EQUIPMENT BUYING GUIDE
CD PLAYERS, SPEAKERS, AMPLIFIERS, RECEIVERS, AND MORE

THE BEST RECORDS OF THE YEAR
The Polk Revolution Continues!

"Polk reinvents the loudspeaker"
High Fidelity Magazine

Nearly six years ago the audio world was stunned by Matthew Polk's introduction of revolutionary SDA technology. While other designers had been concentrating on small refinements to existing loudspeaker technology, Matthew Polk opened the door to new frontiers of exciting realism in sound.

True Stereo SDA technology maintains stereo separation all the way to your ears, something which no conventional speaker can achieve. Conventional speakers make it sound like the musicians are trapped in the speaker boxes or in the small space between them. Polk's patented SDA speakers fill the entire width of your listening room with sonic images so breathtakingly real that it's just like having the musicians in the room with you. They must be experienced to be believed!

Introducing the SDA SRS 2.3

Introduced two years ago, the flagship SDA Signature Reference System (SDA SRS) is the ultimate expression of loudspeaker technology. A two-time winner of the prestigious Audio Video Grand Prix Award, the SDA SRS was recently chosen by the editors of Stereo Review magazine for their ultimate dream system.

Now being introduced, the SDA SRS 2.3 offers all of the benefits of third generation SDA technology in a slightly more modest package. It is the perfect speaker for those listeners who demand the best and most exciting listening experience but who cannot accommodate the larger SDA SRS.

Words can never fully express the thrilling experience of listening to the new SDA SRS 2.3. Effortless reproduction at live concert levels, distortion free, body-tingling bass and room-filling stereo imaging are executed so flawlessly that when you close your eyes you'll forget that you are listening to speakers at all. Visit your local Polk dealer and experience them for yourself.

Matthew Polk's award winning SDA SRS 1.2 and the SDA SRS 2.3.
"They provide smooth, fast and incredibly well detailed sound."
Polk’s RTA Tower Loudspeakers Combine Legendary Polk Performance with Contemporary Style.

Big speaker performance with an efficient use of space.

RTA 11t
The RTA 11t is the finest conventional (non-SDA) speaker that Polk Audio manufacturers. Its extremely high power handling (250 watts) and high efficiency (90dB) provide remarkable dynamic range from both large and small amplifiers. The RTA 11t utilizes the same technologically advanced fluid-coupled subwoofer design found in Polk's flagship model. Dual 8" sub-bass radiators are coupled to two 6½" mid-bass drivers, resulting in a fast, powerful, deep, and ultra-accurate bass response, without the homely, undetailed sound of large woofer systems.

RTA 8t
In a slightly smaller package, the RTA 8t offers the same driver complement as the larger, more expensive RTA 11t, and thus shares its benefits of superior imaging, musicality, and detail.

Both Polk RTA series loudspeakers achieve the extremely rare combination of good looks and state-of-the-art performance. The tall, elegantly slender, and deep "tower" design cabinets allow for substantial internal volume for high efficiency and powerful bass, while requiring less than one square foot of floor space. The small baffle surface area around each driver minimizes diffusion (sonic reflections), thereby insuring outstanding imaging and low coloration.

Positioning the 1" silver-coil dome tweeter between the two 6½" trilaminate polymer bass/midrange drivers achieves what is called "coincident radiation." This means that both the mid- and high-frequencies appear to radiate from the same place on the baffle resulting in perfect blending at the critical crossover point. (See illustration, below).

Polk RTA speakers have an uncanny ability to perfectly reproduce the human voice, pianos, guitars, and every other instrument whose faithful reproduction demands superlative midrange and high-frequency performance. Bass and percussion instruments are accurately reproduced with full visceral power and realism, without the heaviness, boominess, or lack of detail that plague lesser designs.

The discriminating listener who seeks state-of-the-art performance and design will find the quintessential combination of both in Polk’s RTA series loudspeakers.
The New 6-Disc Realistic® CD Changer

Now there's a more convenient way to enjoy the best in sound—the new compact disc changer from Radio Shack. You can load up to six discs in its magazine, sit back, and enjoy hours of superb digital stereo. Or, program up to 32 selections from the six discs to play in any sequence. Either way, you can pause, replay, program and search, using the wireless infrared remote control.

The large LED display simplifies remote operation. Manual and automatic search make it easy to find selections.

This high-performance changer has a heavily cushioned deck mechanism and T-i-Spot laser pickup system for accurate tracking. Two-times oversampling provides superior sound. And Radio Shack stocks extra magazines so you can protect all of your CDs and have them loaded in your preferred order, ready for play anytime.

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STEREO REVIEW FEBRUARY 1989

EQUIPMENT

HIRSH-HOUCK LABS EQUIPMENT TEST REPORTS
Sansui RZ-7000 AM/FM Receiver, page 37
Yamaha NS-1 Speaker, page 39
Marantz CDC-320 Compact Disc Changer, page 42
Bose 10.2 Series II Speaker, page 46

UPGRADING YOUR SYSTEM
Replacing old components or adding new ones can breathe life into your system
by Julian Hirsch

STEREO EQUIPMENT BUYING GUIDE
Features, specs, and prices of hundreds of hi-fi components
Receivers, page 68
Amplifiers, page 78
Compact Disc Players, page 96
Tuners, page 106
Turntables, page 110
Speakers, page 114
Directory of Manufacturers, page 140

MUSIC

RECORD OF THE YEAR AWARDS FOR 1988
The best of the year just past, and some very honorable mentions

BEST RECORDINGS OF THE MONTH
The Pursuit of Happiness, Schubert Symphony No. 9,
Diane Schuur, Rossini's La Cenerentola

Cover: Wharfedale Ritz Diamond speakers, Adcom's GCD-575 compact disc player, and the Carver 6250 receiver; see the Stereo Equipment Buying Guide for details, starting on page 67.
Design by Sue Llewellyn, photo by Roberto Brosan.

STEREO REVIEW BUYER POLL, SEE PAGE 161
Please fill in if you bought equipment in the past thirty days.

READER SERVICE INFORMATION CARD, FACING PAGE 161
Circle the items you want to know about.

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**Stereo Review**

**LETTERS**

**CD Player Listening Tests**

Ken C. Pohlmann's listening tests of six top CD players, reported in the December issue, was of great interest to me because I had performed similar testing for STEREO REVIEW nearly two years earlier. At first glance, it would appear that Mr. Pohlmann's listening panel could hear better than mine. They heard differences in twelve out of thirty comparisons using music. My group could only detect differences when unusual test signals were used.

Unfortunately, Mr. Pohlmann's listeners were most likely hearing the half-second music-synchronization error that he admitted was possible in his test. This has nothing to do with sound quality, only with which start button was pushed first. He states that he increased the ABX comparison system's mute time to one second to solve this problem. I believe that his listeners, all musically inclined, would be capable of keeping time during the one-second mute and that they would be either in time or out of time when the music was reconnected. I believe that they could not prevent themselves from hearing this unconsciously. If that is true, the article's claim to have found audible differences between these CD players is unsubstantiated.

I tested the audibility of music-synchronization error by using digital signal delays and found it to be audible. I used a CD player feeding JBL 7922 signal delays, with the reference output (one millisecond delay) connected to the A input of the ABX comparator and the output with maximum delay (328 milliseconds) connected to the B input. This is like comparing two identical CD players with one leading the other by 328 milliseconds, or just under a third of a second. The comparator was adjusted for one second of mute time during signal switches. The delay taps were tested for delay and frequency-response accuracy and found to be exceptionally well matched.

I scored twelve correct identifications out of twenty trials, which is not statistically significant. When a musician friend of mine tried it, he scored sixteen correct out of sixteen. This is proof that a considerably smaller synchronization error than Mr. Pohlmann accepted can be audible. In my CD player tests two years ago, I used elaborate means to synchronize, and the highest resolution. I would imagine that the speaker-to-listener distances were also quite close to reduce residual room effects further. While such "headphone-like" conditions do allow one to hear things that would not ordinarily be heard, even with a fine typical system/room configuration, the results are potential misleads to individuals shopping for a CD player to complement an average installation.

Second, the fade test on Track 20 of the CBS CD-1 test disc is a 500 Hz tone dropping from -60 to -120 dB) is certainly demanding, but—even though it was discounted in the face-off—the results are again misleading for a consumer-oriented comparison. For one thing, the test itself was skewed, since the amplifier gain was advanced substantially to make the test tone more audible as it fell. If the gain had been left at a normal level, the fade-away aberrations would have been far less audible but more significant.

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**HOwARD FERSTLER**
Tallahassee, FL

Ken C. Pohlmann replies: David Clark is absolutely correct about the importance of synchronizing sound sources. Taking a lead from his earlier tests, I was careful to eliminate timing differences as a variable in these tests by a series of measures: manual synchronizing to within a half second, manipulation of the spindle-motor-drive circuit signals to achieve alignment, comparative monitoring of the right-channel signals through headphones to maintain an in-phase audio image, comparative monitoring of CD frame synchronization bytes at the EFM demodulator and the audio waveform, halting of trials if drift was detected, and use of an extended mute time when switching. As stated in the printed report, our success at eliminating timing differences as a variable was independently validated in tests using two identical players.

Mr. Clark's assumption that all of the listeners were musically inclined is incorrect. Although some musicians (students and faculty) participated, the majority of the listeners were not musically trained. Well aware of the potential problem of rhythm aptitude, I carefully monitored results from musicians and nonmusicians in the test; as a group, the musicians scored below the nonmusicians.

Regarding Howard Feirstler's criti-
How to install a 100-Watt* MOS FET Receiver, a Dolby HX Pro Cassette Deck, and an anti-resonant Compact Disc Player in every room.

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Andrew Lloyd Webber, Variations; more Julian Lloyd Webber, cello. Philips DIGITAL 115473

Vangelis: Direct The Motion Of Stars. more. Arista 100470

Tchaikovsky, 1812 Overture; Romeo & Juliet; Nutcracker Suite Chicago Symphony Orchestra/Solti. London DIGITAL 125179

Mozart, Overtures Academy of St. Martin-in-the-Fields/Marriner. Don Giovanni, Marriage Of Figaro, 7 more. Angel DIGITAL 134267

Brahms, Cello Sonatas Yo-Yo Ma, cello; Emanuel Ax, piano. "Distinctly...handsomely recorded."—Stereo Review RCA DIGITAL 145029


Mozart, Requiem Leipzig Radio Choir; Dresden State Orchestra/Schreier. "Exceptionally satisfying."—High Fidelity Philips DIGITAL 115039

Slatkin Conducts Russian Showpieces Pictures At An Exhibition, Classical Symphony, 3 more. RCA DIGITAL 154358

Pops In Love The Boston Pops/Williams. Clair de lune, Gymnopédies Nos. 1 & 2, Albinoni Adagio, Fantasia On Greensleeves, Pachelbel Canon, more. Philips DIGITAL 125230


Copland: Billy The Kid & Rodeo (Complete Ballets) Saint Louis Symphony Orchestra/Slatkin. Angel DIGITAL 141491

The Canadian Brass: High, Bright, Light & Clear Air On The G String, Masterpiece Theatre Theme, others. RCA DIGITAL 145439

Pops In Space John Williams leads The Boston Pops in music from Star Wars, Close Encounters, Superman, more. Philips DIGITAL 105392

Pachelbel, Canon in D Also includes other works by Pachelbel & Fasch. Maurice André, trumpet; Paillard Chamber Orchestra. RCA 133877

Gershwin, Rhapsody in Blue; An American In Paris; Concerto Pittsburgh Symphony/Previn (pianist & conductor). Philips DIGITAL 115437

Vivaldi, The Four Seasons The English Concert/Pinnock. "The finest recording of [it] I've heard."—High Fidelity Archiv DIGITAL 115356


James Galway—Greatest Hits Memory, Angel Of Music, Perhaps Love, Clair de lune, The Pink Panther, Sabre Dance, Danny Boy, 13 more. RCA 173233

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Into The Woods: Bernadette Peters & original cast. Title song, No One Is Alone, Last Midnight, Ago! more. RCA DIGITAL 181656
Tchaikovsky, Symphony No. 4 Chicago Symphony Orchestra/Solti. London DIGITAL 125038
Liz Story: Speechless Title song; others. RCA Novus 105494
Mozart, Symphony No. 41 (Jupiter); more Orchestra of the 18th Century/Brüggen. Philips DIGITAL 115297
Beethoven, Symphonies Nos. 4 & 5; Academy of Ancient Music conducted by Christopher Hogwood. Angel DIGITAL 100467
Stravinsky, Petrouchka; more; Montreal Symphony Orchestra/De Waart. London DIGITAL 115331
Debussy, La Mer; Nocturnes Boston Symphony Orchestra/Davis. "The BSO is in tip-top form throughout..."—Quotation Philips DIGITAL 115058
Bach, Organ Works Daniel Chowen plays the Toccata & Fugue in D Minor; more. Philips DIGITAL 115193
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LETTERS

cisms, the listening room was not intended to approximate a typical room; rather, the intent was to negate room effects and thus achieve a control. Low reverberation or “headphone-like” conditions are not necessarily without precedent—some people listen to CD players through headphones. Also, Mr. Ferstler is incorrect in assuming close speaker-to-listener distances.

As for the use of Track 20 on the CBS test disc, the purpose was to ascertain whether audible differences exist under special conditions. Mr. Ferstler’s implication that readers would be confused by this is not considerate of the readers’ intelligence.

Tom Waits

Parke Puterbaugh’s December “Best of the Month” review of Tom Waits’s “Big Time” album is probably the most cogent and insightful critique I’ve ever read. It’s entertaining and manages to put into words exactly what this reader feels but could never articulate. At a time when musical styles are clonish and derivative, Waits is a breath of fresh “bus fumes.” Bravo, Mr. Puterbaugh!

RALPH MIRA
Lake Park, FL

CD Stretch

In a December letter, Todd J. Janus lists a number of stereo CD’s that are over seventy-four minutes long. I have one that is seventy-six minutes and fifty-seven seconds! It’s Marta Deyanova’s CD of the twenty-four Rachmaninoff preludes on Nimbus, and a lovey recording it is, too. I wonder if that’s the current record for length.

RAYMOND A. BISWANGER
Slippery Rock, PA

The High End

As much as I love each issue of STEREO REVIEW, I have really begun to appreciate Ralph Hodges’s “The High End” column. With every column, Mr. Hodges seems to connect with some emotional facet of my interest in music and stereo equipment. Whether he’s describing the nearly indescribable thrill of owning a pair of Paul Klipsch’s speakers or reassuring me that having no “cocktail-party effect” ability doesn’t mean I’m going deaf, Hodges always speaks to feelings I thought I experienced alone.

DAVID REED LONG
Boone, NC

Rattle’s Sibelius

The Sibelius Symphony No. 4 is an austere masterwork that demands a terse, sharp edge, but in his December review of the new EMI/Angel recording, Richard Freed raves about the
plodding, heavyhanded reading that Simon Rattle gives it. I suggest he listen to Vladimir Ashkenazy's cold-as-steel version on London.

NILES MONTEMORE
Woodbury, NJ

Speaker Distortion

In the November issue’s test report on the Polk Audio SDA-SRS 2.3 speaker system, Julian Hirsch said that its low level of bass distortion had been matched only by other Polk SDA speakers. That statement is contradicted by two earlier test reports. Lower measured distortion at very low frequencies was reported for both the Velodyne ULD-12 in March 1988 and the Allison IC20 in the May issue. This in no way diminishes the fine performance delivered by the Polk systems, but the record should be clarified.

ROY F. ALLISON
President, Allison Acoustics
Natick, MA

Another reader pointed out that the Klipsch Forte, tested for July 1986, also had low-bass distortion as low as or lower than the Polk Audio system reported on in November. Our apologies.

Licensing Logic

In November’s “The High End,” about home-movie sound, Ralph Hodges states that “Peter Scheiber, who first suggested matrixing to the audio industry in the early Seventies, has kept various patented schemes of logic enhancement close to his bosom.” Mr. Hodges appears to be saying that I initially used my surround-sound patents to block Shure Brothers’ aim of bringing high-performance surround sound to the home viewer. The fact is, Shure brought their Home Theater Sound products to market on their own schedule, not mine, voluntarily taking a license under my relevant patents in the process. I am proud to have been granted basic patents in the field and proud that Dolby, Shure, and other prominent companies are using my patented technology under license.

Mr. Hodges’s column notes that “both Shure and Dolby cut deals with Scheiber, and both went on their merry ways to implement audio logic circuitry.” Two other prominent audio companies that “cut deals” with me to make “logic” surround processors are Aphex, which is building the processor circuitry for Proton’s equipment, and Fosgate, which is alone in being licensed under my newest patent.

Dolby Labs is sublicensing other manufacturers, rather than manufacturing “logic” decoders itself. Dolby’s license under my basic matrix/logic patents specifies use of “logic” separation enhancement with one surround channel, which is current practice.

Shure and Aphex are licensed under the same basic patents to manufacture “logic” decoders. Fosgate is also, but in addition it is the only company that is licensed under my new patent, No. 4,704,728, which covers stable, spatially “open” decoding using a simplified signal path with a minimal number of components. Moreover, I have worked with Fosgate directly on detailed circuit design for its surround products.

PETER SCHEIBER
Bloomington, IN

It’s the same excitement I felt when I got my first set of wheels. Only this time it’s not a new car.


Compared to my old car radio, the music really comes alive.

And the price didn’t kill me, either. So that’s how it goes:

I turn on my Sherwood. Then it returns the favor.
"Because I wanted to have the world's finest amplifier and the world's greatest transfer function, I built the astonishing Silver Seven."

The Silver Seven, finest power amplifier in the world, $8,750 each. Two required for stereo. Silver counters note: The 15th KT88/6550A is a voltage regulator.

Before you meet the new M 4.0t, Bob Carver wants you to meet its inspiration, the money-is-no-object Silver Seven.

"One of my important design precepts is that power amplifiers should be easily affordable but last year, when I began designing a powerful new amplifier, I temporarily set aside that precept of affordability. The result is the Carver Silver Seven Mono Power Amplifier."

Destined to redefine ultra-high-end values forever, the Silver Seven is truly a "money-is-no-object" design. In fact, just a single pair of its fourteen KT88/6550A Beam Power output tubes cost more than some budget amplifiers.

The Silver Seven employs classic, fully balanced circuit topology and the finest components in existence.

- Wonder Cap capacitors throughout.
- Interconnects are Van den Hul Silver.
- Internal wiring is pure silver.
- Wonder Solder throughout.
- Gold input connectors and high current gold output connectors.

The Silver Seven's polished granite anti-vibration base floats on four Simms's vibration dampers. The separate power supply's power transformer end-bells are machined from a solid block of high-density aluminum.

Capable of an astonishing 390 joules energy storage, the Silver Seven delivers a conservatively rated 375 watts into 8 ohms from 20Hz to 20kHz with no more than 0.5% distortion. On the 1-ohm tap, peak current is in excess of 35 amps!

Sonically, a pair (for stereo) of the flawless Silver Sevens almost defies description.
“Because I wanted to share its magnificent sound with you we built the new Carver M-4.0t.”

The M-4.0t, identical transfer function and 375 watts rms/ch at 8 ohms, 20-20kHz with no more than 0.5 % thd. Total maximum output current is 60 amperes.

Superlatives are insufficient.

What does this have to do with the new M-4.0t?

Everything. Because the M-4.0t precisely duplicates the transfer function of the Silver Seven.

Ever wondered why two amplifiers of identical wattage can sound different? Or why two designs with different output ratings can sound much the same? In many cases, it’s because each power amplifier exhibits a unique relationship between its input and output signals. Like human fingerprints, this transfer function is subtly distinct, defining much of the sonic character of the design. Bob has not only perfected the art of measuring an amplifier’s transfer function, but is able to duplicate it in a completely dissimilar amplifier design! That’s how he invested his solid state M-1.0t with the transfer function of a set of $5000 esoteric tube amps several years ago.

This time he’s gone one better. Or two.

He’s used this powerful scientific method to duplicate the transfer function of the Silver Seven in the new M-4.0t (now you know what the “t” signifies). Mind you, we are not saying the M-4.0t is identical to a pair of Silver Sevens. An M-4.0t weighs 23 pounds versus the Silver Seven at 300 pounds a pair. The Silver Seven stores 390 joules of energy while the M-4.0t stores none. As a Magnetic Field Power Amplifier the M-4.0t instantly draws the power it needs directly from the AC line.

Though in choosing the M-4.0t you may miss the warm glow of the Silver Seven’s silver tipped vacuum tubes reflecting in polished black lacquer, he assured both amplifiers are the most musical, effortless, and open sounding you have ever heard. Bass is full and tight, midrange is detailed, treble is pure and transparent.

Each can float a full symphony orchestra across the hemisphere of your living room with striking realism.

Bob Carver developed this incredible design for one reason: to bring you the best the world has to offer and the best amplifier value ever, and he has succeeded handsomely.

Listen to the new, incredibly affordable M-4.0t at your nearest Carver dealer. Or write us for more information. We’ll even send you data on the Silver Seven. After all, if you ever want to move up from the M-401, there’s only one possible alternative.

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Accurate

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You'll find more soundfields, for starters. Considerably more. Thirty-five bigger-than-life soundfields, plus sufficient memory to store 20 of your favorite soundfield variations. And a remote control that puts the whole works directly under your thumb. Including a master volume control for main and all effects channels.

You'll also undoubtedly appreciate the small but extremely significant sound improvements we've made. By using 4 times oversampling, Hi-Bit digital filters plus separate D/A converters for each effects channel, we've reduced distortion and greatly improved S/N ratios.

Then to improve sound you didn't think could possibly be improved, we offer direct-digital input for your CD player, taking full advantage of the 4 times oversampling and Hi-Bit twin D/A converters in the main channels. But we didn't stop there. Our clever engineers also added 4 additional outputs for "fill" or subwoofer speakers.

There's even an on-screen video display of each soundfield's parameters, so you can make changes without losing sight of what you're hearing.

Drop by your Yamaha dealer for a demonstration. We think you'll be impressed, to say the least. We've packed everything we've got into the new DSP-3000. Everything, that is, except room for improvement.

The only digital soundfield processor worth comparing with the DSP-3000 is our own DSP-1. Here's a side-by-side comparison.

<table>
<thead>
<tr>
<th>DSP-1</th>
<th>DSP-3000</th>
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<tbody>
<tr>
<td>16 pre-set acoustic environments:</td>
<td>20 pre-sets with 35 variations:</td>
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<tr>
<td>Hall 1</td>
<td>Hall 1 - A &amp; B</td>
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<tr>
<td>Hall 2</td>
<td>Hall 2 - A &amp; B</td>
</tr>
<tr>
<td>Hall 3</td>
<td>Hall 3 - A &amp; B</td>
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<tr>
<td>Chamber</td>
<td>Hall 4 - A &amp; B</td>
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<td>Minister</td>
<td>Hall 5 - A &amp; B</td>
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<td>Church</td>
<td>Opera House</td>
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<td>Jazz Club</td>
<td>- A &amp; B</td>
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<td>Rock Concert</td>
<td>Cathedral</td>
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<tr>
<td>Memory for 16 additional user programs</td>
<td>Memory for 20 additional user programs</td>
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</tbody>
</table>

The DSP-3000 reproduces the distinct acoustic patterns measured in 20 actual performing spaces — ranging from intimate jazz clubs to symphonic concert halls.
NEW PRODUCTS

Scotch
The 3M Company is making its Scotch brand digital audio tape (DAT) cassettes available in four lengths: 46, 60, 90, and 120 minutes. Prices: C-46, $9; C-60, $11; C-90, $13; C-120, $15. Scotch Magnetic Media Products, Dept. SR, 3M Center, St. Paul, MN 55144-1000.

Luxman
The Luxman TP-117 preamplifier/tuner is a multiroom master control center that allows independent source selection for different zones. It has five external-sensor inputs to enable two-zone operation in up to ten different rooms. Up to three TP-117's can be connected to wire as many as thirty rooms for up to six independent zones. Two handheld remote controls are included with each TP-117. Features include a built-in RF TV modulator, two pairs of pre-out jacks for each system, signal-processor jacks, video switching, auto-seeking AM/FM tuning, and twenty station presets. Price: $1,800. Luxman, Dept. SR, 19145 Gramercy Place, Torrance, CA 90301.

Sherwood
Sherwood's AM-7040 power amplifier, in the company's new 7000 Series, has a high-speed power-MOSFET output stage with high instantaneous current capacity, independent power transformers for each channel, and variable- and fixed-level inputs. Relays prevent transient-noise damage to loudspeakers. Output is rated as 200 watts per channel into 8 ohms from 20 to 20,000 Hz with no more than 0.025 percent distortion. Frequency response is rated as 1 to 25,000 Hz, signal-to-noise ratio as 125 dB, and intermodulation distortion as 0.015 percent. Price: $949.95. Sherwood, Dept. SR, 13845 Artesia Blvd., Cerritos, CA 90701-5095.

Ultimate Sound
Ultimate Sound's UBCPB 12-3 three-way car speaker system has a 12-inch woofer, a 5-inch midrange, and two Motorola piezoelectric tweeters in each cabinet. It can handle up to 200 watts of power with a frequency response rated as 25 to 30,000 Hz. Cabinets are finished in gray or black carpet. Price: $399.95 a pair. Ultimate Sound, Dept. SR, 19330 East San Jose Ave., City of Industry, CA 91748.

Circle 121 on reader service card

Circle 120 on reader service card

Circle 122 on reader service card

Circle 123 on reader service card
**NEW PRODUCTS**

**Sansui**

The D-X301i cassette deck from Sansui uses full-logic, dual-function controls, which allow it to have numerous features without a separate control for each one. Its features include Dolby B and Dolby C noise reduction, Dolby HX Pro headroom extension, twenty-selection automatic music program search, bidirectional music scan, two repeat modes, bias fine tuning, and a switchable multiplex filter. Frequency response with Type II tape is rated as 30 to 20,000 Hz ± 3 dB, signal-to-noise ratio as 75 dB using Dolby C, and wow-and-flutter as 0.05 percent wrms. Sansui Electronics Corp., Dept. SR, 1250 Valley Brook Ave., Lyndhurst, NJ 07071. Circle 124 on reader service card

**Mitsubishi**

A digital audio tape (DAT) player for the car, the Mitsubishi DT 10 has a DIN-style chassis and is equipped with an auxiliary radio/tape input switch that permits using it with an outboard car radio. A moisture-protection circuit prevents condensation buildup on the tape head, which is said to extend tape life and maximize performance. Dynamic range is rated as 85 dB, signal-to-noise ratio as 90 dB, and frequency response as 20 to 20,000 Hz. Features include high-speed music search, sequential program scan, program skip, automatic power off, and three repeat modes. Price: $1,650. Mitsubishi Electric Sales America, Dept. SR, 800 Biermann Court, Mt. Prospect, IL 60056-2173. Circle 125 on reader service card

**Citizen**

The ASP 777 amplified speakers from Citizen are designed to accompany its CBM 777 portable CD player, but they will work with virtually any pocket-size stereo unit. Dimensions are approximately 3 1/4 x 4 1/4 x 6 3/4 inches. The built-in amplifier is rated for 1 watt per channel (2.5 watts maximum), and the speakers' frequency response is given as 100 to 20,000 Hz. Finish is black or white, and an AC adaptor is supplied. CBM America Corp., Dept. SR, 2999 Overland Ave., Los Angeles, CA 90064. Circle 127 on reader service card

**Nelson-Reed**

The Nelson-Reed Model 1204/P acoustic-suspension active subwoofer is an upgrade of the Model 1204 subwoofer. Frequency response is rated as 16 to 62 Hz ± 3 dB. Sensitivity is rated as 93 dB sound-pressure level at 1 meter with a 1-watt input, and impedance is switchable between 2, 4, and 8 ohms. Dimensions are 39 x 18 x 18 inches. The cabinet finish is oiled oak, oiled walnut, or black lacquer. The Model 1204/P requires an external active crossover, the AC-1204, which can run one or more subwoofers. Nelson-Reed products carry a five-year warranty for normal home use. Prices: subwoofer, $1,200; crossover, $570. Nelson-Reed, Dept. SR, 15810 Blossom Hill Rd., Los Gatos, CA 95032. Circle 126 on reader service card
Investing in sound?
Here’s how to make it pay off.

Great buys—at a great buy:
SAVE UP TO 58%!

Stereo Review is written for people who want to make smart buying decisions. We’ll help you find the right stereo equipment—the first time you buy—and show you how to use it the right way. Because sound information is the key to getting an audio system that gives you what you really want.

We test over 70 stereo products in all price ranges each year. Stereo Review’s product evaluations tell you how the components sound...identify unique features...compare models to others in the same price bracket. We warn you about design quirks, distortion, potential problems. We make the components suffer—so you don’t have to.

You’ll appreciate our straightforward explanations of audio technology. Telling you how to get more out of your equipment. Announcing important breakthroughs. Clueing you in on professional maintenance tips. The kind of inexpensive know-how that can make a million-dollar difference in how your system sounds.

Even if you already have the perfect system, you’ll value Stereo Review’s record reviews. An average of 30 a month, in all categories of music. They’ll insure that your system’s power isn’t wasted on inferior recordings.

Use this coupon to subscribe to Stereo Review at UP TO 58% OFF. It’s one of the best sound investments you’ll ever make!
**International Jensen**

The Jensen Model 3150 three-way loudspeaker is part of the company’s Concert line. It has a 15-inch woofer and a rated peak power-handling capability of 220 watts. Continuous power handling is rated as 80 watts. Special edge damping on the 5-inch cone midrange and 3-inch cone tweeter is said to provide a smooth, accurate response. The front-vented cabinet design is said to increase efficiency and extend bass response. Rated sensitivity is 94 dB sound-pressure level, and frequency response is given as 33 to 21,000 Hz. Dimensions are 18½ inches wide, 11½ inches deep, and 32 inches high. Nominal impedance is 8 ohms. Price: $129.95. International Jensen, Dept. SR, 4136 N. United Parkway, Schiller Park, IL 60176.

**Pioneer**

The Pioneer CD-630 active electronic crossover can be switched for either two-way or three-way operation and can divide frequencies either within a full-range system or between a full-range system and a subwoofer or super-tweeter. With a subwoofer, the low-bass crossover can be set at 50, 80, or 120 Hz; for a woofer/midrange crossover the frequency settings are 500, 800, and 1,200 Hz. There are three tweeter/supertweeter crossover settings: 3,200, 5,000, and 8,000 Hz. The unit includes level controls and a stereo/mono switch. Price: $160. Pioneer Electronics, Dept. SR, 2265 E. 220th St., P.O. Box 1720, Long Beach, CA 90801-1720.

**Sony**

Sony’s Mariner XS-616 all-weather speakers are designed to be used on boats, in all-terrain vehicles, and with motorcycles. The speakers are said to be water-resistant; a polypropylene cone material, zinc plating, and rust-resistant enamel paint help resist damage from rain and sun. The 6½-inch woofer has a sealed high-energy strontium magnet. Maximum power handling is 75 watts. Price: $89.95. Sony Corp. of America, Sony Drive, Park Ridge, NJ 07656.

**Custom Woodwork & Design**

The Compact Disc Cabinet from CWD holds forty CD’s and comes with rubber feet for easy stacking. The hand-finished wood cabinets are available in light, dark, or black oak or natural walnut. Dimensions are 22¼ x 9½ x 6 inches. Price: light and dark oak, $85; black oak and walnut, $99. Custom Woodwork & Design, Dept. SR, 5200 W. 73rd St., Bedford Park, IL 60638.

**Museatex Audio**

Translink System Interfaces from Museatex are isolation transformers that change the configuration of a conventional audio system from single-ended to balanced mode. Translinks isolate the positive and negative signal conductors from each other and decouple the grounds of the individual components from signal conductors, which is said to result in a reduction of common-mode noise. Other benefits are said to be increased clarity and resolution of fine details, enhanced dynamic range, less strain on loud passages, and superior depth of sound stage. The company recommends installing Translinks between the preamplifier output and the amplifier input. The source driving the Translinks should have an output impedance of no more than 100 ohms and should not be capacitor-coupled. Price: $325 a pair. Museatex Audio, Inc., Dept. SR, 6695 Thimens Blvd., St. Laurent, Quebec H4S 1W2.
HOME IMPROVEMENT.
If you're still not completely satisfied with CD sound, if you have the nagging feeling something's still missing...you're right. 14-bit, 16-bit or even "floating" 18-bit CD players simply can't deliver all the rich potential of compact disc sound.

It's time for a little Home Improvement—a brilliant improvement at that.

Meet the Elite Series PD-91. The compact disc player that lets you hear CD sound in its fullest glory.

The PD-91 employs 8-times oversampling and full 18-bit linear twin D/A converters to yield an amazing 16-fold improvement in retrieval of ambient cues, harmonic detail and "air" around instruments and vocalists. It's an improvement so dramatic your ears will perk up instantly.

To build a player this superior demanded incredible attention to detail. Example: The PD-91's analogue circuitry is pure Class A for lowest distortion and highest musicality. Inside, you'd see four separate power supplies and eleven voltage regulators—to keep critical small-signal audio information free from interference.

To additionally minimize electrical interaction, portions of the PD-91's circuitry are defeatable—like front panel illumination, headphone amplifier and the analogue output section when digital outputs are being used.

The PD-91 incorporates an outboard power transformer, Pioneer's exclusive copper-plated honeycomb chassis and special ceramic components to combat extraneous vibrations that can destroy signal integrity.

The PD-91's special linear motor delivers the world's fastest track access (1.2-second). You also get flexible seven-way programming, full random play, and, of course, full remote control. Optical as well as coaxial outputs make the PD-91 future-perfect as well.

Want instant Home Improvement in your music system? Then come treat your ears to the PD-91. For your nearest Elite dealer, call 1-800-421-1404.
THE ELITE LD-S1 LASERVISION PLAYER.

If you want to discover what looking sharp is all about, it's time you took a look at the LD-S1. Because the LD-S1 not only delivers the world's sharpest pictures, it gives you the world's best sound, stunning digital sound simply unavailable from any VCR.

You'll see cleaner, truer pictures—over 420 lines of resolution—due to Pioneer's exclusive Accu-Focus laser pickup and Video Noise Reduction circuit. Together, they yield an unprecedented 48dB video signal-to-noise ratio.

You'll hear the best sounding video ever. Because the LD-S1 uses twin, glitch-free D/A converters and a digital filter with four times oversampling to produce an S/N ratio of 105dB.

What's more, our exclusive Full-Floating Disc Drive and Magnetic Disc Clamp isolate and stabilize the disc for remarkably reduced picture jitter—an inherent problem videocassette players can't begin to solve.

The LD-S1's 8-bit digital field memory also gives you a new dimension of viewing pleasure.

You'll get perfect pictures on freeze frame, and new effects like still pictures with sound and strobe motion with sound. And now for the first time, you can enjoy all these special effects while watching movies, opera and concerts on extended-play (CLV) discs.

See the ultimate sight and sound machine at your Elite dealer today. Because in the world of sight and sound, image is everything.

For more information, call 1-800-421-1404.

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UPGRADE YOUR IMAGE.
TURBOCHARGE YOUR CD PLAYER.
THE ELITE A-91D INTEGRATED AMPLIFIER.

Now that the compact disc has taken the world by storm, ordinary amplifiers are failing their driving test. Because ordinary amplifiers simply can't handle the dynamic range and purer signal that digital sound delivers.

Fortunately, the A-91D is far from ordinary. Because the A-91D is built with one thought in mind—to maximize the performance of digital sound.

With 170 watts per channel into 4 ohm speaker loads, and 120 watts into 8 ohms, the A-91D unleashes digital's full dynamic range. Extra-large capacitors and huge finned cast-iron enclosed transformers further contribute to the A-91D's high current capacity and stability into speaker loads as low as 2 ohms.

Along with all this power comes unprecedented purity. You can plug the latest CD players with optical outputs directly into the A-91D, and reap the rewards of independent digital conversion circuitry—with twin, glitch-free D/A converters, a digital filter with four-times oversampling, and an analog lowpass filter made from quality discrete parts. The A-91D also uses Pioneer's exclusive Non-Switching™ Type III amplifier circuit to totally eliminate switching distortion. What's more, critical signal paths are kept extraordinarily short for less electronic interference and cleaner sound.

When it comes to digital sound, there's no such thing as good vibrations. That's why the A-91D uses a special anti-vibration honeycomb design in the chassis frame. In isolation barriers between electronic sections. Even in all five insulator feet. A large aluminum volume control knob with a specially balanced brass shaft also absorbs distortion-causing vibration, and printed circuit boards are mounted in rubber for the same reason.

The A-91D is not only ready for digital, it's ready for the future. With six digital inputs (2 optical), and three digital outputs (1 optical).

So if you want your digital sound to drive you to new heights, you need to drive your digital components with the Elite A-91D.

For more information, call 1-800-421-1404.
THEY DON'T PLAY DIRTY.
The Elite M-91 and C-91 Reference Components.

Hum, crosstalk, vibration: distortion in your audio signal.
Graininess, specks, flecks: extraneous noise in your video image.
Impurities.
The Elite C-91 preamp and M-91 power amp are no-compromise components designed to give you more of the pure signal and less annoying noise. By keeping critical signal paths as short as possible. By providing honeycomb construction throughout to reduce excess vibration. By using separate twin cast-iron transformers to eliminate stray magnetic flux and dissipate heat quickly.
The C-91 not only controls up to six video components, its video-enhancing circuits actually improve your video image. You'll find unique processing controls like video noise reduction, sharpness and detail. To maintain audio and video signal purity, the C-91 includes a shielded, motorized volume control and three separate audio and video power transformers. There are also two Y/C inputs and three outputs to help you get the most out of the latest video technology, including SVHS® and ED Beta®.
A sophisticated high-end A/V system wouldn't be complete without remote capabilities. The C-91's powerful Smart Remote® unifies your existing components into a complete A/V system.

Where the C-91 takes off, the M-91 takes over. With 800 watts/channel into 2 ohms*, and 200 watts/channel into 8 ohms**, and remarkably high current capability (47 amps) for driving low impedance reactive loads. And for unprecedented purity, the M-91 includes its own volume control for direct connection to your CD player.
The Elite M-91 and C-91 Reference Components. The difference between playing dirty. And playing great.

For more information, call 1-800-421-1404.

*Measured by EIA method.
**Based on FTC rules regarding measurement of amplifier power ratings.
Super VHS is a trademark of Victor Corporation of Japan, Limited. ED Beta is a registered trademark of Sony Corporation.
by Christie Barter and Rebecca Day

BRAND POWER
Sony is the third most familiar brand name in the developed world, according to San Francisco-based Landor Associates, an image consulting company. Sony finished behind Coca-Cola and I.B.M. in the survey of 9,000 consumers in the U.S., Japan, and Western Europe. Also making the list was Yamaha at No. 25. The report indicated that only forty firms have a presence in all three markets.

FUTURES: HDTV
Wide-screen HDTV (high-definition television) sets offering dramatically improved picture quality and digital stereo sound could go on sale in the U.S. as early as 1993, according to a report by Robert R. Nathan Associates, Inc., a Washington, D.C., research group. The report predicts that HDTV sets will cost about $2,500 initially and that within four years of their introduction 10 percent of all U.S. households will own one. But before HDTV sets can go on sale, twenty-three proposed systems must be evaluated by the FCC, which must adopt a standard by 1991. Commissioned by the Electronic Industries Association (EIA) as a product of its newly formed HDTV Information Center, the report also predicts that roughly the same number of workers will be employed in domestic TV manufacturing whether or not HDTV is introduced and that 92 percent of some 13 million sets projected to be sold here in the year 2003 will be made in the U.S., contributing $6.2 billion to the American economy.

MUSIC NOTES
Atlantic Records has just concluded its fortieth-anniversary observances with two special boxed anthologies—"Classic Rock 1966-1988," including sides by thirty artists from AC/DC and Bad Company to Yes and the Young Rascals, and "Great Moments in Jazz," spanning thirty-two years and featuring such artists as Thelonious Monk, Ornette Coleman, the Modern Jazz Quartet, and Rahsaan Roland Kirk. . . . Virgin has opened a music "megastore" on the Champs-Elysees in Paris offering everything from c.d.'s to computer screens. . . . The Pittsburgh Symphony has signed with Telarc for at least four new recordings to be conducted by Lorin Maazel. . . . Shelter Records, home label during the Seventies to such artists as Leon Russell, who co-founded the company, and Dwight Twilley, has been reactivated in a joint venture with Dunhill Compact Classics.

LASER SIX-SHOOTER
The first videodisc player from Philips, the CDV488, is also the first player anywhere to play six different types of discs: the new one-sided 8-inch video singles, c.d.'s, c.d.'s, 5-inch cd.v.'s, and 8- and 12-inch videodiscs. Priced at $1,300, it has separate chrominance and luminance (y/c) outputs for connection to Super VHS terminals on high-resolution monitors as well as 16-bit, quadruple-oversampling digital filters and dual 16-bit digital-to-analog converters. The accompanying programmable remote control can operate up to ten components.

TECH NOTES
Speaker manufacturer New England Audio Resource, which has purchased dies and proprietary production machinery from Bozak, has announced that it can now repair or replace any Bozak products made in the past thirty-five years. Write to N.E.A.R., 1450 Hanover Ave., Meridan, CT 06450. Blaupunkt has introduced the New York, a car cd tuner that features Track Program Memory. The $899 player can memorize a user's track-sequence preferences for up to eighteen discs. It has a four-digit security code and is also removable. . . . In-wall speaker manufacturer Sonance has been granted a patent for its mounting brackets. The patent covers both a bracket designed for new construction and a retrofit bracket designed for already-built walls. . . . The British Parliament passed a new copyright law omitting a tax on blank tape that record companies had backed. . . . Watch manufacturer Seiko is expected to begin marketing this month a line of consumer audio products including cd players, portable cassette receivers, and pocket stereos under the SII/Seiko Instruments brand name.

BIG PLANS FOR MOZART
Commemoration on discs of the two hundredth anniversary of Mozart's death in 1791 will commence in August 1990 when Philips Classics releases the first in a series of 180 compact discs devoted to the popular composer's music. The c.d.'s will be contained in a total of forty-five boxed sets, which will stretch, according to Philips, across some 8 feet of shelf space. And from January 1991 through August 1992, the eleven resident companies at New York's Lincoln Center will between them perform every one of Mozart's compositions—369 orchestral works, 21 operas, 97 chamber works, and 200-plus sonatas, vocal ensembles, songs, and other pieces.
Shared Speaker

**Q** I am planning a system that will include three speakers, although they will only be used two at a time. On some occasions, speaker A will handle the left channel and speaker B the right; at other times, speaker B will carry the left signal and speaker C the right. My amplifier has switching for two sets of speakers, and the simplest way to achieve what I want would be to connect speaker A to the left channel of the first set of outputs, speaker C to the right channel of the second, and speaker B to both the first right-channel output and the second left-channel one, but I am worried about causing damage if both speaker switches are accidentally depressed at the same time. How can I avoid that?

**LOWELL JOHNSON**
New Brighton, MN

**A** Your concerns are real because activating both speaker switches on your amplifier would connect both output stages together through speaker B, and this could well cause damage. Your safest bet would be to insert a single-pole double-throw (SPDT) switch in the line to speaker B, allowing it to be connected either to the right-channel terminals of the first set of amplifier outputs or to the left-channel terminals of the second set, but never to both. To change from one configuration to the other would require you to select the appropriate speaker switch on the amplifier and throw this extra switch.

Slightly more complex to wire, but simpler to operate, would be a setup using one set of amplifier outputs wired through a switcher's double-throw switch. In the left position, say, section 1 of the switch would connect speaker A to the left channel and section 2 would connect speaker B to the right; in the other position, both those connections would be broken, and section 3 would connect speaker B to the left channel while section 4 would connect speaker C to the right. Depending on the switch you use, an intermediate everything-off position might be provided as well. Such switches are inexpensive and are available at any electronics parts store.

Crosstalk Cancellation

**Q** Since circuits like Carver's Sonic Holography widen the apparent sound stage by purely electrical means, would it be possible for a similar type of crosstalk cancellation to be encoded in recordings to provide the same listening experience without the need for a processor in the listening system?

**ERIC JONES**
Lamesa, TX

**A** No. Sonic Holography is one of several techniques that are designed to compensate for a flaw common to every stereo system. In a live performance, each sound originates from one point in space, and we are able to locate it by means of tiny variations in its arrival time at our ears. If there are no such interaural time differences, we hear the sound as directly in front of us, while slight variances place it on the side at which it arrived first. The greater the time difference, the farther from center stage the sound image will seem to be.

With a conventional stereo system, however, virtually every sound is reproduced to some degree by both speakers, and their outputs reach both ears at slightly different times. The directional clues are therefore confused, and proper imaging becomes difficult.

The way around this effect is to restore the proper time relationships by removing from each channel, through various sophisticated cancellation processes, material intended only for the opposite ear. For this to work, however, the processor must be adjustable to take into account the distance from speaker to speaker, the distance from each speaker to the listener, the angle formed by the listener and the speakers, and so forth. The size and furnishings of the room come into play to some extent as well.

There is no way that a record producer can predict where or how his product will be heard, and all systems and rooms are different, so adding the sort of signal processing you suggest at the recording stage would be next to impossible.

Subcode Output

**Q** My compact disc player has a subcode output. Can that be connected to a PCM adaptor for making digital-to-digital copies?

**FIDEL SOTO**
San Sebastian, PR

**A** When the original specification for the compact disc was developed by Philips and Sony, it provided for the future development of a system for retrieving additional information—graphics, for instance—from a digital disc using an outboard decoder of some sort. In anticipation of this, many of the first compact disc machines provided a subcode output, even though nobody really knew what it would be used for. What it couldn't be used for was access to the audio signal on the disc. No subcode system was forthcoming, however, so now few players include the jack.

Audio/Video Inputs

**Q** I am interested in buying a receiver with more inputs than are usually provided. Do the video inputs of an audio/video receiver accept an RF signal from a TV antenna, a composite video signal, or simply the audio portion of a video signal? If just audio, can tape decks or CD players be connected to them instead?

**JAMES A. RUSSELL, JR.**
Dunbar, WV

**A** Increasingly, receiver manufacturers provide video switching for those users who have integrated audio-video systems, and particularly those with more than one video component. These extra circuits allow dubbing from one VCR to another, for instance, or from a videodisc to tape. The routing of any of these signals to a video monitor can be done from the front panel of the receiver as well.

Such receivers handle only what is called “direct video,” rather than RF-modulated TV signals, and simply provide a convenient way of hooking various video components together. As with patch cords between VCR's, audio and video are handled separately through separate inputs and outputs, although they are usually switched together. The audio inputs for the video portion of an A/V receiver are identical to the other line-level inputs, so they can be used for extra audio equipment if you have no need of the video facilities.
Marlboro Lights

The spirit of Marlboro in a low tar cigarette.

© Philip Morris Inc. 1989

SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.

10 mg ‘tar,’ 0.7 mg nicotine av. per cigarette, FTC Report Feb '85
The greatest music is on CD—and here's your chance to pick eight favorites listed in this ad. As a special introductory offer to the CBS Compact Disc Club, you can select any eight CDs for just $6.95, which will be billed to your credit card at half price for each CD you buy at regular Club prices. In addition, up to six more sets of eight CDs for $6.95 each will be shipped automatically. If you prefer an alternate selection, or none at all, fill in the response card always provided and mail it by the date specified. You will always have at least 10 days in which to make your decision. If you ever receive any Selection without having 10 days to decide, you may return it at our expense.

The CDs you order during your membership will be billed to your credit card at half price for each CD you buy at regular Club prices. In addition, up to six more sets of eight CDs for $6.95 each will be shipped automatically. If you prefer an alternate selection, or none at all, fill in the response card always provided and mail it by the date specified. You will always have at least 10 days in which to make your decision. If you ever receive any Selection without having 10 days to decide, you may return it at our expense.

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In order to measure the performance of any audio product—whether a tuner, amplifier, receiver, tape deck, or CD player—it is necessary to connect it to a source of power and to supply suitable input signals and output loads where the output from the device can be measured. These requirements apply equally to car components and home components.

Virtually since the inception of component hi-fi, more than forty years ago, there has been a de facto standardization of the signal input and output connectors and the power input connectors. A power connector, of course, consists of a standard AC plug and cord, as required by electrical safety codes, that matches the corresponding outlets in the home, with some variations between countries.

Signal input connectors are even more universally standardized. The so-called RCA phono jack and plug, originally used in RCA's products for convenient connection between a record player and an amplifier, proved to be so effective and inexpensive that it has been adopted throughout the world. There are a few exceptions—many European products use DIN connectors, which have a multipin configuration that reduces the number of separate cables joining the components of a system. Adaptors are usually required when installing or testing such products in the United States.

Antenna input connectors on tuners and receivers are usually screw-head terminals that grip the ends of a 300-ohm antenna transmission line (or a lug attached to the wire). Sometimes there is a spring-loaded connector that grips a stripped wire end inserted into a hole. Similar connectors are sometimes used for loudspeaker outputs. Frequently a 75-ohm coaxial antenna input is provided, perhaps in addition to a 300-ohm input, and for this an F-type connector is now universal.

Real problems can face an installer because car audio lacks the kind of interface standardization we have in home audio.

The general agreement among home audio manufacturers on how a hi-fi component should interface with others in a system, with its input source and output load, and with a commercial power source makes it easy to install components, even if they are from different manufacturers, or to test their performance in the laboratory. The situation with car audio components is totally different. I assume that an experienced car audio installer is familiar with the process and will have the necessary materials on hand, but real problems can face the hapless reviewer or nonprofessional installer whose work is not exclusively with mobile equipment because car audio almost totally lacks the kind of interface standardization we have in home audio.

A typical car stereo "head unit," consisting of a tuner, a cassette deck (or CD player), and a low-power amplifier, has a number of wires hanging from it, some fitted with small male or female clips and others with no terminating connector. There is likely to be a limited degree of color coding to identify the function of the wires, but the value of this is diminished by the seemingly endless variety of output configurations employed by different manufacturers.

It is usually safe to assume that a red (or orange) wire goes to a positive DC source and that a black wire is a ground connection (although there are usually several DC inputs required, for different functions in the system). There are also always a number of other leads whose functions are not so obvious. If installation instructions are provided (which may not be the case), it
should be possible to connect the head unit to a power source and eventually get it operating. At best, however, there will be a cluttered mass of wires to contend with, and the required setup is likely to be different for each model tested.

Annoying as this is, it usually presents no insurmountable problems. Where real problems appear is in the case of a powerful external amplifier. In recent tests of a number of these amplifiers, rated for outputs from 150 to 600 watts or more, I was disturbed to find that no two of them used the same size or type of DC-input and speaker-output connectors. Since the primary DC power had to be delivered through cables whose wire conductors were about 1/4 inch in diameter, making connections was not as simple as wrapping a wire around a screw and tightening it!

The largest amplifiers should have been supplied through large, heavy copper lugs soldered to the cable ends, but such lugs would have been much too large to fit the smaller connector strips of the others. In fact, almost any cable heavy enough to carry the huge currents drawn by the largest of these amplifiers would be too thick to be connected to any of the smaller ones. Conversely, any cable suitable for use with the lower-powered amplifiers in the test group could not have carried the 100 amperes or so required by the larger ones.

Naturally, a 200-watt amplifier and a 600-watt amplifier have very different power requirements. If both used the same connection design, however, such as insulated barrier strips or drilled metal blocks with set-screws to clamp the wire, differing only in size, it might be possible to adapt several sizes of lug or cable to fit different amplifiers. Most car amps (though not all) already have standard phono-jack signal input connectors, and it seems to me that no great compromise would be required on the part of any manufacturer to adapt its products to an industry standard, even if it were only a de facto one.

And while they are about it, how about requiring a prominent statement on or with each amplifier that has a bridged output, as most of the high-powered models do, warning that its outputs (and, if applicable, its inputs as well) must never be grounded?

It would take only a minute amount of applied common sense on the part of some (if not all) of the manufacturers of these products to shift the testing—and, no doubt, the installation—process from the Twilight Zone back to the real world where it belongs. With sensible standardization the frequency of "ampicide" in testing or using these products would be dramatically reduced.

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We give you the best seat in the house.

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SANSUI RZ-7000 RECEIVER

Julian Hirsch, Hirsch-Houck Laboratories

SANSUI'S RZ-7000 receiver has several features not typical of its price range. There are preset memories for up to thirty FM and AM stations, a scan mode that samples each preset channel for 5 seconds before proceeding to the next one, and memories for up to four alphanumeric characters for each preset, so that the station's call letters or other identifying information can be displayed.

Instead of conventional tone controls, the RZ-7000 has a five-band graphic equalizer with center frequencies of 100, 330, 1,000, 8,300, and 10,000 Hz and a control range of ±10 dB. Rocker switches for each band adjust the gain in 2-dB increments. Five other EQ buttons call up factory-set response curves and can also store and recall five user-selected responses. The graphic display also serves as a rudimentary real-time spectrum analyzer, showing the program level in each of its bands. Any EQ response can also be stored in a preset tuner memory so that a station requiring a specific equalization will automatically be heard with it.

There are input-selector buttons for the tuner, a CD player, a phono cartridge, an audio tape deck, and two VCR's or a VCR and a videodisc player. The rear apron of the RZ-7000 contains processor input and output jacks, normally joined by jumpers, for connecting an accessory such as an ambience enhancer, outboard equalizer, surround-sound device, or noise-reduction unit into the signal path. There are two AC outlets, one switched.

The front panel of the RZ-7000 also has a headphone jack, separate selector buttons for two sets of speakers, a loudness-compensation button, a balance control knob, and a large volume knob with a bright red LED pointer that is clearly visible at a distance. The receiver is furnished with a wireless remote control that can also operate certain compatible Sansui components such as a tape deck or CD player. The remote operates virtually all of the receiver's front-panel functions, including power switching and volume adjustment (the volume knob is turned by a small motor under the control of the remote).

The audio amplifier of the RZ-7000 is rated to deliver 70 watts per channel into 8-ohm loads from 20 to 20,000 Hz with no more than 0.02 percent total harmonic distortion. It can drive two pairs of speakers, whose combined minimum impedance should not be less than 4 ohms.

The Sansui RZ-7000 measures 17...
Lab Tests

The top cover of the Sansui RZ-7000 became only moderately warm during our 1-hour preconditioning period and subsequent high-power operation. With both channels driving 8-ohm loads at 1,000 Hz, the output clipped at 100 watts per channel. The clipping power into 4 and 2 ohms was 132 and 163 watts, respectively. Dynamic power outputs were substantially higher, respectively 132, 210, and 280 watts into impedances of 8, 4, and 2 ohms.

The total harmonic distortion (THD) plus noise decreased steadily with increasing power output into 8 ohms, from 1 percent at 1 watt to 0.16 percent at 100 watts. The 4-ohm characteristic was similar, with the distortion falling from 1.5 percent at 1 watt to 0.16 percent at 200 watts. With a 2-ohm load (for which the amplifier is not rated) the distortion fell from 3.4 percent at 1 watt to a minimum of 1.6 percent in the 30- to 60-watt range, rising to just over 2 percent at 200 watts.

Frequency response was flat from 40 to 2,000 Hz, falling to −0.5 dB at 20 and 3,500 Hz and −5.5 dB at 20,000 Hz, measured through the CD inputs with standard EIA reference gain settings. There was little change in the distortion readings with frequency; at 10 watts into 8 ohms the THD plus noise was between 0.04 and 0.07 percent from 20 to 20,000 Hz, and at 70 watts the readings were between 0.015 and 0.09 percent.

The RIAA phono-equalization error was ±0.1 dB from 23 to 20,000 Hz. The equalizer response curves were essentially as rated in respect to their center frequencies and adjustment ranges. The loudness compensation boosted both low and high frequencies slightly at reduced volume settings, with a maximum effect of +7 dB below 100 Hz and +5 dB from 10,000 to 20,000 Hz.

The phono-input impedance was equivalent to a 49,000-ohm resistance in parallel with a 160-pico farad capacitance. The input overloaded at about 300 millivolts at all frequencies. The amplifier’s sensitivity for a 1-watt reference output was 47 millivolts (mV) through the CD inputs and 0.5 mV through the phono input, with corresponding A-weighted signal-to-noise ratios of 76.2 and 73.5 dB.

We measured the FM tuner section’s response at the tape output to eliminate any influence from the amplifier’s frequency response. It was +1.5, −1 dB from 30 to 15,000 Hz. The channel separation was a maximum of 43 dB at 400 Hz and exceeded 30 dB from 40 to 15,000 Hz. The capture ratio of 1.5 dB and the AM rejection of 60 dB were both good, but the image rejection was marginal at 38 dB. Alternate-channel selectivity was quite good, 67 dB, but the less important adjacent-channel reading of 4 dB was so-so.
Comments
The power-amplifier section of the Sansui RZ-7000 was surprisingly rugged, especially for a receiver. It withstood our abuse, driving load impedances less than it was designed for, without ever shutting down or overheating, let alone blowing a fuse or suffering any damage. The preamplifier also acquitted itself well, although we cannot account for the greater than usual roll-off at 20,000 Hz. The phono-input overload level was at least adequate and was virtually constant across the audio band, unlike many preamps whose output "collapses" when overloaded at the high end.

The graphic equalizer can be considered as a rather elaborate and flexible tone control, since five bands are not sufficient for actually equalizing an irregular room response. It is, however, quite effective as a tone control, especially since several applicable response curves can be stored for instant recall. The "spectrum analyzer" display is essentially a cosmetic feature of the front panel.

We liked the preset character display, which is especially useful for associating a station's call letters with its frequency. Although this feature is not unique to the RZ-7000, it is exceedingly rare among current receivers and tuners. The remote control can be a little confusing, since most of its buttons are dedicated to other Sansui components and those unique to the receiver are not grouped in a single area. A little study of the manual, and some hands-on practice, should overcome any problems with it. We especially appreciated the audible beeps and blinking of the red LED pointer that accompanied remote adjustment of the volume-control knob. Other operations, such as changing the input source, are also signaled with a beep.

Since it is rarely necessary for every property of a receiver to be top-notch in any single installation, it is likely that most people would find the Sansui RZ-7000 to be completely satisfactory. We found it fun to use, and its sound quality was very listenable.

YAMAHA NS-1 SPEAKER

Despite the growing number of large speakers that have entered the market in recent years, there seems to be a continuing effort by many companies to develop small—though not necessarily inexpensive—speaker systems whose sound qualities are somewhat commensurate with their price.

The Yamaha NS-1 falls squarely into this category. Its dimensions of 15 inches high, 11¼ inches deep, and 8¼ inches wide certainly qualify it as a small speaker. The finish is closer to that of a larger, more costly speaker; however, and is clearly superior to that of most speakers of its size. The NS-1 is constructed of thick wood and finished on all sides in a glossy blond woodgrain reminiscent of a piano finish (apparently a plastic laminate). The small cabinet appears to be strongly reinforced internally, and rapping on any of its surfaces is like rapping on a concrete block. Most of the front is normally covered by a brown cloth grille retained by decorative brass posts that are visible when the grille is removed.

The NS-1 is a two-way system whose 6¼-inch woofer operates in a sealed enclosure. The woofer cone is formed of polypropylene, slightly curved in a catenary shape, and it has a soft-rubber edge surround. At 2,500 Hz there is a crossover to the 1½-inch soft-dome tweeter. The tweeter is offset slightly to one side of the center line of the panel; although the two speakers are mirror images of each other, there is no indication of which channel each should carry. A continuously variable control on the rear of the cabi-
net adjusts the tweeter level from slightly above the indicated flat position to fully off.

The NS-1 has a nominal impedance of 6 ohms and a rated sensitivity of 86 dB sound-pressure level (SPL) at 1 meter with a 1-watt input. Its frequency response is specified as 60 to 30,000 Hz, and the recommended power input is 60 watts.

In our listening tests, the Yamaha NS-1 speakers sounded very well balanced, not at all "thin," with a good sense of space around them that belied their small size.

(120 watts of peak music program). Each speaker weighs about 21 pounds. Price: $1,000 a pair. Yamaha, Dept. SR, 6600 Orangethorpe Ave., Buena Park, CA 90620.

Lab Tests

The room response of the Yamaha NS-1 speakers (using the normal "flat" tweeter-level setting) sloped gently downward above 1,000 Hz, dropping about 5 dB by 20,000 Hz. From 1,000 to 100 Hz the average response was fairly level, but the curve was irregular because of room-boundary effects. The close-miked woofer output reached its maximum at 100 Hz, falling off at 12 dB per octave below that frequency and at 3 dB per octave above it. At the rated crossover frequency of 2,500 Hz, the woofer's output was at least 10 dB below its maximum level.

The maximum setting of the tweeter-level control increased the output by about 5 dB at all frequencies above 2,500 Hz. At its minimum setting, the speaker output rolled off at about 18 dB per octave above the crossover frequency. With the best match we could make between the woofer curve and the room curve, the NS-1's composite frequency response (using the maximum setting of the tweeter control) varied ±4 dB from 60 to 20,000 Hz and appeared to be continuing beyond 20,000 Hz without signs of dropping off. The tweeter became highly directional above 7,000 Hz, with its output 45 degrees off-axis dropping by 18 dB or so at frequencies above 10,000 Hz. The group delay variation was ±0.2 millisecond from 2,500 to 20,000 Hz.

The system's minimum impedance was 5 ohms at 20 and 150 Hz; its maximum was 45 ohms at the woofer resonance of 77 Hz and 34 ohms at 1,700 Hz. The measured sensitivity, at 1 meter, was 87 dB SPL with an input of 2.83 volts of pink noise. The bass distortion with a constant input of 4 volts (equivalent to a 90-dB SPL) was less than 1.5 percent from 100 Hz down to 65 Hz, increasing to 4.4 percent at 50 Hz and 10 percent at 25 Hz. Pulse power tests produced a woofer rattle at 100 Hz with 70 watts into the speaker's 8-ohm impedance. At 1,000 and 10,000 Hz, the amplifier clipped before the speaker distorted, at output levels of 325 and 1,100 watts, respectively.

Comments

The instruction sheet accompanying the Yamaha NS-1 speakers provided only sketchy recommendations on their installation. We chose to mount them on stands about 26 inches high located about 2 feet in front of the room wall. The instructions indicated that the normal setting of the tweeter level control would give the flattest response; our measurements and ears indicated otherwise. We set the controls to maximum for our listening tests.

The NS-1's sounded very well balanced, with no obvious sign of the elevated upper-bass response that we measured. This is not an unusual occurrence, since the close-miked (anechoic) response of a woofer is far from what one may hear in a normal room. As a matter of fact, the speakers sounded excellent, with a good sense of space around them that belied their small size (although the effect was no doubt due in large measure to that size).

Of course, there was little low-bass content in the output, but except when playing music with appreciable energy in the lowest octaves, this limitation is not likely to be noticed. The speakers did not sound at all "thin." Indeed, we could find little to criticize in what we heard from the NS-1 speakers.

On the other hand, it is debatable whether their sound, good as it is, is worth the investment of $1,000 a pair. Undoubtedly, for some people, it is. There are a number of fine speakers available in that price range, though most of them are much larger than the NS-1's. As always, listen for yourself.

Circle 141 on reader service card

"... And in nearby Hanover, fire gutted a high-end audio equipment store. Destroyed in the blaze were three Infinity Reference Standard speakers, two WAMM modular-array speakers, one Clement-Schumbarber turntable, fifteen Klipschorn speakers, two Sequerra FM tuners, five Mark Levinson..."
WHAT MAKES ONE AUDIO BRAND SOUND BETTER.

RECEIVERS actually combine a separate amplifier and tuner onto a single chassis. So one clue to a receiver's sound quality is the quality of the separates technology it incorporates.

At Denon, the new DRA-1025 and DRA-825 Receivers have the same Opti- cal Class A circuitry that graces Denon separate amplifiers. Developed through statistical research into the playback requirements of CDs, this circuit makes the legendary sound of true Class A mode a practical reality. These receivers also benefit from the same Pure Current power supply that gives our separates superb transient response.

Every Denon receiver features thick, anodized aluminum front panels and discrete output transistors. Selected models offer Denon's Integral System (IS) remote control.

This unwavering consistency is a prime example of Design Integrity, the Denon philosophy that encompasses our eight decades of mastery in every link of the music reproduction chain. It's simply easier to make audio components sound more like music when you know what music sounds like.
THE Marantz CDC-320 CD changer uses the six-disc magazine that is rapidly becoming a standard among Japanese manufacturers. The magazine has six swing-out disc trays that protect the discs against damage from careless handling or curious fingers. It is loaded by pushing it into a slot in the front panel of the player, and a small window lets you see which trays have discs in them.

In operation, the player mechanism swings out the selected disc tray from the magazine case, the center spindle lifts the disc clear of the tray, and it is played exactly as it would be in a conventional CD player. After playing, the disc and tray are swung back into the case, and another disc comes out for playing.

Little information about the design and construction of the CDC-320 is supplied in its instruction manual other than the key specifications and the fact that it uses a three-beam tracking servo and a parallel lens drive (as opposed to the pivoted type used on some players). The manual is, however, complete and specific on the operation of the player, which is somewhat different from that of a single-play machine or even some of the other changers we have seen.

Two large push-plates for the stop and play/pause functions are isolated in the upper right corner of the panel. A green triangle next to the play/pause control blinks when the player is in the pause mode. The other operating controls are somewhat smaller pushbuttons in a row across the bottom of the panel. These include the programming controls, a repeat button for one or all tracks on a disc, the magazine-eject button, and fast-scan and track-skip buttons for both forward and reverse. The skip buttons are the only way to access a particular track, since direct numerical selection is not provided.

The CDC-320 can be programmed to play up to thirty-two tracks in any order from any or all of the loaded discs. After pressing the PROGRAM button, the user selects a disc using the DISC 1-6 button, which sequentially steps through the discs in the magazine, and then uses the skip buttons to find the desired track. Pressing the STORE button enters the selection into...
Plain Vanilla

Not only do we design and build it, we know how to put it together ...simple as plain vanilla.
an imbalance of only 0.09 dB. The channel separation (rated as 82 dB) was slightly different between the two channels, reading 91 dB from right to left and 96 dB from left to right at 1,000 Hz; both readings were about 70 dB at 20,000 Hz. The total harmonic distortion (THD) plus noise was a constant 0.005 percent at 1,000 Hz for levels between 0 and -75 dB. It was also constant at a 0-db level over most of the audio frequency range, measuring 0.005 to 0.0056 percent from 20 to 5,000 Hz and rising to about 0.03 percent at 12,000 to 13,000 Hz. The A-weighted noise level (playing an "infinity zero track") was -93 dB referred to a 0-db level, as rated, and the dynamic range was 88 dB. The quantization noise during playback of a 0-db, 20-Hz track measured -87.5 dB.

In many other CD players, the CDC-320's digital-to-analog (D/A) converter became quite nonlinear at very low levels. At a -70-dB level, its output was about 1 dB high, increasing to +4 dB at -80 dB and to +10 dB at -90 dB. Although the audibility of this kind of nonlinearity under normal listening conditions has not been established, most home CD players we have tested were considerably more accurate in their D/A conversion.

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Deceptive Engineering

Obvious but very deceptive...
You'll probably notice our 50-watt RX-533 offers obvious features such as Digital AM/FM cassette/radio with Dolby® B & C noise reduction, 24-preset stations, preset scan, tape program search, separate bass & treble tone controls, etc., and of course, it's removable!

But you'll probably overlook the not-so-visible but specially engineered features such as FM optimizer II circuitry designed for superior FM reception and built-in Automatic Radio Monitor for filling the void with music while you are fidgeting with your tape. Special cassette features such as "Auto Azimuth Correction System" rotates the tape head 180 degrees whenever tape direction changes to keep perfect azimuth alignment. Keyoff Pinch Roller Release minimizes wear and tear of tape pinch roller and DC servo motor accurately controls tape movement thus minimizing wow and flutter.

Plus pre-amp outputs and CD/AUX input capability designed for flexible system expansion, two-tone illuminated control panel guarantees easy viewing and identification and replaceable Lithium back-up battery helps protect and store information in the microprocessor.

Though not in plain view, these state-of-the-art engineering innovations are obviously what you have come to expect from a company with over 11 years of manufacturing experience. Coustic...a sound investment.

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4260 Charter Street
Vernon, CA 90056-2596
(213) 582-2832
THE 10.2 Series II is the flagship of the Bose Point Two speaker line, which was designed to deliver what the company calls "Stereo Everywhere" performance. The goal of Stereo Everywhere is to eliminate the need for a listener to be in a limited area (the so-called "sweet spot") equidistant from the two speakers in order to experience a full stereo sound stage. To a greater or lesser degree, this need is characteristic of most conventional speaker designs. Bose engineers accomplished Stereo Everywhere by skewing the directive patterns of the mirror-image speakers in each stereo pair toward each other in the horizontal plane, so that as a listener moves toward one of the speakers, its sound level decreases and the sound from the other one becomes louder. The slightly later arrival time of sound from the more distant speaker is compensated for by its increased volume, and the placement of the stereo pair appears to be fixed as the listener moves around the room.

The bulk of the output from the 10.2 speaker comes from a group of three drivers in a subenclosure located at the top of the square-column cabinet. One 2-inch cone tweeter faces forward, and another is angled inward (toward the center of the room) at 45 degrees. An 8-inch midrange driver faces inward, toward the opposite speaker cabinet. The directive properties of the drivers, in conjunction with their orientations, provide the acoustic pattern required for the Stereo Everywhere effect.

The low frequencies are radiated by the Bose Acoustimass bass driver. First introduced in Bose's compact AM-5 speaker, the Acoustimass system completely encloses the woofer within the cabinet; the output from the front and rear of its cone radiates to the outside through separate ducts and ports. The two sections of the enclosure that load the front and rear of the cone have different resonant frequencies, and the entire Acoustimass system forms an acoustic band-pass filter with steep cutoff slopes.

Since the filtering effect occurs after the generation of the sound by the moving speaker cone, distortion created in the bass driver is filtered out, greatly reducing the effective distortion of the radiated sound as compared with that of drivers of similar size in a conventional enclosure. The result, in the Bose 10.2 Series II system, is a full-range speaker with extended low-bass response in a cabinet only 113/4 inches square and 383/4 inches high and weighing only 46 pounds. The bottom 26 inches of the cabinet contains the upward-facing Acoustimass woofer, whose 3-inch-diameter ports are on the rear surface. Most of the exterior of the speaker cabinet is veneered in teak. The top and back are finished in black, and a black cloth grille covers the speaker.
Prism Effect

What has prism effect, a refractive phenomenon, to do with audio equipment? Nothing, except that it is the simplest analogy to describe what our sophisticated XM-3 Mobile Electronic Crossover does to audio signals.

When an ordinary ray of white light passes through a prism, it is systematically separated into the primary colors of the spectrum—optically much more aesthetic than the original light.

Similarly, when an audio signal enters the XM-3, the original signal is then separated, via various controls, to the front and/or rear tweeters, mid-ranges and sub-woofers, creating distinctive bands of the audio frequency spectrum that are space and user-specific.

Specially engineered features such as Front and Rear Pre-Amp Inputs and Front and Rear Outputs as well as a constant Sub-Woofer Output, Asymmetrical Electronic Crossover which has two high-pass (32-400 Hz variable) crossover points for the front and rear outputs and a low-pass (32-400 Hz variable) crossover point for the sub-woofer output, Woofer/Enclosure Equalization engineered for optimizing bass response, Phase Inverter allowing the sub-woofer output to be shifted 180 degrees out-of-phase to compensate for in-vehicle acoustical abnormalities and Frequency Multiplier Switch which, by multiplying crossover points for the front channel, transforms the XM-3 from a BI-AMP SYSTEM to a TRI-AMP SYSTEM, etc., all contributed to create the PRISM EFFECT and make the XM-3 the most versatile electronic crossover ever manufactured for automotive use.

Coustic… a sound investment.

CIRCLE NO. 8 ON READER SERVICE CARD

*Patent pending
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ers. There are no level adjustments. The input connectors on the rear accept the stripped ends of the speaker wires. Price: $1,299 a pair. Bose, Dept. SR, The Mountain, Framingham, MA 01701.

Lab Tests

The instruction booklet for the Bose 10.2 Series II provides little technical information about the speaker other than its EIA impedance rating of 8 ohms and the recommended amplifier power range of 10 to 180 watts per channel. It also mentions that the speakers have a built-in tweeter-protection circuit and that the tweeters are cooled by magnetic fluid.

The measured room response was very flat and showed little evidence of directivity; the left and right speakers gave almost identical responses at a point on the axis of one and 30 degrees off the axis of the other. Below about 200 Hz the response became irregular because of room standing waves. Close-miked measurements of the output at the Acoustimass ports showed a flat response from 60 to 120 Hz, falling to ~5 dB at 35 and 140 Hz and continuing to roll off at 18 dB per octave above 140 Hz. The response of the 8-inch midrange driver was flat within ±2 dB from 130 to 1,350 Hz, indicating that the system’s crossover frequencies were approximately 130 and 1,300 Hz.

We spliced the curves to form a composite frequency response that was highly uniform from 150 to 20,000 Hz, with a variation of less than ±3 dB over that range. It was not easy to decide how to join the bass curve to the room curve. The overall response appeared to be ±3 dB from 40 or 50 to 20,000 Hz, but the bass flatness would in any case be a function of the listening room as well as the speaker.

The effectiveness of the Acoustimass system in reducing bass distortion was undeniable, however. The measured sensitivity of the system was 87 dB sound-pressure level (SPL) at a 1-meter distance with an input of 2.83 volts of pink noise. An input of 4 volts (corresponding to our reference SPL of 90 dB) resulted in an acoustic distortion of about 0.5 percent from 100 to 150 Hz, 2 to 3 percent from 70 to 28 Hz, and 10 percent at 20 Hz—excellent performance for a single 8-inch driver. The midrange driver’s distortion was between 0.15 and 1 percent over the range from 100 to 2,500 Hz, averaging about 0.7 percent.

The system’s impedance was considerably higher than that of most speakers we have tested in recent years. A broad minimum of 8 to 9 ohms spanned the range from 135 to 600 Hz, with bass peaks to 29 ohms at 110 Hz and 57 ohms at 30 Hz. There was a broad rise to 18 ohms at the 1,500-Hz crossover frequency and an overall minimum reading of 5.5 ohms at 10,000 Hz. In pulse power tests, our amplifier clipped before the speakers gave audible signs of distress, reaching power levels of 300 to 500 watts in the bass and midrange, 1,300 watts at 10,000 Hz.

Quasi-anechoic FFT measurements of the speaker roughly confirmed our other tests. Because the tweeters radiated at 45 degrees to each other, we could not readily separate their outputs in this measurement, making the FFT response somewhat ragged. We did, however, detect a fairly sharp tweeter resonance at 12,000 Hz, with an amplitude of about 6 dB, which “rang” for a few milliseconds after the driving pulse ended. Because of the high frequency and brief duration of the resonance, it was not audible.

Comments

The Stereo Everywhere effect lived up to expectations, anchoring the sound stage at the front of the room with virtually no shift of position as the listener walked across the room from side to side. The Bose 10.2 Series II speakers, as stated in the instructions, are not critical as to placement, although they should be no closer than 3 inches from the back wall and should be several feet from the side walls. We tried them in several locations with no major changes in sound quality.

The Acoustimass woofer delivered a strong, deep bass that was especially satisfying on organ music. It occasionally added some upper-bass heaviness to certain male voices, however, in spite of the relatively low woofer crossover frequency. Like any speaker, the Bose 10.2 Series II has a distinctive sound character of its own, and it is advisable to audition it before making a final decision. Sound aside, it is an attractively styled speaker, of reasonable size and price, that can handle the power available from any home audio amplifier without difficulty, and it would be equally at home in large and small rooms.

Circle 143 on reader service card
Remote Possibilities

With the remote control of the Dragon II Mobile Security System, the possibilities are tremendous.

With the simple touch of a button, the Dragon II will, by remote control...
- Lock/Unlock your doors
- Continuously monitor your hood, trunk, doors, and windows against tampering
- Release your trunk or activate another Dragon Security System in a second car
- Blink your parking lights rapidly for 30 seconds so you can easily locate your car even in a large, crowded parking lot

But just touch the car and the Dragon II will...
- Activate a very loud siren
- Blink your parking lights rapidly for visual warning
- Instigate an unpleasant sounding siren inside the Passenger Compartment
- Bypass the Starter Relay to prevent unauthorized starting of your car

The remote controlled Dragon II Mobile Security System does all this and MUCH, MUCH MORE...

Go get one and enjoy the possibilities.

Coustic...a sound and secure investment.

Dragon II Features:
- Two-Channel Remote Control Transmitter
- Selectable Automatic/Remote Arming/Disarming
- Audible Status Signal with Defeat
- LED Status Indicator with Prior Attempt Indication
- Electro-Magnetic Transducer (EMT) Motion and Shock Sensor
- Multi-Sensor System
- Starter Bypass Relay
- Remote Panic Alarm
- Valet Parking Override
- External Antenna Connector
- Courtesy Light Interface*
- Parking Light Interface*
- Trunk Release Interface*

Optional relay(s) required.
†Patent pending.

Dragon I Features:
- Remote Control Transmitter
- Audible Status Signal with Defeat
- LED Status Indicator with Prior Attempt Indication
- Electro-Magnetic Transducer (EMT) Motion and Shock Sensor
- Multi-Sensor System
- Starter Bypass Relay
- Remote Panic Alarm
- Valet Parking Override
- External Antenna Connector

Coustic
4260 Charter Street
Vernon, CA 90058-2596

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Replacing old components or adding new ones can breathe life into your system.
Doubt that there are many audiophiles who have never felt the urge to replace all or part of their hi-fi systems with the latest technological wonders that appear in the pages of this and other audio magazines.

There can be many reasons to be dissatisfied with your old system, not all of them linked to inadequate performance or the failure of some component, although these are certainly two of the more compelling reasons for upgrading. And even a system that continues to be satisfactory may, just through the passage of time, become a prime candidate for upgrading. For example, I know several people who have functioning systems dating back to the Sixties or earlier, complete with classic old Fisher vacuum-tube tuners or receivers that they “wouldn’t part with for the world.” The appeal of state-of-the-art products is largely lost on these faithful audiophiles, whose attitude is often expressed as, “They don’t make them any more like they used to.”

True—they don’t! Today’s components, for the most part, are so far superior to those of past years that they can often make a dramatic improvement in the sound of a comfortable, well-used system that has been giving reliable service for decades. Another important reason for making a change is that over time replacement parts become increasingly scarce and expensive. Sometimes newer parts can be substituted, but that option is not always available for vacuum tubes. Sooner or later, the old equipment must be retired and replaced by more modern components.

Aside from modernization forced by the failure of old equipment, many people feel the urge to introduce new technology into their lives because it promises improvement over what has been available in the past. Taking advantage of technological progress is a factor in almost every category of consumer purchasing, from razors to homes. A good example in audio is the growth of the compact disc player market. As CD player prices have dropped, most audiophiles (and a sizable portion of the general public) have added CD capability to their systems to supplement—and, sometimes
The M12 speaker from a/d/sf is part of its Monitor series, which uses computer-aided design technology. The polymer materials in the drivers are said to provide strength with low mass. Price: $1,900 a pair.

Onrad-Johnson's Sonographie SD-1 CD player has twenty-track programming, dual D/A converters, four-times oversampling, and proprietary field-effect transistors and power supplies. The display shows current track number, program in memory, and elapsed time. Price: $795.

The Onkyo Grand Integra P-308 preamplifier ($660) has independent power supplies for each amplification block to prevent interference. Signal paths were kept as short as possible to minimize noise and distortion.

Onkyo's Grand Integra M-508 power amplifier (above) has a dual-mono design, rated for 200 watts per channel, that is said to provide high stability, no crosstalk, and high usable output. Built-in protection circuitry avoids thermal damage to speakers or to the amplifier. Price: $1,200.

The Technics SL-P1300 CD player has an 18-bit, eight-times oversampling digital filter and four D/A converters that operate with 18-bit resolution. Designed for the professional market, it has a two-speed search dial for cueing, a rocker control for mixing and editing, and cue-point memory. Price: $1,700.
Polk Audio's SDA-SRS 1.2 speakers incorporate the company's Stereo Dimensional Array technology, which is said to enhance dimensional imaging. The system has a 15-inch planar passive radiator, eight 6½-inch triaminate polymer midrange drivers, and four 1-inch soft-dome tweeters. Price: $1,495 each.

To help you decide whether you should upgrade your system, ask yourself a few questions:

♦ Has some part of my present system failed or become unusable for any reason?
♦ Am I becoming dissatisfied with the sound of my system? If so, can I identify the component causing the problem?
♦ Am I facing an expensive repair to one of the system components?
♦ Is a new technology available that promises to make a substantial improvement in the sound quality of my system?

Answering "yes" to any of these questions can easily justify a change in some part of your music system. Indeed, an affirmative response to "Do I simply feel like making a change, even if every part of my system seems to be working properly?" is also an acceptable reason to do just that! Sometimes a new tuner, phono cartridge, or amplifier seems to breathe new life into an old music system ("old" in this context can mean anything from a few months to thirty years, depending on circumstances). And, without question, a change of speakers will alter (though not necessarily improve) the sound of any system.

Although replacing one component of an existing system is usually a straightforward process, you should consider your own tastes and life style before making a choice. If you are planning to replace a receiver or integrated amplifier, for example, this might be a good time to review your video preferences. A number of receivers and integrated amplifiers contain surround-processing circuits designed to enhance video sound, especially if it is encoded with the Dolby process. It costs little more to include this capability when you buy a new receiver or amplifier, and no part of your system will be made obsolete or redundant.

The features of a new component should be judged in terms of their value to you, but it is not always possible to find a component that has only those features you desire.

To get the ones that matter, you may have to accept some that you don't particularly want. And you might find that you like those features, too, once you have the component in your system.

In choosing a new amplifier or receiver, an important consideration is the power rating. Many earlier receivers and amplifiers were rather underpowered by today's standards. In the Sixties and early Seventies, 30 or 40 watts was considered to be adequate to drive the speakers of the time, and in most cases it probably was. By the mid-Seventies, amplifier power began to increase dramatically, and some of the receivers of that time had ratings of 125 to 200 watts per channel. Following the demise of quadraphonic sound, typical receiver or integrated-amplifier ratings settled around 100 watts, and today most fall between 60 and 100 watts.

Beyond their features and maximum power ratings, one of the principal distinctions between yesterday's amplifiers and today's is in their current-output capability. This capability can be inferred from the power output into 2-ohm loads, which is one of the tests we apply to amplifiers in our evaluations.

The importance of current-output capability in any specific application depends largely on the loudspeakers being driven. The nominal impedance of a speaker, usually given as a single number (generally between 8 and 4 ohms), is a measure of the amount of current it will draw from the amplifier. It is not, in any sense, a measure of quality. Actually, the impedance of a speaker generally varies widely over the audio frequency range, and although it is usually at least the rated value in the midrange, it may drop to very low values (2 ohms or less) at low or high frequencies.

Related to impedance (but only in respect to the interaction of the speaker and amplifier) is the speaker's sensitivity, which is sometimes loosely—and incorrectly—called "efficiency." Expressed in decibels, sensitivity is the sound-pressure level (SPL) measured at a 1-meter distance from the speaker when it is driven by a 2.83-volt signal (usually pink noise, which excites the speaker equally at all audio frequencies). That voltage corresponds to a power level of 1 watt into an 8-ohm resistance, which has led some companies to refer their sensitivity rat-
Denon uses four D/A converters in its PMA-1520 integrated amplifier, which combines Class A circuitry with optical signal-transmission technology. The unit has seven audio input terminals as well as a CD direct switch. Speaker terminals accept either banana plugs, spade lugs, or bare wire. Price: $1,000.

Denon's TU-800 AM/FM stereo tuner has a dynamic twin-drive demodulation circuit that's said to provide superior FM reception while keeping distortion to a minimum. Capture ratio is 1.2 dB. Features include thirty presets, auto-scan tuning, and last-channel-tuned memory. Price: $500.

The latest version of the Bose 901 Direct/Reflecting speaker system is the Series VI. Changes include a modified cabinet for clearer imaging and refinements to the built-in equalizer that are said to give better performance in a wider range of placements. The finish is black anodized aluminum. Price: $1,500 a pair.
ony's SDP-777ES digital
surround processor
combines digital delay circuitry
with Dolby Pro Logic decoding. It has a 16-bit digital processor, a
pink-noise generator, a matrix
delay mode, a hall delay mode,
and a stereo simulation mode for mono sources. Price: $850.

For a variety of reasons, you may prefer a system of separate compo-

nents instead of one based on a
receiver. While there are advantages
and disadvantages associated with
either choice, it is undeniable that

separate components simplify the
process of upgrading. For one thing,
you have the option to select a spe-
cific component, such as the pream-
plier or power amplifier, from a
higher price range than the other
components if you feel that what it
offers is worth the added cost. Or
you may have no access to, or inter-

est in, FM radio reception, in which
case the cost of a tuner can be saved
or allocated elsewhere.

On the other hand, if FM is to be a
primary source of music, separates
let you choose from among a large
number of tuners at all price levels.
If you study the lab measurements
in our tuner test reports, you will
find that most tuners excel in a few
specifications while some other
specs are relatively undistinguished.
Depending on your location and lis-
tening preferences, you may be able
to trade off one characteristic
against another and get a compo-
nent that best suits your needs with-
out unnecessary expense.

For example, most tuner and re-
ceiver manufacturers treat sensitivi-

ty as the primary specification and
stress its importance, possibly be-
cause sensitivity has assumed a
place in the layman's vocabulary
analogous to that of an amplifier's
distortion rating—a sort of figure of
merit for the entire product. Unfor-
nately, except in special circum-
stances, neither tuner sensitivity
nor amplifier distortion gives any
indication of the sound character or
overall worth of a product.

In an urban or suburban environ-
ment, FM signal strengths are usu-
ally high, and there is little or no
advantage to having a tuner with a
very high sensitivity (expressed as a
low number for the signal strength
required for reception). What is
likely to be important, especially in
congested urban areas, is a low cap-
ture ratio (less than 1.5 dB) and an
AM rejection greater than 65 or 70
dB. These characteristics may help
to reduce the huge distortions intro-
duced by multipath reception, which
can exceed by orders of mag-
nitude a tuner's distortion in a stan-
dard laboratory measurement. High
selectivity is also desirable in heav-
ily populated areas where there are
few unoccupied channels.

Perhaps you live far from an FM
station whose programs you wish to
hear. Obviously, high sensitivity in
a tuner is a plus for you, but it can-
not work miracles. There is no sub-
stitute for a high-gain antenna,
The D-111 is Luxman's entry-level compact disc player. Priced at $350, it has dual D/A converters and a double-oversampling digital filter. A full-function remote control is included, and rear-panel remote jacks accommodate Luxman's unified remote-control systems.

ahlquist's M-907 speaker is a three-way acoustic-suspension system with a 10-inch woofer, a 5-inch midrange, and a 1-inch dome tweeter. It measures 28 x 14½ x 12½ inches and has a walnut-finished enclosure. Price: $940 a pair.

ahlquist's M-907 speaker

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JBL's JRX725 speaker is a three-way acoustic-suspension system with a 15-inch woofer, a 10-inch midrange, and a 1-inch dome tweeter. It measures 30 x 18 x 14 inches and has a black-finished enclosure. Price: $1,299 a pair.

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mounted as high as you can get it and rotatable to maximize the desired signal and reject those from other directions. Although such an antenna installation is not usually considered part of a hi-fi system, it is by far the most important part of your system if weak-signal FM reception is your goal. Remember, no tuner can receive a signal that does not reach it from the antenna.

Your other signal sources may include phonograph records, CD's, and tapes. If your turntable or cartridge is showing signs of decrepitude, there is a wide field of replacement units from which to choose. Although some high-end cartridges still carry four-figure price tags, you can buy very fine cartridges in the $100 to $200 range today that are the equal of past offerings at several times their price. A similar situation exists for the turntable, with low-end units under $200, superb audio-philie-grade products at five times that price and more, and various super-deluxe models at prices that could buy you a new automobile. Make your choice based on the importance of your record collection to your overall listening habits.

Compact disc players are still a volatile category of audio component. New models come out almost daily, accompanied by extravagant claims for the technological advances, such as high oversampling rates and higher-resolution digital-to-analog converters or digital filters, that presumably give them superior sound properties. My advice is to take many of these claims with a grain or two of salt, since (to my knowledge) no one has yet demonstrated, in impartial double-blind tests, any conclusive listening-quality advantage from any of these features. On the other hand, they don’t seem to have any negative effects either, and happily the price (in real dollars) of CD players has been dropping since their introduction about five years ago.

If you have a working CD player, one good reason for replacing it would be to get one with additional features. Present models vary widely in programming and control versatility and in their ease of use. Another current trend is toward reasonably priced CD changers, which might have a special appeal to some users. Since repairs on any CD player can be very expensive, a malfunctioning low-cost player, or even a higher-priced unit that is a few years old, is a likely candidate for replacement with a newer model.

There have been no substantive changes in cassette tape decks in the past few years except for the welcome inclusion of Dolby HX Pro in many lower-priced decks. Minor improvements in transports and heads, and continued refinement of the cassette tape itself, continue. If you are considering adding a tape deck to a system for the first time, you have a wide range of products to choose from.

In the past, many people chose to tape a new LP and play the tape instead. This practice kept the virtually unworn disc as an archival source, available to make another copy if the tape wore out or was damaged. If that is your modus operandi, there are a number of cassette decks (generally fairly expensive ones) that can make near-perfect copies of almost any LP. The CD, however, is making major inroads into the sale (and thus the manufacture) of LP records. There is little reason to tape a CD, other than for playing in a car system or for a portable tape player, since the original presumably will not wear out or degrade with time. Furthermore, making a near-perfect cassette copy of a CD, while possible, definitely calls for a relatively expensive tape deck. A digital audio tape (DAT) deck is capable of making a virtually perfect copy of a CD player’s analog output (direct digital-to-digital copying is precluded in the design of most DAT machines), but DAT recorders are not only hard to find, they are quite expensive and likely to remain so for some time, while CD prices are falling. Buying a $2,000-plus tape deck to copy a $12 disc for automotive use seems rather pointless, especially since automobile CD players are available at reasonable prices.

Another equipment category that is becoming a larger part of the upgrade scheme is surround-sound processors. Surround sound came into its own two years ago with units that synthesized the sound fields of notable live-music venues in the home listening room. Since then various companies have continued to develop the idea, and adding some type of surround sound to your system is now almost as easy as adding another program source. The rapid advances in video soundtracks have also stimulated interest in surround-sound equipment such as outboard Dolby Pro Logic decoders and VCR’s with built-in surround circuits and amplifiers.

Generally, adding surround sound to your system will require at least one extra amplifier and another pair of loudspeakers—as well as the space to put them. But the secondary amp and the surround speakers don’t need to match the performance of your main listening system. In fact, a small, inexpensive pair of bookshelf speakers and a relatively stripped-down, low-power amplifier will suffice in all but the largest of rooms.

Finally, we come to the loudspeaker, the most important component of a music system and the one least likely to wear out or become damaged. Paradoxically, their very longevity makes speakers prime candidates for replacement. There has been an ongoing improvement in speaker quality, with no sign of a slowdown, for at least the last thirty-five or forty years. It is only too easy to become accustomed to the sound of your speakers, whatever they may be, and accept it as the norm. This era of contentment may last until you hear a more recent system, with newer drivers, crossovers, cabinet designs, etc., and begin to realize what you are missing.

There is a potential pitfall here. Just because Brand X speakers sound strikingly better than the ones you are used to in a friend’s home or a dealer’s listening room, that does not mean that they will sound the same way in your home. In fact, it is almost certain that they won’t! Proceed cautiously, if possible trying out new speakers in your own system, until you find the ones that sound the way you think they should. Now is the time to review the speaker ratings (impedance and sensitivity) and the ratings of the amplifier you will be using to make sure that there is no gross incompatibility.

Your new system, especially if it includes new speakers, is going to sound different from what you are accustomed to hearing. Get used to it, and enjoy it. After all, it can always be changed as necessary to suit your listening tastes. This flexibility is one of the greatest strengths of component hi-fi, and it probably had a lot to do with why you bought that earlier component system so long ago. □
"McIntosh . . . no other transistor amplifier is capable of reproducing as well."

"All the sounds, even those different one from another, remain separated and distinctive. There results a sensation of contrast, precision, and uncommon clarity.

. . . A close analysis of different frequencies reveals an extremely deep bass, very rich in spatial detail . . . The upper bass region is very linear testifying to an extraordinary richness of information. The very structured mid-range contributes enormously to listening pleasure.

The feeling of power is never refuted and instead of stunning the listener, the 7270 recreates an audio environment of a majesty that no other transistor amplifier is capable of reproducing as well." Need we say more?

—REVUE DU SON, foremost French stereo magazine.

For a copy of the REVUE DU SON and information on the McIntosh MC 7270 Amplifier and other McIntosh products write:

McINTOSH LABORATORY INC.
P.O. Box 96 EAST SIDE STATION, DEPT. A47
BINGHAMTON, NY 13904-0096
EVERY year at this time the editors and critics of STEREO REVIEW announce their choice of the top twelve records of the past year. The award-winning recordings for 1988, all released last year, are cited on the following pages along with an additional twenty-four recordings singled out for honorable mention. The criteria for the awards have remained unchanged for over two decades. The winners are chosen on the basis of musical interest, quality of performance, and quality of recorded sound.

It is gratifying to see that half of the award winners in the pop field this time are by new or relatively new recording artists. The Tracy Chapman album, in fact, marks a debut of great promise, and both K. T. Oslin and Branford Marsalis were making only their second recorded appearances as solo performers. The new Die Walküre, a "Record of the Year" by any standard, is also the first installment in what promises to be a glorious new recording of the Wagner Ring cycle—the first one commercially recorded in this country. And the new Show Boat is the first complete recording of that landmark Jerome Kern musical.

Christie Barter
RECORDS OF THE YEAR

BEETHOVEN: Piano Concertos Nos. 1-5. Steven Lubin; the Academy of Ancient Music, Christopher Hogwood conducting. L'OISEAU-LYRE. "Beethoven represented, correctly and realistically, as an idealist with perfectly human and earthy roots."

TRACY CHAPMAN: Tracy Chapman. ELEKTRA. "An astonishing debut by a twenty-four-year-old Bostonian singing strong, impassioned songs that pack a punch with indirect social commentary."


K. T. OSLIN: This Woman. RCA. "A hit-laden album, the most captivating country album of the year, by an important new voice of the baby-boom generation."

ALBÉNIZ: Iberia; Navarra; Suite española. Alicia de Larrocha. LONDON. "A sense of 'testament' on the part of a pianist more closely associated than any other with this fundamental Spanish music."

DVORÁK: Piano Trios Nos. 3 and 4. Emanuel Ax, Young Uck Kim, Yo-Yo Ma. CBS. "Surpassingly fine accounts by three musicians at their formidable best."

ADAMS: Nixon in China. Houston Grand Opera; Orchestra of St. Luke's, Edo de Waart cond. NONESUCH.

JUNE ANDERSON AND ALFREDO KRAUS: Live from the Paris Opéra. ANGEL.

ARLENE AUGER AND DALTON BALDWIN: Love Songs. DELOS.

BARTÓK: Works for Piano and Orchestra. Zoltán Kocsis; Budapest Festival Orchestra, Iván Fischer cond. PHILIPS.

BEETHOVEN: Symphony No. 9. Yvonne Kenny, Sarah Walker, Patrick Power, Petteri Salomaa; Schütz Choir of London; London Classical Players, Roger Norrington cond. ANGEL.

ROSEMARY CLOONEY: The Lyrics of Johnny Mercer. CONCORD.

DEBUSSY: String Quartet. RAVEL: String Quartet. Alexander Quartet. GALLO.

IVES: Holidays Symphony; The Unanswered Question; Central Park in the Dark. Chicago Symphony Chorus and Orchestra, Michael Tilson Thomas cond. CBS.

MARTI JONES: Used Guitars. A&M.

K.D. LANG: Shadowland. SIRE.

LYLE LOVETT: Pontiac. MCA.

MOZART: Variations on "Ah vous dirai-je maman"; Variations on "Unser dummer Pöbel meint"; Rondo in A Minor; Adagios in C
WAGNER: Die Walküre. Jessye Norman, Hildegard Behrens, Christa Ludwig, Gary Lakes, James Morris; Metropolitan Opera Orchestra, James Levine conducting. DEUTSCHE GRAMMOPHON. "A gripping representation with the theatrical impact of a live recording."

BRANFORD MARSALIS: Random Abstract. COLUMBIA. "Superb performances with not a dull, uninspired moment."

SHOW BOAT. Frederica von Stade, Jerry Hadley, Teresa Stratas, Bruce Hubbard, Karla Burns; Ambrosian Chorus, London Sinfonietta, John McGlenn conducting. ANGEL. "An extraordinary reconstruction."

STAY AWAKE—Various Interpretations of Music from Vintage Disney Films. Los Lobos, Bonnie Raitt, Tom Waits, Suzanne Vega, Sinead O'Connor, others. A&M. "The most unlikely songs matched with the most unlikely performers—and it works."

GRAHAM PARKER: Mona Lisa's Sister. RCA.

PUCCINI: La Bohème. Barbara Hendricks, José Carreras, French National Orchestra, James Conlon cond. ERATO.

KEITH RICHARDS: Talk IsCheap. VIRGIN.

TCHAIKOVSKY: Piano Concerto No. 1. RACHMANINOFF: Piano Concerto No. 2. Jorge Bolet; Montreal Symphony Orchestra, Charles Dutoit cond. LONDON.

RICHARD THOMPSON: Amnesia. CAPITOL.

MEL TORMÉ AND GEORGE SHEARING: A Vintage Year. CONCORD.

THE TRAVELING WILBURYS. WILBURY.

VAUGHAN WILLIAMS: Symphony No. 2; Tallis Fantasia. London Philharmonic Orchestra, Bernard Haitink cond. ANGEL.
It was once thought that, with the advent of the compact disc, the treasured recordings of the past would disappear along with the vinyl LP's (not to mention the 78-rpm shellacs) containing them—that the message, in effect, would go the way of the medium. Today, with the CD now in its sixth year on the market, such fears appear unfounded. Totally. The LP has indeed lost its grip on the classical market, and it is rapidly losing ground among jazz, pop, and rock record buyers, but those wonderful old recordings are back in force—hundreds of them, digitally remixed or remastered on compact discs and often offered at attractively low prices. In some instances the recordings were never released on LP; in others, particularly in the jazz field, CD's have been released with individual tracks and even whole albums of material that had never before been released in any format.

Special thanks, then, to the record industry at large for restoring these recorded musical treasures to active catalog life (with more to come), and special awards to some notable multiple-disc reissues of the past year and ongoing series: PolyGram's “Crossroads,” a twenty-fifth anniversary retrospective of recordings by Eric Clapton; the specially compiled Chrysalis set, “Twenty Years of Jethro Tull”; Columbia's continuing series of “Jazz Masterpieces”; Angel's truly “Great Recordings of the Century”; and Columbia's steady revival of Broadway classics in the original-cast recordings, documenting some three decades of American musical theater. C.B.
We don't need flash or razzle dazzle to wow you because Merit offers something far more impressive. Merit offers taste. Real, honest-to-tobacco, satisfying cigarette taste. Yet Merit has even less tar than other leading lights. Enriched Flavor™ is the reason. Only Merit has it. Which is why, in a nationwide taste test, Merit was judged as good as or better than cigarettes that have up to 38% more tar. So let 'em sell their sizzle. You know where the real steak is.

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They Were Designed To Play Music This They Do Very Well, In At A Bargain Price... It's Hard To ima

It has always been true that placement in the listening room has a profound effect on the sound of any loudspeaker, regardless of its inherent qualities. Cambridge SoundWorks has confronted this fact and created Ensemble, a speaker system that can provide in your home, the superb sound once reserved for the best conventional speakers under laboratory conditions. And because we market it directly, Ensemble costs far less than previous all-out designs. Perhaps best of all, it virtually disappears in your listening room.

The best sound comes in four small packages. Ensemble consists of four speaker units. Two compact low-frequency speakers reproduce the deep bass, while two small satellite units reproduce the rest of the music. Separating the low bass on both channels from the rest of the range makes it possible to reproduce just the right energy in each part of the musical spectrum without turning your listening room into a stereo showroom. With clumsy conventional systems, you can either strive for that balance by letting loudspeakers dominate your room, or sacrifice it for less conspicuous speaker placement.

Your listening room works with Ensemble, not against it. Room acoustics emphasize and de-emphasize various parts of the musical range, depending upon where the speaker is placed in the room. If you put a conventional speaker where the room can help the low bass, it may hinder the upper ranges, or vice-versa.

Ensemble, on the other hand, takes advantage of your room's acoustics. You put the low-frequency units where they provide the best bass, whether or not that location is good for the high frequencies (and it usually

Because low frequencies are non-directional, Ensemble's bass units can be installed horizontally, vertically, facing upwards, or facing downwards.

Unlike satellite systems which use a single large subwoofer, Ensemble features separate compact bass units for each stereo channel. They fit more gracefully into your living environment, and help minimize the effects of the listening room's standing waves.

Ensemble is a Trademark of Cambridge SoundWorks, Inc.
And Make It Sound Like Music. A Most Unobtrusive Way, Going Wrong With Ensemble.

isn't for any speaker). Then you put the satellites where they provide a well-defined stereo "stage." The ear can't tell where bass sounds come from, which is why Ensemble's bass units can be tucked out of the way—on the floor, atop bookshelves, or under furniture. The satellites can be hung directly on the wall, or placed unobtrusively on windowsills or shelves (among other possibilities). The result is extraordinary. There are no bulky speaker boxes to dominate your living space, yet Ensemble reproduces the satisfying deep bass that no mini speakers can.

Not all the differences between Ensemble and other speaker systems are as obvious as our two subwoofers. Unlike three-piece satellite systems that may appear similar, Ensemble's four-piece design doesn't cut any corners. We use premium quality components for maximum power handling, individual crossovers that allow several wiring options and cabinets ruggedly constructed for proper acoustical performance. The low-frequency units use the classic acoustic suspension design, and are finished in gunmetal gray Nextel, a suede-like finish highly resistant to scratching. We even gold-plate all connectors to prevent corrosion. But perhaps an even bigger difference between Ensemble and other speakers is how we sell it...

Placement for bass reinforcement.
Placement for more bass reinforcement from walls.
Placement for even more bass reinforcement from corners.
Placement for most bass via acoustic coupling and corner reenforcements.

The best showroom of all:
your living room.

Choosing a loudspeaker after a brief listen at a dealer's showroom is like deciding on a car after one quick trip around the block. Therefore we make it possible to audition Ensemble right in your own home. In fact, Ensemble is sold only by Cambridge SoundWorks directly from the factory. That only makes sense. You get to match Ensemble specifically to your listening room in a way no other system permits. You get to listen for hours without a salesman hovering nearby. And if after 30 days of all that you're not happy, you can return Ensemble for a full refund (we'll even reimburse the original UPS shipping charges in the continental U.S.). You also get to save. At only $499 complete with all hardware, 100' of speaker cable, and free ongoing assistance— Ensemble costs hundreds of dollars less than it would in a retail store.

What Henry Kloss tells his friends:
Every time I come out with a new speaker at AR, KE, or Advent, my friends would ask me, "Henry, is it worth the extra money for me to trade up?" And every time I would answer, "No, what you've already got is still good enough." But today, with the introduction of Ensemble, I tell them, "Perhaps now is the time to give your old speakers to the children."

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*CIRCLE NO. 157 ON READER SERVICE CARD

Julian Hirsch
Stereo Review, Sept. '88

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Technics SL-P999 — with 20-bit, 4 DAC, 8 times oversampling.

When you listen to Madame Butterfly on our new CD player, you'll not only be listening to a great tragedy. You could be avoiding one.

The Technics SL-P999 has a 20-bit digital processing system that can help reproduce sound with greater accuracy than most conventional systems. And if that's not enough, with 4 DAC's and 8x oversampling it all but eliminates things like crossover distortion. All of which helps reproduce sound so beautifully, you would need a front row ticket to get any closer to the music.

Of course, our new CD player has features like an optical digital output, 32-key random access programming and a special interactive editing system. But as impressive as all this sounds on paper, it's not nearly as impressive as it sounds in person. Just ask the Technics dealer in your area to play an aria from Madame Butterfly.

If you really enjoy a great tragedy, come fully prepared. Bring plenty of tissues.

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To select the right audio equipment, you must balance the features and performance you want with prices you can afford. The listings on the following pages indicate features, specifications, and prices for hundreds of components. They should provide you with some good ideas for your shopping.

New audio components are introduced every month, and our guide is necessarily selective, concentrating on the main categories of home audio equipment from companies whose products are widely distributed. If a particular model does not appear, that is by no means a reflection on its quality. Upcoming issues will contain guides to cassette decks, blank tape, and hi-fi VCR's.

All of the information here, including the suggested retail prices, was provided to STEREO REVIEW by the manufacturers of the equipment. Although we have tried to make sure that the prices were correct as of press time, they are subject to change because of economic conditions and availability. In any case, actual retail prices are set by individual dealers.

For more information about any product, contact an authorized dealer or the manufacturer. For manufacturers' addresses, see page 140.
**RECEIVERS**

**A/D/S/**

**Rd 70 W-ch Receiver**
Alphanumeric display on front panel indicating input source or received radio station. Digital-synthesized tuner, with 30 memory presets for AM or FM stations; remote control (which also controls other A/D/S components); digital volume and tone controls; RS-232 port allows control through personal computer; computer interface; 90 W/ch into 8 ohms, with less than 0.05% THD (1.78 µV); 50 dB quieting; stereo/mono switch; internal lithium battery for memory backup; 16-station random preset memory; auto-scanning; last-channel tuning memory; THD 0.006% -3 dB at rated output; IMD 0.005%; FR 20-50,000 Hz ± 1.5 dB; S/N 110 dB; 3.07 x 17.08 x 15.51-in, 26.46 lb; preset FM scan; variable loudness EQ, one-touch source selection; 50 dB quieting; stereo/mono switch; AM distortion at 20 µV; sensitivity 0.1 µV with 70 µV output; 0.006% -3 dB at rated output; IMD 0.005%; FR 20-50,000 Hz ± 1.5 dB; S/N 110 dB. $749

**DENON**

**DRA-1025 AM/FM Receiver**
Features 20 W/ch and full function remote control. Inputs for turntable, 2 tape decks, CD player, VCR; Pre-out main jacks; 7-way speaker terminals; 16 station preset memory; auto-scanning; last-channel tuning memory; THD 0.006% -3 dB at rated output; IMD 0.005%; FR 20-50,000 Hz ± 1.5 dB; S/N 110 dB; 6.37 x 17.08 x 15.51-in, 26.46 lb; preset FM scan; variable loudness EQ, one-touch source selection; 50 dB quieting; stereo/mono switch; AM distortion at 20 µV; sensitivity 0.1 µV with 70 µV output; 0.006% -3 dB at rated output; IMD 0.005%; FR 20-50,000 Hz ± 1.5 dB; S/N 110 dB. $850

**FISHER**

**R625B 120-W/ch AM/FM Receiver**
AM/FM receiver with 38-function wireless remote control. Features 5-band graphic equalizer; motorized volume control; 24 AM/FM station presets; autotuning, built-in FM muting, FL display; 120 W/ch into 8 ohms at 20-20,000 Hz with <0.09% THD; loudness switch; 88 dB, 8 dB, CD/tuner/tape 98 dB, 5.39 x 17.08 x 13.77-in, 21 lb; $380
**HARMAN KARDON**

**hk990 Vxi 90-W AM/FM Receiver**

AM/FM receiver with digital synthesized quartz-locked tuning and remote control. Features high current/high voltage design; active tracking tuning circuitry; 6 AM/12 FM presets; seek tuning; LED signal strength meter; two tape monitors; two A/V monitors; interactive video switching; CD high level inputs; external processor jacks; MC head amp, subsonic filter; mono: loudness; tape copy selector; 2-way A/V; speaker switching; metal chassis $1,099

**hk880 Vxi 60-W AM/FM Receiver**

AM/FM receiver with digital synthesized quartz-locked tuning and remote control. Features high current/high voltage design; 6 AM/12 FM presets; seek tuning; LED signal strength meter; two A/V tape monitors; interactive video switching; CD high level inputs; external processor jacks; subsonic filter; mono: loudness; 2-way tape copy; speaker switching; metal chassis... $749

**hk550 Vxi 45-W AM/FM Receiver**

AM/FM receiver with digital synthesized quartz-locked tuning. Features high current/high voltage design; 6 AM 12 FM presets; seek tuning; two tape monitors; CD, video, and aux high level inputs; loudness; speaker switching; metal chassis $529

**hk440 Vxi 30-W AM/FM Receiver**

AM/FM receiver with digital synthesized quartz-locked tuning. Features high current/high voltage design; 6 AM 12 FM presets; seek tuning; two tape monitors; CD, video, and high level inputs; loudness; speaker switching; metal chassis $389

**Harman Kardon**

**hk880 Vxi**

**HITACHI**

**MX-W50 Music Center**

CD slimline system with infrared remote control. Features CD player, twin cassette deck, digital tuner, amplifier, dual tape deck controlled by microprocessor for feather touch operation, double auto reverse, digital-synthesized quartz tuner locks in station signal, 4-way selection repeat; vibration free floating suspension system; resume play function; built-in timer; single D/A converter 20-section memory; 50 W/c; 0.9% THD 5-band graphic equalizer; Dolby NR equalization switch for all tape types; FR FM 88-108 MHz; FR AM 522-1611 MHz; Jacks for headphone, line-in, phone, speaker, ext antenna; 25.72 x 5 x 14.5 in; 22 lb... $899

**JVC**

**RX1001VBK AM/FM Receiver**

Audio/video receiver with surround-sound capability. Features programmable remote control with LCD; Digital Acoustics processor; digital Dolby surround; computer-controlled digital synthesizer tuning; preset memory for 40 AM/40 FM stations; auto memory; preset scan; auto QSC; dB indicator; variable stop level; station name and program type, variable video inputs; 24 AM/24 FM preset; autotune tuning; built-in FM muting; FL display; 60 W/ch into 8 ohms at 20-20,000 Hz with less than 0.009% THD; loudness switch... $350

**RX999VB AM/FM Receiver**

A/V receiver with programmable remote control. Features digital Dolby surround; hall; stadium; adjustable setup; 3 video inputs; computer-controlled electronic 7-band SEA graphic equalizer with 5-user-programmed sets and 5-programmed settings; digital synthesizer tuner with 40 AM/40 FM station presets; auto memory; preset scan; auto QSC; LCD display; interactive CCS; 5-deck connections with full dubbing; loudness and connections for two pairs of speakers; CATV antenna control unit. 100 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.07% THD: front surround; 15 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.07% THD... $840

**RX777VBK AM/FM Receiver**

A/V receiver with digital Dolby surround, hall, stadium, and adjustable digital delay. Features 2 video inputs; digital synthesizer tuner with 40 AM/40 FM station presets; auto memory; preset scan; 7-band SEA graphic equalizer; LCD on unit; interactive CCS; loudness and connections for two pairs of speakers; CATV antenna control unit: programmable remote control. 80 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.007% THD. Front surround: 15 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.7% THD... $630

**RX777VSBU**

As above with unified A/V remote control... $570

**R-661 Receiver**

AM/FM receiver with 37-function wireless remote control. Features unified full control; 20-station preset memory; video inputs; digital Dolby surround with audio injection; Dolby/Theater/Stadium Surround; 20-Station Name Preset System (SNPS); 5-category music select presets; preset scan with music calendar; 7-band electronic graphic equalizer; 7-band spectrum analyzer; FM auto-memory entry; equalizer recording switch; speaker A/B selector; 10 W/ch rear speaker amplifier; THD 0.006%; IMD 0.006%; FR 20-20,000 Hz ± 0.5 dB; S/N ratio 82... $1,200

**RS615B 60-W/ch AM/FM Receiver**

AM/FM receiver with 37-function wireless remote control. Features 5-band graphic equalizer; remote control; 24 AM/24 FM preset; autotune tuning; built-in FM muting; FL display; 60 W/ch into 8 ohms at 20-20,000 Hz with no more than 0.08% THD; loudness switch... $350

**KR-107R AM/FM Receiver**

AM/FM receiver with voltage interface gate (VIG) power amplifier circuit. Features unified full control; 20-station preset memory; video inputs; digital Dolby surround with audio injection; Dolby/Theater/Stadium Surround; 20-Station Name Preset System (SNPS); 5-category music select presets; preset scan with music calendar; 7-band electronic graphic equalizer; 7-band spectrum analyzer; FM auto-memory memory; equalizer recording switch; speaker A/B selector; 10 W/ch rear speaker amplifier; THD 0.006%; IMD 0.006%; FR 20-20,000 Hz ± 0.5 dB; S/N ratio 82... $1,200

**KR-878R AM/FM Receiver**

AM/FM receiver with voltage interface gate (VIG) power amplifier circuit. Features system memory; unified full remote control; audio injection; Dolby surround; 20-Station Name Preset System (SNPS); 5-category graphic equalizer; FM auto-memory entry; equalizer recording switch; speaker A/B selector: 10 W/ch rear speaker amplifier; THD 0.006%; IMD 0.006%; FR 20-20,000 Hz ± 0.5 dB; S/N ratio 82... $1,200

**KYOCERA**

**R-861 Receiver**

Features 100 W/ch (continuous rms, both channels driven into 8 ohms, from 20-20,000 Hz, with no more than 0.02% THD), 3-band parametric for total equalization, switchable MM/MC phono preamp, preamp output/main amp in jacks; subsonic filter; quartz-frequency selection tuning with high-speed 2,500 Hz comparator for low noise switchable IF bandwidth, selectable bass/treble controls; Dolby FM de-emphasis switch; 7 AM and 7 FM preset stations; high-blend feature. FM S/N 76 dB stereo, 82 dB mono, slew rate 50 V/µsec, rise time 1.0 µsec; S/N (IHF-A) phono MC 74 dB, phono MM 85 dB, high-level inputs 100... $1,200

**STEREO REVIEW FEBRUARY 1989**

**KENTOON**

**KR-V127R AM/FM Receiver**

AM/FM receiver with voltage interface gate (VIG) power amplifier circuit. Features programmable full remote control; three video inputs; video dubbing with audio injection; Dolby/Theater/Stadium Surround; 20-Station Name Preset System (SNPS); 5-category music select presets; preset scan with music calendar; 7-band electronic graphic equalizer; 7-band spectrum analyzer; auto-memory entry; equalizer recording switch; speaker A/B selector; 10 W/ch rear speaker amplifier; THD 0.006%; IMD 0.006%; FR 20-20,000 Hz ± 0.5 dB; S/N ratio 82... $1,200

**Kenwood**

**KR-V107R**

**KYOCERA**

**R-861 Receiver**

Features 100 W/ch (continuous rms, both channels driven into 8 ohms, from 20-20,000 Hz, with no more than 0.02% THD), 3-band parametric for total equalization, switchable MM/MC phono preamp, preamp output/main amp in jacks; subsonic filter; quartz-frequency selection tuning with high-speed 2,500 Hz comparator for low noise switchable IF bandwidth, selectable bass/treble controls; Dolby FM de-emphasis switch; 7 AM and 7 FM preset stations; high-blend feature. FM S/N 76 dB stereo, 82 dB mono, slew rate 50 V/µsec, rise time 1.0 µsec; S/N (IHF-A) phono MC 74 dB, phono MM 85 dB, high-level inputs 100... $1,200
RECEIVERS

LUXMAN

R-117 160-W/ch AM/FM Receiver
Receiver with full-function system remote control, including audio video and sound source switching. Provides remote control and programming with a power rating of 160 W/ch from 20-20,000 Hz with a signal-to-noise ratio of 75 dB, frequency response of 20-15,000 Hz ± 0.5 dB, and total harmonic distortion of 0.02%. Features include 16 presets for AM/FM, 6-station preset tuning, a motorized volume control, and a remote control module. $1,200

SR-4000BL 60-W/ch Receiver
Receiver with 16 AM/FM presets, a 2-core transformer, and a built-in power amp (one for each front and rear channel). Provides 90 dB of signal-to-noise ratio and a frequency response of 20-20,000 Hz ±1 dB. $650

SR-3500BL 110-W/ch Receiver
Receiver with 20 AM/FM presets, a 2-core transformer, and a built-in power amp (one for each front and rear channel). Provides 90 dB of signal-to-noise ratio and a frequency response of 20-20,000 Hz ±1 dB. $800

TA-100 100-W/ch Receiver
AM/FM receiver with 16 presets. Features remote control, 5-band EQ, and a built-in 200-W power amp. Provides 80 dB of signal-to-noise ratio and a frequency response of 20-20,000 Hz ±1 dB. $800

MITSUBISHI

M-AV1 125-W/ch Receiver
A/V receiver with 25 AM/FM presets and a built-in 200-W power amp. Features include remote control, motorized volume control, and bass and treble controls. Provides 90 dB of signal-to-noise ratio and a frequency response of 20-20,000 Hz ±1 dB. $1,000

M-AV2 80-W/ch Receiver
A/V receiver with 20 AM/FM presets and a built-in 100-W power amp. Features include remote control, motorized volume control, and bass and treble controls. Provides 80 dB of signal-to-noise ratio and a frequency response of 20-20,000 Hz ±1 dB. $800

NAD

7600 Monitor Series AM/FM Receiver
Wireless remote control, 150 W/ch, power envelope circuitry, and 6 dB dynamic headroom. $1,098

Nakamichi SR-4A
Stereo receiver with Stasis power amp, multi-regulated power supply, and 165 W continuous average output. Provides 90 dB of signal-to-noise ratio and a frequency response of 20-20,000 Hz ±1 dB. $995

NEC

AVR-1010 AM/FM Receiver
AM/FM receiver with built-in Dolby and matrix surround sound processors. Features include remote control with LED readout, digital input/output, and 192 kHz/24-bit Burr-Brown D/A converter. Provides 80 dB of signal-to-noise ratio and a frequency response of 20-20,000 Hz ±1 dB. $3,200

STEREO REVIEW FEBRUARY 1989
Audiophile-quality background music from a remote control multi-CD player?

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**Onkyo TX-SV7M AM/FM Receiver**

Audio/video AM/FM receiver with Onkyo’s RV-AV7M universal remote control to operate receiver plus a variety of other audio and video components. Features built-in MTS decoder for stereo broadcasts; built-in surround-sound processor with Dolby, matrix, and hall surround sound; simulated stereo. 12 AM/FM station presets; FM mute; inputs for 4 speakers; bass, treble, and balance controls. Inputs for CD player, phone, VDP, VCR, tape 1, and tape 2. 100 W/ch, 75 W/ch (front) and 25 W/ch (rear) in surround mode. $1,000

**Integra TX-108 AM/FM Receiver**

Computer-controlled AM/FM receiver with full-function wireless remote control that can also operate selected Onkyo turntables, tape decks, and CD players. Automatic precision reception system controls stereo/mono, local/DX, high-bend on/off, and NR on/off functions. Features real-phase power supply; dynamic bass expander; dynamic transient expansion; simulated stereo; preset memory scan; motorized volume control; FM/video simulcast capability. Inputs for MM and MC phono; tape; tape 2; CD player; video sound source; VCR; VDP. Amp section: 100 continuous average W/ch from 20-20,000 Hz into 8 ohms with <0.02% THD. FM section: 50-dB quieting sens 40 µV (37.2 dBf) stereo; capture ratio 1.3 dB; alt-ch sel 70 dB. 18.88 x 5.88 x 18.12 in 33 lb $900

**Integra TX-88 AM/FM Receiver**

Computer-controlled AM/FM receiver with full-function wireless remote control that also operates selected Onkyo turntables, tape decks, and CD players. Automatic precision reception system controls stereo/mono, local/DX, high-bend on/off, and NR on/off functions. Features real-phase power supply; dynamic bass expander; simulated stereo; preset memory scan; motorized volume control; FM/video simulcast capability. Inputs for MM and MC phono; tape; tape 2; CD player; video sound source; VCR; VDP. Amp section: 80 continuous average W/ch from 20-20,000 Hz into 8 ohms with <0.02% THD. FM section: 50-dB quieting sens 40 µV (37.2 dBf) stereo; capture ratio 1.5 dB; alt-ch sel 70 dB. $730

**TX-830 AM/FM Receiver**

Stereo receiver with 58 W/ch rms. Features 150 W/ch dynamic output into 2 ohms; low impedance drive discrete output section; 3-mode APR turner; 20-station random memory with battery-free backup; selective tone control. $310

### PHILIPS

**FR 980 AM/FM Surround Sound Receiver**

Built-in Dolby Surround decoding and amplification. Front channels rated 125 watts; 15 watts rear channels; dynamic power of 180 watts. 290 watts. Surround mode switch features matrix, spatial, stereo, mono, 7 brand graphic equalizer with programmable acoustic memory; 30-key universal audio/video remote with LCD display; motor-driven rotary volume control for both channels; digitally synthesized AM/FM tuner with 19 presets; video split screen with video noise reduction; Record Selector provides parallel recording capability; MM and MC phono settings; bi-directional dubbing; remote commander switch; 2 audio inputs; 4 video outputs; 3 video outputs; AM and FM antennas, headphone outlet; function display; pre-set Scanning function for AM/FM tuner; re-modulator output jack for operational re-modulator; S/N ratio 75 dB, THD 0.1% video input sens 1 v p-p/75 ohms. 4.4 x 16.8 x 15.2 in 35 lb $999

### PIONEER

**VSX-9300S AM/FM Receiver**

A/V receiver with Dolby Pro Logic surround processor and digital delay. Features type III non-switching amp rated at 125 W from 30 W rear; motor-driven volume control; 4 audio inputs; video adapter loop; 4 video inputs, studio sound; simulated surround sound; PL display; programmable remote control; video enhancer with split-screen monitoring; VCR noise filter; 5-position remote-operated audio/visual on/off, pre-outs and main input terminals; 30 AM/FM presets; memory scan; motor-driven rotary, and direct-access tuning; HITS (Hyper Intelligent Tuning System) enables memory display by radio call letter and categories. $935

**VSX-7300 AM/FM Receiver**

A/V receiver with Dolby Pro Logic surround processor and digital delay. Features type III...
RECEIVERS

non-switching amp rated at 125 W from 30 W rear; 4 audio inputs; video adapter loop; 4 video inputs; switchable surround sound; simulated surround sound; FL display; programmable remote control; video enhancer with split-screen monitoring; VCR noise filter; 5-position remote-operated headphone jack; automatic and direct-tune access.

VFX-5300 AM/FM Receiver
A/V receiver with Dolby Pro Logic surround sound decoder and digital delay. Features type IIII non-switching amp rated at 100 W from 15 W rear; 3 audio inputs; 3 video inputs; switchable surround sound; FL display; programmable remote control; video enhancer with split-screen monitoring. 30 AM/FM presets.

VSX-3300 AM/FM Receiver
AM/FM receiver with quartz-synthesized tuning and choke W/Ch. Features speech Enhancer, matrix sound, time delayed stereo, 24 AM/FM presets; memory scan; auto tuning; 5-band graphic EQ; A/B speaker selector; FL display; microcomputer control; 5 audio inputs. $260

ST-2700 AM/FM Receiver
Quartz tuning; 6 AM and 6 FM presets; search tuning; digital frequency display, 5-part LED signal strength meter; 2-part dual output power meters; 2-way tape dubbing and 2-way monitor. 100 VCh into 8 ohms; THD 0.07%. $370

D940 AM/FM Receiver
Receiver with Dynamic Power On Demand (DPDO) circuity and Schantz NR. Features high dynamic power capabilities (rating 8/4/2 ohms into 160/380/760 W/ch). 4-gang FM front end; 2-gang AM front end; selectable phono section for MM and MC phono. Speaker EQ; separate low-pass and input volume control; infrasonic filter. Inputs for MM, MC phono, phono 2, tape, AUX, extra AUX, CD, video sound source. Amp section: 40 continuous average W/ch from 20-20,000 Hz with less than 0.02% THD into 8 ohms. Dynamic headroom 6 dB; THD IMD 0.008%. FR 20-20,000 Hz ± 0.2 dB. FM section: alt-ch sel 55 dB; adj-ch sel 90 dB; 50 db quieting sensit 33 dB stereo, S/N 70 dB stereo; THD 0.2%; sep 45 dB at 1,000 Hz; capture ratio 1.5 dB. 16.5 x 4 x 10.12 in; 20 lb. $499

SV-2300 AM/FM Receiver
AM/FM receiver with quartz-synthesized tuning and choke W/Ch. Features speaker matrix sound; simulated stereo for mono sources; 24 AM/FM presets; memory scan; auto tuning; 5-band graphic EQ; A/B speaker selector; FL display; microcomputer control; 5 audio inputs. FR 20-20,000 Hz; THD 0.07%. $250

B285 AM/FM Receiver
Stereo receiver with two microprocessors for control of input sensitivities, output levels, and operating functions. Features alphanumeric multi-mode LCD display, 29 AM or FM presets and reception mode (mono/stereo-blend) separately programmable for each preset station; programmable volume limit; -20 dB button; subsonic filter; loudness contour; programmable output levels for A and B speaker pairs; comprehensive speaker protection circuits; serial data bus for external control devices; wireless infrared remote control (transmitter optional). Inputs for phono, tape, CD player, FM. Amp section: 2.0 A/8 ohms. $200

SXT-2380 AM/FM Receiver
30 AM/FM receiver with quartz-PLL synchro circuitry, 16 random presets; THD 0.03%; IMD 0.05%; s/N 75 dB; inputs for video sources. $599

RX-855 AM/FM Receiver
30 AM/FM receiver with 16 random presets. Features RT850 tuner circuitry and indoor/outdoor Remote. Receives 4 pairs of cable/FM channels; RF antenas; inputs for CD. phono, tape -1, tape-2/monitor, and VCR. Amp section: 50 W/ch into 8 ohms. $2,995

RX-850 AM/FM Receiver
30-W/Ch receiver with 16 random presets. Features R1850 tuner circuitry.

RX-3000 50-W/Ch AM/FM Receiver
Features quartz-PLL synthesizer AM/FM stereo receiver. 30 random station presets; preset scan; station call memory; extra-large heatsink; low-impedance capability; connections for AM loop and indoor/outdoor Remote requires 2 AA batteries; inputs for CD. phono, tape -1, tape-2/monitor, and VCR/VDP; outputs for A, B, and A+B speaker pairs; motorized volume control; matte-black finish; pale-blue FL display; headphone jack. Amp: 60 A, B, and A + B speakers; motorized volume control; subsonic filter; loudness contour; program memory; programmable output levels for A and B speaker pairs; comprehensive speaker protection circuits; serial data bus for external control devices; wireless infrared remote control (transmitter optional). Inputs for phono, tape, CD player, FM. Amp section: 2.0 A/8 ohms. $2,995

RA-875 AM/FM Receiver
Realistic STA-2380

STA-2700 AM/FM Receiver
Quartz tuning; 6 AM and 6 FM presets; search tuning; digital frequency display, 5-part LED signal strength meter; 2-part dual output power meters; 2-way tape dubbing and 2-way monitor. 60 VCh into 8 ohms; THD <0.35%. $1,949

RZ-1000 32-W/Ch AM/FM Receiver
AM/FM stereo receiver with 2 random station presets; preset scan; station call memory, extra-large heatsink; low-impedance capability; connections for AM loop and indoor/outdoor Remote requires 2 AA batteries; inputs for CD. phono, tape -1, tape-2/monitor, and VCR. Amp section: 50 W/ch into 8 ohms. $2,995

RA-V855 AM/FM Receiver
30-W/Ch receiver with 16 random presets. Features R1850 tuner circuitry.

RX-3000 50-W/Ch AM/FM Receiver
Features quartz-PLL synthesizer AM/FM stereo receiver. 30 random station presets; preset scan; station call memory; extra-large heatsink; low-impedance capability; connections for AM loop and indoor/outdoor Remote requires 2 AA batteries; inputs for CD. phono, tape -1, tape-2/monitor, and VCR/VDP; outputs for A, B, and A+B speaker pairs; motorized volume control; matte-black finish; pale-blue FL display; headphone jack. Amp: 60 A, B, and A + B speakers; motorized volume control; subsonic filter; loudness contour; program memory; programmable output levels for A and B speaker pairs; comprehensive speaker protection circuits; serial data bus for external control devices; wireless infrared remote control (transmitter optional). Inputs for phono, tape, CD player, FM. Amp section: 2.0 A/8 ohms. $2,995

vsx-4000 AM/FM Receiver
AM/FM receiver with quartz-stabilized tuning and choke W/Ch. Features Speech Enhancer, matrix sound, time delayed stereo, 24 AM/FM presets; memory scan; auto tuning; 5-band graphic EQ; A/B speaker selector; FL display; microcomputer control; 5 audio inputs. FR 20-20,000 Hz; THD 0.07%. $370

RA-875 AM/FM Receiver
Realistic STA-2380

STA-2700 AM/FM Receiver
Quartz tuning; 6 AM and 6 FM presets; search tuning; digital frequency display, 5-part LED signal strength meter; 2-part dual output power meters; 2-way tape dubbing and 2-way monitor. 60 VCh into 8 ohms; THD <0.35%. $1,949

RZ-1000 32-W/Ch AM/FM Receiver
AM/FM stereo receiver with 2 random station presets; preset scan; station call memory, extra-large heatsink; low-impedance capability; connections for AM loop and indoor/outdoor Remote requires 2 AA batteries; inputs for CD. phono, tape -1, tape-2/monitor, and VCR. Amp section: 50 W/ch into 8 ohms. $2,995

RA-V855 AM/FM Receiver
30-W/Ch receiver with 16 random presets. Features R1850 tuner circuitry.
<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-X1200</td>
<td>AM/FM Receiver</td>
<td>AM/FM receiver with programmable Remote Commander. Features 150 W/ch continuous into 8 ohms. 20-20000 Hz, with 0.008% THD; spontaneous twin drive power supply design; G-Chassis design constructed with non-metallic compound; separate power supplies for system control and audio circuit stages; audio/video switching capability (3 video sources); video and tape dubbing capability. S-video terminals; defeatable subsonic filter; 3-band, low noise, high-gain negative feedback type tone controls; source direct switch; quartz frequency-synthesis tuning, wave optimized digital stereo decoder; 20 station presets. Tuner section: S/N 84 dB, THD 0.8% sel 90 dB, sep (at 1,000 Hz) 60 dB.</td>
</tr>
<tr>
<td>S-X35</td>
<td>AM/FM Receiver</td>
<td>Features quartz digital-synthesis tuner; 5-band graphic equalizer; auto scan tuning; loudness switch; A, B, A + B speaker selector; 6 AM/FM presets. Inputs for MM phono, tape, CD player. Amp section: 35 continuous average W/ch 20-20000 Hz with no more than 0.5% THD into 8 ohms; HI IMF 0.15%; FR 15-35,000(00) Hz +3 dB. FM section: adjacent-ch sel 56 dB; max S/N 68 dB stereo; THD 0.3% stereo; sep 32 dB at 1,000 Hz. Black or silver. 17 x 3.69 x 10.5 in; 10 lb.</td>
</tr>
<tr>
<td>S-2770CP</td>
<td>AM/FM Receiver</td>
<td>Digital-synthesized AM/FM-stereo receiver with digitally controlled 7-band EQ and LED spectrum analyzer. Features 4 EQ memories; 16 station presets; video dubbing, infrared remote control; surround sound; front-panel 2-ch-audio VCR input; MOSFET input stage; inputs for tape, CD player; video source analyzer; amp section: 74 continuous average W/ch 20-20000 Hz with less than 0.3% THD into 8 ohms; capture ratio 1.5 dB; AM rejection 55 dB; all-ch sel 70.</td>
</tr>
<tr>
<td>RS50</td>
<td>AM/FM Receiver</td>
<td>Receiver with full-function infrared wireless remote control. Features surround sound; 2 video inputs; video enhancer; 5-band graphic equalizer; direct switch; quartz-locked computerized tuning; 30 preset stations; preset scanner, automatic tuning, dual-gate MOSFET; tape monitor; headphone jack; IMD 0.04%; S/N ratio 79 dB; FR 9-100,000 Hz; usable S/N 11.2 dB; 30 dB quieting; 19.2 dB, THD 0.15%; 50 dB stereo sep at 1 kHz; all-ch sel 70. 51 x 17.3 x 15.0 in.</td>
</tr>
<tr>
<td>S-27700</td>
<td>70-W/ch Receiver</td>
<td>Features quartz PLL synthesizer AM/FM stereo tuner; 30 random station presets; preset scan; station call memory; 5-band graphic equalizer with 5 factory-set patterns; memory for 30 user-set patterns for tuner, and 5 other user-set patterns; extralarge heatsinks; low-impedance capability; VCR and cassette dubbing capability; 36-key multi-function integrated system remote control; connections for AM loop and indoor/outdoor FM antennas; inputs for CD, tape, VCR; 16-bit DSP, and processor; options for headphones. A, B, and A+B speakers; motorized volume control; matte-black finish; pale-blue FL display. Amp: 70 W/ch, THD &lt;0.03%; S/N 76 dB. Tuner: FM usable S/N 11.2 dB mono, S/N 70 dB; THD &lt;0.2%.</td>
</tr>
<tr>
<td>SAE R102</td>
<td>AM/FM Receiver</td>
<td>SAE R102 AM/FM Receiver utilizes an on-board computer to eliminate dependency between front-panel layout and audio circuits. 50 W/ch at 0.025% THD. All controls grouped by function. Features alphanumeric and digital readouts for input functions, tone, volume, balance settings, station frequency and tuner memories; 3 digital tone memories; tuner memory scan, phone power amp, high-current main amp.</td>
</tr>
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</table>
TECHNICS

SA-RX500 AM/FM Receiver
Audio/video receiver with full-function remote control. Features 55 W/ch into 8 ohms, rounded-square sound quality; 5-band graphic equalizer; quartz digital tuner; motorized volume control; music index; video inputs and outputs; pre-out/main-in jacks; 8 discrete output transistors; video signal routing; 75 ohm antenna inputs. $470

SA-R330 70-W/ch AM/FM Receiver
Audio/video receiver with 42-key intelligent remote control. Features 7-band electronic graphic equalizer; center speaker terminals; 20 station presets; preset channel memory; quartz digital tuner; video inputs and outputs; 8 A/V inputs; video output for monitor; full-function FL display. 70 W/ch, both channels driven into 8 ohms, from <0.007% THD from 20-20,000 Hz. $520

TEAC

AG-55 AM/FM Receiver
35 W/ch AM/FM receiver with LED power meters; 3-band graphic EQ; CH, AUX, and TV/VCR inputs; high cut filter and bass boost EQ switch; dual speaker terminals; quartz synthesized PLL tuner; AM/FM random access station memory; auto station search; LED frequency display. FR 10-70,000 Hz; THD 0.5%. FM usable mono sens. 11.2 dB; image rejection 11.44 dB; 16.43 lb. $300

AG-35. Similar to above with 35 W/ch and without graphic EQ. $200

VECTOR RESEARCH

VRX-9200R AM/FM Receiver
120-W/ch A/V receiver with full-function remote control. Features motorized rotary volume control; built-in matrix surround; pre-out/main-in jacks; 8 discrete output transistors; video signal routing; A/V processing loop; video monitor output; dedicated CD input; quartz-synchonized tuning; 20 station presets; preset scan; mono/stereo switch; RF antenna inputs. FM autoscans; 2 tape monitors with dubbing in either direction; 2 A/V monitors with dubbing, MC head amp; high and subsonic filters; parallel speaker switching; surround level, front/rear balance. $750

VRX-8200R AM/FM Receiver
110-W/ch A/V receiver with full-function remote control. Features motorized rotary volume control; built-in matrix surround; pre-out/main-in jacks; 8 discrete output transistors; video signal routing; A/V processing loop; video monitor output; dedicated CD input; quartz-synchonized tuning; 20 station presets; preset scan; mono/stereo switch; RF antenna inputs. FM autoscans; 2 tape monitors with dubbing in either direction; MC head amp; high and subsonic filters; parallel speaker switching. $600

TECHNICS SA-R530 100-W/ch AM/FM Receiver
A/V receiver with 96-key intelligent remote control and Dolby surround-sound processor. Features 7-band electronic graphic equalizer with 5 factory preset curves and 5 user assignable curve memories; quartz digital tuner; 24 preset channel memory and Station File preset organization system; 7-band FL spectrum analyzer; motor-driven volume control; 2 A/V input; 4 audio inputs; full-function FL display. $480

VRX-6300R AM/FM Receiver
40 W/ch A/V receiver with discrete output stage. Features 20 random AM/FM presets; dedicated CD inputs; A/V processing loop; 2 switched/unswitched outlets; separate FM mute and mono; video monitors; quartz-synchonized tuning; rotary volume control with LED; pre-out/main-in jack; video signal routing. 75 ohm connector; AM/FM autoscans. Amp. THD 0.08%; IMD 0.08%. FR 10-50,000 Hz. Tuner: S/N 68 dB; THD 0.4%. FM 50-15,000 Hz; sep 42 dB; 17.4 4.5 x 13.5 in; 15 lb. $320

VRX-2700 AM/FM Receiver
30 W/ch A/V receiver with discrete output stage. Features 20 random AM/FM presets; dedicated CD inputs; A/V processing loop; 2 switched/unswitched outlets; separate FM mute and mono. $2,500

YAMAHA

RX-1100U AM/FM Receiver
AM/FM receiver with integrated system remote control. Features digital tuner; absolute linear amplification; high dynamic power; low-impedance drive capability; 16-station random access preset tuning; digital fine tuning, continuously variable loudness control; dual tape monitor inputs; pre-main coupling terminals; 3 video source inputs; video and audio record out selectors; switching for three pairs of speakers. Yamaha indicator on volume knob. 125 W/ch min rms into 8 ohms from 20-20,000 Hz with less than 0.015% THD. Black finish. 30 lb. $999

RX-9001U AM/FM Receiver
AM/FM receiver with integrated system remote control. Features digital tuner; absolute linear amplification; high dynamic power; low-impedance drive capability; 16-station random access preset tuning; digital fine tuning, continuously variable loudness control; pre-main coupling terminals; 3 video source inputs; video and audio record out selectors; switching for two pairs of speakers. 85 W/ch min rms into 8 ohms from 20-20,000 Hz with less than 0.015% THD. Black finish. 29 lb. $799

RX-700U AM/FM Receiver
AM/FM receiver with integrated system remote control. Features digital tuner; low-impedance drive capability; 16-station random access preset tuning; digital fine tuning, continuously variable loudness control; switching for two pairs of speakers. 50 W/ch minimum rms into 8 ohms. Black finish. 15 lb. $399

RX-500U AM/FM Receiver
AM/FM receiver with wireless remote control. Features digital tuner; high dynamic power; low-impedance drive capability, continuously variable loudness control; switching for two pairs of speakers. 50 W/ch minimum rms into 8 ohms. Black finish. 15 lb. $399
Front Row Center. No crowds. No traffic. No standing in line. Tonight and every night, the best seats in the house are right here. In front of the Pioneer CLD-3030 combination CD/CDV/LaserDisc™ player.

Simply put, LaserDisc players deliver the best picture and sound you can get. The CLD-3030 plays both audio CD’s and video laser discs, in all sizes. It also offers you eight different modes to produce spectacular digital video special effects. And choose from a catalog of laser discs ranging from movies to jazz to operas to encyclopedias. All backed by 18 years spent perfecting LaserDisc technology.

Whether it’s audio, video or both, the new line of Pioneer LaserDisc players is the only home entertainment source worth staying home for.
**POWER AMPLIFIERS**

**ACOUSTIC RESEARCH**

AR P-10 Power Amplifier
Power amp with massive transient (IFH dynamic) power capability of 1,200 W/ch in 2 ohms; 800 W into 4 ohms, and 400 into 8 ohms. 150 continuous average W/ch from 20-20,000 Hz into 8 ohms with no more than 0.3% THD 200 W into 4 ohms; 200-m dynamic power 300 W; dynamic headroom 4.3 dB; S/N 95 dB; slew rate 30 V/sec; IMD 0.03%; 4.33 x 17 x 14.5 in .... $849

**ADCOM**

GFA-555 Power Amplifier
High-current amp able to drive 1-ohm loads with no current limiting and low feedback. Bridgeable for mono operation. 200 W/ch into 8 ohms; 350 W/ch into 4 ohms with <0.09% THD and <0.05% IMD; constant damping factor >100 20-20,000 Hz .... $750

GFA-545 Power Amplifier
High-current amp able to drive low-imp, including 1-ohm loads. Features low-negative-feedback design; constant damping factor; toroidal transformer; no current limiting except for fuses; instantaneous distortion alert when distortion products higher than 1% at speaker outputs; direct-coupled design; 100 continuous average W/ch from 20-20,000 Hz into 8 ohms with no more than 0.09% THD, 150 W/ch into 4 ohms; IMD 0.008%; 3.5 x 17 x 12.5 in; 25 lbs .... $500

**MOSFET**

P-600 Stereo Power Amplifier
7 parallel push-pull output stage with MOSFET pre-driver incorporating push-pull circuitry in all stages; digital peak power display, bridge connectoproducts higher than 1% at speaker outputs, direct input; power output into 2 channels; 260 W/ch into 8 ohms; power output into 4 channels: 90 W/ch into 8 ohms, 120 W/ch into 4 ohms .... $699

**DI15**

100-W/ch Vacuum-Tube Power Amplifier
High-Definition solid-state stereo power amp with Analog Module technology, unique linear output circuit. Stable under any load condition. Features internal bridging switch for mono operation; power supply fuse on front panel; fuse-failure LED indicator. Output power: 120 W/ch into 8 ohms, 10-20,000 Hz at <0.03% THD, FR 1.2-75,000 Hz ± 1 dB, bandwidth 0.6-100,000 Hz; rated power: 120 W/ch into 8 ohms at <0.05% THD .... $2,995

**DI20**

120-W/ch Solid-State Power Amplifier
High-Definition solid-state stereo power amp with Analog Module technology, unique linear output circuit. Stable under any load condition. Features internal bridging switch for mono operation; power supply fuse on front panel; fuse-failure LED indicator. Output power: 120 W/ch into 8 ohms, 10-20,000 Hz at <0.03% THD, FR 1.2-75,000 Hz ± 1 dB, bandwidth 0.6-100,000 Hz; rated power: 120 W/ch into 8 ohms at <0.05% THD .... $2,995

**ADCO**

PF-200 Power Amplifier
MOSFET power amp capable of driving 1-ohm loads continuously. Front panel power switches, indicators and fuses; dual mono design with independent toroidal transformers; fan cooled; 200 W/ch from 20-20,000 Hz with no more than 0.05% THD into 8 ohms; 300 W into 4 ohms; slew rate 10 V/sec; IMD 0.08%; 12 lb; 19 x 7 x 15.5 in ...... $1,695

**PF-300 Power Amplifier**
MOSFET power amp capable of driving 1-ohm loads. Features 4-segment LED output meters; front panel power switch; indicator and fuse; toroidal power transformer; fan cooled; standard EIA rack-mountable. 60 continuous average W/ch from 20-20,000 Hz with no more than 0.07% THD into 8 ohms; 110 watts into 4 ohms; S/N 95 dB; slew rate 10 V/sec; IMD 0.07%; 25 lb; 19 x 5.25 x 15.5 in ...... $1,295

**PF-500 Power Amplifier**
Transcendence FET-Valve Power Amplifier
Hybrid power amplifier utilizing a combination of vacuum tubes for voltage gain and MOSFET's for current gain. Features >200 W/ch into 8 ohms at less than 0.01% THD; no output transformers; low imp drive capability. 17 x 14.5 x 7.5 in; 38 lb .... $1,995

**DI-200 Power Amplifier**
Transcendence FET-Valve Power Amplifier
Hybrid power amplifier utilizing a combination of vacuum tubes for voltage gain and MOSFET's for current gain. Features >200 W/ch into 8 ohms at less than 0.01% THD; no output transformers; low imp drive capability. 17 x 14.5 x 7.5 in; 38 lb .... $1,995
### AMPLIFIERS

**MOSFET 280D Power Amplifier**  
160-W/ch into 8 ohms power amplifier. Features 0.01% THD; low impedance drive capability.  

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
<th>Price</th>
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<tbody>
<tr>
<td>17 x 10 x 5 in</td>
<td>$775</td>
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</tbody>
</table>

**MOSFET 240D Power Amplifier**  
Full-complementary power MOSFET amplifier. Features precision metal resistors; precision film capacitors; high-voltage, high-current semiconductors; 120 W/ch into 8 ohms with less than 0.01% THD.  

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
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<tbody>
<tr>
<td>13 x 14 x 7 in</td>
<td>$550</td>
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</table>

### Bedini Amplifiers

**BA-803 Class A Amplifier**  
Solid state class A amplifier with 200 W/rms into 8 ohms and 400 W/rms into 4 ohms. Dynamic headroom 3 dB; THD < 0.15% 8 ohms rated power, 20-20,000 Hz; IM< 0.1%; damping factor 500 min; S/N -105 dB; Slew rate 55 V/μsec; 7.5 x 19 x 18.35; 50 lb.  

<table>
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<tr>
<th>Feature</th>
<th>Details</th>
<th>Price</th>
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<td></td>
<td></td>
<td>$1,995</td>
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</table>

### Belles Research

**Belles Research Model 450**  
Solid-state power amplifier with dual complementary bi-polar transistor circuitry and power MOSFET. All components are mounted on a single circuit board. Features van den Hul cable wiring; high-quality capacitors and resistors; toroidal power transformer. 200 continuous W/ch from 20-20,000 Hz with no more than 0.01% THD into 8 ohms; 55 lb, 10 x 17 x 13 in.  

<table>
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<tr>
<th>Feature</th>
<th>Details</th>
<th>Price</th>
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<td>$1,495</td>
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</table>

**Belles 450 Stereo Power Amplifier**  
Solid-state power amplifier with dual complementary bi-polar transistor circuitry and power MOSFET. All components mounted on a single circuitboard. Features Van den Hul silver mono-crystal wiring; high-quality capacitors and resistors; toroidal power transformer. 75 continuous W/ch from 20-20,000 Hz with no more than 0.09% THD and IM into 8 ohms; 22 lb; 7 x 17 x 8.5 in.  

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<tr>
<th>Feature</th>
<th>Details</th>
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<td>$395</td>
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</table>

### B&K Components

**PRO-600 250 Watt Power Amplifier**  
High-powered amp with fan-cooled driver stage. 250 continuous average W/ch from 20-20,000 Hz with no more than 0.09% THD into 8 ohms; 400 W into 4 ohms; FR 5-45,000 Hz ± 3 dB; S/N 95 dB; dynamic headroom 1.5 dB; Slew rate 15 V/μsec; IMD 0.09%; bridgeable to 800 W.  

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
<th>Price</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>$1,298</td>
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</table>

**SONATA 200 Mono Amplifier**  
Mono amp with 200 W into 8 ohms and 350 W into 4 ohms. FR 1-100,000 Hz; THD 0.009% at 1 kHz; min load imp. 75 ohm; class A/B DC coupled circuitry, optional balanced inputs.  

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
<th>Price</th>
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<td>$898</td>
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</tbody>
</table>

### Stereophile

**ST-202 PLUS Power Amplifier**  
Power amp designed to deliver high-wattage to speakers. 200 continuous average W/ch from 20-20,000 with no more than 0.9% THD into 8 ohms; dynamic headroom 1.5 dB; S/N 95 dB; slew rate 11 V/μsec; IMD 0.09%; 6 x 19 x 15 in.  

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
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**BRYSTON**  
6B 500-W/ch Power Amplifier  
Mono power amp with high voltage and current. Max 120+ amperes instantaneously into 1 ohm; 1,000 W into 4 ohms with average current of 22 amperes, 1,000 W into 1 ohm with 35 amperes average; ground lift switch. 500 continuous W/ch from 20-20,000 Hz with no more than 0.005% THD into 8 ohms; S/N 103 dB; slew rate > 60 V/μsec; IMD 0.005%; 55 lb; 5.75 x 19 x 12 in.  

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**Cambridge Audio**  
A250 Mono Power Amplifier  
Separate power amplifier with power-on switch only. Rated at 250 watts per channel into 8 ohms and has a peak current capability of 45 amps; S/N >100 db; THD 0.3%  

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**A50 Power Amplifier**  
Separate power amplifier with power-on switch only. 60 W/ch into 8 ohms. Peak current capability of 35 amps. Can be connected for bridge mono operation by rear panel switch, giving 150 W into 8 ohms (clipping a 200 W). S/N >100 db; THD 0.5%  

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**Carver M-4.0**  
M-4.0: 375-W/ch Power Amplifier  
Magnetic Field stereo power amp with LED dual peak-resounding power displays, infrasonic and ultrasonic filters. 375 W/ch into 8 ohms; dynamic headroom/ch 500 W at 4 and 8 ohms, 16dB.  

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**M-1.0: 290-W/ch Power Amplifier**  
Magnetic Field power amplifier with high headroom and dual peak-resounding power LED's. Features electronic protection; sonic transfer modification. 200 W/ch into 8 ohms; dynamic headroom 3 dB; slew rate 200 V/μs; 19 x 3.5 x 10.5 in.  

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**M-0.5: 140-W/ch Power Amplifier**  
Magnetic Field power amplifier produces 140 W/ch into 8 ohms; peak responding LED; electronic protection circuitry. 19 x 3.5 x 0.5 in; 20 lb.  

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**M200T 120-W/ch Power Amplifier**  
Magnetic Field power amp produces 120 W/ch into 8 ohms. Dark power finish; LED's indicate power and use of speaker-protection circuitry. 17.3 x 9 x 2.55 in; 10.25 lb.  

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### Clas s Audio

**DR-3-VHC Power Amplifier**  
Power amplifier features THD 0.01%, sets 800 mV, 45 W/ch into 8 ohms, bandwidth 20-20,000 Hz; Class A output; dynamic headroom 6 dB; bridgeable, 300 W/4 ohms; 102 lb.  

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### Conrad-Johnson

**Premier One B Vacuum-Tube Power Amplifier**  
Low-noise precision parts in audio circuitry; LED bias indicators. Output power 150 W/ch into 4, 8, or 16 ohms; SN 90 dB.  

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**Premier Five Vacuum-Tube Mono Power Amplifier**  
Low-imp power supplies and extensive use of polystyrene capacitors; LED indicators. 20 W into 8 ohms; SN 94 dB; 9 x 19 x 20.5 in; 90 lb.  

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**MV100. Similar to above except stereo and 90 W/ch**  
$2,950  

**MV50. Similar to Premier Five except stereo, 45 W/ch into 8 ohms; SN 94 dB, 40 lb.**  
$1,685

### COUNTERPOINT

**SA 20 Power Amplifier**  
Hybrid power amp with tube front end and MOSFET output stage. Features no overall loop feedback, warm-up and shut-off auto speaker muting; internal switching to operate as a bridged mono amp for 3x power. Includes vacuum-tube rectification. 220 continuous average W/ch from 20-20,000 Hz into 8 ohms with no more than 0.5% THD, 420 W into 4 ohms, 1,000 W into 1 ohm; 20-ms peak amperage into 0.1 ohm 50 amperes; S/N 84 dB; slew rate 0.6 V/μs; IMD 0.02%. 6.7 x 19 x 19 in; 55 lb  

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**SA-12 Power Amplifier**  
Hybrid power amp with tube front end and MOSFET output stage. Features no overall loop feedback, warm-up and shut-off auto muting. 85 continuous average W/ch from 20-20,000 Hz with no more than 1% THD into 8 ohms; FR 5-100,000 Hz ± 0.2 dB; S/N 92 dB; dynamic headroom 2 dB; channel sep >85 dB from 100-10,000 Hz; 4.5 x 19 x 12.5 in.  

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**Crown**  
Micro-Tech 1200 295-W/ch Power Amplifier  
295 W/ch into 8 ohms; 355 W/ch into 16 ohms.  

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80 W/ch into 8 ohms mono; four second
throughout. Features high-quality film capaci-
tors; high-current and high-voltage output;
negative feedback 12 dB/ch. 100-800 W into 8
ohms with no more than 0.03% THD. FR
20-20,000 Hz ±3 dB. S/N 60 dB. IMD <0.05%.

DC-30A II 165-W/ch Power Amplifier
165 W/ch into 8 ohms. 340 watts into 16 ohms
or 545 watts into 8 ohms mono; instantaneous
turn-on with minimum thump and no program
delay, independent input level controls, power
switch with pilot light; mono-stereo switch; LED
indicators; all-aluminum chassis: FR 20.000 Hz
±0.1 dB S/W/m; THD <0.005% IMD <0.05%;
slew rate 13.4 V/μs; damping factor >1.000; power
60 watts or less when idle. 19.0 x 3.5 x 16.0 in;
40.56 lb ........... $1,199

DENNEN ELECTROSTATICS
Orion Power Amplifier
150 watt MOSFET power amp; no more than
0.1% THD into 8 ohms; FR 10-100,000 Hz ± 1 dB,
thd <0.01%; damping factor >1.000; power
draws 40 watts or less while idle. 19.0 x 7.0 x
9.75 in; 11 lb .... $999

DENON
POA-2400 Stereo Power Amplifier
Features Denon Optical Class A design, and
Pure Current Supply. 200 W/ch into 8 ohms
with no more than 0.01% THD into 8 ohms.
High speed protection circuits, bar-line multi display.
IMD <0.002%: THD 1-300 kHz +0, -3 dB at 1:1
123 dB: self diagnostic function: 7.36 x 17.08 x
16.88: 38.5 lb ........... $750

POA-6600 Mono Power Amplifier
Mono power amp with Dual Super Non-NF3
circuit for high-speed signal transmission.
Features pure current power supply; separate power
supply transformer; power supply heat sink;
integral balance input connector; conventional RCA
input jack with selector switch; front-panel level control;
extra large speaker terminals; peak indicators;
high-speed reset-type protection circuit; remote power
on/off switching from DAP-5500 or PRA-
1100 preamps. 250 W min rms into 8 ohms
from 20-20,000 Hz with no more than 0.02% THD;
dynamic power 800 W at <1 ohm: IMD
0.0025%: S/N 123 dB, slew rate <500
V/ssec. ................ $750
POA-4400 Mono Power Amplifier. As above with
150 W. .... $950

HAFFER
XL-280 MOSFET Power Amplifier
J-FET double differential input and 12 MOSFET
output. Excelsinear speaker tweaking adjust-
ment; gold inputs and outputs, mono bridging
driver into all loads; high capacitance (7200 μmf).
Excelsinear speaker tweaking adjustment; gold
inputs and outputs, mono bridging switch; vari-
able speed d/c fan cooling. 305 W/ch into 8
ohms with <0.05% THD. FR 20-20,000 Hz.
<0.04% IMD from 1-300 kHz. 450 W/ch into 4
ohms, 900 W mono into 8 ohms, input sens 4.2
volts for 305 W 0-1) 8 ohms. FR 10-50,000 Hz
±0.1 dB: S/N >100 dB (303 W. 7 x 19 x 13 in;
50 lb ........ $1,195

XL-600 MOSFET Power Amplifier
Excelsinear zero-phase shift circuit with J-
FET double differential push-pull cascoded
'tube-like' input and current-mirroring 2nd
stage. 16 MOSFET outputs, direct coupled; stable
into all loads; high capacitance (7200 μmf).
Excelsinear speaker tweaking adjustment; gold
inputs and outputs, mono bridging switch; vari-
able speed d/c fan cooling. 305 W/ch into 8
ohms with <0.05% THD. FR 20-20,000 Hz.
<0.04% IMD from 1-300 kHz. 450 W/ch into 4
ohms, 900 W mono into 8 ohms, input sens 4.2
volts for 305 W 0-1) 8 ohms. FR 10-50,000 Hz
±0.1 dB: S/N >100 dB (303 W. 7 x 19 x 13 in;
50 lb ........ $1,195

JADIS BY MADRIGAL
JA-30 30-W/ch Class-A Power Amplifier
Dual mono (2 chassis) each transformer hand
built for symmetry in resistance and self-induc-
tance of coils; transformer encapsulated for opti-
nal self-damping and thermal stability. 30
W/ch into 4 and 8 ohms. 97 lbs........... $5,750

JVC
AXZ911BK Power Amplifier
Digital pure-A circuit for Class-A operation;
Dynamic Super-A; D/A converter directly con-
nects to amp; built-in D/A converter has qua-
druple-oversampling digital filter. 3 digital con-
nections: one optical, one coaxial, and one
input/output for DAT; separate layout for digi-
tal and analog circuits; high-quality phono pre-
amp for MM/MC cartridges; low-noise motor-driv-
en volume control; bass response control; gold-
plated terminals; multi-function display; wireless remote control. 100 W/ch into 8 ohms
from 20-20,000 Hz with no more than 0.003%
THD ........ $1,100

KINERGETICS
KBA-75 Gold Series 75-W/ch Power Amplifier
1-kVA power supply; dual-coil toroidal trans-
former; built-in D/A converter with qua-
druple-oversampling digital filter. 3 digital con-
nections: one optical, one coaxial, and one
input/output for DAT; separate layout for digi-
tal and analog circuits; high-quality phono pre-
amp for MM/MC cartridges; low-noise motor-driv-
en volume control; bass response control; gold-
plated terminals; multi-function display; wireless remote control. 100 W/ch into 8 ohms
from 20-20,000 Hz with no more than 0.003%
THD ........ $1,100
former, auto servo-controlled DC offset adjustment; constant current sources for Class A operation; high-power output transistors with wide linear region; no phase inversion; by-pass DC distortion cancelling circuit. 75 W/ch into 8 ohms; 150 into 4: headroom 3 dB; input imp 50,000 ohms; slew rate 65 V/µsec; voltage gain 30 (abs.); power bandwidth 1-300,000 Hz; smallsignal bandwidth 1-1,000,000 Hz; 45 lb. 19 x 6 x 16 in ........................................... $1,295

**KLYNE AUDIO ARTS**

SXX 120 Power Amplifier

Dual mono-power amp with 120 W/ch driven into 8 ohms. Features solid state construction, balanced and unbalanced inputs; separate power supplies for each channel; high-current complementary bipolar output; class A/AB; FR 0.5-200,000 Hz. 17 x 4.75 x 18.5 in: 45 lb. Approx. ........................................... $4,000

**KYOCERA**

B-910 150-W/ch Power Amplifier

Class AB power amp with triplex push-pull high-frequency power stages; ceramic base/chassis; DC configuration; large-cutless-core power transformer; large honeycomb heat sinks; direct and step-down inputs. 150 continuous average W/ch from 20-20,000 Hz with no >0.02% THD into 8 ohms; FR 0-200,000 Hz; +3 dB at 1 W/35 Hz. Damping factor 150 (30 kHz). 17 x 8.25 x 15.75 in; 59 lb. ........................................... $2,000

**Lazarus Electronics**

H-1 Hybrid Power Amplifier

Pure (not grading scale) Class A tube MOSFET hybrid power amp may be operated as a fully differential mono amp or as a stereo amp. May be configured (by dealer) as either Class A or Class AB. 50 continuous average W/ch from 20-20,000 Hz into 8 ohms with no more than 0.2% THD; 100 W into 4 ohms; 200 ms dynamic power 600 W; dynamic headroom 3 dB; 8 ohms resistive; S/N 80 dB. IMD 0.2%; peak current 75 amperes. 19 x 3.5 x 16.5 in; 35 lb. ........................................... $1,599

**Mark Levinson by Madrigal**

M-50 Mono Power Amplifier

All discrete circuitry; Class A operation in voltage gain and driver stages. Class AB2 operation in output stage. Power supply of 320 VA toroidal power transformer; 2 12-ampere bridge rectifiers; 10,000 µF filter capacitors, for separate rectification and 20 joulcs of energy storage for each ch. Six 200 W, 15 amperes power transistors per ch enable ML-11, when pulsed, to develop 25 volts peak, at peak current up to 12.5 amperes (375 W peak) per ch. Optional extremely programmable voltage-limiting circuit reduces output to protect speakers; gold-plated binding posts for output connections and Canarm input connectors; hand-brushed black anodized faceplate. 8.62 x 19 x 12 in: 25 lb. ........................................... $2,100

**LINN PRODUCTS**

LK280 Stereo Power Amplifier

80 continuous average W/ch from 20-20,000 Hz; companion to LK1 preamp. 3 x 12.75 x 10.5 in: 19 lb ........................................... $1,495

**LINEAGE**

PA-200 Stereo Power Amplifier

Features all-discrete audio circuitry; full-complementary, direct-coupled fieldeffect transistor design; complementary differential inputs; Class A operation in gain/driver stages. MOSFET output stages with Class AB1 operation, DC servo to eliminate all capacitors from audio stages; gold-plated input and output connectors; protection circuitry acting entirely outside of signal path; front-panel overload indicators. Highcurrent ultra-stable design optimized for low distortion under rapidly changing speaker loads. Nominal rated power 100 W/ch into 8 ohms: 1-100,000 Hz bandwidth with no slew rate limiting. Mute switch with removable face plate. 17 x 12 x 6.36 (with base), 5.25 (without base) in ....... $1,650

**LUXMAN**

M-117 Power Amplifier

Features 200 W/ch and low impedence drive capabilities; 3 pairs of large power devices, high energy power supply, 50 µF total filtering capacitance, gold-plated binding post speaker terminals; gold-plated input terminals; variable and fixed inputs ........................................... $1,100

**McIntosh**

MC-2500 Stereo Power Amplifier

500 W/ch power amplifier with Power Guard circuit. Features patented McIntosh Scentsy Monitoring circuit which constantly monitors the signal to the output transistors to protect them from damage; left and right channel gain control. speaker on/off switch; peak-reading, peak-locking power meters; meter range selector, headphone jack. Power output: 500 W/ch both channels driven from 20-20,000 Hz with less than 0.02% THD; IMD <0.02% if instantaneous peak power output is less than 1,000 W/ch both channels driven: FR 20-20,000 Hz +0/-20 dB. 10-100,000 Hz +0.25/-1 dB; damping factor >30; input impedances 100, 500 ohms; input sens switchable. 0.75 or 2.5 V (level control provided for higher input voltages). Power Guard: THD not to exceed 2% with 20 dB overdrive at 1 kHz. Power Requirements: 120 V 50/60 Hz 0.7 to 22 amps, 15 amp UL/CSA. Standard 19" rack mounting. 129 lb ....... $3,495

**MC-7270 Stereo Power Amplifier**

270 W/ch power amplifier with Power Guard circuit. Features McIntosh Autoformer; left and right channel gain control; peak-reading, peak-locking power meters, meter selector. Power output: 270 W/ch both channels driven from 20-20,000 Hz with less than 0.02% THD; IMD <0.02% if instantaneous peak output is less than 600 W/ch both channels driven: FR 20-20,000 Hz +0/-20 dB. 10-100,000 Hz +0-2 dB; damping factor >30; input impedances 100, 500 ohms; input sensitivity switchable. 0.75 or 2.5 V (level control provided for higher input voltages). Power Guard: THD not to exceed 2% with 20 dB overdrive at 1 kHz. Power Requirements: 120 V 50/60 Hz; 13 amps. 16.2 x 7.13 x 14.5 in; 82 lb............ $2,295

**Motif by Conrad-Johnson**

Motif MS100 100-W/ch Power Amplifier

With multi-channel stage, extensive use of large-value polysytrene capacitors. 100 continuous average W/ch from 20-20,000 Hz with no more than 0.1% total harmonic distortion into 8 ohms; frequency response 20-20,000 Hz +0.10 dB; signal-to-noise ratio 100 dB. 7 x 19 x 18.5 in; 45 lb .............. $3,250

MS30. Similar to MS100 with 30 watts per channel output; 81 lb .............. $2,350

**NAD**

2600 Monitor Series Power Amplifier

Monitor series power amplifier with 150 W/ch. Features power envelope circuitry. +4 dB dynamic headroom; stereo mono power amp; bridgeable; high voltage, high current capacity; speaker impedance selector; input level controls; close tracking Soft Clipping circuit; rack mountable ........................................... $798

2000E Power Amplifier

Stereo mono power amp. Features high voltage, high current design; bridgeable; new soft clipping circuit; audible clipping indicator on front panel. 100 continuous average W/ch from 20-20,000 Hz with no more than 0.03% THD into 8 ohms; FR 30,000 Hz +0/-3 dB; IMD <0.1%; dynamic headroom +6 dB; slew rate >35 V/µsec. 16.5 x 4.8 x 14.5 in .............. $628

2400 Monitor Series Power Amplifier

100 W/ch; power envelope circuitry. 480 W IHF dynamic power; +6.2 dB dynamic headroom; input level controls: A, B & speaker switching. Soft Clipping circuit; bridgeable; land and normal inputs; rack mountable .............. $598

2100 Monitor Series Power Amplifier

50 W/ch; power envelope circuitry; 270 W IHF dynamic power; +6.6 dB dynamic headroom; input level controls: A, B & speaker switching. Soft Clipping circuit; bridgeable; land and normal inputs; rack mountable .............. $398

**Nakamichi**

PA-7 Power Amplifier

Power amp utilizes Stasis topology. Features 200-W toroidal power transformer; 33,000 microFarad x 4 filter capacitors; dual rectifiers; 16 transistors per ch. 200 continuous average W/ch from 20-20,000 Hz with <0.1% THD into 8 ohms; FR 7-150,000 Hz +0/-3 dB; S/N >120 dB; dynamic headroom 1.7 dB; IMD <0.1%; output current capability 18 amps continuous (50 amps peak); dynamic output power 300 W/ch into 8 ohms; power bandwidth 5-50,000 Hz (8 ohms; 100 W, 0.1% THD). 17.12 x 7.88 x 16.56 x 19 lbs. 8 oz. ........................................... $1,850

PA-5. Similar to above but 100 W/ch. 17.12 x 5.31 x 14.5 in; 35 lb; 4 oz ...................... $1,195

**NEC**

Renaissance Series

M-50 Mono Power Amplifier

Single-channel power amp with 3 switch-select. inputs. Features variable-frequency low- and high-cut filters; vibration-free construction; large LF meter; separate circuit construction; industrial-grade twin-crossbar relays with gold-plated contacts; sculptured brass terminals; heavy-duty speaker terminals. Rated power output 50 W into 8 ohms from 20-20,000 Hz with 0.004% THD, 100 W into 4 ohms with 0.006% THD; dynamic power 240 W into 2 ohms, direct input peak; FR 5-300,000 Hz; S/N > 115 dB (direct input). 8.3 x 4.7 x 15 in; 18 lb .............. $375

**Nikko Audio**

Alpha 2000 Power Amplifier

Power amp with transistors mounted directly on pin-fin sink structure; protection circuitry, 12-channel design; extensive use of high-current ultra-stable transistors; dynamic power bursts, and thermal protection; back panel features AWA-24 output speaker terminals; gold-plated input jacks; connector inputs; new 3-ch circuit for bridged mono
AMPLIFIERS

Gran Integra M-510 Power Amplifier
- 82-channel power amp with real-phased power supply.
- Features 3 separate power supplies (left, right, and center; ±100 V/4 A). 19" A-B speaker systems, adjustable-motorized, continuous average V/in from 0 to 20:000 Hz with no more than 0.005% THD; 300 W/ch into 4 ohms.
- Frequency response 20-20,000 Hz at ±0.5 dB; IMD 0.02%; DC output; power bandwidth 5-40,000 Hz; s/n ratio 120 dB; damping factor >500 from 10 Hz to 100 kHz.
- S/N ratio 120 dB; THD 0.02%; slew rate 250 V/msec. 35 Ib; 9.75 x 6.06 x 14.36 in.
- $1,950

Gran Integra M-508 Power Amplifier
- 60-channel power amp with real-phased power supply.
- Features 3 separate power supplies (left, right, and center; ±100 V/4 A). 19" A-B speaker systems, adjustable-motorized, continuous average V/in from 0 to 20:000 Hz with no more than 0.005% THD; 300 W/ch into 4 ohms.
- Frequency response 20-20,000 Hz at ±0.5 dB; IMD 0.02%; DC output; power bandwidth 5-40,000 Hz; s/n ratio 120 dB; damping factor >500 from 10 Hz to 100 kHz.
- S/N ratio 120 dB; THD 0.02%; slew rate 250 V/msec. 35 Ib; 9.75 x 6.06 x 14.36 in.
- $1,950

Parasound

D/AS-100 HI Power Amplifier
- Digital/analog servos. Features 60 MHz output transistors, 4 per channel, gold-deposited 80,000 mfd electrolytic capacitors; gold-plated RCA jacks.
- Frequency response 20-20,000 Hz at ±0.5 dB; S/N 115 dB; IMD 0.02%; dynamic power 265 W into 8 ohms; 330 into 2 ohms; peak output current over 130 W.
- $699

Pioneer

Elite M-90 Power Amplifier
- Features CD direct input with volume control; low-impedance driving capability; independent L/R mono construction; copper-plated chassis, nonswinging Type-II circuit; 2 pair speaker outputs; FL power level indicator; rosewood-finished vinyl-covered side panels. 200 continuous average W/ch from 20-20,000 Hz into 4 ohms with no more than 0.003% THD, dynamic power.
- $1,200

Proton

DI20 Power Amplifier
- 100-W/ch stereo power amp with Dynamic Power on Demand (DPD) to deliver as much as 1,500 W/ch (2 ohms) at peak demand, with 6 dB headroom. Features one-touch bridging and wide-range power-output meters. 16.5 x 4.31 x 9.75 in; 33 lb
- $699

AA-1150 Power Amplifier
- 50-W/ch dual-mono power amp with Dynamic Power on Demand (DPD) to deliver as much as 450 W/ch at peak demand, with 7 dB headroom. Features separate power supplies for each channel, dual peak-level power meters; LED DPD indicator; protection circuitry; gold-plated connectors: high-current capacity; power switch; s/n ratio 115 dB; THD 0.02%; IMD 0.02%; damping factor >150; 19 x 4.3 x 14.4 in; 23.3 lb.
- $699

PS Audio

2000CX Power Amplifier Features 200 W into 8 ohms, 400 W into 4 ohms; noise -90 dB; THD 0.02%; slew rate 250 V/msec; 69.9 lb. $1,950

100CX Power Amplifier Features 120 W into 8 ohms, 200 W into 4 ohms; noise -90 dB; THD 0.02%; slew rate 250 V/msec; 35 lb. $1,195

Quad

Model 60 Power Amplifier
- 120-W/ch Power Amplifier
- Power amp with feed-forward error correction (current dumping) combines clarity of Class A operation with efficiency of Class B. Designed to play dynamic program into speakers. Is not rated for continuous power. Propagation circuitry uses a sensor on AC-input side of power supply to integrate current over time. No fuses or relays located in signal path. Detailed static and dynamic power curves available upon request from manufacturer. THD (continuous sine wave in 8-ohm resistive load any level up to 130 W) <0.01% at 20 Hz, <0.01% at 1 kHz, >0.03% at 20 kHz; FR 20-20,000 Hz ±0.25 dB, 12.75 x 5.5 x 9.5 in; 27 lb.
- $1,295

QuickSilver Audio

Mono Power Amplifier
- Hand-wired, tube-type amp using no transistors or circuit boards. 60 continuous average W/ch from 20-20,000 Hz into 8 or 4 ohms. Can drive 0.5-ohm loads. 30 Ib; 9.25 x 6.06 x 14.36 in.
- $720

SAE

A502
- X10A Power Amplifier
- Hypersonic Class A power amp. Features gold-plated connectors; toroidal transformer; wide/narrow band inputs; LED true power meters; analogized stray finish. 100 continuous average W/ch from 20-20,000 Hz with no more than 0.025% THD into 8 ohms; FR 20-20,000 Hz ±0 dB; S/N 110 dB; dynamic headroom 1.2 dB; IMD 0.02%; 19 x 3.5 x 12.5 in; 28 lb.
- $900

A502 Power Amplifier
- Power amp with automatic bridging circuit. 200 continuous average W/ch from 20-20,000 Hz with no more than 0.025% THD into 8 ohms, 600 W mono operation. Features dual-speaker system switching; peak and average LED power display. Rack mountable. FR 20-20,000 Hz ±0 dB; S/N 110 dB; dynamic headroom 1.2 dB; IMD 0.025%; 19 x 5.25 x 14 inches; 48 lb.
- $799

Sansui

B-9000 120-W/ch Power Amplifier
- Features 120 W/ch driven into 8 ohms from 20-20,000 Hz with 0.05% THD; DC servo circuit; 2 power meters; range control; separate heatsinks for left and right channels; short detection; zero voltage detection; thermal detection; headphone jack; outputs for 2 speaker systems. IMD 0.01%; FR 5-100,000 Hz; S/N 120 dB.
- $260

Sonographe

BY Conrad-Johnson
- SA120 120-W/ch Power Amplifier
- Features MOSFET output stage; 120 W/ch into 8 ohms; S/N 100 dB; 5.25 x 18 x 12-in.
- $895
SONY
TA-N77ES 270-W/ch Power Amplifier
Features spontaneous twin drive power supply; low-impedance drive capability; mono operation at 580 W into 8 ohms from 20-20,000 Hz with 0.007% THD; chimney-style heatsinks; fixed and variable inputs 2 independent protection circuits; peak level power meters; 2 sets of speaker terminals; 270 W continuous into 4 ohms. 20,000 Hz with 0.006% THD, damping factor 100; slew rate 150V/µsec, 300V/µsec (inside). $1,200

TANDBERG
TPA-3026A 150-W/ch Power Amplifier
Stereo power amp with high-current (45 amp/ch) output design. Features all-metal RIM resistors and polypropylene capacitors; zero negative feedback and discrete components. 150 W/ch with no more than 0.02% THD into 8 ohms; S/N 100 dB, 17.13 x 5.25 x 13.75 in; 24 lb. $2,500

TECHNICS
SE-A3NK 300-W/ch Power Amplifier
Features computer-drive linear-feedback Class-A circuitry, concentrated power block, extra-large transformers and capacitors for stable power supply. 4-stage Darlington output circuitry: auto-load imp detector; computer-protection circuitry; large, fast peak-power meters; extra 2-Hz low-cut input terminals, main/remote/main and remote/off pushbutton speaker selectors; thick aluminum cabinet. Output power 300 W/ch into 8 ohms; FR DX-200000 Hz ± 3 dB; input sens/imp 55 mV/4-16 ohms main or remote, 8-16 ohms main and remote, damping factor 200 8 ohms, 200 4 ohms; 16.94 x 8.19 x 19.97 in; 86 lb. $2,400

Sumo Nine Plus Power Amplifier
Class A power amplifier without any active bias circuits or thermal tracking networks. Features balanced-bridge configuration; push-pull quadrature feedback circuits; Discrete-Darlington output stage; direct-coupled circuitry from input to output. Power output 65 W/ch into 8 ohms from 20-20,000 Hz with <0.1% THD FR 20-20,000 Hz ±0.25 dB; 14 x 8.5 x 7 in; 35 lb. $1,199

Polaris Power Amplifier
Class AB power amp that does not invert phase. Power output 100 W/ch continuous average into 8 ohms; THD 0.05%; IMD 0.01%; sens 1.27 V for rated output; dynamic headroom 1.5 dB, 25 lb. With custom front panel and handles. $699

SA/1 Class A Stasis Mono Power Amplifier
Single-ch, noninverting complimentary-symmetry power amp with Ne-TJ FETs in front-end signal path and proprietary Stasis output stage. This is a binary topology in which a pure Class A voltage amp combines with a loudspeaker load determines signal integrity while operating in conjunction with a high-ampere current mirror also operated in pure Class A and connected directly to the load. No global feedback is used. Power stage bias accuracy is maintained through Threshold's proprietary opto-isolated optical bias technology. Front-end gain stages biased for Class-A operation at all signal levels and are subject to primary and secondary levels of cascode shielding. Output stage employs 40 ultra-wide-bandwidth power transistors each rated at 200 V, 20 amperes. No fusing is imposed between output and load. Input and output connectors have gold-plated contact surfaces. Circuit boards are military grade glass-epoxy and all internal connections are hand soldered. Operation is allowed into any load as permitted by power-supply fuses and thermal-protection circuitry. Large illuminated front-panel peak power meter covers -30 to +3 dB. Power supply 1,000 W toroidal transformer; 120,000 µF capacitance. Rated power 160 W rms into 8 ohms of reactive or resistive react 20-20,000 Hz at no more than 0.05% THD, idling bias 320 W, bandwidth at -3 dB points 7 Hz and 100 Hz, 400 Hz; slewing rate 50 V/µsec; IMD 0.05%; input impedance 75,000 ohms; output impedance 0.03 ohms; output current capability 40 amperes continuous, 100 amperes peak; 19 x 9.5 x 17.5 in; 79 lb. $2,750

Threshold's proprietary Threshold'sproprietary
design is

S/500 Class A/AB Stasis Stereo Power Amplifier
Dual-ch, noninverting complementary-symmetry power amp employing the same signal-path and optical topology as SA-series amps except current bootstrapping circuitry is not employed. Output stage is implemented under high bias as Class A/AB. No global feedback employed. Front-end gain stages and voltage amp section of Stasis output stage are isolated from input signal levels and are subject to primary and secondary levels of cascode shielding. Modular construction. 250 W/ch rms from 20-20,000 Hz with no more than 0.1% THD FR 20-20,000 Hz ±0.125 dB; 17 x 8.25 x 18.75 in; 70 lb. $1,920

S/500 Class A/AB Stasis Power Amplifier
Dual-ch, noninverting complementary-symmetry power amp employing the same signal-path and optical topology as SA-series amps except current bootstrapping circuitry is not employed. Output stage is implemented under high bias as Class A/AB. No global feedback employed. Front-end gain stages and voltage amp section of Stasis output stage are isolated from input signal levels and are subject to primary and secondary levels of cascode shielding. Modular construction. 250 W/ch rms from 20-20,000 Hz with no more than 0.1% THD FR 20-20,000 Hz ±0.125 dB; 17 x 8.25 x 18.75 in; 70 lb. $1,920

YAMAHA
MX-10000 Power Amplifier
Limited Edition Centennial Edition power amplifier. Features dual-amp class-A operation, hyperbolic correcting non-switching circuitry, power MOSFETs, high-precision analog DB scale peak level meter. 250 W/ch minimum root mean square into 8 ohms from 20-20,000 Hz with less than 0.005% total harmonic distortion. Titanium grilles with high luster walnut end panels. 20 lb... $7,000

MX-1000U Power Amplifier
Power amplifier with hyperbolic conversion amplification circuit. 260 W/ch into 8 ohms

Stereo Review February 1989
**AMPLIFIERS**

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**Yamaha MX-1000U**
From 20-20,000 Hz with less than 0.003% THD. Features A+B+C speaker switching, 26-segment LED power level meters; on/off switch, independent L/R level control; 4-digit numerical power output display; LED meter and digital peak hold display; meter display load selectors; compatible with banana plugs. 600.000 µF x 2 power supply capacity. $1,199

**MX-800U Power Amplifier**
Power amplifier with hyperbolic conversion amplification circuit. 170 W/ch into 8 ohms from 20-20,000 Hz with less than 0.003% THD. Features A+B+C speaker switching, 26-segment LED power level meters; on/off switch, independent L/R level control; meter display load selectors; compatible with banana plugs. 600.000 µF x 2 power supply capacity. $849

**C380U Class A Preamplifier**
All-stage Class A push-pull arrangement and DC servo-controlled direct-coupled unit amp and signal paths. Built-in head amp for MC cartridges; separate power transformers for each ch (+36 dB or +32 dB); MC input-imp selector switch; separate R and L input-level control; 2-stage selectable loudness compensation. Phonos input 2 mV, phonos (head amp on): 0.1 mV/0.5mV selectable, line/tuner input 126 mV; rated output 2 V line/tuner S/N 110 dB; phonos S/N 85 dB; phonos S/N (head amp on) 72 dB. $7,850

**ACCUPHASE by MADRIGAL**
C280U Class A Preamplifier Features stereo source inputs; 3 stereo tape inputs; 1 stereo signal processor loop input; input imp >47k ohms; max input level +8 volts; 3 main outputs; 3 tape outputs; 1 processor loop output; output imp >100 ohms; max output level ±12 volts; FR 1-20,000 Hz ±0.25 dB; THD 0.05%; S/N: 85 dB; volume, balance, bass, mid, treble and source selection controls. 1 switched outlet. 3.5 x 1 x 13.5 in. $995

**WENDELL RESEARCH**
Sonata Series MC-101 Preamplifier MM/MC switchable preamp. FR 1-150,000 Hz. ±0.5 dB (±0.5 dB) 5-50,000 Hz; magnetic phono, ±0.3 dB of RIAA; 30-40,000 Hz; max output 2 V; THD 0.01%; overload level 180 mV (MM), 15 mV (MC); S/N 84 dB; THD 0.001%; MM phono sens 0.5 mV for 0.5-V output at 1.000 Hz; MM phono input overload level 350 mV at 1.000 Hz; sens for line-level

**M-358 Power Amplifier**
Features 2 or 4 channel output; independent level control; high dynamic power; low impedance drive capability; 40 x 2 or 20 x 4 W/ch min

**AUDIO DESIGN ASSOCIATES**
ADP-X Preamplifier
Preamplifier with 8-input capability. Features 5 stereo source inputs; 3 stereo tape inputs; 1 stereo signal processor loop input; input imp <47k ohms; max input level +8 volts; 3 main outputs; 3 tape outputs; 1 processor loop output; output imp >100 ohms; max output level ±12 volts; FR 1-20,000 Hz ±0.25 dB; THD 0.05%; S/N: 85 dB; volume, balance, bass, mid, treble and source selection controls. 1 switched outlet. 3.5 x 1 x 13.5 in. $995

**Yamaha SP-H5MKS Preamplifier**
Preamp section features inputs for MM phono; tape; tape 2; CD player; tuner. Tuner section features handset-referenced digitally synthesized tuning; auto up and down scan; 8 MHzF pre-set sets; 5-LED signal-strength display; high-blend circuit; 2 sets of outputs (AC coupled, DC coupled). S/N phono A=wd 85 dB; IMMD preamp 0.0015%; sens tuner 36.5 dB stereo; THD tuner 0.09% stereo at 1.000 Hz; S/N tuner 72 dB stereo; sep tuner 52 dB at 1.000 Hz, 1 x 3.25 x 12.75 in. $600

**GFP-555 Preamplifier**
Features two-sided copper-plated circuit board for low noise and hum; switchable phono-input capacitive; switchable gain on phono input; tape dubbing; separate headphone amp; 2 sets of outputs (AC coupled, DC coupled); signal-processing loop; 5 pairs of high-level inputs. Can record from one input while listening to another. Inputs for MM phono; MC phono; tape; tape 2; CD player; tuner; video. FR 1K-400,000 Hz ±0.5 dB; THD.0005%; MM phono sens 0.4 mV for 0.5-V output at 1.000 Hz; sens for line-level inputs 0.01 mV, FR 0.1-200,000 Hz ±0.25 dB; THD <0.005%; MM phono sens 0.088 mV for 0.5 V output at 1.000 Hz; MM phono input overload level 350 mV at 1.000 Hz; sens for line-level

**ADP-SP Preamplifier**
Audio/video preamplifier with built-in Dolby and matrix surrounding sound processors. Features simulated stereo, bass modulation, and treble tone controls; high-quality tuning; auto up and down scan; IR inputs for MM/MC phono; tuner; AUX; CD player; video monitor; 3 audio or video tape decks; separate headphone amp. Inputs for MM/MC phono; tuner; AUX; CD player; video monitor; 3 audio or video tape decks; separate headphone amp. 4.5 in; 11 lb shipping weight.

**B&K COMPONENTS**
Sonata Series MC-101 Preamplifier MM/MC switchable preamp. FR 1-150,000 Hz -0, -5 dB, THD 0.002%, 2 tape loops; 2 tone controls. MM sens .8 mV; MM S/N 80 dB; MC S/N 80 dB; Tuning 0.002%. $895

**PRO-10 Preamplifier**
Preamp with separate power supply and gold-plated connectors for positive contact and reliability. Inputs for MM phono, tape, AUX, CD player, video, tuner. FR 1-100,000 Hz ±3 dB; max output 6 V. THD 0.01%; IMD 0.01% IHF. MM phono sens 0.5 mV for 0.5-V output at 1.000 Hz. MM phono input overload level 100 mV; sens for line-level inputs 0.450 mV. 3.5 x 1.0 x 19 in $598

**BRYSTON**
12B Preamplifier
Control preamp can play 1 source while tape or vinyl is playing. Features stereo/mono/mute switch; 14V headroom. Inputs for MM phono, MC phono, tape; tape 2, CD player, tuner; video. S/N -84 dB; THD 0.0015%; 1.75 x 19 x 11-in. $1,595

**BRYSTON**
12B Preamplifier
Control preamp can play 1 source while tape or vinyl is playing. Features stereo/mono/mute switch; 14V headroom. Inputs for MM phono, MC phono, tape; tape 2, CD player, tuner; video. S/N -84 dB; THD 0.0015%; 1.75 x 19 x 11-in. $1,595
A PREAMPLIFIER

**PV9 Vacuum-Tube Preamplifier**

With low-noise precision metal-film resistors; polystyrene capacitors in audio circuitry; facilities for 2 tape recorders; 2-way dubbing; phono, tuner, AUX inputs; 2 amp outputs; front-panel metering. FR 20-20,000 Hz ± 0.25 dB phono, n/s 70 dB below 10 mV, phono 84 dB below 2.5 V output high level; THD and IMD 0.05%; gain 40 dB phono, 29 dB high level.

**CROWN**

**PSI-2 Preamplifier**

Features seven inputs: versatile tape copying, seven-second turn-on, power switch: tape 1 and 2 monitor switch; detented treble and bass controls; center-detented output balance control; loudness switch; black polyester vinyl coated aluminum; low-noise, signal-controlled: chassis: FR 10-30,000 Hz ± 0.25 dB, THD less than 0.0025%; rated output: 19.0 x 17.71 in; 13 lb.

**DBX**

**CX1 Preamplifier**

Audio/video preamp with 2-channel switchable all-digital delay for ambience recovery. The built-in Dolby Pro Logic surround system has a 5-ch calibration signal and input-level adjustments for precise setup. Inputs for MM and MC phono, CD inputs, CD, VCR, AUX, and 3 tape decks or 2 tape decks and 1 VCR (with video). Outputs for front L&R and side/rear stereo or Dolby Surround with center ch, 3 stereo-to-tape jacks, and a video-signal monitor. Features stereo audio external-processor loop; audio/video dubbing; independent recording and listening selectors; switchable tone controls (conventional bass/treble curves or low-pass only/spectral tilt); switchable infrasonic and high filter for all sources; precision-tracking 5-ch volume control; channel controls for L/R stereo, RL reverse. L or R only. 1+R mono, and L-R positions; headphone jack: anti-resonance chassis and aluminum feet.

**DENON**

**DAP-5500 Digital Preamplifier**

Preamplifier with built-in D/A converter. Digital section features 4 D/A push/pull Super Linear Converter system; separate digital and analog channels; 3 digital inputs (one optical, 2 coaxial); coaxial digital tape-monitor loop; four-times-overampling digital filter; optical isolators between digital and analog sections; D/A converter selector. Audio section features Unity Gain Interface amplifier: Cannon-type input/output; 2 RCA line-in: 1 RCA line out: front-panel mounted RCA input/output jacks; two tape loops; source direct switch; separate power supplies for digital and analog sections; monaural, vibration-resistant chassis. 5.2 x 17.09 x 15-in.

$790

**FORTE AUDIO**

**Model 2 Class A Preamplifier**

Dual-channel, non-inverting hybrid topology. Low-noise, matched integrated gain devices enhanced with discrete pure Class A biasing; active constant-current source, and imp buffering. Accepts input from high and low output MC and MM cartridges; 4 high-level sources and tape record. Record/monitor facilities for recorder allowing listening to one source while recording another. Internal selection of mic and passive cartridge loading. External power supply: gold-plated signal connectors; glass-epoxy circuit boards. Distortion < 0.002% at 3 V; noise < 100 dB referred to 1 V input, gain < 20 dB, imp. 25,000 ohm: 19.0 x 17.71 in; 7 lb.

$790

**HAFLER**

**D/A-110 Discrete Preamplifier**

Preamplifier operates all discrete devices (no integrated circuits in signal path) in full symmetry format. Controls: volume, balance, bass, treble, input selector, phono selector, source selector, mono/stereo, high-pass filter; external processor loop; tone control engage. Features rack-mounting capability; single active circuit board: step
action volume control; integral muting circuit; 2 pairs of audio outputs; low-imp power supply; full power bandwidth to 200,000 Hz; 2 phono, tuner, AUX, 2 tape decks, EPL inputs, 2 tape (buffered), 2 line, EPL outputs, headphone jack. THD <0.0006% at 1,000 Hz, 3 V RMS, phono input FR 20-200,000 Hz +0.25 dB, n/N rated output 3 V RMS, 4-210,000 Hz, THD <0.0001% 20-20,000 Hz, 17 x 3 x 8.5 in; 10 lb.  

**Kit.** $425

**DH-100 Preamp Series 2**  
"No frills" preamp with RIAA EQ utilizing 1% tolerance components; low-imp power supply; power on delay circuit; inputs for MM phono, tape, AUX, tuner. Features volume, balance, treble, bass, tape monitor, power controls, 2 switched outlets. FR 20-20,000 Hz ± 0.25 dB; max output 8 V; THD <0.003%; IMB residual noise of current test instruments. MM phono sens 10 mV for 0.5-V output; 13 x 3 x 9 in; 7 lb. Assembled $275  

**Kit.** $225  

**HARMAN KARDON**

Citation Twenty-Five Preamplifier  
Hybrid preamp with vacuum tubes and FET's. Features MC output; 6 inputs, full switching capability; auto muting; front panel mute; power switching; tiffany connectors for phono, CD and main outputs; slim line chassis; black, fully anodized aluminum chassis; 74 dB gain; switchable phono loading. $1,200  

Citation Twenty-One Preamplifier  
Hand-assembled preamplifier with versatile inputs and selection of black and finish. Features special circuitry for CD input to prevent overloading.  

**Audio**

C-2 Preamp  
Hand-assembled preamp with versatile input selections and black finish. Features special circuitry for CD input to prevent overloading.  

**KENWOOD**

**C2 Preamp**  
2-way preamp with 2-step MM and 3-step MC inputs. Features single NFS-loop phono equalizer amplifier; 2-way tape dubbing with recording/source (rec out) tape selector; 2 AUX/video inputs, Kenwood NF/CR tone controls with selectable turnover; super-coupled volume control for low noise at low volume; 4-way filter system; loudness control; 2-step stereo switched, headphone jack with level control; output on/off switch; power and output LED indicators. Frequency response 1-350,000 Hz -0.3 dB, THD 0.002% phono, 0.001% line; input sens/impp MM 2.5 mV/47 khz, line 150 mV/47 khz; signal-to-noise ratio 110 dB; MM 88 dB, 17.31 x 12.63 inches, 9 pounds. $310  

**McINTOSH**

C-34V A/V Control Center  
A/V control center with Compaq System for controlling sources' dynamic range. Features inputs for laser, tape 1-3, VCR 1/2, TV, tuner, phone; 3 switched, 3 switched outlets in rear; provision for 2 sets of speakers; record and listen changer; built-in 3-band equalizer, master volume control; 38 lb; $2,195  

C-31V A/V Control Center  
A/V control center with wireless IR remote control. Features McIntosh Electronic Precision Ladder Attenuator; 5-band equalizer, adjustable loudness contour, 9 source inputs; switching of 2 VCR's with two-way dubbing, remote control; expandable allowing remote control in two additional listening areas.  

**NAD**

170 Monitor Series Preamp/Tuner  
Remote control including motor-driven volume control; semi-parametric tone controls; EPL, bass EQ 2-way tape-dubbing; 50 dB stereo separation, 6.NR ratio >80 dB, IF wide/narrow, 14 pre-set, mixed AM and FM, rack mountable. $798  

1300 Monitor Series Preamp  
Features high-resolution phono preamp; bass EQ; 14 sources; switchable to 50, 120, or 250 Hz, treble to 3,000,  

**Lazarus Electronics**

Cascade Deluxe Preamp  
All audio circuitry completely discrete and operates in Class A. Audio inputs for 2 line sources, monitors tape deck, phono section for virtually any caracar. Camara connectors. Line section provides up to 22 dB of gain with typical distortion of 0.004% THD and 0.004% IMD and typical S/N of 95 dB unweighted below 2 V reference. **Kit.** $849  

**LINN PRODUCTS**

K.1 Remote-Controlled Preamp  
Stereo microprocessor preamp with independently adjustable input-level matching all inputs and level adjustments on board are electronic. Input for moving magnet phono, moving cartridge phono input, tape 1 and tape 2 inputs; auxiliary tuner input. 3 x 10.5 x 10.5 in; 9 lb. $1,050  

**Linwood**

**Basic C2 Preamp**  
Preamp with 2-step MM and 3-step MC inputs. Features single NFS-loop phono equalizer amplifier, 2-way tape dubbing with recording/source (rec out) tape selector; 2 AUX/video inputs, Kenwood NF/CR tone controls with selectable turnover, super-coupled volume control for low noise at low volume, 4-way filter system, loudness control, 2-step stereo switched, headphone jack with level control; output on/off switch, power and output LED indicators. Frequency response 1-350,000 Hz -0.3 dB, THD 0.002% phono, 0.001% line; input sens/impp MM 2.5 mV/47 khz, line 150 mV/47 khz; signal-to-noise ratio 110 dB; MM 88 dB, 17.31 x 12.63 inches, 9 pounds. $310  

**KINERGETICS**

**KPA-1 Preamp**  
Designed to eliminate hysteresis distortion; mc phono, MM phono inputs, 2 tape loops; remote power supply, switchable bass and treble EQ; 2-way tape-dubbing; Steiner design; black, fully anodized aluminum chassis, 74 dB gain; switchable phono loading. $1,200  

**Linn Products**

K.1 Remote-Controlled Preamp  
Stereo microprocessor preamp with independently adjustable input-level matching, all inputs and level adjustments on board are electronic. Input for moving magnet phono, moving cartridge phono input, tape 1 and tape 2 inputs; auxiliary tuner input. 3 x 10.5 x 10.5 in; 9 lb. $1,050  

**MOD SQUAD**

**Line Drive Preamp**  
Passive preamp features .5W potentiometers. Lorlin selector switches, Wonder wire, Wonder solder, Tiffany connectors and LC/OF metallic insulated wires, selector for 5 sources, master selector, mute, tape 1 or 2, balance control, jack for two pair of power amps. $500  

**Motif by Conrad-Johnson**

MC7 Dual-Mono Preamp  
Dual-mono all-FET preamp with remote power supply. Features precision-matched field-effect transistors for channel-to-channel balance; exclusive use of polystyrene capacitors throughout audio circuits and power supply regulators. Inputs for MM phono; MC phono, tape, tuner. FR 5-100,000 Hz +0.5 dB, max output 10 V, THD 0.1%; IMD 0.1% IHF; MM phono sens 0.35 mV for 0.5-V output at 1,000 Hz; MM phono input overload level 150 mV, sens for line-level inputs 50 mV, 3.5 x 19 x 12 in; 15 lbs. $3,300  

**NAD**

170 Monitor Series Preamp/Tuner  
Remote control including motor-driven volume control; semi-parametric tone controls, EPL, bass EQ 2-way tape-dubbing; 50 dB stereo separation, 6.NR ratio >80 dB, IF wide/narrow, 14 pre-set, mixed AM and FM, rack mountable. $798  

1300 Monitor Series Preamp  
Features high-resolution phono preamp, bass EQ; 14 sources; switchable to 50, 120, or 250 Hz, treble to 3,000,
6,000, 12,000 Hz) with 1.5-octave bandwidth. 12-db max boost or cut, 2-way tape dubbing, infrasonic filter. Max output 1.2 V; RIAA response accuracy ±0.3 dB $498

**Nakamichi**

CA-7A Control Amplifier

Preamplifier with full-system 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 & MC phone, 2 tape, 2 AUX, CD, 2 outputs; multi-room remote control with RS-7 remote sensor. Input sens/imp MC (switchable) 40-80-160 µV/100 ohms, MM 2.5 mV/50 kilohms, line 150 mV/12.5 kilohms; THD <0.002%; FR 1-100,000 Hz ± 3 dB $2,595

CA-5 II Control Amplifier

Features 5 high-level inputs; phone input; copies between 2 tape decks in either direction; recording deck monitors copying procedure; all inputs and 2 sets of output terminals are gold-plated; remote power control connector (dual power strip); MM- or MC-cartridge phone input; output level; bass, balance, treble; low-noise FETs; bipolar transistors; multi-regulated isolated ground power supply: max pre-out level 7 V; 1% THD at 20-20,000 Hz; max input level 100 mV; input sensitivities selectable between 100, 200, 500 mV @ 1 kHz; 0.3% THD, 20-20,000 Hz, 99 dB; 1.3% THD, 10 Hz-3 kHz, 39 dB; 0.002% THD, 20 Hz-3 kHz, 36 dB; 0.001% THD, 20 Hz-3 kHz, 35 dB. $1,400

**Nichco Audio**

Beta 600 Preamplifier

Two-band parametric equalizer with variable level; variable bandwidth, and selectable frequency turn over controls. 2-record out-up selectors; CD direct circuit isolated from other analog circuitry with the shortest signal path as possible; S/N 104 dB; MM/MC cartridge; 2-output terminals, gold-plated mm jacks; mechanical switches; THD 2.0%; S/N 100 dB; channel sep 40 Hz @ 1 kHz, 90 Hz @ 1 kHz; 19” rack mountable with black die-cast aluminum front plate.... $600

**Onkyo**

Grand Integra P-308 Preamplifier

Dual-mono preamp with electrically separate left and right circuitry and 2 sets of preamp outputs: output #1 is from precision-filtered master volume control using ALPS potentiometers, output #2 includes finite balance adjustment via stepped left and right precision resistor attenuators. Features passive tone control system; dual record output selectors; individual stereo/mono switching for output 1 and 2, contra bass equalization. Wood side panels included. Inputs for MM phono, MC phono; tape: tape 2, tape 3: AUX, AUX 2; tuner; CD player and DAT with input common-mode noise filters. FR 0.8-170,000 Hz ± 3 dB; phone S/N 92 dB; THD 0.003%. 18.25 x 4 x 15.88 in.: $660

Integra P-304 Preamplifier

Dual-mono preamp with electrically separate left and right circuitry. Features direct tone controls with passive equalization; dual record output selectors; adjustable phone gain and loudness. Inputs for MM phono; MC phono; tape: tape 2, tape 3: AUX, AUX 2; tuner; CD player. FR 0.8-170,000 Hz ± 3 dB; phone S/N 85 dB; THD 0.005%; 17.75 x 4 x 15.88 in.: $530

**Parasound**

FET-908 Class A Preamplifier

FET class A preamplifier. Features FET discrete transistors; electronic logic switching; polypropylene capacitors; regulated power supply; gold-plated jacks; muting relay; variable loudness control; 150-volt transformers; 3 AC outlets; mono switch; 2-tape monitors; 2-direction dubbing; separate CD. Video inputs; FR 10-80,000 Hz ± 0.5 dB; THD <0.005%; 17.25 x 2.5 x 9.5 in.: $395

**PS Audio**

55 Preamplifier

Full-function preamp. Features all MOSFET circuitry, dual-mono power regulation, extra-large transformer, moving-magnet and moving-coil phono sections, 5 gain selections for phone cartridge, cartridge loading, high-level bypass, remote power supply. THD <0.01% IM dist <0.01%.... $1,995

4.6 Preamplifier

Full-function preamp. Features moving-magnet and moving-coil phono sections, 5 gain selections for phone cartridge; cartridge loading; high-level bypass; remote power supply. THD <0.01% IM dist <0.01%.... $659

**Quad**

Quad 44 Control Amplifier

Preamp/control system with lift/step bass control to boost low-frequency output of small speakers, attenuate bass output when operating as filter to give 5-db drop at 2 frequencies ±2 db tilt control that shifts tonal balance, variable filter slope control at 5,000, 7,000, 10,000 Hz; all tone controls have defeat positions; balance/mode switch; radio, aux, disc, tape 1, tape 2 inputs selectors with optional microphone or MC or phono inputs available. Input sensit/imp 1 mV at 35 mV in/47 kilohms phono, 100 mV at 5 V in/39 kilohms tape, 1 mV ohm radio and aux. FR ≥ 0.5 dB 30-20,000 Hz phono RIAA, 30-20,000 Hz –0.1 dB, +1 dB, high-level distortion 0.02% noise –104 dB A-wtd, 12 x 4 x 8 in.: $995

**Revox**

B252 Preamplifier

Microprocessor-controlled preamp with input sensitivities programmable into nonvolatile readout memory and infrared remote control. Inputs for MM phono; MC phono; tuner, tape; 2, AUX; CD phono; FR 20-20,000 Hz +0.2 dB, THD <0.01%; S/N 96 dB (line input), 75 dB (phono input), MM phono sens 1.6-23 mV for 5-mV output, sens for line-level inputs 160 mV to 2.3 V, 17.7 x 6 x 13 in.: $1,400

**Rotel**

RC-870BX Stereo Preamplifier

Flat preamp (no tone controls) with inputs for MM phono, MC phono. Tape. Frequency response 4-100,000 Hz ±0.5 dB, -0.3 dB total harmonic distortion 0.004%, IMD 0.004%, MM phono input overload level 180 mV, MM/MC signal-to-noise ratios 80/70 dB... $449

Rotel RC-870BX

**Jeff Rowland Design Group**

Coherence One Preamplifier

Solid-state FET preamp with companion regulated power supply. Accepts all MM and MC cartridges directly. Direct-coupled design from input to output. Split-passive RIAA equalizer minimizes phone equalizer errors. No negative feedback...

Stereo Review February 1989 87

**AMPLIFIERS**
feedback; propriety design optimizes low-level signal recognition. Provides inputs for 1 phono and 3 high-level inputs. Tape rec outputs selectable from any input. Features phase reversal and full muting from front panel; separate right/left channel balance controls; master volume; balanced outputs; power-on mute. 19 x 1.75 x 13 inches; 37 lb $3,950

SONOGRAPHY BY CONRAD-JOHNSON

SCI FET Preamplifier
All-FET preamp 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 5-100,000 Hz ± 0.5 dB; max output 10 V; total harmonic distortion 0.1%; IMD 0.1%; phono overload 150 mV. FR 5-20,000 Hz ± 0.5 dB $1,000

SONY

TA-E77ESD Preamplifier
Preamplifier with built-in 16-bit, linear digital-analog converter with quadruple-over-sampling digital filter. Features automatic matching of tuning rate; audio/video switching capability. S-video inputs and outputs; source direct switch; 12 total input sources; passive tone control circuitry; record out selector; adaptor terminals; 3-mode cartridge selector. IMD 0.001%; total harmonic distortion 0.01%; separation >90 dB. FR 5-20,000 Hz ± 0.5 dB $1,200

SOUNDCASTMEN

SC1 FET Preamplifier
Combination preamp/equalizer with digital audio and video inputs. Features in/out balancing to 0.1 dB; phono preamp has variable cartridge loading (50-800 pf, 100/47,000 ohm) adjustable ± 20 dB gain; variable reluctance or MM cartridge inputs. Separate signal-processor loops: conventional line outputs plus separate audiobridge line outputs for audio and video separate measurements of all modes, LEDs for true 0.1 dB unity-gain equalizer balancing, 19" rack-mount front panel; includes test charts. $699

SU-A200 Class AA Preamplifier
Features Class AA circuitry to separate voltage amplification from current amplification. Voltage gain operates almost directly across Class AA bridge circuit which provides ideal load characteristics for maximum linearity and isolation from imp fluctuations. Class AA EQ circuit isolates voltage amp from load-imp fluctuations. Active Servo controlled volume. Switches video signals from A/V inputs as well as audio signals from 8 inputs with video output for monitor. Inputs for MM phono, MC phono, tape, tape 2, CD player, video (AV 1), FR 0.5-180,000 Hz + 0.3 dB 17 x 5 x 14.25 in $1,250

SU-M61K Stereo DC Preamplifier
Features shelving tone controls, selectable turn-over frequencies, infrasonic filter, audio muting. Inputs for MM phono, MC phono, tape 1, tape 2, aux 2, video 1, CD player, tuner, video (AV 1). FR 0.5-180,000 Hz + 0.3 dB 17 x 5 x 14.25 in $875

SHERWOOD

AM-7040 Preamplifier
Features high speed MOSFET, huge power reserve; overload protection; multi-stage LED power indicator; variable output level control; independent L/R power transformers; variable and fixed inputs, heavy-duty speaker terminals; 6.4 x 17.3 x 15.7 inches; $849

SUMO

Athena Preamplifier
Stereo preamp with built-in moving-coil head amp. Features discrete circuitry utilizing 1% metal film resistors and metalized polypropylene capacitors; gold-plated input/output jacks; separate record/mode select functions; linear-phase-matrix subsonic filter; high-level bypass; laser-trimmed stepped volume control. FR 20-20,000 Hz ± 0.1 dB; crossover 80 dB, THD/M $0.01% below 10 V output $699

TANDBERG

TCA 3038A Preamplifier
Fully remote controlled unit similar to above. Servo controlled volume (when used with remote); tone controls; tone defeat; loudness, MM and MC, DAT, video, vol -detail, and program info. Remote optional. Rosewood panels: 17.13 x 3.25 x 13.75 in; 11 lb $1,350

TECHNICS

SU-1550K Stereo Preamplifier
Features shelving tone controls, selectable turn-over frequencies, infrasonic filter, audio muting. Inputs for MM phono, MC phono, tape 1, tape 2, Aux 2, video 1, CD player, tuner, video (AV 1), FR 0.5-180,000 Hz +0.3 dB 17 x 5 x 14.25 in $1,250

SU-1550K Stereo Preamplifier
Features shelving tone controls, selectable turn-over frequencies, infrasonic filter, audio muting. Inputs for MM phono, MC phono, tape 1, tape 2, Aux 2, video 1, CD player, tuner, video (AV 1), FR 0.5-180,000 Hz +0.3 dB 17 x 5 x 14.25 in $1,250

THRESHOLD

Model FET ten/bh Preamplifier
Dual-ch. high-level noninverting field-effect transistor preamp dedicated specifically to line-level signal applications. Accepts 5 high-level sources and 2 tape decks with full flexibility in record/monitor signal routing. External power supply in separate chassis. Input j-FETs operated in parallel, doubling transconductance and lowering noise and distortion. Secondary gain stages use cascaded MOSFETs to suppress voltage fluctuations, allowing low distortion even when driving loads less than 500 ohms. Circuit boards are military-grade glass-epoxy with gold-over-nickel-over-copper-plated paths. Gold-plated connectors with Teflon insulation. Precision metal film and wirewound resistors are used throughout. Bandwidth response 1.5 Hz and 125,000 Hz at -3 dB points: distortion 0.01% at 3 V rms from 20-20,000 Hz into 1,000-ohm load; crosstalk no greater than -75 dB at 20,000 Hz with 1,000-ohm source; noise no greater than -110 dBA referenced to 1 V input. Output imp 25,000 ohms, nominal; output imp $875

Rowland Coherence One

XIP X-Series Preamplifier
Computer direct-line fully discrete preamp. Features separate power supply, loading for MM and MC phono inputs. Rack mountable. Inputs for MM phono, MC phono, tape, aux. FR 20-20,000 Hz ± 0.1 dB; max output 17 V; THD 0.01%; IMD 0.01%; MM phono sens 0.07 mV for 0.5 V output at 1,000 Hz; 19 x 1.75 x 12.5 in; 14 lb $2,200

Tandberg TCA 3038A

TANDBERG

TCA 3038A Preamp
Fully remote controlled unit similar to above. Servo controlled volume (when used with remote); tone controls; tone defeat; loudness, MM and MC; DAT, video, volume (AV 1) and program info. Remote optional. Rosewood panels: 17.13 x 3.25 x 13.75 in; 11 lb $1,350

TANDBERG

TCA 3038A Preamplifier
Fully remote controlled unit similar to above. Servo controlled volume (when used with remote); tone controls; tone defeat, loudness, MM and MC; DAT, video, volume (AV 1) and program info. Remote optional. Rosewood panels: 17.13 x 3.25 x 13.75 in; 11 lb $1,350

TANDBERG

TCA 3038A Preamp
Fully remote controlled unit similar to above. Servo controlled volume (when used with remote); tone controls; tone defeat, loudness, MM and MC; DAT, video, volume (AV 1) and program info. Remote optional. Rosewood panels: 17.13 x 3.25 x 13.75 in; 11 lb $1,350
YAMAHA

CX-1000U Digital Preamp Amplifier

Centerpiece Edition digital control ampli-

fier with built-in digital sound field processor

and D/A converter. Features hi-fi quadratic

oversampling; hi-fi precision D/A conversion;

digital-direct connection; digital input/output

port; digital parametric equalizer; 16 user-mem-

ory programs combining digital sound field

and/or digital parametric equalizer; wireless re-

MOTE control; LCD displays; clipping indicators;

power output 100 W/ch into 4 ohms, 80 W/ch

into 8 ohms. 70 W/ch into 2 ohms. 25 W/ch

INT MIN RMS into 8 ohms. Tone on/off control.

$2,000

HITACHI

AM-522 B 70-W/ch Integrated Amplifier

Features 70 W/ch into 8 ohms with less than

0.01% THD. FM 100 kHz to 10 MHz, IMD 0.0002%.

$599

F30 Integrated Amplifier

Features passive segmented phono section:

MM/mmc switchable inputs; large toroidal input

transformer; 40 W/ch into 4 ohms. 80 db.

MC 73 db, MC/MM 70 db, MC/MM 70 db with less

than 0.05% THD. $498

Cambridge Audio

P55 Integrated Amplifier

Features passive segmented equalization on MM

and MC inputs. Power output 70 W/ch into 8 ohms

THD 0.03%. $648

DENON

PMA-1520 Integrated Amplifier

130 W/ch integrated amplifier. Features Denon

Optical Class A circuitry. Digital multi-interface

deckers; 7 audio inputs, CD, tuner, AUX, 1, 2.

CD, tuner, tape 1, 2, 3. 2 way speaker terminals;

CD-direct switch; in direct; CD-direct switch;

in control and balance control. Power, CD, and

tuner inputs, dual tape-to-tape monitoring and
dubbing capability; drives two pairs of speakers

simultaneously or separately; headphone jack;

75 W/ch into 8 ohms with less than 0.1% THD.

$750

Audio by Van Alstine

PMA-5/20. 75 W/ch integrated amplifier. Features Van Alstine FET Three Plus hybrid

circuitry, 240D full complement.

$2,000

Cambridge Audio

P55 Integrated Amplifier

Features passive segmented equalization on MM

and MC inputs. Power output 70 W/ch into 8 ohms

THD 0.03%. $648

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CD, tuner, tape 1, 2, 3. 2 way speaker terminals;

CD-direct switch; in direct; CD-direct switch;

in control and balance control. Power, CD, and

tuner inputs, dual tape-to-tape monitoring and
dubbing capability; drives two pairs of speakers

simultaneously or separately; headphone jack;

75 W/ch into 8 ohms with less than 0.1% THD.

$750

Audio by Van Alstine

PMA-5/20. 75 W/ch integrated amplifier. Features Van Alstine FET Three Plus hybrid

circuitry, 240D full complement.

$2,000

AMPHILERS

Numerous Controls for program source selection:

cord signal routing, monitor signal selection;

mode selector, balance control; audio level control

1.75 x 19 x 6.5 in. $2,000
HARMAN KARDON
PM665 Vxi 150-W/ch Integrated Amplifier
Inputs for A/V, aux, tuner, CD player, phono (MM or MC); VCR/tape monitor switches 2 decks and source; drives 2 pairs of speakers; selectable turnover frequencies (200 or 400 Hz, treble 2,000 or 6,000 Hz); tone defeat; mono switch; capacitance trim (normal, +100, 200, 300 µF), phase-correct loudness, high and low filters; 2-way tape dubbing; lit mute button (20 dB down); preamp out and main in jacks; active/passive phono section; 2 power transformers; 8 150-W power transformers. 150 W/ch into 8 ohms, dynamic power 500 W; current capability > 80 amps. $999
PM655 Vxi. As above, 90 W/ch; current capability + 45 amps for 260 W on peaks. $699
PM645 Vxi. As above, 90 W/ch; current capability + 30 amps; external processor loop instead of preamp out/main in jacks. $497
PM640 Vxi. As above, 45 W/ch; current capability ± 18 amps; neg feedback 20 dB; no low or high filter. $329

JVC
AX1100BK Integrated Amplifier
Features Pure Signal Transcribing; separate CD ground; separate CD input with differential input; Dynamic Super-A power amp; GM selector; GM volume; 2-amp construction; inputs include CD 1, CD 2, DAT, and 5 others; high-performance phono equalizer for MM cartridges; connections for two pairs of speakers. 120 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.003% THD. $720

KENWOOD
KA-330D 150-W/ch Integrated Amplifier
Basic series digital integrated amplifier with dual built-in 16-bit D/A converters. Features optical interface with DP-3300 CD player, VIG-DLD (Voltage Interface Gate with Dynamic Linear Drive) power amplifier; quadruple oversampling digital filters, 7-pole Butterworth, FDR analog low-pass filters; 3 sampling frequencies (48/44.1/32 kHz), coaxial digital input; 3 tape inputs; dual rec-out selector; 2-way dubbing, direct and line-switched; switch; 3-way MC/MM phono equalizer; Kenwood NFC-TR color tone controls with selectable turnover, high-gain, low-gain, high-rigidity chassis; audio insulator feet; Sigma Drive Type B; variable loudness, subsonic filter, mono/stereo switch; volume control, gold-plated input jacks, 150 W/ch min rms; THD 0.004%; S/N 110 dB. 66.9 x 17.3 x 13.5 in; 22 lb. $410

KA-127 125-W/ch Integrated Amplifier
Features 7-band graphic equalizer and power meters; 125 W/ch min rms; CD/AUX input; motorized volume control, unified remote control; volume control system, remote volume; bi-directional tape dubbing, digital video sound inputs; connections and switching for two pairs of speakers; full circuit protection, headroom jack; THD 0.05%; IMD 0.03%, FR 10-1000 Hz ± 0.5 dB, -3 dB, S/N ratio 75 dB, 4.68 x 16.56 x 10.68 in. $369

KVOTERA
A-910 150-W/ch Integrated Amplifier
Ceramic base/chassis; cutout-core power transformer; DC configuration with DC servo control; fine-ceramic linearized modular powered stages. Inputs for MM phono, MC phono, tape, tape 2, AUX, phono 2, CD player, tuner, video. FR 10-100000 Hz ± 1.5 dB, max output 0.25 V at rated sens; S/N 96 dB; MM phono sens 2.2 mV for 0.5 V output at 1,000 Hz; sens for line-level inputs 250 mV; 150 continuous average W/ch from 20-20,000 Hz; THD < 0.02%. $599

LUXMAN
"-109 Digital Direct Integrated Amplifier
Integrated amplifier with built-in D/A converter. Features digital interaction with Luxman D-109 CD player, 2 digital direct inputs; line straight switch; front panel video input jack, signal-processing switch; rec-out dubbing selectors, sampling frequency indicator; tape/video monitor selector; mono/stereo switch, -30 dB attenuator switch; bass/treble controls. 150 W/ch, THD and IMD < 0.03%; frequency response 50-200,000 Hz - 3 dB; S/N (line straight) CD/line, tape ± 1 dB; S/N 90 dB (MM), 70 dB (MC), 96 dB (tuner, tape, CD, video audio). IMD 0.03%. 17.25 x 15.9 x 13.88 in; 25.3 lb. $1,000

NAD
3400 Monitor Series Integrated Amplifier
Full remote control, 100 W/ch; power envelope control; +6.2 dB dynamic headroom; power and line switches; auto-standby; lab input; pre-amp out/main in; semi-parametric tone controls. Soft Clipping; bass EQ; rack mountable. $798
3240 PE Integrated Amplifier
40 W/ch; +6 dB dynamic headroom; power envelope control; bass EQ; speaker level; high current, Soft Clipping. $398


PLA-610 Integrated Amplifier
Remote-controlled integrated amp with built-in Dolby Pro-Logic, hall, matrix, and concert surround-round sound processors. Features 16-bit digital delay circuit; 3-position sound memory function; pre-out, main-in, and mono-out terminals; 2 audio/video inputs/outputs; 2 audio/video inputs; 1 audio input/output; 1 audio input: 1 center out; 2 monitor outputs; 1 mono output.

$599

Onkyo
Grand Integra A-100 Integrated Amplifier
Features linear 18-bit D/A converter, 150 W/ch rms; dual mono design with real phase power supplies; Opto-Drive power supply for differential amp; 8-times-oversampling digital filter; separate left and right Opto-Drive D/A converters; optical and coaxial digital inputs; absolute analog phase reversal; source direct mode; remote control; wood side panels.

$1,100

A-8800 Integrated Amplifier
Features linear 18-bit D/A converter, 100 W/ch rms; low-imp drive discrete output section; Opto-Drive power supply for differential amplifier, quadripole-oversampling digital filter; separate left and right Opto-Drive D/A converters; optical and coaxial digital inputs; pre-out/main-in terminals.

$900

PROTON
AM-300 Integrated Amplifier
High-current, high-power amplifier with Dynamic Power On Demand (DPD). Features phono section with MC and MM phono selections; active volume control; anti-clipping circuit. 40 continuous W/ch from 20-20,000 Hz; 1% THD; < 0.003% THD; 100 W/ch min rms from 20-20,000 Hz with no more than 0.0105% THD; dynamic power 303 W/ch into 2 ohms, 235 W/ch into 4 ohms; 150 W/ch into 8 ohms; frequency response 2-30,000 Hz ± 0.5 dB; THD 0.02%; signal-to-noise ratio: CD Direct 110 dB, CD 100 W/ch min rms from 20-20,000 Hz with no more than 0.008% THD; pre-out and main-in; MM or MC selectors, 20 dB muting; subsonic filter; sirce/mono switch; bass, treble and balance knobs are back lit; THD 0.003% fr 5-100,000 Hz. $660

LA-400. Similar to IA-600 but 80 W/ch FTC at 8 ohms; power bandwidth 10-70 KHz. $530

Elite A-91D Digital Integrated Amplifier
Integrated amplifier with digital circuit for CD's. Features line direct switch, non-reflecting frame chassis; insulators, and heat sink; non-switching circuit type III; separate voltage and current-amplifying stages; 2 high capacity, magnetically-shielded transformers; independent digital conversion circuitry; dual digital-to-analog converters; digital filter, quadripole-oversampling; analog low-pass filter; six digital inputs (two optical); three digital outputs (one optical); optical transfer distortion canceler.

$1,600

Pioneer
Elite A-91D Digital Integrated Amplifier
Integrated amplifier with digital circuit for CD's. Features line direct switch, non-reflecting frame chassis; insulators, and heat sink; non-switching circuit type III; separate voltage and current-amplifying stages; 2 high capacity, magnetically-shielded transformers; independent digital conversion circuitry; dual digital-to-analog converters; digital filter, quadripole-oversampling; analog low-pass filter; six digital inputs (two optical); three digital outputs (one optical); optical transfer distortion canceler.

$1,600
**AMPLIFIERS**

**SAE 1102**

1102 Integrated Amplifier

60 W/ch integrated amp with on-board computer to eliminate dependency between front-panel control switches and audio circuits. Max THD from 20 Hz-20,000 Hz is 0.05% at full rated power on both ch driven. All controls are groupable with alphanumeric and digital LED display for input functions, tone settings, and volume level. Features 2-way tape copy, external loop, MM & MC phono inputs; 3 programmable digital tone memories; sequential audio muting (fade in/out when switching inputs); high-current power amp stage; peak/average LED power display. **$499**

**SANSUI**

AI-1X901 Integrated Amplifier

Vintage series stereo integrated amp with Alpha X-balanced technology. Features direct-balanced input for SANSUI CD players, independent record selector with OFF position; power amp direct connection, high-gain phono EQ for MM and MC phono inputs with PET -input; bass and treble controls; selectable bass turnover; gold-plated input/output terminals; A-B speaker switching, playback, wireless remote control; adjustable time delay; adjustable feedback level; dubbing input/output terminals; A-B speaker switching. Front: 50 W/ch into 8 ohms from 20-20,000 Hz with less than 0.02% THD. Rear: 10 W/ch both channels driven into 8 ohms from 20-20,000 Hz with less than 0.09% THD. **$1,100**

**TECHNICS**

SU-V90D 100-W/ch Integrated Amplifier

Digital integrated amplifier that accepts optical or coaxial digital outputs from CD players and other digital equipment; 4-DAC 32-bit high resolution; internal digital signal processing; 100 W/ch at 0.002% THD into 8 ohms; both channels driven from 20-20,000 Hz; 4 A/D digital-preamplifier; oversampling digital filter, automatic switching between sampling frequencies; subsonic filter, front digital mode. **$800**

SU-V55 50-W/ch Integrated Amplifier

A/V integrated amplifier with digital Dolby surround sound. Features digital low-bass synthesis with level control, wireless remote control, S-VHS input/output terminals; 3 A/V inputs; 2 audio inputs; video out and S-VHS video out; FI display; stereophonic simulated stereo. Front: 50 W/ch into 8 ohms from 20-20,000 Hz with less than 0.02% THD. Rear: 10 W/ch both channels driven into 8 ohms from 20-20,000 Hz with less than 0.09% THD. **$500**

**SHARP**

Optonica SM-A75 Integrated Amp

Features surround sound; 35 W/ch to 20,000 Hz; 8 analog inputs/4 video inputs; 3 audio outputs/4 video outputs; signal-to-noise ratio 89 dB (75 dB phone); IMD 0.8%; CD frequency response 15-30,000 Hz in front, 15-17,000 Hz in rear. **$600**

**SHERWOOD**

AI-1210R Integrated Amplifier

Features surround sound; full-function infrared wireless remote control; video input/output; loudness control; direct switch; low-noise phono amplifier; subsonic filter, 100 watts per channel; headphone input jack; peak power indicator; mute switch; minimum distortion 0.04%; signal-to-noise ratio 79 dB, frequency response 8-30,000 Hz; 5.1 x 17.3 x 13.0 in. **$449**

**SONY**

TA-F700ES 105-W/ch Integrated Amplifier

Features nonmagnetic G-class construction; automatic two-way crossover; direct switch to route input signal directly to volume control; variable tone-control circuitry with switch-selectable bass and treble turnover frequencies; defeatable subsonic filter, inputs for 3 tape decks with dubbing capabilities, MM/MC phono, CD player, tuner, and AUX signals; independent record output selector for taping one signal while listening to another; A-B, A + B speaker switching. 105 continuous W/ch into 8 ohms with 0.004% THD, 140 W/ch into 4 ohms with 0.008% THD; 17 x 6.38 x 17.25 in; 40 lb. **$700**

**YAMAHA**

AX-900U Integrated Amplifier

Master A/V control amplifier with 10 audio and 6 video inputs; 3 audio outputs; 4 video inputs and outputs; RS integrated system remote control; built-in video enhancer with continuously variable sharpness, detail, and level control; 5 surround modes; 8 channels driven into 8 ohms from 20-20,000 Hz with less than 0.05% THD. Black: 42 lb. **$749**

AX-700U Integrated Amplifier

Integrated amplifier with low-impedance drive capability. Features absolute linear amplification, high dynamic power, low-impedance drive capability, CD direct position, continuously variable loudness control, record-out selector; accessory output loop; 3 tape inputs. 110 W/ch minimum root mean square into 8 ohms from 20-20,000 Hz with less than 0.05% total harmonic distortion. With black finish. **29 lb $599**

**TOSHIBA**

XB-1000 Integrated Amplifier

A/V digital surround-sound processor and control. Features 10 audio inputs; 4 video inputs; numerous A/V cross-play options; inputs include 2 tape decks; 2 VCR's, CD player, DAT deck; television; 125 W/ch stereo, 50 W/ch Dolby surround; remote control; 12 digital sound effects including concert; hall, night club, cathedral, stadium, and theater. **$949**

**VECTOR RESEARCH**

VA-1400 100-W/ch Integrated Amplifier

100-W/ch high-current integrated amp with 8 output transistors. 200 W/ch with optional VA-1450 bridging amp. Inputs for MM/MC phono, tape, CD; video sound source. 100 continuous average W/ch from 20-20,000 Hz with <0.08% THD into 4 ohms; dynamic headroom 2.5 dB; HF IMD 0.08%; FR 10-40,000 Hz ± 1 dB. 17 x 3 x 12 in; 20 lb. **$350**

**AVC**

Audio Video Integrated Amplifier

Master A/V integrated amplifier with built-in surround sound decoder. Features 10 audio and 4 video inputs and outputs; 85 integrated system remote control; built-in video enhancer with continuously variable sharpness, detail, and level control; 5 surround modes; 6 channels driven into 8 ohms from 20-20,000 Hz with less than 0.05% total harmonic distortion. With black finish. **39 lb $399**

**AVC-900**

Audio Video Integrated Amplifier

Features absolute linear amplification; high dynamic power; low-impedance drive capability; CD direct position; continuously variable loudness control; record-out selector; accessory output loop; 3 tape inputs. **$499**

**STEREO REVIEW**

February 1989
We’ve built such a reputation for making precision open reel tape recorders, some people think that’s all we do. The fact is, we make a full line of audio components. From compact disc players to speakers, receivers to video cassette recorders, equalizers, and audio/video controllers. And of course, a full line of cassette decks and open reel recorders.

One thing, however, will never change. Our uncompromising commitment to building components that last. Every aspect of design, engineering, and manufacturing is driven by this singular goal. To assure every Teac we make is built to provide years of flawless performance. Performance after performance.

The First Thing We Do Is Build Them To Last.
Quality Time. Your moments together are too precious to waste. That’s why Pioneer created the PD-M700 6-disc CD player. Now you can enjoy up to six hours of digital music without interruption, at the touch of a single button.

Pioneer invented the 6-disc CD magazine system. This innovative format offers you multiple programming options, cataloging capability and is designed to work in both Pioneer home and car multi-CD players. Simply put, no other CD format offers you so many features and is so easy to use.

Pioneer offers a complete line of 6-disc CD players, all with Non-Repeating Random Play. Now you can spend less time changing your music and more time enjoying it.
**COMPACT DISC PLAYERS**

**ACCUPHASE BY MADRIGAL**

**DP-80/DC-81 Two-Part CD Player**
- DP-80 transport plays discs and DC-81 digital processor converts digital signals to analog; optical fiber cable. DP-80 features: 1 master clock, linear motor laser pickup, <1 sec selection time, ceramic-resin mounting floated from chassis, play, search, pause, skip back, fast forward, fast reverse, repeat disc or phrase; cues by track number; displays current track number. DC-81 features: D/A converter with discrete elements; wideband optical-fiber inputs: 16-bit digital signal and脱颖而出 signal for each ch input to D/A converter through 17 opisoluiators; 121-stage, 15x oversampling digital filter per ch; 9-pole GIC Butterworth active filters, directly coupled 0-dB gain buffer amp as output stage; de-emphasis circuit consisting of passive elements and buffer amp; independent power transformer for each digital and analog circuit; fixed- and variable-level audio output; XLR-type balanced output. $8,750

**ACOUSTIC RESEARCH**

**CD-96 CD Player**
- 16-bit, 4x oversampling CD player. Computer driven laser swing arm; dual digital to analog converters (analog circuitry employs a Gaussian filter for elimination of filter delay); random access programming of up to 20 tracks in any order, scanning, play, pause and volume control can be performed by remote control. Fixed level and remote variable audio outputs as well as digital output. FR: 4-20,000 Hz ± 0.5 dB; THD: 0.007%; S/N ratio: 105 dB. $749

**ADCOM**

**GCD-575 CD Player**
- Selectable Analog Frequency/Phase Contouring circuitry, fixed and variable outputs, triple beam laser, plays 3" CD's. Programs up to 24 tracks in any sequence; repeats disc, track, program or any selected sequence or phrase; audible fast scan and fast forward. Displays simultaneously total tracks up to 20, track being played, programmed tracks, tracks to be played. Timer display. Remote transmitter. FR: 5-20,000 Hz ±0.1, -0.5 dB; SN: 105 dB; THD: 0.0035%; ch sep: 95 dB; IMD (SMpte) 0.0015%; 3.44 x 17 x 11.25 in; 12 lb, black. $650

**A/D/S/ Atelier CD3 CD Player**
- Programs 30 tracks in any order; sound audible during fast forward and fast reverse; skip forward; skip back; fast forward; fast reverse; cancel; repeat track, disc, phrase, program; head phone jack with adjustable level, digital filtering (resampling frequency 88.2 kHz); 3-beam laser. Displays current track number, elapsed time of current track, remaining time on disc, program in memory. Cues by track number, index number. Max line output 2 V; headphone output 2 V. Optional remote control. 20 lb: 2.75 x 17.5 x 14.8 in. $1,200

**Atelier CD4 Compact Disc Player**
- Cast laser and transport assembly shock mounted with rubber isolators, aluminum and steel chassis/housing, and multiple power supplies to isolate digital and analog stages for minimum interaction and noise generation. Servo-laser intensity system switches focus intensity depending on quality of disc to maximize performance. Brick-wall digital filter works in conjunction with advanced multiple-pole low-pass filter. Error correction uses variable-size window. 16-bit D/A converters; fast-focus 3-beam laser; programming of 16 tracks in random order; repeat disc, track, phrase, or program; random access by time within a track, access by index point; audible fast search. Displays elapsed time from track start, remaining time to disc end, track/program selection number, index, program in memory. $1,000

**AKAI**

**CD-93-B CD Player**
- 3-beam laser pick-up w/ linear motor, 18 bits 4x oversampling; digital filter; dual D/A converters; deinterlace chassis and diecast disc tray; 20-track random programming, FL calendar display, 31 function remote; digital output (optical/coaxial); separate power transformers for digital and analog. $1,099

**CD-73-B CD Player**
- 3-beam laser pick-up w/ linear motor, 18 bits 4x oversampling; digital filter; dual D/A converters; 20-track random programming, FL calendar display, digital output; 31 function remote. $799

**CD-52-B CD Player**
- 3-beam laser; 22 function remote; 4x oversampling; digital filter; dual D/A converters; 20 track random programming, FL calendar display, digital output; index search, auto space play; A-B repeat; headphone volume. $379

**ARCAM**

**Arcam AJ Delta 70 CD Player**
- CD player features 16-bit D/A converters, quadruple oversampling, 20-track programming, 3-speed search; track skip; optional remote; direct/variable audio outputs; headphone socket; digital output socket: FR: 10-10,000 ±0.1 dB; S/N ratio: 105 dB; dynamic range: 65 dB. $1,099

**Atelier CD3 Compact Disc Player**
- Cast laser and transport assembly shock mounted with rubber isolators, aluminum and steel chassis/housing, and multiple power supplies to isolate digital and analog stages for minimum interaction and noise generation. Servo-laser intensity system switches focus intensity depending on quality of disc to maximize performance. Brick-wall digital filter works in conjunction with advanced multiple-pole low-pass filter. Error correction uses variable-size window. 16-bit D/A converters; fast-focus 3-beam laser; programming of 16 tracks in random order; repeat disc, track, phrase, or program; random access by time within a track, access by index point; audible fast search. Displays elapsed time from track start, remaining time to disc end, track/program selection number, index, program in memory. $1,000

**Atelier CD4 Compact Disc Player**
- Cast laser and transport assembly shock mounted with rubber isolators, aluminum and steel chassis/housing, and multiple power supplies to isolate digital and analog stages for minimum interaction and noise generation. Servo-laser intensity system switches focus intensity depending on quality of disc to maximize performance. Brick-wall digital filter works in conjunction with advanced multiple-pole low-pass filter. Error correction uses variable-size window. 16-bit D/A converters; fast-focus 3-beam laser; programming of 16 tracks in random order; repeat disc, track, phrase, or program; random access by time within a track, access by index point; audible fast search. Displays elapsed time from track start, remaining time to disc end, track/program selection number, index, program in memory. $1,000

**A/D/S/ Atelier CD3 CD Player**
- Programs 30 tracks in any order; sound audible during fast forward and fast reverse; skip forward; skip back; fast forward; fast reverse; cancel; repeat track, disc, phrase, program; headphones jack with adjustable level, digital filtering (resampling frequency 88.2 kHz); 3-beam laser. Displays current track number, elapsed time of current track, remaining time on disc, program in memory. Cues by track number, index number. Max line output 2 V; headphone output 2 V. Optional remote control. 20 lb: 2.75 x 17.5 x 14.8 in. $1,200

**Atelier CD4 Compact Disc Player**
- Cast laser and transport assembly shock mounted with rubber isolators, aluminum and steel chassis/housing, and multiple power supplies to isolate digital and analog stages for minimum interaction and noise generation. Servo-laser intensity system switches focus intensity depending on quality of disc to maximize performance. Brick-wall digital filter works in conjunction with advanced multiple-pole low-pass filter. Error correction uses variable-size window. 16-bit D/A converters; fast-focus 3-beam laser; programming of 16 tracks in random order; repeat disc, track, phrase, or program; random access by time within a track, access by index point; audible fast search. Displays elapsed time from track start, remaining time to disc end, track/program selection number, index, program in memory. $1,000

**A/D/S/ Atelier CD3 CD Player**
- Programs 30 tracks in any order; sound audible during fast forward and fast reverse; skip forward; skip back; fast forward; fast reverse; cancel; repeat track, disc, phrase, program; headphones jack with adjustable level, digital filtering (resampling frequency 88.2 kHz); 3-beam laser. Displays current track number, elapsed time of current track, remaining time on disc, program in memory. Cues by track number, index number. Max line output 2 V; headphone output 2 V. Optional remote control. 20 lb: 2.75 x 17.5 x 14.8 in. $1,200

**Atelier CD4 Compact Disc Player**
- Cast laser and transport assembly shock mounted with rubber isolators, aluminum and steel chassis/housing, and multiple power supplies to isolate digital and analog stages for minimum interaction and noise generation. Servo-laser intensity system switches focus intensity depending on quality of disc to maximize performance. Brick-wall digital filter works in conjunction with advanced multiple-pole low-pass filter. Error correction uses variable-size window. 16-bit D/A converters; fast-focus 3-beam laser; programming of 16 tracks in random order; repeat disc, track, phrase, or program; random access by time within a track, access by index point; audible fast search. Displays elapsed time from track start, remaining time to disc end, track/program selection number, index, program in memory. $1,000

**Audio Van Alstine**

**Transcendence FET-Valve CD Player**
- Drawer-loading CD player with class-A compound hybrid vacuum tube and power MOSFET filter driver circuits. Features toroidal power transformer, regulated heater supply, 16-bit, quadruple-oversampling digital filter; calibrated dual digital filters; exact-channel phase-gain tracking, 20-track programming, repeat; shuffle play, time and track display, 3-speed music search with cueing; CD-single compatibility, wireless remote control. 16.5 x 11 x 3 in: 12 lb. $1,195

**Audio Dynamics**

**CD-2000E CD Player**
- Slide-drawer-loading CD player with class-A compound hybrid vacuum tube and power MOSFET filter driver circuits. Features toroidal power transformer, regulated heater supply, 16-bit, quadruple-oversampling digital filter; calibrated dual digital filters; exact-channel phase-gain tracking, 20-track programming, repeat; shuffle play, time and track display, 3-speed music search with cueing; CD-single compatibility, wireless remote control. 16.5 x 11 x 3 in: 12 lb. $1,195

**Audio Review**

February 1989
COMPACT DISC PLAYERS

**BANG & OLUFSEN**

Beogram 5500 Programmable CD Player
Integrates with Beosystem 5500; programs 20 tracks; adds time of programmed tracks; displays time remaining on disc; skip forward and back; 3-speed forward and reverse; direct access by track number; intro scan; 16-bit quadruple oversampling; Tessel elliptical analog filters; auto space; silver and black, controlled by Master Control Panel (comes with Beomaster 5500 receiver). 2 D/A converters; separate power supplies for digital and analog sections. Digital output: 16.5 x 3 x 12.75 in. .................. $1,100

Beogram 3300 Remote-Controlled CD Player
Communicates with other Beosystem 3300 components (stops when cassette deck comes to end of tape; deck stops when disc ends); front panel displays operating status; sensi-touch controls; display of track number, index number, track time, time left on disc; skip forward and back; 4-scc auto space; optional bracketed shelf for wall mounting; 16-bit, quadruple oversampling digital filter. 16.5 x 3 x 12.25 in. .... $765

**CAMBRIDGE AUDIO**

CD1 Series II CD Player
32 bit; 16 times oversampling player with 64k of error correction. Features include volume and digital polarity inversion from a comprehensive remote handset. Lead beam suspension system. Rosewood side panels .................. $4,000

CD2 S CD Player
16 bit; 16 times oversampling player with 64k of error correction. No analog stages. Full remote facilities and rosewood side panels .......... $2,500

CD2 CD Player
16 bit; 16 times oversampling player with 64k of error correction. No analog stages. Full remote facilities and rosewood side panels ................ $2,500

**CARVER**

DTL-200 Mk II Remote-Controlled CD Player
With 3-beam laser and Digital Time Lens circuitry to change frequency balance and ratio of L-R and L+R. Programs 12 tracks in any order; skip forward, skip back; fast forward; fast reverse; cancel; repeat track, disc, phrase, and program; 24-function remote control; quadruple oversampling at 176.4 kHz. Hand-tuned conversion of 1st, 2nd, 3rd and 4th most significant bits; separate digital and analog power supplies (total of 5 independent power supplies); coaxial and optical digital outputs; 8-digit display of track, index, and playing time. Auto edit: 20-track random programming; 20-track music calendar; 10-key direct access by track, index number, or elapsed time; 3-way repeat: full-function remote control with motor driven volume control .......... $1,500

**DENON**

DCD-3520 CD Player
CD player with 20-bit linear D/A converter system. Features 8-times-oversampling digital filter; hand-tuned conversion of 1st, 2nd, 3rd and 4th most significant bits; separate digital and analog power supplies (total of 5 independent power supplies); coaxial and optical digital outputs; 8-digit display of track, index, and playing time. Auto edit: 20-track random programming; 20-track music calendar; 10-key direct access by track, index number, or elapsed time; 3-way repeat: full-function remote control with motor driven volume control .......... $1,500

DCD-1520 CD Player
CD player with 20-bit linear D/A converter system. Features 8-times-oversampling digital filter; hand-tuned conversion of 1st, 2nd, 3rd and 4th most significant bits; separate digital and analog power supplies (total of 5 independent power supplies); coaxial and optical digital outputs; 8-digit display of track, index, and playing time. Auto edit: 20-track random programming; 20-track music calendar; 10-key direct access by track, index number, or elapsed time; 3-way repeat: full-function remote control with motor driven volume control .......... $1,500

**FISHER**

DAC195B/DAC197B CD Player
Compact disc changer with 5-disc capacity and 30 function wireless remote control. Features 3-beam laser pickup; double-oversampling digital filter; random playback; intro scan; individual motorized slide-loading trays; scan; repeat disc, program, track, all discs; 32-track random programming; FL display of disc, track, track time, and time remaining; LBD play/pause meter; program indicator; headphone jack with adjustable level .......... $400

**GOLDSTAR**

GCD-64R CD Player
Features full-function remote control; shuffle play; 20-selection random memory programming; 3-beam laser pickup; linear sliding loading system; automatic music search; automatic repeat capability; headphone jack; multi-function display shows elapsed time, total time, track number. remote and memory .......... $350

**HARMAN KARDON**

HDI800 CD Player
CD player with 10-function wireless remote control. Features discrete analog output section; sample-and-hold processor; separate analog, digital and transport power supplies; samples at 176.4 kHz; dual 16-bit linear converters; 3-beam pickup; 36-track programmable memory; 400 line search; 2-speed cue and review; displays track, elapsed time, program number, total number of tracks, total time, and time remaining; track and index search; headphone jack with adjustable level .......... $529

HDI400 CD Player
CD player with 10-function wireless remote control. Features discrete analog output section; sample-and-hold processor; separate analog, digital, and transport power supplies; samples at 88.2 kHz; 3-beam pickup; 36-track programmable memory; audible 2-speed cue and review; displays track, elapsed time, program number, total number of tracks, total time, and time remaining; track and index search .......... $399

**EMERSON**

CD2200R CD Player
Dual disc remote controlled CD player with 32 programmable tracks. Plays 2 discs without a magazine. Fast skip, random play. Repeats track, disc, program, phrase. Oversamples at 44.1 KHz; FR15-20,000 Hz ± 0.15 dB; THD 0.03%; 3.9 x 16.5 x 11.8 in; 11 lb .......... $400

Emerson CDD200R

**SHAKESPEARE**

DVA1520 CD Player
DCD-810 CD Player. As above with quadruple-oversampling digital filter; no coaxial digital output, index search, or auto space .......... $399

DVI-610. As above, one Super Linear converter, no remote volume .......... $300

**FISHER**

DAC195B/DAC197B CD Player
Compact disc changer with 5-disc capacity and 30 function wireless remote control. Features 3-beam laser pickup; double-oversampling digital filter; random playback; intro scan; individual motorized slide-loading trays; scan; repeat disc, program, track, all discs; 32-track random programming; FL display of disc, track, track time, and time remaining; LBD play/pause meter; program indicator; headphone jack with adjustable level .......... $400

**GOLDSTAR**

GCD-64R CD Player
Features full-function remote control; shuffle play; 20-selection random memory programming; 3-beam laser pickup; linear sliding loading system; automatic music search; automatic repeat capability; headphone jack; multi-function display shows elapsed time, total time, track number, remote and memory .......... $350

**HARMAN KARDON**

HDI800 CD Player
CD player with 10-function wireless remote control. Features discrete analog output section; sample-and-hold processor; separate analog, digital and transport power supplies; samples at 176.4 kHz; dual 16-bit linear converters; 3-beam pickup; 36-track programmable memory; audible 2-speed cue and review; displays track, elapsed time, program number, total number of tracks, total time, and time remaining; track and index search; headphone jack with adjustable level .......... $529

HDI400 CD Player
CD player with 10-function wireless remote control. Features discrete analog output section; sample-and-hold processor; separate analog, digital, and transport power supplies; samples at 88.2 kHz; 3-beam pickup; 36-track programmable memory; audible 2-speed cue and review; displays track, elapsed time, program number, total number of tracks, total time, and time remaining; track and index search .......... $399
<table>
<thead>
<tr>
<th><strong>COMPACT DISC PLAYERS</strong></th>
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<tbody>
<tr>
<td><strong>HD200 CD Player</strong></td>
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<tr>
<td>CD player with discrete analog output section. Features sample-and-hold processor; separate analog, digital, and transport power supplies; samples at 88.2 kHz; 32-bit programmable memory; audible 2-speed cue and review; displays track, elapsed time, program number, total number of tracks, and time remaining; 16-bit D/A converter; track and index search.</td>
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<tr>
<td><strong>Harman Kardon HD400</strong></td>
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<tr>
<td><strong>HITACHI</strong></td>
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<tr>
<td><strong>DA005 CD Player</strong></td>
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<tr>
<td>Direct PIT servo, 5-stage error correction, 121-band digital filter, programs 15 tracks in any order; skip forward and back; fast 16-program and reverse; cancel; repeat track, disc, phrase, program; cue by track, 28-function remote; headphone jack, adjustable headphone level; 3-beam laser; 1 D/A converter; displays current track number, elapsed time of current track, remaining time on disc; sound audible during fast scan; headphone output 2 V; 11 lb.</td>
</tr>
<tr>
<td><strong>DA-C70CCW CD Player</strong></td>
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<tr>
<td>12 disc (6 disc x 2) changer; 3-beam laser; 41 function remote; independent disc exchange; 3 play modes; built-in timer; resume play function; oversampling digital filter; magazine loading; skip forward/back; fast forward/back; repeat track, disc, program; cue by track number; cue by index number; headphone jack; adjustable headphone level; digital filtering, single D/A converter; display of current track number, elapsed time, program in memory; sound audible in fast scan; 15.75 x 5.13 x 12.5 in.</td>
</tr>
<tr>
<td><strong>DAC-60 6-C changer</strong></td>
</tr>
<tr>
<td>Magazines hold 6 discs or single disc; digital filtering; programs 32 tracks from unit or remote; repeats all 6 discs; random play, 2-speed audible search in forward and reverse; headphone jack with level control; displays disc number, track number, elapsed time of disc, total playing time, number of tracks on disc.</td>
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<tr>
<td><strong>JVC</strong></td>
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<tr>
<td><strong>XL2555BK CD Player</strong></td>
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<tr>
<td>CD player with quadruple-oversampling digital filter; features twin high-speed D/A converters; optical digital output; coaxial digital output; double-floating independent suspension system; disc/t rack/title indication; 3 CD compatible; auto/multi-disc editing key; 5-way repeat with A/B, index play, skip, search; auto/manual search; 3-beam laser pickup; Optical noise reduction: remote control with volume control and numeric keypad, random access programming of up to 32 tracks; random play, intro scan, headphone jack with adjustable level; FL display; 2 analog outputs; disc title memory.</td>
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<tr>
<td><strong>XLM600BBK CD Changer</strong></td>
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<tr>
<td>CD changer with 6-disc magazine section and auto-loading single-play drawer. Features magazine/disc title indication; full message and programm memory; repeat all tracks, single track, and programmed tracks; random play; auto/manual search; multi-function FL display; timer play; 3-beam laser pickup; independent suspension system; remote control with numeric keypad; 32-track programming; headphone jack; double-oversampling digital filter...</td>
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<tr>
<td><strong>Kenwood DP-M107R</strong></td>
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<tr>
<td>Basic series CD player with full-function wireless remote control. Features optical interface with KA-330A amplifier, coaxial digital output; pure digital output switch; twin high-speed ladder network 16-bit D/A converters with FET input; quadruple oversampling digital filters; 7-pole Butterworth FDNR analog low-pass filter; high-rigidity and multi-insulation; independent power supplies; Optimum Servo Control Type III; 3-beam laser; rapid direct-play system; 4 play modes; 6-mode real-time display; 20-track random program memory; A-B section repeat; music skip; index search key; audible manual search; auto spacing; repeat; music calendar display; auto open switch; auto loading; headphone jack with level control; phase inverter switch; THD 0.001%, dynamic range 97 dB, SN 105 dB (all at 1000 Hz).</td>
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<tr>
<td><strong>KINWOOD</strong></td>
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<tr>
<td><strong>DP-3300D CD Player</strong></td>
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<tr>
<td>Basic series CD player with full-function wireless remote control. Features optical interface with KA-330A amplifier, coaxial digital output; pure digital output switch; twin high-speed ladder network 16-bit D/A converters with FET input; quadruple oversampling digital filters; 7-pole Butterworth FDNR analog low-pass filter; high-rigidity and multi-insulation; independent power supplies; Optimum Servo Control Type III; 3-beam laser; rapid direct-play system; 4 play modes; 6-mode real-time display; 20-track random program memory; A-B section repeat; music skip; index search key; audible manual search; auto spacing; repeat; music calendar display; auto open switch; auto loading; headphone jack with level control; phase inverter switch; THD 0.001%, dynamic range 97 dB, SN 105 dB (all at 1000 Hz).</td>
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<tr>
<td><strong>KYOCERA</strong></td>
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<td><strong>DA-910 CD Player</strong></td>
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<td>1-beam laser; digital filtering; programming of 24 tracks in random order; display of current track number, elapsed time of current track, remaining time on disc, program stored in memory; skip forward; skip back; cancel; repeat track, disc, phrase; program; cue by track number, index number; 8-function remote control; headphone jack (adjustable output). Max line output 5 V; THD at 1000 Hz 0.003%, SN 95 dB; 70 dB.</td>
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<tr>
<td><strong>DA-710 CV CD Player</strong></td>
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<tr>
<td>Programs 24 tracks in any order; 99 tracks in sequence order; skip forward; skip back; fast forward; fast reverse; cancel; repeat track, disc, phrase; program; 3-function remote control; headphone jack with adjustable level; digital filtering; 3rd-order analog filtering; dual D/A converters; sound audible during fast scan. Cues by track and index number. Displays current track number, remaining time on disc, and program in memory.</td>
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<tr>
<td><strong>LUXMAN</strong></td>
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<tr>
<td><strong>D-03 CD Player</strong></td>
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<tr>
<td>Drawer loading CD Player with 7-function remote. Features one-beam laser, programming of 20 tracks in random order, skip forward/reverse, fast forward/reverse; cancel; repeat track, disc, phrase; program; headphone jack; adjustable level; digital filtering; 3rd-order analog filtering; dual D/A converters; sound audible during fast scan.</td>
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<tr>
<td><strong>D-109 CD Player</strong></td>
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<td>Features full-function remote control; serial remote jacks for connections to other Luxman products; digital output sends digital signal to Luxman LW-109 integrated amp; 1-4 time display functions; programs up to 20 tracks, index scan, A/B switch to mark beginning and end of selected track(s) for repeat; memory check.</td>
</tr>
<tr>
<td><strong>D-113D CD Player</strong></td>
</tr>
<tr>
<td>Features full-function remote control; serial remote jacks for connections to other Luxman products; digital output sends digital signal to Luxman LW-109 integrated amp; 1-4 time display functions; programs up to 20 tracks, index scan, A/B switch to mark beginning and end of selected track(s) for repeat; memory check.</td>
</tr>
<tr>
<td><strong>D-113 Remote Control CD Player</strong></td>
</tr>
<tr>
<td>16 program random memory; 10 key numeric handpiece and system remote capability; 10 key direct access and multi-function display; 3-</td>
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</tbody>
</table>
COMPACT DISC PLAYERS

beam low mass laser pick-up; high density magnetic disc clamp; anti-vibration laser pick-up mechanism; digital direct with optical and coax. Performance specifications are dependent on the digital direct amplifier with which the D-113D is used. 

D-111 Remote Control CD Player
16 program random memory; 10 key system allows direct track access from remote handpiece; rear panel serial remote jacks accommodate Luxman's unified remote control systems. 3-beam low mass laser pick-up; high density magnetic disc clamp; anti-vibration laser pick-up mechanism; active analog linear phase low pass filter; dual DAC's with 2x oversampling digital filter. FR 5-20,000 Hz ±0.5/-0.5; THD 0.06%; s/N ratio 106 dB; dynamic range 90 dB. $350

MAGNAVOX
CDV-474 CD-V/LaserVision CD Player
Remote control combination player for CD-Audio, CD-Video, and LaserVision discs. Auto ID of disc type; programming. Video features include fast motion; slow motion; reverse play; freeze frame; random access. $749-$799

CDB650 FTS CD Player
Favorite Track Selection (FTS) memorizes programs from various disc (up to 785 tracks). Extra care controls music scan, single play, digital output for CD graphics, CD-ROM: skip forward, skip back, 3-speed FF and reverse; 4-sec record-pause insertion; anti-jamming protection; repeat track, disc, program; headphone jack with adjustable level; infrared remote control; 1-beam laser; low-order low-pass digital filtering; high-order analog filter; dual D/A converters. Cues by track number. Oversamples at 176.4 kHz. Displays current track number, elapsed time of current track, elapsed time on disc, remaining time on disc. Headphone output 0.5 V. 16.5 x 3.5 x 11.75 in; 9.75 lb. $499

MARANTZ
CD-94 CD Player
Features dual 16-bit converters; quadruple oversampling; digital outputs with optically coupled link to optional CDA-94 separate D/A converter; Favorite Track Selection memorizes over 200 disc programs; shuffle play; random-track programming; intro scan; three independent power supplies for digital, analog, and mechanical sections; programmable wireless remote; black rosewood side panels. $1,700 CD-94G. As above with rose-gold finish and rosewood side panels. $1,800

CDC-6R CD Changer
Features 16-bit, 2 times oversampling double D/A converters; wireless remote control; random 32-track programming from any or all six discs; shuffle play; FR 5-20,000 Hz; THD 0.03%; s/N ratio 94 dB; sep 90 dB; 4.87 x 17.12 x 14 in; 13.2 lb. $499

CD-75DX CD Player
Features dual 16-bit converters; quadruple oversampling; digital data output for outboard D/A converter; bi-directional track skip; cue and review; random track programming and repeat; satin black finish. $450

CD320BL CD Changer
Features wireless remote control; 6-disc magazine; 15-track programmable; 3-beam laser. 3.25 x 16.5 x 11.87 in; 11.2 lb. $369

CD-40 CD Player
Features 16 track programming; 16-bit double oversampling; forward/reverse search/skip; repeat play; track/index display; THD 0.07%; s/N 90 dB; 3 x 16.5 x 10.88 in; 7.7 lb. $300

MCINTOSH
MCD 7005 CD Player
Features wireless remote control with volume control; direct access to song, track, index, and time selection: volume control through Mcintosh Precision Ladder Attenuator; 8-bit error correction system: twin 16-bit D/A converters with quadruple-oversampling. 32 lb. $1,599

MELOS AUDIO
CD-TII CD Player
Dual-chassis player with 16 bit quadruple oversampling. Analog filtering an amplification; to-ridal transformer and regulated power supplies contained in aluminium chassis; connectors are heavy gold plate; full function CD remote control: output 1.25 V Rms; 100 ohm output impedance. $1,493

MERIDIAN BY MADRIGAL
207 MKII Professional 2-Part CD Player
Drawer-loading CD player with single-beam laser pick-up assembly in a spring die-cast sub-chassis with stainless steel guides. Two-box construction allows the electronics unit to be mounted on side or above the transport unit. Features digital to analog converters, 4-digit display with total/elapsed/removing track time or vol level and information on track selections: also indicates absolute-phase polarity, repeat and error correction; built-in preamplifier facilities: inputs for CD, line, tape; outputs for fixed, variable, tape and headphones; distortion <0.004%; 6.3 x 3.9 x 12.6 in; 18 lb. $2,250

MISSION ELECTRONICS
PCM II CD Player
Front-loading CD player with touch close disc loading tray. Features scan: A/B repeat; direct access programming; phase inversion switch; headphone jack with adjustable volume on remote; 100 function, remote control; anti-resonant chassis construction. $1,800

MITSUBISHI
M-C3100 CD Player
Features five-disc capacity; 20-selecting programmability; Audible scan; double oversampling; 16-bit D/A converters; digital filtering; single clock frequency for all digital circuits; intro scan; random play functions; direct random track access. 3" disc compatibility; headphone jack with separate level control; wireless, full-function remote control. $1,800

MOD SQUAD
Prism CD Player
Drawer-loading CD player with 16-bit digital processing. Features quadruple oversampling; wireless infrared remote control: Favorite Track Selection; 20-track random programming; repeat disc, track, program, and phrase (A-B repeat); displays elapsed time of track and remaining time on disc; digital time domain alignment; separate digital and analog power supplies; DC coupling; fixed line outputs; output level 4 V rms; headphone jack with variable output level; digital outputs. FR 0.1-20,000 Hz ±0.05 db; s/N 110 dB, THD 0.02%; 8 lb $1,200

NAD
5100 Monitor Series CD Player
Wireless remote control; dynamic range control; ambience circuit; quadruple oversampling; drawer loading; CD-R circuit; separate D/A converters; error display; 3-beam laser; skip and scan forward and back; displays track number, elapsed and remaining time; retracts disc; programming. $898

5170 Monitor Series CD Player
Multiple play, 6-disc magazine and single play drawer; 16 bit D/A; 4x oversampling; CD-R circuit; intro scan; 32-track programmable memory; remote control including volume; rack mountable. $748

5160 Monitor Series CD Player
Drawer loading; 16-bit decoding with 4x over-
**COMPACT DISC PLAYERS**

**Nakamichi OMS-7AII Compact Disc Player**

Drawer-loading CD player. Features 3-beam laser; digital filtering (resampling frequency 176.4 kHz); dual 16-bit, glitch-free D/A converters; programming of 24 tracks in random order, display of current track number, elapsed time of current track, remaining time on disc, program stored in memory; sound audible during fast forward and fast reverse; skip forward; skip back; fast forward, fast reverse; cancel; repeat disc, program; cue by track number, index number; 7-function remote control; headphone jack with adjustable level. Max line output 2 V; headphone output 35 mW/40 ohms. $700.

**NOS-7AII as above, no remote control or programming capability. $1,650.**

**OMS-4A CD Player**

Drawer-loading CD player with shunt-connected de-glitching, multi-regulated power supply; magnetic clutch, remote control. Features programming of 15 tracks in any order, skip forward; skip back; fast forward, fast reverse; cancel; headphone jack with adjustable headphone level; 3-beam laser; 16-bit digital filter; dual D/A converters. Oversamples at 88.2 kHz. Displays current track number, elapsed time on disc. Headphone output 35 mV/40 ohms. 16.9 x 3.95 x 12.69 in. 15 lb. $700.

**CD-2A CD Player**

Mid-level CD player featuring 16-bit quadruple over-sampling with digital filtering, dual D/A converters; third order hessel analog filter; multi-regulated isolated-ground power supplies; 24 memory programming function; wireless remote control with 24 key transmitter; headphone jack with level control. 3-beam laser pickup; FR 20-20,000 Hz ±0.5% -1.0 db; S/N -0.006%; 16.9 x 2.94 x 10.63 in. 8 lb. $529.

**NEC CD-620**

Wireless remote control; 16-bit digital filter with quadruple-oversampling, dual D/A converters; optical decoupling; gold-plated terminals; digital outputs; separate power supplies for digital and analog stages; 3-way edit; fade out; intro-scan; random play; 24-track random programming. $398.

**NEC CD-770 CD Player**

Wireless remote control; 16-bit digital filter with quadruple-oversampling, dual D/A converters; optical decoupling; gold-plated terminals; digital outputs; separate power supplies for digital and analog stages; 3-way edit; fade out; intro-scan; random play; 24-track random programming. $598.

**CD-620 CD Player**

Wireless remote control; 16-bit digital filter with quadruple-oversampling, dual D/A converters; digital outputs; gold-plated terminals; separate power supplies for digital and analog stages; 24-track random programmable memory; automatic edit; auto space; 3-way repeat; programming delete; intro-scan; direct access; 2-speed audible cue and review; headphone jack with adjustable level. $479.

**CD-520 CD Player**

Wireless remote control; 16-bit digital filter with double-oversampling; D/A converter; gold-plated terminals; 24-track random programmable memory; automatic edit; auto space; 3-way repeat; intro-scan; direct access; 2-speed audible cue and review; headphone jack with adjustable level. $359.

**Nikko Audio CD-500 CD Player**

Features remote control with 10-key direct-access pad, timer play, space play, index programming; pause; fast search; all clear; headphone output with adjustable level. Optionaly rack mountable. $499.

**CD-300 CD Player**

Features remote control; 3-beam laser; 18-track random programming; index programming; pause mode. Optionally rack mountable. $299.

**Onkyo Integra DX-7500 CD Player**

CD player with 18-bit linear circuitry. Features 8-times-oversampling digital filter; separate left and right Opto-Drive D/A converters; opto-coupling; optical and coaxial digital outputs; DDAC output; fixed and variable analog output; separate power transformers for digital and analog stages; 3rd order GIC-type analog filter outputs. 30-track random programming; random music calendar; integrated system remote compatible with supplied controller. $700.

**Integra DX-7500 CD Player**

CD player with 18-bit linear circuitry. Features quadruple-oversampling digital filter; separate left and right Opto-Drive D/A converters; opto-coupling; optical and coaxial digital outputs; fixed and variable analog output; separate power transformers for digital and analog stages; 3rd order GIC-type analog filter outputs. 20-track random programming; random music calendar; integrated system remote compatible with supplied controller. $600.

**Integra DX-5500 CD Player**

CD player with 18-bit linear circuitry. Features quadruple-oversampling digital filter; separate left and right Opto-Drive D/A converters; opto-coupling; optical and coaxial digital outputs; fixed and variable analog output; separate power transformers for digital and analog stages; 3rd order GIC-type analog filter outputs. 20-track random programming; random music calendar; integrated system remote compatible with supplied controller. $600.

**DX-5600 CD Changer**

Remote-controlled magazine-loading 6-disc CD changer with opto-coupling system to electrically separate the analog and digital sections. Features programming of 20 tracks in any order; shuffle play; repeat track, disc, program. A-B phrase, and shuffle play; direct access to tracks, auto-speed music search; index search; skip forward; skip back; 2-speed fast forward and reverse; timer function; headphone jack; motorized volume control; output CMC filter; digital filtering; vibration damping; 3-beam laser; digital output terminal; printed circuit boards with specially designed insulation pad to absorb electromagnetic flux. Display indicates track number, index number, program in memory, remaining time of track/disc/program, elapsed time of track/disc/program. 17.12 x 4.5 x 13 in; 12.2 lb. $600.

**DX-530 CD Player**

Remote-controlled CD player with opto-coupling system to electrically separate the analog and digital sections. Features programming of 20 tracks in any order; shuffle play; repeat track, disc, program. A-B phrase, and shuffle play; direct access to tracks, auto-speed music search; index search; skip forward; skip back; 2-speed fast forward and reverse; timer function; headphone jack; motorized volume control; output CMC filter; digital filtering; vibration damping; 3-beam laser; digital output terminal; printed circuit boards with specially designed insulation pad to absorb electromagnetic flux. Display indicates track number, index number, program in memory, remaining time of track/disc/program, elapsed time of track/disc/program. 17.12 x 4.5 x 13 in; 12.2 lb. $450.

**Panasonic SL-P3900C CD Player**

Large 2-color FL display. Features auto-changer with 6-disc magazine; quadruple oversampling, digital filter; separate D/A for each channel; 36-step random access programming; random play function; high speed linear motor access system; high resolution digital filter; quadruple oversampling; high resolution laser pickup; independent disc selection; direct access system; multi-function wireless remote; 2.0 x 20,000 Hz ±0.5 db; S/N 96 dB; THD 0.006%; 16.88 x 4 x 12.38 in; 12.8 lb. $495.95.

**SL-P3800C CD Player**

Large 2-color FL display. Features auto-changer with 6-disc magazine; quadruple oversampling, digital filter; separate D/A for each channel; 36-step random access programming; random play function; high speed linear motor access system; high resolution laser pickup; independent disc selection; direct access system; multi-function wireless remote; 2.0 x 20,000 Hz ±0.5 db; S/N 96 dB; THD 0.006%; 16.88 x 4 x 12.38 in; 12.8 lb. $399.95.

**SL-P3810 CD Player**

Programmable compact disc player with multi-function 2-color FL display. Features high speed linear motor access system; transport designed for 3" and 5" CDs; high resolution laser pickup; repeat function for single track, entire disc, or program contents; remote control terminal ready; 20-step random access programming; FR 2-20,000 Hz ±0.5 db; S/N 96 dB; THD 0.006%; 17 x 3.1 x 9.5 in. $249.95.

**Parasound D/AV-900 CD Player**

Variable high frequency focus auto-adjus CD player. Features double oversampling; digital filtering; triple beam laser; smooth shock mounting; full feature wireless remote control; 36 audiophile-grade capacitors; gold-plated jacks; all metal enclosures; 15 selection programming; repeat all/track/any start-stop points; regulated power supply; high-speed audible search; headphone jack with adjustable level. $995.

**Panasonic SL-P3800C**

**D/AV-900**

**Parasound**

**Stereo Review February 1989**
**COMPACT DISC PLAYERS**

**PHILIPS 960 CD Player**
Features dual, 16-bit D/A converter with quadruple oversampling; FTS favorite track selection; die-cast aluminum nonmagnetic main and subchassis; fast track access; Copy Pause; single-beam pickup; 2-motor front-loading drawer; anti-jamming protection; keypad track selection; 20-track random-access programming; infrared full-function remote control; information display; search forward, reverse keys with 3-speed search keys; Repeat key; Scan key; optical coupler. FR 2-20,000 Hz; S/N >105 dB; dynamic range >96 dB; sep 105 dB; THD 0.0015%; ultrasonic noise rejection (21.4 kHz) >60 dB; W/F unmeasurable. 4.0 x 16.8 x 15.3 in; 21.1 lb $949

**PIONEER 880 CD player**
Features dual, 16-bit D/A quadruple oversampling converters; die-cast aluminum nonmagnetic chassis. CDML MkII single-laser pickup arm; remote digital volume control. FTS favorite track selection; multi-function display with Music Calendar programming; Copy Pause; shuffle function; search forward and reverse keys with 2-speed music search keys; timer switch: Direct Play/Program modes via 10-key pad; copper heat sinks. FR 2-20,000 Hz; S/N >103 dB; dynamic range >96 dB; sep >103 dB; THD <0.002%; ultrasonic noise rejection (24.1 kHz) >60 dB; W/F unmeasurable. 3.52 x 16.8 x 14.52 in; 22.5 lb $749

**PIONEER 875 CD Changer**
Features dual, 16-bit D/A converter with quadruple oversampling; six-disc changer; single-disc tray; optional six-disc magazine for new 3" singles; 40-track programming with calendar-type display; FTS favorite track selection; shuffle play; A-B repeat; scan-play remote volume control; headphone volume control; LCD remote; aluminum-front, metal chassis... $499

**PIONEER CLD-3030**
**Elite PD-91 CD Player**
CD player with 8-times oversampling digital filter. Features remote control; dual 16-bit linear envelope D/A converters; Class-A FET buffer amplifier; coaxial and optical digital output; 24-track random program programming; 30-track music calendar; fade in/out; timer start system; digital level control; display, Pioneer disc stabilizing system; 2-speed manual search; non-repeating random play; repeat disc, track, and program. $1,300

**PD-7100 CD Player**
CD player with 8-times oversampling digital filter. Features remote control; dual 16-bit linear envelope D/A converters; Class-A FET buffer amplifier; coaxial and optical digital output; 24-track random program programming; 30-track music calendar; fade in/out; timer start system; digital level control; display, Pioneer disc stabilizing system; 2-speed manual search; non-repeating random play; repeat disc, track, and program $1,300

**Changers and Combi-Players**
**CDL-3030 CD/CDV/LD Player**
Combs-player which plays 8- and 12-inch Laser-Discs, CD's, CD-video's, and CD-3's. Features 4-times oversampling; dual D/A converters; optical digital audio output; 20.000 Hz ± 0.08 dB; THD 0.0025%; S/N 100 dB. 13/02 CD Player. Similar to 13150-S $1,300

**CD-2400 Programmable CD Player**
Programs 15 tracks; 3-spot laser; floating disc tray; 4-digit fluorescent display; repeat track, program, disc; scroll, A-B repeat and reverse; bi-directional auto search; repeat of program, entire disc, or single selection... $200

**REVOX B226**
CD player for wireless remote control. Features one-beam laser pickup; Cross Interleave Reed Solomon Code (CIRC) error correction; quadruple-oversampling digital filter; 20-track programmable memory; 3-speed music search; precise audible cueing at two lower speeds, real time, digital display of total playing time, track number, elapsed time of each track; repeat disc, track, and program; headphone jack with adjustable level. FR 20-20,000 Hz ±0.1 dB; S/N >90 dB, 17.7 x 4.3 x 13 in; 18.7 lb $1,800

**B126 CD Player**
Similar to B150-S... $1,275

**ROTEL RCD-820X2 CD Player**
20 programmable selections; Repeat functions for disc, track, and entire program; 16-bit quadruple oversampling decoding system; FR 20-20,000 Hz ±0.08 dB, THD 0.0025%, S/N 100 dB. Regulated power supplies and selected components. 7 lb $749

**RCD-850 CD Player**
CD player with programmable selection; Repeat functions for disc, track, and entire program; 16-bit quadruple oversampling decoding system; FR 20-20,000 Hz ±0.08 dB, THD 0.0025%, S/N 100 dB. Regulated power supplies and selected components. 7 lb $749

**SAD**
Digital CD player. Fully programmable, single beam laser, comput-er direct-line CD player. Features random ac-
COMPACT DISC PLAYERS

**SAE D102**

**SANSUI**

**CD-X701i CD Player**
Features 3 beam laser; oversampling digital filter. 28-key remote control; AMPS; repeat one track; point A to point B; 24 tracks; random programming for up to 20 tracks; headphone output w/volume control. $650

**CD-X501M CD Changer**
Dual-cartridge multi-play, 12-disc CD Changer with single-play tray and CD-3 adapter. Features remote control: two 6-disc magazine-type cartridges; random programming: variable music/Intro scan: 3 repeat modes, dual I/D/A converters; double-oversampling digital filter. FR 5-20,000 Hz: dynamic range >95 dB; SN 1/100 dB; THD (at 1 kHz) 0.003%. 4.4 x 17.1 x 11.75 in. $630

**CD-X501i CD Player**
CD player with quadruple-oversampling digital filter. Features dual I/D/A converters; digital output; FT display. 20-track random programming; random play; 4-way repeat; variable time music scan. Dynamic Servo System: master clock; throughput class. THD (at 1 kHz) 0.003%. FR 4-20,000 Hz: dynamic range >96 dB; SN >106 dB; THD (at 1 kHz) 0.003%. 3.75 x 17.7 x 12.5 in. $600

**CD-X301i CD Player**
CD player with double-oversampling digital filter. Features dual I/D/A converters; FT display. 20-track random programming; random play; 4-way repeat; Dynamic Servo System: master clock. FR 4-20,000 Hz: dynamic range >96 dB; THD (at 1 kHz) 0.003%. 3.75 x 17 x 11.1 in. $390

**SANYO**

**CPM1000 CD Changer**
10-disc CD-changer with remote control. Features 10-disc magazine; single disc magazine; 24-button remote control; 32-track programmability; random play; intro-scan; 3-beam tracking mechanism; skip & search mechanism; multifunction FL display; internally-damped suspension system; mic mixing. 3-way repeat operation: 3-beam tracking system; adjustable output from remote and front panel. $500

**CP950 CD Player**
CD player with infrared wireless remote control. Features 16-track programming: multifunction LCD display; 3-beam laser; isolated suspension system; head assembly; repeat function; forward/reverse search, repeat disc. 16.75 x 3.5 x 10.75 in. 7 lb. 8 oz. $250

**SCOTT**

**DA990 CD Player**
3-beam laser; digital filtering (oversamples at 88.2 kHz), full-function wireless remote. Features CD player with 20 tracks in any order; 16-bit I/D/A converter: switchable analog filter; headphone jack with volume control; big chrome-plated feet; auto space. $400

**DA1000 Dual-CD CD Player**
CD player with 2 CD drawers. Features 22-key wireless remote control; 30-track random programming; CD-3 capability; skip search; index scan: 2-speed manual search; 3-way repeat playback: headphone jack with volume control; CD. A/B selector with LED indicator: program selection display: 3-beam pickup; 16-bit linear I/D/A converter: THD 0.03% at 1 kHz. 4.4 x 17.1 x 11.75 in. 13 lb. $350

**SHARP**

**DAX-5060 CD Changer**
Magazine-type CD changer with 6-disc capability. Features 32-track random-access programming; memory backup function; single and all repeat function; double-oversampling digital filter; FL display; auto stop, program search system; monitor search; cushioned floating mechanism. $400

**DAX-7800 CD Player**
CD player with 20-track random-access programming. Features 10-key direct access; double-oversampling digital filter; FL display; 3-beam pickup; cue and review; auto program search system; repeat function; digital time counter and mode indicator; wireless remote control. $300

**DAX-6600 CD Player**
CD player with 20-track random-access programming. Features 10-LED sound level meter; auto program search system; cue and review; repeat function; front-loading disc table. $320

**SHERWOOD**

**CDP-305R CD Player**
Drawer-loading CD player compatible with Sherwood remote-controlled receivers. Features 10-disc magazine; 16-bit I/D/A converters; I/O input for each disc. Program Bank, which stores a particular track selection and playback sequence for each disc. $500

**CDP-305R CD Player**
Drawer-loading CD player compatible with Sherwood remote-controlled receivers. Features 10-disc magazine; 16-bit I/D/A converters; I/O input for each disc. Program Bank, which stores a particular track selection and playback sequence for each disc. $500

**SONY**

**CD-707ESD CD Player**
Programmable CD player with 8-times-oversampling digital filter. Features CD-3 capability; 18-bit linear dual I/D/A converters; independent converters for left and right channels; error prediction logic circuit; envelope differential detection system: single aspheric lens laser pickup assembly; noncollinear linear motor transport; separate power supplies for digital and analog circuits; direct digital outputs capable of relaying combination digital data and subcode signals; optical digital output for transmission of data via fiber-optic cable. Also features Custom File which enables programming and storing of special data for up to 226 separate discs. Custom file is comprised of Disc Memo, a ten-character message which is input by the user and then appears on the display after disc has been loaded. Custom Index, which allows user to input 6 marked index locations on any disc, and Program Bank, which stores a particular track selection and playback sequence for each disc. $1,800

**CD-507ESD** As above without 18-bit linear dual I/D/A converters and twin power transformers. $600

**CDP-307ESD CD Player**
As above without 18-times-oversampling digital filter, error protection logic, or coaxial and optical digital outputs. $475

**SHURE**

**Ultra D6000 CD Player**
Drawer-loading CD player with wireless remote control including remote volume. Features 15 tracks in any order. Features subcode output: skip forward; skip back; fast forward; fast reverse; cancel; repeat track; repeat disc; repeat phrase: repeat program: cue by track; cue by title; 16-function remote: headphone jack: adjustable headphone: three-beam pickup: oversamples at 88.2 kHz; independent 1/8 digital filters 80 dB attenuation; five-pole active above 30,000 Hz analog filtering; dual I/D/A converters: display of current track number; display of elapsed time of current track, display of program in memory; sound audible during fast scan. Headphone output 5 V; 11 lb; 16.9 x 2.9 x 12.9 in. $599

**SONOGRAPHE BY CONRAD-JOHNSON**

**SD-1 CD Player**
Drawer-loading CD player with discrete FET audio circuits and power supplies designed by Conrad-Johnson. Features programming of 20 tracks in any order: skip forward; skip back; fast forward; fast reverse; repeat disc; program; headroom: digital filtering: dual I/D/A converters; sound audible during fast scan. Cues by track and index number. Oversamples at 176.4 kHz. Displays current track number, program in memory; elapsed time of current track. 3.75 x 18 x 12 in. 8.5 lb. $695
COMPACT DISC PLAYERS

**Sony CDP-707ESD**
- Aspheric optical pickup; 16-bit digital filter with quadrate-oversampling; 20-key direct music selector and delete shuffle play capability; 20-selection music calendar; Custom File; variable line output; memory backup; CD-3 capability
- Display: variable volume control; headphone jack; gold-plated output jacks; shock-mounted disc-handling; 19.3 x 3.25 x 12 in
- **Price:** $450

**CDP-207ESD CD Player**
- With 20-key direct selection and CD-3 capability. Features 20-selection music calendar; conventional play modes; program edit capability; delete shuffle play and automatic timer play. Comes with Remote Commander
- **Price:** $370

**CDP-550 CD Player**
- CD player with Remote Commander unit and CD-3 capability. Features unilinear converter/digital filter; dual D/A converters; envelope differential detection system; monochrome chassis; 16-selection music calendar; fluorescent display; various repeat modes; program edit capability; shuffle play; headphone output level control and auto timer play
- **Price:** $280

**CD Changers (CD-15ESD) CD Changer**
- 10-disc CD changer with DiscJockey cartridge-loading system. Features 18-bit 8-times-oversampling digital filter; dual 18-bit linear D/A converters; full function output: EPL (error prediction logic); left/right twin circuit configuration; 9-section multiple power supplies. Also features Custom File, which enables programming and storing of special data for up to 226 separate discs. It includes Disc Memo, a ten-character message which is input by the user and consequently appears on the display every time disc has been loaded. Custom Index, which allows user to input 6 marked index locations on any disc; and Program Bank, which stores a particular track selection and playback sequence for each disc. Also features 10+10 key direct-access; 20-selection random music sensor; high-speed search; automatic music sensor; 4 repeat modes; music calendar
- **Price:** $800

**CDP-C50 CD Changer**
- 5-disc carousel CD changer. Individual discs can be selected at the touch of a button or by using the Disc Select key on the supplied Remote Commander. Discs can be played sequentially, or up to 32 selection can be programmed to play in any order. Features unilinear converter: quadrate-oversampling digital filter: envelope differential error detection system: multiple power supplies; aspheric optical pickup; three-beam laser: shuffle play: 16-selection music calendar: timer switch: headphone output with level control
- **Price:** $350

**TEAC PD-470 CD Player**
- 3 beam laser system with twin monaural 16-bit linear D/converters; 4x oversampling digital filter; 20 selection random memory programing; 32 selection memory program calendar; full function wireless remote: fluorescent display shows track number: index numbers: elapsed time: program or disc remaining time: remaining time of each selection: and program or disc total time: Fr 220,000 Hz; SN > 95 dB
- **Price:** $379

**TANDBERG TCP 3015A CD Player**
- Features 16-bit quadruple oversampling; zero negative feedback; no capacitors between the two D/A converters; and the line output; digital filter and phase-linear Bessel audio filter; full programmability; separate headphone output volume controls; 20 key direct access; 5-speed anti-vibration chassis; 2-speed audible search; peak level search for tapping; CD edit: music scan; A/B repeat; track repeat; dimmer switch: gold-plated output jacks: 32-track programming; timer play
- **Price:** $825

**SL-1990 CD Player**
- CD player with quadrate-oversampling digital filter and remote control. Features 4 D/A converters (2/ch); 18-bit high-resolution signal processing; auto-cue: separate digital and analog power supplies; optical and electrical digital outputs; signal output meters; oxygen-free wiring; full-function FL display: linear matrix track and programming indicator; 20-key direct access; random play; headphone jack with adjustable level; disc window; high-speed linear-motor access system; 2-speed audible search; peak level search for tapping; CD edit: music scan: A/B repeat: track repeat: dimmer switch: gold-plated output jacks: 32-track programming; timer play
- **Price:** $1,295

**SL-7700 CD Player**
- CD player with quadrate-oversampling digital filter and remote control. Features 4 D/A converters (2/ch); 18-bit high-resolution signal processing; auto-cue: separate digital and analog power supplies; optical and electrical digital outputs; signal output meters; oxygen-free wiring; full-function FL display: linear matrix track and programming indicator; 20-key direct access; random play; headphone jack with adjustable level; disc window; high-speed linear-motor access system; 2-speed audible search; peak level search for tapping; CD edit: music scan: A/B repeat: track repeat: dimmer switch: gold-plated output jacks: 32-track programming; timer play
- **Price:** $620

**SL-P550 CD Player**
- CD player with quadrate-oversampling digital filter and remote control. Features 32-track random-access programming; dual D/A converters; electrical digital output; signal output meter; full-function FL display; linear matrix track and programming indicator; 10-key direct access; random play; headphone jack with adjustable level; high-speed linear-motor access system; 2-speed audible search; peak level search for tapping; CD edit: music scan: A/B repeat: track repeat: dimmer switch: gold-plated output jacks: 32-track programming; timer play
- **Price:** $825

**SL-P350 CD Player**
- CD player with quadrate-oversampling digital filter and remote control. Features 32-track random-access programming; dual D/A converters; electrical digital output; signal output meter; full-function FL display; linear matrix track and programming indicator; 10-key direct access; headphone jack with adjustable level; high-speed linear-motor access system; 2-speed audible search; peak level search for tapping; CD edit: music scan: A/B repeat: track repeat: dimmer switch: gold-plated output jacks: 32-track programming; timer play
- **Price:** $420

**SL-P2300 Professional CD Player**
- CD player with 8-times-oversampling digital filter and infrared remote control. Features 4 D/A converters (2/ch); 18-bit high resolution signal processing; A/B repeat; ±8% pitch control; optical and electrical digital outputs; 2-speed search; dial: audible picture; CD display: twin high-speed D/A converters; 4x oversampling digital filter; 20 selection random memory programing; 32 selection memory program calendar; full function wireless remote: fluorescent display shows track number: index numbers: elapsed time: program or disc remaining time: remaining time of each selection: and program or disc total time: FR 220,000 Hz; SN > 95 dB
- **Price:** $379

**SL-P12000 Discs CD Player**
- Top-loading CD player for discs or production cues to assist within track. Rocker control for momentary advance or retard. Features quartz-locked pitch control (± 8%); 2-speed cueing; rear panel remote jack for mixer; infrared remote control; auto cue to first note of desired track; FL display: twin high-speed D/A converters; double oversampling (88.2 kHz) digital filter; 9th-order low-pass analog filter; 1-beam laser; high-speed Linear Motor Access locates track start in <1 sec; subcode output: skip forward: skip back: fast forward: fast reverse; sound audible during fast scan; repeat track disc program; programming of 20 tracks in any order; headphone jack with adjustable level. Cues by track number, index number, time. Displays current time disc has been loaded; Custom Index, which consequently appears on the display every time disc has been loaded. Custom Index, which allows user to input 6 marked index locations on any disc; and Program Bank, which stores a particular track selection and playback sequence for each disc. Also features 10+10 key direct-access; 20-selection random music sensor; high-speed search; automatic music sensor; 4 repeat modes; music calendar
- **Price:** $1,700

**SL-P12000 Discs CD Player**
- Top-loading CD player for discs or production cues to assist within track. Rocker control for momentary advance or retard. Features quartz-locked pitch control (± 8%); 2-speed cueing; rear panel remote jack for mixer; infrared remote control; auto cue to first note of desired track; FL display: twin high-speed D/A converters; double oversampling (88.2 kHz) digital filter; 9th-order low-pass analog filter; 1-beam laser; high-speed Linear Motor Access locates track start in <1 sec; subcode output: skip forward: skip back: fast forward: fast reverse: sound audible during fast scan; repeat track disc program: programming of 20 tracks in any order; headphone jack with adjustable level. Cues by track number, index number, time. Displays current time disc has been loaded; Custom Index, which consequently appears on the display every time disc has been loaded. Custom Index, which allows user to input 6 marked index locations on any disc; and Program Bank, which stores a particular track selection and playback sequence for each disc. Also features 10+10 key direct-access; 20-selection random music sensor; high-speed search; automatic music sensor; 4 repeat modes; music calendar
- **Price:** $1,700

**SL-P300 CD Player**
- CD player with quadrate-oversampling digital filter and remote control. Features 32-track random-access programming; dual D/A converters; electrical digital output; signal output meter; full-function FL display; linear matrix track and programming indicator; 10-key direct access; headphone jack with adjustable level; high-speed linear-motor access system; 2-speed audible search; peak level search for tapping; CD edit: music scan: A/B repeat: track repeat: dimmer switch: gold-plated output jacks: 32-track programming; timer play
- **Price:** $420

**SL-P250 CD Player**
- CD player with quadrate-oversampling digital filter and remote control. Features 20-track random-access programming; dual D/A converters; electrical digital output; signal output meter; full-function FL display; linear matrix track and programming indicator; 10-key direct access; headphone jack with adjustable level; high-speed linear-motor access system; 2-speed audible search; peak level search for tapping; CD edit: music scan: A/B repeat: track repeat: dimmer switch: gold-plated output jacks: 32-track programming; timer play
- **Price:** $340
"In its price category, the Adcom GFA-535 is not only an excellent choice; it's the only choice."

The complete report:

Sometimes products are too cheap for their own good, and people don't take them seriously: the Superphon Revelation Basic Dual Mono preamp, Rega RB300 arm, AR ES-1 turntable, Shure V15-5MR cartridge, and the B&K ST-140 power amp. They can't be any good because they cost so little, right?

Wrong, of course.

Adcom appears to be having the same problem with their $299.95 GFA-535 amp. Creativity.

Now if this amplifier were imported from England and sold for $599.95, then maybe it would be taken seriously. And highly praised, no doubt.

For the baby Adcom is one of the finest solid-state amps I have heard. No, not the best; I'm not sure what is the best. But it's an amplifier that is so good for so little money as to be practically a gift.

Actually, when Rob Ain from Adcom called, I was about as enthusiastic about the GFA-535 as you were before you finish reading this piece. But Rob insisted, "You've gotta hear this amp."

He brought it over the next day, along with the GFP-555 preamp ($499.95), and we put both pieces into the rest of the system: a Shure Ultra 500 in a Rega RB300 arm on an AR ES-1 table, with Quad ESL-63 speakers on Articci stands. Then we chatted for a half hour or so while the electronics warmed up.

And then, simultaneously, the two of us decided to shut up and listen.

"I've never heard the Quad ESL-63 sound better," Rob said. Of course, he was hardly an impartial observer, but the sound was extraordinarily clean, detailed, and musical. If it wasn't the best sound I have ever heard from Quads, it was pretty close.

"Now if this amplifier were imported from England and sold for $599.95, then maybe it would be taken seriously. And highly praised, no doubt."

This humble $300 amplifier was driving a pair of very revealing $3000 speakers and giving a very good account of itself. (We listened first to some Goran Sollscher classical guitar.) "So how come this product isn't flying off the dealers' shelves?" I asked Rob.

"I don't know. Everyone wants the GFA-555 with 200 watts per channel. Including people who don't need it."

"Does the GFA-555 sound any better?" I asked.

"No, it's our aim to have all our amps sound pretty much the same. You pay more money, you get more power."

Rob pointed out that while the GFA-555 is rated at 60Wpc, it puts out more like 80. And while I did not do any measurements, my experience with other amps tells me Rob's right. I suppose Adcom doesn't want to steal sales from its GFA-545, rated at 100Wpc and selling for $200 more.

After a couple of hours, Rob left, grinning from ear to ear, and I later sat down to listen alone. True, when I tried certain Telarc records and pushed hard I could get the amplifier to clip—

"...the baby Adcom is one of the finest solid-state amps I have heard...so good for so little money as to be practically a gift."

Two LEDs quickly light up (very useful). But the Quads were running out of the ability to use the power anyway. My first impressions were confirmed: the GFA-535 is one of the best amplifiers around for driving Quads. Spendor SP-1s, too.

Suddenly, it hit me what this meant. Conventional wisdom had been dealt a severe blow: You know, the old saw that you should never power a good pair of speakers with a cheap amplifier. Here was a cheap amp—one of the cheapest on the market—that sounded good with Quads, Spendors, later Vandersteen's. Probably Thiel's, too—at least the C51. What it means is you can stretch your speaker budget a bit and get the speakers you really want, then economize by buying an Adcom GFA-535 for $299.95. True, you may be a little power shy, but probably not much. And to say the least, the GFA-535 would make a decent interim amp.

What does the GFA-535 sound like? (You thought I'd forget that part, right?) Well, this is one of the most neutral amps I've heard. While it doesn't sound particularly tubelike, it avoids the typical transistor nasties through the midrange and into the treble. I wouldn't call it sweet—there's no euphonic coloring—but it isn't cold or sterile. What it is, is smooth. And detailed. Far more detailed than I would
ever imagine a $300 amplifier could be. The GFA-535 reminds me of the Eagle 2A and PS Audio 200C, amplifiers that sell, respectively, for about three and five times the price. Of course, they have more power. And they are more detailed. The point is, the Adcom comes close. Very close.

"The GFA-535 reminds me of... amplifiers that sell... for about three and five times the price."

The bass, like everything else, is neutral, certainly not fat and overdone. But it's here where you notice that this amp is not a powerhouse. You just don't get the solidity and extension you get with a very powerful (and expensive) solid-state amp. Nor do you get the breadth and depth of soundstage you often find with a very powerful amp. The Adcom GFA-535 sounds a wee bit small, which it is.

My only criticism, and it's more of a quibble, is that the speaker connections are non-standard and unique (so far as I know). You insert bared speaker wire into a hole and twist the connector tight a quarter turn. Most speaker cables will fit, but some will not. Certainly MIT won't. Neither will the best Kimber, the kind with eight clumps of strands. The less costly four-clump Kimber will, and proved an excellent choice. My sample amp was quiet—no hum—and ran cool. There are selectors for two sets of speakers. And the 535 looks nice.

"This amplifier is so good and so cheap that I think any CD owner who buys an integrated amp is nuts."

And talk about economy. If you're not into LPS anymore, you could buy a Mod Squad, dbx or Old Colony line-level switching box—or possibly a B&K Pro 5 preamp, with its switchable line amp section (only $350)—and run it with a CD player. In fact, if you are into CD only (no tape, no tuner, no phone), you could buy a CD player with a variable volume output and run it directly into the Adcom. This amplifier is so good and so cheap that I think any CD owner who buys an integrated amp is nuts.

In its price category, the Adcom GFA-535 is not only an excellent choice; it's the only choice. The real question is whether you should buy one even if $299.95 is much less than you planned to spend for an amp—i.e., whether you should put the money into a better CD player or pair of speakers instead.
TUNERS

**ACCUPHAGE BY MADRIGAL**

T-106 AM/FM Tuner
- Quartz-locked synthesis; 14-station random memory; pulse tuning; double-tuned front end; FM stereo demodulator; AM synchronous detector; signal-strength meter; peak-modulation meter; MPX filter; sel switch; muting switch. FM section: 50-dB quieting sens, mono 17 dB, stereo 17 dB; S/N 83 dB stereo, 79 dB mono (at 80 dBf A-weight). FR 10-60,000 Hz ± 0.5 dB, capture ratio 1.5 dB, sep 50 dB at 1 kHz. AM sup 80 dB at 65 dBf. AM section: sens 20 µV/m at 20 dB S/N, 17.5 x 5.06 x 14.56 in $2,000

**A/D/S/CC4 Tuner/Preamplifier**

With microprocessor operating system for remote-control operation, digital volume and tone control, and alphanumeric display. Remote IR receiver capability for multi-room remote control; RS-232 port for control by personal computer; digitalized tuner with 30 AM or FM stations; optional remote control. Preamp section: max output >7 V rms into 10,000 ohms/1000 P, volume and balance control range 80 dB in 1 dB-steps; bass and treble control range ±10 dB in 2 dB-steps; low bass 0 to +6 dB in 1 dB-steps. FM section: sens <13 dBf mono, 50-dB quieting sens <40 dBf, stereo capture ratio <1.5 dB, sel >65 dB, spurious rejection >100 dB, stereo S/N >70 dB, sep at 1 kHz >47 dB. AM section: sens for 6 dBf <10 µV, IF rejection >50 dB, S/N >35 dB, stereo 50-dB quieting sens <100 dBf; stereo 65 dBf, FR 10-14,500 Hz ±0.375 dB, signal-to-noise ratio >70 dB, stereo >60 dB; capture ratio <1.8 dB, AM quieting sens <5 µV for 6 dB S/N; image rejection >55 dB, S/N (with 1,000-Hz 5-mV signal) >44 dB. 2.8 x 17.5 x 14.8 in. 18 lb $1,000

**Atelier T2 Tuner**

AM/FM synthesized tuner with 16 station presets and auto FM search tuning. Features flywheel manual tuning; fine-tuning control; switchable muting; high-blind control; LED frequency display; center tuning plus signal-strength displays; AC outlets; FM usable sens mono 1.0 µV (1.0 dB) stereo 5.5 µV (26.1 dBf); stereo 50-dB quieting sens 15 µV (34.8 dBf), S/N mono >70 dB, stereo >65 dB; FR 10-14,500 Hz ±0.1 dB, sep >38 dB at 10,000 Hz; capture ratio <1.8 dB, AM quieting sens <5 µV for 6 dB S/N; image rejection >55 dB; S/N (with 1,000-Hz 5-mV signal) >44 dB. 2.8 x 17.5 x 14.8 in. 13.2 lb. $339

**AT-93-B AM/FM Tuner**

Quartz digital synthesized AM/FM tuner; 20-station random preset; optimum reception system; automatic select antenna A/B; band width; blend mode and hi-cut mode; open loop DC amp in audio section; resonance-free rigid chassis structure; separate power supply for RF and audio; timer program preset. $599

**AT-52-B AM/FM Tuner**

Quartz digital synthesized AM/FM tuner; 16-station random preset; IF band selector; 5 step signal strength meter; preset station scan. $249

**ARCAM**

Arcam Delta 80 AM/FM Tuner
- AM/FM tuner with 12 presets features classic flywheel-assisted rotary knob for continuous tuning; three-color Traffic Lights FM tuning indicator; signal strength meter; sens 1.4 µV, S/N 70 dB, FR 20-12,000 Hz ± 0.5 dB, capture ratio 1.5 dB 16.93 x 10.43 x 2.36 inches $599

**T21 Stereo FM Tuner**

FM tuner has both 5 presets and continuously variable tuning. Features bar graph LED frequency scale; signal strength meter, tuning indicator; optional genuine wood veneers in teak, walnut, or rosewood finish; sens 1.3 µV; capture ratio 1.5 dB. 17.72 x 9.45 x 2.36 in. $399

**AUDIO BY VAN ALSTINE**

Transcendence Series Two FM Tuner
- FM tuner with discrete audio stage. Features electronic signal seeking; digital readout; 5 non-volatile station presets; mono/stereo switching; variable tuning with between-step capability; isolated active output circuits; all-metal film resistors and capacitors; class-A current-sourced predrivers, separate shunt-regulated and filtered power supply. 17 x 9 x 3 in. 10 lb $825

**AUDIO DESIGN ASSOCIATES**

FM-600A Tuner
- Analog FM tuner with 6 presets and digital frequency readout. Features AFC tuning, muting, stereo-blind noise filter; stereo/mono mode all front-panel switchable; signal strength/multipath LED meter, 15-pole IF filter, rear panel left and right output level controls; servo-lock circuitry; standard EIA rack-mountable. FM section: FM usable sens stereo 1.9 mV, S/N 100 kHz >95 dB, stereo >89 dB; FR 10-14,500 Hz ±0.1 dB, sep >38 dB at 10,000 Hz; capture ratio <1.8 dB, AM quieting sens <5 µV for 6 dB S/N; image rejection >55 dB; S/N (with 1,000-Hz 5-mV signal) >44 dB. 2.8 x 17.5 x 14.8 in. $599

**Audio Dynamics**

T200 AM/FM Tuner
- Digital-synthesis tuner with Schott noise reduction. Features 8 AM/8 FM station presets; auto/nu/narrow bandwidth switching; extended AM response; auto station scanning; frequency response 15-15,000 Hz ±0.375 dB, signal-to-noise ratio 77 dB stereo; capture ratio 1.75 dB. $429

**T2000E AM/FM Tuner**

Programmable AM/FM tuner. Features remote control; Schott noise reduction; interference rejection; 10 AM/10 FM station presets; capture ratio 1.5 dB, signal-to-noise range 25-65 dB; sep 30 dB. $349
CARVER

TX-11a AM/FM Tuner

Digital quartz-synthesized with Asymmetrical Charge Coupled FM Detector circuit to reduce multipath distortion while retaining full separation. 13 presets; automatic scan; wide/narrow bandwidth selector; AM/FM tuning automatically adjusts internal parameters to optimize performance under variable reception conditions. FM usable sens 11.3 dBf; 50 dB quieting sens mono 15.3 dBf; stereo 36.5 dBf; at 1,000 Hz, 100% modulation mono 0.1%, stereo 0.18%; capture ratio 1.5 dB; alternate ch sel 60 dB; sep 45 dB at 1,000 Hz; 35 dB at 10,000 Hz; S/N, mono 72 dB, stereo, 68 dB; assembled $425

KHRAMEN KOARDN

Citation Twenty-Three AM/FM Tuner

16 presets; infrared remote control; mono and mute buttons; LCD readout; Active-Tracking High-Selectivity (Hi Q) Circuit; digital-synthesized quartz-locked tuning; analog fine tuning; flywheel-stabilized tuning knob; seek and manual tuning; analogized brushed aluminum blue/black finish with molded rubber trim; heavy-gauge metal cabinet; FM specs: 50 dB quieting sens stereo 15.2 dBf (normal), 19.1 (Hi Q); S/N stereo 75 dB (normal and Hi Q); capture ratio 0.75 dB (normal), 1.75 (Hi Q); alt ch sel 65 dB (normal), 75 (Hi Q) $649

T9290 AM/FM Tuner

Active-Tracking High-Selectivity (Hi Q) Circuit; digital-synthesized quartz-locked tuning; all-metal chassis; 16 presets; muting; 2-way seek; manual up/down tuning; 5-LCD signal-strength meter; tuned indicator; FM specs: S/N stereo 74 dB (normal and Hi Q); capture ratio 1.3 dB (normal), 2.0 (Hi Q); alt ch sel 60 dB (normal), 75 (Hi Q) $399

TU911. Similar to above except lacks Active Tracking; signal-strength meter $299

T909 AM/FM Tuner

Digital-synthesized quartz-locked tuning; 6 AM/12 FM presets; bi-directional seek tuning; black-out LCD; ultra-wideband; manual tuning; tuned indicator: stereo; black metal chassis $229

HITACHI

HPTL2105V5 AM/FM Tuner/Preamplifier

Quartz digital-synthesized tuner section; 20 AM/30 FM presets; unified infrared remote control with LCD display; audio inputs for phono, CD, tape, video inputs for TV, VCR, videodisc player; electronic volume and balance controls; 5-band graphic equalizer; video signal enhancer; rosewood end caps $450

JVC

FX1100BK AM/FM Tuner

Computer-controlled quartz-PLL digital-synthesized tuner with Optiplexk system for reduced digital noise. Features: 10 AM/40 FM station presets; autosearch; digital read out; nonvolatile memory; 3-digalute MOSFET's; 5 tuned front end circuits; triple-tuned RF stage volume control and separate output on front panel for taping or headphones; kit is comprised of 4 fully assembled, tested, and aligned circuit boards which plug together. Usable sens 11.3 dBf, 50 dB quieting sens mono 15.3 dBf; stereo 36.5 dBf; at 1,000 Hz, 100% modulation mono 0.1%, stereo 0.18%; capture ratio 1.5 dB; alternate ch sel 60 dB; sep 45 dB at 1,000 Hz; 35 dB at 10,000 Hz; S/N, mono 72 dB, stereo, 68 dB; assembled $425

Features Optical link digital noise reduction system; 40 AM/40 FM station presets; preset scan; variable stop level; dB-reference signal-strength indicator; auto memory; preset repeat; preset cancel; multi-mode LCD; AM loop antenna; CATV antenna control unit $240

KENWOOD

KT-990D AM/FM Tuner

Features Pentacle power supply; DLRC (Direct Linear Reception Circuit); DLDL (Direct Linear Loop Detector); DCC (Distortion Correcting Circuit); and DPD; FM specs: 10 AM/50 FM quieting; sens 16.2 dBf; S/N ratio 75 dB; THD 0.009% at 1,000 Hz; alt ch sel 60 dB; FR 20-15,000 Hz ±0.5 Hz; 17.31 x 3.06 x 13.06 in; 8.2 lb $375

KINERGETICS

KBT-1 AM/FM Tuner

Designed to correct for hysteresis errors in electronics of broadcast receiver (adjustable correction); circuit designed to compenstate for components used in broadcast station's electronics; remote power supply; digital-synthesis tuning, 5 AM, 5 FM presets; scan tuning, selectable IF bandwidth; inputs for 300- and 75-ohm antennas; finished in black or silver-anodized brushed aluminum. FM specs: 50 dB quieting sens 36.0 dBf stereo; THD stereo 0.05% (wide), 0.10% (narrow) at 1,000 Hz, 100% modulation, signal level 65 dBf; S/N mono 75 dB, stereo 70 dB; sep 40 dB (wide), 45 dB (narrow); capture ratio 1.5 dB, alt ch sel 70 dB (narrow), 50 DB (wide); image rej 75 dB; pilot and subcarrier rej 60 dB. AM specs: sens to 6 dBf S/N 6.3 mL, v.s. image rejection 50 dB; IF rejection 50 dB; FR 4000 -6 dB $695

KYOCEMA

T-910 AM/FM Tuner

Digital PLL quartz-synthesized stereo tuner. Features Dynamic Noise Reduction; 16 station presets; nonferrous ceramic base/chassis; 2 FM antennas; computer-programmed narrow/wideband IF selection. FM section: FM usable sens 1.7 µV (98 dBf); 50 dB quieting sens mono 3.0 µV (14.8 dBf); THD 0.07%, mono 0.06% at 1,000 Hz; S/N stereo 81 dB, mono 84 dB; capture ratio 1.0 dB, sep 58 dB at 1,000 Hz, AM sup 55 dB; alt ch rej 85 dB narrow, 40 dB normal. AM section: sens 280 µV with built-in antenna, 10 µV with external antenna. 26.5 lb $890

LUXMAN

T-111 AM/FM Tuner

Remote AM/FM tuner with cable-ready FM fine tuning, unattended program recording, auto seek/AM/FM tuning; auto preset (memory) scanning; 20 random-access AM/FM stations stored in compu-store memory; computer analyzed tuning automatically adjusts internal parameters to optimize performance under variable reception conditions. FM usable sens 10.8 µV; 50 dB quieting sens mono 19.0 dBf, stereo 38.0 dBf; S/N ratio mono 75 dB, stereo 70 dB; THD 0.2%, mono 0.15% (at 1,000 Hz); separation 50 dB (at 1,000 Hz); capture ratio 1.3 dB (at 65 dB & 98.1 mHz) $300

MARANTZ

ST-54 AM/FM Tuner

Quartz-locked digital frequency synthesis tuner. Features 24 station preset memory (16 FM/8 AM stations) $519
### NEC

**T-710 AM/FM Tuner**  
Computer-controlled quartz-PLL digital-synthesis tuner with 16 AM/fm station presets. Features auto scan, preset scan, selectable (wide, narrow) IF bandwidth; IF frequency readout; low-noise dual-gate MOSFET front end; multi-plex stereo decoder with a pilot canceler and active filter; static-resistant low-imp AM loop antenna; ladder if filter. Remote controllable when used with NEC unified-remote integrated amplifiers. FM usable sens 10.8 dBf (1.9 µV). 17 x 3.2 x 10.8 in. $299

### T-610 AM/FM Tuner  
Digital quartz-PLL frequency-synthesis tuner with 16 AM/fm presets. Features auto seek; memory backup; ceramic if filters; LED signal-strength meters; MPX filter; auto scan; low-noise junction FET. Alt. ch. selectivity 60 dB; stereo separation 0.3%; s/N 50 dB; image rejection 38 dB. $229

### ONIX Audio

**Gamma-400 Tuner**  
Variable high-blend control tuner with memory scan. Features 10 FM and 10 AM presets; muting; narrow/ wide if band select; seek; automatic tuning; 220 microfarad capacitor for power back up; sens 9.2 dBf; sel 80 dB; sep 60 dB; s/N 86 dB; Fm 30-15,000 Hz +1 dB; 19" rack mountable. $440

**BWD1 FM Tuner**  
Designed for high sensitivity, capture ratio and AM suppression. $885

### Onkyo

**Grand Integra T-G10 FM Tuner**  
FM tuner with 5-mode APR system. Features 20-station random memory, switchable blend, wide/narrow IF band selector, seek; auto/mode tuning; 220 microfarad capacitor for power back up; sens 9.2 dBf; sel 80 dB; sep 60 dB; s/N 86 dB; Fm 30-15,000 Hz +1 dB; 19" rack mountable. $850

**T-4087 AM/FM Tuner**  
Tuner with automatic precision reception system to comb out adjacent channels; mono/muting off, auto high-blend on/off, local/remote, and IF bandwidth wide/narrow). Features 4 separate power supplies for RF amp, if amp, demodulator, and multiplex decoder; 20 AM/FM station presets; battery-free memory backup; MOSFET RF amp front end; PLL demodulator. Black finish only. Wood side panel included. FM usable sens 17.2 dBf (2 µV) stereo; 50-dB quieting settings 17.2 dBf (18 µV) stereo; s/N 77 dB stereo; Fm 30-15,000 Hz ±1 dB; capture ratio 1 dB. 18.25 x 3 x 14.6 in; 12 lb. $420

**T-4150 AM/FM Tuner**  
Computer-controlled quartz-synthesized AM/FM tuner with 3-mode APR, 20 station presets, high-blend override, and multi-PLL FM usable sens 17.2 dBf (2 µV) stereo; 50-dB quieting setting 36.1 dBf (35 µV) stereo; capture ratio 1.3 decibels (wide), FM frequency response 30-15,000 Hz ±0.5 -1 decibels. 17.2 x 27.5 x 14.5 inches, 8.2 lb. $320

### PARASOUND

**T/DQ-260 Tuner**  
Quartz referenced, digitally synthesized tuner features 16 presets, 8 AM/8 FM, scan/manual tuning, mono mode switch; PLL tuning; regulated power supply; all metal chassis and panel; sep 50 dB; THD <0.1%; Fr 20-15,000 Hz ±0.5 dB, channel selectivity 66 dB; 17.25 x 9.5 in. $265

### MERIDIAN BY MADRIGAL

**MR-782 AM/FM Tuner**  
AM/FM tuner with Signal Locked Loop tuning system. Features electronic memory for 7 AM and 7 FM stations; digital frequency readout; DMOS-FET RF amplifier; dual-balanced mixer; PLL MPF decoder, audio output suppression circuits for 19 kHz and 38 kHz carrier; LED tuning meter; electronically regulated power supply; internal audio processor, memory search; wide-band AM; remote control interface. FM section: sensitivity mono 13 dBf (1.3 V) for 30 dB of quieting; signal strength for 50 dB of quieting. 18/36 dBf mono/stereo, capture ratio 1.5 dB; IMD 0.06% from 20-13,000 Hz with 100% modulation of less; alt-ch sel 55 dB; sep 50 dB at 1 kHz; FM suppression 60 dB; image rejection 90 dB. AM section: sensitivity 35 V; s/N 55 dB HPH; 65 dB at 100% modulation; THD 0.2% at 30% modulation; sel 40 dB HPH; IF response 90 dB. Power requirement 120 V 50/60 Hz 10 W. 16 x 5.44 x 13 in. $1,499

### PARASOUND

**TU3 PLL FM Tuner**  
5-section tuned-Varicap RC section; microprocessor-controlled digital tuning; linear phase filters; IF stage; switchable de-emphasis; s/N stereo 68 DB (at 65 dB), stereo sens stereo 35.8 dBf (17 µV), THD stereo 0.14%; Fr 15-30,000 Hz ±0.5 dB; capture ratio 1.5 dB; de-emphasis 25 µs, 50 µs, 75 µs (switchable). 1.75 x 19 x 13.5 in; 13.5 lb. $1,100

### PHILIPS

**FT 565 Tuner**  
Quartz-locked digital synthesis tuner with 24-station random memory; 2-level automatic search tuning; multi-functional LCD display; 5-bar LED signal strength indicator; FM noise reduction; optional remote control; low-noise Ter- rode MOSET front ends, with intrinsic high linearity handle strong signals without distortion, and receives weak signals clearly; FM mixer oscillator is buffered to suppress noise interference; 75 ohm coaxial and 300 ohm balanced inputs accept any type of FM aerial input. Wave range 87.5-108 MHz; sens at 75 ohm, mono 26 dB/s/N 1.3 µV at 75 kHz deviation; stereo 46 dB/s/N 25 µV at 75 kHz deviation, THD monono/ stereo 0.2%/0.5%; Fr 30-15,000 Hz ±0.5 -2 dB; IF suppression 80 dB; audio output 1000 mV. 3 kilograms. $259

### PIONEER

**Elite T-81 Tuner**  
Digital AM/FM tuner. Features ARTS (Active Real-Time Tracking System) with active if filter; digital decoding; 4-ganged tuning capacitor; MOSET circuit; 24 AM/fm station presets; 3-po- sition muting level; remote compatible; s/N 77 dB mono; speaker level; $550

**F-717 AM/FM Tuner**  
Digital-processing tuner. Features electronic twin-variacs; Pulse-Swallow frequency synthesis; 16 random AM/FM presets; large-loop AM antenna; FET buffer; 3-point signal indicator; AM stereo adaptor terminal; Fr 20-15,000 Hz; alt ch sel 56 dB; sep (at 1 kHz) 60 dB; capture ratio 1.0. $325

### PROTON

**440 Tuner**  
Schott AM/FM tuner with Schott Noise Reduction. Features digital station readout; 12 station presets; memory backup holds station settings for 2 weeks when unplugged; adjustable rear panel output level. FM section: FM usable sens mono 1.8 µV (10.3 DB), 50-dB quieting setting mono (15.3 dB), stereo (33.2 DB). THD stereo 0.2%, mono 0.05% at 1 kHz; S/N 70 dB stereo, 75 dB mono; Fr 20-20,000 Hz ±0.2 dB; capture ratio 1.5 dB; sep 45 dB at 1 kHz, AM mono 60 db; alt-ch rej 55 dB; adj rej 90 dB. AM section: sens 300 µV with built-in antenna. 16.5 x 2.5 x 9.75 in; 15 lb. $269

### QUAD

**FM4 FM Tuner**  
FM-stereo tuner designed to be used with Quad...
44 preamp. Features no controls except 8 pushbuttons to store/recall station presets, tuning knob, power switch, bar-graph meter to indicate signal strength, center-channel tuning; dedicated microprocessor that recalls desired station from memory, tunes it, automatically sets muting, automatic frequency control levels. Stations stored in memory remain there for up to 5 years, even with power disconnected. Available in antrachite gray. Mono/stereo 50 dB quieting sens 2.7/25 µV, mono/stereo S/N ratio 76/70 dB at 1 kHz, 1 mV A-weight, mono/stereo distortion 0.05% 10/0% stereo, capture ratio 2.5:1, sel 53 dB, IF bandwidth/IF rejection 20/1,000 Hz ±0/1 dB, crosstalk 40 dB at 1 kHz, pilot-tone suppression 60 dB, deemphasis switchable for 50/75 microseconds, power consumption 6 watts, 321 x 207 x 64 millimeters, 3.8 kilograms. $695

REVOX
B260-S FM Tuner
FM stereo tuner stores 60 preset stations with reception modes in non-volatile memory. Allows user to arrange stored stations into separate groups for scanning. Features control panel, max S/N >80 dB; THD 0.07%, alternate channel selectivity/Frequency 20-15,000 Hz ±0.5 dB; 17.2 x 4.3 x 13 in; 15.4 lb $1,575

ROTEL
RT850A AM/FM Tuner
Quartz-synthesizer tuner with microprocessor circuitry. Features 6 AM/6 FM preset stations, manual and autoscanning tuning. FM section: usable sens mono 2 µV (1.2 dB), 50 dB queiting sens mono 0.3 µV (14.5 dB), stereo 0.4 µV (37.2 dB), THD stereo 0.2%, mono 0.00% at 1,000 Hz; S/N 73 dB stereo, 75 dB mono; IF 30-15,000 Hz +0.2, -2 dB; capture ratio 1.0 dB, sep 48 kHz at 1,000 Hz, AM suppression 58 dB, AM section: sens 300 µV/m, S/N 50 dB, 8.5 lb $299

SAE
T101 AM/FM Tuner
Computer direct-line digital tuner. Features 16 station presets (8 AM/8 FM); auto and manual tuning; signal-strength, multipath, and level indication; select 50/75 dB quieting; high blend; memory scan. FM Section: IF IFF sens stereo 3.9 µV (15 dB); 50 dB queiting sens stereo 12 µV (35.3 dB); THD THD 0.01% stereo, THD 0.00% at 1,000 Hz, S/N 70 dB stereo, 70 dB mono; IF 30-18,000 Hz ±0.2, -2 dB; capture ratio 1.2 dB, sep 55 kHz at 1,000 Hz, alt-CH rejection >100 dB narrow. $650

T102 AM/FM Tuner
Computer direct-line digital tuner with 16 station presets, auto and manual tuning, IF narrow, high blend. FM Section: IF IFF sens stereo 4.1 µV, 30 dB queiting sens 34 µV; THD THD stereo 0.00% at 1,000 Hz, S/N 70 dB stereo, IF 30-18,000 Hz ±0.2, -2 dB; capture ratio 1.2 dB, sep 55 kHz at 1,000 Hz, alt-CH rejection >100 dB narrow; adj-CH rejection −15 dB narrow. 19 x 3.5 x 12.5 in. $349

SANSUI
TU-X701 AM/FM Tuner
Vintage select is tuner featuring random presets for 30 FM and 30 AM stations; numeric keypad for recall; programming two station frequencies for unattended recording; memory scan, RF mode selection: IF bandwidth selection, record calibration, IF noise canceller, mode switch. Usable sens 38.0 dB (stereo); THD 0.0095% (stereo); S/N 98 dB; IF response (at 84 MHz) 110 dB, 176.3 x 38.1 x 11.1 in; 10.4 lb $500

TU-X301 AM/FM Tuner
Vintage series x701 features digital-synthesis tuning. 6 AM/6 FM stations preset; FM noise canceller, center-channel tuning; select 30 dB quieting Sens 36 dB (stereo); 16 dB mono, S/N 72 dB (stereo), 78 dB (mono); capture ratio 1 dB, 176.9 x 1.8 x 8.9 in; 5.3 lb $210

TANDBERG
TPT 3001A FM Tuner
Features computer-type logic servo tuning system; 8-ganged varactor tuning diodes in front end, dual-gate MOSFET's in R-F and mixer stages; 8-station memory preset with touch-button recall and LED program readout; wide/nor- mal/narrow IF bandwidth selector; autorange signal-strength with 1,000-meter-range LED, center tuning/center frequency meters. Audio circuitry includes selected dual channel film resistors, polypropylene capacitors, and min negative feedback, mono. ANC, servo, mute switches with LED's; 3-circuit muting, output level control; S/N 90 dB, narrow-sel 125 dB. Rosewood side panels optional. $2,000

TECHNICS
ST-G70 AM/FM Tuner
Stereo tuner with 39 AM/FM station presets. Features twin tuner design; automatic IF bandwidth control; 16-key random access, class AA operation; auto-scan, automatic preset assignment capability; FM signal-strength display; DC twin quartz circuitry; DC linear switching multiplex filter. $380

TOSHIBA
ST-532 AM/FM Tuner
Digital AM/FM tuner with 24-station presets. Features preset channel scan; 10-key direct access; class AA operation; PLL display; 3-point LED signal-strength indicator. $270

VECTOR RESEARCH
VE-1500 Tuner
Quartz PLL-synthesized tuner. FM section: all-ch sel 60 dB; 50 dB queiting sens mono 3 µV (10 kHz); 50 dB queiting sens stereo 40 µV (37 dB); max S/N A-weight, mono 75 db, stereo 73 db, THD mono 0.08%; stereo 0.2%. 8.5 lb $200

YAMAHA
TX-1000U AM/FM Tuner
Digital AM/FM stereo tuner with computer servo lock tuning. Features digital fine tuning; absolute linear phase IF amplifier "Alpha" circuitry for 90 dB channel selectivity; 2-position IF mode selector; 4-tuning modes; antenna selector switch; 24-station random access memory presets; multi-status memory, 4-letter station name display; 24-segment signal quality meter; remote control; optical integrated system remote compatible. $549

TX-900U AM/FM Tuner
Features integrated system remote compatibility; digital fine tuning; 3-position auto/manual IF mode selector; 20-station random access preset tuning; 4-way station memory; high blend; integrated multi-function LCD display. Black. 9 lb $399

TX-500U AM/FM Tuner
Features integrated system remote compatibility; digital PLL IF count synthesizer filter; 2-position IF mode selector; 20-station random access preset tuning; 4-way station memory; high blend; integrated multi-function LCD display. Black. 9 lb $319
### TURNTABLES

**Acoustic Research**

**ES-1 Manual Turntable**
- Features 33 and 45 rpm speeds.
- Effective tonearm mass without cartridge 14.5 g; effective tonearm length 229 mm; max tracking error 2.6X; 7 x 18.19 x 15.25 in (dustcover down); 11 lb.
- Natural cherry, with arm...$725
- Natural cherry, without arm...$550

**EB-101 Manual Turntable**
- Manual belt-drive pivot-arm turntable with fully isolated 3-point suspension. Arm and platter on subchassis formed by pressed-steel T-bar spring-suspended and damped at 3 points.
- Features 12-pole synchronous motor (500 rpm at 50 Hz, 600 rpm at 60 Hz); 3.9-lb platter; detachable carbon-fiber headshell with clamping screw on arm; base finished in oiled walnut veneer.
- W&F 0.03%; S/N 72 dB; DIN-weighted rumble -75 dB; 16.5 x 2.5 x 17.9 in; 13.2 lb....$249

**ADC**

**LT 60 Automatic Turntable**
- Linear-tracking belt-drive P-mount turntable.
- Features 33.33 and 45 rpm; soft-touch electronics; illuminated electronic stroke with pitch control; anti-feedback suspension.
- 5.0 x 16.5 x 15.5 in; 15.5 lb....$150

**LT 34 Automatic Turntable**
- Compact linear-tracking belt-drive P-mount turntable.
- Features 33.33 and 45 rpm; 2 DC-servo-controlled motors; anti-feedback suspension.
- 3.5 x 13.25 x 13.75 in; 9.5 lb....$120

**A/D/S/ Atelier P4 Automatic Turntable**
- Can be controlled by remote when used with a/d/s R4 receiver or CC4441/4442preamp. With quartz-crystal-controlled direct drive; pivoted arm; ultra-low-mass tonearm; 33.33 and 45 rpm; variable speed control with strobe; holds platter and tonearm on a subchassis that floats on 4 tuned mounts.
- W&F 0.025% rms; rumble -75 dB DIN B; 53 dB DIN A; effective tonearm length 8.69; effective tonearm mass without cartridge 14.5 g; effective tonearm length 229 mm; max tracking error 2.2; 4.53 x 17.5 x 14.25 in (dustcover down); 11 lb....$700

**Akai**

**AP-A305 Belt-Drive Turntable**
- Semi-auto operation, DC-servo motor, belt-drive system; T4P type plug-in cartridge; front panel operation control.
- $99

**BANG & OLUFSEN**

**Beogram 5500 Automatic Turntable**
- Automatic turntable with short tangential tonearm features both standard playing speeds of 33.33 and 45 rpm; silver and black; remote controlled by B&O Master Control Panel; repeats play up to 7 times; leaf-spring suspension; compatible with B&O micro-cross cartridges; auto record-size sensing; auto interior light.
- W&F 0.06%; DIN 0.033% wtd; DIN-weighted rumble -80 dB; 12.5 x 3 x 12.75 in; 11.6 lb....$450

**Beogram 9000 Automatic Turntable**
- Tangential tracking tonearm features both standard playing speeds of 33.33 and 45 rpm; Optimum Pivot Point tonearm suspension; 3-point leaf spring and pendulum suspension system; integrated low-mass tonearm/carridge combination; accepts all MMC 1.5 cartridges; servo-controlled DC motor; W&F less than 0.03% wtd.
- 16.5 x 3 x 12.75 in; 11.7 lb....$450

**Beogram 3300 Belt-Drive Turntable**
- Belt-drive tangential tonearm features standard playing speeds of 33.33 and 45 rpm; remote control with Terminal 3300 remote. Master Control Link, or DataLink system; black plexiglass and brushed aluminum; can be wall mounted with optional shelves; repeat; interior light; auto pause at end of tape, and cassette deck pauses at end of LP; leaf-spring suspended sub-chassis; record level, electronic speed control; 16.5 x 3 x 12.75 inches; 11.7 pounds....$439

**Beogram TX-2 Automatic Turntable**
- Tangential-tracking automatic turntable with belt-drive features both standard playing speeds of 33.33 and 45 rpm; fixed headshell. Recommended tracking force 1-1.5 g; Wow and flutter 0.03% DIN; rumble -80 dB, 16.5 x 3 x 12.75 in; 11.6 lb....$352

**Beogram RX-2 Automatic Turntable**
- Belt-drive turntable with pendulum-suspended chassis and straight pivoting tonearm; 33 and 45 rpm; fixed headshell. Recommended tracking force 1-1.5 g; W&F 0.03% DIN; rumble -75 dB, 16.5 x 2.5 x 17.9 in; 13.2 lb....$249

**Denon**

**DP-59L Direct-Drive Turntable**
- Features massive wood base with isolation: 5.5-lb platter with high-torque direct-drive AC motor. Lift only....$695

**DP-47F Direct-Drive Turntable**
- Features dynamic servo tracer; flat-twin direct drive; full auto plus locate function; thick wood base....$450

**DP-35B Automatic Turntable**
- Features dynamic servo tracer; flat-twin direct drive; high-density compound base. Black $325

**DP-23F Turntable**
- Full-size automatic turntable with dynamic servo tracer. Black....$375

**DT-7F Turntable**
- P-mount automatic turntable with dynamic servo tracer. Black....$200

**Dual by Ortofon**

**CS 7000 SemiAutomatic Turntable**
- Belt-drive turntable with 24k gold-plated finish. Features Oppenmeyer-Pivot gyroscope, integral tonearm system; carbon fiber headshell; fixed and variable-VTA tonearm; heavy metal feet; full-floating sub-chassis; resonance-damped die-cast aluminum platter; auto stop; three standard operating speeds at 33.33, 45, and 78 rpm. W&F <0.02%; S/N 80 dB; 17.5 x 5.25 x 15.25 inches; 25 lb....$750

**CS 505.3 SemiAutomatic Turntable**
- Belt-drive, heavy-mass platter and acoustic mat. Features floating chassis design; variable-pitch; carbon fiber headshell on ULT tonearm. Walnut or black wood base....$350

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**Akit**

**AP-A305 Belt-Drive Turntable**
- Semi-auto operation, DC-servo motor, belt-drive system; T4P type plug-in cartridge; front panel operation control.

**Akai AP-A305**
- $99

**Akai AP-A305 Belt-Drive Turntable**
- Semi-auto operation, DC-servo motor, belt-drive system; T4P type plug-in cartridge; front panel operation control.

**Akai AP-A305 Belt-Drive Turntable**
- Semi-auto operation, DC-servo motor, belt-drive system; T4P type plug-in cartridge; front panel operation control.

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**Stereo Review February 1989**
**Linn Axis**

**Axis Manual Turntable**
With Class A amplifier, belt-drive, pivoted arm Plays 33.33-rpm LP's and 45-rpm singles. Speed accuracy 0.1%, W & F 0.05%; r.m.s. tracking error 75 dB r.m.s.; effective tonearm length 284 mm; 16 lb. $740

**Luxman P-102 Belt-Drive Turntable**
Automatic linear-tracking turntable with strobe, variable speed control, floating tonearm/platter suspension, cueing lever, repeat play, manual play, P-mount compatible. Remote capable. W & F 0.04% r.m.s.; r.m.s. tracking error 70 db; effective tonearm length 133 mm; max tracking error 0.1° 16.36 x 4.5 x 14.06 in. (dustcover down); 11.61 lb. $450

**Luxman P-102**

**MARANTZ TT-451 Linear-Tracking Turntable**
Automatic linear-tracking turntable. Features auto-speed-size selector; P-mount compatible; 33.33 and 45 rpm; W & F 0.05% r.m.s.; r.m.s. tracking error 70 db; 3.75 x 13.6 x 15.36; 9.5 lb. $230

**TT-185CTBL Belt-Drive Turntable**
Belt drive turntable features semiautomatic direct-drive motor; damped cueing, P-mount cartridge; straight low-mass tonearm; front panel controls. 3.87 x 16.5 x 13.5 in.; 9.5 lb. $139

**Micro Seiki by Analog Excellence**

**RX-1500VG Thread-Drive Turntable**
20-lb bronze platter turntable with lighthearted vacuum record hold-down; 33.33 and 45 rpm; variable speed control; nonresonant zinc alloy frame and outboard motor; 4-lb sealed oil bath center spindle. W & F 0.025% r.m.s.; S/N 85 db A-wtd. 26 x 6.5 x 16 in; 100 lbs. $2,995

**RX-1500FVG** Air-bearing version of above. 120 lbs. $3,995

**BL-99V Manual Turntable**
Belt-drive turntable with lighthearted vacuum hold-down; walnut finished cabinet; 33.33 and 45 rpm; variable speed control; 7-lb aluminum platter; 4-lb tonearm base dired to individual's specifications. W & F 0.025% r.m.s.; S/N 78 db A-wtd. 7.5 x 21.5 x 17.5-in (dustcover down); 35 lbs. $1,895

**RX-1500 Basic Turntable**
Belt-drive nonresonant zinc-alloy turntable with ability to mount 2 tonearms simultaneously. Features 33.33 and 45 rpm; variable speed control; aluminum platter. W & F 0.025 r.m.s.; S/N 78 db A-wtd. 6 x 19 x 13-in; 40 lbs. $1,495

**Nikko Audio P-5**
P-5 Semiautomatic Turntable
Semiautomatic full-size belt-drive turntable with P-mount tonearm, repeat key, and manual damped cueing. W & F 0.045% r.m.s. $110

**Onkyo CP-1057BF Integra Automatic Turntable**
Computer-controlled quartz-PLL direct-drive turntable. Features pivoted arm; strobe; 33.33 and 45 rpm; triple-stage suspension; floating subchassis on 3-point suspension; gimbalsupport tonearm bearings; computer-controlled tonearm functions; separate motor for tonearm; 2-speed search; straight low-mass tonearm; Polorsorb vibration absorbing compound for record mat and cabinet feet; gold-lacquered platter; gold-anodized tonearm; opto-electronic record-end detector; black finish. Remote control optional. Wow and flutter 0.023% weighted root mean square; r.m.s. tracking error <80 db; effective tonearm length 226 mm; max tracking error +3°, -1°; 17.44 x 6.25 x 16.12 in.; 20 lb. $360

**Onkyo CP-1046BF Automatic Turntable**
Computer-controlled direct-drive pivoted-arm turntable. Features P-mount; quartz-lock; 33.33 and 45 rpm; 2-color quartz-lock indicator; triple-stage isolation system with floating subchassis; 3-point subchassis suspension; computer-controlled motor-assisted tonearm; opto-electronic record-end detector; straight low-mass tonearm; gimbalsupport tonearm bearings; 2-speed search; black finish. Remote control optional. W & F 0.025% r.m.s.; r.m.s. tracking error <75 db; effective tonearm length 224 mm; max tracking error +3°, -1.5°; 16.5 x 5.06 x 14.75 in. (dustcover down); 13 lb. $240
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**ORACLE AUDIO**

Premiere Mark III Manual Turntable
- Belt-drive turntable without tonearm. Remote control power drive module, 33.33 and 45 rpm; variable-speed control; strobe; hi-torque DC motor; automatic spring-suspension system; record-coupling system; tonearm cartridge; pitch control; repeat function; 45 rpm. $2,350

Delphi MK III Manual Turntable
- Belt-drive turntable without tonearm. Features 33.33 and 45 rpm; hi-torque DC motor; automatic spring-suspension system; record-coupling system; tonearm cartridge; pitch control and repeat function. $2,295

Alexandria Mark III Manual Turntable
- Belt-drive turntable without tonearm. Features 33.33 and 45 rpm; hi-torque DC motor; automatic spring-suspension system; record-coupling system. $2,000

**PARASOUND**

T/PS-880 Semiautomatic Turntable
- Belt-drive; floating suspension (motor separate from subchassis). P-mount compatible; die-cast platter; decoupled counterweight. w&F 0.025% rms; rumble <72 dB; effective tonearm length 222 mm; 17 x 4 x 14.25 in. $850 to 1,050

Pioneer PL-90 Automatic Turntable
- Direct-drive turntable with coreless, quartz-PLL DC servo motor with stable hanging rotor. Features static tonearm made out of alunina-earmics; 33⅓ and 45 rpm; 14⅛-inch platter. w&F 0.018%. 8.5 x 23.5 x 17 in. $950

PL-910 Automatic Turntable
- Belt-drive turntable with DC servo-motor. Features statically balanced linear tracking tonearm with DRA; 33⅓ and 45 rpm; 6 mm diamond stylus. w&F 0.06%. 16.5 x 4.1 x 14 in. 6 lb. 3 oz. $400

PI-670 Automatic Turntable
- Direct-drive turntable with Stable Hanging Rotor. Features dynamic resonance absorber; T4P P-mount cartridge adapter, Polymer Graphite straight tonearm; auto disc size selector. w&F 0.025%. 4.6 x 16.6 x 14.4 in. $175

RCA MT23O Linear Tracking Turntable
- Dimensia turntable with remote-control operation and on-screen status indication when used with Dimensia monitor. Features belt-drive design; P-mount cartridge; programmable track selection; system record-protection logic; auto-size and speed selection: cue muting. S/N 65 dB, w&F <0.06%. 14.63 x 3.5 x 14.25 in. $249

**REALISTIC**

LAB-2200 Direct-Drive Turntable
- Automatic linear-tracking turntable with Realistic-Audio-Technica dual-magnet P-mount cartridge, repeat button, straight tonearm, strobe, variable speed control, 33.33 and 45 rpm. $200

**REVOLVEY BY MUSIC HALL**

Revolier Belt-Drive Turntable

Revolier Rebel Turntable
- Turntable including tonearm and cartridge. Gray metallic finish. $379

**REVOX**

B291 Linear-Tracking Turntable
- Quartz-controlled direct-drive turntable with patented Revox Linatrack system. Features ultra-short linear-tracking tonearm; pitch control regulation of +9.9% in precise 0.1% steps, with LED display showing the variation. P-mount cartridge adapter; channel balance; auto start; front-panel-mounted controls; w&F <0.05%. 17.7 x 5.6 x 15.6 in. 20 lb. $1,500

**SONOGRAPHE BY CONRAD-JOHNSON**

SG-3 Manual Turntable
- Belt-drive turntable without tonearm. Tuned suspension, resonance-free polymer platter. w&F <0.02% rms; rumble <62 dB. 6.75 x 18.25 x 14.5 in. (dustcover down). 23 lb. $449

**SONY**

PS-FL7II Automatic Turntable
- Features low-mass P-mount tonearm; fully-damped cueing; auto return and stop; cue control with strobe; frequency-controlled DC motor, hinged, adjustable dustcover. $200

**SHERWOOD**

ST-887R CP Automatic Direct-Drive Turntable
- Digi-Link remote compatibility with other Sherwood products. P-mount cartridges; direct read-out stylus pressure indicator; DC servo motor; front-panel access to controls; 33⅓/45 rpm. $180

**SHERWOOD**

PS-FL7II Automatic Turntable
- DC servo-motor direct drive; front-panel operating controls; fully automatic start, stop, return; repeat feature; cue control with strobe; maximum tracking error +2.6°; die-cast alloy platter; 45 rpm center adaptor. 2 speeds, w&F 0.06%. 4.6 x 17.5 x 15 in. $179

PM-1270 Turntable
- Belt-drive turntable with MTD straight-line tonearm system. Features auto stop; die-cast alloy platter; pitch control with strobe; cueing control; straight-line tubular static balanced tonearm; maximum tracking error ±2.6°; 2 speeds, w&F 0.08%. 3.0 x 13.0 x 9.0 in. $169

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*The above table is a representation of various turntables available in the market, along with their features and prices.*
SL-MAI Automatic Direct-Drive Turntable
Belt-drive P-mount turntable with pivoted arm. Features: 33.33 and 45 rpm, cueing lever, anti-resonance base, disc size selector, remote control capability. W&F 0.046%, rumble 70 dB, 17 x 4.5 x 14 in (dustcover down); 9 lb  $180

SOTA INDUSTRIES
Cosmos Turntable System
Belt-drive turntable. Features inverted Sapphire bearing; massive 12 lb platter on 22 lb subassembly; 4 point corner weights and matching 4 spring design; regulated DC-drive, fully damped, fully isolated motor; vacuum hold-down; vinyl format Vinyl-Mimic, rigid arm support; one-piece design platter block, motor hard-mounted to subassembly. Comes with vacuum, reflex clamp, electronic flywheel, and deluxe tone arm board. W&F 0.03% rms; rumble −88.2 dB; speed accuracy ±0.02%; speed adjustment 5%. 20.25 x 16.5 x 7.5 in. Grey Corian with wood inlay...

High-gloss black  $4,000

Star Sapphire Turntable
Manual 2-speed belt-drive turntable with variable speed control and strobos. Features vacuum hold-down; heavy-duty cover (12 lb) subassembly for maximum isolation; exclusive inverted bearing with Sapphire disc; single piece (11 lb) platter; rim drive; vacuum hold-down system; low-level pressure; continuous through play, adjustable vacuum. Includes acrylic vacuum permut. All-wood top and speed-control panel; heavy-duty dust cover, oak finish W&F 0.03% rms; rumble −88.2 dB; speed accuracy ±0.02%; speed adjustment 5%. 20.25 x 16.5 x 7.5 in  $500 Oak  $500

Exotic woods  $1,750 to $1,900 Black satin finish  $2,000

Deluxe Sapphire Turntable
Features inverted Sapphire bearing; massive 12 lb platter on 22 lb subassembly; 4 point corner weights and matching 4 spring design; regulated DC-drive; fully damped, fully isolated motor. W&F 0.03% rms; rumble −88.2 dB; speed accuracy ±0.02%; speed adjustment 5%. 20.25 x 16.5 x 7.5 in. Oak finish  $1,195

TECHNICS
SL-M3 Automatic Direct-Drive Turntable
Features 33.33- and 45- rpm; quartz lock PLL; P-mount; variable speed; strobe. W&F 0.008% rms; rumble −82 dB; effective tonearm length 238 mm; max tracking error within ±0.05%; 20.09 x 8.06 x 16.09 in (dustcover down); 33.1 lb  $685

SL-1200MKII Direct-Drive Disco Turntable
Quartz-controlled 33.33- and 45-rpm manual turntable. Features ±8% quartz-locked pitch control; quick start and stop; pop-up stylus light; gimbal-suspended tonearm with height adjustment; brushless DC motor; aluminum die-cast cabinet; anti-resonant viscoelastic main base. W&F 0.025%  $570

SL-M2 Manuaal Direct-Drive Turntable
Quartz-locked P-mount turntable. 33.33 and 45 rpm, variable speed control with optical sensor for end-of-record pickup. W&F 0.008% rms; rumble −88.2 dB; effective tonearm length 230 mm; max tracking error ±2.32°. 17.8 x 6.7 x 16.2; 28.6 lb  $520

SL-MA1 Automatic Direct-Drive Turntable
Features PLL quartz lock; P-mount; 33.33 and 45 rpm. W&F 0.012% rms; rumble −80 dB; effective tonearm length 230 mm; max tracking error ±2° at inner groove and ±2.32° at outer groove; 17.22 x 6.69 x 16.06 (dustcover down); 19.8 lb  $460

SL-133 Programmable PLL Turntable
Direct-drive automatic P-mount turntable allows up to 8 tracks to be played in any order. Includes number of tracks on album side and which track is playing. Remote controlled through some Technics receivers. Features linear ear tracking; quartz lock; 33.33 and 45 rpm; front-panel feather-touch controls; cueing; auto stylus muting. W&F 0.012%; rumble −78 dB; effective tonearm length 105 mm; max tracking error ±0.1°. 12.25 x 4 x 12.75 in (dustcover down); 9 lb  $270

SL-L20 Automatic Linear-Tracking Turntable
Belt-drive P-mount turntable can be operated by remote control through some Technics receivers. Front-panel soft-touch controls: cueing; 2-speed search; auto disc-size/speed detection to prevent tonearm from lowering on empty mat; 33.33 and 45 rpm. W&F 0.012% rms; rumble −70 dB; effective tonearm length 105 mm; max tracking error ±0.1°. 17 x 3.74 x 13.75 in; 8 lb  $205

SL-QD33 Automatic Direct-Drive Turntable
Can be operated by remote control through some Technics receivers. P-mount; 2 motors to avoid mechanical linkages between tonearm and platter-drive motor; end-of-disc detection, electronic feather-touch front-panel controls; ultra-low-speed brushless DC motor for platter drive; 33.33 and 45 rpm; pivoting arm; quartz lock; strobe. W&F 0.012% rms; rumble −78 dB; effective tonearm mass 7.5 g, length 230 mm; max tracking error ±2°. 17 x 4.5 x 14.75 in (dustcover down); 10 lb  $210

SL-D022 Semiautomatic Turntable
Belt-drive turntable with aluminum die-cast full-gimbil pivot with highly rigid lightweight aluminum tonearm. Features front-panel cueing control; TNRC vibration-isolation base; pivoted arm; 33.33 and 45 rpm. W&F 0.045% rms; rumble −70 DB DIN B; 17 x 4.5 x 14.75 in (dustcover down); 8 lb  $135

Turntables Without Tonearms
SP-10MK3 33/45/78-rpm Turntable
Quartz-controlled direct-drive turntable with high torque for full speed in 25° of rotation, electronic, mechanical braking for speed change in 0.3 sec; high-precision integral rotor-platter quartz motor; quartz-locked pitch control (0.1% steps to ±9.9% all speeds). Separate power supply in remote-mounting base. W&F 0.015% rms; rumble −0.001%; 14.22 x 14.22 x 4.44 in.; turntable weight 40 lb; power supply/control unit 13.2 lb  $2,840

SH-1083. Optional turntable base  $1,230

SP-10MK2A 33/45/78-rpm Turntable
Quartz-controlled direct-drive turntable with high torque for full speed in 25° of rotation; electronic, mechanical braking for speed change in 0.3 sec; separate power supply, remote-control unit. W&F 0.025% rms; 14.49 x 14.49 x 4.02 in; 20.9 lb  $1,550

SH-1083. Optional base  $950

SP-15 33/45/78-rpm Turntable
Quartz-controlled direct-drive turntable that reaches full speed in 0.4 sec (40x of rotation); stops in 0.4 sec (40x of rotation) at 33.33 rpm, ±9.9% quartz-locked pitch control. W&F 0.025% rms; rumble 56 dB DIN-A, 78 DB DIN-B  $980

SP-35. Similar to SP-15 except no 78-rpm speed; ±6% pitch control  $640

SH-15B2. Heavy acoustic rubber base with simulated wood for SP-25 and SP-15  $540

SH-15B3. Similar to SH-15B2 except heavy acoustic rubber base only  $540

THORENS by EPI
All Thorens turntables are belt-driven, single-play units having straight tubular tonearms for maximum rigidity; gimbal suspension; antiskate control; 9.12% effective tonearm length; tracking error <0.18/cm (0.046/in). TD 520 Semiautomatic Single-Play Turntable Belt drive with automatic tonearm lift, motor shut-off, 33.33, 45, 78 rpm; electronic speed selection; ±6% pitch control, strobescope; velocity-sensing auto shut-off trigger; frictionless magnetic antiskating; twin solid-core chassis and 3-point leaf-shaft suspension. W&F 0.046%, rumble −72 dB unwtd, −72 dB wtd; 6.75 x 17.36 x 13.88 in  $600

TD 521. Armless version of TD-320  $500

TD 320 Semiautomatic Single-Play Turntable Belt drive 33.33 and 45 rpm turntable with solid core chassis: 16-pole synchronous motor; twin solid-core chassis and 3-point leaf-shaft suspension; friction-free velocity sensing auto shut-off. W&F 0.03%, rumble −52 dB unwtd, −72 dB wtd; 6.75 x 17.36 x 13.88 in  $450

TD 321. Manual turntable similar to TD 318 without auto lift and shut off  $350

TD 280 Semiautomatic Single-Play Turntable Belt drive 33.33/45 rpm with 24-pole synchronous motor. 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 unwtd, −70 dB wtd; 5.3 x 17 x 14 in  $275

TOSHIBA
SR-5638 Automatic Turntable
Automatic, belt-drive features front panel cueing, start, stop; power select, select speed; magnetic cartridge plays 45 and 33.33 rpm  $129

YAMAHA
PF-808B Semiautomatic Turntable Belt drive pivoted-arm semi-automatic turntable with dynamic balance twin-pipe tonearm. Features two-section zinc plus aluminum platter, operates at both 33.33 and 45 rpm speeds, variable speed control ±6 percent. W&F with 0.023 percent weighted root mean square; rumble 80 dB; effective tonearm length 8.75"; 18.62 x 4.5 x 14.75 in (dust-cover down); 35 lb  $399

TT 500U Automatic Turntable
Direct-drive turntable with RS integrated remote system compatibility. Features straight tonearm design, resonance absorbing turntable mat; disc clamp. Black. 15 lb  $269
Acoustic Research

**TSW-710 3-Way Speaker**
Floor-standing columnar acoustic-suspension speaker with Tetra-Helix tweeter mounting plate. Features two 12" woofers (one front-firing, one rear-firing); 8" lower-midrange driver; two 6.5" midranges; 1" titanium-dome liquid-cooled tweeter with acoustic lens; split crossover network. Power range 35-400 W; 0.75 ohms; FR -3 dB (half-power) points at 28 Hz and 32,000 Hz; sens 90 dB with 2.83 V rms input at 1 meter on axis. Solid walnut or oak top and bottom with cloth-covered and black-vinyl-ve ner cabinet and black cloth grille. 52.8 x 15.75 x 18.5 in; 140 lb. $2,200/pr

**TSW-910 4-Way Speaker**
Acoustic Research

**TSW-510 3-Way Speaker**
Floor-standing columnar acoustic-suspension speaker with Tetra-Helix tweeter mounting plate. Features two 8" filled polypropylene cone long throw woofers; 6.5" filled polypropylene cone midrange in its own subenclosure, 75° titanium dome liquid cooled tweeter. Power range 1.5-175 W; 0.75 ohms; sens 89 dB with 2.83 V rms input at 1 meter on axis. Solid American hardwood top and bottom (walnut or oak) with black vinyl veneer cabinet and black cloth space frame grille; 38.5 x 14.1 x 13.4 in; 46 lb. $1,300/pr

**TSW-110 2-Way Speaker**
Floor standing columnar acoustic-suspension speaker with Tetra-Helix tweeter mounting plate. Features two 8" filled polypropylene cone long throw woofers, 6.5" filled polypropylene cone midrange in its own subenclosure, 75° titanium dome liquid cooled tweeter. Power range 5-200 W; 0.75 ohms; sens 88 dB with 2.83 V rms input at 1 meter on axis. Solid walnut or oak top and bottom with cloth-covered and black-vinyl-ve ner cabinet and black cloth grille. 30.13 x 12.31 x 11.72 in; 30.5 lb. $800/pr

**TSW-315 3-Way Speaker**
Acoustic Research

**TSW-410 3-Way Speaker**
Acoustic Research

**TSW-610 2-Way Speaker**
Acoustic Research

**A/D/S/ Monitor Series**

**M15 Floor-Standing 3-Way Speaker**
Vertically aligned "unison" drivers (2 10" woofers and 5.25" midrange in separate subenclosure, 1" dome tweeter); woofers near floor, midrange at top, to control boundary effects; polymer 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 for high power handling and dynamic linearity; frameless perforated-steel grilles; walnut veneer or black. FR 30-22,000 Hz ±3 dB, sens 89 dB SPL/W/m; imp 8 ohms. 47.3 x 11.5 x 15.8 in; 47.3 lb. $3,000/pr

**M12. Similar to M15 except 8" woofers:**
FR 36-22,000 Hz ±3 dB, sens 88 dB SPL/W/m; 43.3 x 10.5 x 14.2 in; 85 lb. $1,900/pr

**M9. Similar to M12 except 10" woofers:**
33.7 x 11.5 x 13 in; 80 lb. $1,400/pr

**Compact Monitor Series**

**CM7 3-Way "Unison" Speaker**
7" woofer, 1.5" dome midrange, 1" dome tweeter; polymer diaphragms; 4th-order Linkwitz-Riley crossovers at 700 and 2,000 Hz; voice-coil forms of stainless steel for woofer and Kapton for midrange and tweeter; magnetic cooling fluid in midrange and tweeter for high power handling and dynamic linearity; enclosure molded from polymer resin filled with metallic mineral for high density and inertness; frameless perforated steel grille. Black or white. FR 40-22,000 Hz ±3 dB, sens 87 dB SPL/W/m; imp 4 ohms. 16.4 x 8.8 x 10.9 in; 45 lb. $1,400/pr

**CM6. Similar to CM7 except 5.25" woofers:**
FR 65-22,000 Hz ±3 dB, sens 86 dB SPL/W/m; 9.7 x 5.7 x 6.9 in; 22 lb. $850/pr

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*STereo Review February 1989*
B8 Two Way Speaker
Bookshelf 2 way speaker with 1" dome tweeter and 8" Stifflite woofer. Power handling 15-125 W; FR 44-22,000 Hz; imp 4 ohms; crossover freq. 2,000 Hz; 19.7 x 11.4 x 10.3 in; 25 lb; black $550/pr

B7 Two Way Speaker
Bookshelf 2 way speaker with 1" dome tweeter and 7.7" Stifflite woofer. Power handling 15-100 W; FR 46 22,000 Hz; imp 4 ohms; crossover freq. 2,400 Hz; 17.1 x 10 x 9.1 in; 19 lb $420/pr

Miniature Speakers
300CC 2-Way Acoustic-Suspension Speaker
5.25" high-compliance long-exursion Stifflite woofer, 1" soft-dome tweeter. Features aluminum enclosure (black textured urethane with convex-steel grille). Available on special order in 6 custom colors with matching grilles and brackets (black, light grey, dark grey, beige, mocha, white). FR 65-20,000 Hz ±3 dB; crossover 2,000 Hz with 12 dB/octave slope; sens 89 dB SPL/W/m; rated input 30 W continuous, 75 W peak program; imp 4 ohms $430/pr

200CC 2-Way Acoustic-Suspension Speaker
4" high-compliance ultra-long-exursion woofer, 1" soft-dome tweeter; brushed-aluminum enclosure (textured urethane with convex-steel grille). Available on special order in 6 custom colors with matching grilles and brackets (black, light grey, dark grey, beige, mocha, white). FR 85-20,000 Hz ±3 dB; crossover 2,000 Hz with 12 dB/octave slope; sens 88 dB SPL/W/m; rated input 30 W continuous; min input 5 W; imp 4 ohms. 6.88 x 4.25 x 4.75 in $330/pr

ADVENT
The Advent Maestro
Acoustic-suspension floor-standing speaker with solid-pecan top and base with beveled edges. Anti-diffraction baffle cover, and grille with rounded side edges. Features 10" black cone and surround woofer, 2" mica-filled black polypropylene-dome midrange in subwoofer enclosure; 1" ferrofluid-filled soft-dome tweeter. FR 40-23,000 Hz ±2.5 dB; min power 150 W rms; max power 750 W peak; sensitivity 90 dB SPL/W/m; imp 6 ohms. 50 lb; 33.25 x 16 w x 9.75 in $700/pr

The Advent Legacy
Acoustic-suspension floor-standing liquid-cooled speaker with solid-pecan top and base with wrap-around grille. Features 10" high-exursion cone woofer with aluminum-collform; 1" ferrofluid-filled soft-dome tweeter. FR 42-23,000 Hz ±3 dB; min power 100 W rms; max power 500 W peak; sensitivity 90 dB SPL/W/m; imp 6 ohms. 50 lb; 33.25 x 16 w x 9.75 in $399/pr

ALLISON ACOUSTICS
IC-20 Image-Control Speaker
Triangular acoustically-tuned speaker tower speaker with 1 side facing wall, 1 side facing in, 1 facing out, each side facing away from wall has 10" woofer, 2.5" convex midranges, 2.1" convex tweeters; relative balance of mids and tweeters on each panel may be adjusted by remote control or with switch on rear to direct more sound in (for precise imaging with more direct and less reflected sound), out (for open and spacious ambience with more reflected and less direct sound), left, right, or centered (for equal amplitude at off-center listening positions); level of each panel has 3 possible settings; LED's on center of speaker display setting: drivers positioned to minimize room interaction; inside woofer pointed into cabinet, outside woofer pointing out; separate inputs for woofer and for mids and tweeters for easy biamping; auto-resetting crossovers in each crossover; cabinet panels 0.75"-1.25" thick, braced front-to-back and between panels, interior damped with glass fiber; passive crossover half-section crossovers at 350 and 3,750 Hz, oak, walnut, or black. FR ±3 dB at 28.5 Hz; 8 dB at 21 Hz; imp 6 ohms nominal, 8 average, 5 min, power range 30-400 W/ch; sens 87 dB SPL/28.3 V/m; 48 x 21 x 12 in; 10 lb $1,490/pr

CD9 3-Way Floor-Standing Speaker
Stabilized-radiation-loading speaker with 10" woofer, 3.5" convex-diaphragm midrange, 1" convex-diaphragm tweeter. Power range against single wall. LC half-section crossover network with switches to select system acute response (flat to concert-hall bass slope); walnut or oak veneer cabinet with hand-rubbed lacquer finish, steel base. FR down 3 dB at 35.5 Hz; crossovers 350 and 3,750 Hz; imp 4 ohms; efficiency 0.7% at floor/wall intersection; power range 360-2000 W; sens 98 dB W/m; 48 x 21 x 12 in; 10 lb $1,100/pr

CD8 3-Way Floor-Standing Speaker
Stabilized-attraction-loading speaker with 8" woofer, 3.5" convex-diaphragm midrange, 1" convex-diaphragm tweeter. LC half-section crossover network with switches to select system acute response from flat to concert-hall slope. Walnut or oak veneer cabinet with hand-rubbed lacquer finish. Crossover frequency 450 and 3,750 Hz; efficiency 0.7%; power range 100-1000 W; response -3 dB at 39 Hz, 28.62 x 10.5 x 10.5 in $950/pr

CD7 2-Way Floor-Standing Speaker
Stabilized-attraction-loading speaker with 8" woofer, 1" convex-diaphragm tweeter, designed for placement against single wall. LC crossover network with premium chokes, computer-grade resistors in each crossover; cabinet panels 0.75' in; 20mm polyimide dome tweeter. FR -8 dB at 21 Hz; imp 8 ohms nominal, 10 average, 8 min, power range 30-200 W; sens 85 dB W/m; 48 x 21 x 12 in; 10 lb $750/pr

ALLISON ACOUSTICS
IC-20 Image-Control Speaker
Triangular acoustically-tuned speaker tower speaker with 1 side facing wall, 1 side facing in, 1 facing out, each side facing away from wall has 10" woofer, 2.5" convex midranges, 2.1" convex tweeters; relative balance of mids and tweeters on each panel may be adjusted by remote control or with switch on rear to direct more sound in (for precise imaging with more direct and less reflected sound), out (for open and spacious ambience with more reflected and less direct sound), left, right, or centered (for equal amplitude at off-center listening positions); level of each panel has 3 possible settings; LED's on center of speaker display setting: drivers positioned to minimize room interaction; inside woofer pointed into cabinet, outside woofer pointing out; separate inputs for woofer and for mids and tweeters for easy biamping; auto-resetting crossovers in each crossover; cabinet panels 0.75"-1.25" thick, braced front-to-back and between panels, interior damped with glass fiber; passive crossover half-section crossovers at 350 and 3,750 Hz, oak, walnut, or black. FR ±3 dB at 28.5 Hz; 8 dB at 21 Hz; imp 6 ohms nominal, 8 average, 5 min, power range 30-400 W/ch; sens 87 dB SPL/28.3 V/m; 48 x 21 x 12 in; 10 lb $1,490/pr

ADVENT
The Advent Maestro
Acoustic-suspension floor-standing speaker with solid-pecan top and base with beveled edges. Anti-diffraction baffle cover, and grille with rounded side edges. Features 10" black cone and surround woofer, 2" mica-filled black polypropylene-dome midrange in subwoofer; 1" ferrofluid-filled soft-dome tweeter. FR 40-23,000 Hz ±2.5 dB; min power 150 W rms; max power 750 W peak; sensitivity 90 dB SPL/W/m; imp 6 ohms. 50 lb; 33.25 x 16 w x 9.75 in $700/pr

The Advent Legacy
Acoustic-suspension floor-standing liquid-cooled speaker with solid-pecan top and base with wrap-around grille. Features 10" high-exursion cone woofer with aluminum-collform; 1" ferrofluid-filled soft-dome tweeter. FR 42-23,000 Hz ±3 dB; min power 100 W rms; max power 500 W peak; sensitivity 90 dB SPL/W/m; imp 6 ohms. 50 lb; 33.25 x 16 w x 9.75 in $399/pr

Mini-Advent Satellite/Subwoofer System
Complete compact size subwoofer system includes Mini Advent satellites, with two 5.25" high-exursion woofers and two .5" polycarbonate ferrofluid-filled tweeters, and subwoofer with two 5.25" highexcursion bass drivers. FR 60-21,000 Hz ±3 dB; imp 6 ohms. Power handling 55 W rms, 165 W peak $380

Advent Prodigy Tower
2 way floor standing speaker with 75" polymide ferrofluid-filled tweeter and 8" high excursion woofer. 300 W peak 75 W rms. Finished in an oiled solid pecan wood top and base. 28.5 x 10.3 x 8.75 in; 25.25 lb $350/pr

AMBIER BY PARASOUND
S-2000 5-Piece System
Subwoofer obelisk with 6 drivers: 4 satellite 2-way speakers (for pole, wall, ceiling mount with Ambiera fixtures), black or white; subwoofer finished in hand-rubbed piano-grade lacquer. FR 28-22,000 Hz ±3 dB; sens 92 dB, imp >4 ohms with up to 10 satellites, subwoofer 12 x 12 x 46 in $1,750/system

AMERICAN ACoustics
PSM-200 Powered Subwoofer
Fifth order crossover network with parametric EQ. LED display and individual gain, frequency and boost controls. 15" vented; 15" polyurethane coated, 2" voice coil; FR 28-60 Hz, user adjustable sens, power handling 400 W rms; 19.5 x 22.5 x 18.75 in $699 ea

J9950 5-Way Tower Speaker
12" 5-way speaker. Features 12" polymer foam
<table>
<thead>
<tr>
<th>SPEAKERS</th>
<th></th>
</tr>
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<tbody>
<tr>
<td><strong>APEOGEE ACOUSTICS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>D8550 3-Way Speaker</strong></td>
<td>Vented speaker with 15&quot; polyester coated woofer; 5&quot; sealed back ferrofluid damped midrange; solid dome polymer ferrofluid tweeter. FR 37-20,000 Hz; sens 89 dB; imp 8 ohms.</td>
</tr>
<tr>
<td><strong>APOGEE ACOUSTICS</strong></td>
<td>crossover frequency 700 Hz, 5,000 Hz; power soft dome polymer ferrofluid tweeter. FR 37-20,000 Hz; sens 99.5 dB/W/m; imp 8 ohms; power range 50-600 W. 39.75 x 17 x 22 in; 110 lb ea.</td>
</tr>
<tr>
<td><strong>D8550 3-Way Speaker</strong></td>
<td>$400 ea</td>
</tr>
<tr>
<td><strong>APOGEE ACOUSTICS</strong></td>
<td><strong>LS-Nine Speaker</strong></td>
</tr>
<tr>
<td><strong>LS-Twelve Speaker</strong></td>
<td>Floor standing/bookshelf 2-way speaker with 6.5&quot; polymer woofer and 1&quot; soft dome ferrofluid cooled tweeter. FR 40-20,000 Hz; sens 93 dB; imp 8 ohms; power capacity 90 W; available in oak veneer, black or white enamel over high density particle board with metal grille. 22.88 x 8.63 x 7.88 in; 17.5 lb.</td>
</tr>
<tr>
<td><strong>LS-Nine Speaker</strong></td>
<td>$380/pr</td>
</tr>
<tr>
<td><strong>LS-Eleven Speaker</strong></td>
<td>Compact acoustic suspension speaker with two 4&quot; polymer polypropylene woofers and 1&quot; ferrofluid cooled soft dome tweeter. Video shielding for hi-fi video applications. FR 60-20,000 Hz; sens 89 dB; imp 8 ohms; power capacity 28 W; available in oak or walnut grille. Fabric grille. 11.36 x 17.62 x 8.31 in.</td>
</tr>
<tr>
<td><strong>LS-Eleven Speaker</strong></td>
<td>$320/pr</td>
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<tr>
<td><strong>AUXIO</strong></td>
<td><strong>AX-1 Reference Monitor</strong></td>
</tr>
<tr>
<td><strong>AX-5 Reference Monitor</strong></td>
<td>Floor-standing speaker combines a two-way system for the range from 180-22,000 Hz with a rear-mounted 10&quot; subwoofer in a separate sub- enclosure vented with a tuned port in front. Overall response 32-22,000 Hz +2 dB; sens 87 dB SPL; power handling 250 W; nom imp 4 ohms. Biamp/able. Finish natural, dark or black oak. 30 x 12 x 11.25 in.</td>
</tr>
<tr>
<td><strong>AX-5 Reference Monitor</strong></td>
<td>$1,549/pr</td>
</tr>
<tr>
<td><strong>AX-2 Reference Monitor</strong></td>
<td>Floor-standing two-way speaker with 8&quot; woofer and dome tweeter in rear-ported enclosure. FR 40-22,000 Hz +2 dB; sens 89 dB SPL; power handling 12-250 W; nom imp 6 ohms. Biamp/able. Finish natural, dark, or black oak. 24 x 10 x 9 in.</td>
</tr>
<tr>
<td><strong>AX-2 Reference Monitor</strong></td>
<td>$749/pr</td>
</tr>
<tr>
<td><strong>AX-1 Reference Speaker</strong></td>
<td><strong>B&amp;W LOUDSPEAKERS</strong></td>
</tr>
<tr>
<td><strong>208 Ported Speaker</strong></td>
<td>Floor-standing speaker with two 300-mm thermoplastic cone woofers, 100-mm polyamide matrix-cone midrange, 32-mm polyamide dome tweeter. Features computer-optimized drivers and cabinet. Audio Powered Overload Circuit; 4th-order Butterworth crossover. FR 20-20,000 Hz +2 dB; imp 8 ohms.</td>
</tr>
<tr>
<td><strong>208 Ported Speaker</strong></td>
<td>$599/pr</td>
</tr>
</tbody>
</table>

**APEOGEE ACOUSTICS**

<table>
<thead>
<tr>
<th>Diva 3-Way Ribbon Speaker</th>
<th>Full-range ribbon speaker with adjustable seamless crossover. Features trapezoidal woofer ribbon, separate midrange and tweeter ribbons. SPL 115 dB; imp 4 ohms. 57 x 30 x 3.5 in; 140 lb ea.</th>
<th>$7,500/pr</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scintilla Full-Range Ribbon Speaker</strong></td>
<td>Full-range ribbon speaker with internal seamless crossover. Features trapezoidal woofer ribbon, integrated coaxial midrange/tweeter ribbon that utilizes filtered magnetic and electro- magnetic constraints. SPL 110 dB; imp 4 or 8 ohms. 9.5 in. x 14.5 in; 43 lb ea.</td>
<td>$3,995/pr</td>
</tr>
<tr>
<td><strong>Duetta 2-Way Ribbon Speaker</strong></td>
<td>Mid-size 2-way full-range ribbon speaker. Utilizes ribbon transducers for both midrange/tweeter and woofer. Features trapezoidal woofer ribbon; combination midrange/tweeter ribbon; internal seamless crossovers. SPL 100 dB; imp 4 ohms. 58 x 26 x 3 in; 115 lb ea.</td>
<td>$3,995/pr</td>
</tr>
<tr>
<td><strong>Caliper 2-Way Ribbon Speaker</strong></td>
<td>Mid-size 2-way full-range ribbon speaker. Features trapezoidal woofer ribbon, narrow-canted combination midrange/tweeter ribbon; seamless crossover circuitry. SPL 105 dB; imp 3 ohms. Taupe or grey. 48 x 24 x 2 in.</td>
<td>$2,395/pr</td>
</tr>
<tr>
<td><strong>ARCAM</strong></td>
<td><strong>AXM 3 Series 2 Speakers</strong></td>
<td></td>
</tr>
<tr>
<td><strong>AXM One+ Speaker</strong></td>
<td>Solid-construction, reflex-loaded cabinets with ultra-rigid medite front baffles. Features genuine wood veneers: polymer cone bass-midrange drivers match proprietary dome tweeters via 8 element crossovers. FR 35-20,000 Hz; 100 W power handling; imp 8 ohms; walnut or black finish. 10.15 x 12.48 x 20.20 in.</td>
<td>$799/pr</td>
</tr>
<tr>
<td><strong>AXM Two+ Speaker</strong></td>
<td>Solid-construction, reflex-loaded cabinets with ultra-rigid medite front baffles. Features genuine wood veneers; polymer cone bass-midrange drivers match proprietary dome tweeters via 8 element crossovers, which may be bi-wired. FR 42-20,000 Hz; 70 W power handling; imp 8 ohms; optional walnut or black finish. 8.77 x 11 x 14.88 in.</td>
<td>$599/pr</td>
</tr>
<tr>
<td><strong>Digital Monitor Series</strong></td>
<td><strong>DM-1600</strong></td>
<td></td>
</tr>
<tr>
<td><strong>A-D 4-14 Bi-amplified Speaker System</strong></td>
<td>Biamplified 2-way bass-reflex bookshelf speaker incorporates Ace-Bass subwoofer with two 5&quot; down-firing rear-mounted woofers and own amp, flush-mounted 4.5&quot; cone midrange; 1&quot; soft dome polymer tweeter. FR 37-20,000 Hz; sens 95 dB/W/m; imp 8 ohms. Peak power handling 410 W; warm oak or black ash finish. 40.88 x 15.94 x 14.56 in ... $400 ea</td>
<td>$890/pr</td>
</tr>
<tr>
<td><strong>Audio Pro by Sonic Research</strong></td>
<td><strong>Matrix Series 2 Speakers</strong></td>
<td></td>
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<tr>
<td><strong>B&amp;W LOUDSPEAKERS</strong></td>
<td><strong>Model 2 Series 2 Speaker</strong></td>
<td></td>
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<tr>
<td><strong>DM-800 Series</strong></td>
<td><strong>Model 3 Series 2 Speaker</strong></td>
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<tr>
<td><strong>DM-800 Series</strong></td>
<td><strong>DM-800 Series</strong></td>
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<tr>
<td><strong>B&amp;W LOUDSPEAKERS</strong></td>
<td><strong>Model 3 Series 2 Speaker</strong></td>
<td>Floor-standing 4th order Butterworth vented system consisting of CM1 head unit crossing over at 150 Hz into subwoofer section forming the stand. B&amp;W matrix enclosure is employed in both stand and head module. APOC system. Imp not less than 4 ohms, power range 30-200/W. 39.19 x 6.38 x 8.31 in; base weight 10 x 9.5 in. Finish in column-black, white, nextel grey, walnut.</td>
</tr>
</tbody>
</table>
I wanted a better cassette deck. So one Saturday I dropped by a hi-fi store. The salesman took me into one of the sound rooms for a demonstration. Racks of equipment were everywhere. He started to make a recording and I immediately fell in love with the music. It was so clean, so rich, so dynamic.

"What CD is that?" I asked.

He didn't hear me over the music but it didn't matter because I quickly saw that I wasn't listening to a CD at all. It was a record.

I made quick mental notes of the system I was hearing. I walked over to the wall of speakers and discovered that KLIPSCH® kg4s® were playing. That was the first time I had truly heard wide dynamic range.

I didn't buy a cassette deck that day. I spent less money and bought a new pair of kg4s. They've put new life in my old record collection. My CDs sound simply awesome. I never heard music so clearly.

For your nearest KLIPSCH dealer, look in the Yellow Pages or call toll free, 1-800-223-3527.
BEOLAB PENTAP 5.1-DIRECT/REFLECTING WITH ALL TWEETERS

BEOLAB 2000 DEEP-FREEZE ASSEMBLY, 8" SUBWOOFER, 2" TWEETERS, STEREO TAILORED SYSTEM, DUAL-CHAMBER SUB-PORTED BASS VENTING SYSTEM, INTERACTIVE CROSSOVER NETWORK, HARDWOOD VENEER WITH TEAK FINISH, MIN POWER 10 W RMS, IMP 8 OHMS, 20 X 10 X 9.62 IN, 19.5 LB

$599/PR

6.2 BASS-REFLEX SPEAKER

BOOMER G11.5 SERIES III SPEAKER SYSTEM

AM-5 ACOUSTIMASS THREE-PIECE SYSTEM

BOSTON ACOUSTICS

T1000 SERIES III 3-WAY SPEAKER

T930 3-WAY SPEAKER

T830 3-WAY SPEAKER

118 STEREO REVIEW FEBRUARY 1989
A Series Speakers
A100 Series III 2-Way Speaker
Acoustic-suspension speaker with 10" polypropylene cone woofers and 1" CFT5 ferrofluid-cooled soft-dome tweeter. Features tapered-grille design to eliminate sonic diffraction. Power range 15-125 W rms; FR 20,000 Hz ±3 dB; bandwidth 3-140,000 Hz; distortion <0.03%; S/N 100 dB. 15 x 6.65 x 15.6 in. Available in black and white ash, matte or walnut finishes. $500/pr

A140 Series II 2-Way Speaker
Acoustic-suspension speaker with 8" polypropylene cone woofers and 1" TeXtyle soft-dome ferrofluid-cooled tweeter. Power range 55-350 W; FR 5,000 Hz ±3 dB; crossover at 2,000 Hz; sens 90 dB SPL/W/m; imp 8 ohms. Woodgrain vinyl finish with tapered charcoal grille. Includes black pedestal base. 32.5 x 16 x 8.36 in. Oak or walnut veneers. $700/pr

CT 120 Floor-Standing Speaker
4-way bass-reflex speaker featuring 12" woofer, 8" bass/midrange, 1.5" midrange, 1" titanium-dome tweeter. Power handling 200 W continuous/350 W peak; imp 4 ohms; crossover frequencies 250/1,100/4,600 Hz. 14.2 x 47.25 x 15.6 in. Available in black and white ash, matte mahogany, custom. $16,500/pr

CT 90 Floor-Standing Speaker
3-way bass-reflex speaker featuring 10" woofer, 5" midrange, 1" silk dome tweeter. Power handling 150 W continuous/250 W peak; imp 4 ohms; crossover frequencies 450/4,000 Hz. 12.2 x 35.5 x 12.9 in. Available in oak, walnut, black and white ash, matte mahogany, custom. $2,250/pr

CT 80 Floor-Standing Speaker
3-way bass-reflex speaker features 8.5" woofer, 5" midrange, 1" titanium-dome tweeter. Power handling 100 W continuous/150 W peak; imp 4 ohms; crossover frequencies 450/4,000 Hz. 11 x 31.5 x 11.5 in. Available in oak, walnut, mahogany, black or white ash, custom. $1,650/pr

Karat 40 Bookshelf Speaker
3-way speaker features 220-mm woofer; 25-mm midrange; 25-mm titanium-dome tweeter. Power handling 90 W continuous/130 W peak; imp 4 ohms. 10.9 x 20.1 x 10.9 in. Available in oak, walnut, mahogany, white, or black, $1,390/pr

Karat 30 Bookshelf Speaker
2-way speaker features 220-mm woofer; 25-mm titanium-dome tweeter, power handling 80 W continuous/110 W peak; imp 4 ohms. 10.8 x 17 x 10.9 in. Available in oak, walnut, mahogany, white, or black. $890/pr

Karat 20 Bookshelf Speaker
2-way speaker features 200-mm woofer, 25-mm titanium-dome tweeter, power handling 50 W continuous/80 W peak; imp 4 ohms. 8.7 x 13.5 x 8.2 in. Available in oak, walnut, mahogany, white, or black. $690/pr

GL 300 F Speaker
Low-profile 2-way speaker acoustically tuned for wall mounting. Features 25-mm dome tweeter (fabric), long-throw 180-mm cone woofer. Enclosure surfaces black or white; grille of perforated steel plate; color to match enclosure; plywood holding frame; 2-meter connecting cable; removable grille. Nominal im 6 ohms, nominal power handling 40/60 W; fr 48-30,000 Hz; crossover at 1,700 Hz; 12.6 x 8.66 x 3.15 in. $500/pr

With walnut finish $550/pr

Plus C Subwoofer
Compact passive 310-mm cone subwoofer for use in connection with satellite speakers. FR 10-6,200 Hz; power handling 300 W; sens 89.9 dB SPL/W; imp 4 ohms. $495/pr

SL700 Speaker
2-way bass-reflex design, using Aerolam cabinet of 12 liter volume. 120 W program power handling and using an integral stand. Metal dome tweeter and 2 part roll surround on the woofer/w/stands. $3,000/pr

SL600 Si
Two way system using a one piece metal dome tweeter and a 6" plastic bass unit. Cabinet is made from Aerolam, an aluminum honeycomb construction. $2,000/pr

SL12 Si
Two and a half way speaker system using a one piece metal dome tweeter and a 6" bass/midrange unit. Cabinet has figure-8 bracing and separate bass enclosure. $1,500/pr

SL6 Si
Two way system with one piece metal dome tweeter and 6" plastic bass unit. Figure 8 bass cabinet bracing and fully locked rear panel. Gold plated connectors. $950/pr

D10 Series 2 - 3-Way Speaker
Bass-reflex speaker with separate midrange enclosure. 10" woofer, 6" midrange, 12.5" aluminum dome tweeter, and a 6" bass unit with integral dust cover and roll surround. $929/pr

DL8 Series 2 - 2-Way Speaker
Sealed cabinet speaker with 8" celoprene cone woofer and 1" metal tweeter. Designed for stand mounting, uses a figure 8 cabinet brace and is available in simulated American walnut or black finishes. $540/pr

CELLO
Anati Speaker
Compact speaker for wall, shelf, or stand
CERWIN-VEGA

Digital Series Speaker Systems

D-9 3-Way System Speaker

Three-way, four-driver, floor-standing speaker with 15" woofer, dual 6" midrange and 1" tweeter. Features Helmholtz/Thiele enclosure fabricated from high-density pressed board with woodgrain vinyl finish and acoustically transparent brown stretch grille. FR 29-20,000 Hz; power range 5-350 W; sens 101 dB; imp 4 ohms; crossover frequencies 500 and 3,500 Hz; 18.0 x 35.5 x 17.75 in; 85 lb. $1,050/pr

D-7 3-Way System Speaker

3-way tower speaker with 12" woofer, dual 6" cone distributed midrange driver in large chamber, 1" horn tweeter. Features circuit protection; midrange, tweeter level controls; FR 25-20,000 Hz ± 3 dB; crossovers 500 and 3,500 Hz; 18.0 x 35.5 x 17.75 in; 85 lb. $1,050/pr

D-3 3-Way System Speaker

3-way shelf-speaker with 10" woofer, 6" cone midrange, 1" horn tweeter. Features circuit protection: midrange, tweeter level controls; FR 30-20,000 Hz ± 3 dB; crossovers 700 and 3,500 Hz; sens 94 dB SPL/W/m; max power 200 W; imp 8 ohms. $870/pr

D-1 2-Way System Speaker

2-way system with an 8" woofer and 1" voice-coil high frequency horn. Features selectable high-frequency protection circuit breaker; vented cabinet; hickory woodgrain vinyl with brown stretch grille. FR 30-20,000 Hz; power min/max 5/100 W; sens 92 dB SPL/W/m; 8 ohms imp; crossover frequency 3,000 Hz: 20.0 x 11.0 x 10.0 in; 49 lb/pr. $340/pr

SW-12B Subwoofer

Vented direct radiating subwoofer compatible with most 4/8 ohm speakers. Features 12" floor-facing woofer built on a die cast aluminum frame with 7 lb magnet; power range 5-125 W; sens 92 dB SPL/W/m; woodgrain vinyl grille finish. 13.25 x 25.5 x 16.25 in; 48 lb. $320/ca

AT Speaker Series

AT-15 3-Way Speaker

3 way bass reflex speaker includes fuse protection. Features 15" woofer; 2.5" midranges, dome tweeter; power handling capacity 5-100 W; sens 102 dB SPL/W/m; imp 4 ohms; 36.5 x 19.0 x 18.5 in; 85 lb. $1,080/pr

AT-12 3-Way Speaker

Similar to above with 12" woofer; 5" midrange; power handling capacity 2-200 W; sens 97 dB SPL/W/m; imp 6 ohms; 30.0 x 16.0 x 14.0 in; 55 lb. $690/pr

AT-8 2-Way Speaker

2-way version of above with 8" woofer, dome tweeter. Features power handling capacity 5-100 W; sens 94 dB; imp 6 ohms; 21.0 x 12.0 x 10.0 in; 26 lb. $410/pr

SE Speaker Series

3800SE Floor-standing Speaker

Floor-standing bass reflex speaker with 15" cone woofer. Features 2 7" polyolefin cone midranges; 1" VC elliptical tweeter; FR 29-20,000 Hz ± 3 dB; min power 5 W rms; max power 205 W rms; sens 102 dB SPL/W/m; imp 4 ohms; black vinyl. 36 x 17.5 x 19.5 in; 90 lb. $1,080/pr

300SE Floor-Standing Speaker

Floor-standing bass reflex speaker with 12" cone woofer. Features 7" polyolefin cone midrange; 1" VC horn loaded dome elliptical tweeter; FR 25-20,000 Hz ± 3 dB; min power 5 W rms; max power 255 W rms; sens 98 dB SPL/W/m; imp 6 ohms; black vinyl. 32.0 x 14.5 x 16.25 in; 65 lb. $900/pr

250SE Floor-Standing Speaker

Floor-standing bass reflex passive speaker with 10" cone woofer. Features Helmholtz/Thiele acoustically dense enclosure with sound absorbing baffle; circuit breaker protection; 6" cone midrange; 1" VC horn loaded dome elliptical tweeter; FR 32-20,000 Hz ± 3 dB; min power 5 W rms; max power 125 W rms; sens 95 dB SPL/W/m; imp 6 ohms; black vinyl. 28.0 x 12.5 x 11.5 in; 41 lb. $600/pr

200SE 2-Way Bookshelf Speaker

Features 8" woofer, 1" tweeter; vented, direct radiating; FR 32-20,000 Hz ± 3 dB; power handling capacity 5-100 W; imp 6 ohms; 22.0 x 10.5 x 12.25 in; 32 lb. $410/pr

CLEMENTS AUDIO

RT-7 Reference Speaker

Floorstanding speakers feature FR 28-25,000 Hz ± 3 dB; sens 87 dB SPL/W/m; imp 7 ohm; min power requirement 20 W; compression line bass loading; 8 high power/high output eopolymer polypropylene cone woofer; 7" direct inductance planar-rimboronn midrange; crossover frequency 3,000 Hz; first-order bass slope; copper cable; driver leads are low inductance, high purity, oxygen free cables, copper 16 gauge-4-conductor; 48 x 10 x 19 in; rosewood, oak, or zebrwood veneers. $1,900/pr

RB-8 0 Speaker

Speakers feature 200 W/ch; FR 32-40,000 Hz ± 3 dB; sens 88 dB SPL/W/m; max power rating 200 W; imp 6.5 ohm; compression line bass loading. 8" high power polypropylene cone woofer; 7" direct inductance planar-rimboronn midrange; crossover frequency 2,000 Hz; 26 x 13.5 x 15.5 in; high density fibre wood with oak veneer. $1,495/pr

RB-6 5 Speaker

Speakers feature FR 38-40,000 Hz ± 3 dB; sens 87 dB SPL/W/m; max power rating 150 W; imp 6.5 ohm; compression line bass loading; 6.5" high power polypropylene cone woofer; 7" direct-inductance planar-rimboronn midrange; crossover frequency 2,000 Hz; 24.5 x 13.5 x 13.25 in; high density fibre wood with oak veneer. $1,095/pr

DAHLQUIST

DQ-20 Speaker

Three-way vertical-phase-array speaker intended for floor placement. Speaker contains 250-mm cone woofer; 120-mm cone midrange, 20-mm dome tweeter. Min power 70 W rms; imp 4 ohms. Oak with black or white grille $1,080/pr

M Series

M-909 Floor-Standing Speaker

Genuine wood enclosure, spaced grille with solid wood trim, flocked anti-diffraction battle. FR 38-20,000 Hz; dual cast-frame woofer; 5" midrange, 1" dome tweeter. Sens 92 dB; power range 50-125 W; FR 50-24,000 Hz. $39.5 x 13.5 x 10.9 in. $1,400/pr

M-907 Acoustic Suspension

Real wood walnut enclosure, spaced grille with solid walnut trim. 3 way with 10" woofer, 5" midrange, 1" dome tweeter, damped enclosure. Sens 88 dB; power range 40-150 W; FR 30-24,000 Hz. 28 x 14.5 x 12.5 in. $940/pr

M-905 Tuned-Port Speaker

Front-firing tuned-port speaker. Features real wood walnut or oak enclosure, spaced grille with solid walnut trim. 2-way system with cast frame 8" woofer and 1" dome tweeter. Sens 91 dB; power range 20 W min to 125 W max; imp 8 ohm. 24 x 13.5 x 12.5 in. $590/pr

M-903 Tuned-Port Speaker

Front-firing tuned-port 2-way speaker. Features nominal 8 ohms; power range 20-70 W; 6.5" cast-frame woofer; 1" dome tweeter. FR 48-24,000 Hz; sens 90 dB; 5-way binding posts; accepts banana plugs. 17 x 8.5 x 10.38 in; 16 lb. Available in black or oak woodgrain. $450/pr

DBX

Soundfield 500 Speaker

Two floor-standing vented enclosures each with 10" woofer, 6.5" midrange. $3,500/pr

Soundfield 150 Speaker

3-way floor-standing vented speaker. Features 10" woofer; 4.5" midrange; 2.5" tweeters; phased-arranged; Listen Anywhere imaging; wrap-around speaker grilles. FR 30-20,000 Hz ± 3 dB; sens 91 db; nom 4 ohms; power range 30-250 W/ch. 20.5 x 16 x 39.5 in; 60 lb. Available in charcoal grey/black or beige/walnut. $1,500/pr
DCM

Time Window 3-Way Speaker
Folded transmission-line 3-way speaker intended for floor placement. Features time-coherent point source for more accurate off-axis sound reproduction. Adjustable high- and middle-frequency energy output, narrow to wide image spatial control; also utilizes acoustic anti-diffraction lenses. 8" cone woofer, 6.5" cone midrange; 2.75" soft-foam-dome tweeter. FR 24-20,000 Hz; max power 200 W; sens 90 dB; imp 8 ohms; in dark oak with brown fabric; 45 lb. 16.25 x 39.25 x 12.36 in. $1,399 to $1,499/pr

Time Frame TF1000 3-Way Speaker
Tapered transmission-line speaker. Mirrored image with 8" woofer, 75° soft plastic dome tweeter, acoustic anti-defraction lens, 4" mid-frequency driver, transmission line termination. Max power rating 50 W rms noise continuum. 300 W peak program; 8 ohm; sens 91 dB W/m; 49 lb. 49 x 19.5 x 8 in. $999 to $1,099

Time Window 1A Speaker
Hybrid transmission-line speaker intended for floor placement. Improved version of original Time Window with wide-angle sound distribution, pinpoint imaging properties and high power-handling capability. Features cylindrical back and triangular prism front. Optimized for even time-dispersion error. Contains two 6.5" cone woofers with acoustic lens, 2.75" soft plastic dome tweeter with acoustic lens. Min power 10 W; max power 200 W; sens 9 dB; imp 8 ohms; in dark oak with brown fabric; 32 lb; 15 x 36 x 17.5 in. $999 to $949/pr

Time Frame TF500 Speaker
Mirror-imaged floor-standing loudspeaker. Features two 6.5" cone woofers, 75° soft plastic-dome tweeter with acoustic lens; folded, tapered transmission-line bass loading; FR 34-20,000 Hz; power range 10-100 W; sens 90 dB SPL/Wm; imp 8 ohms; dark oak; finished in $949/pr

Time Frame TF 350 Speaker
Floor-standing transmission-line speaker with acoustic anti-diffraction lens. Accurate impulse response for digital sources. Features a 6.5" magnetically shielded woofer and a 1" dome tweeter. FR 42-20,000 Hz ±3 dB; min power 10 W rms; max power 100 W rms; sens 89 dB SPL/W/m; imp 8 ohms. Available in dark oak/brown cloth finish. 31 lb, 37 x 15 x 7 in. $499 to $499/pr

DENNESEN ELECTROSTATICS

Denneisen Nine 3-Way Speaker
Floor-standing bass-reflex electrostatic speaker designed for minimal edge refractions and reflections. Features electrostatic tweeter system; 8" bextrene woofer, 6.5" midrange; six 3" electrostatic tweeters. Phase corrected and time aligned. Includes separate electronic crossover for bi-amping in stereo. FR 20-35,000 Hz; power range 1-20 W rms; max power 200 W rms; sens 89 dB; imp 8 ohms. $1,800/pr

DESIGN ACOUSTICS

PS 103 Floor-Standing Speaker
Acoustic-suspension speaker with down-firing 10" woofer housed in a separate enclosure with 3" foam in the cabinet. 6" crossover tweeter and 75° dome tweeter in the upper portion of the cabinet. Five-way binding posts will accept bare stranded cable up to 8 gauge. looped wire, banana plugs, spade lugs, and terminal pins. Cabinet is mounted on casters. Sens 88 dB SPL/W/m; power range 30-250 W/rms; imp 8 ohms. $950/pr

PS-10 3-Way Bookshelf Speaker
Acoustic-suspension 3-way speaker with down-firing 10" long-throw woofer, 5" midwoofer. 1" soft-dome tweeter. Features tweeter level control, mirror-image driver placement; acoustically treated baffle; FR 48-20,000 Hz, crossovers 190 and 2,000 Hz, sens 90 dB, power range 15-200 W; imp 8 ohms. $520/pr

PS-8b 2-Way Bookshelf Speaker
Acoustic-suspension speaker with 8" woofer, 1" soft-dome tweeter; mirror-image drivers, acoustically treated baffle; crossover at 2,000 Hz. FR 50-20,000 Hz; sens 90 dB; power range 15-200 W. $370/pr

Design Acoustics PS-8b

PS-5 Speaker
Acoustic-suspension 2-way miniature bookshelf speaker with 5" woofer, 1" dome tweeter. Features midrange, tweeter level controls. FR 80-16,000 Hz ±1.5 dB; crossover 2.5 kHz; sens 85 dB, power range 15-50 W, imp 4 ohms $350/pr

PS-LF Bass Module
Down-firing dual voice coil, long-throw 12" woofer with two crossover networks at 18 kHz/octave, 140 Hz. Features input for use with PS-5 satellites (below); biamp inputs for other satellites. FR to 40 Hz; power range 15-250. $375/ca

PS-30 3-Piece Speaker System
Consists of 2 PS-5 satellites, PS-LF bass module. Satellites are low-diffraction design with 5" midwoofer, 1" soft-dome tweeter. Bass module has 12" dual voice coil, long-throw woofer, power handling, satellites 35 W; subwoofer 250 W; imp 8 ohms. $750/set

EMINENT TECHNOLOGY

LFT-11 Planar Doublet Speaker
Single-diaphragm Linear Field Transducer with diaphragm remaining within constant magnetic-flux field over entire displacement range, push-pull operation; soft-foil/mylar diaphragm with very thin traces and narrow gaps between each trace driven directly by amp; recommended placement at least 3 ft from rear wall; diaphragm area 580". FR 35-40,000 Hz ±4 dB; power range 50-200 W; sens 83 dB SPL/2.83 V/m; max SPL 106 dB at 1 m; imp 4 ohms. 54 x 27 x 1.3 in. 90 lb. $2,700

ENERGY

Reference Connoisseur
2-way bass-reflex, mirror-imaged speakers, matched 0.12 dB left and right; 6 different exotic matched wood veneers available. 7" polypropylene cone woofer with PVC-stitched suspension, 1.5" dual hyperdome tweeter. FR 25-20,000 Hz ±1.5 dB off axis; sens 89 dB SPL/W/m; imp 8 ohms; power range 20-200 W; 35.36 x 11 x 14 in; 80 lb; priced according to finish from $1,600-$3,300/pr

Reference
2-way bass-reflex front-port monitors matched within 0.12 dB left and right. 7" polypropylene cone woofer with PVC-stitched suspension, 1.5" dual hyperdome tweeter; includes stands; black vinyl veneer finish. FR 34-20,000 Hz ±1.5 dB off axis; sens 89 dB SPL/W/m, imp 8 ohms; power range 20-200 W; 24.62 x 10.5 x 12 in.; 34 lbs. $1,050/pr

EPICURE PRODUCTS (EPI)

Epicure Model 1 System 4-Way Speaker
System consists of Model 1 speakers and a Speaker Placement Equalizer (SPEQ). Floor standing speakers have an electronically reinforced 8" woofer in a vented cabinet, an 8" midwoofer in an isolation Eminence Speaker baffle, and a 1" tweeter. The special air mass-loaded cabinet vent is integrated into the cabinet base. Internally wired with Monster Cable. FR 32-20,000 Hz ±3 dB, crossovers at 160, 500 and 2,500 Hz; recommended amplifier power 20-200 W; imp 6 ohm, 42.75 x 12 x 13 in. $1,400/system

Epicure Model 2 Four-Way Speaker
Floor-standing speaker with an 8" woofer in a vented cabinet. 8" midwoofer in an isolated chamber, 4" midrange and 1" tweeter. The air mass loaded cabinet is integrated into the cabinet base. Internally wired with Monster Cable. FR 38-20,000 Hz ±3 dB, crossovers at 190, 500 and 2,500 Hz; power range 10-175 W; imp 6 ohm; 35.25 x 12 x 13 in. $900/pr

Epicure Model 3 3-Way Speaker
Floor-standing speaker with an 8" woofer in a vented cabinet, a 4" midrange and a 1" tweeter. The air mass loaded cabinet is integrated into the cabinet base. FR 42-20,000 Hz ±3 dB, crossovers at 500, 2,500 Hz; recommended power 10-150 W; imp 6 ohm; 30 x 12 x 13 in. $700/pr

Epicure Model 4 2-Way Speaker
Bookshelf speaker with an 8" woofer in a vented cabinet and a 1" tweeter. The flared cabinet vent is integrated into the cabinet base. FR 46-20,000 Hz ±3 dB, crossover at 2,000 Hz; recommended power 10-100 W; imp 8 ohm; 20 x 11.75 x 12 in. $450/pr

Epicure Model 5 2-Way Speaker
Bookshelf speaker with a 6" woofer in a vented cabinet and a 1" tweeter. The flared cabinet vent is integrated into the cabinet base. FR 55-20,000 Hz ±3 dB, crossover at 2,000 Hz; recommended power 10-75 W; imp 8 ohm; 16 x 10 x 7.5 in. $350/pr

Epicure Model 5V 2-Way Speaker
Same as above but with vinyl veneered cabinet $300/pr

ESM BY ENERGY

E31s-1 Bass-Reflex Speaker
Mirror-imaged pair with 8" woofer, 1" ferrofluid dome tweeter; phase-correlated crossover at 2,000 Hz; walnut or black ash vinyl; black grilles. FR 30-22,000 Hz ±3 dB; sens 86 dB SPL/W/m; power range 1.5-50 W; nominal imp 8 ohms; x 4 mm; 150 x 23 x 25 in. $599/pr

E31s-2 Bass Reflex Speaker
Similar to above except FR 40-22,000 Hz and recommended
THE LOUDSPEAKER SYSTEM THAT HAS THE CRITICS PURRING.

"Awesome low end, extraordinarily smooth middles and highs, and remarkably good depth." — J. Gordon Holt, Stereophile.

"The audio equivalent of dinner at Le Francais."

"...the cutting edge of technology...left people open mouthed as they left the listening room." — Nancy Malitz, Gannett News Service.

"...the latest industry incarnation of an 'ultimate' listening system."
— Ron Scibilia, Audio Times.

"It wasn't the size, the contents or even the price that turned heads, but the knockout sound." — Larry Johnson, Ovation Magazine.

Recently, at a carefully selected location in Milford, Pennsylvania, some of the most discerning ears in the business were invited to hear something they'd never heard before. The Altec Lansing Bias™* 550. The first speakers in the world with Pentamplified sound.

And as you can see, the response was overwhelming.

But then the Bias 550 is a system unlike any other. Discrete amplifiers for each of five bandwidths, adjustable by remote control. Providing each speaker cabinet with 750 watts of perfectly sculptured sound.

The Bias 550 is the finest example yet of our commitment to total high fidelity. The flagship to a range of loudspeakers that have consistently pushed back the frontiers of audio reproduction. For more information and an Altec Lansing catalog, call 1-800-ALTEC 88.**
power range from 12-100 W; 23 x 11 x 11 in; 24 lb ea.......................... $400/pr

ESM-3. Similar to ESM-2 except FR 45-22,000 Hz; power range 10-80 W; 20 x 10 x 8 in; 20 lb; each .......................... $300/pr

ESM-4. Similar to ESM-3 but with 6.5" woofer; 0.75" dome tweeter. FR 60-20,000 Hz ± 3dB power range 10-80 W; 14 x 10 x 11 in; 11 lb ea.......................... $230/pr

ESS

ANT-1 Monitor Speaker
Floor-standing passive radiator speaker with 21.5" x 21.5" Heil air motion transformer with mylar articulated diaphragm. Features 12" cone passive rad; 12" cone woofer. FR 35-23,000 Hz ± 3 dB, minimum power 35 W rms, max power 400 W rms; 91 dB SPL/W/m; imp 8 ohms; oiled walnut finish; black-brown grille. FR 35-23,000 Hz; max power 400 W; imp 6 ohms; horizontal/vertical dispersion 120/30°; sensitivity 91 dB SPL/W/m; 12 x 12 in; 115 lb $1,140/pr

AMT 1D Speaker
Floor-standing passive-radiator 2-way speaker with 12" polypropylene woofer; 12" passive radiator. Features 21.5" x 21.5" Heil air motion transformer with mylar articulated diaphragm; midrange presence, brilliance controls; oiled-walnut finish; black-brown grille. FR 35-23,000 Hz; max power 800 W; max power 400 W; imp 6 ohms; horizontal/vertical dispersion 120/30°; sensitivity 91 dB SPL/W/m; 35.25 x 16.25 x 16.25 in; 85 lb $1,040/pr

PS-1220 Speaker
Floor standing passive radiator speaker system with 12" woofer. Heil air-motion transformer tweeter with 10.4" x 10.4" radiating area, dynamic range with bi-ampl voice coil. FR 28-23,000 Hz ± 1 dB at midband; sensitivity 93 dB SPL/W/m; imp 4 ohm; power range 10-200 W; solid walnut finish $488/pr

PS-920 Bookshelf Speaker
Passive radiator speaker system with 8" woofer. Heil air-motion transformer tweeter-midrange with 10.4" x 10.4" radiating area. FR 38-23,000 Hz ± 1 dB at midband; sensitivity 91 dB SPL/W/m; imp 4 ohm; power range 5-100 W; solid walnut finish $368/pr

FISHER

STV-440M 3-Way Speaker System
Features 15" woofer; 5" ferrofluid midrange; 3" metal-dome tweeter. Features FR 40-22,000 Hz; sensitivity 90 dB SPL/W/m; 12 x 19 x 12 in; 27 lb $750/pr

H-3 2-Way Speaker
Bookshelf speaker system with 8" doped-cone woofer; 1" dome tweeter. Features FR 45-19,000 Hz ± 2 dB; nominal imp 8 ohms; max power 30-150 W/ch; sensitivity 90 dB SPL/W/m; power range 30-150 W/ch; sensitivity 90 dB SPL/W/m; 35.25 x 16.25 x 16.25 in; 115 lb $995/pr

H-1 2-Way Speaker
Bookshelf speaker system. Features patented RP tweeter which operates in piston motion; 6" woofer. FR 12-18,000 Hz; sensitivity 90 dB SPL/W/m; 14 x 11 x 10 in $499/pr

H-1 2-Way Speaker
Dual-reflex-tuned speaker with 6.5" woofer and metal-dome tweeter. Features FR 34-22,000 Hz; sensitivity 88 dB; imp 8 ohms; power range 15-100 W; 18 x 11 x 9 in. Black ash or walnut $999/pr

BEDY BROOK BY D'ASCANIO AUDIO

HB-3 3-Way Speaker
Hand-assembled acoustic-suspension speaker with 10" doped-cone woofer; 4.5" doped-cone midrange and 0.75" soft-dome tweeter, removable rear panel for bi- and tri-amping. FR 35-20,000 Hz ± 3 dB; power range 15-200 W; 23 x 13 x 10.5 in; 650 lb $650/pr

HB-200 2-Way Speaker
Dual-reflex-tuned speaker with 6.5" woofer and metal-dome tweeter. FR 34-22,000 Hz; sensitivity 88 dB; imp 8 ohms; power range 15-100 W; 18 x 11 x 9 in. Black ash or walnut $999/pr

HB-150 2-Way Speaker
Dual-reflex-tuned speaker with 6.5" woofer and metal-dome tweeter. FR 40-22,000 Hz; sensitivity 88 dB; nom imp 6 ohms; power range 15-100 W; 16 x 9 x 9 in. Black ash or walnut finish $799/pr

HB-100 2-Way Speaker
Infinite-baffle speaker with 8" woofer and metal-dome tweeter. Features FR 50-20,000 Hz; sensitivity 90 dB; imp 8 ohms; power range 15-100 W; 19 x 11 x 10 in. Black or woodgrain finish $599/pr

HITACHI

HSA4030 3-Way Tower Speaker
12" woofer; 3" midrange; 2" tweeter; 12" passive radiator in rear, max power 120 W; wood cabinet; detachable grille cloth $300/pr

HSA4050 3-Way Tower Speaker
10" woofer; 3" midrange; 2" tweeter, max power 60 W; detachable grille cloth $250/pr
**Midrange Internal Crossover**

- **Bi-amp**
  - 2-way crossover: 2.65" woofers, 0.75" damped polypropylene, 2" tweeter.
  - 3-way crossover: 2.65" woofers, 0.75" damped polypropylene, 3" tweeter.

**EQ**

- **0.5-3000 Hz**
  - 0.75" damped polypropylene, 2" tweeter.

**Frequency Response**

- **20-30,000 Hz ±3 dB**
  - 2 way, 0.75" damped polypropylene, 2" tweeter.

**Power Handling**

- **250 W**
  - 0.75" damped polypropylene, 2" tweeter.

**Impedance**

- **6 ohms**
  - 0.75" damped polypropylene, 2" tweeter.

**Construction**

- **Solid wood cabinet**
  - 0.75" damped polypropylene, 2" tweeter.

**Dimensions**

- **24 x 17.33 x 13.8 in**
  - 0.75" damped polypropylene, 2" tweeter.

**Accessories**

- **2-way crossover**
  - 0.75" damped polypropylene, 2" tweeter.

**Price**

- **$1,198/pr**
  - 0.75" damped polypropylene, 2" tweeter.

**Additional Notes**

- **High-frequency driver**
  - **3" dome tweeter**

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**Speaker Specifications**

### HSA202B 2-Way Tower Speaker

- **Bass reflex, 8" woofer, 2" tweeter, max power 30 W, wood cabinet**
  - **$150/pr**

### Image

- All speakers have nominal impedance of 6 ohms.

### Concept 200 Ported Speaker

- **2.65" woofers, 0.75" damped polypropylene dome tweeter, crossover at 2.10 Hz**
  - **Italian black walnut vinyl, FR 30-20,000 Hz ±3 dB, 87 dB, power range 35-200 W, 43 x 10 x 15 in**
  - **$1,000/pr**

### Concept 100 Ported Speaker

- **6.5" woofers, 0.75" damped polypropylene dome tweeter, crossover at 2.10 Hz, Italian black walnut vinyl, FR 45-23,000 Hz ±2 dB, 87 dB SPL/SW, power range 35-100 W, 16 x 9 x 11, 23 lb each**
  - **$600/pr**

### Reference Two Ported Speaker

- **8" polypropylene damped woofer, 1" polyester soft-dome tweeter, crossover at 2.10 Hz, lagos hickory vinyl, FR 35-20,000 Hz ±3 dB, 87 dB SPL/SW, power range 20-100 W, 24 x 11 x 12, 31 lb each**
  - **$450/pr**

### Infinity

#### IRS Series V Reference Speaker

- **Modular 4-piece 3-way floor-standing speaker. Features 2 woofer modules with six 12" woofers in feedback loop of service amp (2,1800-W power amp); 2 midrange/tweeter modules with 12-dipole midrange drivers; 36 tweeters in dipole line-source array (24 front/12 rear-facing), bass variable low-pass filters, low-pass variable damping; woofer level controls; selectable input midrange/tweeter amp power.**
  - **$1,500/pr**

### IRS Series

#### IRS Beta Speaker

- **Includes (per side) four 12" woofers with servo-controlled polypropylene/graphite fiber injection molded cones; 2 upper bass/midrange (70 Hz-60 kHz) planar push-pull drivers which act as a dipole; low-mass EMIT with neodymium magnets for upper midrange, low mass/neodymium EMIT's from IRS V (in a dipole configuration) for the lower treble; SEMIT (a smaller aperture EMIT) which extends response beyond 44 kHz. The system operates in a b-amp mode and includes the IRS V servo control unit.**
  - **$10,500/pr**

#### IRS Gamma

- **Similar to Beta with 2 woofers and 1-upper bass/midrange.**
  - **$9,500/pr**

#### IRS Delta

- **Similar to Gamma with accelerometer servo system.**
  - **$5,500/pr**

### JAMO

#### Concert V Loudspeaker System

- **3-way bass reflex speaker. Features 6.5" woofer, 1" dome tweeter, crossover power 110 W; peak power 160 W, sens 93 dB SPL/W, FR 30-22,000 Hz ±3 dB, crossover frequencies 500 and 3,500 Hz, imp 6 ohms, overload protection; 24k gold-plated binding posts, 31.5 x 14 x 11 in; 42 lb; mahogany or stained black ash.**
  - **$1,398/pr**

#### Digital 280

- **3-way speaker with 10" woofer, 5" midrange, and 1" dome tweeter. Features treble and midrange with concentric power, treble overload.**
  - **$358/pr**

#### Digital 290

- **3-way speaker with 10" woofer, 5" midrange, and 1" dome tweeter.**
  - **$1,198/pr**

#### Digital 390

- **3-way speaker with 8" woofer, 4" midrange, and 1" dome tweeter.**
  - **$1,198/pr**

### SW-50/1 Monitor One Subwoofer/Satellite System

- **Consists of the SW-50 Active Subwoofer and Monitor One Satellite System. SW-50 has 10" woofer. Monitor One 5" midrange, 1" tweeter, sens 87 dB SPL/W, FR 42-22,000 Hz, crossover frequencies 300 and 3,5 kHz, imp 8 ohms; subwoofer dimensions 15.5 x 13 in, 26.5 lb; satellite dimensions 10.25 x 6.66 x 8.5 in; system 28.6 lb.**
  - **$819.95**

### SW1 Monitor One Satellite Loudspeaker System

- **Features 2" bass drivers, push-pull/passive subwoofer, 4" midrange and 1" tweeter satellite drivers, peak power 140 W; continuous power 80 W; sens 90 dB SPL/W, FR 35-20,000 Hz ±3 dB, crossover frequencies 200 Hz/4.5 kHz, imp 8 ohms; overload protection; subwoofer 19 x 13.8 x 3 in, satellite 6.5 x 4 x 6.66 in; system 28.6 lb.**
  - **$449**

### Art Wall Loudspeaker System

- **2-Way, flat panel, wall-hanging loudspeaker which works as full-range or satellite unit. Features 5" woofer, 1" dome tweeter, peak power 90 W, continuous power 65 W/20 Hz, crossover frequencies 500 and 5,000 Hz, imp 8 ohms; overload protection; subwoofer 19 x 13.8 x 3 in, satellite 6.5 x 4 x 6.66 in; system 28.6 lb.**
  - **$400/pr**

### C120

- **Bookshelf 3-way bass-reflex speaker with 8" dual-magnet woofer, 5" midrange, and 1" dome tweeter. FR 38-20,000 Hz ±3 dB, peak power 140 W, continuous power 120 W, sens 92 dB SPL/W, crossover frequencies 1,200 and 5,000 Hz, imp 8 ohms. Black or white finish.**
  - **$338/pr**

### C90

- **Bookshelf 3-way bass-reflex speaker with 8" cone woofer, 3.25" cone midrange, and 1" dome tweeter. FR 40-20,000 Hz ±3 dB, peak power 250 W, continuous power 200 W, sens 92 dB SPL/W, crossover frequencies 300 Hz, imp 8 ohms. Black or white finish.**
  - **$278/pr**

### C70

- **Bookshelf 2-way bass-reflex speaker with 6.5" woofer and 1" dome tweeter. FR 45-20,000 Hz ±3 dB, peak power 90 W, continuous power 70 W, sens 92 dB SPL/W, crossover frequencies 300 Hz, imp 8 ohms. Black or white finish.**
  - **$198/pr**
JBL

126

JBL Everest DD55000 3-Way Speaker
Features constant-directivity design; 15" woofer in a vented enclosure; defined-coverage horn-loading midrange; bi-radial constant-coverage horns; mylar capacitors; aircone inductors; polyurethane and polypropylene bypass capacitors; 3 position switches to vary output levels of compression driver and ring radiator; mid-bass attenuator; high-density compressed wood; Rosewood veneer. Power range 40-250 W; nominal impedance 8 ohms; crossover 800 and 4,500 Hz; sensitivity 89 dB sPL/W/m; frequency range 25-22,000 Hz ±2 dB; power range 10-150 W; nominal power 75 W; optional aramid fiber woven grille finish; optional grille color and material. $295/pr

LT Series
L100T 3-Way Speaker
Floor-standing speaker with 12" aquaplas-laminate woofer, 5" high-polymer-laminate midrange, and 1" pure-titanium-diamond tweeter. Max power 200 W continuous; 800 W peak; crossovers 800 and 4,500 Hz; sensitivity 88 dB SPL/W/m. $295/pr

JBL Series
Features optional Santa Rosa Oak finish.

JBL L60T 3-Way Speaker
Floor-standing bass-reflex speaker with 2 8" high-polymer-laminate cone woofers, and 1" titanium-diamond dome tweeter. FR 40-25,000 Hz ±4 dB; minimum power 10 W rms; maximum power 200 W rms; sensitivity 92 dB SPL/W/m; crossover 800 and 4,500 Hz; dome tweeter: FR 20,000 Hz ±2 dB; 93 SPL/W/m. $550/pr

Signature Series
S-2 2-Way Speaker
Pedestal speaker with 8" high-polymer-laminate woofer and 4.75" titanium-laminate tweeter. Features omnidirectional enclosure; woofer fires upward: hidden terminals. Imp 8 ohms; sensitivity 88 dB SPL/W/m; frequency range 40-20,000 Hz; 100 W max power; output 40 x 10 x 10 in. 40 lb. $410/pr

JENSEN
Model 3150 Concert Series
3 way speaker with 15" woofer, 5" midrange, and 3" dynamic cone tweeter. FR 33-21,000 Hz; imp 8 ohms. 32 x 18.5 x 11.5. $350/pr

JRM
Transparency Satellite Tower
Triamped sealed satellite features eight 6" woofers; horn midrange: 1.87" horn tweeter. FR 20-20,000 Hz ±2 dB; 99 SPL/W/m; min amp power 200 W; nominal impedance 8 ohms; optional finish: optional grille color and material. 8 x 16 x 66 in. $1,700/pr

Monitor
Powered speaker with 6" woofer; 3" cone midrange; horn tweeter; separate level controls for woofer, midrange, tweeter and super-tweeter. FR 20-20,000 Hz ±2 dB. Optional oiled walnut finish. $1,200/pr

Infinity Slope Model 1 Loudspeaker
Sealed floor-standing speaker featuring infinite slope crossover and patented Phase Shift Bass Loading. Front of speaker angled 15 degrees. Two cone woofers 7"; 8" 28 mm dome tweeter. Available in oak, walnut, black gloss. FR 40-20,000 Hz ±4 dB. 94 SPL/W/m; min amp power 200 W; nominal impedance 8 ohms; optional finish: optional grille color and material. 36 x 25 x 24 in, 175 lb. $700/pr

J. S. ENGINEERING
Model 4
Reference quality floor standing system, incorporating complex rounded trapezoidal shape, patented phase shift bass loading and Infinite Slope crossover. Features 2-10" cone woofers; 1"-cone midrange; 1-2" dome upper midrange; 1-21 mm dome tweeter; front and side of speakers angled 8 degrees; uniform horizontal output to 90 degrees off axis; imp 8 ohms: 48.5 x 19 x 22 in (bottom); 16 x 6.5 in (top); 150 lb; walnut, oak, black oak. $5,500/pr

Infinite Slope Model 8 Speaker
Floor standing speaker with patented phase shift bass loading and Infinite Slope crossover. Features 2-8" cone woofers; 1" dome tweeter; separate level controls for woofer, midrange; FR 20-20,000 Hz; nominal impedance 8 ohms; optional finish: optional grille color and material. $1,095/pr

Infinite Slope Model 6 Speaker
Floor standing ported speaker with infinite slope crossover 100 dB octave. Features 8" cone woofers; 1" dome tweeter. FR 40-20,000 Hz ±3 dB; power range 3-150 W; sensitivity 92 dB SPL/W/m; nominal power 200 W; nominal impedance 8 ohms; optional finish: optional grille color and material. $989/pr

JVC
SX911WD 3-Way Speaker
Floor-standing speaker with 3-part crossover network. Features 12" cross carbon woofers; 4.5" cross carbon midrange; 1.2" amorphous-diamond coated tweeter; low-resonance/vibration die-cast aluminum speaker frames; high-density conifer-based particle-board enclosure; round-cornered front baffle; computer opti
SPEAKERS

**SV-A6 4-Way Speaker**
Floor-standing 4-way 5-speaker system with two 3" ambience enhancement drivers in rear, self-restoring protection for more tweeter power handling.

- LED overload indicator.
- Interconnecting harness of color-coded high-performance speaker cables.
- 5-way heavy-duty binding posts.
- Mirrored image pairs.

**C95 3-Way Speaker**
Floor standing loudspeaker just over half a square foot; uses the same KEF Uni-Q driver as C95; second 200mm bass unit on matching die-cast frame; Black Ash; FR 57-20,000 Hz; sens 91 dB; im 6 ohms; closed box enclosure; 28.4 x 9.7 x 10.1 in; simulated walnut or black ash.

**C55 3-Way Speaker**
Small enough for bookshelf or free standing.

- Features KEF Uni-Q driver with polymer cone 8" passive radiator which extends to 48 Hz.
- Clip-on injection-molded grille made to minimize "tunnel" effects; FR 60-20,000 Hz.
- Sens 90 dB; imp 4 ohms; passive radiator enclosure: 18.9 x 9.7 x 10.1 in; simulated walnut or simulated black ash.

**C200F + CR200SV 3-Way Speaker**
In-wall unit consists of CR200F and matching 10" CR250SW subwoofer. Response is 32-150 Hz ± 1.5 dB; full range audio input is fed to the CR200SV crossover network providing output terminals for CR200F satellites; crossover point 150 Hz; FR 32-22,000 Hz ± 2 dB; sens 90 dB; imp 4 ohms; satin line 13 x 10 x 3.5 in; subwoofer 13 x 13 x 3.75 in; black baffle with white bezel finish. Installed.

**KENWOOD**

**LS-P9100 4-Way Speaker**
Basic series floor-standing speaker with 17" passive radiator. Features 10.5" polypropylene woofers; 4" polypropylene midrange; flat-leaf super tweeter plus 2 cone tweeters in wide-dispersion Ton-Saule vertical array; high-grade crossover network; auto-resetting overload protector; high rigidity enclosure; simulated rosewood finish; max input power 150 W; sens 90 dB/W/m; crossover FR 800, 5,000, 10,000 Hz; imp 8 ohms. 35.44 x 14.56 x 10.69 in; 40 lb.

**Kirksaeter**
Monitor Tower 260 4-Way Speaker
Floor-standing acoustically-coupled speaker with 2 10" long-exursion woofers, 4.5" coated-cone lower midrange, 2" soft-metal midrange with 2.3-lb magnet, 0.75" titanium-dome super tweeter with Ferrofluid.

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**KINDEL AUDIO**

**P-185 Speaker**
Features 8" polypropylene woofer, double voice coil: 1" soft dome tweeter; crossover at 250 Hz which rolls off one woofer voice coil winding; conventional crossover at 2.5K (first order) to tweeter; sealed box for bass; FR 40-20,000 Hz ± 2.5 dB; imp 4 ohms; minimum power 20 W; 20 x 10 x 9 in.

**P-55 Speaker**
Features 6" polypropylene woofer, 1" dome tweeter; sealed box bass; FR 55-20,000 Hz ± 2.5 dB; crossover at 3,000 Hz; imp 8/4 ohms; minimum power 20 W; 14 x 8 x 8 in; black gloss finish.

**KINETIC AUDIO**

**Titan 6-Way Speaker**
Floor-standing ported speaker. 12" polypropylene cone subwoofer; 12" polypropylene cone mid; 6.5" polypropylene cone mid/woofer; 2" textile-dome midwoofer; 1.12" synthetic-dome tweeter; 0.75" synthetic-dome super tweeter. Crossover points 60, 90, 500 Hz; linear-phased driver arrangement in mirror-image pairs; front-mounted fuse and noninductive level controls. Interconnecting harness of color-coded high-performance speaker cables.

**Trapezoid 4 Way Speaker**
Floor-standing ported speaker. 12" polypropylene cone subwoofer; 6.5" polypropylene cone midrange; 1.12" synthetic-dome tweeter with magnetic-liquid cooling/damping. 0.75" synthetic-dome super tweeter with magnetic-liquid cooling/damping. Crossover points 90, 2,000, 7,000 Hz; linear-phased driver arrangement in mirror-image pairs; front-mounted fuse and noninductive level controls. Interconnecting harness of color-coded high-performance speaker cables.

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**KENELIR**

**P-550 Speaker**
Basic series floor-standing speaker with 12" 4-way driver arrangement in mirror-image pairs; front-mounted fuse and non-inductive level controls.

- Floor-standing speaker with 13" passive radiator; high-grade crossover network; auto-resetting overload protector; high rigidity enclosure; simulated rosewood finish; max input power 150 W; sens 90 dB; imp 6 ohms; closed box enclosure; FR 18-22,000 Hz ± 1.5 dB; min power 35 W; max power 250 W; sens 90 dB; im 8 ohms; 245 lb; 18 x 60 x 22 in; grille, stands, and casters included.

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**REFERENCE SERIES**

**Model 107 3-Way Speaker**
Floor-standing coupled-cavity bass-loading speaker uses 2 woofers operating into a resonant chamber vented at top of enclosure to combine sensitivity of bass reflex with accuracy and bass-extension of acoustic suspension. Features 2 10" cone woofers; 4" polypropylene-cone midrange;

**31.88 x 10.23; 38.6 lb**

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**P-105 Speaker**
Features 6" polypropylene woofer, 1" dome tweeter; sealed box bass; FR 55-20,000 Hz ± 2.5 dB; crossover at 3,000 Hz; imp 8/4 ohms; minimum power 20 W; 14 x 8 x 8 in; black gloss finish.

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**CROSSOVERS**

- Crossover FR 900, 5,500, 10,000 Hz; sens 84.54 x 17.31 x 13.25 in; 62 lb.
- Crossover FR 60-20,000 Hz; sens 90 dB; imp 4 ohms resistive; 34.3 x 9.7 x 12.4 in; 41.6 lb; grain-matched real walnut.
- Crossover FR 68-20,000 Hz; sens 85 dB; imp 4 ohms; crossover at 3,000 Hz; sens 90 dB; imp 4 ohms; crossover at 2.5K (first order) to tweeter; sens 90 dB; imp 4 ohms.
- Crossover FR 60-20,000 Hz; sens 90 dB; imp 4 ohms; crossover at 2.5K (first order) to tweeter; sens 90 dB; imp 4 ohms.
- Crossover FR 900, 5,500, 10,000 Hz; sens 90 dB; imp 4 ohms.
- Crossover FR 60-20,000 Hz; sens 90 dB; imp 4 ohms.
- Crossover FR 60-20,000 Hz; sens 90 dB; imp 4 ohms.
- Crossover FR 60-20,000 Hz; sens 90 dB; imp 4 ohms.
**SPEAKERS**

**Monitor 141 3-Way Speaker**
Floor-standing or bookshelf infinite-baffle speaker. Features 12" long-exursion woofer, 2" soft-metal dome midrange, 0.75" titanium-dome tweeter. FR 20-32,000 Hz ± 5 dB; imp 4-8 ohms; walnut, mahogany, teak, cherry, black, white/antique/dark/natural-oak finishes, 13.75 x 22.88 x 10.62 in. $1,245/pr.

**Amadeus 120 Tower 3-Way Speaker**
3-way floor-standing speaker with 8.5" long-exursion polypropylene woofer and 4" polypropylene midrange. Features ferrofluid-cooled titanium-dome 75" tweeter; sealed cabinet; power range 83-120 W; sens 90 dB SPL/W/m; FR 28-30,000 Hz; banana-plug compatible. 10.25 x 10.25 x 33 in, 28 lb. $959/pr.

**Concept 100 2-Way Bookshelf Speaker**
2-way bookshelf speaker with ported enclosure. Features 7" long-exursion woofer, 1" textile-covered tweeter, 100 W/8 max power handling, sens 89 dB SPL/W/m; FR 39-22,000 Hz; crossover at 2,000 Hz, imp 4-8 ohms. 8.66 x 10.25 x 17.66 in, 19 lb. $750/pr.

**Klipsch Chorus 3-Way Speaker**
Fully horn-loaded speaker requiring corner placement. Sens 104 dB SPL/W/m; power handling 100 W; FR 45-17,000 Hz ± 5 dB. 35.62 x 30.12 x 18.75 in. Available in exotic woods. Priced depending on finish from approx. $3,198/pr.

**Belle Klipsch 3-Way Speaker**
Horn-loaded floor-standing speaker using Klipsch horn drive components. Sens 104 dB SPL/W/m; power handling 100 W; FR 45-17,000 Hz ± 5 dB; 35.62 x 30.12 x 18.75 in. Available in exotic woods. Priced depending on finish from approx. $2,598/pr.

**Beta Floor-Standing Speaker**
4-sided pyramid-shaped speaker with 2-8' woofers, 1' dome tweeter; cabinet of full 0.75" high-density particle board; 50 strand 20 amp cable. FR 60-20,000 Hz ± 3 dB; power range 15-50 W; sens 87 dB SPL/W/m. 52 x 28.5 x 28.5 in. $1,990/pr.

**Index Acoustic-Suspension Speaker**
Floor or bookshelf placement; 8" KEF B200 cone woofer; 1" dome tweeter; integral 14' spiked pedestal. FR 50-20,000 Hz ± 2.5 dB; sens 88 dB SPL/W/m; FR 50-30,000 Hz. $695/pr.

**Magnasphere by Magnat**
Delta II. Gamma, and Beta speakers have soft-metal domes; ribbon-wire voice coils of oxygen-free copper wound on aluminum cores. spherical, baffle-free midrange and tweeter spheres for omni-directional dispersion; black perforated steel grille.

**Beta Floor-Standing Speaker**
4-sided pyramid-shaped speaker with 2-8' woofers, 2-5.25" midwoofers (4 front, 1 back), European mahogany or black-oak veneer. FR 32-29,000 Hz ± 3 dB; power range 30-120 W; sens 88 dB SPL/W/m; 14 x 50 x 13 in, 67 lb. $2,490/pr.
**SPKERS**

black lacquer. FR 32-29,000 Hz = ±3 dB; power range 25-120 W; imp 4 ohms; sens 88 dB SPL/W/m; 11.5 x 42.3 x 11 in; 60 lb. $1,690/pr

**MARTIN-LOGAN Statement Electrostatic Speaker System**
Floor-standing system consisting of 2 visually-transparent curve-linear electrostatic panels used in conjunction with two woofer towers and blended by an electronic crossover. Each electrostatic element measures 3 x 6-inches and is curved and housed in a massive frame; each woofer tower houses four 12" woofers mounted in individually sealed anti-resonant chambers; dual-monovo crossover consists of four separate chassis; 2 chassis contain power supplies; 2 chassis contain crossover using a proprietary discrete class-A difference FET buffer topology and pure-current source voltage regulation system; can play at volumes up to 120 dB. FR 16-25,000 Hz; ±1.5 dB; power range 50-1,000 W; sens 93 dB SPL/W/m; imp 6 ohms. Electrostatic section: 3.9 x 8.4 x 6 in. Available in a variety of finishes. System weighs 120 lb.

$40,000

**MB QUART MB 980S 3-Way Speakers**
Floor-standing, 3-way acoustic suspension column speakers. Features 1" titanium dome with ferrofluid tweeter; 2" aluminum dome midrange; 2.5" butyl suspension, long throw woofers; crossover frequency 350 Hz. min. power 40 W. imp 4 ohms; FR 34-32,000 Hz; sens 88 dB/W/m; 11 x 39.5 x 11 in; 57 lb 3 oz; genuine walnut or black or grey lacquer. (special finishes at extra cost) $2,399

**MB 480 Convex Speakers**
3-way acoustic suspension floor standing loudspeaker. Features front baffle curved convexly, dispersion > 180 degrees radiating surface; 1" titanium dome tweeter; 2" aluminum dome midrange; 10" butyl suspension, long throw woofers, crossover frequencies 500 Hz/2500 Hz. min. power 35 W/ch; imp 4 ohm; FR 32-32,000 Hz; sens 87 dB/W/m; 12.6 x 22 x 14 in; 37 lb 6 oz; genuine walnut or black or white lacquer finishes. $1,199

**MB 390 3-Way Speakers**
3-way acoustic suspension bookshelf speaker. Features 1" titanium dome tweeter, 4" butyl suspension midrange; 10" butyl suspension, long throw woofers; crossover frequencies 400 Hz/1800 Hz. min. power 35 W/ch; imp 4 ohm; FR 40-32,000 Hz; sens 88 dB/W/m; 12 x 20.5 x 12 in; 28 lb 10 oz; comes in genuine walnut or oak, matte lacquer black or white finishes. $849

**MB 220 2-Way Speakers**
2-way acoustic suspension bookshelf speaker. Features 1" titanium dome tweeter; 6.5" butyl suspension; long throw woofer, crossover frequency 1500 Hz; min. power 20 W/ch; imp 4 ohm; FR 40-32,000 Hz; sens 90 dB/W/m; 12 x 8.8 x 8 in; 11 lb; comes in genuine walnut or oak, matte lacquer black or white finishes. $449

**McINTOSH XRT-22 Speaker System**
2-piece speaker consisting of a bass cabinet containing 2 12" woofers and an 8" midrange, and a tweeter column containing 23 1" tweeters. Bass cabinet: 40.75 x 25.75 x 12.75 in; tweeter column: 79.5 x 10.5 x 1.63 in; oak finish $4,000 ea. Walnut finish $4,250

**XRT18 Speaker System**
2-piece speaker consisting of a bass cabinet containing 12" woofers and an 8" midrange and a tweeter column containing 23 1" tweeters. Bass cabinet: 40.75 x 25.75 x 12.75 in; tweeter column: 79.5 x 10.5 x 1.63 in; oak finish $4,000 ea. Walnut finish $4,250

**XRT18 Speaker System**
2-piece speaker consisting of a bass cabinet containing 12" woofers and an 8" midrange and a high-frequency column frame containing sixteen 1" dome tweeters. Features 3-ampere fast acting fuse for woofer and midrange and a 1.25-ampere fuse for tweeters. Cabinet constructed of 48-pound density fiber board with walnut veneer exteriors. Sens 86 DB SPL/W/m; max power 150 W continuous program power, 500 W peak; min. power 30 W; imp 8 ohms; crossover frequencies 350 Hz and 1,500 Hz. Bass cabinet: 27.22 x 17.5 x 11.75 in; tweeter: 57.31 x 10.5 x 1.63 in, total weight 92 lb. $2,250 ea

**XR 1052 4-Way Speaker**
4-way speaker. Features 10" woofer with copper voice coil; 5" midrange isolated from woofer; 1" dome tweeter with copper coil. $1,199

**STEREO REVIEW FEBRUARY 1989**

$2,250 ea

$4,250

$4,000

$790/pr

$975/pr

$40,000

$1,199

$449
What To Look For In A High-Performance Car.

INTRODUCING A COMPLETE LINE OF HIGH-PERFORMANCE AUDIO COMPONENTS FROM PIONEER.

This isn't a story about horsepower, torque, or coefficient of drag. It's an inside look at a new line of car audio components from Pioneer so technically advanced it gives new meaning to the term "high-performance sound."

Superior audio performance starts with the cleanest possible source. Like Pioneer's versatile new multi-play CD changer system with detachable controller. It features 6-disc magazine programmability, compact 3-beam laser pickup, 2X oversampling digital filter, and the incomparable sound of a Quartz-PLL Supertuner III.

We've designed our 9-band graphic equalizers with efficient low-noise circuitry so they don't add extraneous colorations to the signal. Controls are ergonomically designed for fast, precise operation.

Our new 2- and 3-way crossovers with adjustable crossover points provide optimum design flexibility. Selectable phase controls permit precise adjustment of system phase characteristics. These crossovers are so remarkably clean, you can use them in series without altering the source signal.

These high-powered bridgeable amplifiers are specially engineered with high-speed MOS-FET transistors for a truer, more musical sound. They feature PWM power supplies to provide a steady signal and internal fan cooling for reliable operation.

Pioneer offers a complete range of component speakers, including super-tweeters, tweeters, midranges, woofers, and subwoofers.

Pioneer Component Speakers

Pioneer

SPEAKERS

McIntosh XR 1052
dome tweeter with copper wire voice coil centered and suspended with custom surround, 15' passive radiator; crossover points at 55, 450, and 1,300 Hz; cabinet made of high density particle board; imp 8 ohms. FR 20-20,000 Hz ......................... $1,252 ea

MERIDIAN BY MADRIGAL
M100 3-Way Powered Speaker
Inter-Active speaker with 4 power amps (3-70 W/ch, 1-35 W/ch) driving 2' woofers, 2.5' midranges, 1.2' dome tweeter. Sels 87 dB SPL/W/m, recommended power handling 30-100 W; imp 8 ohms; crossover frequencies 350 and 1,000 Hz. Cabinet constructed of 0.75' high-density particle board with internal bracing and 1,000 Hz. Cabinet constructed of 0.75' birch plywood cabinet; 0.75' A-quality birch plywood cabinet; 0.75' soft-dome tweeter. FR 35-20,000 Hz ±3 dB; max output 105 dB; 20 x 15 x 7 x 6.5 in; 9 lb. ............................................ $360 ea

MISSION ELECTRONICS
Argonaut Floor-Standing Speaker
2-way speaker with time-aligned drivers and transverse-folded cabinet. Optimum placement near rear wall; 2 reinforced homopolymer 8' cone woofers; 1 super-ellipse cavity-loaded tweeter, spisks, FR 35-20,000 Hz ±3 dB, power range 50-200 W; sens 94.5 dB SPL/W/m; imp 4 ohms; walnut, gray, black; 50 lbs; 11 x 38 x 12 in ......... $1,799/pr

Renaissance Two-Way Speaker
Integral locking stands; transverse-folded cabinet with visco-elastic dampings; optimum placement near rear wall; 8' reinforced homopolymer cone woofer; 1 super-ellipse cavity-loaded tweeter. FR 40-20,000 Hz ±3 dB; min power 20 W; max power 150 W; sens 92 dB SPL/W/m; imp 8 ohms; black, grey, walnut; 28 lb; 11 x 24.5 x 12 in ... $1,199/pr

R952/MID Reference Monitor
Floor-standing, sealed enclosure speakers. Feature 1' aluminum-dome tweeter; 2' polypropylene woofers; FR 45-20,000 Hz ±3 dB; imp 8 ohm; sens 89 dB/W/m; amp power 15-180 W; crossover 6 dB/octave slope; foam lined cabinets; 13.5 x 9 x 12.5 in; 88 lb; kenary black, oak, walnut, or black ash finish .................. $1,549/pr

R252/MID Loudspeaker
Closed box speakers feature 1' aluminum dome tweeter; 8' polypropylene woofer; FR 50-20,000 Hz ±3 dB; imp 8 ohm; sens 91 dB/W/m; amp power 15-150 W; heavy cabinets with 18 mm thick panel construction; inside of cabinets is veneered; 25.25 x 10 x 12.5 in; 66 lb; walnut, black ash, or oak finish .................. $1,099/pr

R352/MID Loudspeaker
Bass-reflex speakers feature 5.25' metal-dome tweeter; 8' woofer; FR 50-20,000 Hz ±3 dB; imp 8 ohm; sens 91 dB/W/m; amp power 15-120 W; foam lined cabinet; 25.25 x 10 x 12.5 in; 57 lb; walnut, oak, black ash finish .................. $899/pr

R700/MID Loudspeaker
Bass-reflex speakers feature 1' aluminum dome tweeter; 6' polypropylene woofer; FR 55-20,000 Hz ±3 dB; imp 8 ohm; sens 89 dB/W/m; amp power 20-100 W; 13.75 x 8.5 x 10 in; 42 lb; walnut, oak or black ash finish .................. $689/pr

R52 Speaker
Sealed enclosure speakers feature 1' soft-dome tweeter; 8' woofer; FR 55-20,000 Hz ±3 dB; imp 8 ohm; sens 89 DB/W/m; amp power 20-100 W; 13.75 x 8.5 x 10 in, 42 lb; Walnut, oak or black ash finish .................. $429/pr

MOREL ACOUSTICS
Duet 2 Way Double Magnet Speaker
New MID-33 tweeter; 28 mm soft dome design with double-magnet structure. Hexatech technique winding (aluminum wire, wound hexagonally) and ferrofluid cooled. MW-164 6' double magnet woofer also using the Hexatech voice
Morel Acoustics Duet

CR-7 2-Way Speaker
Acoustus-suspension bookshelf speaker with an asymmetrical cabinet design to eliminate internal standing waves and improve dispersion and flatness of frequency response. Features 6" treated paper-cone woofer with metal grille, 1" soft-dome tweeter with metal grille. Available in matching black, walnut, teak, or black finish. $395/pr

MTX by MITEK
Pro 215 Floor-Standing Speaker
Bass-reflex speaker with computer-aided Thiele/Small-aligned cabinet. Features 2-15" cone woofers, 2-5"PL-5 cone midranges, 3" horn-loaded tweeter. FR 50-21,000 Hz ± 3 dB; power range 5-50 W rms; sens 99 dB SPL/W/m; imp 4 ohms; 77 lb. 21.25 x 29.75 x 16 in. $800 ea

OMH ACOUSTICS
Walsh 5 Vented Speaker
Features Walsh driver; 3 controls for lows, periscopic (midrange), and highs, each with 3 positions. Monster Cable internal wiring, veneered top edge of cabinet. Available in walnut, oak, and rosewood finishes or teak/white/black laminate. $1,200/pr

CAM 32 Speaker
Two-way bookshelf speaker. Features egg-shaped 75" polycarbonate dome tweeter system; 8" polyplylene woofer, ferrofluid-cooled tweeter with 50 mm magnet; 12" passive radiator and patented Sub Bass Activator; FR 39-20,000 Hz ± 4 dB; power range 75-200 W; imp 8 ohms; enclosure volume 32 L; 12.75 x 11 x 22.25 in; brushed bronze vinyl finish. $500/pr

PRO 250 Sound Cylinder Loudspeaker
Cylindrical speakers with black matador standard finish with optional real wood veneers of teak, oak, rosewood and walnut. Features lead-lining: monstro cable; FR 35-20,000 Hz, power rating 10-250 W; sens 91 dB; imp 8 ohms; 45.5 x 11.5" diameter. $1,200/pr
**PHASE TECHNOLOGY**

**Phase Coherent Series**

**PC-1000 4-Way Speaker**

Floor-standing phase-coherent passive-radiator speaker. Features met-polycarbonate bypass capacitors; 10" solid-piston RPF radiator; 8" solid-piston RPF woofer; 5.25" solid-piston RPF midrange; 1" soft-dome tweeter; accepts banana plugs. FR 25-20,000 Hz ± 3 dB; power range 25-200 wms; sens 91 dB SPL/W/m; imp 4 ohms. Walnut and dark oak. 15.5 x 38.25 x 8.5 in; 70 lb. $1,300/pr

**PC-800Ht 3-Way Speaker**

Floor-standing acoustic-suspension phase-coherent speaker with met-polycarbonate bypass capacitors; 10" flat solid-piston RPF woofer; 5.25" flat solid-piston RPF midrange; 1" soft-dome tweeter. Features removable minimum-diffraction grille; genuine wood veneer; speaker protection. Accepts banana plugs. FR 30-20,000 Hz ± 3 dB; min power 20 W rms; max power 150 W rms; sens 91 dB SPL/W/m; imp 4 ohms. Walnut or dark-oak veneer finishes. 14.5 x 36.25 x 8.5 in; 57 lb. $990/pr

**PC-600Ht 2-Way Speaker**

Floor-standing acoustic-suspension phase-coherent speaker with met-polycarbonate bypass capacitors; 8" split-piston RPF woofer; 1" soft-dome tweeter. Features removable minimum-diffraction grille; genuine wood veneer; speaker protection. Accepts banana plugs. FR 35-20,000 Hz ± 3 dB; min power 20 W rms; max power 125 W rms; sens 91 dB SPL/W/m; imp 4 ohms. Walnut or dark-oak veneer finishes. 12 x 31.25 x 8 in; 42 lb. $620/pr

**Euro Series**

**745 ES 3-Way Speaker**

Floor-standing acoustic-suspension speaker with angled project front baffle for minimum diffraction. Features 8" cone woofer; 6.5" cone midwoofer; 1" soft-dome tweeter; removable minimum-diffraction grille; rubber surround on woofer and midrange. Accepts banana plugs. FR 35-20,000 Hz ± 3 dB; min power 15 W rms; max power 120 W rms; sensitivity 93 dB SPL/W/m; impedance 4 ohms. 10 x 35.25 x 11.75 inches; 42 pounds. $550/pr

**325 ES 2-Way Speaker**

Bookshelf acoustic-suspension speaker with angled project front baffle for minimum diffraction. Features 6.5" cone woofer; 0.5" dome tweeter; removable minimum-diffraction grille; rubber surround on woofer. Accepts banana plugs. FR 55-20,000 Hz ± 3 dB; min power 15 W rms; max power 80 W rms; sens 92 dB SPL/W/m; imp 4 ohms. Woodgrain-vinyl finish. 8 x 17.25 x 8.75 in. $240/pr

**PC-60/50 Subwoofer/Satellite Set**

3-piece acoustic-suspension subwoofer system with dual-voice-coil subwoofer and 2-way compact phase-coherent satellites. Features 7.88" polymer-graphite-cone woofer; 2.88" titanium-dome tweeter; 0.75" polymer-graphite-plate tweeter. 25-30,000 Hz ± 3 dB; power range 25-200 W; sens 87 dB SPL/W/m; imp 8 ohms; walnut; stained oak, light oak finish; satellites 8 x 13.5 x 8 in; subwoofer 13 x 14 x 15 in. 60 lb $830/set

**Pinnacle**

The Diaduct 8

Features 1" 8" polypropylene woofer with butyl rubber surround; 1.5" aluminum voice coil; 1" domeished cone midrange with damped isolation chamber. 0.75" ferro-fluid filled soft dome tweeter. 0.5" polypropylene dome tweeter. FR 42-20,000 Hz ± 3 dB. $750/each

Monitor 200 3-Way Speaker

Bookshelf acoustic-suspension speaker. Features 12" polypropylene woofer; 4.5" polypropylene midrange; 0.75" polycarbonate fluidic dome tweeter. Push-spring terminals and removable black-knit grilles. FR 38-21,000 Hz ± 3 dB; min power 10 W/rms; max power 100 W/rms; sens 92 dB SPL/W/m; imp 6 ohms. Woodgrain vinyl finish. 13.25 x 23 x 12 in; 35 lb. $449/pr

**Polk Audio**

SDA-SRS 1.2 Signature Reference Speaker

Floor-standing speaker that incorporates coherent Line-Source True Stereo (SDA) technology:

**Pioneer**

**DSS-9 3-Way Speaker**

Bass-reflex speaker with 12" polymer-graphite-cone woofer; 2.62" boron-cone midrange; beryllium ribbon tweeter. Features mirror-image driver alignment; Pioneer's LDMC (linear drive magnetic circuit), EBD (electronic bass drive), and DRD (dynamic response suspension). Nomin imp 6 Ohms; sens 91 dB SPL/W/m; max power 240 W. Walnut-grain vinyl finish. Sold only in mirror-imaged pairs. 26.75 x 15.4 x 13.9 in. $1,100/pr

**VS910 3-Way Speaker**

Magnetically-shielded 3-way speaker. Features 12" cone woofer; 4" titanium-dome midrange; 1" titanium-dome tweeter; aluminum die-cast frame in woofer and midrange; round-cornered baffle. FR 25-30,000 Hz; imp 6 ohms; sens 90 dB SPL/W/m; 150 W max power handling. Dark oak veneer finish. 35.69 x 16.13 x 15.31 in; 75 lb. $1,040/pr

**CS-707 4-Way Speaker**

Bass-reflex speaker with 15.75" dual-voice-coil woofer; 4.75" midrange, horn tweeter with acoustic lens, and twin-piezo super tweeter. Features E80 (electronic bass drive); 3-position tone selector; LED power indicator; 6 ohms; sens 98 dB SPL/W/m; max power 300 W. Walnut-grain vinyl finish. 28.6 x 17.7 x 10.6 in. $760/pr

**Elite DSS-E6 3-Way Speaker**

Features 7.88" polymer-graphite-cone woofer; 2.88" boron-cone midrange; beryllium ribbon tweeter; mirror-image driver alignment; Pioneer's LDMC (linear drive magnetic circuit), EBD (electronic bass drive), and DRD (dynamic response suspension). Nomin imp 6 Ohms; sens 91 dB SPL/W/m; max power 120 W. Sold only in pairs. 18.5 x 10.6 x 9.6 in. $600/pr

**Onkyo**

S-70 4-Way Speaker

Bass-reflex speaker with 12" polypropylene-cone woofer with high-power voice coil, 5" PVA-treated ferro-fluid-cooled midrange, 1" polycarbonate-dome ferro-fluid-cooled tweeter, and 0.7" polycarbonate-dome ferro-fluid-cooled super tweeter. Features self-resetting auto overload protection. Features 1" subwoofer; 12" polypropylene-cone woofer, 5" PVA-treated ferro-fluid-cooled cone midrange; 1" polycarbonate-dome ferro-fluid-cooled tweeter. 150 W max power handling, FR 32-22,000 Hz ± 3 dB; sens 93 dB SPL/W/m; imp 8 ohms. Natural-oak-veneer finish. 16 x 40.75 x 10.25 in; 49 lb. $600/pr

**S-60 4-Way Speaker**

Floor-standing bass-reflex speaker with self-resetting overload protection. Features 15" subwoofer; 12" polypropylene-cone woofer, 5" PVA-treated ferro-fluid-cooled cone midrange; 1" polycarbonate-dome ferro-fluid-cooled tweeter. 150 W max power handling, FR 32-22,000 Hz ± 3 dB; sens 93 dB SPL/W/m; imp 8 ohms. Oak vinyl finish. 16.5 x 40 x 10 in; 45 lb. $400/pr

**PNR Compact 3-Way Speaker**

Acoustic-suspension speaker with 0.75" ferro-fluid polycarbonate tweeter, 4.5" polycarbonate-cone midrange, and 8" polycarbonate-cone woofer. FR 60-21,000 Hz ± 3 dB; min power 10 W rms; max power 80 W rms; sens 90 dB SPL/W/m; imp 4 ohms; Hickory vinyl veneer; 9.75 x 15.25 x 8.88 in; 32 lb. $279/pr

**PN7 3-Way Speaker**

Bookshelf bass-reflex speaker with 6.5" polycarbonate woofer; 1" convex Fabric-dome tweeter; 0.75" polycarbonate fluted super tweeter. Push-spring terminals and removable black knit grilles. FR 55-21,000 Hz ± 3 dB; min power 10 W rms; max power 70 W rms; sens 90 dB SPL/W/m; imp 4 ohms. Hickory vinyl finish. 9.25 x 14.5 x 8.5 in; 26 lb. $249/pr

**PC-60 2-Way Speaker**

Bookshelf phase-coherent acoustic-suspension speaker with met-polycarbonate bypass capacitors; accepts banana plugs; solid hardwood and veneers; removable minimum-diffraction grille; speaker protection. 6" solid-piston RPF woofer; 1" soft-dome tweeter. FR 55-20,000 Hz ± 3 dB; power range 15-100 W; sens 87 dB SPL/W/m; imp 4 ohms; walnut, or oak finishes; 8 x 13.5 x 8 in. $480/pr

**Monitor 200 3-Way Speaker**

Bookshelf acoustic-suspension speaker. Features 12" polypropylene woofer; 4.5" polypropylene midrange; 0.75" polycarbonate fluidic dome tweeter. Push-spring terminals and removable black-knit grilles. FR 38-21,000 Hz ± 3 dB; min power 10 W/rms; max power 100 W/rms; sens 92 dB SPL/W/m; imp 6 ohms. Woodgrain vinyl finish. 13.25 x 23 x 12 in; 35 lb. $449/pr
for 3-dimensional imaging. Features 15" planar passive radiator, 8.6' trilaminate polymer midranges; 4" silver-coil soft-dome tweeters. FR 10-26,000 Hz; recommended amplifier range 10-10,000 W; 6 ohms nominal impedance. Oiled oak, and walnut finish. 21 x 63.75 x 13 in.; 185 lb. $1.495/each

SDA-SRS2 Signature Reference Speaker
Floor-standing smaller-version SDA-SRS. Features Line Source Polk SDA True Stereo Technology for 3-dimensional imaging, 15" planar sub-bass radiator; 6.6' trilaminate polymer bass/midrange drivers; 3" silver-coil polymer-dome tweeters. Recommended amplifier range 10-750 W; channel; 6 ohms nominal impedance. Oiled oak or walnut finish. 53 x 20.62 x 13.12 in. 155 lb. $1.100/each

SDA-1C 3-Way Speaker
Floor-standing speaker. Features 4 Polk 6.5' trilaminate polymer bass/midrange drivers, 2 1" silver coil polymer dome tweeters; 1.25" pilar sub-bass radiator. Recommended amplifier range 10-500 W, FR 14-26,000 Hz; 6 ohms nominal impedance. Oiled walnut or oak cabinet. Black studio version at lower cost. 43.5 x 16.5 x 12 in.; 95 lb. $850/each

SDA-2B 3-Way Speaker
Similar to SDA-1B except 2 6.5' trilaminate polymer bass/midrange drivers, 1 1" silver coil polymer dome tweeters, 1 12" planar sub-bass radiator; FR 15-26,000 Hz; 6 ohms nominal impedance. Oiled walnut or oak cabinet. Black studio version at lower cost. 39.5 x 16.5 x 12 in.; 87 lb. $600/each

RTA 11 Monitor 3-Way Speaker
Real-Time Array floor-standing speakers with 2 8" low-resonance subwoofer, 2 6.5" trilaminate polymer bass/midrange drivers, and a 1" polymer dome tweeter; FR 15-25,000 Hz; recommended amplifier range 10-500 W; 6 ohms nominal impedance. Black ash, walnut and oak vinyl finish. Genuine walnut or oak veneer finish available at extra cost. 39 x 10.5 x 14.5 in.; 58 lb. $450/each

SDA-CRS + 3-Way Speaker
Bookshelf speaker with SDA technology for life-like three-dimensional imaging; features 2 6.5" trilaminate polymer bass/midrange drivers, 1" polymer dome tweeter. 10" passive cone radiator. FR 24-25,500 Hz; recommended amplifier range 10-250 W; 6 ohms nominal impedance. Black ash, walnut or oak vinyl finish. Genuine walnut or oak veneer finish available at extra cost. 20 x 12.5 x 12 in.; 36 lb. $425/each

Monitor 10B 3-Way Speaker
Sub-bass radiatorsealed floor-standing speaker with 10" fluid-coupled subwoofer, 6.5" trilaminate polymer bass/midrange drivers, 1" polymer dome tweeter. FR 22-25,000 Hz; recommended amplifier range 10-200 W; 6 ohms nominal impedance. Black ash, walnut and oak vinyl finish. Genuine walnut and oak veneer finish available at extra cost. 28" h x 16" w x 11.5" d; 48 lb. $330/each

RTA 8 Monitor 3-Way Speaker
Real-Time Array floor-standing speaker with 2 6.5" trilaminate polymer bass/midrange drivers; 1" silver-coil polymer dome tweeter. FR 22-26,000 Hz; recommended amplifier range 10-200 W; 6 ohms nominal impedance. Black ash, walnut and oak vinyl finish. Genuine walnut and oak veneer finish available at extra cost. 28.8" x 16" w x 9.25" d; 48 lb. $260/each

Polk Audio SDA-SRS 1.2

Monitor 7C 3-Way Speaker
Sub-bass radiatorsealed bookshelf speaker with 10" fluid coupled subwoofer, 6.5" trilaminate polymer bass/midrange driver, 1" polymer dome tweeter. FR 26-25,000 Hz; power range 10-100 W; 6 ohms nominal impedance; 24 x 14 x 9.25 in.; 34 lb. $260/each

AB-7 2-Way Speaker
Flush-mounting in-wall speaker with 6.25" woofer and 1" dome tweeter. FR 30-26,000 Hz; nom imp 6 ohms; power handling 100-100 W. White metal grille, 6.25 x 9.75 in., can be painted to match any decor. $400/pair

Monitor 5 Jr + 3-Way Speaker
Bookshelf speaker with 1" silver dome tweeter, 6.5" trilaminate polymer bass/midrange driver, subwoofer: 8" fluid coupled subwoofer. FR 29-26,000 Hz; power range 10-100 W; 6 ohms nominal impedance. Black-ash, walnut and oak vinyl finish. 17.9 x 9.8 x 8 in.; 41 lb. $340/pair

Monitor 4.5 2-Way Speaker
Bookshelf speaker with 6.5" trilaminate polymer bass/midrange driver, subwoofer: 6.5" trilaminate polymer bass/midrange driver, 1" planar cone tweeter, and 10" passive radiator. FR 30-25,000 Hz; power range 10-200 W; 6 ohms nominal impedance. Black ash, walnut or oak finish. 17.9 x 9 x 8.87 in.; 22 lb. $245/pair

Monitor 4A 2-Way Speaker
Bookshelf speaker with trilaminate polymer bass/midrange driver, 1" ferro-fluid cooled dome tweeter, isophase crossover network; terminated transmission duct that loads bass/midrange driver into deep-bass range. FR 55-21,000 Hz; power range 10-80 W; 6 ohms nominal imp. 14.5 x 8.5 x 7.36 in.; 16 lb. $200/pair

PRECISE ACOUSTIC LABORATORIES

Monitor 10 Speaker
3-way bass-reflex speaker with tuned-port design. Features 10" woofer, 6.5" midrange, 1" soft-dome tweeter. FR 20-35,000 Hz; 250 W max power handling. Natural oak veneer finish. $750 ea

Monitor 9 Speaker
2-way floor-standing speaker with 8" woofer, 1" tweeter, and 10" passive radiator. Features 150 W max power handling; imp 6 ohms; sens 91 dB. $330 ea

Monitor 5 Speaker
2-way passive radiator speaker with 8" woofer and 1" dome tweeter. Features 80 W max power handling. 9-element crossover, FR 32-35,000 Hz. $180 ea

Monitor 3 Speaker
2-way bass-reflex speaker. Features 6.5" woofer and 1" tweeter. $140 ea

PSB SPEAKERS

Stratus Tower Speaker
8" woofer with focused magnetic gap, cloth-dome tweeter; 2nd-order crossover at 1,800 Hz; light oak, dark oak, black wood finishes. FR 60-20,000 ± 2 dB, sens 88 dB, power range 15-150 W. $1,400/pr

50 MKII Speaker
2-way speaker system with 11" textile dome tweeter; 8" polypropylene cast basket woofer; rated impedance 8 ohms; black or brown finish. $500/pr

40 MKII Speaker
2-way speaker system with 8" textile dome tweeter; 8" polypropylene woofer; rated impedance 8 ohms; black or brown finish. $400/pr

20 MKII Speaker
2-way speaker system with 7 3/4" polydome tweeter, 6" woofer; brown or black finish. $200/pr

QUAD

ESL-63 US Monitor
Full-range electrostatic doublet speaker with dipole source. Features 2 protection circuits. Power range 100-190 W; sens 86 dB, 2.83 V rms; imp 8 ohms; axis band limits —6 dB at 35 Hz, third-order. —6 dB at 20 Hz, 92.5 x 66 x 27 cm; 23 kg, black. $3,995/pr

ESL-63 Pro. Professional version with carrying handles. $4,400/pr

RCA

SPK5000 Dimensia 3-Way Speaker
Floor-standing bass-reflex speaker with Zero Magnetic Distortion for placement next to a video monitor. Features 11" cross-carbon woofer; 4" pure carbon midrange; 1" titanium alloy dome tweeter. FR 28-20,000 Hz ± 3 dB; max input power 160 W rms; imp 8 ohms. 12.75 x 36 x 12.5 in. $549/pr

SPK4000 Dimensia 3-Way Speaker
Floor-standing acoustic-suspension speaker with Zero Magnetic Distortion. Features 12" nylon-coated woofer, 4" resin-coated midrange; 1" soft dome tweeter. FR 35-20,000 Hz ± 3 dB; max input power 120 W rms, imp 8 ohms. $399/pr

REALISTIC

Nominal imp of all Realistic speakers is 8 ohms
Mack Two 3-Way Speaker
Vented Ferrofluid-cooled speaker with 15" conical midrange, 4" dual-radial superhorn tweeter; level controls for midrange and tweeter; walnut veneer. Max power 160 W; sens 94 dB SPL/W/m; 27.56 x 17/75 x 11.81 in. $512/pr
**Optimus Speakers**

1000. Floor-standing bass-reflex tuned-port speaker with 15" high-compliance woofer, 5" midrange, 3" tweeter. Freq range 50-200,000 Hz ± 3 dB; max power 100 W rms; sens 92 dB SPL/W/m; imp 8 ohms. Oiled-walnut finish. 17.3 x 31.8 x 11.6 in; 44 lb. 

$400/pr.

900. Floor-standing bass-reflex tuned-port speaker with 12" high-compliance woofer, 4" midrange, 2.5" Ferrofluid tweeter. Freq range 50-20,000 Hz ± 3 dB; max power 100 W rms; sens 90 dB SPL/W/m; imp 8 ohms. Oiled-walnut finish. 14 x 29.75 x 10.88 in; 33 lb. 

$310/pr.

650. Bass-reflex speaker, 8" woofer, 4" midrange, 2.5"cone; 100W; 91 dB; 240W. Oiled-reflex speaker, 8" woofer, 4" midrange; 2.5"cone; tweeter; removable cloth grille; recessed color-coded spring-terminated terminals. Max power 70 W; sens 90 dB SPL/W/m. Oiled walnut veneer. 

$200/pr.

Nova 15 Speaker

Without tensioned grille, ported speaker with 2.5" tweeter. Max power 60 W; 19 x 16.75 x 7.5 in. 

$160/pr.

MC-1800 Acoustic-Suspension Speaker

BooKshelf speaker with 8" high-compliance woofer and 2.5" wide-dispersion tweeter. Freq range 70-20,000 Hz ± 3 dB; max power 50 W rms; imp 8 ohms. Oiled-walnut finish. 10.9 x 17.75 x 6.9 in. 

$120/pr.

**RECOTON**

Wireless 100 Speaker System

System consisting of transmitter and 2 powered speakers enabling listener to stereo in any room. Tweeter plugs into any audio component or external speakers. Speaker plug into that room’s AC outlet. Features 4.5" full-range driver; volume control; Freq range 60-15,000 Hz; 5W/80 dB; 6 Hz. Available in black and white. 

$270

**REVOK**

Agora B Amplified Speaker

Floor-standing triamplified active powered speaker incorporating 130-watt amps with active dividing networks in each enclosure. Designed to be driven from preamp or direct from high-level sources such as CD player. Features push-pull dual woofer design with one woofer facing into enclosure to eliminate even-order harmonic distortion. Two 8" cone woofers, 4.75"cone midrange, 75" titanium dome tweeter. Low-frequency amp utilizes feedback to compensate for back-EMF. Also features 4-step bass and treble controls; bass blend switch; automatic power on/off. Freq range 20-20,000 Hz ± 3 dB; sens 110 dB SPL/W/m; imp 8 ohms; 20 W max power. 17.69 x 11 x 13.44 in; 41.9 lb. 

$1,800/pr.

**SANSUI**

Vintage SP-1000

2-way magnetically-shielded bass-reflex speaker. Features 8.25" filament carbon fiber woofer with twin magnets; 1" titanium-diamond tweeter with diamond plating; inner-frame mounting with 1.5" rear baffle; front baffle; 9" die-cast aluminum tweeter base; both speakers have cylindrical frames; tweeter's flange plate is attached to sheet; isolated crossover network; titanium black finish. Freq range 45-20,000 Hz ± 4 dB; power handling 120 W max; 4,W max power. 17.69 x 11 x 13.44 in; 41.9 lb. 

$526/pr.

S-2000U 3-Way Speaker

3-way design with passive radiator. Features 12" cone woofer, 4"cone midrange, 3" cone tweeter, 12" cone passive radiator. Power: 160 W rms; 250 W max power. 17.69 x 11 x 13.44 in; 41.9 lb. 

$1,800/pr.

SP-X3U 3-Way Speaker

Acoustic suspension 3-way speaker. Features 4.5" carbon-fiber ceramic cone woofer with butyl rubber surround; 5" carbon-fiber polypropylene midrange cone; 1" ferrofluid-cooled dome tweeter; silicone carbon-oxide core coil crossover network; gold-plated 5-way binding post. Freq range 35-23,000 Hz ± 3 dB; 250 W max power; imp 8 ohms. 21.25 x 14 x 10.38 in. 

$400/pr.

**SCOTT**

All Scott speakers use acoustic suspension enclosures with IVA-coated woofers and constant-impedance crossover networks.

S12T6 Multidirectional Speaker

Floor-standing 6-driver speaker with 12" woofer, 2.5" ferrofluid-cooled midrange (1 front, 1 top). 3.15" ferrofluid-tweeter (1 front, 2 top). 8" oak vinyl finish. Freq range 4-20,000 Hz; 4 ohms; power range 15-175 W rms; sens 92 dB SPL/W/m; 16.5 x 31.2 x 10.7 in. 

$500/pr.

S10T5. Similar to S12T6 except 10" woofer, 2 drivers, max power 150 W. 

$400/pr.

S153 Floor-Standing 3-Way Speaker

15" woofer, 4.5" ferrofluid-cooled midrange, 1.75" ferrofluid-cooled tweeter. Freq range 40-20,000 Hz ± 4 dB; power range 1075 W rms; sens 91 dB SPL/W/m; 18.75 x 33 x 11 in; 45 lb. 

$400/pr.

S123. As above except 12" woofer and max power 150 W. 

$330/pr.

10.3 3-Way Bookshelf Speaker

10" woofer, ferrofluid-cooled 4.5" midrange; 1.75"center-mounted ferrofluid-cooled tweeter; hickory vinyl finish. Freq range 45-20,000 ± 4 dB; power range 10-100 W rms; sens 92 dB SPL/W/m; imp 8 ohms; 12.5 x 23.25 x 9 in. 

$260/pr.

**SDM by SOUND DYNAMICS**

All speakers are bass reflex, with 5" cone midrange, 1" horn tweeter, crossovers at 2,000 and 5,000 Hz, nominal impedance of 8 ohms, minimum impedance of 4 ohms, in walnut or black finishes. 

Monitor Three Speaker

12" woofer, FR 25-22,000 Hz; 3 dB; sens 98 dB SPL/W/m; power range 15-125 W; 26 x 15 x 12 in; 33 lb each. 

$500/pr.

Monitor Two Speaker

10" woofer, FR 30-22,000 Hz; 3 dB; sens 97 dB SPL/W/m; power range 10-112 W; 24 x 14 x 9.6 in; 29 lb each. 

$400/pr.

Monitor One Speaker

8" woofer, FR 35-22,000 Hz; 3 dB; sens 96 dB SPL/W/m; power range 10-100 W; 23 x 12 x 9 in; 29 lb ea. 

$330/pr.

**SHAHINIAN ACOUSTICS**

Diapason Module Speaker

Asymmetric prism with unequal rakes in each direction made of 13-ply finland birch. Features 4 x 5.25-in curved polycone rubber-edge drivers; 1" aluminum voice coil; 20 oz ceramic magnet; tweeters 6 x 10 mm W-shaped titanium domes. Freq range 125-22,000 Hz ± 3 dB; power handling 150-250 W; 2 optional input filter choices or direct bypass for bi-amp use filters; 2 optional radiator filters to facilitate exact matching or by-pass; treated lamb's wool damping; brown, black beige, bone, black knit polyester grill options; 4 ohms. 

$4,000/pr.

Obelisk 3-Way Speaker

Folded double-prism 50" hybrid transmission line speaker with 8" asymmetrically placed high temperature voice coil poly woofer, 10" mass-loaded-membrane viscous damped polypropylene passive radiator, two 1.36" cantilever light left exposed dome midranges, four 0.36" "W" shaped polydome-dome tweeters. Imp 4 ohms nominal; min power 50 W, max power 500 W. Walnut and oak standard finishes. 29 x 14.5 x 12.5 in; 55 lb. 

$1,750/pr.

Lyre 3-Way Speaker

Lamb's wool filled plastic isolation chamber for 5.25" Poly/Hybrid curved cone midrange. 8" Poly/Hybrid curved textured cone woofer with 1.5" Hi-temp voice coil; 1" Polyamide dome tweeter; 10" passive radiator. Freq range 30-18,000 Hz ± 3 dB. Dark or light oak veneer; 23.50 x 11.75 x 11.75 in; 43 lb. 

$850/pr.

Elf 2-Way Speaker

Forward firing small monitor with tuned-damped vent enclosure. 5.25" polypropylene woofer with rubber edge; 1" polypropylene-dome tweeter. Freq range 55-18,000 Hz ± 3 dB; imp 8 ohms nominal; min power 25 W; max power 200 W. 

**SPHINTHOS**

STEREO REVIEW FEBRUARY 1989
SPEAKERS

150 W. Natural medium or dark oak finish. 12.5 x 6.62 x 7.75 in, 26 lb/pr. $375/pr.

SIGNET
SL-100 Definitive Image Speaker
Floor-standing bass-reflex speaker with Ferra-lipise, a wide-dispersion frequency invariant acoustic lens to provide dispersion greater than 120 degrees at 20,000 Hz. Phase coherent for better imaging. Features 10" long-throw cone woofer, 3" soft-dome midrange, two 1" soft-dome tweeters. FR 40-20,000 Hz ± 3 dB; min power 25 W; rms max power 200 W; sens 90 dB SPL/m; imp 8 ohms. 12.68 x 35.83 x 15.81 in; 66 lb. $1,650/pr.

SNELL
ACoustics
Type A-III Improved 4-Way Speaker
Floor-standing acoustic suspension speaker with curved baffle to eliminate diffraction, mechanically isolated midrange enclosure, floor-loaded woofer, and rear-loaded super tweeter for accurate room response. Hand-adjustment of crossover and variable crossover frequencies for maximum acoustic performance virtually identical to reference speaker. Features 12" high-power long-excursion mass-loaded mechanically isolated cone woofer; 5" mechanically-isolated cone midrange; 1" individually adjusted controlled-dispersion dome tweeter; 0.75" low-mass ferrofluid-cooled dome super tweeter. Dual gold-plated inputs allowing biwiring or biamping with or without electronic crossover. FR 24-26,000 Hz ± 3 dB; 38-18,000 Hz ± 1 dB; power range 80-400 W rms; imp 4 ohms. Hand-sanded, hand-rubbed matching oak or walnut veneers. FR 35-1,500 Hz. 38.5 x 14.5 x 11.75 in. Oak or walnut $465/pr.

SONOGRAPHY BY CONRAD-JOHNSON
ST-21 Mini Monitor Satellite Speaker
Vented; 6.5" polypropylene cone woofer. 1" dome tweeter; golden oak cabinet with brown grille. FR 52-20,000 Hz ± 2 dB; power range 10-80 W; sens 90 dB SPL/m; imp 8 ohms. 14.5 x 11 x 7.75 in; 46 lb. $965/pr.

Type C-II 3-Way Speaker
Floor-standing bass reflex speaker system. Features 10" long-throw woofer. 5" midrange. 1" treated-cloth ferrofluid-cooled dome tweeter. 75° switchable rear tweeter; 4th order 24 dB/octave filters; bi-wireable or bi-amplifier. Hand-sanded, hand-rubbed matched veneers. FR 34-22,000 Hz ± 3 dB; power range 20-200 W. 14.5 x 11.75 x 46 in; 90 lb. $1,890/pr.

Type E/II 2-Way Speaker
Floor-standing bass-reflex speaker with 8" poly-mor-textured woofer. 1" soft-dome tweeter, and ultra-low-mass 0.75" ferrofluid-cooled rear-loaded dome super tweeter designed for flat early-arrival of sound and accuracy of listening room response. Hand-adjusted crossover for specific drivers assures acoustic performance virtually identical to reference speaker. Dual gold-plated inputs allowing biwiring or biamping. Features rear-loaded port for optimum low-frequency room loading. Hand-sanded, hand-rubbed matching oak or walnut veneers. FR 35-20,000 Hz ± 3 dB; imp 8 ohms; sens 93 dB SPL/m; power range 15-150 W rms; 33 x 14 x 11 in. Oak. $990/pr. Walnut $990/pr.

Type Q 2-Way Speaker
Bookshelf speaker designed for stand placement. Each speaker is individually adjusted to match a reference speaker within a fraction of a dB. Features 6.5" polypropylene cone woofer, 1" rear-firing dome-tube tweeter and a 7.5° rear-firing tweeter, flush grille to eliminate diffraction. Crossover frequency 2,200 Hz. Cabinets are hand-sanded and rubbed in matched pairs with oak or walnut veneer finish. 10.5 x 15.5 x 6.75 in. $780/pr.

Type J/II 2-Way Speaker
Bookshelf bass-reflex speaker designed to maximize accuracy of early arrival sound and listening room response. Hand-adjustment of crossover and adjustment of crossover values for specific drivers assures acoustic performance virtually identical to reference speaker. Features 8" polymer-treated curvilinear cone woofer; 1" soft-dome tweeter; dual gold-plated inputs for optional biwiring and biamping. Hand-sanded, hand-rubbed oak or walnut veneers. Sens 92 dB SPL/m; power range 15-150 W rms; fr 49-22,000 Hz ± 2 dB; imp 8 ohms. 23 x 13 x 13 in. Oak. $680/pr.

Type K-II 2-Way Speaker
Bookshelf acoustic suspension speaker with 8" polypropylene cone woofer and 0.75" ferrofluid-cooled soft-dome tweeter. Designed for accuracy of both early-arrival sound and listening-room power response. Hand-adjusted crossover values for specific drivers assures acoustic performance virtually identical to reference speaker. Dual inputs for optional biwiring or biamping. Oak, walnut, or black veneers. Imp 8 ohms; sens 90 dB SPL/m; power range 150-100 W rms. 18 x 11 x 9 in. Oak or walnut $465/pr.

SPEAKLAB
DAS Series Speakers
All DAS speakers are available in ebonal, walnut, light oak, or high-gloss lacquer finishes. DAS-8. Floor-placement speaker with Inverse Axis Alignment (IAA); computer-designed rear vent, and rear-mounted subwoofer. Features 10" and 12" woofers; 1" dome tweeter; one 6.5" cone and one 3" dome midrange. Crossover 150. 350. 1,500, 5,000 Hz; sens 94 dB SPL/m; imp 4 ohms; FR 23-21,000 Hz ± 3 dB; power range 20-300 W rms/ch. 46 x 16 x 13 in. $1,998/pr.

DAS-7. Floor-placement speaker with IAA, computer-designed rear vent, and rear-mounted subwoofer. Features 10" and 12" woofers; 1" dome tweeter, 6.5" cone midrange. Crossover 180. 350, 3000 Hz, sens 94 dB SPL/m, imp 4 ohms; FR 25-21,000 Hz ± 3 dB; power range 20-275 W rms/ch. 38.5 x 14 x 16 in; 86 lb. $958/pr.

DAS-6. Floor-placement speaker with IAA, computer-designed rear vent, and rear-mounted subwoofer. Features 8" and one 10" woofer; 1" dome tweeter. Crossover 180. 2,500 Hz; sens 94 dB SPL/m, imp 4 ohms; FR 30-21,000 Hz ± 3 dB; power range 20-275 W rms/ch. 36 x 12.5 x 14 in; 62 lb. $958/pr.

DAS-5. Bookshelf or floor-placement speaker with IAA, computer-designed rear vent, and rear mounted subwoofer. Features 8" and one 6.5" woofer, 1" dome tweeter. Crossover 180. 2,500 Hz; sens 93 dB SPL/m, imp 4 ohms; FR 34-21,000 Hz ± 3 dB; power range 20-175 W rms/ch. 31 x 11 x 13 in; 47 lb. $718/pr.

DAS-4. Bookshelf or floor-placement speaker with IAA and computer-designed rear vent. Features 8" woofer, 75" dome tweeter. Crossover 2,500 Hz; sens 93 dB SPL/m, imp 4 ohms; FR 36-21,000 Hz ± 3 dB; power range 20-100 W rms/ch. 28 x 10 x 12 in; 39 lb. $478/pr.

SPECTRUM LOUDSPEAKERS
Model 410 2-Way Speaker
Floor-standing Thiele-aligned bass-reflex speaker. Features plastic-impregnated 10" composite matrix cone woofer, 1" dome tweeter with acoustic imp transformer; FR 18-22,000 Hz/min power 30 W; max power 250 W; sens 89 dB SPL/m; natural oak or walnut. 38.5 x 14.5 x 11.75 in. $799/pr.

SPLICA
Angelus Floor Standing Speaker
Mirror imaged speaker with 8" plastic cone bass/mid driver, 1" soft dome tweeter, computer optimized crossover, built in adjustable spikes. FR 45-17,500 Hz ± 3 dB (90-15,000 Hz ± 1.5 dB), crossover 3,200 Hz (± 6 dB); recommended power 100-200 W; imp 8 ohms; 21 x 46 x 10.25 in; 57 lb. Walnut finish. $1,095/pr.

Oak finish $1,050/pr.

TC-50 Bookshelf Speaker
Acoustic-suspension bookshelf speaker with triangular shape allowing system to be within 15X of absolute phase from 350-5,000 Hz. Features 6" cone woofier; 1" dome tweeter. FR 60-16,000 Hz ± 3 dB; power range 25-50 W, 100 W peak;
LM 300 Floor-Standing 3-Way Speaker
10" woofer; 7" midrange; 1" dome tweeter; oak finish with needlepoint design; 3-way crossover; FR 42-22,000 Hz ±3 dB; power range 25-120 W; sens 93 dB SPL/W/m; imp 8 ohms; 13 x 42 x 13 in; 75 lb; $1,195/pr

SAMSON BASS-REFLEX SUBWOOFER
Floor-standing subwoofer with 15" composite-cone woofer, 18.62 lb magnet assembly, 4" edgewound copper voice coil; symmetrical magnetic-field motor structure. Features built-in 1,000-0 PWM digital-switching amp. Solid 1" butcher-block oak top, FR 20-200 Hz ±1 dB, max power 1,000 W; sens 91 dB SPL/W/m; imp 6 ohms; $749 ea

SYNTHESIS BY CONRAD-JOHNSON
Reference Speaker System
5-piece system with 2 subwoofer columns (each with 2 10" woofers), 2 midrange/high-frequency units with 7" midranges, 1 dome tweeter. Leaf superiowerter; golden oak with radiused solid-hardwood edges; active electronic crossover supplied. FR 22-32,000 Hz ±2 dB; power range 10-250 W; sens 91 dB SPL/W/m; imp 8 ohms; subwoofer columns 69 x 14 x 14 in; satellites 44 x 10 x 10 in; $6,800/system

LM 310 Floor-Standing 3-Way Speaker
10" woofer; 7" midrange; 1" dome tweeter; oak cabinet with radiused solid-hardwood edges; active electronic crossover. FR 22-32,000 Hz ±2 dB; power range 10-200 W; sens 91 dB SPL/W/m; imp 8 ohms; 25.7 x 22 x 18 in; $2,249 ea

Thiel CS 1.2
Floor-standing dual-concentric speaker with Sync-Source Time Alignment; sculpted grille; electronic bass equalization; FR 35-20,000 Hz ±3 dB; power range 10-200 W; sens 94 dB SPL/W/m; imp 8 ohms; $9,495/pr

THEIEL CS 3.5 COHESIVE SOURCE SPEAKER
Floor-standing, electronic-bass-equalized speaker with 10" cone woofer, 4" cone midrange, and 1" dome tweeter. Silk grille; synthesized first-order crossover system; 3-dimensional sculpted anti-diffraction baffle; electronic subwoofer; magnetic distortion reducing drivers; cast magnesium driver chassis; polypropylene crossover capacitors. FR 38-20,000 Hz ±2 dB; power range 50-250 W; sens 87 dB SPL/W/m; imp 6 ohms. Walnut, black, rosewood finishes. 13 x 42 x 13 in; 75 lb; $2,450/pr

VELODYNE ACOUSTICS
VEL-18 Powered Subwoofer
Floor-standing subwoofer with servo-controlled long-throw 18" driver with 3" peak-to-peak linear travel; 400-W amplifier, electronic crossover set at 85 Hz; level control to match subwoofer output to satellite speaker output; walnut, oak, or black. FR 5-35 Hz ±5 dB, max undistorted output of 114 dB at 32 Hz; cabinet 23 x 31 x 22 in; amp 17 x 3.5 x 11 in; $2,595

ULD-15 AS ULD-18 BUT WITH 15" DRIVER
Floor-standing system with sloping baffle. Features metal dome tweeter; woofer features cast magnesium chassis, polypropylene diaphragm, sculpted grille; FR 30-80,000 Hz ±2 dB, phase response of 90°; sens 87 dB SPL/W/m; imp 8 ohms; cabinet constructed with 1" MDF, heavy internal bracing; finished in walnut, oak, rosewood, black laminate. 26.5 x 26.5 x 9.5 in; 47 lb; $1,090
SPEAKERS

WHARFEDALE Precision Series

512.2 4-Way Speaker
4-way speaker with tuned-port enclosure. Features 8" cone woofers, 4" cone midrange, 1/4" metal-dome tweeter; FR 30-22,000 Hz ± 3 dB; sels 90 dB; crossovers at 1,000 and 5,000 Hz; nom imp 8 ohms; red mahogany finish. 35 x 11 x 11 in; 53.9 lb $950/pr

510.2 3-Way Speaker
3-way speaker with tuned-port enclosure. Features 8" cone woofer, 4" cone midrange, 1/4" metal-dome tweeter; FR 35-22,000 Hz ± 3 dB; sels 90 dB; crossovers at 1,000 and 5,000 Hz; nom imp 4 ohms; Available with red mahogany finish. 24 x 11 x 11 in; 30.8 lb $700/pr

507.2 2-Way Speaker
2-way speaker with tuned-port enclosure. Features 8" cone woofer; 1/4" metal-dome tweeter; FR 40-22,000 Hz ± 3 dB; sels 90 dB; crossover at 5,000 Hz; nom imp 8 ohms; red mahogany finish. 19 x 9 x 9 in; 22.5 lb $470/pr

Delta Series

Delta 90 3-Way Speaker
3-way speaker with tuned-port enclosure. Features 10" woofer; 4" cone midrange, 1/4" polymide, soft-dome tweeter; FR 35-20,000 Hz ± 3 dB; sels 86 dB; crossover at 3,500 Hz, nom imp 8 ohms, red mahogany finish. 11 x 7 x 8 in; 10 lb $330/pr

Delta 70 2-Way Speaker
2-way speaker with tuned-port enclosure. Features 8" woofer; 1/4" polymide, soft-dome tweeter; FR 35-20,000 Hz ± 3 dB; sels 89 dB; crossover at 3,500 Hz; nom imp 8 ohms. 27 x 12 x 9 in; 33 lb $700/pr

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Ritz Diamond Speaker
Tuned-port design speaker with built-in 20-W amplifier. Features 6.5" woofer; 1/4" polymide, soft-dome tweeter; FR 40-22,000 Hz ± 3 dB; sels 90 dB; crossover at 5,000 Hz, imp 8 ohms; black finish. 14 x 9 x 8 in; 16.5 lb $450/pr

Active Diamond Plus Speaker
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WHARFEDALE

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Yamaha Monitor Speakers

NS-1000M 3-Way Speaker
Bookshelf speaker with 12" woofer, 3.5" Beryllium-dome midrange, 1.12" tweeter. Features tangential-edge suspension; acoustic-suspension design; acoustic equalizers. Must see input power 200 W; sens 90 dB SPL/W/m. 14.75 x 26.62 x 12.89 in; 68.2 lb $1,498/pr

NS-1 2-Way Speaker
Acoustic-suspension bookshelf speaker system with 6.25" polypropylene-cone woofer, 1.19" soft-dome tweeter. Tweeter level control; blond wood grain finish with brown grille cloth. FR 60-30,000 Hz, power range 60-120 W; sens 86 dB SPL/W/m. Sold in mirror-image pairs. 8.06 x 15 x 11.25 in; 21 lb $1,000/pr

NS-100X 3-Way Speaker
Bookshelf speaker with 9" pure-carbon-fiber cone woofer, 2.36" pure-carbon fiber cone with titanium-carbide dome midrange, 1.19" titanium-carbide dome tweeter. Features field-isolation dual-magnetic system; low-distortion crossover network. Music input power 160 W; sens 91 dB SPL/W/m. 12.25 x 20.88 x 10.88 in; 30.8 lb $598/pr

NS-20M 3-Way Speaker
Bookshelf speaker with 9" pure-spruce cone woofer, 1.88" titanium-carbide semi-dome tweeter; 1.12" titanium-carbide semi-dome super tweeter. Features resonance-free enclosure with 3-way mitered construction. Music input power 160 W; sens 91 dB SPL/W/m. 10.62 x 16 x 10 in; 20.9 lb $498/pr

NS-10 3-Way Speaker
Bookshelf speaker with 7" singlesheet white-cone woofer, 1.36" soft-dome tweeter; acoustic-suspension enclosure, high-efficiency max-sound-dispersion design. Music input power 100 W; sens 90 dB SPL/W/m. 8.44 x 15 x 7.75 in; 13.2 lb $398/pr

FFT Series

NS-A103 3-Way Speaker
3-way speaker with 10" woofer with mica polypropylene cone and magnesium basket. Features 4.5" midrange driver; 1" linear phase soft dome tweeter, crossover with polypropylene capcators; FFT computer design... $518/pr

NS-A10 2-Way Speaker
2-way speaker with 10" woofer with mica polypropylene cone with magnesium basket. Features 1" linear phase soft dome tweeter; crossover with polypropylene capacitors, FFT computer design $418/pr

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STEREO REVIEW'S CRITICS CHOOSE THE OUTSTANDING CURRENT RELEASES

SEX AND THE PURSUIT OF HAPPINESS

GIVEN America's preoccupation with sex, it's ironic that our pop culture—specifically the movies and rock-and-roll—deals with the subject so superficially and dishonestly. Actually, rock-and-roll is particularly deficient in that regard, not very surprising when you consider how much of it is pitched at fourteen-year-old boys. Nonetheless, it's disappointing in a music that, at least theoretically, is supposed to have something to do with honesty and freedom.

That's one reason "Love Junk," the debut album by a group called the Pursuit of Happiness, is such a pleasant discovery: At last, here's a band that actually has the guts to confront sex with realism, maturity, and, occasionally, wicked humor. Of course, sex isn't the only thing on their minds (growing up, another subject all too rarely dealt with in rock, is the album's second major theme), but it's refreshing to hear it sung about by someone other than the usual heavy-metal morons—which these five musicians most emphatically are not, despite a crunch-guitar attack as hard as any you've ever heard.

The band's principal weapon in that attack is singer/songwriter Moe Berg, probably the first important Moe in rock history and a guy who seems to have a remarkable grip on the muddled state of relations between the sexes as the Eighties wind down. "I'm looking for someone with a voice that's true," he declares in Looking for Girls, "and I'm going to be nice to her—maybe she'll be nice, too." A lovely sentiment, to be sure, and one I'm sure we can all relate to, but it's followed, significantly, by, "Then I'm going to do it to her four hundred and eighty-seven thousand times." Take that, Prince!

Elsewhere, Berg deals with unrequited love (Man's Best Friend), jealousy (Hard to Laugh), the joy of seeing the object of your desire in the altogether (Beautiful White), the destructive uses of sex as a substitute for communication (Down on Him), and even the difficulty of writing about relationships when you're past a certain age. "I don't write songs about girls anymore," Berg confesses on the hilariously self-revealing third track, I'm an Adult Now. "I have to write songs about women."

The gratifying thing about "Love Junk" is the way the music sounds like what it means. The tunes and the band's execution of them are every bit as smart, heartfelt, and funny as Berg's corrosively sane versifying. The idiom, for want of a better term, is pop metal, all ringing guitars, aggressive drums, and angelic harmonies. Here, in the hands of people who obviously have artistic aspirations beyond growing their hair just right, the genre finds something of an apotheosis. And the cream of the jest is that a number of these songs—the wistful She's So Young, for example—could easily be radio hits.

Add to all this a first-rate production job by Todd Rundgren (easily the equal of his recent work with XTC), and you have a record that will doubtless outlive the dismal musical and political season of its release. Don't miss it. Steve Simels

THE PURSUIT OF HAPPINESS: Love Junk. The Pursuit of Happiness (vocals and instrumentals). Hard to Laugh; Ten Fingers; I'm an Adult Now; She's So Young; Consciousness Raising as a Social Tool; Walking in the Woods; Beautiful White; When the Sky Comes Falling Down; Looking for Girls; Man's Best Friend; Tree of Knowledge; Killed by Love; Down on Him. CHRYSALIS OV 41675, ©OVT 41675, © VK 41675 (43 min).

The Pursuit of Happiness: confronting sex with maturity and wicked humor
SCHUBERT'S last and greatest symphony has been known by no fewer than four different numbers over the years, and lately some programmers have taken to dropping the number altogether. Fortunately, the symphony has a nickname to help identify it: it's the "Great C Major." That sobriquet has led to some silliness, too, the word "great" being hung on "briquet" has made some programmers have taken to dropping the number altogether. Fortunately, the symphony has a nickname to help identify it: it's the "Great C Major." That sobriquet has led to some silliness, too, the word "great" being hung on the title as if this symphony alone were to be regarded, in Gleasonian parlance, as "the Great One." The term was not originally intended as a value judgment, but simply as a means of distinguishing this big symphony from Schubert's "little" one in the same key, his No. 6. In any event, that concept of "great" may have been responsible for the monumentalizing of the work in so many interpretations. But it is vitality that distinguishes Charles Mackerras's new recording of it with the Orchestra of the Age of Enlightenment, not only a standout among the first releases on the new Virgin Classics label but one of the most appealing recordings yet to appear of this much beloved work.

The orchestra with that cumbersome name is an original-instruments group based in London, and Mackerras's is the first recording of Schubert's Ninth by such an ensemble. Actually, that facet of the performance is not likely to be noticed all that much by most listeners, though it is surely felt in the sound of the brass—crisper and more characterful to a degree than the heavier modern instruments. It is the enlivening, thoroughly uncere

monial pacing, more than the matter of instrumentation, that makes the performance a winner. Even though Mackerras takes every repeat, he brings the work in at a little under an hour, with no sense of haste, no hint of self-indulgence. Indeed, I might have wished for just a smidgen of indulgence in some of the phrasing—in the scherzo, for example—but far better to have it straight-faced than smarmed-up and kitschy.

This may not be the only way to do the "Great" C Major, but it is an especially bracing, refreshing account of it, and it makes great musical sense. It is also superbly recorded, with a fine open-air quality that makes the most of those crisp "period" brasses and woodwinds and allows the strings to charm without becoming soupy. I know more than a few collectors who find as many as twenty recordings of this work "indispensable"; anyone who loves it enough to want as many as two ought certainly to choose this as one of them.

Richard Freed

Diane Schuur: powerful pop/jazz

FOR her fifth GRP album, "Talkin' 'Bout You," two-time Grammy winner Diane Schuur has stretched out from her straight-ahead jazz approach (her last album paired her with the Count Basie Orchestra) to appeal to a wider, pop-oriented audience. In choosing the selections, Schuur and her producers, Steven Miller, Dave Grusin, and Larry Rosen, decided to go back to the r&b sound of the Fifties and Sixties. The decision was wisely rooted: Schuur, thirty-four, grew up hearing the classics of Ray Charles on the radio, and rhythm-and-blues shares many of the characteristics of jazz. The result is an altogether delightful collection, mixing her big, powerful voice with a well-balanced program and appearances by some of the finest jazz instrumentalists and session players in the business.

"Talkin' 'Bout You" resurrects three well-loved Ray Charles numbers, including the title tune, and offers a wonderful new r&b tune, "Talkin' 'Bout You" is still a jazz-based album, one that merely draws on elements of pop, blues, and gospel. That recipe works best in "Talkin' 'Bout You" resurrects three well-loved Ray Charles numbers, including the title tune, and offers a wonderful new r&b tune, "Talkin'," but it is an especially bracing, refreshing account of it, and it makes great musical sense. It is also superbly recorded, with a fine open-air quality that makes the most of those crisp "period" brasses and woodwinds and allows the strings to charm without becoming soupy. I know more than a few collectors who find as many as twenty recordings of this work "indispensable"; anyone who loves it enough to want as many as two ought certainly to choose this as one of them.

Richard Freed

Diane Schuur: glorious "Talkin',"

POP/JAZZ

Diane Schuur: glorious "Talkin',"

FOR her fifth GRP album, "Talkin' 'Bout You," two-time Grammy winner Diane Schuur has stretched out from her straight-ahead jazz approach (her last album paired her with the Count Basie Orchestra) to appeal to a wider, pop-oriented audience. In choosing the selections, Schuur and her producers, Steven Miller, Dave Grusin, and Larry Rosen, decided to go back to the r&b sound of the Fifties and Sixties. The decision was wisely rooted: Schuur, thirty-four, grew up hearing the classics of Ray Charles on the radio, and rhythm-and-blues shares many of the characteristics of jazz. The result is an altogether delightful collection, mixing her big, powerful voice with a well-balanced program and appearances by some of the finest jazz instrumentalists and session players in the business.

"Talkin' 'Bout You" resurrects three well-loved Ray Charles numbers, including the title tune, and offers a wonderful new r&b tune, "Talkin' 'Bout You" is still a jazz-based album, one that merely draws on elements of pop, blues, and gospel. That recipe works best in "Talkin'," but it is an especially bracing, refreshing account of it, and it makes great musical sense. It is also superbly recorded, with a fine open-air quality that makes the most of those crisp "period" brasses and woodwinds and allows the strings to charm without becoming soupy. I know more than a few collectors who find as many as twenty recordings of this work "indispensable"; anyone who loves it enough to want as many as two ought certainly to choose this as one of them.

Richard Freed

Diane Schuur: glorious "Talkin',"

POP/JAZZ

Diane Schuur: glorious "Talkin',"
As the year 2003 draws nearer, innovative audio technology is bringing music in the home closer and closer to the real thing. From compact disc player to electronics to loudspeakers, all of the links in the audio chain are closing in on the goal of "perfect" sound. None of these links is more crucial, however, than the final one - the loudspeaker. Only a truly outstanding, accurate loudspeaker can translate the electrical impulses of today's (and tomorrow's) advanced componentry into the realistic and satisfying sound for which it was designed. Now Logik brings you that FINAL LINK. Five exceptional loudspeaker models that give you all of the detail, soundstaging impact and dynamic range of the real thing. Five loudspeaker models that turn musical source into musical sound.
BEST RECORDINGS OF THE MONTH

DIANE SCHUUR: Talkin' 'Bout You. Diane Schuur (vocals); Edwin Hawkins Singers (background vocals); Dave Grusin, Richard Tee, Mitchel Forman (keyboards); Steve Khan (guitar); Steve Gadd (drums); Will Lee (bass); Tom Scott (tenor, alto saxophone), other musicians. Talkin' 'Bout You; Funny (But I Still Love You); Louisiana Sunday Afternoon; For Your Love; Hearts Take Time; Somethin' Real; Hard Drivin' Mama II; Nothing in the World (Can Make Me Love You More Than I Do); Ain't That Love; Life Goes On (CD Make Me Love You More Than I Do). © GRC-9567, GRP GR-9567, © GRC-9567, © GRD-9567 (45 min).

A SUPERB NEW "CENERENTOLA" FROM MARRINER

Neville Marriner has surpassed the glittering achievement of his 1983 recording of Rossini's Barber of Seville with his new, superbly balanced, crystal-clear, effervescent recording of La Cenerentola. As in the earlier recording, he is fortunate to have Agnes Baltsa and Francisco Araiza as the operatic lovers—both singers of unusual vocal accomplishment and musical style. He has, too, the Ambrosian Opera Chorus, which, as usual, provides exact, exciting, and involved choral singing. And he conducts his own orchestra, the Academy of St. Martin-in-the-Fields, one of the finest, best-schoolied ensembles before the public today.

Given these assets, I expected this Cenerentola to be fairly close to perfection, and I was not disappointed: Between Marriner's achievement here and perfection itself the line is thin indeed. My single reservation: Agnes Baltsa commands less of the warmly sympathetic personal quality that makes Frederica von Stade's Angiolina so very special. Yet Baltsa sings the music with seeming effortlessness and full mastery of Rossini's delicate tracery. Francisco Araiza, as Don Ramiro, sings with tonal purity and a real sense of fun; he is an ideal match for Baltsa.

The remaining members of the cast are equally superb and give of their best under Sir Neville's demanding but ever felicitous baton. It is clear that everybody involved loves this music and shares in the composer's delight with the fairy tale. Simone Alaimo creates an attractively bumptious Dandini, his clear baritone easily encompassing the demands Rossini makes on it. Ruggero Raimondi, usually appreciated for his interpretation of "heaves," is a pleasant surprise as the self-important windbag Don Magnifico; his cavatina in Act I is deliciously comic. Carol Malone and Felicity Palmer bring proper angularity and vinegary wit to the ugly sisters, and John del Carlo, as the Prince's tutor Alidoro, makes much of the wise affection the old man holds for his charge.

Perhaps the most striking aspect of this Cenerentola is the verve with which it is unfolded. The pacing and inflection of the performance and its pervasive sense of liveliness and enthusiasm are contagious, drawing the listener in to a greater extent than is often the case with recorded operas, even the best-conceived of them. Bravo! Robert Ackard

ROSSINI: La Cenerentola. Agnes Baltsa (mezzo-soprano), Angiolina/Cenerentola; Francisco Araiza (tenor), Don Ramiro; Simone Alaimo (baritone), Dandini; Ruggero Raimondi (bass), Don Magnifico; Carol Malone (soprano), Clorinda; Felicity Palmer (mezzo-soprano), Tisbe; John del Carlo (bass), Alidoro. Ambrosian Opera Chorus, Academy of St. Martin-in-the-Fields, Neville Marriner cond. PHILIPS © 420 468-4 three cassettes, © 420 468-2 three CD's (149 min).

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CLASSICAL


- CHOPIN: Piano Music. Arrau. PHILIPS 422 038-2 (3 CD's). A comprehensive collection, issued in honor of the pianist's eighty-fifth birthday season, containing selections previously unavailable on CD.


- MASSENET: Manon. Sills, Rudel. EMI/ANGEL CMS 69831 (three CD's). "Intense and entirely convincing" (Best of Month, June 1971).


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Discs and tapes reviewed by Chris Albertson, Phyl Garland, Ron Givens, Roy Hemming, Alanna Nash, Parke Puterbaugh, Steve Simels

**BILLY BRAGG: Workers Playtime.**
Billy Bragg (vocals, guitar); instrumental accompaniment. She's Got a New Spell; Must I Paint You a Picture; Tender Comrade; The Price I Pay; Little Time Bomb; and six others. ELEKTRA 60824-1, © 60824-4, © 60824-2 (41 min).

**Performance:** Well intentioned
**Recording:** Pretty good

Say what you will about Billy Bragg—that though his heart is in the right place, against the rich and powerful, his politics are ultimately naive—but he's a born songwriter: literate, funny, passionate. The problem for me is that I've always wanted to like his albums more than I actually do.

"Workers Playtime" is a case in point. Without a doubt, there are some superior songs here. The Price I Pay, for example, is the kind of nakedly confessional neo-soul plaint John Lennon used to toss off. There are also some wonderful insights ("Most important decisions in life are made between two wonderful insights," went bye bye). Without a doubt, there are some passionate. The problem for me is that I've always wanted to like his albums more than I actually do.

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Listening to this new, intelligently programmed greatest-hits package makes that change fairly obvious. In fact, the distance between the Straits' first hit (Sultans of Swing) and their most recent one (Money for Nothing) is the distance between a cool, deliberately nonmainstream, four-piece club band and a standard, ready-for-MTV, over-sized arena ensemble. Not that the music has necessarily suffered—they've learned to make bombast palatable, even thrilling. Everything you might want to hear is included, from Tunnel of Love, the only one of their ersatz-Springsteen street romances that makes it as a kinetically exciting piece of rock-and-roll, to the preposterously overwritten Private Investigations.

While I regret the direction the band has taken, there's no doubt that Knopfler is a genuinely individual artist; even when the songs don't ring true, that voice and that guitar supply an element of authority that can let you overlook the band's troubling concessions to popular taste. In any case, as a portrait of one band's evolution, "Money for Nothing" is irreproachable. S.S.

**DIRE STRAITS: Money for Nothing.**
Dire Straits (vocals and instruments). Sultans of Swing; Down to the Waterline; Portobello Belle; Twisting by the Pool; Romeo and Juliet; Where Do You Think You're Going: Walk of Life; and four others. WARNER BROS. 25794-1, © 25794-4, © 25794-2 (42 min).

**Performance:** Good times, bad times
**Recording:** Mostly superb

Looking back, it's not surprising that Dire Straits hit it big as fast as they did, even in the context of the far more extreme punk rock of the period. The architectural grace and fluidity of Mark Knopfler's guitar work was pretty hard to resist, and there was a certain fascinating tension between the band's appropriation of purely American musical idioms and evocations of specifically British styles. What is surprising is how quickly the other salient aspect of their early music—its understated reticence—went bye bye.

When the songs don't ring true, that voice and that guitar supply an element of authority that can let you overlook the band's troubling concessions to popular taste. In any case, as a portrait of one band's evolution, "Money for Nothing" is irreproachable. S.S.

**THE ERTEGUNS' NEW YORK—NEW YORK CABARET MUSIC.**
Mae Barnes, Chris Connor, Jimmy Daniels, Greta Keller, Carmen McRae, Mabel Mercer, Joe Mooney, Bobby Short, Sylvia Syms, Ted Strayer, Mel Tormé (vocals); Joe Bushkin, Barbara Carroll, Stan Freeman, Goldie Hawkins, Jimmy Lyon, Hugh Shannon, Billy Taylor, Cy Walter (piano); other musicians. Down in the Depths on the Ninetieth Floor; Lush Life; All in Fun; Remind Me; At the Moving Picture Ball; True Blue Lou; Sand in My Shoes; and ninety-two others. ATLANTIC 81817-1 six LPs, © 81817-4 three cassettes, © 81817-2 two CD's (143 min).

**Performance:** Crème de la crème
**Recording:** Varies with age

What a package! Here is a total of one hundred songs sung and played by twenty of the greatest stars of New York's supper clubs and jazz rooms of the Fifties and Sixties, an incredible era of small-club music making that got clobbered by the twin onslaughts of TV and disco.

The brothers Ahmet and Nesuhi Ertegun started recording some of their favorite small-club artists for the Atlantic label in the Forties (the earliest track here is by Eddie Condon from 1949). They kept at it through the following decades, even though the albums were clearly never going to be money-making million sellers. Now they've compiled a representative sampling of the best (well, okay, a few are second best), wisely grouping each artist individually.

Mae Barnes and Mabel Mercer, in particular, are captured in peak form, from the early Fifties, before mannerisms began to replace vocal security. These two very different (and distinctive) ladies have never been equaled in what they could do with certain songs—and it's all here for young and old alike to enjoy (and, yes, learn from). Barnes's Laziest Gal in Town and Ol' Man Mose are inimitable, as are Mercer's You Are Not My First Love and Remind Me.

Other highlights are Chris Connor's forlorn Something to Live For, Sylvia Syms's wistful There's Something About an Old Love, Mel Tormè's refreshingly uncloying Autumn in New York, and Bobby Short's debonair Sand in My Shoes. On the disappointing side, however, are some of the instrumental tracks by such wonderful pianists as Cy Walter, Jimmy Lyon, and Joe Bushkin, who have been better represented on other albums. There are a couple of inaccuracies in the large street map that shows where the major clubs were once located. But the music making is what
counts, and most of what's here is unforgettable indeed.

JULIA FORDHAM. Julia Fordham (vocals); vocal and instrumental accompaniment: Happy Ever After; The Comfort of Strangers; Cocooned; Where Does the Time Go?, Woman of the 80's; The Other Woman; and four others. VIRGIN 90955-1, © 90955-4, @ 90955-2 (41 min).

Performance: Going places
Recording: Lovely

Twenty-six-year-old Julia Fordham is a Briton by birth and an eccentric by nature. A former member of Mari Wilson's Wilsations, a pop group known as much for their beehive hairdos as for their single PolyGram album, Fordham now emerges, in this solo debut, as a sophisticated manipulator of language and rhythm, a confessional storyteller beset by demons of the psychological kind.

Possessing a musky, dense alto that seems masculine one moment and entrancingly feminine the next, Fordham sends out scary, mixed signals that never really allow the listener to get too close, an ambivalence also inherent in the music. Side one, made up of cool, sterile pop—on the order of Sade—presents the artist as the detached, questioning neurotic, more quizzical than analytical, capable of striking out in confrontational asides: "I must like it when you hurt me/Cos I always let you hurt me/But not anymore."

Some of the songs work better than others. The Comfort of Strangers, reminiscent of Joni Mitchell in her jazz-ballad period ("Court and Spark," "The Hissing of Summer Lawns"), contrasts, in a modern amorality tale, the hollow pleasures of material comforts with the hunger for human warmth. A single guitar makes way for arrangements of lushly moving chorines, in the first of many unexpected musical surprises that include African choirs and third-world percussion. Happy Ever After and Cocooned, the latter featuring a fetching jazz piano, allow the singer to wade into murky waters as she attempts to mesh her discontent in love with her unhappiness over apartheid and the world-wide starvation of children.

Fordham comes into her own on side two, where she finds her sense of humor. Where Does the Time Go? pairs her with John O'Kane in a call-and-response exchange that recalls the uplifting duets of Roberta Flack and Donnie Hathaway. Woman of the 80's, the most accessible track in the album, finds her trading in her starchy poses for the adrenaline rush of passion. To a jaunty beat and the sassy accompaniment of the New West Horns, she explores the dilemma of an indepen-

ROCK CITY ANGELS

O
n the cover of their debut album, "Young Man's Blues," the Rock City Angels look like just another bunch of head-banging Southern California nihilists with bruised IQ's and a stale horde of clichés. But stop, look, and listen closely, and a different impression begins to take shape. These guys could turn out to be the hard-rock band those of us who revered the New York Dolls, the MC5, T. Rex, and Alice Cooper in the early Seventies hoped might surface in the Eighties.

Actually, there's a wealth of influences evident in "Young Man's Blues." The Angels have honed up on the Stones and the Sex Pistols, not to mention the knife-edged electric blues of Muddy Waters and John Lee Hooker. Moreover, they've processed this source material through their own life experiences to come up with a sound and attitude that, if not exactly original, is certainly compelling.

"Young Man's Blues" is a perfect title for this record. It's a head-spinning walk on the wild side, a day in the life of street kids at odds with their families, society, and even themselves. There are drugs, sex, and rock-and-roll—and tenderness, too, as in the eulogy for a suicide victim, Mary—along with the will to survive. The Rock City Angels don't flinch from the horrific reality of the streets, but in the dervish dance of hard-charging rock-and-roll they find a way to transcend it.

The Angels' story spills out across three sides of the double-LP set (a rare show of faith by a record company in a band making its debut). Side four contains an extended remix of Beyond Babylon, an unsparing state-of-the-union message. Beyond their energy and commitment, what lifts the five Angels above the competition is their ambitious mix of styles. Deep Inside My Heart, for instance, kicks in with a bluesy boogie riff, a backbeat the size of Tennessee, and a corrosive vocal that sounds like Billy Idol at full throttle. Such nerve eclecticism keeps the pot at a boil through the whole album.

Like the Stones, the Rock City Angels suggest both the allure of a thrill-filled life and the price it exacts from body and soul. In "Young Man's Blues," they tether fierce pride and independence to a batch of songs that rock like crazy.

"Young Man's Blues" is certainly compelling. You get the feeling the Rock City Angels had something to say about themselves and the world they live in, and they just had to get it out.

ROCK CITY ANGELS: Young Man's Blues. Rock City Angels (vocals and instrumentals). Deep Inside My Heart; Hard to Hold; Mary; Our Little Secret; Rumblefish; Boy from Hell's Kitchen; Liza Jo; Beyond Babylon; Hush Child; South of the Border; Damned Don't Cry; Wild Tiger; These Arms of Mine; Rough 'n' Tumble; Ya Gotta Swear; Beyond Babylon (45-rpm remix, in LP set only). GEFFEN GHS 24193 two LP's, © MSG 24193 one cassette, © 2-24193 one CD (52 min.).
dent woman who enjoys her freedom but still yearns for romance on Sunday afternoons. And in The Other Woman, she begins a downer of a song with something akin to Sade-with-moxie but quickly grows involvingly gritty and affecting.

Julia Fordham is a marvelously inventive artist, but you come away from her album somewhat confused. Quirky, spirited, but too often starkly reserved, she is often content to let the production overrun the music. Still, this debut promises the development of a formidable writer and performer. In the meantime, as her talent matures, there is the comfort of her dark, insinuating voice, methodically wrapping her audience in its chilly embrace. A.N.

DAVID KNOPLFER: Lips Against the Steel. David Knopfler (vocals, guitar); instrumental accompaniment. Heat Come Down; What Then Must We Do; To Feel That Way Again; Someone to Believe; Sculptress; and three others. CYPRESS YL 0120, © YC 0120, © YD 0120 (41 min).

Performance: Ponderous
Recording: Terrific

David Knopfler has already achieved status as a footnote in rock history by virtue of having been thrown out of the wildly successful Dire Straits by his older brother, Mark. Unfortunately, his new album, sung in a Dylanesque whisper that's an undernourished echo of Mark's derivative style, is unlikely to affect his reputation as the least lucky supporting player since Pete Best. Track after tuneless track drifts by portentously, with the added indignity of exceptionally empty-headed and pretentious lyrics and lots of annoying, gratuitous sound effects. S.S.

Los Lobos: La pistola y el corazón. Los Lobos (vocals and instrumentalists); other musicians: La guacamaya; Las amarillas; Si yo quisiera; Estoy sentado aquí; El gusto; and four others. SLASH/ WARNER BROS. 25790-1, © 25790-4, © 25790-2 (25 min).

Performance: Exquisite
Recording: Very good

Los Lobos has always remained true to its Mexican roots while pounding down the rockabilly trail. So it isn't particularly surprising that “La pistola y el corazón” is a very strong album, combining seven traditional Mexican songs with two originals. The band plays acoustic instruments, many of them used only in Mexican folk-based music.

The sound is rich and somewhat “different,” but not entirely exotic, and the instrumental tracks are vividly performed. The songs, sung with great feeling, are filled with blood-red emotions, tragic love affairs, and aching sadness. Los Lobos clearly knows this music and loves it. If any further proof of affinity were needed, it would be the stylistic compatibility of the two originals; they have the same zest and desperate romanticism as the cover versions. My only complaint with “La pistola y el corazón” has to do with its length, which is only about twenty-five minutes. That seems far too short for a full-priced release, and the high quality of what's on the album only leaves me hungry for more. R.G.

PATTY LOVELESS: Honky Tonk Angel. Patty Loveless (vocals); vocal and instrumental accompaniment. Blue Side of Town; I Won't Gamble with Your Love; If You Think; Chains; The Lonely Side of Love; and five others. MCA MCA-42223, © MCAC-42223, © MCAD-42223 (32 min).

Performance: Hitting her stride
Recording: Very good

In her third MCA recording, country diva Patty Loveless turns in an exem-
plary performance as an open-throated singer with an ear for a good song—no matter what genre it happens to inhabit. While critics have described her as a rightful successor to traditional country stalwarts Reba McEntire and Loretta Lynn (who happens to be Loveless's cousin), "Honky Tonk Angel," produced by Tony Brown, shows Loveless, a veteran of several rock-and-roll bands, to have more in common with Emmylou Harris and Juice Newton than with her more rurally oriented colleagues. Blue Side of Town, for example, written by Paul Kennerley (Harris's husband) and Hank DeVito, who wrote Queen of Hearts for Newton, is more befitting a rocking honky-tonk angel of the L.A. ilk than anything Kitty Wells ever had in mind. I Won't Gamble with Your Love is in the vein of Linda Ronstadt's Love Is a Rose. And two other strong songs, Don't Toss Us Away (with Rodney Crowell) and The Lonely Side of Love, recall Harris's early days and her romance with the Louvin Brothers sound. By far the most surprising turn here, however, finds Loveless slipping on a slinky night-club ballad, If You Think, and shaping it into a natural-fitting garment of her own.

Two albums ago, Loveless would never have found the confidence to attempt anything as treacherous as If You Think. But aside from an achingly pure rendition of Carter Stanley's bluegrass lament I'll Never Grow Tired of You, Loveless has, in her quest for a slightly more professional and "uptown" sound, lost some of the vulnerability and "wild and wounded" ambiance that characterized her debut record. "Honky Tonk Angel" is a spectacular display of all the singer's charms. It also rudely diffuses the personal portrait of this maturing artist. A.N.

STEVE MILLER: Born 2B Blue. Steve Miller (vocals, guitar); vocal and instrumental accompaniment. Zip-a-Dee-Doo-Dah; Ya Ya; God Bless the Child; Filthy McNasty, Born to Be Blue, and five others. CAPITOL CI-48303, © C4-48303, © C2-48303 (42 min).

Performance: Smooth
Recording: Exceptional

Steve Miller has assumed many identities over the years—Gangster of Love, Space Cowboy, and the Joker among them—but his music has always remained true to its bluesy, rocking roots. In "Born 2B Blue," however, he's playing to an older crowd, much as Linda Ronstadt did in her torch-song trilogy with Nelson Riddle. For this record Miller has put on a few pounds, donned coat and tie, strapped on a hollowbody guitar, and crooned his way through ten hand-picked pop standards.

When he tackles syncopated blues and jumping jive like Red Top, Ya Ya, and Just a Little Bit, Miller's an engaging interpreter with a feeling for rhythmic nuance, especially in his back up vocals and clear-toned lead breaks. He's less sure-handed with the ballads, where his phrasing is awkwardly imitative of jazz singers like Mel Tormé and Mose Allison. His dilettantish dip into the likes of God Bless the Child, When Sunny Gets Blue, and Willow Weep for Me would have been better confined to the shower.

Miller has been unable to find his feet in the Eighties, a common plight among veteran performers in this musically fickle decade. Granted, "Born 2B Blue" is a comfortable side trip down memory lane, but I wonder where it's leading him. I hope it's not to the cocktail lounge at the local Holiday Inn. P.P.

THE PURSUIT OF HAPPINESS: Love Junk (see Best of the Month, page 143)

SANTANA: Viva Santana! Carlos Santana (guitar); vocal and instrumental

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ly retro, pop/rock confection. Consider, almost thoroughly realized, if ultimatewhole thing, what you're hearing is an Living Legends on a Lark shock of the producers George Harrison and Jeff Lynne.)

In fact, once you get past the initial Living Legends on a Lark shock of the whole thing, what you're hearing is an almost thoroughly realized, if ultimately retro, pop/rock confection. Consider, for example, the delicious irony of hearing serious artiste Bob Dylan in so frivolous and well-produced a context. His Congratulations is the funniest putdown of a faithless lover since Harry Nilsson's You're Breaking My Heart. Or thrill, if you will, to the aural spectacle of the late Roy Orbison singing one of his patented operatic weepers (You're Not Alone) over a backing track that could be by ELO. And note that every-thing here, for all the modern studio gloss, is grounded in Sixties verities—concise song structures, strong tunes, lyrical playfulness, and instrumental solos that say only what needs to be said.

Not everything works. Dylan's Tweet-er and the Monkey Man, a Springsteen (yes, Springsteen) parody, ultimately falls flat. And Tom Petty's Last Night, a Tijuana-barroom ditty with an only mildly amusing punch line, is simply out of character. But by and large, "The Traveling Wilburys" is just what it sets out to be—an album of unpretentious, infectious music making. S.S.

JAZZ

MONTY ALEXANDER, RAY BROWN, AND HERB ELLIS: Triple Treat II. Monty Alexander (piano); Herb Ellis (guitar); Ray Brown (bass); John Frigo (violin). Smile; Polka dots and Moonbeams; I'll Remember April; Seven Come Eleven; Lester Leaps In; and three others (four others on CD). CONCORD JAZZ CJ-338, © CJ-338-C, © CCD-4338 (52 min).

Performance: Delightful
Recording: Fine remote

Jamaican-born pianist Monty Alexander has a winning, crisp style, and he puts it to full use when he's in the company of guitarist Herb Ellis and bassist Ray Brown. "Triple Treat II" is the latest Concord album by this delightful trio, and one of the best. Recorded in a Santa Monica club two summers ago, this set moves briskly through a collection of mostly familiar, toe-tapping material from either of these sources. The recording is slightly marred by an occasional knocking sound—probably someone's foot responding resistibly to the rhythmic proceedings—but don't let that deter you from buying this wonderful album.

S.L.

BIRD. Original-soundtrack recording. Charlie Parker (alto saxophone); other musicians. Lester Leaps In; Cool Blues; Ornithology; Parker's Mood; Ko Ko; and six others. COLUMBIA SC 44299, © SCT 44299, © CK 44299 (64 min).

Performance: Rehatched Bird
Recording: Very good

Just when you thought it was safe to say that Hollywood would never treat jazz in a manner acceptable to the truly hip, along comes Bird, a film about Charlie Parker produced and directed by Clint Eastwood. Some people wish there had been less emphasis on Parker's drug dependency, but the film generally impressed jazz lovers, including tough-to-please musicians and critics. Bird fan Eastwood accomplished the seemingly impossible.

Charlie Parker, who died in 1955, left a substantial recorded legacy that includes many private, unauthorized tapes as well as commercial recordings. Eastwood could have found suitable material from either of these sources.
and used them as is, but he wanted the sound to reflect today's technical quality, so he did a bit of doctoring. Perhaps that goes against your grain, but be happy that Eastwood did not resort to having someone imitate Parker's style. Instead, he and music supervisor Lennie Niehaus employed state-of-the-art technology to isolate Parker's horn from existing recordings, then skillfully combined his performances with new accompaniments. The stunning results may bother the purist on principle, but rest assured that the process is not at all like colorizing The Maltese Falcon—it really works.

One reason this is such a successful soundtrack is the caliber of musicians involved, men like Ray Brown, Monty Alexander, Jon Faddis, Charles McPherson, Ron Carter, Barry Harris, and Red Rodney (who is also portrayed in the film). Another big plus is the inclusion of two previously unissued Parker performances—I Can't Believe That You're in Love with Me and All of Me—recorded privately by pianist Lennie Tristano (here replaced by Monty Alexander). "Bird," the album, is well worth spinning.

C.A.

JACK DEJOHNETTE'S SPECIAL EDITION: Audio-Visuaiscapes. Jack DeJohnette (drums, electronic keyboards); Gary Thomas, Greg Osby (reeds); Lonnie Plaxico (bass); Mick Goodrick (electric guitar). Donjo; Slam Tango; Sphinx; Master Mind; PM's AM; One for Eric; Brown Warm & Wintry; Audio-Visuaiscapes. IMPULSE/MCA MCA-8029 two LP's, © MCAC-8029 one cassette, © MCAD-8029 one CD (74 min).

Performance: Exciting
Recording: Very good

Drummer Jack DeJohnette appeared on the pace-setting 1970 Miles Davis album "Bitches' Brew," which planted the seed for the so-called fusion idiom and turned Davis's career in a new direction. "Bitches' Brew" was a fascinating album, but while it boosted the trumpeter's popularity, it also pointed him toward an artistic limbo. Out of the brew came a number of gifted musicians, men like Chick Corea, who pursued the fusion trail, and pianist Keith Jarrett, who went his own way and unwittingly sired the Warsaw Concertos of our time—New Age music. The Miles Davis rejuvenation process of the early Seventies also clearly made a deep impression on DeJohnette, one that is still heard in his music today. DeJohnette had a previous brush with eccentric music, having been involved with the Association for the Advancement of Creative Musicians in his home town, Chicago, but he never succumbed to the kind of gimmickry that has deservedly sent some of his former colleagues to the dimmer recesses of our memory.

DeJohnette's new group, another of his Special Editions, is his most interesting to date. Expressive as ever, the leader's propulsive percussion weaves intricate patterns—with essential input from bassist Lonnie Plaxico and guitarist Mick Goodrick—and provides a splendid background for two shining stars on the rise, reed players Gary Thomas and Greg Osby. "Audio-Visuaiscapes," the quintet's second album, is even better than its first. "Irresistible Forces." If you must label the music, call it fusion with the accent on jazz, although selections like DeJohnette's One for Eric have a dignity that simply belies the fusion label. If you are looking for a good excuse to get rid of labels altogether, this album offers it, because what we have here is simply exciting improvisational music. It has all the rhythmic qualities of a great swing performance and the polytonality of the King Oliver band. It also has beauty. Could one ask for more? Yes, another album—soon.

C.A.

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Stay Awake! Disney For Grownups

PRODUCER Hal Willner has been making memorable "Various Interpretations" tribute albums for a while now. Who can forget Lou Reed crooning "September Song" in Willner’s Kurt Weill record, "Lost in the Stars"? But the new "Stay Awake," songs from vintage Disney films, has got to be his most audacious—the most unlikely songs matched with the most unlikely performers. The funny thing is, it works, both as postmodern revisionism and as entertainment—which is, I suppose, a sort of backhanded compliment to the Disney songwriters, none of whom could have imagined some of the performances enshrined here.

O’Connor: Someday My Prince...

Not all of them are determinedly weird, of course. James Taylor’s version of "Second Star to the Right" sounds exactly like a James Taylor song. Ringo Starr’s take on "Wish Upon a Star," done up with a full orchestra and a trumpet solo by Herb Alpert, is absolutely straight and would, in fact, have been totally appropriate for the old Disneyland TV show. And while Bonnie Raitt’s achingly soulful version of the Dumbo lullaby "Baby Mine" transforms the song, it merely replaces one form of sincerity with another.

Still, most of the interpretations in "Stay Awake" break with tradition in rather sophisticated ways. Some seem totally off the wall, like Aaron Neville and Dr. John turning the Mickey Mouse Club theme into a heart-wrenching display of Fifties doo-wop vocal harmony, the Replacements making glorious garage-band hash out of "Cruella de Ville," Sinead O’Connor intoning "Someday My Prince Will Come" as if she were awaiting her execution, or Tom Waits recasting "Heigh Ho" as an anthem more suitable for Tod Browning’s "Freaks" than for Disney’s lovable Seven Dwarfs. Others, like Yma Sumac’s Mantovani-in-the-Andes version of "I Wonder" or Sun Ra’s "Pink Elephants on Parade," are gargantuan exaggerations, deliberately overblown apotheoses of elements that had always stayed demurely in the background of the songs. And others are simply playful, like NRBQ’s charming "Whistle While You Work" or Harry Nilsson’s "Zip-a-Dee-Doo-Dah."

But all of what’s here, once you get over your initial disorientation, ultimately sounds like Disney music, or at least like the realities present beneath the surface of Disney music (you think there aren’t dark subtexts lurking in "Bambi" or "Snow White"?), and in the end that’s what makes the album work. What you’re hearing is music written for children but performed, often for the first time, for adults, a conceit similar to Stephen Sondheim’s fairy-tale ploy in "Into the Woods." For my money, Willner and his artists have pulled it off in a much more entertaining fashion. Somewhere—either in heaven or in cryogenic suspension—Walt Disney should be smiling.

Steve Sinet

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THE EMERSON'S BARTÓK

THE Emerson String Quartet has performed all six of Béla Bartók's quartets in a single long concert on at least four occasions since the centenary of the composer's birth in March 1981, most recently in New York City last October. These feats of endurance very dramatically illustrate the group's exceptional commitment to Bartók, which is further documented now in a handsome new recording of the cycle for Deutsche Grammophon.

"Handsome" is surely an apt description of the sound quality and documentation as well as of the performances themselves, which are remarkably effective on the most direct level of communication throughout the cycle. The recording is certainly the most impressive the Emerson has made so far, and it is one of the most satisfying in the by now long list of integral recordings of Bartók's quartets. The Emerson makes these quartets as appealing as any in the literature, taking an almost—or perhaps a little more than "almost"—Romantically expressive approach without, however, rounding off any of the Bartókian corners or smoothing over passages meant to sting.

One question that occurred to me, as I made my way (pleasurably) through the set the fourth or fifth time, was whether the preparation of those marathon programs of the entire cycle might have encouraged the players to settle for a sort of overall Bartók style at the expense of each work's individual character. That would not appear to be very likely: After all, as Eugene Drucker, one of the Emerson violinists, points out in a note with the new recording, the foursome has played individual Bartók quartets every season since its first (1977), so that initially there was a focus on each work in its own right. Still, in the recorded performances there is less differentiation than one might have expected between the overtly brilliant and virtuosic Nos. 3, 4, and 5, the more lyrical Nos. 1 and 2, and the profoundly inward No. 6. What there is instead, however, is a striking sense of continuity that may suggest the six quartets are chapters in an extended chronicle.

In any event, I would not make too much of this vague personal impression. Various listeners, with varying degrees of familiarity with the music, will have their own notions about it and their own reactions to these performances. But few, I imagine, will have any but a positive response to them, and those who have yet to discover this music could hardly hope for a more appealing initial encounter. Having the two-and-a-half-hour cycle so engagingly presented on two full CD's instead of the expected three makes the set that much more appealing.

Richard Freed
symphonies. Using period instruments at Classical pitch (A=430), bowings and articulations that accord with Classical documents, and the brisk tempos of the period, Norrington's readings here of the First and Sixth Symphonies are startlingly different from what we are accustomed to hearing.

In the Pastoral Symphony, it is especially striking to hear inner lines that are usually lost. In the development of the first movement, for example, Beethoven repeats a single figuration as many as eighteen times. In this performance you can hear the rich variation undergone by that figuration in the underlying voices, which dispels any tendency toward monotony. In the “Scene by the Brook,” you hear not only the ceaseless flowing of the water but the activity of the teeming life within. And there is a heightened drama to the way the storm erupts with frightening fury during the “Merry Gathering of the Country Folk.” All in all, the pacing and the instrumental transparency of these performances result in a view of Beethoven’s compositional procedures that is far from the common one, and once you get used to Norrington’s brisk tempos, these two readings offer an exhilarating listening experience. EMI’s recorded sound is also absolutely first-rate throughout.

Performance: Comfortable
Recording: Uncomfortable

Barry Douglas provided his own annotation for this recording, revealing a forthright affection for the composer in general and this work in particular that is felt in the performance, on both his part and Stanislaw Skrowaczewski’s. Their joint view of the work might be called “comfortable,” in the sense that the drama in the score is more or less allowed to take care of itself and emphasis on musical soundness rules out any degree of showmanship. There are patches in the slow movement and finale that tend to sag, but in general the pacing is relaxed and sensible, so that there is a sense of intimacy even amid the storms of the opening movement and the drive of the last. Except perhaps for what might be regarded as an under-vitalized treatment of the finale’s coda, it is an approach that wears well. But if the performance itself is a comfortable one, RCA’s sound quality is distressingly uncomfortable. The lightness in the bass robs the music of much of its warmth, and the high end seems always on the verge of shrillness. The same engineering team achieved a much richer sound in the Zimerman’s Fantasy in F Minor makes his disc rather less of a contender. The sound is quite good without calling attention to itself.

Performance: Brilliant
Recording: Excellent

As conducted by Nicholas McGegan, these performances of the ever-popular suites making up Handel’s Water Music are indeed joyous. The listener is propelled from one musical delight to another. From the start, in the brilliantly rendered overture, with its starchy introduction and crisp allegro, McGegan leads us in a merry round of dances and interludes. The affect of each dance is precisely caught in the initial bars: The hornpipes, bournes, and rigaudons sparkle, the gigue’s flow, and the minuets are properly stately.

The San Francisco-based Philharmonia Baroque Orchestra plays with accuracy and verve, and the period instruments make the contrast between woodwinds, brass, and strings more pronounced than it is with a modern orchestra. Handel’s writing pits orchestral section against section, and McGegan, rightly, makes the most of the effect. The horn players are particularly fine. As you listen, you imagine floating down the Thames, hearing a fox hunt in full cry on the near shore. There may be far too many recordings of the Water Music, but this new one, which includes a couple of tracks devoted to rarely heard variations, is well worth adding to your collection.

MENDELSSOHN: Symphony No. 3, in A Minor, Op. 56 (“Scottish”); Die erste Walpurgisnacht, Op. 60. Christine Cairns (mezzo-soprano); Jon Garrison (tenor); Tom Krause (baritone); Jeffrey Wells (bass-baritone); Cleveland Or-
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orchestra Chorus; Cleveland Orchestra, Christoph von Dohnányi cond. Telarc © CD-80184 (67 min).

Performance: Topnotch
Recording: Stunning

Christoph von Dohnányi and the Cleveland Orchestra are in top form in this recording of Mendelssohn’s delightful setting of Goethe’s Walpurgis Nacht ballad, which the conductor has recorded before, but the disc leads off with a brilliant, sensitively detailed reading of the Scottish Symphony. There is plenty of drive in the fast movements, particularly the scherzo, but no sign of forcing. The elegiac adagio is done in a most tender and poetic fashion, and the festive epilogue in the last movement is free of the pomposity that sometimes afflicts readings of those pages.

Die erste Walpurgisnacht tells of the pagan May Day Eve festivities on the Bloksberg, which Christian folk took to be the work of devils and witches. The Christians are portrayed as the bad guys in Goethe’s poem, while the nature-worshipping Druids and their community represent the forces of truth and light. Mendelssohn’s cantata has a fine overture depicting a storm and the coming of spring, followed by a series of brief episodes in which the Druids prepare for their midnight ceremonies, donning masks and carrying noisemakers to frighten away the intruding Christians. The music is dramatic, with a touch of fear, and there is a marvelous scherzando chorus and some fine ceremonial music redolent of Mozart’s Magic Flute. The orchestration, as always with a score by Mendelssohn, is superb.

Except for a tense and whitish-sounding opening tenor solo from Jon Garrison, the singers here are all first-rate, most notably veteran Finnish baritone Tom Krause and bass-baritone Jeffrey Wells. Garrison makes full amends toward the end with his very convincing depiction of a panic-stricken Christian guard. Thanks both to the ideal recording locale, Cleveland’s Masonic Auditorium, and the first-rate production, this is a musical and sonic realization that represents Telarc and the performing artists at their very best.

D.H.


Performance: Expansively lyrical
Recording: Spacious


Performance: Broad
Recording: Expansive


Performance: Volatile
Recording: Very good

Mstislav Rostropovich recorded the Prokofiev Fifth Symphony with the Orchestra de Paris back in 1985, but it was not released until late last year, when it came out both separately and as part of his integral set of all seven Prokofiev symphonies. The conductor emphasizes the Fifth’s lyrical content and niceties of dynamic shading, as in his treatment of the woodwind countermeody just before the reprise of the first movement’s main theme or the slow introduction to the propulsive finale, which is performed with the greatest elegance and subtle instrumental coloration. The sonics are spacious to a fault—indeed, the reverberation muddies the texture of the first-movement climax. The great
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D.H.
dissontant outcry in the slow movement, however, comes off superbly.

The Prokofiev Sixth, coming after Russia's national ordeal of World War II and at a time of ill health for the composer, is a curiously unsettling, enigmatic, and poignant work. Even the seemingly optimistic finale is laced with episodes of pain and near despair. Rostropovich searches out the lyric-tragic dimension of the work, and his pacing as a whole is decidedly more deliberate than in the recording by Evgeny Mravinsky, who led the premiere in October 1947. The sonics are essentially the same as in the other recordings of the series, but they work well for this symphony. The longish reverberation period of the recording locale (a Radio France studio) may explain the somewhat deliberate tempo Rostropovich adopts for the accompanying Classical Symphony, which he treats in rather baleetic fashion. It comes as something of a shock to hear it right after the Sixth Symphony, with its tragic undertone.

André Previn's tempos in his new recording of the Sixth are closer to Mravinsky's than to Rostropovich's, but the effect is somehow externalized and theatrical. A more successful compromise in pacing is achieved by Neeme Järvi in his performance with the Scottish National Orchestra on Chandos. Previn's coupler, however, Prokofiev's youthful but fierce Scythian Suite, is performed with great verve and brilliance, conveying a properly menacing atmosphere in the so-called "night" music.


Performance: Poised
Recording: Good

Mariss Jansons here presents the Rachmaninoff Second uncut, in all its gorgeous, sprawling heft. He and the Philharmonia Orchestra give us a performance that is poised and precisely gauged. If it does not have the volatility and lusciousness of Yuri Temirkanov's 1978 recording, or even of the two by André Previn, it does provide a very clear view of the music's melodic lines and internal textures.

The opening movement is taken at a very deliberate and steady pace, the scherzo is wonderfully clean and brilliant, and the slow third movement has a poised lyricism that builds to a magnificent climax. The Philharmonia's first-chair clarinet does himself proud in the third movement's famous solo episode. I would have liked a bit more urgency in the finale as well as more presence at those climactic points where cymbals punctuate the line, but considering the church acoustic in which the recording was made, the sound is remarkably clean and brilliant. D.H.

RAV EAU: Les Indes galantes, Suite. Orchestre de la Chapelle Royale, Philippe Herreweghe cond. HARMONIA MUNDI © 290.1130 (43 min).

Performance: Big and colorful
Recording: Excellent

Les Indes galantes of 1735 was only Rameau's third major stage work, but it was a manifesto for the kind of "futuristic" musical experiments that would occupy him for the remainder of his long, creative life. He wrote more startling music than this, but never again would his innovations be so naturally and consistently integrated into the general musical terrain of a piece.

The suite of dances and airs drawn from Les Indes galantes is full of Rameau's asymmetrical, often unruly counterpoint. Individual strands of music willfully march their own separate ways, and the rhythms take their inspiration from the rhapsodic pulse of the French language. Though there are sumptuously scored moments of repose, such movements as the "Air pour les amours" have counterpoint that seems even more dizzying than Bach's, because Rameau's has none of Bach's sense of inevitability. Melodic lines converse, chatter, and play tag, often within such a short time span that some of these movements, which are rarely more than two minutes long, seem as packed with expression as a Chopin mazurka. The final chaconne, which goes on for six minutes, comes across as positively monumental in comparison.

Philippe Herreweghe's orchestra isn't the most proficient ever put on record, but it makes a far better impression here than some of the creaky performances Jean Claude Malgoire has recorded. Herreweghe's spacious, coloristically cleaned and thickly upholstered way with Rameau is also a welcome alternative to John Eliot Gardiner's leaner, more precise approach. This recording should be irresistible both to those just discovering Rameau and to old friends of the Baroque master.

D.P.S.

RAVEL: Mother Goose Suite (see STRAVINSKY)

ROSSINI: La Cenerentola (see Best of the Month, page 146)

SCHIFRIN: Double-Bass Concerto (see STRAVINSKY)


Performance: Op. 38 outstanding
Recording: Very good

Schoenberg was, is, and seems destined to remain the least popular of the "great" European composers. He worked squarely in the mainstream central European symphonic tradition, and
there is a good case to be made for the idea that he extended the Romantic tradition down into our own day. A good theoretical case, that is. The traditionalists of classical music simply aren’t buying it.

There is one major exception, though: Verklarte Nacht (Transfigured Night), a masterpiece that belongs to the nineteenth century both figuratively and literally, it was written in 1899 and might be said to have fittingly closed the century.

The chamber symphonies are more difficult cases. The Second was begun in 1906—immediately after the First—but not completed until thirty-three years later. Like other Schoenberg works of the early years of the century, it extends the vocabulary of late Romanticism right to the edge. But so much has happened in the three-quarters of a century since this piece was begun that its musical language hardly seems extreme today. In many ways, the Second Chamber Symphony is more successful than the First because, in its revised, finished version of 1939, it is really no longer a chamber work at all. The fifteen-instrument scoring of the First Chamber Symphony strains the bounds of the form, the work needs a larger orchestra. In the Second, the musical ideas and the scope of the work are in harmony with the orchestration.

This is virtuoso music for orchestra. The English Chamber Orchestra is, apparently, an orchestra of virtuosos, and the piece emerges as a striking and effective composition under Jeffrey Tate’s direction. Perhaps this recording will induce more orchestras and conductors—and listeners—to take it up. E.S.

can tell, but impressive and gripping it certainly is, and so is the Beethoven quartet—though marginally less so.

The opening of the Beethoven is superbly judged—commanding without being overblown—and there are unexpected parallels with the Schubert, including the effectiveness of keeping the slow movement moving. But for all the dramatic conviction, there is a sense of something missing, some of the inwardness we quite reasonably associate with Beethoven’s middle and late quartets. This quality is surely more fully realized in some of the older recordings of the work, such as the one by the Smetana Quartet on Denon, by the Vegh on Auvdis/Valois, and, most tellingly, by the Talich on Calliope. But none of those performances is as vividly recorded as the Emerson Quartet’s, which is one of the finest recordings of a string quartet I have heard so far from any source.

R. F.

SCHUBERT: Symphony No. 9, “The Great” (see Best of the Month, page 144)

R. STRAUSS: Die Frau ohne Schatten. René Kollo (tenor), Emperor; Cheryl Studer (soprano), Empress; Hanna Schwarz (mezzo-soprano), Nurse; Andreas Schmidt (baritone), Spirit; Messmer; Alfred Muff (bass-baritone), Barak; Ute Vinzing (soprano), Dyer’s Wife; others. Chorus and Orchestra of the Bavarian Radio, Wolfgang Sawallisch cond. EMI/angel © CDS-49074-1 three Lps, © CDS-49074-4 three cassettes, © CDS-49074-2 three CD’s (197 min).

Performance: Enthralling
Recording: Opulent

This new performance is, in a word, gorgeous. The score itself is gorgeous, as well, and so is the recording, which is fully present and sonorous. All in all, this release is a must for devotees of German opera in general and of Richard Strauss in particular.

While the opera has its present-day detractors who point accusingly at its neo-Wagnerisms, Die Frau is an art work so much larger than life that the listener comes to hearing it emotionally exalted, awed, spent, and enlivened through a journeying to the world of human beings, she visits the hovel of a dyer and his wife, hoping to dupe the wife into selling her shadow. But the empress finds she cannot bring herself to deprive the woman of her natural right. For her compassion she is rewarded: The emperor is released from his petification, the dyer and his wife are reunited, and the empress finds her shadow. On this action Strauss builds some of his most appealing music.

As the emperor in this recording, René Kollo lacks some of the vocal heft and clarion ring the role ideally calls for, but his performance overall is compelling. Both Cheryl Studer’s empress and Ute Vinzing’s dyer’s wife suffer occasional weariness, yet both are deftly characterized. Hanna Schwarz’s nurse is properly quasi-evil, totally dedicated to the service of her mistress. As Barak, the dyer, Alfred Muff is particularly effective; his sustained singing in Act III is beautiful.

It is in its overall impact, however, that the new recording shines. Wolfgang Sawallisch has unified and inspired his solo artists, chorus, and huge orchestra to deliver an overpowering performance. At the same time, he has given close attention to smaller facets of the opera—details of characterization and the intimacy of much of the dialogue. In his leadership and interpretation, Sawallisch has proved himself a worthy successor to Karl Böhm, hitherto peerless in his handling of this score.

R. A.


Performance: Exciting, but...
Recording: Fine

If this live recording is any indication of how the new Orchestre Philharmonique de Paris plays on a regular basis, the well-established Orchestre de Paris may have some substantial competition. Though it takes the OPP a little while to warm up in Petrouchka, it’s a fairly solid performance from a technical standpoint, and it generates excitement in Lalo Schifrin’s aggressive, harmonically vivid interpretation. Ravel’s Mother Goose Suite, in contrast, is given an unusually tender, muted performance. The Double-Bass Concerto by Schifrin himself sounds a bit like Hindemith gone Hollywood, in that its contrapuntal rigor is softened by orchestration that is not above flashiness. The thematic content is so memorable that the piece seems to meander more than it actually does. But Schifrin’s eclectic use of the material is inventive, touching on any number of different twentieth-century styles, including jazz. The third and final movement is playfully virtuosic and is performed with great color, lyricism, and musicality by soloist Gary Karr.

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DOLBY LABS graced my mailbox recently with some current news about Dolby Spectral Recording (Dolby SR). Among the contents of the thickish package were lists of twenty-one feature motion pictures (most of the predictable heavy-action variety) already released with the process and some eighty theaters nationwide and in Canada that have equipped themselves to show them. There was also a fairly impressive list of movie, video, and music operations that have attained the status of Dolby SR customers. This is a good showing after a mere two years of existence and even less of availability. It only leaves open the question of why so few reasonably alert media types have noticed it happening.

Inquiries have suggested a few answers, but first, a brief review of Dolby SR for those who have stayed out of touch even more than I have. Simply put, its concept is based on noise-reduction techniques first seen in the well-established Dolby A process, which involves sliding-band operation of pretty radical (for Dolby) characteristics plus some dynamic and static ancillaries that attempt to defend the recording medium from the outrages of gross input overload. Dolby SR adds some more, and "smarter," defensive mechanisms and has bands that slide not only up but down in frequency. As is typical of Ray Dolby's work, it is a thoughtful, cunning, and quite cautious design.

It is also expensive, intended only for professional applications. Yet that didn't keep the original professional Dolby A noise-reduction system out of the consumer limelight. Evidently, what has kept Dolby SR from similar recognition is its role as a poor-relative technology.

Suppose you run a music-recording facility in Wherever, U.S.A., with perhaps two proper studios and a washroom that could be pressed into service if need be. Once, Studio A had a twenty-four track Studer recording console, Studio B an eight-track Tascam, and studio c (note the diminutives) whatever the band brought along. When digital recording came along, Studio A had to adapt, while studio c continued to need nothing more than ashtray emptyings. Studio B got the Studer, a machine of stunning magnificence but no cachet. To keep it alive, you invested in Dolby SR, but, that being an analog system, it was not something you wanted to hype, even though its specifications (except for wow-and-flutter) were fully up to the mark and its performance was probably superior in certain respects to the digital chain. Dolby SR satisfied most ears, but not the requirements of marketing.

Now, suppose you are involved somehow in the production or distribution of motion pictures. So far, no one has been able to suggest a practical way of getting digital sound onto movie film. Dolby SR would therefore seem to have clear sailing in these waters and has, in fact, been vigorously promoted for the application. But, here again, there are mitigating circumstances.

For some excellent technical reasons, Ray Dolby believes passionately in the future of optical versus magnetic movie soundtracks, and aspects of the Dolby SR system were deliberately conceived to combat the bane of "optical clash," an especially odious form of clipping. With proper Dolby SR processing, a 35mm optical print is said to equal or even outdo a 70mm magnetic presentation, particularly if the magnetic tracks or heads are worn, which they frequently are. This is progress indeed, but the majority of first-run theaters are still 70mm magnetic houses. They have paid exorbitantly for the equipment and have conditioned the public to respond favorably to "Dolby Stereo 70mm." Probably they would prefer to run a 70mm print if one were available, and if one weren't they'd be likely to raise hell with the distributor. Of course, there is no reason why the Dolby SR process cannot be applied to magnetic soundtracks, and undoubtedly it will be. By then, however, the Dolby SR "identity" will probably have been lost, along with the ideological substance of Dolby's crusade for optical parity.

A bleak prospect? By no means. Dolby Labs is not going to go broke with Dolby SR, and its use is going to increase. Sound engineer Jerry Bruck, principal of Posthorne Sound, has been using Dolby SR as an editing aid for the digital masters on videocassette he regularly works with. He does an analog transfer with Dolby SR, goes to work with the old tried-and-true razor blade, and then perhaps even bounces back into digital for the running master, if the client insists. Any resultant degradation is normally undetectable, he reports.

Dolby will continue to try to put optical Dolby SR into every mom-and-pop cinema theater in the nation, and as these operations feel the squeeze from the new shopping-mall multiplexes just outside of town, there will be some inducement for the small houses to invest the considerable sums necessary for sound-system upgrading. Yet, even as they do, they'll have to acknowledge, for the present, poor-relation status relative to the big 70mm screens.

I think audiophiles should take careful note of Dolby SR, because it seems to accomplish just what it was meant to, and it is saving those Studers. But don't expect its visibility to be high.
Smooth character.

16 mg. "tar", 1.0 mg. nicotine av. per cigarette by FTC method.

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