Features high dynamic power; low-impedance drive capability. Continuously variable loudness control; preamp in/main amp out terminals; dual reconfigurable selectors. 90 W/ch min rms into 8 ohms; FR 20-20,000 Hz; THD<0.005%. Black finish. 42 lb $749

AVX-700TI 65-W/ch Integrated A/V Amplifier
Features 5 channels: 65-W/ch front, 14-W/ch rear/center. Three-mode digital surround; Dolby Pro Logic decoder; Yamaha active-servo technology amplification for main channels; adjustable time delay (0 -30 msc); test-tone generator. 9 audio and 4 video inputs; all video inputs S-video compatible; motorized volume control with LED indicator; copy function; electronic 2-band tone control; electronic rear/center speaker-level controls; programmable connections for center and surround channels; wireless remote control with 98 keys, 35 learning; 65 watts x 2 into 8 ohms. Titanium finish $649

AVX-790. As above, black $649

AVX-500TI 80-W/ch Integrated A/V Amplifier
Features 5 channels: 80-W/ch front, 15-W/ch rear/center. Two mode digital surround; Dolby Pro Logic decoder; Yamaha active-servo technology amplification for main channels; test-tone generator. 7 audio and 3 video inputs; S-video compatible, 3-band tone control; RS integrated system learning wireless remote control with 76 keys, 35 learning. Titanium finish $549

AVX-500. As above, black $549

AVX-630I 85-W/ch Integrated Amplifier
Features active-servo technology; low-impedance drive capability; high capacitance electrolytic caps; independent power supply for preamp and power amp; MC cartridge head amp; accessorized output loop (line level). Continuously variable loudness control; 6 audio source inputs; CD-direct switch; 6-position rec-out selector; center-defect, bass, and treble controls; switchable subsonic filter; banana-plug-compatible speaker terminals. 85-W/ch min rms into 8 ohms; frequency response 20-20,000 Hz. Titanium finish. 20 lb $449

AX-635. As above, black $449

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ACOUSTIC RESEARCH
CD-86 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 2-20,000 Hz; ±0.5 dB, THD 0.0025%; S/N 105 dB, ch sep 92 dB; 17½ x 3½ x 11¼ in; 12.3 lb. $500

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 (seventh-order) analog filtering: 3-beam laser. Displays current track number, elapsed time of current track, remaining time on disc, program or disc, program in memory. Frequency response 20-20,000 Hz, ±0.5 dB, THD 0.0025%; signal-to-noise ratio 96 dB. 17 x 3½ x 11½ 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 dB; 17 x 4⅞ 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. 8½ 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, or 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; 17⅓ x 3½ x 11¼ in; 12 lb; black. $600

GCD-575. White front panel. $650

Aiwa
XC-004 CD Player
4x oversampling, 18-bit dual D/A converters. Features linear bit shift system; 3-beam laser; auto blank system. 26-track programming; 20-selection music calendar; peak search; manual program edit, 3-way repeat, program time counter; 3-in 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 0.0045% at 1,000 Hz, S/N 105 dB, ch sep 90 dB at 1,000 Hz; 17½ x 3¼ x 13¼ in; 10.6 lb. $440

XC-M600 CD Changer
4x oversampling, dual D/A converters, 6-disc carousel. Features 32-track programming; 3-in CD compatibility; 3-way repeat; continuous playback; random play: 16-key music selection and 5-key disc selection. Includes wireless remote control. FR 2-20,000 ±1.5 dB, THD 0.005%; S/N 90 dB, ch sep 85 dB; 17 x 4 x 14 in; 12.1 lb. $530

ARCAM
Delta 70.2 CD Player
4x oversampling, 16-bit digital-to-analog converters. Features 20-track programming; 3-speed search; track skip; direct/variable audio outputs; headphone output; digital output. Frequency response 10-20,000 ±0.1 dB; signal-to-noise ratio 105 dB; dynamic range 96 dB. 17 x 3½ x 10½ in; 14 lb. Black. Remote control. $1,195

Remote control. $100

ARISTON ACoustics by EYROSOund
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 compatibility. FR 2-20,000 Hz ±0.5 dB; S/N >96 dB; THD <0.0025%. 1.6 x 3 x 11½ in; 9 lb. $495

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 5-amp current drive at 200 V/µsec; exact channel phase alignment. Transformer. Loading drawer; 20-track (and index number) programming; repeat; skip forward/back; time/track display. Wireless remote control optional: 16½ x 3 x 11½ 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 dB, THD <0.0025% at 0 dB, ch sep >101 dB; 16½ x 3 x 12¼ 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 adapter. Black and silver finish. FR 3-20,000 Hz ±0.3 dB; S/N 110 dB; THD 0.0025%; ch sep >101 dB; dynamic range >96 dB. 16½ x 3 x 12½ 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; 3-speed search; track and index point selection; wireless remote control. Dynamic range 96 dB; S/N >100 dB; THD <0.0025% at 1,000 Hz. $1,860

Carver
TLM-3600 CD Player
8x oversampling and 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; THD <0.005%; S/N 110 dB; ch sep 100 dB, ch sep 90 dB, digital range 100 dB. 8½ x 3 x 14½ in; 10.5 lb. $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. 8½ x 3 x 14½ in; 10.5 lb. $700

Conrad-Johnson
DF1 CD Player/PreampPlayer
Dual D/A converters, built-in preamplifier. Features noise-shaping circuitry that yields 16-bit...
## Compact Disc Players

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<tr>
<td><strong>Denon DCD-3560 CD Player</strong></td>
<td>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; 20-track programming; stereo/mono select; headphone jack with level control; direct track access; 3-way repeat; timer control included; coaxial digital outputs; compatible with Denon integral system. FR 4-20,000 Hz ± 0.2 dB; S/N 106 dB; dynamic range 98 dB; THD 0.003%; ch sep 100 dB at 1 kHz.</td>
</tr>
<tr>
<td><strong>DCM-350 CD Carousel Changer</strong></td>
<td>8x-oversampling, 20-bit D/A converters with MSB linearity adjustments, 5-disc carousel. Features active analog filters; shock-isolated pick-up chassis. Allows changing two discs while third is playing; disc-skipe button; 32-track programming; 3-mode random play; headphone jack with level control; direct track access; 3-way repeat; timer control included; coaxial digital outputs; compatible with Denon integral system. FR 4-20,000 Hz ± 0.2 dB; S/N 106 dB; dynamic range 98 dB; THD 0.003%; ch sep 100 dB at 1 kHz.</td>
</tr>
<tr>
<td><strong>HD7500III CD Player</strong></td>
<td>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 2-speed cue/review; fixed and variable analog outputs; headphone jack; remote control.</td>
</tr>
<tr>
<td><strong>Hitachi DAC-7805S CD Changer</strong></td>
<td>Features 2 x 3-disc magazines; direct program remote with volume; independent magazine/disc exchange; 32-track programming; direct, random, scan/repeat play; skip/manual search; real-time counter; track-time counter; programmable.</td>
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### Other Models

<table>
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<tr>
<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>DUAL CD 5070 CD Player</strong></td>
<td>2x-oversampling, 16-bit D/A converter. Features gold-plated connectors; 16-track random-access programming; 12-function remote; headphone jack with adjustable level. FR 5-20,000 Hz; THD 0.006%; dynamic range &gt;95 dB; S/N 94 dB (A wtd). 18 x 3 3/4 x 12 1/4 in; 10.5 lb.</td>
</tr>
<tr>
<td><strong>FISHER AD752 CD Player</strong></td>
<td>18-bit, 8x-oversampling digital filter, dual 16-bit D/A converters. Features active analog filters; shock-isolated pick-up chassis. Digital pitch control with ± 9.9% range in 0.1% steps; digital fader; peak-search mode; 20-track programming; random play, headphone jack with level control; direct track access; 3-way repeat; auto space; timer play; music calendar program display; 3-inch on 3-inch, compatible with Denon integral system. FR 2-20,000 Hz ± 0.2 dB; S/N 105 dB; dynamic range 97 dB; THD 0.003%; ch sep 100 dB at 1 kHz.</td>
</tr>
<tr>
<td><strong>Fisher DAC199B CD Changer</strong></td>
<td>18-bit, 8x-oversampling digital filter, dual 16-bit D/A converters, 5-disc carousel. Features 32-track programming; 31-function wireless remote; selection memory and title memory; 3-inch CD compatibility; random play; intro scan; skip, repeat functions; headphone jack with volume control. S/N &gt; 90 dB; ch sep &gt; 80 dB; THD &lt;0.07% at 1,000 Hz.</td>
</tr>
<tr>
<td><strong>Goldstar GCD-646R CD Player</strong></td>
<td>3-beam laser and linear-skating loading mechanism. Features remote control; 20-track programming; shuffle play, music search; repeat; headphone jack; display showing elapse/total time, track number, repeat, and memory.</td>
</tr>
<tr>
<td><strong>GRUNDIG CD-9900 CD Player</strong></td>
<td>4x-oversampling, 16-bit D/A converter. Features 20-program memory for track and index; track delete; forward/reverse skip for track and index; bidirectional search; 3 search speeds; line and headphone output. S/N 101 dB; FR 20-20,000 Hz ±0.065 dB.</td>
</tr>
<tr>
<td><strong>HAFLEI Iris CD Player</strong></td>
<td>4x-oversampling, dual 16-bit D/A converters. Features Philips low-inertia swing-arm mechanism controlled by servo motors; single-spot laser 20-track programming; 3-speed, bidirectional search; track replay; skip up/down to previous or following tracks; multifunction remote control, gold-plated jacks for L/R audio; digital output jack. FR 20-20,000 Hz ±0.1 dB; phase linearity ±0.5%; THD 0.0025%; IM &lt; 0.004%; S/N &gt; 100 dB. 17 x 3 x 12 in.</td>
</tr>
<tr>
<td><strong>HARMAN KARDON HD76001 CD Player</strong></td>
<td>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 2-speed cue/review; fixed and variable analog outputs; headphone jack; remote control.</td>
</tr>
<tr>
<td><strong>HD75001 CD Player</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>HD7450 CD Player</strong></td>
<td>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.</td>
</tr>
</tbody>
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COMPACT DISC PLAYERS

timer; sleep timer; resume play/standby; clock. Rosewood end caps. Dynamic range 95 dB, THD 0.004% $150

VIP RX64EX 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
8x-oversampling, four 18-bit D/A converters. Features 3-beam laser; optical/coaxial digital outputs; double-floating independent suspension system. 32-track programming; random play; disc/track title indication; 3-in CD compatibility; 4-way repeat; index play; skip; search; auto/manual search; remote control; intro scan; headphone jack with level control $700

XLG512NK CD Player
8x-oversampling, dual 18-bit D/A converters. Features graphics decoder for CD-G discs; 3-beam laser pickup; optical/coaxial digital outputs; 32-track programming; random play; 3-way repeat; index play; skip; search; auto/manual search; remote control; intro scan; headphone jack with level control $500

XLZ431BK CD Player
8x-oversampling, 20-bit D/A converter. Features coaxial output; 32-track programming; random play; 4-way repeat; index play; skip; search; auto/manual search; remote control; intro scan; headphone jack with level control $310

XLM403BK CD Changer
8x-oversampling, 20-bit D/A converter, 6-disc magazine and single-disc tray. Features 32-track random programming; 4-way repeat, repeat all discs, all tracks, single track, and programmed tracks; random play; auto/manual search; multifunction display; independent suspension system; remote; headphone jack $370

KENWOOD
DP-7820 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 = 0.5 dB; SN 110 dB; THD 0.0025% at 1,000 Hz. 17 1/4 x 5 x 12 1/4 in; 13 lb $469

DP-M6620 CD Changer
8x oversampling, dual 18-bit D/A converters, 6-disc magazine and single CD tray. Features computerized CD editing; one-touch disc selection; remote control; random play; 10-track direct access; FL display with music calendar and disc indicator. FR 5-20,000 Hz = 1 dB; SN 95 dB; THD 0.008% at 1,000 Hz. 17 1/4 x 4 1/4 x 14 1/4 in; 13.8 lb $369

LVD-300 Combi-Player
8x oversampling, dual 18-bit D/A converters. Plays 3-, 5-in CD's; 5-in CDV's; 8-, 12-in videodiscs. Features optical and S-VHS outputs; computerized CD editing; 20-track programming; remote control; random play; fluorescent display with music calendar and disc indicator. Frequency response 4-20,000 Hz ± 0.5 dB, -1 dB; signal-to-noise ratio 108 dB; total harmonic distortion 0.003%; hor res 425 lines. 17 1/4 x 5 1/4 x 14 1/4 in; 25.4 lb $699

KINERGETICS
KCD-40 Gold Series CD Player
8x oversampling, dual 18-bit D/A converters. Features single-beam laser; fully balanced circuit topology; volume and balance controls; 7V output level to drive power amplifier; multifunction remote. 17 x 4 1/4 x 13 in; 21 lb $2,295

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

LEXUS
D-10SU 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; high-mass magnetic disc clamp; 3-beam laser pickup. 32-track programming; random play; auto/edit/fade-out for CD taping; auto scan/pace; timer/power-off memory; 9-key remote control. Frequency response 5-20,000 Hz, = 1 dB; total harmonic distortion 0.05%; SN 105 dB; dynamic range 92 dB; ch sep at 1,000 Hz 17 1/2 x 5 1/4 x 13 1/2 in; 18.7 lb $1,200

LEXMAN
DC-10US CD Player
8x oversampling, dual 18-bit D/A converters. Features optical digital output; timer; 27-key remote control; 3-in CD compatible. FR 3-20,000 Hz: THD 0.005%; S/N 104 dBA; THD 0.005%; ch sep 95 dB at 1,000 Hz. 17 1/2 x 4 1/4 x 13 1/2 in; 15.1 lb $800

MAGNAVOX
CDB630 CD Player
4x oversampling, dual 16-bit D/A converters. 36-button infrared remote control; A/B repeat; dual PTS; ITS title; random play; edit mode; scan/fast scan. 16 1/2 x 3 x 11 in $400

CDB624 CD Player
1-bit Bitstream D/A converter. 31-button infrared remote control; favorite-track selection; head- phone jack with volume control; scan/fast scan; digital power supplies for digital, analog, and mechanical sections; remote control; A/B repeat; random play; A/B repeat play. 16 1/2 x 3 1/4 x 12 1/4 in $500

CDB856 CD Changer
4x oversampling, dual 16-bit D/A converters, 6-disc changer. 26-button infrared remote control; 30-track memory programming; shuffle play; 2-speed music search w/ cueing; repeat play. 16 1/2 x 3 1/4 x 12 1/4 in $570

CDC552 CD Carousel Changer
4x oversampling, dual 16-bit D/A converters, 5-disc CD carousel player. Infrared remote control; 30-track memory programming; 5-speed view w/ cueing; shuffle play; disc changeable during play; intro scan; 3-in CD compatible. 16 1/2 x 4 1/4 x 15 1/4 in $300

CDV-305 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. CX NR system. 42-button infrared remote control; record edit feature; multifunction PTD display; 5-mode repeat capability; shuffle play; 20-channel/tracker programming; auto music scan; two-speed scan. Audio: FR 3-20,000 Hz ± 0.5 dB; signal-to-noise ratio 97 dB; dynamic range 94 dB; total harmonic distortion 0.003% at 1,000 Hz. Video: hor res 425 lines; signal-to-noise ratio 48 dB. 16 1/4 x 5 x 16 1/4 in $549

MARANTZ
CD94 CD Player
4x oversampling, dual 16-bit D/A 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 programmability; black rosewood side panels $1,700

CDC3577 CD Player
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%; SN 100 dB $450

DC3587 CD Changer
4x oversampling, dual 16-bit D/A converters, 5-disc carousel. Features biaspHERE glass lens in
COMPACT DISC PLAYERS

unitary laser; linear motor transport; 20-step random-access programming; repeat/random play; 2-color FL display, 25-key remote. Fr 2,200 Hz; THD 0.05%; S/N 95 dB ... $380

DC2848 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. 18-bit dynamic range; anti-jamming motorized front-loading 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 dB; ch sep 102 dB at 1,000 Hz; 16 x 5 1/2 x 13 in; 18 lb ... $1,995

Model 208 CD Player/Preamp/Power Supply
256x oversampling digital-differential PDM bitstream D/A conversion. Passive differential analog filters; high-stability master clock; high-speed tracking servo; circuit built on computer-grade 4-layer PC boards; connected two-box construction separates transport and electronics. Analog preamp with three inputs and 64-step volume control; two optical digital output; coaxial digital output; analog input convertible to phono preamp with optional MM/MC board; LED display; lighted control keys; remote control included. Fr 20,000 Hz; S/N >106 dB; THD <0.004%. Matte-black finish with glass front. 12 1/2 x 4 x 12 1/2 in ... $2,950

Model 206 CD Player
2-piece player with 4x oversampling, 16-bit D/A converters. Units are linked and provide physical and electrical isolation between transport, power supply, and digital and analog electronics. Features single processor, passive analog filter. Next/previous track and index; continue button which restarts CD to last location; display of track, index, track/time, disc remaining; optical and coaxial digital outputs. 125 x 4 x 12 in; 20 lb ... $1,690

MISSION
Cyprus 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; 20-track programming with recall; 3-speed search; 3-mode time display; scan; program; direct-track access; index selection. Fr 20,000 Hz; S/N 96 dB; THD 0.003% at 0 dB. 17 x 3 x 13 1/2 in ... $3849

NAKAMICHI
CDPlayer2 CD Player
8x oversampling, 16-bit D/A converter. Features opto-coupling; separate power transformers for digital and analog stages; 3rd-order GIC-type analog output filters; Poly-Sorb spacers for vibration damping. 20-track programming; shuffle/timer play; optical and coaxial digital outputs; fixed and variable analog outputs; remote control ... $700

ONKYO
Integra DX-5700 CD Player
8x oversampling, dual 16-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 calendar display with 3-position timer; time edit function; shuffle play; 4 replay modes; variable headphone output; fixed and variable analog outputs; coaxial and optical digital outputs ... $580

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COMPACT DISC PLAYERS

**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

**CDV-600 CD Combi-Player**
- 1-bit Bitstream D/A converter with 256x oversampling.
- Plays 3- and 5-inch CD's, 5-inch CDV's, 8- and 12-inch videodiscs.
- Features CX noise reduction for analog soundtracks; 50-button jog/shuttle infrared remote control; digital-frame memory with freeze, strobe, and picture recall.
- 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; 17” x 4” x 16” in $1,029

**CDV-500 CD Combi-Player**
- 1-bit Bitstream D/A converter with 256x oversampling.
- Plays 3- and 5-inch CD's, 5-inch CDV's, 8- and 12-inch videodiscs.
- Features CX noise reduction; 43-button infrared remote control; record edit feature; 5-mode repeat capability; random play; shuffle play; 20-channel/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: 48 dB; 17 1/2” x 4 1/4” x 16” in $829

**CDV-400 CD Combi-Player**
- 1-bit Bitstream D/A converter with 256x oversampling.
- Plays 3- and 5-inch CD's, 5-inch CDV's, 8- and 12-inch videodiscs.
- Features CX noise reduction; 42-button infrared remote control; record edit feature; favorite-track selection; 5-mode repeat capability; shuffle play; 20-channel/track programming; auto music scan; two-speed scan; S-video output; coaxial digital output.
- Audio: FR: 2-20,000 Hz ±0.5 dB; S/N: 56 dB; dynamic range 94 dB; THD: 0.003% at 1,000 Hz. Video: horizontal resolution 425 lines; S/N: 48 dB; 16” x 5” x 16” in $599

**PIONEER**

**PD-73 CD Player**
- 20-bit, 8x-oversampling digital filter; 20-bit D/A converter; 6-disc magazine.
- Features accu-focus system; PFT buffer amp, copper-plated honeycomb chassis; multi-memory for 20 magazines; D/A-synthesis, time fade editing and auto program editing for 6 discs; digital level control and one-touch digital fader; index search; 7-mode repeat; 40-track programming; delete play; 3-way random play; time location; 15-track music calendar; last-disc memory; headphone output with volume control; optical and coaxial digital outputs; remote control; optional timer.
- 16 lx 5” x 12” in; 17 lb

**PD-8500 CD Player**
- 20-bit, 8x-oversampling digital filter; D/A converter with double-step noise shaping.
- Features low-loss pickup; anti-aliasing and vibration designs.
- Random play; index search; 3-mode repeat; 24-track programming; CD-deck synchro; optical 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 lx 5” x 12” in; 17 lb

**PD-8500 CD Player**
- 20-bit, 8x-oversampling digital filter; D/A converter with double-step noise shaping.
- Features low-loss pickup; anti-aliasing and vibration designs.
- Random play; index search; 3-mode repeat; 24-track programming; D/A-synthesis, time fade editing and auto program editing; digital level control and one-touch digital fader; auto space; headphone output with volume control; display dimmer; 20-track music calendar; optical digital outputs; remote control; optional timer.
- 9.5 lb

**PD-592 CD Player**
- 20-bit, 8x-oversampling digital filter; 20-bit D/A converter; 6-disc magazine.
- Features accu-focus system; PFT buffer amp, copper-plated honeycomb chassis; multi-memory for 20 magazines; D/A-synthesis, time fade editing and auto program editing for 6 discs; digital level control and one-touch digital fader; index search; 7-mode repeat; 40-track programming; delete play; 3-way random play; time location; 15-track music calendar; last-disc memory; headphone output with volume control; optical and coaxial digital outputs; remote control; optional timer.
- Lacquer-like finish with rosewood side panels. 18 x 4” x 13” in; 13 1/2 lb

**PD-M92 CD Player**
- 20-bit, 8x-oversampling digital filter; D/A converter with double-step noise shaping.
- Features low-loss pickup; anti-aliasing and vibration designs.
- Random play; index search; 3-mode repeat; 24-track random play; direct track access; CD-tape synchro, time fade editing and auto program editing; digital level control and one-touch digital fader; auto space; headphone output with volume control; display dimmer; 20-track music calendar; optical digital outputs; remote control; optional timer. 16 lx 5” x 12” in; 17 lb

**PD-M630 CD Player**
- 20-bit, 8x-oversampling digital filter; D/A converter with double-step noise shaping.
- Features low-loss pickup; anti-aliasing and vibration designs.
- Random play; index search; 3-mode repeat; 24-track random play; direct track access; CD-tape synchro, time fade editing and auto program editing; digital level control and one-touch digital fader; auto space; headphone output with volume control; display dimmer; 20-track music calendar; optical digital outputs; remote control; optional timer.
CDV-3080 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 S-video 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 LD; 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 5 1/4 x 18 1/8 in; 28 lb. $2,000

CD-1192B 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; stand-alone remote or Digi-Link remote control. Frequency response 2-20,000 Hz ±0.5 dB; SN >110 dB; THD <0.0024%. 17 x 2 1/4 x 10 1/4 in. $3,299

CQCD-500 CD Changer

4x oversampling, 16-bit D/A converter. Features display showing track number, time remaining, time elapsing for both track and disc; fixed and variable outputs; 2 digital outputs; 19-track programming by track/index access from 1-99; audible forward/reverse search; headphone jack with adjustable level; Revox system-compatible. FR 20-20,000 Hz ±0.1 dB; SN >100 dB; total harmonic distortion <0.005%; ch sep >100 dB; 4 x 3 1/4 x 13 in; 18 lb, 11 oz. $1,895

B126 CD Player

As above, cosmetic differences. $1,275

REVOX

B226-S CD Player

4x oversampling, 16-bit dual D/A converter. Features display showing track number, time remaining, time elapsing for both track and disc; fixed and variable outputs; 2 digital outputs; 19-track programming by track/index access from 1-99; audible forward/reverse search; headphone jack with adjustable level; Revox system-compatible. FR 20-20,000 Hz ±0.1 dB; SN >100 dB; total harmonic distortion <0.005%; ch sep >100 dB; 17 1/4 x 3 1/4 x 13 in; 18 lb, 11 oz. $1,895

ROTEL

RCD-855 CD Player

4x oversampling, dual 16-bit D/A converter. Features display switch to eliminate excess noise; free-floating suspension made of 4-oz-damped coiled-spring suspensions; 1 optical and 1 coaxial digital output; 20-track random programming; 20-track program memory. NR 20-20,000 Hz ±0.5 dB; THD <0.0025%. 100 dB; 17 x 3 1/4 x 15 1/2 in; 15 lb. $339

SANDBY

SD-X711 CD Player

Four LDCs 1-bit D/A converters with third-order noise shaping. Features FL display switchoff switch to eliminate excess noise; free-floating suspension made of 4-oz-damped coiled-spring suspensions; 1 optical and 1 coaxial digital output; 20-track random programming; 20-track program memory. NR 20-20,000 Hz ±0.5 dB; THD <0.003%. 100 dB; total harmonic distortion <0.005%. 17 x 3 1/4 x 13 in; 15 lb. $339

REALISTIC BY RADIO SHACK

CDM-1260R CD Changer

4x oversampling, 16-bit D/A converter, 6-disc magazine. 32-track programming; disc/track elapsed-time display; 4-way repeat; remote control. FR 20-20,000 Hz ±0.3 dB; SN 91 dB; THD 0.0018%. $575

SONORAGHY BY CONRAD-JOHNSON

CD-1311 CD Player

Four LDCs 1-bit D/A converters with third-order noise shaping. Features FL display switch off switch to eliminate excess noise; 4sec space between programs; program edit; time edit will automatically scan disc being copied and selects music matching selected time; headphone output with volume control; 20-track music calendar; 10-key direct selector/programmer; auto music program search; music scan; coaxial digital output. Includes 28-key wireless remote control. FR 4-20,000 Hz ±0.3 dB; THD 0.0003% at 1,000 Hz; SN 93 dB; 17 x 5 x 15 in; 22 lb. Refurbished. $340

SHERWOOD

CDP-X710ES 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; 4-way repeat; remote control. FR 2-20,000 Hz ±0.3 dB; SN 117 dB; distortion 0.0015%. 18 x 5 1/4 x 14 1/4 in. 37.6 lb. $1,700

SHERWOOD

CDP-X77ES CD Player

45-bit, 8x oversampling digital filter. Features optical and coaxial digital outputs; noise shaping; digital sync; servo stabilizer; linear drive; 24-track programming; repeat play; shuffle play; direct access; index search; fader; remote control. FR 2-20,000 Hz ±0.3 dB; SN 117 dB; distortion 0.0015%. 18 x 5 1/4 x 14 1/4 in. 37.6 lb. $1,700

SHERWOOD

CD-X711 CD Player

Four LDCs 1-bit D/A converters with third-order noise shaping. Features digital filter; standard line output and digital output; servo-processors circuit; remote control; shuffle play; scan, repeat 2-track search; automatic CD-ROM switch; CD-3 compatibility; 20-programmable selections; elapsed-time display from track start. FR 20-20,000 Hz ±0.5 dB; THD <0.0025% at 1,000 Hz; SN 100 dB; 17 1/4 x 3 1/8 x 13/16 in. $1,275

SANSUI

CX-7011 CD Player

Four LDCs 1-bit D/A converters with third-order noise shaping. Features FL display switchoff switch to eliminate excess noise; free-floating suspension made of 4-oz-damped coiled-spring suspensions; 1 optical and 1 coaxial digital output. 20-track random programming; 20-track program memory. NR 20-20,000 Hz ±0.1 dB; S/N >100 dB; THD <0.003%; S/N 100 dB. 12 3/4 x 4 1/2 x 16 1/2 in; 19 lb. $600

SANSUI

CX-7100M CD Changer

4x oversampling, dual 18-bit D/A converters. Features LCD display showing track number, time remaining, time elapsing for both track and disc; fixed and variable outputs; 2 digital outputs; 20-track programming by track/index access from 1-99; audible forward/reverse search; headphone jack with adjustable level; Revox system-compatible. FR 20-20,000 Hz ±0.1 dB; SN >100 dB; total harmonic distortion <0.005%; ch sep >100 dB; 17 x 3 1/4 x 13 in; 18 lb, 11 oz. $1,895

SANSUI

CD-7101 CD Player

Features digitizing and presentation of track number, time remaining, time elapsing for both track and disc; 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 S-video output; honeycomb chassis; speedy alpha turn mechanism with dual-centering mechanism. Plays both sides of LD; visual intro scan; picture-window 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 LD; 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 5 1/4 x 18 1/8 in; 28 lb. $1,400

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COMPACT DISC PLAYERS

CDP-990 CD Player
16x oversampling, four 18-bit D/A converters. Features noise shaping; digital sync; servo stabilizer; remote control; 20-track calendar; repeat play; shuffle play; variable line output; headphones with volume; optical digital output. FR 2-20,000 Hz ± 5 dB; SN 110 dB; distortion 0.003%.
17 x 4 x 1/11 in; 11 lb $470

CDP-790 CD Player
8x oversampling, dual 18-bit D/A converters. Features noise shaping; digital sync; servo stabilizer; remote control; 20-track music calendar; repeat play; shuffle play; variable line output; headphones with volume; optical digital output. FR 2-20,000 Hz ± 5 dB; SN 104 dB; distortion 0.003%.
17 x 4 x 1/11 in; 8 lb $295

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; shuffle play; repeat play; variable line out; 5-disc 20-track direct access; headphones with volume control. FR 2-20,000 Hz ± 0.3 dB; SN 110 dB; distortion 0.0025%. 18% x 5 x 15/16 in; 18 lb $550

CDP-C705 CD Changer
8x oversampling, dual 18-bit D/A converters. 10-disc magazine. Features noise shaping; servo stabilizer; remote control; custom file; shuffle play; repeat play; variable line out; 5-disc 20-track direct access; headphones with volume control. FR 2-20,000 Hz ± 0.3 dB; SN 105 dB; distortion 0.0035%.
17 x 4 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; 2-way repeat; remote control. FR 20-20,000 Hz ± 1 dB; THD 0.006% at 1 KHz; dynamic range 92 dB; SN 105 dB; 17% x 3.8 x 11/16 in; 7 lb $250
PD-265. As above, 4x oversampling.
FR 5-20,000 Hz ± 1 dB; THD 0.005% at 1,000 Hz; SN 90 dB.
17x x 3 x 10/16 in; 7 lb $230

PD-700M CD Changer
4x oversampling, dual 18-bit D/A converters, 6-disc magazine. 3-beam laser pickup. Features 32-track multispeed random playback; multifunction fluorescent display; 3-way repeat; front-loading disc cartridge. Includes 10-key remote control.
FR 5-20,000 Hz ± 1 dB; SN 93 dB; THD 0.01% at 1,000 Hz.
17% x 3 x 15/16 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; 10-button keypad; auto-cue; A/B repeat; ±8% pitch control; optical and coaxial digital outputs; 2-speed search; audio 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 (pin) or balanced (phono) pin connectors; subwoofer output; cue search; remote control. 16% x 6% x 14/16 in $1,800

SL-P570 CD Player
Eight 1-bit MASH D/A converters. Features optical digital output; linear motor transport; just time editing; sync-echo 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%; SN 112 dB; 17 x 5 x 13/16 in; 11.4 lb $450

SL-P370 CD Player
Four 1-bit MASH D/A converters. Features multi-state noise shaping; dual-aspheric glass lens; linear motor transport; sync-echo editing; auto cue; FL display with music matrix; 10-key direct-access remote control. FR 2-20,000 Hz ± 1 dB; THD 0.005%; SN 96 dB.
17 x 4 x 1/14 in; 10 lb $200

SL-PC45 CD Changer
Four 1-bit MASH D/A converters, 5-disc carousel. Features sequential play and repeat; direct disc access; 32-track random-access programming; random play; edit guide; auto link; linear motor transport; 25-key direct-access remote control. FR 2-20,000 Hz ± 1 dB; THD 0.005%; SN 96 dB.
17 x 4 x 1/14 in; 9 lb $260

VECTOR RESEARCH

VCD-428R CD Player
4x oversampling, dual D/A converter. Music calendar; 3-in CD compatible; 5-way repeat; shuffle play; 2-function remote control. FR 20-20,000 Hz ± 0.5 dB; SN > 100 dB; THD < 0.004%; ch sep > 90 dB; dynamic range > 95 dB.
17 x 4 x 1/14 in; 10 lb $300

VCD-628R CD Changer
8x oversampling, dual D/A converter, digital filter, and 6-disc magazine. Shuffle play; audible cue and review; 8-way repeat; 18-function remote control. FR 20-20,000 Hz ± 0.5 dB; SN > 95 dB; THD < 0.009%; ch sep > 86 dB; dynamic range > 92 dB.
17 x 4 x 1/14 in; 13 lb $350

YAMAHA

CDX-2000 CD Player
8x oversampling, 32-bit linearity. Features direct output; digital de-emphasis circuitry; current isolation system; heavy-duty chassis with ball-point damping system; glass-len 3-beam laser pickup with built-in head amp in die-cast-aluminum chassis. 20-bit digital volume control; optical and coaxial digital output; auto/manual tape edit program; 3-in CD compatibility; 5-way repeat play; 24-track programming; direct track access; 3-way music search; index search, calendar display; random play; gold-plated terminals; RS integrated system remote control compatibility; 47-key remote control. Titanium finish. 22 lb $749
CDX-920. As above, black $699

CDX-930Ti CD Player
1-bit D/A converter featuring Yamaha S-bit technology. 3rd-order noise shaping; large-capacity power transformer; active low-pass filter; optical and coaxial digital outputs; 10-way repeat play; memory backup; 5-mode repeat; 25-track programming; index search; random play; auto space insert; multimedia timer playback; 3-way music search; 3-in CD compatible; calendar display function; front-panel headphone jack; RS integrated remote control. Titanium finish...
CDX-930. As above, black...
$549

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; 4-way repeat; 25-track programming; calendar display; 3-way music search; front-panel headphone jack with level control; RS integrated system remote control; titanium finish...
CDX-730. As above, black...
$349

CDX-610U CD Changer
18-bit, 4x-oversampling digital filter, 10-disc magazine. 3-beam laser pickup; 3rd-order low-pass analog filter. 36-track programming; memory playback; random play; disc scan; music scan; 3-way repeat; index search; headphone jack with adjustable level. Includes wireless remote control. Black, 20 lb...
$599

CDX-85Ti CD Changer
1-bit D/A converter, 5-disc carousel. Features PlayXchange mechanism that permits changing 4 disc and a fifth disc is playing; 5-mode digital equalizer (classical, vocal, rock, jazz, flat); 2-mode relay play between two CDC-803 changers; Yamaha S-bit technology; 3rd-order noise shaping; optical digital output. Remote digital volume control (headphone and line output); 40-track programming; random repeat; index search; 3-in CD compatible; 4-mode time display; RS integrated remote control; titanium...
$499

CDC-803. As above, black...
$499

CDC-610U CD Changer
18-bit, 4x-oversampling digital filter, 10-disc magazine. 3-beam laser pickup; program file; tape-regeneration; memory playback; random play; disc scan; music scan; 3-way repeat; index search; headphone jack with adjustable level. Includes wireless remote control. Black, 20 lb...
$599

Yamaha CDX-2000

100% linearity. Features direct output; digital de-emphasis circuitry; current isolation system; titanium finish with wood side panels. 39 lb...
$1,499

CDCX-920 Ti CD Player
8x-oversampling 18-bit digital filter, D/A converters. Features direct output; digital de-emphasis circuitry; current isolation system; heavy-duty chassis with ball-point damping system; glass-len 3-beam laser pickup with built-in head amp in die-cast-aluminum chassis. 20-bit digital volume control; optical and coaxial digital output; auto/manual tape edit program; 3-in CD compatibility; 5-way repeat play; 24-track programming; direct track access; 3-way music search; index search, calendar display; random play; gold-plated terminals; RS integrated system remote control compatibility. Includes 46-key wireless remote control. Titanium finish with wood side panels. 39 lb...
$1,499

CDCX-930. As above, black...
$699

CDCX-930Ti CD Player
1-bit D/A converter featuring Yamaha S-bit technology. 3rd-order noise shaping; large-capacity power transformer; active low-pass filter; optical and coaxial digital outputs; 10-way repeat play; memory backup; 5-mode repeat; 25-track programming; index search; random play; auto space insert; multimedia timer playback; 3-way music search; 3-in CD compatible; calendar display function; front-panel headphone jack; RS integrated remote control. Titanium finish...
CDX-930. As above, black...
$549

CDCX-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; 4-way repeat; 25-track programming; calendar display; 3-way music search; front-panel headphone jack with level control; RS integrated system remote control; titanium finish...
CDX-730. As above, black...
$349

CDCX-610U CD Changer
18-bit, 4x-oversampling digital filter, 10-disc magazine. 3-beam laser pickup; 3-mode program play; equalization program; memo-
 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 de-modulator; multipath and signal-strength meter; MPX filter; muting switch. FM section: 50-dB quieting sens.; 17 dBf; S/N stereo 85 dB; FM 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%1/2 x 31/2 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 BD-06 cassette deck. FM section: 50-dB quieting sens., mono 14.6 dBf, stereo 37.2 dB; AM rej 60 dB; cap ratio 1.5; S/N 78 dB mono, 73 dB stereo (at 65 dB A-Wtd); FR 30-15,000 Hz, ±1.0 dB; sep 45 dB. AM section: S/N 50 dB. 17%1/2 x 31/2 x 10% in; 13.8 lb $400

ADCOM
 GFT-55511 AM/FM Tuner
 Features quartz-referenced digital-synthesis tuning. Buffered output stages using Class A amplifier and/or BD-06 cassette deck. FM section: 50-dB quieting sens., mono 14.6 dBf, stereo 37.2 dB; AM rej 60 dB; cap ratio 1.5; S/N 78 dB mono, 73 dB stereo (at 65 dB A-Wtd); FR 30-15,000 Hz, ±3 dB; cap ratio 1.7 dB; AM suppression 70 dB. 17 x 3/4 x 12% in... $300

ARCAM
 Alpha 2 AM/FM Tuner
 Features birdie filter, single glass-fiber PC board; MW/LW reception; automatic-frequency-control (AFC) switch; mono switch; red LED beacon; rotary flywheel tuning control with analog tuning scale. FM section: sens. 1.4 µV; stereo S/N 68 dB; FR 20-12,000 Hz ±0.5 dB, --2 dB at 15,000 Hz; ch sep at 1,000 Hz >40 dB; cap ratio 1.5 dB; alt-ch sel >60 dB; AM >50 dB. AM section: MW - 5,300-16,000, LW - 1,600-2,700 Hz; S/N 50 dB reference 30% modulation. Charcoal finish. 17 x 9 x 3½ in; 5 lb $330

AUDIOPHILE LABORATORIES
 T-101 AM/FM Tuner
 Features switchable wide/narrow IF bandwidth. Audio deemphasis and noise filtering; switchable audio filter bandwidth. 30 station presets; remote preset station selection from Denon A/V amplifiers or PRA-1500 preamplifier; seek/scan and manual-step tuning; last-station-tuned memory. FM section: usable sens. 11.2 dB; stereo 50 dB sens. 37.2 dB; cap ratio 1.3; FR 20-15,000 Hz +0.5, --1 dB; S/N stereo >80 dB; THD stereo <0.1%; separation 50 dB at 1,000 Hz; sens (wide) 50 dB, (narrow) 75 dB. AM section: usable sens 18 µV; FR 85-7,500 Hz +1.5, --3 dB (wide); S/N 53 dB $330

AUDIOSOURCE
 TNR One AM/FM Tuner
 Featuring a 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. 16% x 2% x 11% in; 8.38 lb $230

CARVER
 TX-11b AM/FM Tuner
 Digital quartz-synthesis tuner with asymmetrical charge-coupled FM detector circuit to reduce multipath distortion. Features AM stereo section with 35 dB separation at S/N 77 dB. LED signal-strength meter; 13 random AM/FM presets; wide/narrow bandwidth selector; indoor AM/FM antenna included. Stereo sens 18.6 dBf IF; cap ratio 1.45 dB; AM suppression 72 DB; alt-ch sel 60 dB; stereo THD 0.02% at 1,000 Hz; stereo S/N 82 dB. 11 lb $750

TX-12 AM/FM Tuner
 Quartz-synthesis tuner with asymmetrical charge-coupled FM detector circuit to reduce multipath distortion. Features 20 random AM/FM presets with preset scan; analog signal-strength meter; wireless remote; indoor AM/FM antenna included. Stereo sens 18.6 dBf IFH; cap ratio 1.45 dB; AM suppression 72 DB; alt-ch sel 60 dB; stereo THD 0.02% at 1,000 Hz; stereo S/N 76 dB. 10 lb $400

TX-10 AM/FM Tuner
 Digital-quartz-synthesis tuner with asymmetrical charge-coupled FM detector circuit. 20 random AM/FM presets with preset scan; digital signal-strength meter; narrow/ wide bandwidth selector; indoor AM/FM antenna included. Stereo sens 23.5 dBf IFH; cap ratio 1.6 dB; AM suppression 72 DB; alt-ch sel 58 dB; stereo THD 0.2% at 1,000 Hz; stereo S/N 74 dB. 9 lb $300

DENON
 TU-660 AM/FM Tuner
 Features switchable wide/narrow IF bandwidth. Audio deemphasis and noise filtering; switchable audio filter bandwidth. 30 station presets; remote preset station selection from Denon A/V amplifiers or PRA-1500 preamplifier; seek/scan and manual-step tuning; last-station-tuned memory. FM section: usable sens. 11.2 dB; stereo 50 dB sens. 37.2 dB; cap ratio 1.3; FR 20-15,000 Hz +0.5, --1 dB; S/N stereo >80 dB; THD stereo <0.1%; separation 50 dB at 1,000 Hz; set (wide) 50 dB, (narrow) 75 dB. AM section: usable sens 18 µV; FR 85-7,500 Hz +1.5, --3 dB (wide); S/N 53 dB $330

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 µV, stereo < 35 µV, distortion 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 AM/FM Tuner
 Digital-synthesis PLL tuning system; 3 dual-gate MOSFET; 5 tuned front-end circuits; triple-tuned RF stage; auto DX; 5 station memory; auto-scan; digital readout; remote operation with Iris preamp. usable sens 11.3 dBf; 50-dB quieting sens 17.2 dBf mono, 37.2 dBf stereo; THD 0.1% mono, 0.18% stereo; cap ratio 1.5 dB; alt-ch sep 60 DB; S/N 52 dB mono, 68 dB stereo. 17 x 3 x 8½ in; 3 lb $450

HARMAN KARDON
 Citation Twenty-Three AM/FM Tuner
 Digital-synthesis, quartz-locking design with high-selectivity (Hi-Q) circuit. Features 16 AM/ FM presets; mono and mute buttons; LCD readout; analog fine-tuning; remote control. FM section (w/ Hi-Q): 50-dB quieting sens. 40.4 dBf (stereo); AM rej 70 dB; cap ratio 1.75 dB; adj-alt-ch sel 30/75 dB; S/N 75 dB (stereo); stereo sep 35 dB at 1,000 Hz $699

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 finishes. $429

HUAFER
 Iris AM/FM Tuner
 Digital-synthesis PLL tuning system; 3 dual-gate MOSFET; 5 tuned front-end circuits; triple-tuned RF stage; auto DX; 5 station memory; auto-scan; digital readout; remote operation with Iris preamp. usable sens 11.3 dBf; 50-dB quieting sens 17.2 dBf mono, 37.2 dBf stereo; THD 0.1% mono, 0.18% stereo; cap ratio 1.5 dB; alt-ch sep 60 DB; S/N 52 dB mono, 68 dB stereo. 17 x 3 x 8½ in; 3 lb $450

JVC
 FX110TN AM/FM Tuner
 Quartz-PLL digital-synthesis tuner with Optica-
**TUNERS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Manufacturer</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-1000T AM/FM Tuner</td>
<td>Kenwood</td>
<td>Quartz-PLL tuner with distortion correcting circuit. Features offset tuning; quieting control; remote control. FM: 50-DB quieting sensitivity 38.8 dB/Hz; AM: AM rej 70 dB; cap ratio 1.0; alt-ch sel 70 dB.</td>
</tr>
<tr>
<td>T-117 AM/FM Tuner</td>
<td>Luxman</td>
<td>Digital-synthesis tuner with twin AM/FM detectors. Features computer-analyzed tuning system; dual-arm MOSFET front-end circuit. 24 AM/FM presets; selectable FM/AM bandwidth; record-keeping circuit; FM fine tuning (25 kHz increments); timer-program button; auto-seek/manual tuning button with indicator; IF wide/narrow indicator. AM: AM rej 70 dB; cap ratio 1.5; alt-ch sel 80 dB (narrow); S/N 78 dB (stereo). AM section: $400.</td>
</tr>
<tr>
<td>ST-7 AM/FM Tuner</td>
<td>Nakamichi</td>
<td>Tuner with Schott noise reduction. Features 5-segment signal/multipath meter; PLL circuitry; 16 station presets; output-level controls (R + L independent). FM: HF sensitivity mono 1.7 µV (10 kHz); stereo 3.9 µV (17 dB); 50-DB quieting sensitivity mono 2.7 µV (14 dB), stereo 14 µV (28 dB). THD stereo 0.08%; mono 0.06% at 1,000 Hz; S/N 76 dB stereo. AM: S/N &gt;75 dB. Rack mountable.</td>
</tr>
<tr>
<td>T-90901I FM Tuner</td>
<td>Onkyo</td>
<td>Features dual-mode PLL circuit and Sonic Filter for improved tuning accuracy. Features same APR reception system offered in T-G10 tuner; power-supply filter. Dual antenna inputs; 31-key remote control; 20 station presets with scan; auto-strongest-station memory; multifunction digital display; digital signal-strength readout; timer preset programming, adjustable output-level; FM fine tuning. Wood side panels. 50-DB quieting sensitivity 37.7 dB (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&quot; x 3½ x 1¼ in.</td>
</tr>
<tr>
<td>Elite F-91 AM/FM Tuner</td>
<td>Pioneer</td>
<td>Digital-synthesis tuner. Features ARTS (Active Real-Time Tracking System) with IF filter; digital Real-Decoding; 4-ganged tuning capacitor, MOSFET circuit; 24 AM/FM station presets; 3-position muting level; remote compatible; honycomb chassis. THD 0.02%; alt-ch sel 85 dB; SN 92 dB. $600.</td>
</tr>
<tr>
<td>FT-50 FM Tuner</td>
<td>Philips</td>
<td>Features four-gang FM front end with dual-gate MOSFET design and selectable IF bandwidth. 30 random presets; manual and auto scan; direct-access tuning with 10 front-panel keys; can be controlled by Philips RC-5 remote-controlled amplifier. $295.</td>
</tr>
<tr>
<td>T-G1000 FM Tuner</td>
<td>Integra</td>
<td>3-mode APR reception system: IF bandwidth (wide/narrow), hi-blend (on/off), and stereo mode. Alternates can be overridden. Features RF section with 5 varactor diodes. Antenna attenuator switch; local/distant switch; 8-segment signal-strength indicator. 40 AM/FM station presets with classified memory scan; battery-free memory backup; R1 system remote compatible. FM: 50-DB quieting sensitivity 36.1 dB (stereo); cap ratio 1.3 DB; S/N 73 dB (stereo). Stereo sep 45 dB at 1,000 Hz. AM: S/N 40 dB. 17½ x 3½ x 1¼ in.</td>
</tr>
<tr>
<td>Integra T-4500 AM/FM Tuner</td>
<td>Integra</td>
<td>Features APR reception system: IF bandwidth (narrow/wide), mini-blend (on/off), and stereo mode. Alternates can be overridden. Features RF section with 5 varactor diodes. Antenna attenuator switch; local/distant switch; 8-segment signal-strength indicator. 40 AM/FM station presets with classified memory scan; battery-free memory backup; R1 system remote compatible. FM: 50-DB quieting sensitivity 36.1 dB (stereo); cap ratio 1.3 DB; S/N 73 dB (stereo). Stereo sep 45 dB at 1,000 Hz. AM: S/N 40 dB. 17½ x 3½ x 1¼ in.</td>
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</tbody>
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**TUNER SPECIFICATIONS**

- **Kenwood L-1000T AM/FM Tuner**
- **Luxman T-117 AM/FM Tuner**
- **Nakamichi ST-7 AM/FM Tuner**
- **Onkyo T-90901I FM Tuner**
- **Pioneer Elite F-91 AM/FM Tuner**
- **Philips FT-50 FM Tuner**
- **Integra T-4500 AM/FM Tuner**

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

PROTON
AT-670 AM/FM Tuner
PLL synthesis circuitry with Schott 11 tuning. Features rotary knob, 2-color display; 18 FM, 9 AM presets; remote capability. 50-dB sens 32 µV mono, 30V stereo; AM rejection 65 dB; cap ratio 1:0 dB; S/N 83 dB mono. 74 dB stereo. 18% x 4/5 x 15 in; 15.5 lb. $490

Model 440 AM/FM Tuner
Features Schott 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. 16½ x 2½ x 9¾ in; 15 lb. $300

QUAD
FM4 FM Tuner
Designed for use with Quad 4 preamp. No controls; double pushbuttons to store/recall station presets, tuning knob, power switch; bar-graph meter to indicate signal strength, center-channel 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 ±5.75 µsec; 8 x 1½ x 5¼ in; 6 lb. $695

REVOX
B60-S8 FM Tuner
Stores 60 preset stations with reception conditions 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 less than 0.05%; FM 80-100 Hz ±0.5 dB; 17½ x 4¾ 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 system; digital signal-strength readout. 50-dB quieting sens 37.2 dB stereo, 14.8 dB 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. 17½ x 2½ x 12½ in; 8.5 lb. $399

SANSHI
TU-X711 AM/FM Tuner
Quartz-PLL synthesis tuner with digital decoder. Features RF-mode selector; IF-bandwidth selection; 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). 17½ x 3½ x 12½ in; 11.2 lb. Black matte 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-seg preset scan. FM section: 50-dB 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). 17½ x 2½ x 10½ 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 filters, 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 ±3.3 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. 17½ x 3½ x 8¼ in. $200

SONY
ST-S730ES AM/FM Tuner
Features radial power-supply design; automatic microprocessor-exclusion-circuit master clock; wave-optimized IF system; WO DD wave-opti- mized direct detector/digital stereo decoder; direct comparator tuning system. S/N 92 dB stereo; 100 dB mono; THD 0.0075% (mono), 0.004% (stereo); selectivity 10.3 dB (0.9 µV); selectivity (at 4000 Hz) 70 dB; sep (at 1 kHz) 70 dB. 18½ x 3½ x 14½ in; 12.6 lb. $550

SOUNDCRAFTSMEN
Pro-Tuner Four AM/FM Tuner
Digital quartz-PLL tuner with 16 station presets; 5-dial front panel; auto-scan tuning; and active high-blend filter. 19 in rack-mount front panel. HF sensitivity 1.6 µV; S/N 75 dB, distortion 0.08%. 19 x 2½ x 12 in. $379

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 intra-band and inter-band frequency settings; separate audio and switching power supplies. Flywheel-assisted manual tuning knob for fine adjustment; 16 presets and station search; strength indicator; R-1 remote accesses major tuner functions. 50-dB 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 scan 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 sensitivity 75 dB; cap ratio 1.0 dB; S/N mono 85 dB, stereo 82 dB. 19 x 1½ x 8¾ in. $749

TECHNICS
ST-G70 AM/FM Tuner
Twin-tuner design with 39 AM/FM station presets. Features Class A AA circuitry; DC twin-quartz circuitry; DC linear switching MPX filter; auto IF-bandwidth selection. 10-key random access; auto-scan; FM signal-strength indicator. $380

ST-G460 AM/FM Tuner
Quartz-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 PL display; FM-mode switch FM spec: 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
VE-1008 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

YAMAHA
TX-2000 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 front panel design. Titanium finish. $399

TX-930Ti AM/FM Tuner
24 station presets. Features computer servo-lock tuning; digital fine tuning; 2-position IF mode selector; 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; option- al RS compatible remote control; full-size panel design. Titanium finish. $399

TX-930Ti AM/FM Tuner
Pll time-constant 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 compatible remote control compatibility. Titanium finish. 9 lb. $299

TX-340i. Same but with black finish. $299

STEREO REVIEW FEBRUARY 1991
### Beogram RX 2 Automatic Turntable
- Automatic turntable with four-point suspension system; laminated armboard; large wood base.
- Finished in walnut or gloss black.
- Weight: 15.5 lb.
- With tonearm: $1,000

### Beogram TX 2 Automatic Turntable
- Automatic turntable with pendulum-suspended chassis and straight pivoting tonearm; 33 and 45 rpm; fixed headshell.
- Recommended tracking force: 1.5 g.
- W&F >0.05%; rumble (DIN B): 80 dB.
- 20 7/8 x 3 1/2 x 9 3/4 in; 16 7/8 lb.
- Price: $2,295

### Beogram RX 2 Automatic Turntable
- Magnetic speed detection.
- Automatic record selection/indicator; spring-loaded acrylic dust cover.
- Built-in electronic quartz-aligned speed control and regulation; adjustable suspension with built-in bubble leveler; power-on indicator; speed selection/indicator; spring-loaded acrylic dust cover.
- Dimensions: 20 7/8 x 3 1/2 x 9 3/4 in; 16 7/8 lb.
- With tonearm: $3,750

### Studetto MK2 Turntable
- Features tonearm mounted on anodized-aluminum armboard; protection against overload and voltage surge.
- Dimensions: 20 7/8 x 3 1/2 x 9 3/4 in; 16 7/8 lb.
- Price: $2,295

### Goldmund by International Audio
- Features full Metacrylate construction, wall-mounted DC adaptor; heavy-duty motor with built-in electronic quartz-aligned speed control and regulation; adjustable suspension with built-in bubble leveler; power-on indicator; speed selection/indicator; spring-loaded acrylic dust cover.
- Dimensions: 20 7/8 x 3 1/2 x 9 3/4 in; 16 7/8 lb.
- Price: $3,750

### HEYBROOK by D’ASCANIO
- TT-3 Series II Manual Turntable
- Hand-assembled belt-drive 33⅓- and 45-rpm armless manual turntable with removable armboard.
- Features on-board power supply; low-speed synchronous motor to drive large 2-piece platter; adjustable 3-point cast aluminum spring-suspension system; laminated armboard; large wood base.
- Finished in walnut or gloss black.
- W&F ≤0.015% DIN peak; rumble: ≤73 dB at DIN-B.
- 17 1/4 x 6 1/4 x 14 3/4 in; 26 lb.
- Price: $898

### J. A. MICHELL ENGINEERING BY ARTECH ELECTRONICS
- GyroDec MK II Turntable
- Belt-drive turntable with platter composed of black acrylic compound containing graphite and vinyl; six gold-plated brass weights hang below at perimeter producing gyroscopic effect; ribbed vinyl; six gold-plated brass weights hang below at perimeter producing gyroscopic effect.
- Dimensions: 20 7/8 x 3 1/2 x 9 3/4 in; 16 7/8 lb.
- Price: $395

### Dual
- CS 7000 Semiautomatic Turntable
- Belt-drive turntable with gold-plated finish.
- Features optimum-pivot gyroscopic Gimbal tonearm system; carbon-fiber headshell; metal feet; full-floating subchassis; resonance-damped die-cast aluminum platter.
- Auto stop: 33⅓, 45, or 78 rpm play speeds.
- W&F <0.025%; signal-to-noise ratio: 80 dB; 17½ x 5½ x 15¾ in; 25 lb.
- Price: $875

### Goldmund by International Audio
- Features full Metacrylate construction, wall-mounted DC adaptor; heavy-duty motor with built-in electronic quartz-aligned speed control and regulation; adjustable suspension with built-in bubble leveler; power-on indicator; speed selection/indicator; spring-loaded acrylic dust cover.
- Dimensions: 20 7/8 x 3 1/2 x 9 3/4 in; 16 7/8 lb.
- Price: $3,750

### Kenwood
- KD-4020 Automatic Turntable
- Automatic quartz-PLL direct-drive turntable with plug-in phono cartridge.
- 33⅓ and 45 rpm; linear-tracking; straight tonearm.
- W&F >0.05%; rumble: 70 dB (DIN-weighted); effective tonearm length: 5½ in; tracking error ±5°.
- Cartridge: FR 20-20,000 Hz; output voltage 2.5 mV; 17½ x 4¾ x 13½ in; 8.6 lb.
- Price: $249

### Line
- LP12 Manual Turntable
- Belt-drive 33⅓-rpm turntable with manual tone-
## TURNTABLES

### Linn Basik
- 4-speed belt-drive manual turntable
- 33⅓ and 45 rpm
- 0.5-mm diamond stylus
- $2,500

### Marantz TT-2462CB Semi-automatic Turntable
- 3-speed belt-drive turntable
- $399

### Sota Deluxe Star Sapphire III Turntable
- 2-speed belt-drive turntable
- $2,095

### Omega Mark IV Manual Turntable
- Belt-drive turntable without tonearm
- $3,999

### Alpina 2250 Automatic Turntable
- 2-speed belt-drive turntable
- $795

### Optimus by Radio Shack LAB-2250 Automatic Turntable
- 2-speed belt-drive turntable
- $150

### Oracle MK IV Manual Turntable
- Belt-drive turntable without tonearm
- Available

### Revolver Rebel Turntable
- Includes tonearm and cartridge
- $425

### Revox B291-S Automatic Turntable
- Tunable tracking turntable
- $2,500

### Sherwood PF-1170R Automatic Turntable
- Direct-drive turntable
- $150

### Sonographe by Conrad-Johnson SG-3A Manual Turntable
- Belt-drive turntable
- $595

### Sony PS-L71H Automatic Turntable
- Fully automatic linear-tracking turntable
- $1,195

### Sota Deluxe Sapphire III Turntable
- 2-speed belt-drive turntable
- Available

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

motor. Wow-and-flutter 0.03% w rms; rumble 88.2 dB; speed accuracy ±0.02%; speed adjustment 5%; 20% x 7½ x 16½ in. Oak $1350
Blackwood $1450
African Rosewood $1650

Jewel Turntable
Turntable with inverted bearing system. Features bearing thrust platter; one-piece cast-aluminum turntable platter; impedance matched and damped record mat; four-point suspension; variable, 2-speed motor. Oak finish $800

TECHNICS

SL-1200MKII Manual Turntable
Direct-drive quartz-controlled manual turntable with 33⅓ 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%; rumble 80 dB; effective tonearm length 230 mm; max tracking error ±0.02' (inner groove), ±0.032' (outer groove). 17½ x 6½ x 16½ in; 19.6 lb $550

SL-MA1 Automatic Turntable
Direct-drive turntable with P-mount cartridge and phase-locked-loop quartz lock. 33⅓ and 45-rpm speed control; W & F 0.012%; rumble 80 dB; effective tonearm length 230 mm; max tracking error ±0.02' (inner groove), ±0.032' (outer groove). 17½ x 6½ x 16½ in; 19.6 lb $490

SL-QD33 Automatic Turntable
Direct-drive turntable with P-mount cartridge. Features 2 motors; quartz 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. 33⅓ and 45-rpm, strobe. W & F 0.012% w rms; rumble 78 dB; effective tonearm mass 7.5g; length 230 mm; max tracking error ±2°. 17½ x 4½ x 14½ in $200

Turntables Without Tonearms

SP-10MKA2 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. 33⅓/45/78-rpm; W & F 0.025% w rms ±0.035%; rumble 70 dB (DIN B); speed drift within ±0.002%. 14½ x 4 x 4½ in; 20.9 lb $1400
SH-1087. Optional base $590

SP-15 Turntable
Quartz-synthesis direct-drive turntable that reaches full speed in 2½ sec (40° of rotation) and stops in 0.4 sec (40° of rotation) at 33⅓ rpm. Features ±9.9% quartz-locked pitch control. 33⅓/45/78-rpm W & F 0.025% w rms; rumble 56 dB (DIN A), 78 dB (DIN B) $900
SP-25. Similar to SP-15; no 78-rpm speed. ±6% pitch control $570
SH-15B. Heavy rubber base with simulated wood for SP-25 and SP-15 $500
SH-15B3. Similar to above, rubber base only $500

THORENS BY BLR ELECTRONICS

Phantasie Turntable
Belt-driven 33⅓ and 45-rpm turntable features chassis carved from 40-mm-thick solid block of clear plexiglass. 16-pole synchronous motor; twin solid-core chassis; 3-point leaf-spring suspension; frictionless velocity-sensing auto shut-off trigger. W & F 0.04%; rumble 50 dB unweighted, −70 dB unweighted. 17½ x 6½ x 14 in $450

Thorens TD 320 Mk II

TD 528 SemiAutomatic Turntable
Belt-drive with automatic tonearm lift, motor shutdown. Features 33⅓, 45, 78 rpm; electronic speed selection; ±6% pitch control; stroboscope; velocity-sensing auto shut-off trigger; frictionless magnetic antiskating; twin solid-core chassis and 3-point leaf-spring suspension. W & F 0.035%; rumble −72 dB unweighted $1300
TD 521. Same as above, no tonearm $1100

TD 320 Mark II SemiAutomatic Turntable
Belt-drive 33⅓- and 45-rpm turntable. Features 16-pole synchronous motor; twin solid-core chassis and 3-point leaf-spring suspension; frictionless velocity-sensing auto shut-off triggering. W & F 0.035%, rumble −52 dB unweighted, −72 dB wtd. 17½ x 6½ x 13½ in $740
TD 321. Armless version of TD-320 $500

TD 318 Mark II SemiAutomatic Turntable
Belt-drive 33⅓- and 45-rpm turntable with 16-pole synchronous motor. Features twin solid-core chassis; 3-point leaf-spring suspension; frictionless velocity-sensing auto shut-off trigger. W & F 0.045%; rumble 48 dB unweighted, −70 dB wtd; 17½ x 6½ x 14 in $550
TD 316 Mk II. Manual turntable similar to TD 318 without auto lift and shut off $340

TD 280 Mark II SemiAutomatic Turntable
Belt-drive 33⅓- and 45-rpm with 24-pole synchronous motor. Features 1-piece solid-core chassis and spring damping elements in feet; frictionless velocity-sensing auto shut-off trigger. W & F 0.045%; rumble 48 dB unweighted, −70 dB wtd; 17½ x 6½ x 14 in $330

VECTOR RESEARCH

VT-320 Automatic Turntable
2-speed, belt-drive fully automatic turntable featuring platter-drive DC servo motor, Platter 11½-in diam, die-cast; speed 33⅓ and 45 rpm; linear-tracking tonearm w/cartridge; automatic record-size switching, manual override. 15-track programming; random and access play; tonearm muting. W & F 0.05% w rms; S/N ≥65 dB (DIN B) 16½ x 3⅓ x 14 in; 9 lb $200

YAMAHA

TT-500U Automatic Turntable
Direct-drive turntable with RS integrated remote system compatibility. Features straight tonearm design; resonance-absorbing turntable mat; disc clamps. Black: 15 lb $269
TT-400U Automatic Turntable
Belt-drive turntable with RS integrated remote system compatibility. Features straight tonearm design; resonance-absorbing turntable mat; disc clamps. Black: 15 lb $199
ACOUSTIC RESEARCH

TSA-A Series
Features polypropylene woofers and midrange tweeters.

TSA 910-A 4-Way Speaker
Floor-standing acoustic-suspension column speaker with Tetra-Helix tweeter-multipathing plate. Features two 12-in woofers (one front-firing, one rear-firing), 8-in lower-midrange driver; two 6½-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, 5,200 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. 15⅝ x 52 x 18¾ in; $2,200/pr.

TSB 610-A 3-Way Speaker
Floor-standing acoustic-suspension speaker with Tetra-Helix tweeter-multipathing plate. Features 12-in woofer; 6½-in midrange; ¾-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 32½ x 13½ in; 57 lb. $1,000/pr.

TSW 410-A 3-Way Bookshelf Speaker
Bookshelf acoustic-suspension speaker with Tetra-Helix tweeter-multipathing plate. Features 8-in woofer; 6½-in midrange; ¾-in titanium-dome liquid-cooled tweeter with acoustic lens. Power range 10-100 W; imp 4 ohms; FR 40-40,000 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. 12¼ x 24½ x 11½ in; 30.5 lb. $680/pr.

TSW 210-A 2-Way Speaker
Bookshelf acoustic-suspension speaker with Tetra-Helix tweeter-multipathing plate. Features 8-in woofer; 4½-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. 9¾ x 17¾ x 8¾ 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; high-speed film caps in HF networks; frameless grille; walnut or black-ash woodgrain vinyl finish. Power handling 10-100 W; FR 60-20,000 Hz ± 3 dB; sens 91 dB; imp 4 ohms. 9½ x 15½ x 11½ 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-cooled woofer and midbass; OFC internal wiring; gold-plated 5-way binding posts; high-speed 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. 9½ x 36½ x 13½ in; 43.3 lb. $1,200/pr.

Model 122 2-Way Speaker
Acoustic-suspension design with carbon-loaded polypropylene woofer and liquid-cooled tweeter; direct-cooled woofer and midbass; OFC internal wiring; gold-plated 5-way binding posts; high-speed 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. 9½ x 25½ x 11 in; 23.3 lb. $800/pr.

Model 118 2-Way Speaker
Acoustic-suspension design with carbon-loaded polypropylene woofer and liquid-cooled tweeter; direct-cooled woofer and midbass; OFC internal wiring; gold-plated 5-way binding posts; high-speed 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. 9½ x 25½ x 11 in; 23.3 lb. $800/pr.

Model 119 2-Way Speaker
Acoustic-suspension design with carbon-loaded polypropylene woofer and liquid-cooled tweeter; direct-cooled woofer and midbass; OFC internal wiring; gold-plated 5-way binding posts; high-speed 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. 9½ x 25½ x 11 in; 23.3 lb. $800/pr.

ADC
Soundimage 5502/5504 3-Way Speaker
8-in woofer, 8-in passive radiator; 4-in midrange; two 5½-in tweeters. Power handling 200 W; FR 44-20,000 Hz ± 3 dB; sens 88 dB ± 1 dB SPL/W/m; imp 4 ohms; power handling 35 W rms, 150 W max; crossover point 5,000 Hz. Model 3015 subwoofer features 8-1½-in woofer. FR 41-165 Hz ± 3 dB; sens 88 dB ± 1 dB SPL/W/m; imp 4 ohms; power handling 20 W rms, 150 W max; crossover point 110 Hz. Satellites 11⅝ x 7⅜ x 5⅞ in; 5.5 lb; subwoofer 7½ x 11 x 17 in; 15.5 lb. $500

Soundimage 5002/5004 3-Way Speaker
Venetian bookshelf speaker with 6½-in woofer; 3-in ferro-fluid cooled midrange; two 5½-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. 11⅝ x 15 x 7½ 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-inch dome tweeter); woofers near floor, midrange at top, to control boundary effects. Features copolymere 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 grille; black or walnut finish. Power handling 300 watts continuous; frequency response 26-22,000 Hz ± 3 dB; sensitivity 87 dB sound-pressure level at 1 meter. 11⅝ x 47½ x 20⅝ in; 47 lbs ea. $2,600/pr.

M12/90. Similar to M15/90 except two 8-in woofers; same midrange and tweeter. Power handling 250 watts continuous; frequency response 43-22,000 Hz ± 3 dB; sensitivity 87 dB SPL/W/m; 10¾ x 43⅜ x 14¼ in; 83 lb ea. $1,800/pr.

SAT5 3-Way Speaker
7-in woofer, 1½-in polypropylene dome midrange, 1-in polypropylene dome tweeter; 4th-order Linkwitz-Riley crossover network; acoustically isolated floating-baffle design. Can be integrated with ad/s/ SUB12 subwoofer. Power handling 150 watts continuous; frequency response 40-20,000 Hz; crossover points 700, 4,000, 24 dB/octave; imp 4 ohms. Walnut-veneer or black finish. 8¾ x 17½ x 10½ in. $1,400/pr.

SAT8 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 integrated with ad/s/ SUB10 or SUB12 subwoofer. 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. 8¾ x 17½ x 10½ in. $650/pr.

I/2 3-Way Bookshelf Speaker
Vertically aligned drivers (8½-in Stifflite woofer, 1½-in midrange, and 1-in copolymer soft-dome tweeter); woofer driven by wet wound, twolayer, oxygen-free copper voice coil wound on stainless-steel former; tweeter driven by oxygen-free copper voice coil wound on Kapton former. Linkwitz-Riley crossover at 2,000 Hz. Glass fiber damping, acoustic-suspension enclosure with di-fration-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/W/m; 11½ x 21½ x 10¼ in; 40 lb ea. $800/pr.

Miniature Speakers
L406e 2-Way Speaker
Acoustic-suspension design with 7-in long-exursion rubber cone woofer, 1-in copolymer soft-dome 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. 7⅜ x 1⅜ x 7⅜ in. $650/pr.

L206e 2-Way Speaker
Acoustic-suspension design with 4-in long-exursion...
Advent Baby II 2-Way Bookshelf Speaker
Features 6-1/2-in woofer and 1-in copolymer dome tweeter. 4th-order Linkwitz-Riley 3-way crossover section; separate biamping inputs for woofers, mid-tweeters; auto-resetting resistors in each crossover; cabinet panels 1/4-in to 1/4-in thick, braced front-to-back and between panels, interior damped with glass fiber. FR 20-20,000 Hz; crossover points 350 and 3,750 Hz; sens 87 dB SPL/W/ch; imp 6 ohms nominal. Lacquered walnut or black veneer. 19 x 40 x 11 in; 73 lb $2,200/pr

IC-9 3-Way Speaker
Two 8-in woofers in push-pull arrangement. 3%-in convex midrange, 1-in convex tweeter on angled baffle for image enhancement. Dual input for biamping or bridging; 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 20-22,000 Hz; crossover points 100, 200 Hz; imp 4 ohms. 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 2000 Hz. Power-Shield speaker protection; angled baffle for image enhancement; switch for corner or wall placement.

Advent Prodigy Tower 2-Way Speaker
Floor-standing speaker with 8-in woofer and 1/4-in polyimide ferrofluid-filled tweeter. Min power 75 W rms. Oiled pecan top and base. 28 1/4 x 10 x 8 1/4 in; 25.25 lb $360/pr

Advent Prodigy Tower 2-Way Speaker
Floor-standing speaker with 8-in woofer and 1/4-in polyimide ferrofluid-filled tweeter. Min power 75 W rms. Oiled pecan top and base. 28 1/4 x 10 x 8 1/4 in; 25.25 lb $360/pr

IC-8. As above, with 10-in woofers; power handling 150 W; crossover point 2,000 Hz; suggested amplifier power 15-150 W/ch. 11 x 20 x 10 in; 22 lb $440/pr

MS-205 Subwoofer/Satellite System
Three-piece system with Mini ISW and two MS-200 satellites. Power handling 15-100 W/ch. $500/pr

ALTIC LANSING
Model 510 3-Way Speaker
Audio-acoustic design with two 10-in carbon-fiber woofers, 2-in midrange; 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 13 1/2 in $1,600/pr

Model 505 3-Way Speaker
Audio-acoustic design with 10-in long-throw woofer with woven carbon-fiber cone, 3%-in midrange of same material, 1-in polyimide/titanium tweeter with ferrofluid cooling. Frequency response 35-20,000 Hz ± 3 dB; sens 92 dB SPL/W/m; power handling 100 W nom, 200 W max. Walnut veneer or black finish. 12 x 34 x 13 1/2 in $850/pr

PSW-10 Subwoofer
10-in carbon-fiber woofer; powered by a 100 W amplifier. FR 26-150 Hz ± 3 dB. Input imp line 8 ohms; 17 1/2 x 17 1/2 x 17 1/2 in $850/pr

Model 205 3-Way Speaker
Audio-acoustic design with 8-in carbon-
**SPKERS**

**Diaphragm tweeter with ferrofluid cooling.**

**System 3 Subwoofer/Satellite System**
- Features two satellites, each with two 3-in carbon-filled polypropylene drivers and one 5-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 52-20,000 Hz ±3 dB; sens 90 dB; imp 4 ohms; crossover points 180 Hz, 4,500 Hz.

**Features two satellites, each with two 3-in car-

- **Dome tweeter.**

**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 10¾ in. $360/pr.

**AEGOEE**
- Duettia 2-Way Ribbon Speaker

**Model 55 2-Way Indoor/Outdoor Speaker**
- Compact indoor/outdoor speaker. 2-way acoustic suspension design with 4-in carbon-fiber woofer reinforced with epoxy, 3¼-in polyimide-dome tweeter. FR 85-20,000 Hz ±3 dB power handling 40 W nom, 80 W max; FR 40 Hz-20,000 Hz; sens 90 dB; imp 6 ohms; crossover frequency 3,500 Hz, 12 dB/octave; 8¼ x 11 x ¾ in. $300/pr.

**AMERICAN ACOUSTICS**

**AAL 105 2-Way Bookshelf Speaker**
- 2-way acoustic suspension speaker with 6-in carbon-fiber woofer and 1-in polyimide/titanium tweeter. Power handling 50 W nom, 100 W max; sens 91 dB SPL/W/m; imp 6 ohms; 9¾ x 17 x 8½ in. $400 ea.

**DS 265 2-Way In-Wall Speaker**
- 6½-in long-throw woofers. Power handling 80 W nom, 160 W max; frequency response 32-250 Hz ±3 dB; sensitivity 90 dB; impedance 4 ohms; crossover frequency 180 Hz, 18 dB/octave. 12½ x 9½ x 3½ in. $600/pr.

**Fiber woofer, 2-in midrange and 1-in polyimide/titanium tweeter. Power handling 75 W nom, 130 W max; sens 91 dB SPL/W/m; imp 6 ohms 12 x 22 x 9 in. **$500/pr.

**Caliper Signature 2-Way Ribbon Speaker**
- Midsize 2-way ribbon speaker. Features trapezoidal woofer ribbon; combination midrange/tweeter ribbon; internal crossovers. Anthracite, taupe or custom finishes. Power handling 200 W cont; FR 30-20,000 Hz; SPL 100 dB. $3,095/pr.

**Atlantic Technology**

**Model 205 4-Way Speaker**
- Two 6½-in woofers and an active crossover. FR 70-22,000 Hz ±3 dB; sens 86 dB SPL/W/m; crossover frequency 3,000 Hz; imp 8 ohms. 12½ x 9½ x 4¼ in. $300/pr.

**Model 203 2-Way Shielded Speaker**
- Acoustic-source speaker with 4-in polypropylene woofer, 1-in ferrofluid-cooled soft dome tweeter. Magnetic shielding for hi-fi video application. FR 100-20,000 Hz; power handling 40 watts; imp 4 ohms; sens 87 dB SPL/W/m, crossover point 2,500 Hz. Black cast-aluminum enclosure with metal grille; available in walnut, oak, black metal or weather-tight finishes; 4½ x 7½ x 3¾ in; 29 lb. $499/sys.

**Audiore**
- 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... $5,500/pr.

**AVID**
- Model 232CP 3-Way Speaker
- Features 10-in polypropylene woofer, 4½-in integral edge cone midrange, and 1-in soft dome tweeter in a bass-reflex enclosure. Ferrofluid-cooled 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 Hz and 5,000 Hz; imp 8 ohms. 15 x 28 x 10½ in $600/pr.

**AXIOM**
- AX 5.2-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**
- Two 10-in woofers and active crossover. FR 29-120 (or 250) Hz ±3 dB; sens 87 dB; imp 4 ohms; crossover points 120 and 250 Hz. Dark, natural, or black oak finish with black knit grille. 15 x 33 x 16 in; 80 lb ea. $1,099 ea.

**AX 3.2-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 10½ in 66 lb/pr. $899/pr.

**AX 2.2-Way Speaker**
- Tuned port speaker with 8-in woofer and 1-in dome tweeter. FR 40-22,000 Hz ±2 dB; sens 89 dB; imp 6 ohms; crossover point 3,200 Hz. Dark, natural, or black oak finish with black knit grille. 10 x 24 x 10½ in 50 lb/pr. $569/pr.

**AX 1.5 In-Wall 2-Way Speaker**
- Features 6½-in woofer and ¾-in dome tweeter; choice of 18 grille colors. FR 45-22,000 Hz ±2 dB; sens 89 dB; imp 6 ohms; crossover 3,000 Hz. Black knit grille. 14 x 19 x 1 in; 16 lb/pr. $328/pr.

**AX 1.5 Bookshelf Speaker**
- Tuned port speaker with 6½-in woofer and ¾-in dome tweeter. FR 50-22,000 Hz ±2 dB; sens 89 dB; imp 6 ohms; crossover point 3,500 Hz. Dark, natural, or black oak finish with black knit grille. 8 x 15 x 8 in; 30 lb/pr. $299/pr.

**Bang & Olufsen**
- Beorox Penta 3-Way Speaker
- Five-sided bass-reflex speaker. Features four 5-in 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 1 in; 37½ lb ea. $2,200/pr.
**Speakers**

**B&W Loudspeakers**

**Matrix 801 Series 2 Speaker**

Floor-standing 6th-order Butterworth vented system. Features 12-in polymer woofers, 5½-in Kevlar midrange and 1-in metal-dome tweeter. Electronic bass-adjustment filter. Walnut, black, white, natural-oak finishes. Power handling 600 W; FR 25-200,000 Hz; ±2 dB; 8 ohms; Sens 92 dB SPL/W/m; crossover frequency 5,000 Hz; THD <0.1% from 250-6,000 Hz. 17 ½ x 18 x 11 in. 31 lb ea. $5,500/pr

**Matrix 803 2-Way Speaker**

Bass-reflex, dynamic speaker with 7½-in woofer and 1-in dome tweeter. Bass adjustment filter; matrix cabinet. Sens 90 dB SPL/W/m, power handling 90-200 watts; imp 8 ohms; FR 30-20,000 Hz. $3,000/pr

**CM2 Matrix Mini 2-Way Speaker**

Floor-standing 4th-order Butterworth vented system consisting of CM2 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. 6½ x 39/4 x 8½ in. 10 x 9½ in. $13,750/pr

**CM1 2-Way Bookshelf Speaker**

Acoustic-suspension speaker with 5-in Kevlar woofer and 1½-in metal-dome tweeter. Features matrix construction. Sens 85 dB SPL/W/m; power handling 120 W max; FR 90-20,000 Hz ±1½ dB; 8 ohms. White, black or nextel grey finishes. 6½ x 9½ x 8½ in. 11 lb ea. $2,500/pr

**DM640 3-Way Speaker**

Bass-reflex speaker with 7½-in woofers and 1½-in metal-dome tweeter. Features biwiring. Sens 91 dB SPL/W/m; power handling 25-150 W; imp 4 ohms; FR 58-20,000 Hz ±2 dB. $1,300/pr

**DM620 2-Way Speaker**

Bass-reflex speaker with 7½-in woofer and 1½-in metal-dome tweeter. Features biwiring. Sens 91 dB SPL/W/m; power handling 25-150 W; imp 4 ohms; FR 58-20,000 Hz ±2 dB. $800/pr

**CWM 8.2-Way In-Wall Speaker**

Acoustic-suspension, speaker with 7½-in woofer and 1½-in tweeter. Sens 91 dB SPL/W/m; power handling 20-70 W; imp 6 ohms; FR 45-20,000 Hz ±3 dB. 9 x 12½ x 3 in. $400/pr

**V202 2-Way Speaker**

Bass-reflex, speaker with 7½-in woofer and 1½-in tweeter. 4th-order vented. Sens 90 dB SPL/W/m; power handling 20-120 W; imp 6 ohms; FR 48-20,000 Hz ±3 dB. $350/pr

**BIC America**

**Venturi VR830 3-Way Speaker**

Speaker with 8-inch carbon-impregnated polypropylene woofer, 6-inch cast-frame polycarbonate midrange, and 1-inch polyurethane soft-dome tweeter. Features segmented cabinet; spikes for floor coupling. Power handling 20-250 watts; FR 40-22,000 Hz ±3 dB; 91 dB SPL/W/m; 8 ohms; crossover points 1,000 and 5,000 Hz. 10½ x 40 x 11½ in. 45 lb ea. $799/pr

**Venturi 630 3-Way Speaker**

Speaker with 6-inch woofer, 6-inch polycarbonate midrange, and 1-inch polyurethane soft-dome tweeter. Power handling 15-150 watts; FR 49-22,000 Hz ±3 dB; 90 dB SPL/W/m; 8 ohms; crossover points 1,500 and 5,000 Hz. 9 x 34 x 11 in. 37 lb ea. $599/pr

**Venturi V620 2-Way Speaker**

Speaker with 6-inch woofer and 1½-in polyamide soft-dome tweeter. Power handling 10-120 watts; FR 49-20,000 Hz ±3 dB; 90 dB SPL/W/m; 8 ohms; crossover point 3,000 Hz. 9 x 23 x 11 in. 24 lb/ea. $329/pr

**BOSE**

**Model 901 Series VI Speaker**

Features Direct/Reflecting Acoustic-Matrix design with active equalizer and eight rear-facing, one front-facing 4½-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 2½ x 4½ ft. $1,299. 8 ft. 21 x 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-inch woofers; four 3-inch tweeters; subwoo enclosure system with slotted port. Power handling 200 watts continuous; impedance 8 ohms... $999/pr

**Model 401 Direct/Reflecting Speaker**

Floor-standing, column-type enclosure with two 6½-inch woofers and 2-inch magnetic liquid-cooled tweeter. Features Stereo Matrix array design; thermal-system protection circuit. Walnut or black-vinyl finish; five-year warranty. Power handling 75 W max rms; imp 8 ohms; 10 x 20 x 9½ in. $399/pr

**Model 6.2 Direct/Reflecting Speaker**

Bookshelf speaker with controlled-dispersion-pattern design. Features 8-inch woofer, two 3-inch tweeters; dual-chamber sub-port bass system; interactive crossover network. Hardwood-veneer with teak finish; five-year warranty. Power handling 100 W cont; imp 4 ohms. 10 x 20 x 9½ in. 19½ lb. $599/pr

**Model 4.2 Direct/Reflecting Speaker System**

Compact bookshelf speaker with 8-inch woofer, 2½-inch axial-mounted tweeter. Features dual-chamber bass system with slot-port design; auto tweeter protection circuit. Teak-veneer finish; five-year warranty. Power handling 75 W max rms; imp 8 ohms. 9½ x 18 x 10 in. 15 lb ea $399/pr

**Acoustimass 5 Subwoofer/Satellite System**

Compact modular system with Acoustimass bass module and Direct/Reflecting cube speaker arrays. Each array features 2 separate cube enclosures that can be adjusted for direct or reflecting configuration. Bass module has two 6½-in drivers. Features automatic protection circuitry. Scratch-resistant black-satin finish for bass module, black or white finish for cube speaker; five-year warranty. Optional accessories include wall-ceiling mount brackets. Power handling 100 W cont. Cube speaker: 3½ x 7½ x 4¼ in. Bass module: 12 x 20 x 8 in; 33 lb. $799 ea

**Acoustimass 3 Subwoofer/Satellite System**

Acoustimass bass module and two magnetically shielded cube enclosures. Features 5½-inch woofer and two 2½-inch 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: 4½ x 3½ x 4½ in. Bass module: 14 x 8 x 8 in. $599 ea

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| RoomMate II Portable Powered Speaker System | Features built-in stereo amp that accepts output of personal stereo and portable CD players. AC/DC compatible. 4% full-range driver with helical voice coils. Features 2-stage active equalization network; distortion-limiting circuitry. Aero-dynamically tuned ports, high-impact polypropylene cabinet. Sens 102 dB. 6 1/2 x 9 1/2 x 6 1/4 in; 10 lb. Black finish | $339/pr |

| BOSTON ACOUSTICS | **T Series** | **T903 3-Way Speaker** Floor-standing acoustic-suspension speaker with 10-in copolymer cone woofer, 6 1/2-in copolymer midrange, and 1-in CPT 5 ferrofluid-cooled dome 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 points 350, 2,500 Hz. Comes in hand-finished walnut veneer or woodgrain vinyl. 36 1/4 x 10 1/2 x 12 in. Walnut veneer: $1,200/pr. Black vinyl: $1,000/pr. |
| | **T903 3-Way Speaker** Floor-standing acoustic-suspension speaker with 10-in copolymer cone woofer, 6 1/2-in copolymer midrange, and 1-in CPT 5 dome tweeter. Power handling 15-125 W/ch rms; frequency response 42-20,000 Hz ± 3 dB; sensitivity 90 dB SPL/W/m; impedance 8 ohms; crossover points 350 and 2,500 Hz. Comes in hard-finished walnut veneer or woodgrain vinyl. 36 1/4 x 10 1/2 x 12 in. Walnut veneer: $800/pr. Black vinyl: $700/pr. |
| | **T905 3-Way Speaker** Floor-standing acoustic-suspension speaker with 10-in copolymer cone woofer, 6 1/2-in copolymer midrange, and 1-in CPT 5 dome tweeter. Power handling 15-100 W rms; FR 45-20,000 Hz ± 3 dB; sensitivity 88 dB SPL/W/m, imp 8 ohms; crossover points 800 and 4,000 Hz. Comes in woodgrain vinyl and black-ash finishes. 10 x 32 x 9 1/2 in. | $500/pr |
| | **SubSat Six Subwoofer/Satellite System** Three-piece system with 2 small satellite speakers and 1 compact subwoofer. Each satellite features 3 1/2-in ferrofluid-cooled tweeter and 4-in midrange; subwoofer uses two drivers in sealed and vented chambers. Power handling 15-150 W rms; imp 8 ohms; sens 87 dB SPL/W/m. Satellites available in black or white finishes, subwoofer in black. Satellite: 5 x 8 x 4 in; subwoofer: 16 x 13 7/8 x 7 1/4 in. $500/system |
| | **Designer In-Wall Speaker Series** Each speaker is water resistant and has a matte-white finish that can be painted to match room decor. Includes mounting hardware; brackets available for installation in new construction. | $200/pr |
| | **SW-10 Powered Subwoofer** Flush-mount 10-in subwoofer in compact vented enclosure. System features internal 100-watt amplifier with 10-in flush-mount driver. Low frequency: 34 Hz; crossover: 120 Hz; tweeter: 12,000 Hz. Power handling 500 W; FR 30-2,000 Hz; sens 96 dB SPL/W/m. | $600/pr |
| | **Model 380 2-Way Speaker** Floor-mount speaker with 8-in copolymer woofer and 1-in ferrofluid-cooled soft-dome tweeter. Power handling 5-75 W rms; FR 48-20,000 Hz ± 2 dB; imp 8 ohms; sens 90 dB SPL/W/m, 94 x 12 1/10 in; mounting depth 3 1/2 in. | $500/pr |
| | **Model 350 2-Way Speaker** Flush-mount speaker with 5 1/4-in copolymer woofer and 1-in ferrofluid-cooled soft-dome tweeter. Power handling 5.5-50 W rms; FR 68-20,000 Hz ± 2 dB; imp 4 ohms; sens 94 x 6 1/2 in; mounting depth 2 1/4 in. | $300/pr |
| | **Model 325 2-Way Speaker** Compact flush-mount speaker with 5 1/4-in woofer and in-line mounted 3 1/2-in cone tweeter. Power handling 5-25 W rms; FR 68-20,000 Hz ± 3 dB; imp 8 ohms; sens 90 dB SPL/W/m, Matte-white finish; steel perforated grille. 6 1/2 in square; mounting depth 2 1/4 in. | $200/pr |
| | **A Series** | **A120 2-Way Bookshelf Speaker** Vented enclosure with 10-in passive radiator, 6 1/2-in midrange, 1-in CPT 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 1/2 x 24 x 8 1/4 in. Black finish: $420/pr. |
| | **A Series** | **A70 Series II 2-Way Bookshelf Speaker** Acoustic suspension speaker with 8-in copolymer woofer and 1-in CPT 5 ferrofluid-cooled soft-dome tweeter. Power handling 15-75 W rms; FR 45-20,000 Hz ± 3 dB; imp 8 ohms. Woodgrain-vinyl finish with charcoal grille. 12 1/2 x 23 x 8 1/4 in. | $320/pr |
| | **A Series** | **A60 Series II 2-Way Bookshelf Speaker** Acoustic suspension speaker with 8-in copolymer-woofer and 1-in ferrofluid-cooled dome tweeter. Power handling 15-75 W rms; FR 52-20,000 Hz ± 3 dB; imp 8 ohms. Woodgrain-vinyl finish with charcoal grille or matte-black vinyl finish with back grille. 11 1/4 x 18 1/4 x 7 1/4 in. | $240/pr |
| | **Cambridge Acoustics A70 Series II** | **HD7 2-Way Speaker** 7-in copolymer woofer and 1 1/2-in ferrofluid-cooled dome tweeter. Features structural ribbing to reduce metallic vibrations. Available in woodgrain vinyl with gray grille and black-ash vinyl with black grille. 9 x 14 x 7 in. | $200/pr |
| | **Cambridge Physics** | **G-60 3-Way Speaker** Features two 8-in woofers, 3-in dome midrange, 1-in dome tweeter. FR 26-22,500 Hz; sens 92.5 dB; crossover points 450, 4,000 Hz. 18 x 44 x 12 in. Black finish: $9,100 ea. | $1,000/pr |
| | **Cambridge Physics** | **G-33 2-Way Speaker** Features 10-in and 8-in woofers and 1-in dome tweeter. FR 36-22,500 Hz; sens 91 dB, imp 6 ohms; crossover point 1,500 Hz. 16 x 9 3/4 x 9 in. 34 lb ea. | $525/pr |
| | **Cambridgesoundworks** | **Available through mail order only.** Ensemble by Henry Kloss 3-way subwoofer/satellite system consisting of 2 subwoofers and 2 satellites. Each satellite features 3 1/2-in ferrofluid-cooled cone midrange (170 Hz to 2,300 Hz), and 1 1/4-in direct radiator with an integral 3/4-in ferrofluid-cooled dome tweeter (2,300 Hz to 20,000 Hz); cabinet is high-density particle board finished in dark gray Nextel; metal grilles. Each low-frequency module features 8-in long-throw woofer; cabinet is made of high-density particleboard with internal bracing, and is finished in black high-pressure laminate with metal grilles. Nom imp 6 ohms; power range 25-100 W. Subwoofer: 12 x 21 x 4 1/4 in; Satellite: 3 1/2 x 8 x 4 x in. $995/sys |
| | **Canton** | **Floor-Standing Speakers** | **Ergo 120 4-Way Speaker** Bass-reflex speaker features two 10-in woofers; 6 1/2-in midbass; cone midrange; 1-in aluminum/manganese-dome tweeter. Imp 4 ohms: FR 18-30,000 Hz; sens 94 dB SPL/W/m. Crossover points 350, 3,000, 7,000 Hz. Black and white-ash, matte-mahogany, oak, or walnut finish. 13 x 51 x 17 in; 110 lb each. Available in Nextel finish, solid oak, or primed painting. 7 x 11 x 5 1/2 in. $109 ea. Solid oak $129 ea. |
| | **Canton** | **Floor-Standing Speakers** | **Fonum 300 2-Way Speaker** Bass-reflex speaker features 9-in woofer, 1 1/2-in fabric-dome midrange, and 3 1/2-in fabric-dome tweeter. Black grille. Power handling 150W; Imp 8 ohms; FR 35-26,000 Hz; crossovers 900, 5,000 Hz. Black finish. 10 1/2 x 35 1/2 x 11 in. | $2,000/pr |
| | **Boozh Speakers** | **Karst 930 2-Way Speaker** Bass-reflex speaker features 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 |
| | **Boozh Speakers** | **Fonum 400 3-Way Speaker** Bass-reflex speaker featuring 9-in woofer, 1 1/4-in fabric-dome midrange, and 3 1/2-in fabric-dome tweeter. Black grille. Power handling 70 W; Imp 8 ohms; FR 35-26,000 Hz; crossovers 900, 5,000 Hz. Black finish. 10 x 18 x 9 in. | $600/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. 10-in sq. | $600/pr |
**InWall Sub Subwoofer**
Features 9-in woofer with white, brass, or chrome grille. Imp 8 ohms; FR 25-150 Hz; sens 89 dB SPL/W/m; crossover point 150 Hz. 10 x 3 x 10 in; 7 lb each. $350/pr

**System 600 Subwoofer**
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

**MiniSpeakers**

**G1.300 F 2-Way Speaker**
Acoustically tuned for wall mounting. Features 1-in dome tweeter (fabric), long-throw 6-in cone woofer. Enclosure surfaces black or white; steel plate perforated grille; color to match enclosure; Permatex spring clamps; 5-m connecting cable; removable grille. Imp 4 ohms; power handling 40/60 W; FR 48-30,000 Hz; crossover point 1,700 Hz; sens 87.3 dB SPL/W/m. $500/pr With walnut finish $550/pr

**Plus S 2-Way Speaker**
Suitable as satellite in connection with Canton Plus Beta and Plus C subwoofers. Features 4¼-in cone woofer; 1-in dome tweeter; finish wall mount; removable grille. FR 45-30,000 Hz; power handling 40/70 W; sens 87.3 dB SPL/W/m; imp 4 ohms. Black, white, or brown finish. 4¼ x 8 x 4½ in; 5 lb $350/pr

**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

**CANTON PLUS C subwoofer**
Cabinet features high-frequency protection circuit breaker; 75 lb ea; 7 ¼ x 13 ½ x 13 ¾ in; 26.25 lb... $600 ea

**CARVER**

**The Amazing Loudspeaker, Platinum Edition**
1½-in thick planar speaker with 60-in full-range ribbon driver and integral subwoofer section consisting of 4 long-throw 12-in cone woofers. FR 23-40,000 Hz – 3 dB; sens 89 dB; max SPL 121 dB; power handling 800 W. Available in piano-lacquer black and oak finishes. 30 x 66 x 10 in (at base); 110 lb ea... $52,200/pr

**The Amazing Loudspeaker, Silver Edition**
1½-in thick planar speaker with 40-in full-range ribbon driver and integral subwoofer section consisting of 3 long-throw 12-in cone woofers. FR 23-40,000 Hz – 3dB; sens 89 dB; max SPL 119 dB; power handling 600 W. Available in piano-lacquer black and oak finishes. 22 x 54 x 10 in (at base); 75 lb ea... $1,800/pr

**CELESTION**

**ST.700 2-Way Speaker**
Sealed-box speaker with metal-dome tweeter and 2-part rollover surround. Features braced Aerolam cabinet of 12-liter volume. Power handling 120 W. With integral stand... $3,299/pr

**System 6000 Subwoofer**
Double dipole low-frequency array with two 12-in long-throw woofers in each of 2 systems. Features electronic section with crossover and EQ; variable gain controls... $2,999/ea

**Celeston 3 2-Way Bookshelf Speaker**
Features 5-in woofer and 1-in pure-titanium tweeter. Designed for use near wall... $280/pr

**CELERIN-VEGA**

**Digital Series**

**D-9 3-Way Speaker**
3-way, 4-driver, floor-standing speaker with 15-in woofer, dual 6-in midranges and 1-in tweeter. Features Helmholtz/Theile enclosure fabricated from high-density pressed board with woodgrain vinyl finish and brown stretch grille. Power range 5-350 W; FR 29-20,000 Hz; sens 101 dB; imp 4 ohms; crossover frequencies 500 and 3,500 Hz; 18 x 35½ x 17½ in; 85 lb... $1,050/pr

**D-5 3-Way Speaker**
Floor/shelf 3-way speaker with 12-in woofer, 6-in cone midrange, 1-in horn tweeter. Features circuit protection; tweeter-level controls. Max power 150 W; FR 32-20,000 Hz ± 3 dB; crossovers 700 and 3,500 Hz; sens 96 dB SPL/W/m; imp 8 ohms... $660/pr

**D-2 2-Way Speaker**
2-way speaker system with 10-in woofer in a cast-aluminum 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 ohms; crossover frequency 3,000 Hz. Woodgrain vinyl finish with brown stretch cloth grille. 14 x 23½ x 10 in; 38 lb... $440/pr

**SE Series**

**300SE-3-Way Speaker**
Floor-standing bass-reflex speaker with 12-in cone woofer. Features 7-in cone midrange; 1-in VC horn-loaded elliptical-dome tweeter. Power handling 5-355 W; FR 25-20,000 Hz ± 3 dB; sens 98 dB SPL/W/m; imp 6 ohms. Finished in black vinyl. 14½ x 32 x 16½ in; 65 lb... $900/pr

**288SE-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 SPL/W/m; imp 6 ohms. Finished in black vinyl. 14½ x 25½ x 11½ in; 45 lb... $690/pr

**200SE-2-Way Bookshelf Speaker**
8-in woofer; 1-in tweeter; vented design. Power handling 1-500 W; FR 32-20,000 Hz ± 3 dB; imp 6 ohms. 10½ x 22 x 12½ in... $410/pr

**CLEFTENS**

**Reference RT-7 2-Way Speaker**
Compression-line bass-loaded speaker featuring 8-in polypropylene cone woofer with Kapton voice coil and diaphragm, 7-in direct-inductance planar-rubin midrange/tweeter. Frequency-tilt control. Power handling 20-200 W/Ch; FR 26-40,000 Hz ± 3 dB; sens 88 dB/Ch; imp 6.5 ohms; crossover point 1,575 Hz. Rosewood finish. 10½ x 45½ x 19 in... $2,595/pr

**RB-8.0 Mark II**
As above, power handling 30-200 W/Ch; FR 26-40,000 Hz. Optional biamp version. Walnut finish, adjustable spiked feet included. 13½ x 35½ x 13 in... $1,650/pr

**DAHLQUIST**

**DQ-20 3-Way Speaker**
Vertical-phase array design intended for floor placement with 10-in cone woofer, 8-in cone midrange, ¼-in dome tweeter. Min power 70 W rms; imp 4 ohms. Oak with black or white grille... $2,000/pr

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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-307 3-Way Speaker
Acoustic-suspension speaker with 10-in woofer, 5-in midrange, 1-in dome tweeter in a damped enclosure. Sens 88 dB; power handling 40-150 W; FR 30-24,000 Hz. Genuine walnut enclosure, spaced grille with solid-walnut trim. 14½ x 28 x 12½ in ..................................................... $1,000/pr

M-905 2-Way Speaker
Front-firing tuned-port speaker with cast frame 8-in woofer and 1-in dome tweeter. Power handling 20 W min to 125 W max; sens 91 dB; imp 8 ohm. Genuine walnut enclosure, spaced grille with solid-walnut trim. 13½ x 24 x 12 in ..................................................... $680/pr

M-903 2-Way Speaker
Front-firing tuned-port with 6½-in cast-frame woofer; 1-in dome tweeter. Features 5-way binding posts; accepts banana plug. Power handling 20-70 W; FR 48-24,000 Hz; sens 90 dB; imp 8 ohms. 9½ x 17 x 10½ in; 16 lb ea ..................................................... $450

DCM
Time Window 3
Folded transmission-line speaker with 8-in cone woofer, 6½-in cone midrange, and two 2½-in soft-plastic-dome tweeters. Features time-coherent point-source configuration; adjustable high- and mid-range frequency output, narrow/wide image control; utilizes acoustic anti-diffraction lenses. FR 24-20,000 Hz; power handling 10-500 W; sens 90 dB; FR 47-20,000 Hz; power handling 15-250 W ..................................................... $600/sys

TAS-9 3-Way Speaker
Acoustic-suspension speaker with 8-in long-throw woofer, 5½-in midwoofer, ¾-in ferrofluid-cooled soft-dome tweeter. Acoustically treated baffle; crossover points 15 and 3000 Hz; sens 90 dB; FR 45-20,000 Hz; power handling 15-300 W ..................................................... $600/sys

PS-2CD 2-Way Speaker
Acoustic-suspension speaker with 8-in woofer, 2-way crossover, 2½-in dome tweeter. Acoustically treated baffle; crossover point 2,800 Hz; sens 90 dB; FR 35-20,000 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 baffle; crossover point 3,000 Hz; sensitivity 88 dB; frequency response 55-20,000 Hz; power handling 10-100 W ..................................................... $280/pr

DENNEN ELECTROSTATICS
Dennens Class A 3-Way Speaker
Floor-standing slot-loaded bass module/electrostatic hybrid speaker with 10-in downward firing woofer, 6½-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

Dennens Bookshelf Speaker
Acoustic-suspension, electrostatic hybrid speaker with 5-in woofers/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 9½ in; 20 lb ..................................................... $950/pr

DESIGN ACOUSTICS
PS-3 Subwoofer/Satellite System
2 oak-veneer satellites and slot-loaded bass module. Satellite has ¾-in polycarbonate-dome tweeter and 3½-in midrange. Bass module has two downfiring 6½-in high-compliance, long-throw woofers. Crossover at 200 and 3,000 Hz. Sens 88 dB SPL/W/m; FR 50-20,000 Hz; power handling 20-100 W ..................................................... $600/sys

PS-9 3-Way Speaker
Acoustic-suspension speaker with downfiring 8-in long-throw woofer, 5½-in midwoofer, ¾-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 ..................................................... $300/pr

PS-SC 2-Way Speaker
Acoustic-suspension speaker with 8-in woofer, 1½-in 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 baffle; crossover point 3,000 Hz; sensitivity 88 dB; frequency response 55-20,000 Hz; power handling 10-100 W ..................................................... $280/pr

ENERGY
Model 22.3 2-Way Speaker
Floor-standing 3-way front-vented enclosure. Features Spherex front baffle supporting soft 6½-in woofers with ¾-in dual-hyperdome tweeter. Biampable; adjustable spikes included. Power handling 150 W cont; FR 30-20,000 Hz; sens 87 db; imp 6 ohms. Walnut or black-ash veneer. 10 x 40 x 16½ in; 67 lb ea ..................................................... $2,900/pr

Model 21.2 2-Way Bookshelf Speaker
2-way front vented enclosure. Features spherex front baffle supporting 6½-in woofers with ¾-in dual-hyperdome tweeter. Biampable. Power handling 110 W cont; FR 40-23,000 Hz; sens 85 db; imp 6 ohms. Walnut or black-ash veneer finish. 10 x 16½ x 12½ in; 21½ lb ea ..................................................... $1,000/pr

Model 4.1e 2-Way Speaker
Front-vented speaker featuring 7-in quadcentric woofer and 1-in tweeter. Power handling 100 W cont; FR 35-20,000 Hz; sens 87 dB; imp 6 ohms. Walnut or black-ash finish. 10 x 24 x 12 in ..................................................... $750/pr

Model 3.1e 2-Way Bookshelf Speaker
Front-vented speaker featuring 8½-in quadcentric woofer and ¼-in tweeter. Power handling 100 W cont; FR 40-20,000 Hz ± 3 db; sens 87 db; imp 6 ohms. Walnut or black-ash finish. 10 x 19 x 10½ in ..................................................... $550/pr

EPI
Model 150 Series 2 3-Way Speaker
Features 10-in woofer. Power handling 120 W; imp 8 ohms; sens 91.5 dB. Wood-trimmed base and a pewter grille. 38 in high, 16.5 in wide ..................................................... $499/pr

Model 110 Series 2-Way In-Wall Speaker
Features 6½-in midbass transducer; low-mass design. Power handling 60 W continuous; imp 8 ohms; sens 90 dB. Gray grille with optional off-white or rose-colored wrap ..................................................... $299/pr

Model 100 Series 2-Way Bookshelf Speaker
Features 8½-in midbass transducer; low-mass design. Power handling 60 W continuous; imp 8 ohms; sens 90 dB. Neutral gray grille with slate-textured enclosure. 20 in high, 12 in wide ..................................................... $249/pr

ESS
AMT-2 Monitor 2-Way Speaker
Floor-standing speaker with 21½ x 21½-in Heil air-motion transformer with mylar diaphragm. 99
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. 18 1/2 x 41 x 12 in; 82 lb. $1,250/pr

**PS-1220 3-Way Speaker**
Floor-standing passive-radiator speaker with 12-in woofer. Heil air-motion transformer tweeter with 10% x 10% in-midrange 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 14 x 3/4 in; 34 in; 65 lb. $595/pr

**PS-920 2-Way Bookshelf Speaker**
Passive-radiator speaker with 8-in woofer. Heil air-motion transformer tweeter-midrange with 10% x 10% in-midrange 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. 11 5/8 x 22 1/2 in. $438/pr

**FOCUS**
High-Definition 2-Way Speaker
Floor-standing speaker with 8-in woofer, 1/4-in tweeter. Features cabinets made of 14-layer Ply-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 Ply-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-AUDIO**
AS-802 2-Way In-Wall Speaker
Scaled, flush-mount speaker with 8-in polypropylene woofer and 1-in ferrofluid-coupled soft-dome 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; sens 8 ohms; FR 38-23,000 Hz; imp 8 Ohms. $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 6-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; 8 1/2 x 12 x 2 1/2 in. $425/pr

**FRIED**
G/3-3-Way Speaker
Floor-standing transmission-line speaker with 18-in polypropylene woofer; 6-in midrange; 1/4-in dome tweeter. With series crossover networks and dual cone drivers; transmission-line loading of midrange. FR 23-22,000 Hz ± 3 dB; power range 100-200 W/m; sens 91 dB SPL/W/m; imp 8 ohms. Walnut and oak finishes. 16 x 44 x 18 in; 100 lb. $2,060/pr

**C3-L 2-Way Speaker**
Full-transmission-line-loaded speaker with 6½-in p-dcone woofer; ¼-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. 10½ x 13½ x 13½ in; 20 lb. $1,450/pr

**R/4 3-Way Speaker**
Column loudspeaker with 10-in polypropylene woofer with vented pole piece; 1½-in polypropylene midrange with vented pole piece; 1½-in dome tweeter with ferrofluid damping. Features built-in tilt-back pedestal with line loading for midrange and line-tunnel loading for bass. FR 32-28,000 Hz ± 3 dB; power range 25-100 W/ch; sens 90 dB SPL/W/m; nom imp 8 ohms; crossover 150 Hz. $1,195/pr

**Fried Beta**
20,000 Hz ± 3 dB; power range 25-100 W/ch; sens 90 db; imp 8 ohms. 12 x 32 x 10½ 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-Bookshelf Speaker**
Bookshelf speaker with 6½-in polypropylene dome composite tweeter with 2-in cone and ¾-in dome. Features polypropylene cones; series filter crossover; distributed bass-loading free-flow filter system. Walnut or black-ash. 8 13½ 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 ea

**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. $899/pr

**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. $499/pr

**M3 2-Way Bookshelf Speaker**
Bass-reflex speaker with 8-in woofer and ¾-in polyimide-dome tweeter. Min power 15 W; sens 88 dB SPL/W/m, imped 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 ¾-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 6½-in woofer and ¾-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

**HARTLEY PRODUCTS**
The Reference Tower 2-Way Speaker
Floor-standing speaker with four 6½-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 wiremoldable knit grille. 44 1/4 x 171/4 x 18 in. $1,500/pr Mini-Tower. As above, two 6½-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 heavy 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 lb. $525 ea

**HEYBROOK BY D'ASCANIO AUDIO**
HB-3.3-Way Speaker
Hand-assembled acoustic-suspension speaker with 10-in doped-cone woofer; 4½-in doped-cone midrange and ¾-in soft-dome tweeter; removable rear panel for bi- and triamping; walnut or black-
ash finish. FR 35-20,000 Hz ± 3 dB; power range 15-200 W. 13% x 25 x 1 1/4 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
Infini-baffle speaker with 8-in woofer and metal-dome tweeter. Black or woodgrain finish. FR 50-20,000 Hz; sens 89 dB; imp 8 ohms; power range 15-100 W. 11 x 19 x 10 in $694/pr

Point Five 2-Way Bookshelf Speaker
Hand-assembled infinite-baffle speaker with 6½-in damped-cone woofer; ¾-in dome tweeter; structurally rigid cabinet; black finish. Frequency response 50-20,000 Hz ± 3 dB; power range 15-75 W; sensitivity 87 dB; nominal impedance 6 ohms. 9 x 14 x 9 in $329/pr

ICON ACOUSTICS
Icon Parses 3-Way Speaker
Floor-standing speaker with 1-in metal-dome tweeter, 6½-in polypropylene midrange, and 10-in graphite-impregnated woofer. Crossovers use only polypropylene and polystyrene capacitors; internal wiring from Audiocast; 2 pairs of gold-plated 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 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: 150, 750, 4,500, 10,000 Hz. Woofer module: 16½ x 64¼ x 14¼ in; mid/tweeter module: 17 x 64¼ x 1 in; base footprint 18 x 17 x 21½ lb. $1,950/sys

Kappa Series
9 Kappa Reference Standard 5-Way Speaker
Features two 12-in cast frame woofers; 5-in polypropylene/graphite injection-molded cones; 2-in edgewise midrange; rear-firing EMIT k tweeter; SEMIT k tweeter, 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 35½ x 9¾ 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 ohms; FR 37-45,000 Hz, ± 3 dB; crossover frequencies 800, 4,500 Hz; sens 88 dB SPL/W/m, 17 x 37 x 12 in $1,498/pr

5 Kappa Reference Standard 2-Way Speaker
Bookshelf design featuring 6½-in graphite tweeter 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 Polyclone tweeter. Power handling 300 W cont; FR 44-25,000 Hz, ± 3 dB; sens 102 dB SPL/W/m, imp 8 ohms. Walnut vinyl finish. 17½ x 40 x 12½ in; $1,198/pr

SM 112 2-Way Speaker
Floor-standing bass-reflex design with front-mounted high- and mid-level controls. Features 10-in cone woofer, and 1-in Polyclone tweeter. Power handling 150 W cont; FR 65-25,000 Hz ± 3 dB; sens 100 dB SPL/W/m, imp 8 ohms. Walnut finish. 12 x 21 x 12 in; $538/pr

RS Series
RS 6001 3-Way Speaker
Floor-standing design features 2½-in graphite woofers, 2-in polyphosphate midrange, and EMIT k tweeter. Power handling 200 W cont; FR 42-45,000 Hz, ± 3 dB; sens 89 dB SPL/W/m, imp 6 ohms; crossover frequencies 600, 4,200 Hz. Chairsworth-oak vinyl or black oak vinyl. 11½ x 37 x 9¾ in $1,058/pr

RS Powered Subwoofer
Features 12-in graphite woofer; 200-W servo-driven amplifier. Separate subwoofer control box includes variable low-frequency cut-off, 2-position rumble filter; low-frequency-level control, absolute phase switch; active high-pass satellite control. Bass response extends to 22 Hz. $2,000 ea

JAMO
Concert Series
Concert V 3-Way Speaker
Bass-reflex speaker with 1-in dome tweeter, 6½-in midrange and 6½-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; 11½ x 36½ x 12½ in; 62 lb $1,698/pr

Concert V 3-Way Speaker
Bass-reflex speaker with 3½-in woofer and 1-in dome tweeter. Power handling 110 W cont; 160 W peak; sensitivity 93 dB SPL/W/m; frequency response 30-22,000 Hz ± 3 dB; crossover points 150, 3,500 Hz; imp 6 ohms; overload protection: 24% gold-plated binding posts. White, mahogany, or black-ash finish. 14 x 3½ x 11 in; 42 lb $1,198/pr

Concert II 2-Way Bookshelf Speaker
Bass-reflex speaker with 6½-in woofer and 1-in dome tweeter. Power handling 80 W cont; 120 W peak sens 91 dB SPL/W/m, FR 40-20,000 Hz ± 3 dB; imp 8 ohms; overload protection: gold-plated binding posts. White, mahogany, or black-ash finish. 9½ x 16 x 10½ in; 20 lb $750/pr

Wall-Mount Speakers
Art 2-Way Speaker
Flat panel, wall-hanging speaker works as full-range or satellite unit. Features 5-in woofer, 1-in dome tweeter; power handling 90 W, 60 W continuous power; sens 88 dB SPL/W/m, FR 40-20,000 Hz ± 3 dB; crossover point 3,000 Hz: imp 8 ohms. Black, white, and gray lacquer finishes. 13½ x 15½ x 3½ in; 11 lb $498/pr

Converto 2-Way Speaker
Dish-shaped wall mount/hanging speaker with 4-in woofer and 2-in tweeter. Power handling 50 watts continuous; frequency response 20-20,000 Hz; crossover point 2,500 Hz; impedance 8 ohms. Black, white, steel, mint green, pink, or violet finish. 9½ x 14½ x 7½ in $398/pr

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**Speakers**

**Magic Series**

**Magic 103-Way Speaker**
Bass-reflex system with 8-in woofer, 3½-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. Oak or walnut veneer finish. 14⅛ x 16¼ x 8⅞ in; $398/pr

**LX22 2-Way Bookshelf Speaker**
Features 6½-in polypropylene woofer and 1-in titanium-dome tweeter. Power handling 100 W cont; FR 45-20,000 Hz; crossover point 3,000 Hz; Oak or walnut veneer finish. 10 x 15⅝ x 8½ in; $378/pr

**XPL Series**

**XPL 100 3-Way Speaker**
Floor-standing with 1-in titanium-dome tweeter. 3-in titanium-mid-bass; 10-in aquaplas-lamine woofer. Power handling 600 W; sens 90 dB SPL/W/m; imp 8 ohms. Black-lacquer finish. 92 x 40 x 16 in; $1,249 ea

**Omnidirectional speaker**
Features 4½-in titanium-dome tweeter, 8-in high-laminate woofer. Power handling 100 watts; sensitivity 88 decibels. 40 lb; $849 ea

**Syled 100 3-Way Bookshelf Speaker**
Features 8-in aquaplas-lamine woofer, 5-in polymer-lamine midrange, and 1-in 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. 12½ x 32 x 14½ in; $1,158/pr

**LQ103 3-Way Speaker**
Floor-standing with 10-in aquaplas-lamine woofer, 5-in polymer-lamine midrange, and 1-in titanium-diaphragm tweeter. Power handling 400 W cont; FR 45-20,000 Hz; crossover points 800 and 4,500 Hz; sens 90 DB SPL/W/m; imp 8 ohms. Oak- or walnut-veneer finish. 14½ x 36⅞ x 15⅝ in; $1,458/pr

**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; sensitivity 88 decibels. 40 lb; $849 ea

**S119 Catalina 2-Way Speaker**
Omnidirectional speaker. Features 4½-in titanium-lamine woofer, 8-in high-laminate woofer. Power handling 100 watts; sensitivity 88 decibels. 8-ohm impedance; $849 ea

**S118 Mackinac 3-Way Speaker**
Bookshelf speaker with 1-in titanium dome tweeter, 5-in high-polymer mid-bass; 8-in polymer-lamine woofer. Power handling 150 W; sens 81 dB; imp 8 ohms. 42 lb; $579 ea

**L Series**

**L1003 3-Way Speaker**
Floor-standing speaker with 12-in aquaplas-lamine woofer, 5-in polymer-lamine 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 90 DB SPL/W/m; imp 8 ohms. Oak- or walnut-veneer finish. 14½ x 36⅞ x 15½ in; $584/pr

**L803 3-Way Speaker**
Floor-standing speaker with 10-in aquaplas-lamine woofer, 5-in polymer-lamine midrange, 1-in 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. 12½ x 32 x 14¼ in; $1,158/pr

**XPL Series**

**XPL 160 3-Way Speaker**
Floor-standing with 1-in titanium-dome tweeter. 3-in titanium-mid-bass, 10-in aquaplas-lamine 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; FR 55 lb. 100 W max; sens 90 dB SPL/W/m; $1,999 ea

**XPL 90**
2-Way Bookshelf Speaker
Features 1-in titanium-dome tweeter, 6½-in polypropylene woofer. Power handling 400 W; sens 87 dB; imp 6 ohms. 10 x 15⅝ x 8⅞ in; $649/pr

**LX Series**

**LX35 3-Way Speaker**
Floor-standing speaker with 10-in polymer-lamine woofer, 5-in midrange, and 1-in titanium-dome tweeter. Power handling 600 W cont; FR 40-20,000 Hz; sens 90 dB SPL/W/m; imp 8 ohms; crossover points 800, 4,000 Hz. Walnut or black finish. 13½ x 26½ x 12 in; $838/pr

**LX22 2-Way Bookshelf Speaker**
Features 6½-in polymer-lamine 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 15½ x 8½ in; $378/pr

**ProPerformer Series**

**Pro III Plus 3-Way Shielded Speaker**
A/V monitor with 1-in titanium-dome tweeter, 5-in 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. 18 x 47 x 16 in at bottom, 11 in at top; 150 lb; $2,700/pr

**Pro VIII 2-Way Shielded Speaker**
Wall-mounted speaker with 1-in titanium-dome tweeter, 6½-in high-laminate-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, 5-in polymer mid-bass. Features magnetic shielding; die-cast enclosure. Power handling 100 W max; sens 87 DB SPL/W/m; $299/pr

**JBL Series**

**JBL 3800 3-Way Speaker**
Floor-standing speaker with 8-in polymer-lamine woofer, 5-in midrange and ½-in titanium-dome 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

**JBL 2800 2-Way Bookshelf Speaker**
Features 8-in polymer-lamine woofer and ½-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 22½ x 9½ in; 20 lb ea; $538/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-wood voice coil with 4-in diameter, 20-lb high-flux symmetric-internal geometry magnet structure to reduce second-harmonic distortion; 1-in-thick density-compressed-wood enclosure. Min recommended power 200 W; imp 8 ohms; crossover point 63 Hz (external crossover); sens 94 DB SPL/W/m; 24½ x 38½ x 24½ in; $2,150 ea

**B380 Subwoofer**
Bass system with 15-in woofer and 4-in ribbon-wire 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; 20½ x 27½ 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. 18½ x 3½ x 11½ in; 35½ 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 8-8 ohms. Hickory finish. 10½ x 38½ x 13 in; $360/pr

**J. S. Engineering**

**Model 2A**
12-in and 10-in cone woofers, 6½-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
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 glass. FR 40-20,000 Hz ± 5 dB; power range 10-150 W; imp 8 ohms; sens 90 dB SPL/W/m. 13 x 29 x 14½ in; 55 lb $1,250/pr

Infinite Slope Model 6A 2-Way Speaker
Floor-standing ported speaker with 8-in cone woofer; 1-in dome tweeter. Features Infinite Slope 100 db/octave crossover. FR 40-20,000 Hz ± 3 dB; power range 5-150 W; sens 91 dB SPL/W/m; imp 8 ohms. Walnut, oak, black lacquer. 11 x 23 x 13 in; 35 lb $670/pr

Subwoofer
12-in dual-voice-coil woofer. FR 30-60 Hz; sens 90 dB. Available in oak and walnut. 18 x 18 x 16 in; 50 lb $549 ea

KEF
Reference Series
Model 105/3 4-Way Speaker
Floor-standing 6-driver system features Uni-Q upper-midrange/tweeter driver with 1¾-in soft-dome tweeter located at apex of 6½-in upper-midrange driver’s cone. Two 6½-in lower midrange drivers, above and below Uni-Q driver; two 8-in woofers in coupled 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 biamping 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. Simulated walnut or black-ash finish. 93/4 x 20 x 101/4 in; 24 lb ea $3,500/pr

Model 104/2 3-Way Speaker
Floor-standing speaker with cone woofers vertically aligned, coupled-cavity bass-loading technique, chassisless drivers, conjugate load matching. Two 8-in cone woofers, two ¾-in cone midranges, and 1-in ferrofluid-cooled dome tweeter. Power handling 200 W max; FR 35-20,000 Hz ± 2 dB; sens 92 dB SPL/W/m; imp 4 ohms; 11 x 35½ x 16½ in; 70.5 lb. Walnut, rosewood, or black ash $2,200/pr

Model 103/3 3-Way Bookshelf Speaker
Coupiled-cavity bass-loading speaker with woof er operating resonant chamber vented at bottom of enclosure. Features 8-in cone woofer; 6-in polypropylene-cone midrange; 1-in ferrofluid-cooled soft-dome tweeter; hybrid crossover network with built-in passive crossover and onboard active bass equalizer with controls for contour and extension. Conjugate load-matched crossover presents amp with uniform input at all frequencies. Power handling 200 W max; FR 50-20,000 Hz ± 5 dB; sens 90 dB SPL/W/m; imp 4 ohms. Walnut, black-ash, or rosewood finish. 10½ x 22½ x 12½ in; 37.5 lb ea $1,490/pr

Model 102/3 2-Way Speaker
Features Uni-Q driver with 6½-in polypropylene-cone midrange and ¾-in soft-dome tweeter. Bass system employs 6½-in long-exursion woofer in single coupled cavity enclosure. Boundary-assisted alignment provides flat response when system is placed against a wall; conjugate load-matching 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 10½ in; 24 lb ea $1,000/pr

Model 101/2 2-Way Bookshelf Speaker
Uni-Q driver with 6½-in polypropylene-cone woofer in sealed enclosure and ¼-in soft-dome tweeter. Bass system enclosure employs boundary-assisted alignment for flat response when system is placed against wall. Power handling 150 W cont; FR 50-20,000 Hz ± 2.5 dB; sens 88 dB SPL/2.83 V/m; imp 4 ohms. Walnut or black-ash veneer finish $750/pr

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 ½-in center posts. Linear-phased driver arrangement in mirror-image pairs; front-mounted fuse and level controls. Crossover points 100 Hz; oak, walnut, or black finish $580/pr

KinéDEL
Purist LT 2-Way Speaker
Floor-standing speaker using 2 pi4 powered crossovers; characteristic crossover point 2,500 Hz (first order) for tweeter. FR 40-20,000 Hz ± 2.5 dB; imp 4 ohms; minimum power 20 W. 10 x 20 x 9 in $495/pr

KINERGETICS
SW-100 Powered Subwoofer
Cabinet with two 10-in SW-100 long-throw woofers. Includes SW-200 150-W/ch passive amplifier/crossover, crossover point 100 Hz; oak, walnut, or black finish $1,532

SW-200 Amplifier. 5 x 17½ x 10 in; 20 lb $754

SW-100 Subwoofer. FR 3 dB at 17 Hz; efficiency 95 dB; SPL 113 dB at 30 Hz; 1 meter. 11 x 24 x 16 in; 50 lb $439

KINETIC AUDIO
Traperoid 4-Way Speaker
Floor-standing, ported speaker with 12-in polypropylene woofer, 6½-in polypropylene midrange, 1½-in synthetic-dome tweeter with magnetic-liquid cooling/damping. Features 5-way heavy-duty binding posts. Linear-phase 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; imp 8 ohms. Walnut veneer; grille has nonresonant frame. 16 x 40 x 14 in; 115 lb $92,000/pr

KLH
17 V 2-Way Bookshelf Speaker
Tuned port speaker with 6½-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 4/4 min/ohms. Black lacquer or oak veneer. 9 x 19 x 11 in; 43 lb/pr $550/pr

Illusions 3 Satellite System
3-piece system with bandpass woof er 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 5½/4 min/ohms. Black-lacquer or oak-veneer finish. Satellite 6 x 9 x 5 in; woofer module 9 x 15 x 8 in; 32 lbs/ys $499/9sys
**SPEAKERS**

AV-3001 2-Way Bookshelf Speaker
Ported speaker with 8-in woofe, 1-in dome tweeter. FR 40-22,000 Hz ± 3 dB; crossover point 2,800 Hz; 86 dB SPL/W/m; 8 ohms, nominal 8 ohms; power handling 5 W/8 ohms; crossover 101/2 in x 21% in; 6 lb ea. Price from $618/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; 91 dB SPL/W/m; min power 5 W/8 ohms; imp 108/200 min/ohms. Oak-vinyl finish with black-knit grille. 15 x 12 x 12 in; 47 lb. $399/pr.

Model 7001 2-Way Speaker
Ported mini-bookshelf speaker with 5-in woofer, 1-in dome tweeter. FR 80-22,000 Hz ± 3 dB; crossover point 2,800 Hz; 86 dB SPL/W/m; 8 ohms, minimum 8 ohms. Oak finish with black-knit grille. 15 x 8 x 12 in; 15 lb ea. $299 ea.

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; sensitivity 104 dB SPL/W/m; 8 ohms. 31 x 23 x 9 in; 120 lb ea. Price 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 ± 3 dB; 100 W/8 ohms; impulse 8.5 W/8 ohms. 11 x 38 x 10 in; 36 lb ea. Price from $2,299 ea.

Forté II 3-Way Speaker
Floor-standing speaker featuring horn-loaded trichord 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 (K-15). Vented box enclosure: built-in riser base. Power handling 100 W cont, FR 32-20,000 ± 3 dB; 99 dB SPL/W/m; 8 ohms. 16 x 39 x 15 in; 89 lb ea. Price depends on finish from $1,198/pr.

Heresy II 3-Way Speaker
Features 12-in woofer (K-24-K), horn-loaded compression midrange (K-33-K) and tweeter (K-76-K). Sealed enclosure. Power handling 100 W continuous; FR 50-20,000 Hz ± 3 dB; sensitivity 96 dB SPL/W/m; impedance 8 ohms. 15 x 21 x 13 1/2 in; 37 lb ea. Price depends on finish from $818/pr.

kg 2-Way Speaker
Floor-standing speaker with 12-in rear-mounted sub bass radiator (K-12), 2-in 8-ply melam copone woofers (K-8), and horn-loaded tweeter (K-74). Vented box enclosure: built-in riser base. Power handling 100 W cont, FR 30-20,000 Hz ± 3 dB; 94 dB SPL/W/m; 8 ohms. 15 x 24 1/4 x 10 1/2 in; 40 lb ea. Price from $561/pr.

kg 2-Way Speaker
Features horn-loaded, 8-in polystyrene cone woofer with 20-oz magnet, rubber surround; ferrofluid-cooled dome tweeter; front-mounted 1-in passive radiator. Power handling 65 W cont, FR 32-20,000 Hz ± 3 dB; 93 dB SPL/W/m; 8 ohms. Oiled-walnut or oak veneer or black-lacquer finish; black grille cloth. 13 x 12 x 11 1/4 in; 31 lb ea. Price from $530/pr.

KABER 2-Way Speaker
Features rear-mounted sub bass radiator (KABER-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; sensitivity 90 dB SPL/W/m; 4 ohms; crossover frequency 1.800 Hz; 13 x 14 1/2 x 11 1/4 in; 28 lb ea. Price depends on finish, from $543/pr.

Kilipsch kg2

Linn
DMS Isobarik 3-Way Speaker
Isobarik-loading floor-standing speaker with 12-in and 9-in woofers, 2-in midrange, 2-in 1/4-in dome tweeters. Can be triwired or triamped. FR 25-20,000 Hz ± 1.5 dB; 4 imp ohms; power range 50-500 W, 15 x 30 x 16 1/2 in. $5,795/pr.

Kaiser 2-Way Speaker
Floor-standing tower speaker with two 5-in woofers and 1/4-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-in inch woofer and 1/4-in 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
Flush-mount speaker for installation in walls or ceilings. Features 8-in woofer with long-throw 15-in voice coil and graphite/polypropylene cone; one-inch soft-dome tweeter with auto-resetting overload protector. Tweeter-level control; mounting provision for RC-501 remote-control sensor; integral clamps and mounting brackets. FR 50-22,000 Hz ± 2.5 dB; sensitivity 89 dB SPL/W/m; 8 ohms. Outside frame: 10 x 14 1/4 x 3 1/2 in $500.

Magnepan
Magneplanar Tympans-1Va 3-Way Speaker
Combination planar-magnetic and ribbon tweeter with bi-amplification option. FR 30-40,000 Hz ± 3 dB, power handling 300 W max, sensitivity 87 dB SPL/W/m; 4 ohms. Black, 30 x 7 1/4 x 4 1/4 in $250/pr.

MG 2-6 R 2-Way Speaker
Combination planar-magnetic/ribbon speaker featuring 609-sq-in bass section and 1/4-in x 40-in ribbon-tweeter section. Power handling 200 W cont, FR 40-40,000 Hz ± 3 dB; sensitivity 87 dB SPL/W/m; crossover at 1,000 Hz, 4 ohms. Blonde or black-oak side rails; white, black, gray, or brown grille cloth. 22 x 71 1/4 in; $1,950/pr.

MG 1.4 2-Way Speaker
Full-range planar-magnetic speaker featuring 428-sq-in bass section and 1/4-in x 45-in tweeter section. Power handling 200 W cont, FR 40-18,000 Hz ± 3 dB; sensitivity 87 dB SPL/W/m; crossover frequency 1,000 Hz; 5 ohms. Blonde or black-oak side rails; white, black, gray, or brown grille cloth. 22 x 60 x 15 1/2 in; 85 lb/pr. $590/pr.

SMGa 2-Way Speaker
Full-range planar-magnetic speaker featuring 370-sq-in bass section and 1/4-in x 38-in tweeter section. Power handling 100 W cont, FR 50-18,000 Hz ± 3 dB; sensitivity 85 dB SPL/W/m; crossover frequency 2,400 Hz; 4 ohms. Blonde or black-oak side rails; white, black, gray, or brown grille cloth. 19 x 48 1/4 x 15 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

VX-4 Subwoofer

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
Acoustic-suspension speaker with 6½-in polypropylene woofer and 1-in soft-dome tweeter. Features selector for 36 tonal balances, midrange/treble/center switches. Frequency response 65-20,000 Hz ± 3 dB; power range 15-100 W/Watn, oak or black-oak finish with black grille $6½ x 10½ x 7 in, 9 lb $575/pr.

SX-7.2 Way Bookshelf Speaker
Acoustic-suspension speaker with 4-in papercone midrange; 1¼-in soft-dome tweeter. Features cast-aluminum box with perforated metal grille; circuit-breaker protection. FR 100-20,000 Hz ± 3 dB, sensitivity 87 dB SPL/W/m; 4 ohms. Black, 4½ x 7½ x 4½ in $575/pr.

John Marovskis
Jansis System 3a Powered Subwoofer
12-in slot-loaded subwoofer. Amp section: bass level adjust; continuously variable woofer phase; 111/2 lb/pr $3,800/pr.

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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 white oak finish; wood grille. Woofer module: 18 x 18 in. Amp: 14 x 3 x 9 in. 87 lb/ea $950/sys.

Janis W1 Subwoofer 15-in slot-loaded subwoofer. FR 30-100 Hz ± 1 dB; sens 87 SPL/W/m; recommended min power 60 W/ch; crossover point 100 Hz; imp 8 ohms. Oiled walnut or white oak finish; wood grille. 18 x 22 x 22 in. 100 lb $850 ea.

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 2-1/4 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 8 ohms. Available in a variety of finishes. 25 x 75 x 13 in; 165 lb ea $7,000/pr With passive crossover. $6,500/pr.

The CCS II Electrostatic Speaker Floor-standing curved visually transparent electrostatic speaker. Features wide-dispersion format for full-range reproduction; 2-ft x 4-ft electrostatic cell to reproduce all frequencies from 50-22,000 Hz; 30° seamless horizontal dispersion; vertical line-source format; arc-free diaphragm. Power handling 150 W cont; FR 50-22,000 Hz; ± 2 dB; sens 85 dB SPL/W/m; imp 6 ohms. Available in variety of finishes. 26 x 48 x 2 in; 75 lb ea $3,500/pr.

The Sequel II Hybrid Electrostatic Speaker Floor-standing electrostatic/subwoofer system. Features visually transparent electrostatic transducers that operate from 200-24,000 Hz; 30° seamless horizontal dispersion in a vertical line-source format; 1-1/4 x 1-ft electrostatic cell; 10-in subwoofer in tuned cabinet 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. 141/2 x 74 x 131/2 in; 110 lb ea $4,950/pr.

MB Quart

MB 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.

MB Quart 690 MCS 2-Way Speaker Tower design with 1-in titanium-dome tweeter, 8-in 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 111/2 in; 39 lb $1,500/pr.

MB Quart 490 MCS 2-Way Bookshelf Speaker 1-in titanium-dome tweeter, 8-in woofer. Power handling 100 W cont; FR 37-32,000 Hz. Oak, walnut, black or white lacquer finishes; special finishes include pine, cherry, raw oak. 11 x 171/2 x 111/2 in; 22 lb $899/pr.

MB Quart 490 Speaker 2-in dome tweeter, 6.5-in midrange, and 1-in dome tweeter in sealed cabinet. Solid-state current-sensor 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, and 2,400 Hz; FR 30-32,000 Hz. Walnut, black or white lacquer finishes. $1,500/pr.

MB Quart 90 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; 10% x 12 x 3 1/2 in. $599/pr.

McIntosh

MCINTOSH

XR 240 3-Way Speaker 12-in woofer, 6.5-in midrange, and 1-in dome tweeter in sealed cabinet. Features 3-ampere fast-acting fuse for woofer and midrange and 1.25-ampere fuse for tweeter. Cabinet constructed of high-density fiber board with walnut-veneer exterior. Power handling 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: 171/2 x 271/2 x 14 in; tweeter column: 105 x 37 x 111/2 in; 108 lb. $4,950/pr.

XL 10 2-Way Speaker 8-in woofer, 1-in dome tweeter, and 1-in controlled-rinse midrange in sealed enclosure; crossover protected by 0.6-amp fuse. Power handling 100 W max; imp 8 ohms; FR 36-20,000 Hz; sens 88 dB SPL/W/m; crossover 90 Hz. $1,000/pr.

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 ea.

Quart 190 2-Way Bookshelf Speaker 1-in titanium-dome tweeter, 6.5-in woofer. Power handling 90 W max; FR 46-32,000 Hz. Oak, walnut, black or white lacquer, pine, cherry, raw oak. 91/2 x 131/2 x 10 in $599/pr.

Quart 90T 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; 10% x 12 x 3 1/2 in. $599/pr.

MB 320 2-Way Powered Speaker Biamped vented-box design with twin 70-W internal amplifiers, two 5-in Bextreme cone mid-bass drivers, and 1-in metal-dome tweeter. Selects between digital and analog inputs; 2 analog, 2 digital, and 1 digital/optical input. Includes wireless remote control. 70 x 3; FR 36-20,000 Hz. SPL 110 dB. 8% x 35% x 11 in; 70 lb ea. Rosewood, walnut, or black ash $5,000/pr.

MB200 Powered Subwoofer Floor-standing coupled-cavity design with two 8-in 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; high-density particle-veneer 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. 105 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 1/2-in voice coil; two 4½-in tri-laminated carbon-filled polypropylene cone midranges (1 front, 1 rear); two 3½-in cloth-dome tweeters (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 woofers, and 1-in rolled-rubber-coated 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 woofers with stitched butyl-surround woofers, 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 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 tweeter. $5,500/pr.

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elliptical dome tweeter with ferrofluid cooling. 1½-in MDF. Sealed box, adjustable and removable carpet piercing spikes; biamplifying/biwire connectors. Crossover point 2,500 Hz, 93 dB SPL; FR 35-20,000 Hz ± 3 dB; imp 4 ohms; power 250 W rms. Natural rosewood and black-ash wood veneers. 10½ x 40 x 14 in; 110 lb $1,999/pr

Cyprus 782 2-Way Speaker
Two 6½-in mineral-loaded polypropylene midbasses, 1½-in ferrofluid-cooled fabric-dome tweeter. ¾-in MDF baffle board, biwiring/biamp connectors. Crossover point 3,200 Hz, 9½ dB; FR 49-20,000 Hz ± 3 dB; imp 4 ohms; 150 W rms. Black ash and rosewood veneers and Nextel gray. 9½ x 19½ x 13½ in; 30 lb. $899/pr

Mission 762 2-Way Bookshelf Speaker
Bass-reflex speaker with 8-in plastiflex midbass and ¾-in ferrofluid-cooled fabric-dome tweeter. Features ¾-in fiberboard cabinet, flared, tuned port; 5-way binding posts. Power handling 125 W rms; FR 50-20,000 Hz ± 3 dB; sens 93.5 dB SPL/W/m; imp 8 ohms; crossover point 4,300 Hz. Simulated black-ash veneer. 8½ x 16½ x 11½ in; 21 lb ea. $449/pr

Mission 761 2-Way Bookshelf Speaker
2-way speaker with 6½-in midbass, ¾-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 ea. $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. $300/pr

Gold Series
MA1200 Gold 2-Way Speaker
Floor-standing, ported design with 6-in polypropylene woofer and 1-in gold metal-dome tweeter. Cabinet allows for sand filling. FR 35-30,000 Hz ± 3 dB; imp 8 ohms; sens 89 dB; power range 15-200 W. Black-ash, oak, walnut, rosewood finishes. 8 x 36 x 10 in. $2,200/pr

MA700 Gold 2-Way Bookshelf Speaker
1-in anodized gold metal-dome tweeter, 6-in polypropylene woofer. Features biwiring option. FR 45-30,000 Hz ± 3 dB; imp 8 ohms; sens 89 dB SPL/W/m; power handling 20-100 W. Rosewood, black-ash, walnut, oak finishes. 8½ x 14 x 10 in. $1,100/pr

Monitor Series
Monitor 14 3-Way Speaker
Floor-standing system with 1-in metal-dome tweeter, two 6½-in woofers. Biwireable crossover. Spiked feet included. FR 60-20,000 Hz ± 3 dB; imp 8 ohms; sens 88 dB SPL/W/m; power handling 150-100 W. 100% medium-density fiberboard (MDF) construction; rigid bracing; black double-lacquer finish. 8 x 30 x 9 in; 57 lb/pr. $999/pr

Monitor 9 2-Way Bookshelf Speaker
1-in metal-dome tweeter, 6½-in impregnated wooler. Infinite-baffle design. FR 55-20,000 Hz ± 3 dB; imp 8 ohms; sens 88 dB SPL/W/m; power handling 150-100 W. 100% MDF cabinet construction. 8 x 14½ x 8½ in. $499/pr

Mordaunt-Short
MS 3.50 2-Way Speaker
Transmission-line speaker with 8-in woofer and 1-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
Reflex speaker with 8-in woofer and 1-in aluminum-dome tweeter. Min power 15 W; FR 60-22,000 Hz ± 5 dB; sens 90 dB SPL/W/m; imp 8 ohms; crossover point 4,000 Hz. Black-ash finish. 9 x 18 x 11 in; 18 lb ea. $449/pr

Monitor Audio

Museatex Melior One
MS 3.10 2-Way Speaker
Refrigerated speaker with 5-in woofer and ¾-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. 7½ x 11 x 8 in. $249/pr

Morel
Duet 2-Way Speaker
6-in woofer and 1½-in ferrofluid-cooled soft-dome tweeter. Features Hexatech winding (alu-foil) woofer; Hexatech voice coil. Power handling (50 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 1½-in dome tweeter. Power handling 120 W rms; FR 90-22,000 Hz. 7½ x 11 x 9 in; 16 lb. Black-lacquer finish. Subwoofer contains dual-8 woofers in push-pull configuration; built-in 90 Hz crossover. Power handling 150 W rms; FR 90-30,000 Hz. Matte-black finish. 12 x 20 x 14 in; 32 lb $990/pr

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 1BL 2-Way Speaker
6½-in woofer and ¾-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 W max. Black-ash and walnut finish; comes with stand. 9½ x 3½ x 10½ in. $1,490/pr

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. 26½ x 44½ x 15½ in. $4,180/pr

Concerto V CS-302 M 3-Way Speaker
12-in woofer, 6½-in midrange, and two 2-in tweeters. Features infinite-baffle 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/pr

Near-50M 3-Way Speaker
Tuned-port, floor-standing speaker with 8-in metal-alloy woofer; 4-in metal-alloy midrange; and 1½-in dome tweeter. Power handling 150-500 watts; FR 30-16,000 Hz ± 1½ dB; crossover points 250 and 4,000 Hz; sens 89 dB SPL/W/m; imp 8 ohms nominal. Walnut. $1,340/pr

Near-40M 3-Way Speaker
Tuned-port, floor-standing speaker with 8-in metal-alloy woofer and 1½-in dome tweeter. Power handling 20-250 W; FR 32-28,000 Hz ± 2 dB; 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

Nelson-Reed

Model 8-02/B 3-Way Speaker
Floor-standing, slot-loaded speaker with 8-in Bextrecone-cone woofer; 4-in cone midrange, and ¾-in dome tweeter. Power handling 20-150 watts; FR 25-24,000 Hz ± 2½ dB; sens 84 dB SPL/W/m; imp 8 ohms nominal; power handling 50 W; crossover point 3,500 Hz. Oiled-oak, walnut, or diamond-lacquer finish. 12 x 19 x 11 in; 25 lb. $620/pr

NHT

Model Two 3-Way Speaker
Sealed with two 6½-in woofers, 6½-in midrange, 1½-in dome tweeter. Power handling 150 watts. Black, white, oak finish; black or white grille. 7 x 37 x 12 in; 45 lb. $900/pr

M100 3-Way Speaker
Vented speaker with 10-in 4-layer voice coil woofer, 6½-in midrange, 1½-in ferrofluid-cooled, fabric-dome tweeter. Max power 450 W/CW; FR 29-24,000 Hz ± 3 dB; sens 88 dB SPL/W/m; imp 8 ohms nominal; power handling 150 W. Matte-black finish. 13 x 31 x 16 in; 60 lb ea. $600 ea

Model 1.3 3-Way Speaker
Sealed speaker with 6½-in polypropylene woofer and 1-in ferrofluid-cooled dome tweeter. Features angled baffle. Frequency response 50-
**Model One 2-Way Speaker**
Sealed speaker with 6½-in woofers, 6½-in midrange, 1-in dome tweeter. Features angled baffle; magnetic shielding. FR 63-22,000 Hz ± 3 dB; nom 8 ohms; min power 20 watts. Black or white grille. 7 x 12 x 10 in; 11 lb ea. $340/pr

**Model Two 2-Way Speaker**
Sealed speaker with 4½-in woofers, 1-in dome tweeter; angled baffle; magnetic shielding. FR 85-21,000 Hz ± 3 dB; nom 8 ohms; min power 15 watts. Black finish and grille. 6 x 9 x 5 in; 45 lb ea. $200/pr

**SW-1 Subwoofer**
Sealed speaker with dual 6½-in woofers. FR 40-100 Hz ± 3 dB; nom 8 ohms; min power 35 watts. Black, white, or oak finish; black or white grille. 8 x 19 x 12 in; 27 lb ea. $250 ea

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**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. 10½ x 14 x 3½ in; 12 lb = $460/pr

**OHM**

**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. $5,200/pr

**2XO Inverted-Cone Speaker**
Bass-reflex speaker features coherent-line source (CLS) inverted-cone driver; press-conector inputs accept banana plugs or up to 12-gauge wire; sub-bass activator; ferrofluid-cooled, protection circuits. Standard finish walnut or oak, also available in rosewood, black or white lacquer. Power handling 120 W cont; FR 44-21,000 Hz ± 4 dB; imp 8 ohms. 11½ x 32½ x 11½ in. $1,150/pr

**F RS 9 2-Way Speaker**
Features corner-mounted tweeter, 8-in woofer and rear-mounted 12-in passive radiator; ferrofluid-cooled driver; sub-bass activator; 5-way binding posts; protection circuits. Power handling 225 W peak; FR 36-20,000 Hz ± 4 dB; imp 8 ohms. Finished in oak-vinyl veneer. 11½ x 3½ x 11½ in. $800/pr

**CAM 32 SBA 2-Way Bookshelf Speaker**
Features 4½-in polycarbonate-dome tweeter system, 6½-in woofers, 10-in passive radiator. Poly switch circuit breaker; protection circuit; patent-ed phase activator. Peak power handling 175 W, FR 39-20,000 Hz ± 4 dB; sens 90 dB; imp 8 ohms. Brushed bronze vinyl. 12½ x 22½ x 11 in. $520/pr

**F RS 5 2-Way Bookshelf Speaker**
Corner-mounted tweeter, 6-in woofer, ferrofluid-cooled. Sub-bass activator; 5-way binding post; protection circuits. Power handling 125 W peak; FR 48-20,000 Hz ± 4 dB; imp 8 ohms. Oak-vinyl 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. FR 80-20,000 Hz ± 3 dB; sens 89 dB. $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 23½ x 11½ in. $340/pr

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**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 Hz ± 2 dB; sens 91.5 dB, power range 15-200 W at 10% clipping. Tririable and tripappable. 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 ± 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

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**Phase Technology**

**PC 8.5 3-Way Speaker**
Unicel acoustic treatment with 10-in solid-piston woofer. 5½-in solid-piston midrange, 1-in soft-dome tweeter. Power handling 25-120 W; FR 35-20,000 Hz ± 2 dB; sens 89 dB; imp 4 ohms. Dark oak, walnut, black; 13 x 39½ x 11½ in; 90 lb ea. $1,200/pr

**PC 90 Subwoofer**
Acousticsuspension design with 10-in cone dual voice-coil driver. FR 27-90 Hz ± 3 dB; sens 88 dB; power handling 25-150 W; imp 6 ohms. 16½ x 20 x 15½ in; 57 lb ea. $550 ea

**PC 40 Mk II 2-Way Bookshelf Speaker**
Acoustic-suspension phase-coherent speaker with 5½-in solid-piston woofer; 1-in soft-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 light-oak finishes. 6½ x 9½ x 5½ in; 16 lb. $380/pr

**ES Series**

**730-ES 3-Way Tower Speaker**
Tower speaker with 10-in bi/midrange driver, 5½-in cone midrange, 1-in ferrofluid-cooled soft-dome tweeter. Features asymmetrically mounted tweeter and midrange. Power handling 120 watts; FR 36-20,000 Hz ± 3 dB; sens 93 dB SPL/W/m; nominal imp 8 ohms; crossover points 250 and 3,000 Hz. Black-ash or dark-oak vinyl finish. 12½ x 34 x 10½ in. $630/pr

**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 SPL/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 Hz ± 3 dB; sens 87.5 dB SPL/W/m; imp 8 ohms; crossovers 150 and 1,200 Hz. $830/sys

**C 1-40 2-Way In-Wall Speaker**
5½-in solid-piston woofer, 1-in soft-dome tweeter. Features auto-resetting thermal breakers, 5-way binding posts, woofer back; 5-year warranty. FR 55-20,000 Hz; power handling 15-80 W; imp 4 ohms. $380/pr

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**Speakers**

25,000 Hz ± 3 dB; nom 8 ohms; sens 86 dB SPL/W/m. Black, white, or oak finish. 7 x 16½ x 10 in; 15 lb. = $480/pr

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**PHILIPS**

FB825 3-Way Speaker


FB-790 3-Way Bookshelf Speaker

8-in soft-coated woofers, 1-in ferrofluid-cooled soft-dome midrange, ¼-in ferrofluid-cooled soft-dome tweeter; computer-optimized tuned ducted port; auto overload-protection system. Power handling 90 W cont; FR 37-20,000 Hz; sensitivity 90 dB SPL/m; impedance 6 ohms; crossover points 3,000 Hz, 10,000 Hz; nominal impedance 4 ohms, 15.4 lb ea. $300/pr

**PINNACLE**

PN 7+ Bookshelf Speaker

Vented bookshelf speaker with patented Diaduct ports, 8-in black polypropylene woofer, and 1-in polymer-dome tweeter. Power handling 10-125 W rms cont; 375 W peak; FR 30-21,000 Hz; sensitivity 89 dB SPL/m; impedance 8 ohms; crossover points 1,000 Hz, 8,000 Hz; nominal impedance 6 ohms. Ebony or graphite grille. $2,000/pr

PN 6+ Bookshelf Speaker

Front-mounted Diaduct-port design, 6½-in polypropylene woofer, ¾-in dome tweeter. Power handling 100 W rms cont; FR 30-20,000 Hz; sensitivity 89 dB SPL/m; impedance 8 ohms; crossover point 4,500 Hz; oak or walnut finish. 6½ x 9 x 19½ in; 26 lb/pr. $279/ea

**POINTER**

TZ-9+3-Way Speaker

Two horizontally mounted 10-in woofers (front, rear), 4½-in cone midrange, and 1-in ceramic graphite-dome tweeter in bass-reflex enclosure. Inner baffle isolates midrange and tweeter from woofers; gold-plated binding posts. Biamplification and biwiring capability. FR 20-40,000 Hz; sensitivity 89 dB SPL/m; impedance 4 ohms. 14½ x 7¾ x 16½ in; 143.4 lb ea. $2,000 ea

TZ-7+3-Way Speaker

Two horizontally mounted 8-in woofers (front, rear), 4-in cone midrange, and 1-in ceramic graphite-dome tweeter in bass-reflex enclosure. Gold-plated binding posts. Biamplification and biwiring capability. FR 20-40,000 Hz; sensitivity 89 dB SPL/m; impedance 4 ohms. 12½ x 40½ x 14½ in; 77.25 lb ea. $1,000 ea

**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; impedance 6 ohms.

**PRECISE ACOUSTICS**

RM3000 Satellite Subwoofer System

Three-piece system featuring two satellites with ¾-in dome tweeter and 3½-in driver. Patented subwoofer has two 6½-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 4½ x 5½ in. Woofer: 12½ x 20½ x 13 in; 46 lb total. $750/pr

Monitor 10 Series 2 3-Way Speaker

Revised version of Monitor 10. Features two 6½-in trilaminate polymer midbass drivers; one SL2500 1-in polymer-dome tweeter; one 10-in sub-bass radiator. Power handling 250 W/ch; 8 ohms; FR 37-20,000 Hz. Black, oak, and walnut-vinyl finishes. 15 x 28 x 12 in. $740/pr

Monitor 5 Jr. + Series 2 3-Way Speaker

Bookshelf speaker with one 6½-in trilaminate-polymer midbass driver; one SL 2500 1-in polymer-dome tweeter; one 6½-in sub-bass radiator. Power handling 125 W/ch; imp 8 ohms; FR 40-20,000 Hz. $800/sys

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 3½ in; one subwoofer with two 6½-in drivers: 4½ x 3½ in. Power handling 150 W/ch; FR 30-26,000 Hz. $1,000/pr

AB-700 Architectural Reference 3-Way Speaker

In-wall speaker featuring 6½-in trilaminate-polymer midbass driver, and 1-in silver-coil polymer-dome tweeter. Power handling 125 W cont; FR 30-26,000 Hz; nom imp 6 ohms. Off-white finish. 6½ x 9½ x 3 in. $400/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 2,000 Hz; woofer crossover point 250 Hz; FR 36-20,000 Hz ± 1.0 dB; sensitivity 88 dB; $599/pr

Monitor 9 2-Way Speaker

Floor-standing, bass-reflex speaker system with 1-in tweeter, 6½-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 speaker system with 1-in tweeter, 8-in woofer. Ebony or graphite grille. Black satin or walnut finish. $1,200/pr

300 BL. Same as above, except in bookshelf size. $750/pr

Monitor 9 2-Way Speaker

Floor-standing speaker with 8-in woofer, 1-in tweeter, and 10-in passive radiator. Power handling 150 W max; sens 91 dB SPL/m; impedance 8 ohms. $699/pr

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. $599/pr

**SPEAKERS**
SPEAKERS

PSB 30 MKII 2-Way Speaker
8-in polypropylene woofer and 1-in treated cloth-dome tweeter. FR 40-20,000 Hz ± 1.5 dB. Black or dark-oak finish.
Imp: $900/pr.

PSB 40 MKII 2-Way Speaker
8-in polypropylene woofer and 1-in textile-dome tweeter. Rated impedance 6 ohms. Black or brown finish.
Imp: $440/pr.

PSB 30 MKII 2-Way Speaker
Imp: $330/pr.

REALISTIC BY RADIO SHACK

EL-43 US Monitor Electrostatic Speaker
Full-range electrostatic design with dipole source. Features 2 protection circuits. Power handling 150 W; sens 86 dB SPL/Win; imp 8 ohms; axis band limits –6 dB at 35 Hz, third-order, –6 dB at 50,000 Hz. Black finish. 28 x 36 x 11 in; 46.5 lb.
Imp: $3,995/pr.

NOVA 18 2-Way Speaker
Bass-reflex speaker with 10-in woofer and 3-in dome tweeter. Features tuned-port; removable grille. FR 65–20,000 Hz; power handling 100 W; sens 86 dB SPL/Win; imp 8 ohms; oiled walnut. 12¾ x 22½ x 8½ in; 17.5 lb.
Imp: $200/pr.

NOVA 16 2-Way Speaker
Bass-reflex speaker with 8-in woofer and 2½-in dome tweeter. Features tuned-port; removable grille. FR 60–20,000 Hz; power handling 60 W; sens 88 dB SPL/Win; imp 8 ohms; oiled walnut. 10½ x 16½ x 6½ in; 14 lb.
Imp: $160/pr.

REVOX

Duetto 2-Way Speaker
Single-enclosure speaker with two sets of three drivers mounted on either side of wedge-shaped enclosure. Features two 4-in midranges, 1-in dome tweeter. FR 90–22,000 Hz; sens 89 dB SPL/Win; nominal imp 4 ohms. Black or white lacquer finish. 14 x 14 x 14 in.
Imp: $995/pr.

Black or white matte finish.
Imp: $695/pr.

Piccolo Satellite/Subwoofer System
Satellite speakers may be used with or without companion subwoofer. Satellite features 4¼-in midrange driver; 1½-in dome tweeter. Subwoofer features 10¼-in woofer. Power handling 70 W continuous; FR 48–22,000 Hz; ±3 dB; sens 86 dB SPL/Win; imp 4 ohms; black finish. Satellite: 5½ x 8½ x 5¼ in. Subwoofer: 14½ x 15¼ x 14¼ in.
Satin finish. $390/pr.

Subwoofer. $400 ea.

ROGERS

LS59 2-Way Speaker
Power handling 100 W; FR 50–16,000 Hz; ±3 dB; imp 8 ohms; sens 87 dB SPL/Win; 11 x 18½ x 10½ in; 38 lb. Walnut, teak, or black. Imp: $2,955/pr.

Studio 1a 2-Way Speaker
Features aluminum-dome tweeter and biwireable crossover. Power handling 220 W; FR 45–20,000 Hz; ±3 dB; imp 8 ohms; sens 89 dB SPL/Win; 12 x 25 x 12 in; 40 lb. Walnut, teak, or black. $1,395/pr.

LS35a 2-Way Bookshelf Speaker
Power handling 75 W; frequency response 70–20,000 Hz; ±3 dB; impedace 11 ohms; sensitivity 82–86 dB SPL/Win; power handling 25 W. Imp: $649/pr.

LS2a 2-Way Bookshelf Speaker
Power handling 100 W; FR 60–20,000 Hz; ±2 dB; imp 8 ohms; sens 87 dB SPL/Win; 29 lb. 9 x 14 x 8 in. Black/walnut vinyl.
Imp: $399/pr.

SANSUI

Vintage SP-100i 2-Way Shielded Speaker
Magnetically shielded bass-reflex speaker. Features 8¼-in filament-carbon woofer with twin magnetics; 1-in titanium-dome tweeter with diamond plating; ¼-in diecast aluminum tweeter base. FR 40–30,000 Hz; crossover point 1,500 Hz; sens 88 dB SPL/Win; imp 6 ohms; max power handling 120 W. 11 x 17½ x 13½ in; 41.9 lb. Titanium finish.
Imp: $1,500/pr.

SW-S7 7U 3-Way Subwoofer/Satellite System
Two SPX-7U 7U acoustic-suspension satellites with 5-in polypropylene midrange and ½-in soft-dome tweeter, and one SP-W7U subwoofer with a 6-in woofer in a ported cabinet. Power handling 60 W/ch rms into 6 ohms; FR 15–22,000 Hz; sens 88 dB SPL/Win. Crossover point at 200 and 6,000 Hz. Satellites: oak grain or black wood grain. 7 x 11¾ x 7 in; 10 lb. Subwoofer: black textured finish. 9½ x 19 x 11½ in; 26 lb. "$370/sys.

SHAHINIAN ACOUSTICS

Obelisk 3-Way Speaker

ABC 3-Way Speaker
14 x 27½ x 9¼ in; 42 lb. Imp: $1,200/pr.

ELF 2-Way Speaker
Tuned-damped vent enclosure, 5½-in polypropylene cone woofer with rubber edge, 1-in polypropylene dome tweeter. FR 55–18,000 Hz; ±3 dB; power handling 15–25 W; imp 6 ohms nominal. Natural-medium or dark-oak finish. 6¾ x 12½ x 7½ in; 26 lb/pr.
Imp: $450/pr.

DOUBLE EAGLE STEREO SUBWOOFER

One enclosure with two acoustically separated 8-in polypropylene rubber-edged high-temperature voice-coil woofers and two 10-in mass-loaded-membrane polypropylene passive radiators. FR 20–200 Hz; ±3 dB; max power, short duration peaks 1,000 W; imp 6 ohms nominal; crossover 18 dB/oct at 140 Hz. Walnut finish on Finland birch. Optional finishes available. 23 x 30 x 14 in; 105 lb. Imp: $1,150.each.

SHURE

HTS505C Center-Channel Speaker System
Acoustic-suspension speaker for use as center front speaker, one 6½-in woofer; 1-inch dome tweeter; curved polymer diaphragm; magnetically shielded, polypropylene drivers; fluid-cooled, fused tweeter. FR 55–18,000 Hz; sens 88 dB SPL/Win; imp 5.6 ohms. Walnut-veneer finish; molded plastic grille. 13½ x 20 x 8½ in; 37 lb.
Imp: $599.

HTS505W Subwoofer
Subwoofer for use in surround system with heavy damped cone. Features shielded double-magnet structure, and 12-inch woofer; curved polymer diaphragm. FR 33–80 Hz; sens 91 dB SPL/Win; imp 8 ohms. Walnut-veneer finish. 18 x 23 x 14 in; 65 lb.
Imp: $499.

HTS506LS Surround-Sound Speaker
Acoustic-suspension speaker for use as front left, right, and/or surround speaker in surround system. Features 6½-in woofer, 1-inch dome tweeter; curved polymer diaphragm; magnetically shielded, polypropylene drivers; fluid-cooled, fused tweeter. FR 100–20,000 Hz; sens 88 dB SPL/Win; imp 5.6 ohms. Walnut-veneer finish. 10 x 13½ x 8½ in; 529.

SIGNAL

SL200 2-Way Speaker
Includes 8-in polypropylene woofer with rubber surround and injection-molded magnets. FR 8–30,000 Hz; sens 89 dB 83 V/m; nominal imp 8 ohms; crossover point 3,000 Hz. Oak veneer. 9¼ x 25 x 12½ in; 37 lb.
Imp: $900/pr.

SL230 3-Way Subwoofer/Satellite System
Satellite contains 3½-in injection-molded midrange driver and 1½-in ferrofluid-cooled-damped cone tweeter; subwoofer utilizes two down-firing, slot-loaded 6-inch drivers. Crossover features film capacitors and protection circuits for satellites. Power handling 100 W continuous; FR 40–20,000 Hz; sens 88 dB SPL/Win. Satellites finished in oak veneer, subwoofer in black vinyl. Satellites 4¼ x 8¼ x 4½ in; subwoofer 13 x 21 x 6½ in; 35 lb/sys.

SNELL

Type A-III 4-Way Speaker
Floor-standing, acoustic-suspension speaker with curved baffle to eliminate diffraction, mechanically isolated midrange enclosure. Floor-loaded 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 long-excursion mass-loaded mechanically isolated
standing bass-reflex speaker system. Features 8-1/2-inch dual-concentric driver; 8-inch polyolefin copolymer woofer, and 1-inch aluminum-dome tweeter. Minimum power 30 W; FR 23-20,000 Hz ± 3 dB; sensitivity 92 dB SPL/W/m; nominal impedance 4 ohms. Available in white, black, and gold finish.

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**SPICA**

Sam 6-1/2-2-Way Bookshelf Speaker

Acoustic-suspension speaker with 6-1/2-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 = ± 3 dB; power handling 25-250 watts; sensitivity 88 dB SPL/W/m; nominal impedance 8 ohms; crossover point 3,000 Hz. Black-ash or rosewood finish. 61/2 x 171/4 x 61/4 in. $1,999/pr

**TECHNICS**

SB-CX700 3-Way Speaker

12-in cone woofe, 1-inch midrange, and 1-inch dome tweeter. Light or dark oak cabinet with radiused hardwood edges. FR 25-20,000 Hz = ± 2 dB; power handling 200 W; sensitivity 91 dB SPL/W/m; nominal impedance 8 ohms. Available in black and rosewood finishes. 61/2 x 15 5/8 x 11 7/8 in. $355/pr

**TANNOY**

Dual-2-Way Speaker

Floor-standing, dual-concentric speaker with Sync-Source Time alignment; distributed-port reflex enclosure; 12-inch cone woofer, 2-inch compression-tweeter horn. Power handling 20 watts rms; FR 46-20,000 Hz = ± 2 dB; sensitivity 92 dB SPL/W/m; nominal impedance 4 ohms; crossover point 2,000 Hz. Walnut finish. $5,500/pr

**DC3000 3-Way Speaker**

Floor-standing speaker with coupling spikes. Features 8-inch dual-concentric driver; 8-inch woofer, driven below 400 Hz; slotted-port system. Biwired, gold terminals; cross-braced driver and cabinet; wired with van den Hul cable. Power handling 175 watts rms; frequency response 30-25,000 Hz = ± 3 dB; sensitivity 92 dB SPL/W/m; nominal impedance 8 ohms. 200 x 26 x 94 in. $1,999/pr

**J30 3-Way Speaker**

Floor-standing speaker with coupling spikes. Features 8-inch polyolefin copolymer woofer, 8-inch polyolefin copolymer Auxiliary Bass Radiator (ABR), and 1-inch aluminum-dome tweeter. Closed-box system. Biwired, gold terminal, cross-braced drivers and cabinet; wired with van den Hul cable. Power handling 110 watts rms; FR 40-20,000 Hz = ± 3 dB; sensitivity 92 dB SPL/W/m; nominal impedance 8 ohms; crossover point 3,000 Hz. Black-ash or rosewood finish. 61/2 x 171/4 x 61/4 in. $799/pr

**M15 2-Way Speaker**

8-inch polyolefin copolymer woofer, and 1-inch aluminum-dome tweeter; ducted-port system. Biwired. Power handling 100 watts rms; frequency response 48-20,000 Hz = ± 3 dB; sensitivity 89 decibels SPL/W/m; nominal impedance 8 ohms; crossover point 3,000 Hz. Black-ash or rosewood finish. 61/2 x 12 x 51/4 in. $499/pr

**TECHNICS**

SB-CX700 3-Way Speaker

12-in Mica-cone woofer, 4-inch midrange, 1-inch Mica-dome tweeter, and 13-inch passive radiat-
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 35/1 x 12%/45 lbs. $700/pr

**THIEL**

**CS 3.5 Coherent Source 3-Way Speaker**

Floor-standing speaker featuring 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 anti-diffusion 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 elels; genuine wood veneer. Power handling 250 watts cont; FR 160-20,000 Hz; sens 89 dB SPL/W/m; imp nom 6 ohms; crossover point 3,200 Hz. Woofer: FR 42-160 Hz ± 3 dB; imp nom 8 ohm. Satellite: 5½ x 7¾ x 4 in. Woofer: 14½ x 14½ x 4 in. $600/sys

**VANDERSTEEN**

**Model 3.2 3-Way Speaker**

Floor-standing speaker featuring 10-inch diecast basket with curvilinear cone-acoustic coupling; 8-inch diecast basket with curvilinear polycone woofer; 4-inch diecast basket, curvilinear polycone with ferrofluid voice-coil cooling; 4-inch 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 frequencies 600 Hz, 5,000 Hz. 16 x 48 x 10¾ in; 97 lb. $2,395/pr

Model 1B 2-Way Speaker

Floor-standing speaker featuring 8-inch diecast basket with curvilinear polycone woofer and 1-inch dual-chamber polymer-dome tweeter. Woofer system includes rear slot-loading with 4th-order crossover; tuned-port enclosure. Power handling 200-300 W continuous; FR 140-20,000 Hz ±2 dB; sens 89 dB SPL/W/m; imp 6.8 ohms; crossover point 2,800 Hz. 12 x 36 x 10½ in; 50 lb. $550/pr

**VELDYNE**

**ULD-18 Powered Subwoofer**

Floor-standing subwoofer with servo-controlled long-throw 18-inch driver with ¼-inch peak-to-peak linear travel, 400-W amplifier. Level control; On/off switch; volume control. FR 50-20,000 Hz; 86 dB SPL/W/m; crossover point 3,500 Hz. Black-oak vinyl finish. 7 x 9 x 8½ in; 16½ lb ea. $350/pr

**DIAMOND IV**

As above with 4½-inch woofer, ¾-inch metal-dome tweeter. 11 x 7 x 7 in. $400/pr

**Delta 70 2-Way Speaker**

8-inch woofer and ¼-inch 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; 16½ lb ea. $450/pr

**Active Diamond Plus 2-Way Speaker**

4½-inch woofer and ¾-inch tweeter; built-in 20-W amp with 3rd-generation monolithic devices; tuned-port 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 8½ in; 18½ lb ea. $350/pr

**Diamond MII 3-Way Speaker**

Features 4½-inch woofer and ¼-inch tweeter; fifth-order 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 8½ in; 15½ lb ea. $300/pr

**Yamaha**

**NS-1 2-Way Speaker**

Acoustic-suspension speaker; aluminum, nickel, cobalt magnets in woofer and tweeter. 6½-inch mica-impregnated polypropylene woofer and 1½-inch 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 6½-inch multirange driver, 1½-inch air woofer, and ¼-inch soft-dome tweeter; compatible with all active-servo amplifiers. Power handling 60 W cont; FR 25-40,000 Hz. Black oak finish. 9 x 17½ x 10½ in. $530/pr

**YST-SW100 Powered Subwoofer**

Features two 7-inch cone drivers, 1½-inch 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

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**System Six In-Wall Woofer/Satellite System**

System consists of In-Wall System Six Satellite and In-Wall System Six Woofer. Features 4½-inch ferrofluid-cooled mylar-dome tweeter, 3½-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; imp nom 6 ohms; crossover point 3,200 Hz. Woofer: FR 42-160 Hz ± 3 dB; imp nom 8 ohm. Satellite: 5½ x 7¾ x 4 in. Woofer: 14½ x 14½ x 4 in. System Six In-Wall Woofer uses two 8-inch woofers with push-pull configuration. Satellite uses 4-inch midrange drivers; two ¼-inch 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 vinyl finish. Subwoofer: 8 x 13 x 20 in; 27½ lb. Satellite: 5 x 9 x 5 in; 13½ lb $700 ea

**YST-SWI00 Powered Subwoofer**

Subwoofer uses two 8-inch drivers with push-pull configuration. Satellite uses 4-inch midrange drivers; two ¼-inch 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; 27½ lb. Satellite: 5 x 9 x 5 in; 13½ lb $700 ea

**Wharfedale Coleridge 2-Way Speaker**

8-inch mineral-filled polypropylene woofer, 1-inch titanium-dome 1-inch in aluminium housing. Features cast-aluminium chassis; sandwich-mounted bass units; down-firing reflex-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 and wood veneers. $1,600/pr

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Stereo Review's critics choose the outstanding current releases

PAUL SIMON: “THE RHYTHM OF THE SAINTS”

The 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 Cameroonian 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 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.

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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-I, © 26098-4, ® 26098-2 (45 min).

RON GIVENS

RICHTER PLAYS MOZART

Although 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 much-abused "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 unconveniency.

Svatoslav Richter: The piano sonatas. Sviatoslav Richter (piano). 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-I, © 26098-4, ® 26098-2 (45 min).
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 us only one record of this supreme excellence, all the fuss will have been worthwhile.

Richard Freed


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 déjà 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 co-leaders 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-and-powerful 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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HUMPERDINCK: Hänsel und Gretel. Anne-Sofie von Otter (mezzo-soprano), Hansel; Barbara Bonney (soprano), Gretel; Marjana Lipovšek (mezzo-soprano), Witch; Hanna Schwarz (mezzo-soprano), Mother; Andreas Schmidt (baritone), Father; Barbara Hendricks (soprano), Sandman; Eva Lind (soprano), Dew Fairy. Tolzer Children’s Choir sings charmingly, and the Bavarian Radio Sym-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), Hansel; Barbara Bonney (soprano), Gretel; Marjana Lipovšek (mezzo-soprano), Witch; Hanna Schwarz (mezzo-soprano), Mother; Andreas Schmidt (baritone), Father; Barbara Hendricks (soprano), Sandman; Eva Lind (soprano), Dew Fairy. Tolzer Children’s Choir sings charmingly, and the Bavarian Radio Symphony Orchestra plays with commendable sensitivity. Indeed, I cannot imagine a more satisfying Hansel than this one and take pleasure in recommending it to anyone who loves children, fantasy, and appealing music.

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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 the self-sufficiency and character of her heroines, revealing them in all their spirals into love, to the full-voiced declaration, "If only we'd stop trying to be something..."

Berg scores, too, as a singer of sophisticated, neighborly hybrid of folk and country-rock into sophisticated, re-sounding 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 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 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 instrumentalists); 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 re-evaluation was in order.

Only in one song here, the album-opening So Close, do Hall and Oates
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 and is again maps out the domestic and emotional terrain of the traditional working-class 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 nuance from a lyric, and his plain-spoken delivery hedges no bets on his emotions. 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 self-destruction 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
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.

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. ATLANTIC © 82130-2 (51 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 Canoe Chic Dr., Atlanta, GA 30319.
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: Restraint
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 sculpted 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 drummer are evident in eight others. SBK © K4-95325, © K2-95325 (58 min).

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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. EPC © ET 46238, © EK 46238 (31 min).

Performance: Solid
Recording: Very good

Tammy Wynette has had her trials through the years—how could we forget 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 Batman 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 Barbery 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 Mau- ceri cond. ELEKTRA NONESUCH © 79250-4, © 79250-2 (73 min).
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 pick-by-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 turbocharged 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 worlds—junk food and sex—in the lascivious Burger Man.

They lock into a formidable John Lee Hooker-style boogie in My Head's in Mississippi, singing like they're knee-deep 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 like they're numb to the rest of the album purrs in overdrive. How can you argue with a machine that's a no-frills recycler of old-fashioned-electric blues, as long as it gets you where you're going? P.P.

JAZZ

TUCK ANDRESS: Reckless Precision. Tuck Andress (guitar); Ray Brown (bass). Man in the Mirror; (Somewhere) Over the Rainbow; 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 solo album. (Don't worry, Tuck and Patti are still very much together.)

 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 © CD-83303 (58 min).

Performance: Expert Recording: Excellent

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 "After 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 introduction. "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 a manner that will elicit 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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Discs and tapes reviewed by Robert Ackart, Richard Freed, David Hall, Eric Salzman, and David Patrick Stearns


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 Karlovitch 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. 3, in F Major, Op. 90; Alto Rhapsody, Op. 53. Jesse Norman (mezzo-soprano); Choral Arts

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SUPERSTAR MOZART

As 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 pianos—Edvard Grieg, Andras 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 artists," 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 multi-piano 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, Andras Schiff (piano); English Chamber Orchestra, Georg Solti cond. LONDON © 430 232-4, © 430 232-2 (78 min).
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Muti’s Verdi 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 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 the lot.

HUMPERDINCK: Hansel und Gretel (see Best of the Month, page 120)

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. EMI/ANGEL © 4DS-49968, © CDC-49968 (48 min).

Performance: Revelatory
Recording: Very good

MOZART: Piano Sonatas (see Best of the Month, page 117)


Performance: Revelatory
Recording: Very good

MOZART: Piano Sonatas (see Best of the Month, page 117)


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 general conditions as Roger Norrington’s period-instrument Beethoven cycle, A = 430 pitch, gut-strung violins and violas without chin rests, cellos without end pins, and Robbins Landon edition may suit the cautious and rather characterless old-music style of the Hanover Band, but it will never win friends and influence people the way the traditional version does. Sussmayr 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.

MOZART: Piano Sonatas (see Best of the Month, page 117)


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 general conditions as Roger Norrington’s period-instrument Beethoven cycle, A = 430 pitch, gut-strung violins and violas without chin rests, cellos without end pins,
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VLADIMIR ASHKENAZY: clean than usual. The sound is full-
rush home in the coda, which is superbly
with no sense of hurry, except in the final
finale he opts for a very steady pulse
scherzo is taut and rugged, but in the
generally brisk, he doesn't push. The
ation. While Norrington's tempos are
fully raspy sonority. Notable in the D
pages of the Rhenish creates a wonder-
ty, make a fine big sound, and the mix of
instruments. The con mow marking is
throughout makes a big difference, too.
sharp accentuation lends tension and
phrasing, is even better, indeed a wel-
come revelation comparable to the ex-
pert cleaning of a Rembrandt painting.

The reading of the Unfinished Sym-
phony, given the innumerable perfor-
ances of it in concert and on records
done with heavy vibrato and lugubrious
phrasing, is even better, indeed a wel-
come revelation comparable to the ex-
pert cleaning of a Rembrandt painting.
The lighter-textured string sound con-
tributes 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 com-
pared 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 Rhe-
nish 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 refine-
ments were also used for these record-
ings. In any case, Norrington's London
Classical Players, now augmented to fif-
ty, make a fine big sound, and the mix of
natural and valve horns in the opening
pages of the Rhenish creates a wonder-
fully raspy sonority. Notable in the D
Minor Symphony is the intensely dra-
matic phrasing of the extended introduc-
tion. 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 splendid-
ly fresh readings that make Schumann's
orchestral textures seem considerably
cleaner than usual. The sound is full-
-bodied, with a bit more string presence
in the D Minor.

D.H.

COLLECTIONS

VLADIMIR ASHKENAZY: Live in Mos-
cow. Mussorgsky: Khovanschina, Pre-
lude. Beethoven: Piano Concerto No. 3,
in C Minor, Op. 37. Ravel: Daphnis and
Chloe. Suite No. 2. Tchaikovsky: The
Nutcracker. Waltz of the Flowers. VLAD-
im Ashkenazy (piano); Royal Philhar-
monic Orchestra, Vladimir Ashkenazy
cond. MCA © MCAC-6466, © MCAD-
6466 (67 min).

VLADIMIR ASHKENAZY: In Moscow.
Tchaikovsky: Symphony No. 4, in F Mi-
nor, Op. 36. Rachmaninoff: Piano Con-
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 musi-
cians as Mstislav Rostropovich, Vladi-
mir 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 de-
mise 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 Philhar-
monic Orchestra, which he insisted be
under the dual role of conductor-
pianist for one concert, the other fea-
tured fellow Tchaikovsky Competition
laureate Andrei Gavrilov as soloist. The
whole business was televised through-
out Europe, and the EMI team of John
Fraser and Mark Vigars undertook the
recording both for the Royal Philhar-
monic's own RPO label, licensed to
MCA in this country, and for EMI/An-
gel. 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 auspici-
ously with a wonderfully poetic read-
ing of Mussorgsky's Khovanschina Pre-
lude, after which Ashkenazy, as soloist
and conductor, gives an elegantly clas-
ical performance of the Beethoven C
Minor Concerto, notable for beauty of
execution in the solo opening pages of
the slow movement. Interestingly, too,
Ashkenazy's very free, almost impravi-
sory, treatment of the first-movement
cadenza that Beethoven composed some
years after completing the work. The
second suite from Ravel's Daphnis re-
ceives a rather low-voltage perfor-
ance, though a highly poetic one
throughout the famous solo-flute epi-
sode. Tchaikovsky's "Waltz of the
Flowers" comes as a welcome encore.

The Tchaikovsky Fourth for EMI/An-
gel 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-brim-
stone finale. The Rachmaninoff Second
Concerto has its ups and downs. Soloist
and conductor are in less than total
agreement on tempo at the first-move-
ment recapitulation, but the slow move-
ment is played with great beauty of tone
and phrasing by pianist and orchestra
alike. There is also memorable string
playing in the extended cantabile epi-
sodes 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: Faschings-
raise No. 1. in C Minor: Reminiscences
de Norme. 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
Norme were first issued on an Audionon
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.
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THE THING WITH FEATHERS

by Steve Simels

Looking 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 retro-nostalgia. 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."

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 astonishingly 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 twelve-string 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 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.

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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 retro-nostalgia. 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."

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 astonishingly 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 twelve-string 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 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.

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Today, there is no reason to compromise your favorite music by listening to a common receiver. Because the Adcom GTP-400 tuner/preamplifier with GFA-535 (60 watts per channel)* amplifier gives you all the benefits of Adcom's legendary clear, dynamic sound for a price close to that of an ordinary receiver.

**Why Separates?**

The limited space in receivers prevents the use of heavy duty, high-current, high-voltage power supplies found in the best separate components. Consequently, the performance of receivers is compromised for their questionable advantage of all-in-one convenience.

By dividing the tuner/preamplifier from the power amplifier, Adcom isolates low-current, low-voltage circuits from high-current, high-voltage elements ensuring sonic purity and demonstrably superior performance.

**More Sound—Less Money**

Many of Adcom's components have been favorably compared to other components costing two and three times more. The GTP-400 with GFA-535 is a combination that promises to keep faith with this tradition of offering superb performance at a reasonable cost.

The price of these Adcom separates is close to that of an ordinary receiver. But no receiver will deliver the wide dynamic range and musical satisfaction of an Adcom system.

Ask your Adcom dealer for a demonstration of these affordable separates. You'll never listen to a common receiver again.

*Power output, watts/channel, continuous both channels driven into 8 ohms, 20 Hz - 20 kHz <0.09% THD.
Class A amplifiers ain't what they used to be.

For the sake of signal purity, audio buffs have long put up with Class A amplifiers—powerful, pricey amplifiers the size and weight of cinder blocks. Amplifiers that give off so much heat, you wouldn't want to touch them without oven mitts. Well not anymore. Yarraf-a's new UL-approved MX 830 is the first Class A amplifier (with a patent to prove it) to defy the aforementioned drawbacks of Class A amplification.

The key is something we call Hyperbolic Conversion Amplification, HCA for short. A mouthful which ensures operation won't degrade to Class A even at extremely high levels of output.

The result is one of the world's most powerful Class A amplifiers for its size—170 Watts RMS/channel. Enough to drive three pairs of speakers in any combination.

As one might expect, the MX-830 boasts tremendously high dynamic power (600 Watts, 1 Ohm, 1 kHz). More than enough to prevent distortion during the most demanding passages.

And Yamaha's Advanced Power Supply (APS) assures full output power is supplied even when driving a low-impedance load.

The perfect companion to all this performance is the CX-830 preamplifier with five audio and three video inputs. Four audio and two video record outputs. And audio/video switching. Plus a learning capable remote control that provides a degree of convenience not usually found on such sophisticated equipment.

And there's more. Much too much to describe in detail here.

Drop by your nearest Yamaha dealer for a demonstration of the new MX-830. The first Class A amplifier it doesn't take a fire permit to operate.