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Stereo Review®

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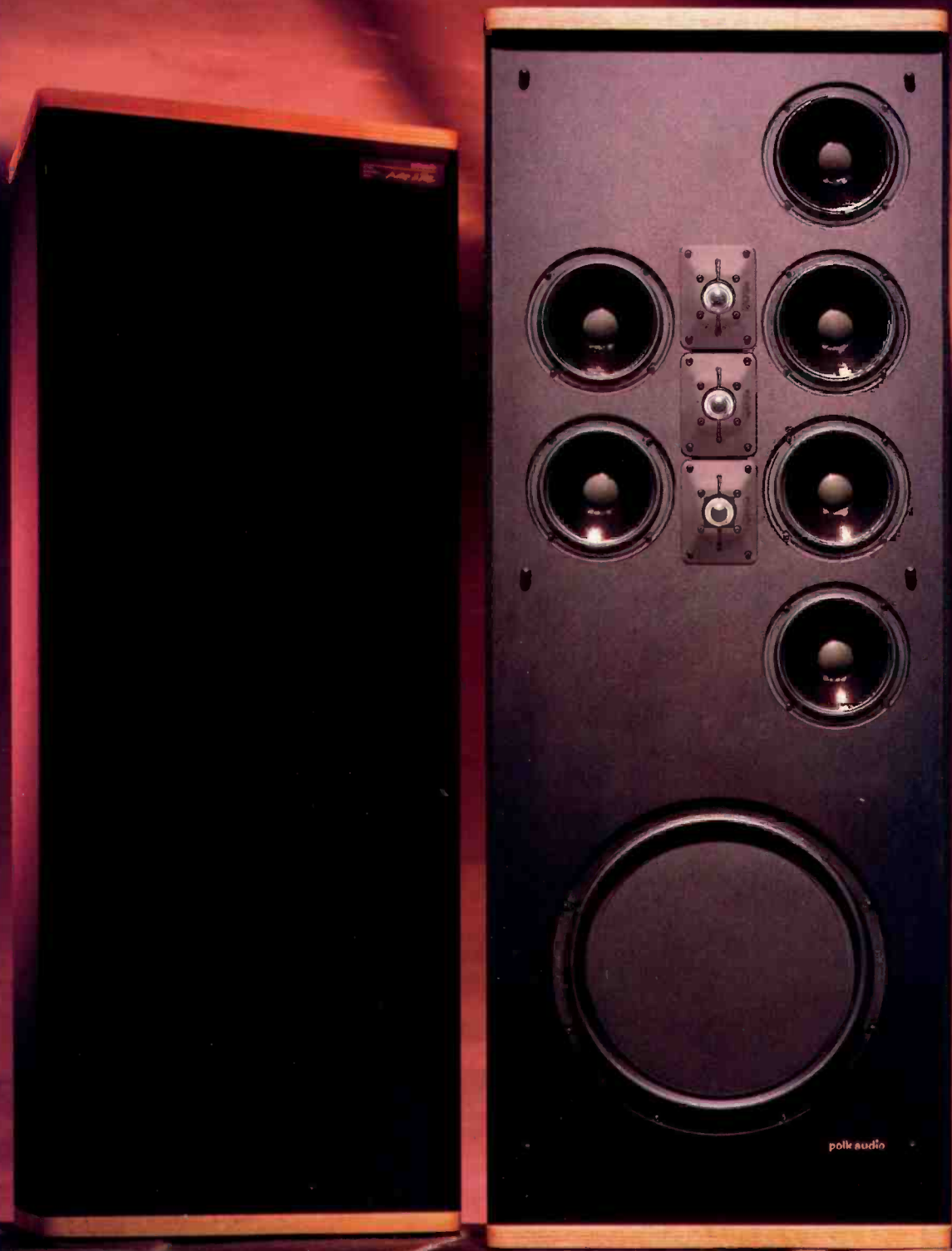
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Where to buy Polk Speakers? For your nearest dealer, see page 174.

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RTA 111

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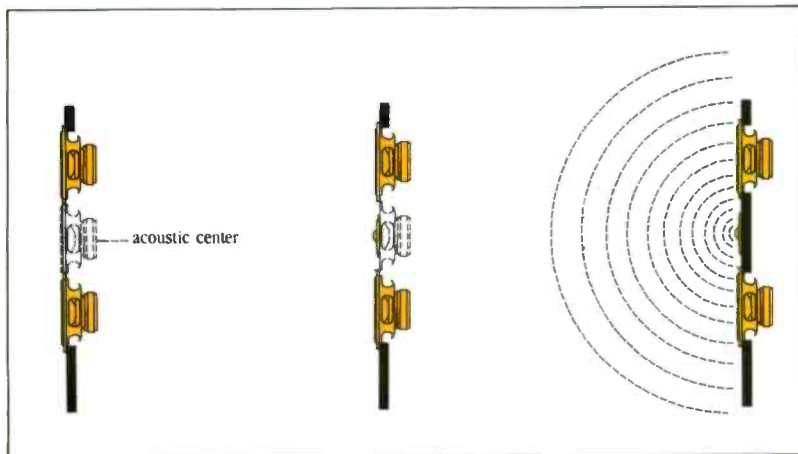
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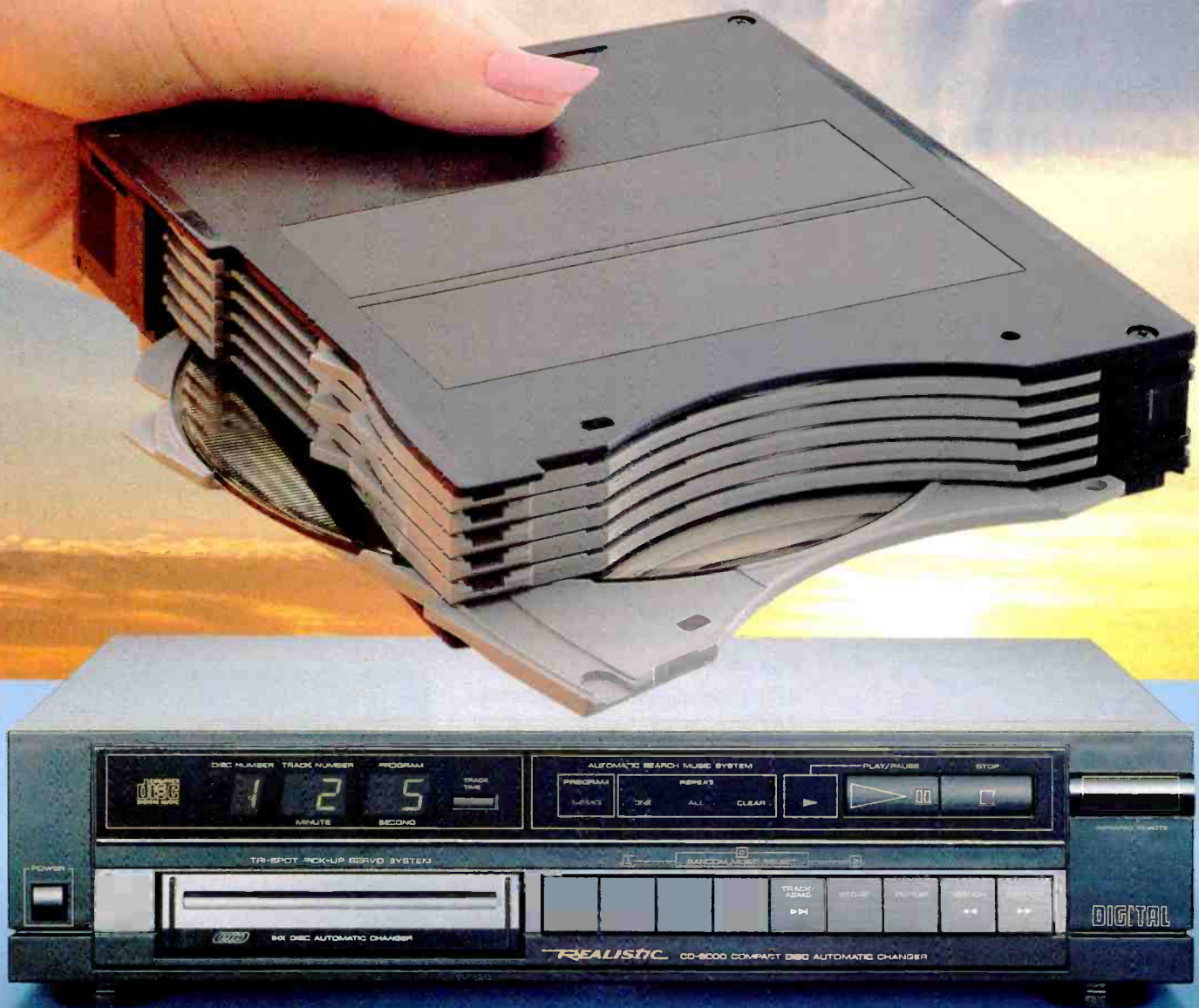
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Cover: Wharfedale Ritz Diamond speakers, Adcom's GCD-575 compact disc player, and the Carver 6250 receiver; see the Stereo Equipment Buying Guide for details, starting on page 67. Design by Sue Llewellyn, photo by Roberto Brosan.

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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 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 327 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 insure synchronization accurate to within 100 microseconds, which, in turn, allowed the minimum mute time and the highest resolution.

In my opinion, Mr. Pohlmann has not proved that the differences between two CD players are audible with music.

DAVID L. CLARK
Farmington Hills, MI

A couple of points regarding the procedure used for the CD player comparisons in December:

First, the listening conditions were anything but typical. The listening room, in particular, was not normal, being anechoic in nature ("treated throughout with fiberglass baffles 1 foot thick"), and 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 potentially misleading 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 (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.

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 synchronization 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 waveforms, 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 rhythmic aptitude, I carefully monitored results from musicians and nonmusicians in the test; as a group, the musicians scored below the nonmusicians.

Regarding Howard Ferstler's criti-



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Horowitz Plays Mozart Piano Concerto No. 23; Sonata No. 13. La Scala Opera Orchestra/Giulini. DG DIGITAL 115436

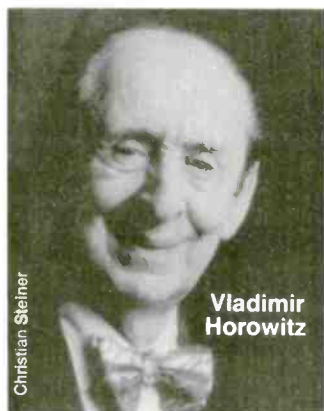
Handel, Water Music The English Concert/Pinnock. "Quite the best performance...now on the market."—Gramophone Archiv DIGITAL 115306

Holst, The Planets Montreal Symphony Orchestra/Dutoit. "The best available on both LP and CD."—Gramophone London DIGITAL 115448

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



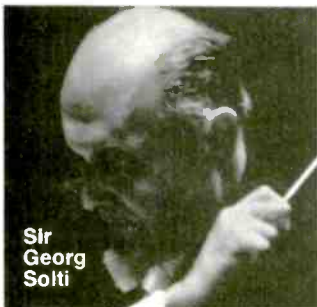
Christian Steiner

Vladimir Horowitz

Handel, Messiah (Highlights) Musica Sacra/Westenburg. Hallelujah Chorus, I Know That My Redeemer Liveth, more. RCA DIGITAL 153586

Jascha Heifetz: Tchaikovsky & Mendelssohn, Violin Concertos Chicago Symphony/Relner; Boston Symphony/Munch. RCA 104833

Ravel, Daphnis et Chloé (Complete) Montreal Symphony/Dutoit. "An absolute dream performance."—Stereo Review London DIGITAL 115520



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

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Michael Feinstein: Isn't It Romantic Title song, How About You, My Favorite Year, A Fine Romance, 7 more. Elektra 172393

Horowitz In Moscow The historic return! Music by Scarlatti, Mozart, Rachmaninov, Liszt, Chopin, Scriabin, Schumann, others. DG DIGITAL 125264

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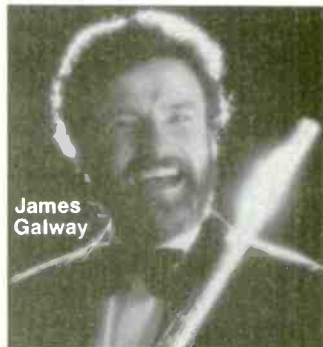
Pops In Space John Williams leads The Boston Pops in music from Star Wars, Close Encounters, Superman, more. Philips DIGITAL 105392

Pachelbel, Canon in D Also includes other works by Pachelbel & Fasch. Maurice André, trumpet; Pailard 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

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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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Teresa Stratas Sings Kurt Weill Nonesuch 124748

Artur Schnabel: Chopin, 14 Waltzes RCA 101987

Beethoven, Symphony No. 6 (Pastorale) Plus Egmont Overture. Royal Philharmonic Orch./Previn. RCA DIGITAL 143612

Rossini, Overtures Orpheus Chamber Orchestra. The Barber Of Seville, The Turk In Italy, Tancredi, 5 others. DG DIGITAL 115527

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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 lovely recording it is, too. I wonder if that's the current record for length.

RAYMOND A. BISWANGER
Slippery Rock, PA

In the fall of 1988 Angel released a recording of Johann Strauss's Eine Nacht in Venedig (One Night in Venice) in its mid-line Studio series, a mono recording dating from the Fifties with Elizabeth Schwarzkopf and Nicolai Gedda, Otto Ackermann conducting. Although the mono information is encoded on both stereo channels, unlike the double-length Rodolphe mono CD's, which

use only one channel, the playing time is an astounding seventy-nine minutes.

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



LETTERS

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 Forté, 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

**JUST CRUISIN'
WITH MY
SHERWOOD.**

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

It's a new Sherwood.

Awesome sounds. Power. Clarity.

Radical good looks.

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.



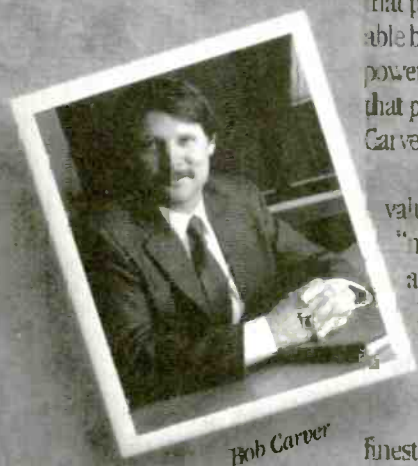
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LIVE PERFORMANCE SOUND™
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“Because I wanted to have the world’s finest amplifier and the world’s greatest transfer function, I built the astonishing Silver Seven.”

The Silver Seven, finest power amplifier in the world. \$8,750 each. Two required for stereo. Tube 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.



Bob Carver

“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.

A-150 Ultra Linear output transformers with oxygen-free primary leads and pure silver secondaries.

- *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 Simm’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.

Powerful

Distributed in Canada by: **evolution technology**

"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, be 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-4.0t, there's only one possible alternative.

CARVER

Musical

Accurate

The biggest audio sensation in recent history just got even bigger.



In 1986, Yamaha's DSP-1 was hailed as the greatest advance in the control of auditory space since stereo.

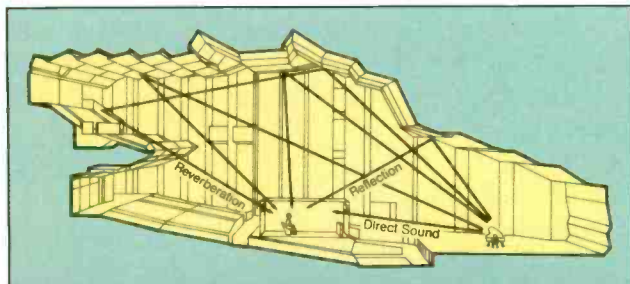
So what have we been up to the last two years?

Discovering how to push soundfield processing to its outer limits.

And beyond. The result is the DSP-3000. An incredible new digital soundfield processor that, once again, finds itself in a field all alone.

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



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

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

DSP-1		DSP-3000	
16 pre-set acoustic environments:		20 pre-sets with 35 variations:	
Hall 1	Disco	Hall 1—A & B	Rock Concert
Hall 2	Pavilion	Hall 2—A & B	—A & B
Hall 3	Warehouse Loft	Hall 3—A & B	Disco—A & B
Chamber	Stadium	Hall 4—A & B	Pavilion
Münster	Presence	Hall 5—A & B	Stadium—A & B
Church	Surround 1	Opera House	Presence—A & B
Jazz Club	Surround 2	—A & B	Surround—A & B
Rock Concert	Dolby Surround	Cathedral	Movie Theater 1
		Church	—A & B
		Jazz Club 1—A & B	Movie Theater 2
		Jazz Club 2—A & B	—A & B
		Chamber	Dolby Surround
Memory for 16 additional user programs		Memory for 20 additional user programs	

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.

YAMAHA®



A full-function remote features a master volume control to balance all sound-level settings to the front, back and main speakers.

NEW PRODUCTS



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-seek AM/FM tuning, and twenty station presets. Price: \$1,800. Luxman, Dept. SR, 19145 Gramercy Place, Torrance, CA 90501.

Circle 120 on reader service card

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.

Circle 121 on reader service card



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.

Circle 122 on reader service card

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 123 on reader service card



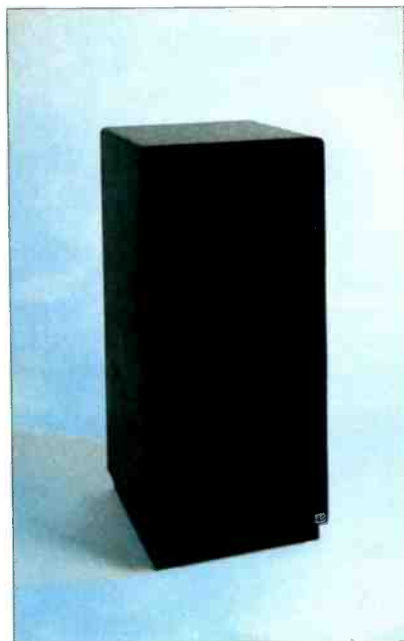
NEW PRODUCTS



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 \pm 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**



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 \pm 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



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 3/4 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



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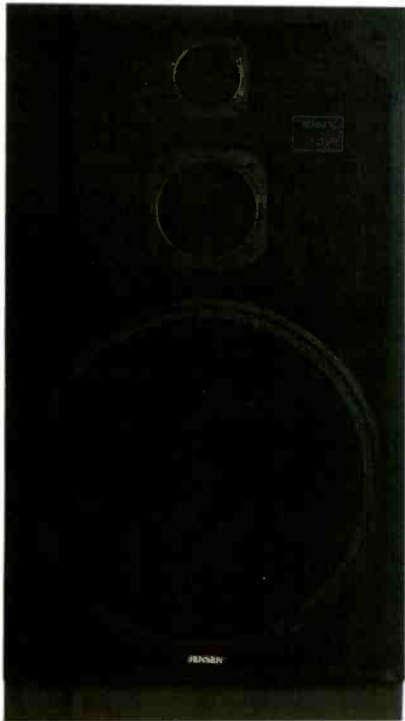
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NEW PRODUCTS

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 mid-range 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.

Circle 128 on reader service card



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 supertweeter. 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.

Circle 129 on reader service card



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

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.

Circle 130 on reader service card



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 Thimons Blvd., St. Laurent, Quebec H4S 1W2.

Circle 132 on reader service card

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.

Circle 131 on reader service card



⊖ ELITE ⊖
BY PIONEER

HOME IMPROVEMENT.





THE ELITE™ PD-91 FULL 18-BIT CD PLAYER.

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.

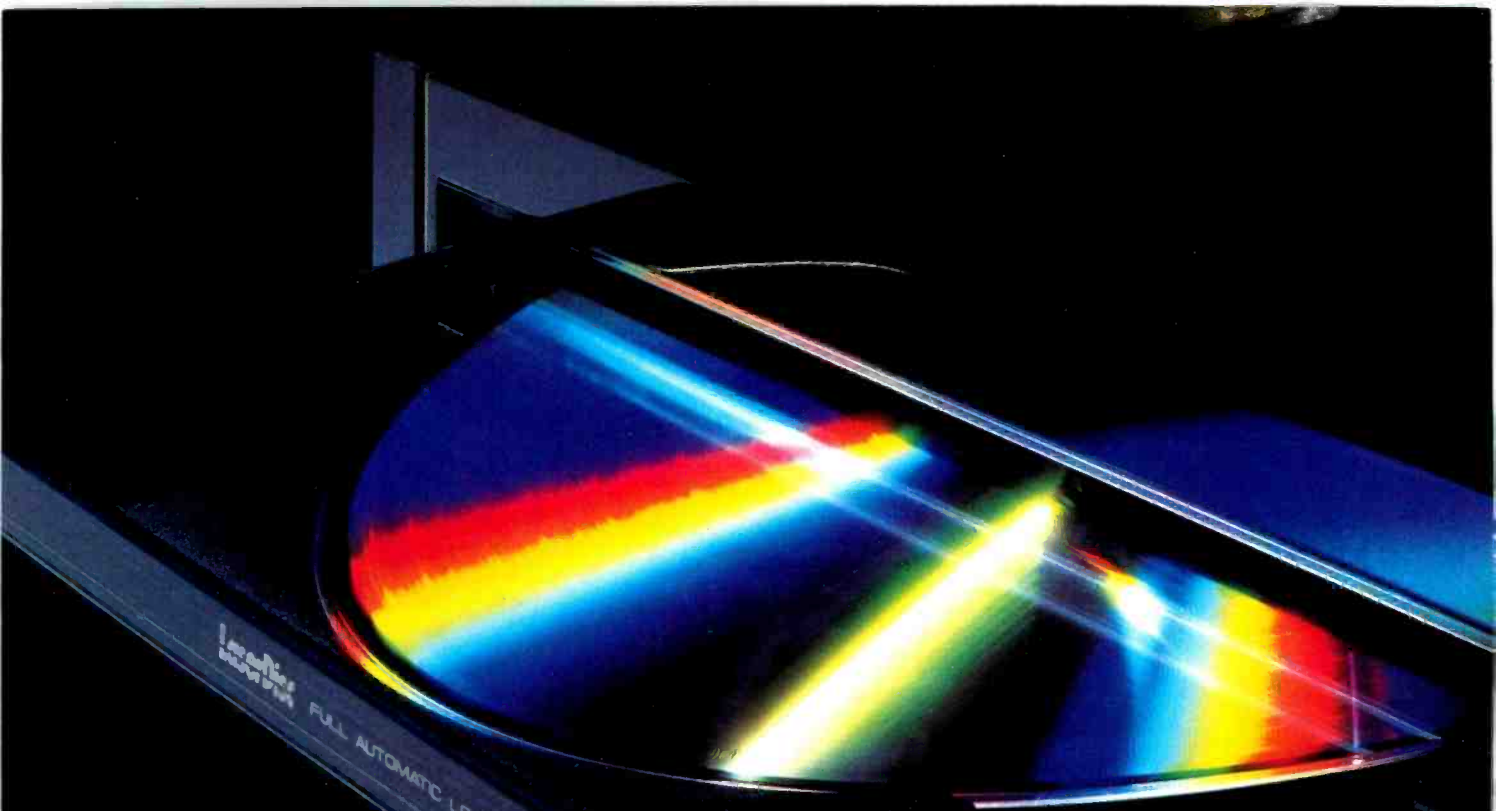
To build a player this superior demanded incredible attention to detail. Example: The PD-91's analogue circuitry is pure Class A for lowest distortion and highest musicality. Inside, you'd see four separate power supplies and eleven voltage regulators—to keep critical small-signal audio information free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

Ⓧ **ELITE** Ⓧ
BY PIONEER

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.

⊖ **ELITE** ⊖
BY PIONEER

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 pre-amp 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.

ELITE
BY PIONEER

*Measured by EIA method

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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-Élysées in Paris offering everything from CD'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, CD's, CD-3'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., Meriden, 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 CD'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.



TERRY ALLEN

by Ian G. Masters



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 to the speakers through a four-pole 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. □

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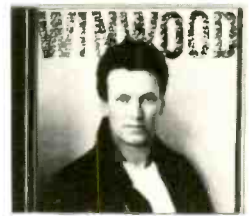


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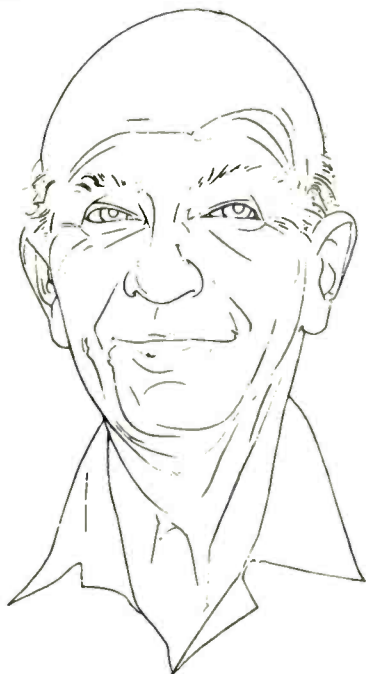
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by Julian Hirsch



Wanted: Car Audio Standards!

ACTUALLY, there *is* a standard covering performance measurements on automobile radios, amplifiers, and tape decks. Originally created in 1979 by an ad hoc committee of car audio manufacturers, it was adopted by the Electronic Industries Association as an Interim Standard in 1981. It is based on an earlier IHF (Institute of High Fidelity) standard for home audio products, modified to suit the special characteristics of car equipment. Although I know of no specific revisions of EIA IS-1 to include CD players, these can easily be derived from the current procedures used for measuring home CD players.

By comparison with more recent EIA standards, the interim car audio standard leaves much to be desired, but it is better than nothing, and I have no *serious* complaints about it. A more serious problem, as I see it, has little to do with measurement methods per se. It is more fundamental than that.

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

Tested This Month

Sansui RZ-7000 Receiver
Yamaha NS-1 Speaker
Marantz CDC-320
Compact Disc Changer
Bose 10.2 Series II
Speaker

TECHNICAL TALK

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 $\frac{3}{8}$ 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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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-select-

ed 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

TEST REPORTS

inches wide, 13¼ inches deep, and 5 inches high, and it weighs 22 pounds. Price: \$600. Sansui, Dept. SR, 1250 Valley Brook Ave., Lyndhurst, NJ 07071.

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 driv-

ing 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 to -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-picofarad capacitance. The input overloaded at about 130 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 67 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.

FEATURES

- Quartz-PLL digital-synthesis AM/FM tuner with thirty presets
- Preset scan
- Memories for call letters of preset stations
- Direct station selection by frequency
- Five-band graphic equalizer/spectrum analyzer
- Memories for factory-set equalization curves and five user-defined curves
- Able to store selected equalization curves with preset station frequencies
- Inputs for CD, phono, audio tape deck, two video sources
- Separate input/output jacks for signal processor
- Loudness switch
- Outputs and switching for two pairs of speakers
- Headphone jack
- Audio mute
- Full-function remote control; can also operate other compatible Sansui components
- Volume knob motor-driven in remote operation
- Low-impedance-load amplifier capability
- Inputs for 75- and 300-ohm FM antennas
- Detachable, pivoting wire-loop AM antenna

LABORATORY MEASUREMENTS

- Tuner Section** (all figures for FM only except frequency response; measurements in microvolts, or μ V, referred to 300-ohm input)
 - Usable sensitivity (mono): 16 dBf (3.5 μ V)
 - 50-dB quieting sensitivity: mono, 17 dBf (4 μ V); stereo, 38 dBf (43.7 μ V)
 - Signal-to-noise ratio at 65 dBf: mono, 83 dB; stereo, 74 dB
 - Harmonic distortion (THD + noise) at 65 dBf: mono, 0.23%; stereo, 0.2%
 - Capture ratio at 65 dBf: 1.5 dB
 - AM rejection at 65 dBf: 67 dB
 - Image rejection: 38 dB
 - Selectivity: alternate-channel, 67 dB; adjacent-channel, 4 dB
 - Stereo threshold: 21 dBf (6.2 μ V)
 - 19-kHz pilot carrier leakage: -34 dB
 - Hum: -77 dB
 - Stereo channel separation at 100, 1,000, and 10,000 Hz: 36, 41, and 36 dB
 - Frequency response: FM, 30 to 15,000 Hz ± 1.5 , -1 dB; AM, 30 to 2,500 Hz ± 0.8 , -6 dB
- Amplifier Section**
 - 1,000-Hz output power at clipping: 100 watts into 8 ohms, 132 watts into 4 ohms, 163 watts into 2 ohms
 - Clipping headroom (relative to rated output, 8 ohms): 1.55 dB
 - Dynamic power output: 132 watts into 8 ohms, 210 watts into 4 ohms, 280 watts into 2 ohms
 - Dynamic headroom (8 ohms): 2.75 dB
 - Harmonic distortion (THD + noise) at 1,000 Hz into 8 ohms: 1% at 1 watt, 0.36% at 10 watts, 0.18% at 70 watts
 - Maximum distortion (20 to 20,000 Hz into 8 ohms): 0.09% at 70 watts, 400 Hz
 - Sensitivity (for a 1-watt output into 8 ohms): CD, 47 mV; phono, 0.5 mV
 - A-weighted noise (referred to a 1-watt output): CD, -76.2 dB; phono -73.5 dB
 - Phono-input overload: 130 to 136 mV, 20 to 20,000 Hz
 - Phono-input impedance: 49,000 ohms in parallel with 160 pF
 - RIAA equalization error: ± 0.1 dB from 23 to 20,000 Hz
 - Slew factor: greater than 25

TEST REPORTS

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 topnotch 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.

Circle 140 on reader service card



DAVID KELLEY

YAMAHA NS-1 SPEAKER

Julian Hirsch, Hirsch-Houck Laboratories

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 8⅞ 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 1⅞-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-

TEST REPORTS

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

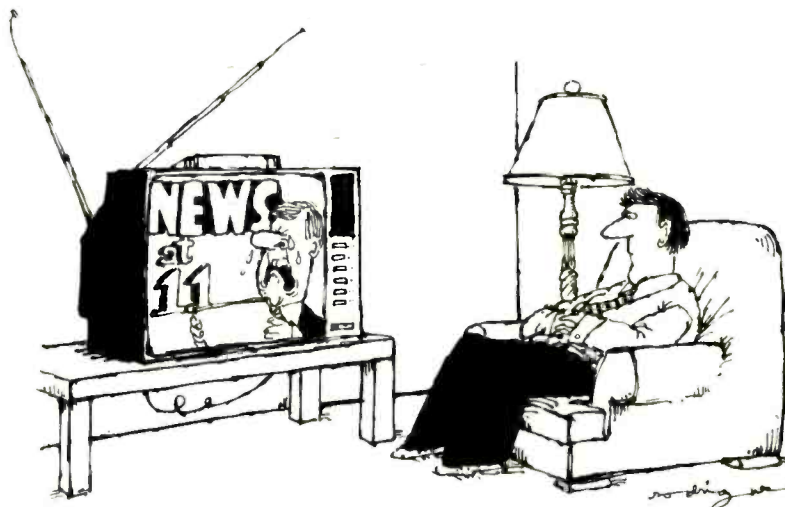
would give the flattest response; our measurements and ears indicated otherwise. We set the controls to maximum for our listening tests.

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-Schlumberger turntable, fifteen Klipschorn speakers, two Sequerra FM tuners, five Mark Levinson ..."

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DRA-1025

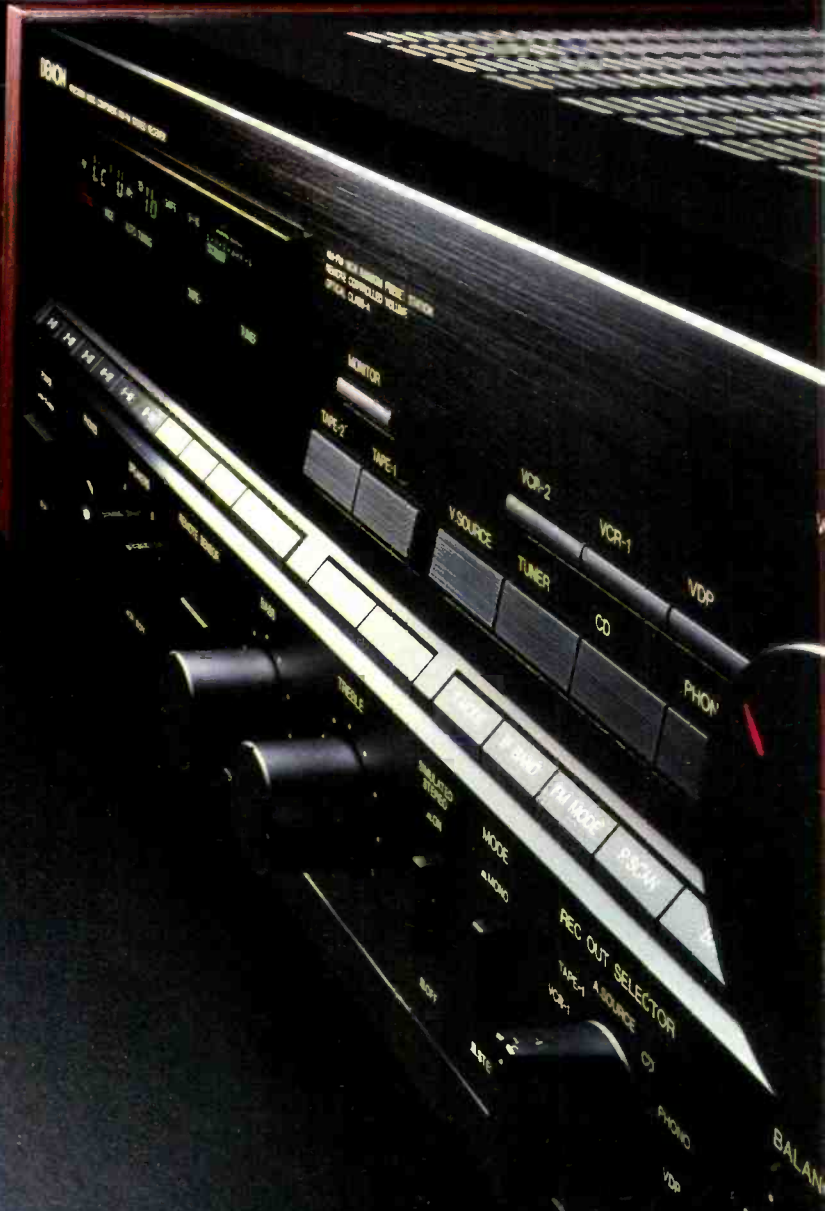


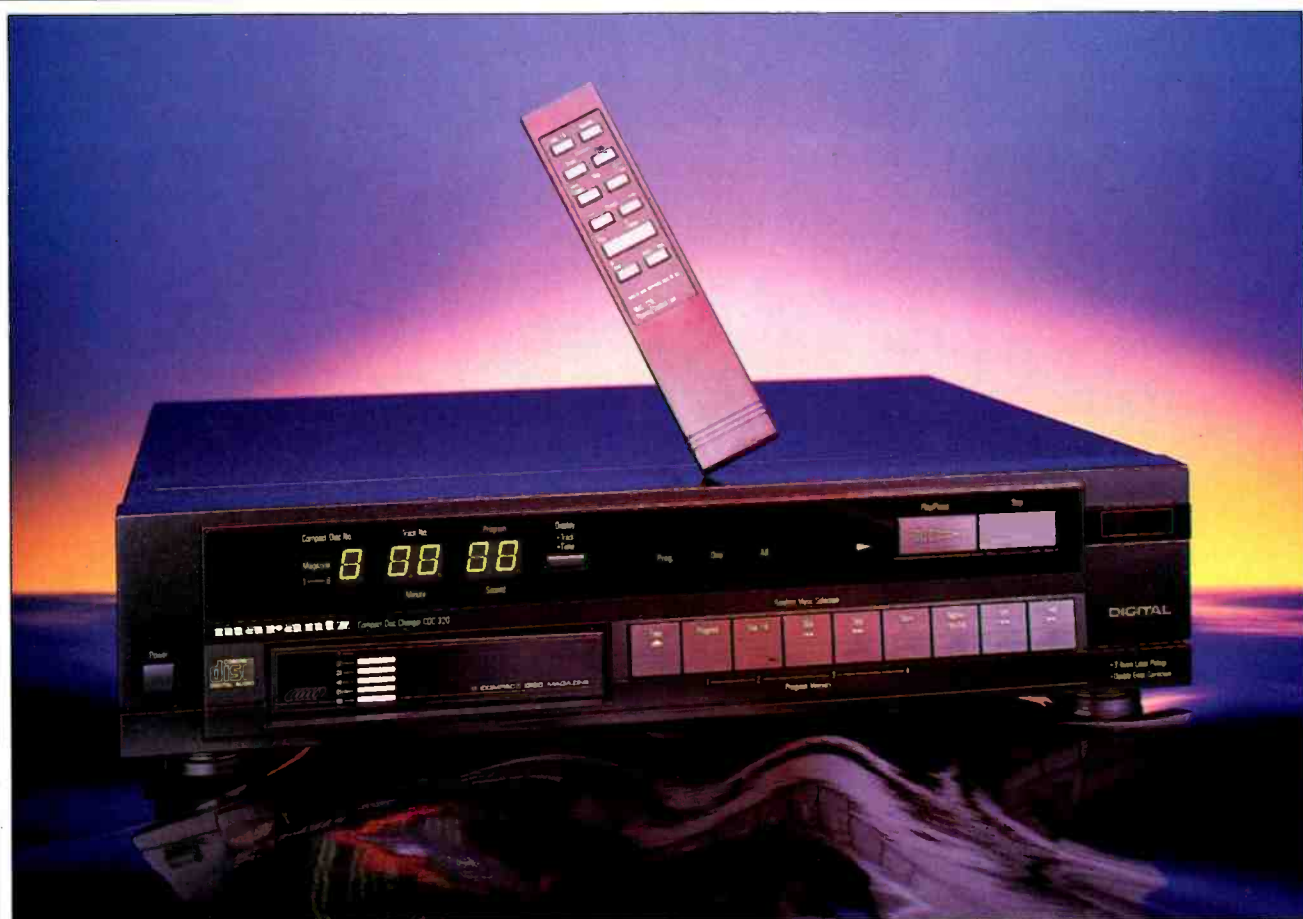
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JOOK LEUNG

MARANTZ CDC-320 COMPACT DISC CHANGER

Julian Hirsch, Hirsch-Houck Laboratories

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 iso-

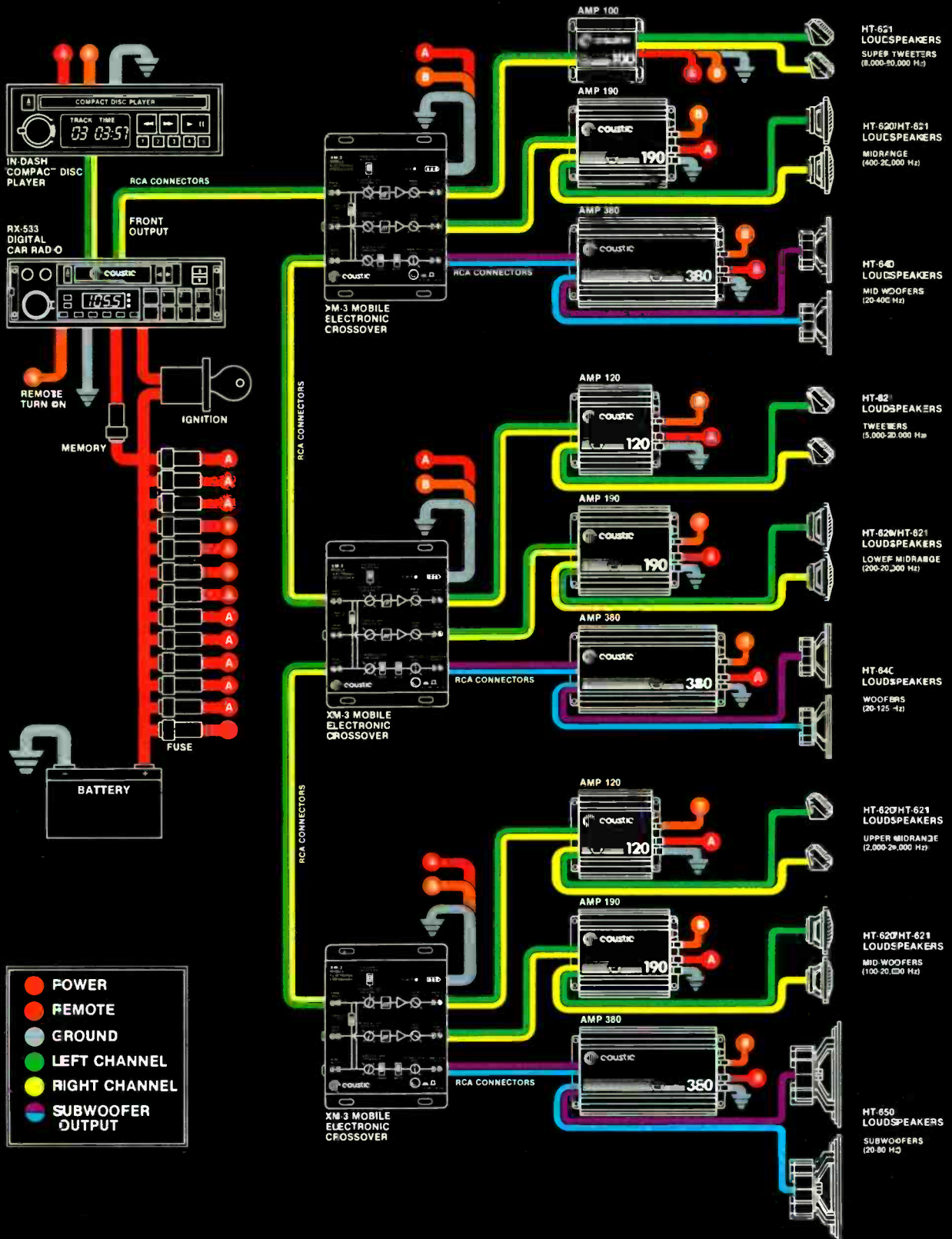
lated in the upper right corner of the panel. A green triangle next to the play/pause control blinks when the player is in the pause mode. The other operating controls are somewhat smaller pushbuttons in a row across the bottom of the panel. These include the programming controls, a repeat button for 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.



TEST REPORTS

memory, and the next selection can then be programmed.

The display window, little more than half the width of a magazine, normally shows only the number of the disc and track being played. Pressing a small button to its right changes the track display to show the elapsed time on that track in minutes and seconds. The legends PROG, ONE, and ALL to the right of the display control are illuminated when programming and repeat operations are in progress.

The Marantz CDC-320 is supplied with a wireless remote control that is about half the size of a typical remote unit. Its buttons duplicate all the front-panel functions except eject and power. The player measures 16½ inches wide, 13 inches deep, and 3½ inches high, and it weighs about 11¼ pounds. Price: \$369. Marantz, Dept. SR, 20525 Nordhoff St., P.O. Box 2577, Chatsworth, CA 91313-2577.

Lab Tests

The left- and right-channel outputs of the Marantz CDC-320 were very closely matched in level, with an imbalance of only 0.09 dB. There were slight differences between the frequency-response curves of the channels, but the "worse" curve varied only +0.35, -0.1 dB from 20 to 20,000 Hz. The maximum

interchannel phase shift was 44 degrees at 20,000 Hz.

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.

As 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.

What is, in our opinion, more important to most listeners is that the CDC-320 played through all the calibrated defects on the Philips TS5A test disc without audible mistracking, and it ranked among the best home players in our experience in its immunity to physical impact. Hard rapping or slapping on its top or sides had no effect on the tracking; in fact, only a violent blow on the top caused a momentary skip.

Like most changers, the CDC-320 was not particularly rapid in its disc handling. Track changes on the same disc required 4 to 5 seconds, compared with 1 or 2 seconds in many conventional players, and if a disc change was involved, the time typically doubled. Disc changes were accompanied by a considerable amount of audible mechanical noise.

Comments

As CD changers go, the Marantz CDC-320 is relatively inexpensive. It brings the convenience of changer operation to a very affordable price range. Its basic performance was up to the standards of today's moderately priced CD players—and it outperformed most in some ways, such as its ability to withstand shock without mistracking.

A possible inconvenience, if you usually play only one disc at a time, is the requirement that even a single disc must be loaded into a magazine before playing. Frequently loading and unloading discs from magazines also risks damage to them from the extra handling. These are factors to consider before buying any CD changer that uses a magazine loading system and lacks a separate, single-play drawer.

Another irksome characteristic of the CDC-320 was the lack of direct track access by number, even through the remote control. We also prefer a display to show both the track number and time simultaneously, which this machine does not do.

Despite these minor quibbles, we found the Marantz CDC-320 to be a very satisfactory player. It sounded good (except during a disc change!), and it was relatively easy to operate and program.

Circle 144 on reader service card

FEATURES

- Standard six-disc loading magazine
- Programmed playback for up to thirty-two selections from any or all discs
- Repeat of single track or all tracks on disc
- Track skipping in either direction
- Fast scan in either direction with audible sound
- Analog filter
- Display of disc number, track number, status of repeat function; switchable to show elapsed time on track
- Wireless remote control of most front-panel functions

LABORATORY MEASUREMENTS

- Maximum output level:** 1.876 volts
- Total harmonic distortion at 1,000 Hz:** 0.0056% at 0 dB, 0.005% at -10 dB, 0.005% at -20 dB
- Signal-to-noise ratio (A-weighted):** 93 dB
- Channel separation:** 91 to 94 dB at 1,000 Hz, 70 dB at 20,000 Hz
- Frequency response:** +0.35, -0.1 dB from 20 to 20,000 Hz
- Dynamic range:** 88 dB
- Maximum phase shift (from 5,000 to 20,000 Hz):** 44 degrees at 20,000 Hz
- Cueing time:** 4 to 5 seconds on same disc, 8 to 9 seconds with disc change
- Cueing accuracy:** A
- Impact resistance:** top, A; sides, A
- Defect tracking (Philips TS5A test disc):** tracked maximum-level defects

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.

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BOSE 10.2 SERIES II SPEAKER SYSTEM

Julian Hirsch, Hirsch-Houck Laboratories

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 11¾ inches square and 38¾ 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 speak-

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-Woofers 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-woofers output, Woofer/Enclosure Equalization engineered for optimizing bass response, Phase Inverter allowing the sub-woofers output to be shifted 180 degrees out-of-phase to compensate for in-vehicle acoustical anomalies 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.

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TEST REPORTS

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 two 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 fre-

quency 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.

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- Multi-Sensor System
- Starter Bypass Relay
- Remote Panic Alarm
- Valet Parking Override
- External Antenna Connector
- Automatic Door Lock/Unlock Interface*
- Courtesy Light Interface*
- Parking Light Interface*
- Trunk Release Interface*

Dragon I Features:

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- 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



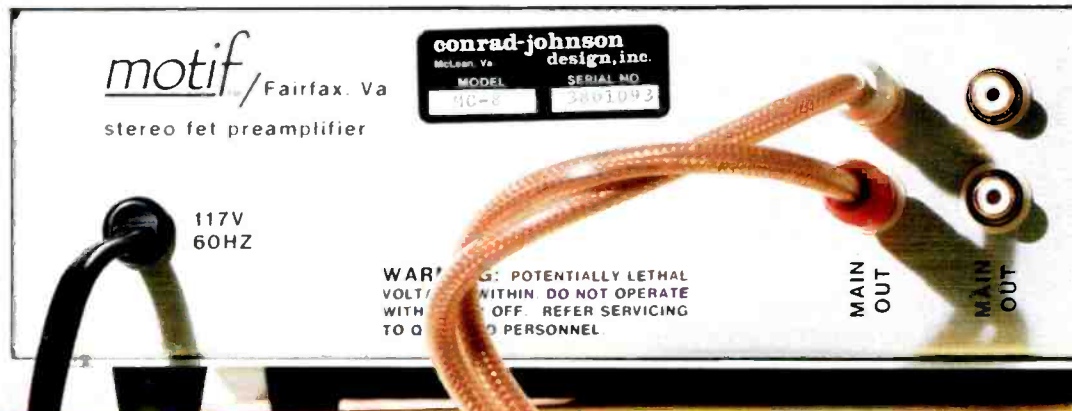
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*Optional relay(s) required.
†Patent pending.

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PGRADING YOUR SYSTEM

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."

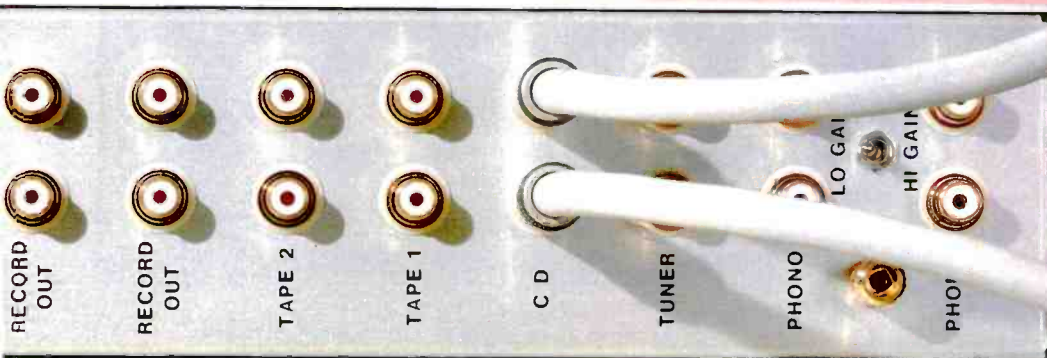
True—they don't! Today's components, for the most part, are so far superior to those of past years that they can often make a dramatic improvement in the sound of a comfortable, well-used system that has been giving reliable service for decades. Another important reason for making a change is that over 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

PHOTO BY ROBERT BUTLER

BY JULIAN HIRSCH





The M12 speaker from a/d/s/ 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.

Conrad-Johnson's Sonographe 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.



too hastily, to replace—LP and tape sources. No doubt a similar phenomenon will occur when and if DAT recorders finally reach our shores.

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.

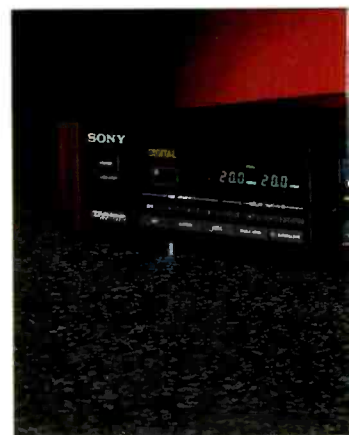
To get the ones that matter, you may have to accept some that you don't particularly want. And you might find that you like those features, too, once you have the component in your system.

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.

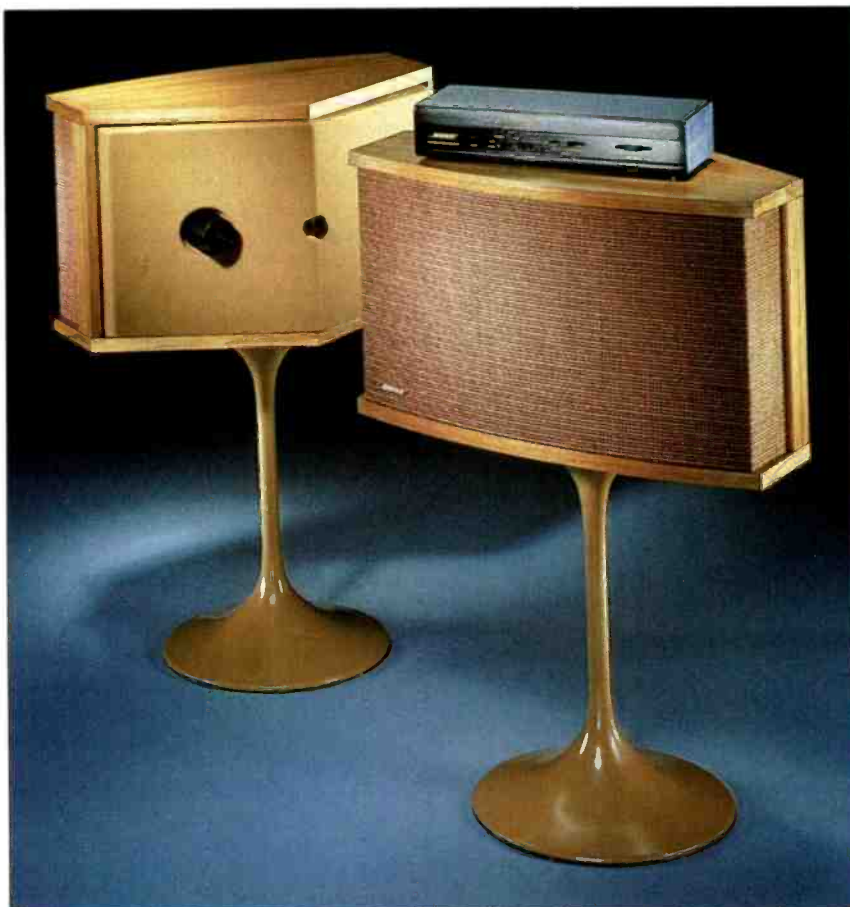
The importance of current-output capability in any specific application depends largely on the loudspeakers being driven. The nominal impedance of a speaker, usually given as a single number (generally between 8 and 4 ohms), is a measure of the amount of current it will draw from the amplifier. It is 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.

Sony'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.



At \$495 a pair, the two-way SMGa is the most affordable speaker in Magnepan's Magneplanar line. Frequency response is rated as 50 to 16,000 Hz ± 4 dB. It has oak side panels, and there is a choice of grille fabrics. Dimensions are 48½ x 24¼ x 1¾ inches.



ings to a 1-watt level. It is actually a voltage-sensitivity rating, however, and the corresponding power level would be 2 watts for a 4-ohm speaker and 4 watts for a 2-ohm one.

When shopping for an amplifier or receiver, you should consider the sensitivity and minimum impedance of the speakers you will be using together with the receiver or amplifier's ability to drive low-impedance loads at high power levels. If the amplifier can deliver at least its rated (8-ohm) power into 2 ohms, and if the speaker's sensitivity is at least 86 or 87 dB, the chances are that you will never have any problems with the combination. Many older amplifiers were simply unable to drive 2-ohm loads at a useful level, but this situation has changed radically during the past several years. If your present amplifier is more than ten years old, this factor alone could justify replacing it. You may not find all the pertinent information in a manufacturer's ratings or advertising, but the 2-ohm output capability of an amplifier and the minimum impedance of a speaker are part of the data presented in STEREO REVIEW's equipment test reports.

A couple of things you need not be unduly concerned with in relation to sound, although much is made of them by most amplifier manufacturers, are the specific circuit topology and special materials used in a component. These features are often claimed to provide strikingly improved listening qualities. Most often, however, such claims are sheer "hype" and should be discounted when you make your selection. On the other hand, the materials and construction techniques used in a component can often make a difference in terms of its reliability and durability.

You should also be aware that most specifications per se have little to do with the listening quality or general worth of an amplifier (or any other component). They may be an indication of the general caliber of the product's design and should not be totally disregarded, but they won't tell you how it will sound, either in absolute terms or in comparison with some other product.

For a variety of reasons, you may prefer a system of separate components 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 specific component, such as the preamplifier 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 interest 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 listening preferences, you may be able to trade off one characteristic against another and get a component that best suits your needs without unnecessary expense.

For example, most tuner and receiver manufacturers treat sensitivity as the primary specification and stress its importance, possibly because 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. Unfortunately, except in special circumstances, neither tuner sensitivity nor amplifier distortion gives any indication of the sound character or overall worth of a product.

In an urban or suburban environment, FM signal strengths are usually 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 capture 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 introduced by multipath reception, which can exceed by orders of magnitude a tuner's distortion in a standard laboratory measurement. High selectivity is also desirable in heavily 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 cannot work miracles. There is no substitute 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.



Dahlquist'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.



Yamaha has included twenty preset acoustic surround modes in its DSP-3000 Digital Sound Field processor. There are also twenty user-programmable memory modes, five variable parameters per mode, and a ten-channel output capability. It incorporates Yamaha's Hi-Bit digital filter. Price: \$1,899.

The Motif MC8 stereo preamplifier from Conrad-Johnson is similar to the company's more expensive dual-mono MC7 but has a simpler power supply. There are four source inputs and two tape loops for two-way dubbing. Price: \$2,250.



The hk990 is the top receiver in Harman-Kardon's line. Features include Active Tracking FM tuning, twelve FM and six AM presets, interactive video switching, two audio tape loops, an MC cartridge head amp, and a remote control. Price: \$1,099.

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 audiophile-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 equip-

ment 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. □

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"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
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STEREO REVIEW'S

RECORD OF THE YEAR AWARDS

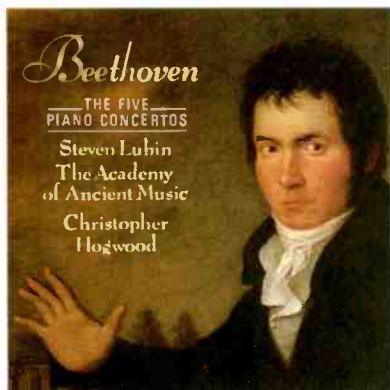
FOR
1988

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*

ILLUSTRATION BY LINDA SCHARF

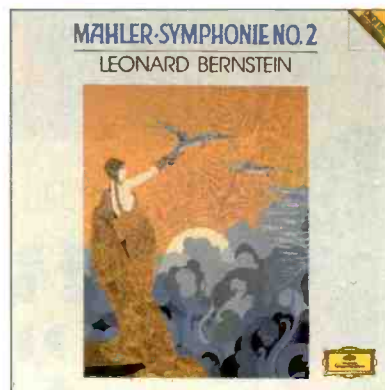
RECORDS OF THE YEAR



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."



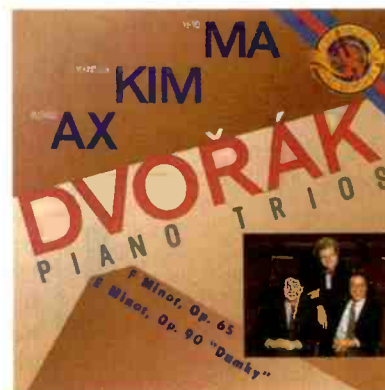
MAHLER: *Symphony No. 2, in C Minor ("Resurrection")*. Barbara Hendricks, Christa Ludwig; Westminster Choir, New York Philharmonic, Leonard Bernstein conducting. DEUTSCHE GRAMMOPHON. A performance that is "bound to raise goose pimples."



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."



DVOŘÁK: *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."

HONORABLE MENTIONS

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 AUGÉR 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.

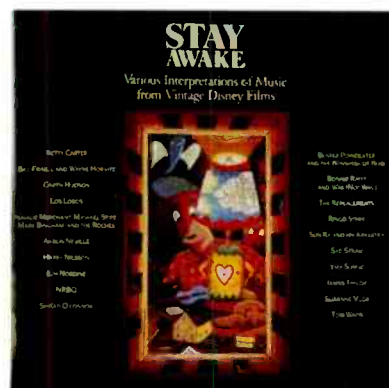
MOZART: *Variations on "Ah vous dirai-je maman"; Variations on "Unser dummer Pöbel meint"; Rondo in A Minor; Adagios in C*



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."



THE SMITHEREENS: *Green Thoughts*. CAPITOL. "A stunner by a band with its own unmistakable sound, all ringing guitars, and songs that are never less than melodically memorable."



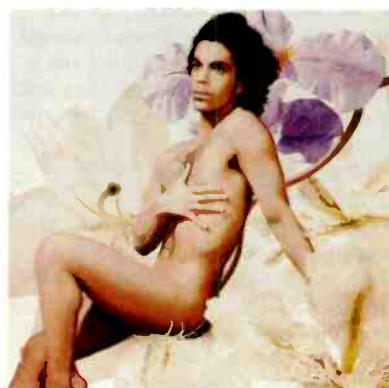
STAY AWAKE—Various Interpretations of Music from Vintage Disney Films. Los Lobos, Bonnie Raitt, Tom Waits, Suzanne Vega, Sinéad O'Connor, others. A&M. "The most unlikely songs matched with the most unlikely performers—and it works."



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 McGlinn conducting. ANGEL. "An extraordinary reconstruction."



PRINCE: *Lovesexy*. PAISLEY PARK. "A record that snaps, crackles, and pops with imagination—a Minneapolis soul stew jammed with tasty ingredients."

Major and B Minor; Andante in F Major; Gigue in G Major. András Schiff. LONDON.

MILTON NASCIMENTO: *Yauareté*. COLUMBIA.

RANDY NEWMAN: *Land of Dreams*. REPRISE.

NIELSEN: *Symphonies Nos. 4 and 5*. San Francisco Symphony Orchestra, Herbert Blomstedt cond. LONDON.

SINÉAD O'CONNOR: *The Lion and the Cobra*. CHRYSALIS.

GRAHAM PARKER: *Mona Lisa's Sister*. RCA.

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

KEITH RICHARDS: *Talk Is Cheap*. 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.

SPECIAL AWARDS

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.*



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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.



Henry Kloss, creator of the dominant speaker models of the '50s (Acoustic Research), '60s (KLH), and '70s (Advent), brings you Ensemble, a genuinely new kind of speaker system for the '90s, available factory direct from Cambridge SoundWorks.

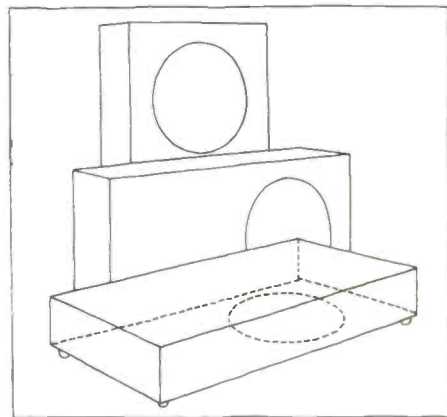
The best sound comes in four small packages.

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

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.



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

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



-And Make It Sound Like Music. A Most Unobtrusive Way, gine Going Wrong With Ensemble”

Julian Hirsch
Stereo Review, Sept. '88

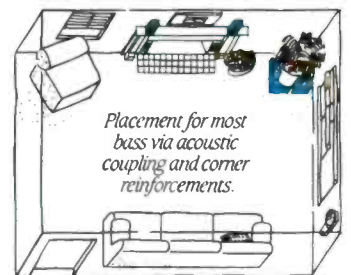
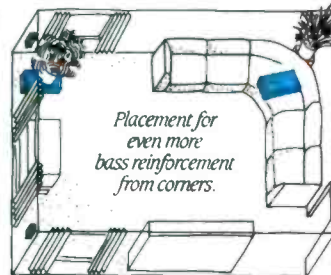
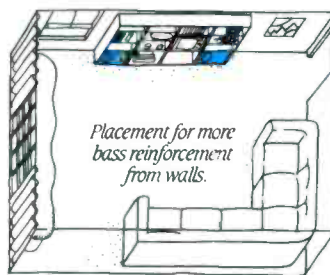
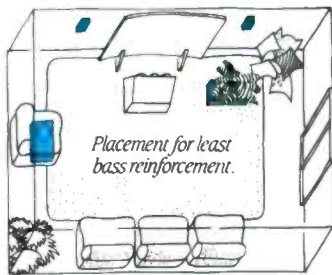
isn't for any speaker). Then you put the satellites where they provide a well-defined stereo "stage."

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

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...

Call 1-800-AKA-HIFI*
(1-800-252-4434)

Our toll-free number will connect you to a Cambridge SoundWorks audio expert. He or she will answer all your questions from



You can put Ensemble's low-frequency units exactly where they should go for superb bass. You can't do this with conventional speakers because you have to be concerned about the upper frequencies coming from the same enclosures as the low ones.

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 black laminate. The satellites are finished

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.).

What Henry Kloss tells his friends:

Every time I came out with a new speaker at AR, KLH, 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."

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.

why (or why not) to buy Ensemble to those you may have about related equipment. Your audio expert will take your order (you can use Visa, MasterCard or American Express), and arrange surface shipment via UPS (\$7 to \$25 anywhere in the continental U.S.). You should have Ensemble within one week. And your Cambridge SoundWorks audio expert will continue as your personal contact with us, to answer questions which might come up after you've begun to enjoy Ensemble at home. We think you'll like this new way of doing business.

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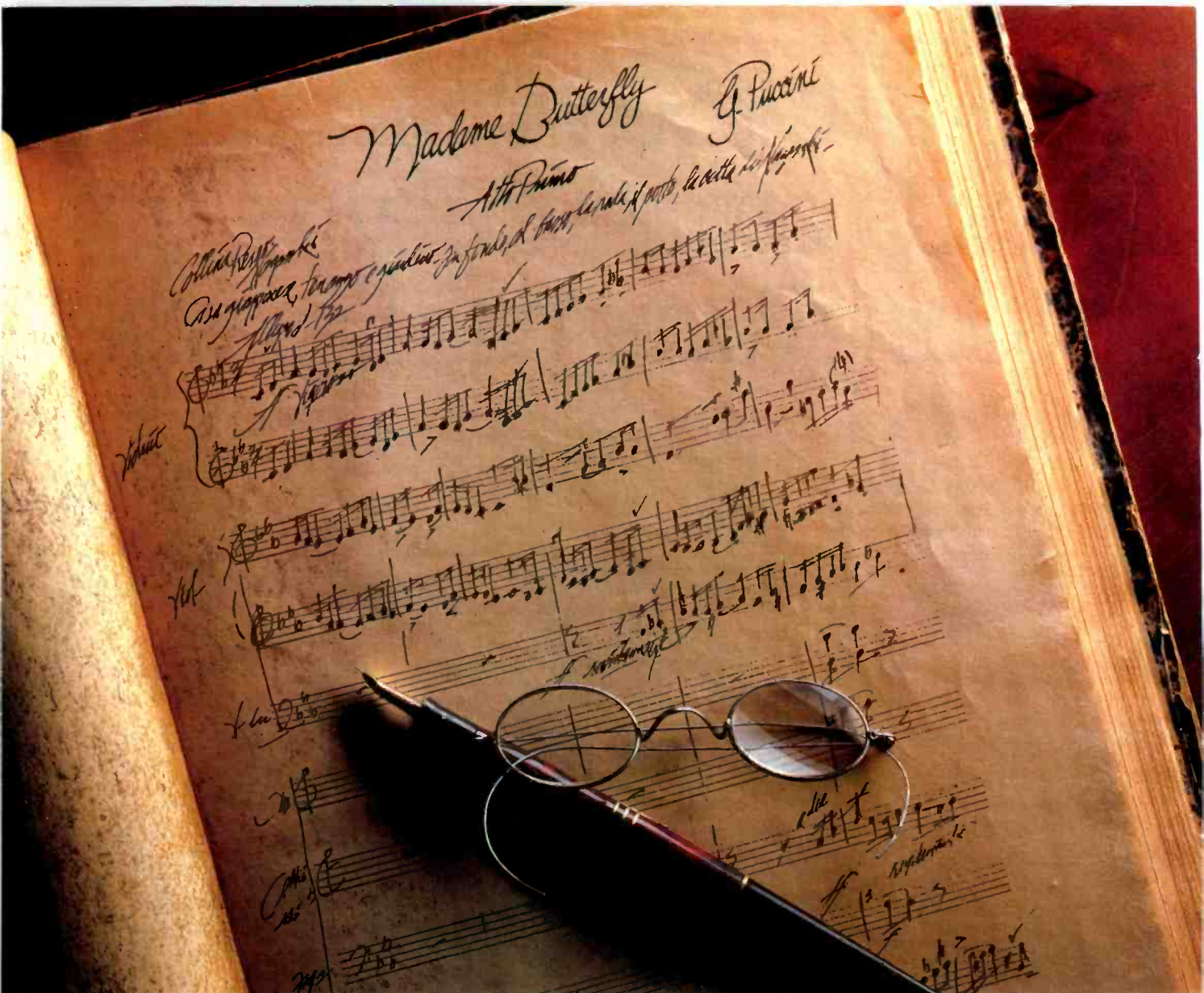
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Technics SL-P999 — with 20-bit, 4 DAC, 8 times oversampling.

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.

Technics
The science of sound



Technics 20-bit CD player.

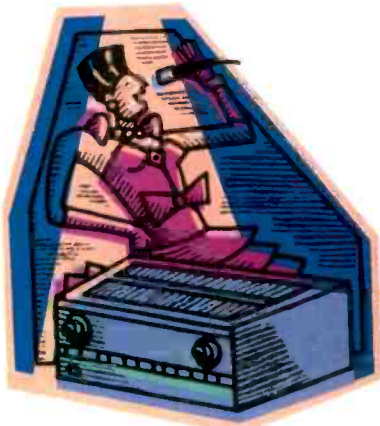


RECEIVERS
PAGE 68

1989 EQUIPMENT BUYING GUIDE



TUNERS
PAGE 106



AMPLIFIERS
PAGE 78

T

O 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.



TURNTABLES
PAGE 110



CD PLAYERS
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SPEAKERS
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RECEIVERS



A/D/S/

R4 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; wireless remote control (which also controls other a/d/s/ components); digital volume and tone controls; RS-232 port allows control through personal computer; capable of multi-room remote control. Amp section: 70 W/ch into 8/4 ohms; dynamic headroom 2 dB. Tuner section: IHF sens 26 dBf stereo; signal strength for 50-dB quieting 35 dBf stereo; capture ratio 1.5 dB; alt-ch sel 65 dB; max S/N 75 dB mono, 70 dB stereo. 2.8 x 17.5 x 14.8 in; 23 lb \$1,400

AKAI

AA-V435-B 125-W/ch AM/FM Receiver

125 W/ch AM/FM receiver with universal remote; 70 programmable functions; Dolby surround sound with 7 W/ch rear; motor driven volume; variable loudness; 9 audio; 4 video inputs; S-VHS terminals; RF signal selector (3 In/1 Out); sound insert; simulate stereo; source direct; 10-key direct tuning; 20-station random preset; processor terminal; speaker A/B... \$649

AA-V335-B 100-W/ch AM/FM Receiver

100 W/ch AM/FM receiver with motor driven volume; variable loudness; 9 audio; 4 video inputs; S-VHS terminals; RF signal selector (3 In/1 out) sound insert; simulated stereo; source direct; 10-key direct tuning; 20 presets \$549

ACOUSTIC RESEARCH

AR X-10 AM/FM Receiver

Receiver with infrared remote to control power, volume, tuning, input selection, and AR CD player functions. Features audio and video dubbing; close-tolerance metal-film resistors and film capacitors for RIAA; concealed bass, mid-range, treble, balance, tone-defeat, loudness, filter, tape, FM/AM, memory, and speaker-switching controls; 8 AM/8 FM station presets; gold-plated phono inputs. Inputs for MM phono; MC phono; tape; AUX; CD player; video sound source; VCR 1; VCR 2. Amp section: 100 continuous average W/ch from 20-20,000 Hz into 8 ohms with less than 0.03% THD, 130 W into 4 ohms; dynamic headroom 2 dB; 200-ms dynamic power 150 W; 40-ampere current capability. FM section: 50-dB quieting sens stereo 25 μ V (33.2 dBf); FM S/N (at 65 dBf) 75 dB stereo, 80 dB mono; THD stereo 0.3%; capture ratio 1.0 dB; AM rejection 60 dB; alt-ch sel 75 dB \$849

BANG & OLUFSEN

Beocenter 9000 30-W/ch Music Center

Remote-controlled music center with AM/FM

tuner, cassette deck, and CD player. Features remote control; glass operating panel; computer-intelligence system; timer programming; data-linked source inputs; Tuner section: 20 AM/FM station presets; automatic search; stereo/mono switch; internal lithium battery for memory backup; double-acting automatic gain control. CD section: quadruple-oversampling digital filter; motorized lid; variable-speed search in both directions; track step; 30-track random programming. Cassette section: autoreverse; motorized lid; Dolby HX Pro; Dolby B and C noise reduction; Auto Azimuth Guidance; Auto Record Level; 23-track programming \$3,295

Beomaster 5500 50-W/ch AM/FM Receiver

Includes Master Control Panel remote control and handheld infrared remote; presets for 20 AM and FM stations; Auto Power Handling Control; double-acting auto gain control in FM; volume, bass, treble, and balance controlled from knob on MCP remote; works with other Beosystem 5500 components for multi-room remote control; direct selection of any FM or AM station by frequency; station search; silver and black finish. Power output 50 W/ch into 8 ohms; dynamic headroom 1.5 dB; 50-dB quieting sens 40 dBf; capture ratio 1.7 dB. 16.5 x 3 x 12.75 in; 19.2 lb \$2,150

CARVER

AVR100 150-W/ch AM/FM Receiver

Magnetic Field Amplifier; 6 AM/6 FM presets; Asymmetrical Charge-Coupled FM Detector; Sonic Holography; bass control boosts or cuts 100 Hz max 8 dB; treble boosts or cuts 10,000 Hz max 8 dB; 4 video inputs, 3 video outputs, with switching and dubbing; antenna/cable switching; surround-sound processor with 50 W; 20-function remote. 150 W/ch. Tuner section: FM sens IHF 2.0 μ V; FM 50-dB quieting sens 4.5 μ V mono or stereo; capture ratio 1.5 dB; AM distortion at 2 μ V 0.6% \$1,199

6250 125-W/ch AM/FM Receiver

Features magnetic field amplifier; 6 AM/FM station presets; asymmetrical charge-coupled FM detector; sonic holography; bass, mix, and treble controls; 2 video inputs; 20-function remote control; 125 W/ch; FM sensitivity IHF 2.0 μ V \$899

R-150 150-W/ch AM/FM Receiver

Designed for noise-free stereo FM and adequate power for CD's. PLL fully digital-synthesized AM/FM stereo tuner section; Magnetic Field Amp; Asymmetrical Charge-Coupled FM Detector; phono input; video/digital audio input; aux input; 2 tape inputs; 6 station presets; mono switch; bass, mid, treble controls; balance control; switches for tone defeat, speaker selection,

tape monitoring, tape dubbing, FM muting, AM noise filter, loudness contour. 150 W/ch into 8 ohms. FM section (stereo, 75 ohms, with Charge-Coupled Detector engaged): usable sens 16.3 dBf (1.78 μ V); 50-dB quieting sens 23.5 dBf (4.0 μ V)..... \$749

DENON

DRA-1025 AM/FM Receiver

Features 120 W/ch and full function remote control. Inputs for turntable, 2 tape decks, CD player, VCR. Pre-out main jacks; 5-way speaker terminals; 16 station tuner preset; fluorescent; preset FM scan; variable loudness EQ; simulcast copy function; simulated stereo circuit. THD 0.006% -3 dB at rated output; IMD 0.005%; FR 20-50,000 Hz \pm 1.5 dB; S/N 110 dB; 6.37 x 17.08 x 15.51-in; 26.46 lb \$950
DRA-825. Similar to above with 90 W/ch \$800

DRA-625 AM/FM Receiver

65 W/ch AM/FM receiver with remote control. Features liquid cooled heat sinks, variable loudness EQ, one-touch source selection, pre-out jacks, 3-way speaker terminals. 16-station random preset memory tuning; auto scanning; last channel tuned memory. THD 0.0095% -3 dB at rated output; IMD 0.025%; FR 20-50,000 Hz \pm 1.5 dB; S/N phono 88 dB, FM 82 dB, CD/tuner/tape 98 dB; 5.39 x 17.08 x 13.77 in; 21 lb \$550



Denon DRA-625

DRA-25 AM/FM Receiver

Stereo receiver features straight amplification design; CD direct switch; variable loudness EQ; liquid heat-cooled sink; high-linearity phono stage; 16-station random preset memory; micro-processor assisted tuning system; FL display; auto-scan; up/down manual tuning; last-channel-tuned memory. 30 W/ch min rms into 8 ohms from 20-20,000 Hz with no more than 0.05% THD; FM 50 dB quieting sens 23 μ V (stereo); capture ratio 1.5 dB; AM suppression 50 dB \$380

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; autotune; built-in FM muting; FL display; 120 W/ch rms into 8 ohms at 20-20,000 Hz with <0.09% THD; loudness switch . . \$450

RECEIVERS

RS615B 60-W/ch AM/FM Receiver

AM/FM receiver with 37-function wireless remote control. Features 5-band graphic equalizer; motorized volume control; 24 AM/FM station presets; autotune; built-in FM muting; FL display; 60 W/ch rms into 8 ohms at 20-20,000 Hz with <0.09% THD; loudness switch... \$350

HARMAN KARDON

hk990 Vxi 90-W/ch AM/FM Receiver

AM/FM receiver with digital synthesized quartz-locked tuning and remote control. Features high current/high voltage design; active tracking tuner 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/ch 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/ch 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/ch 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 and video high-level inputs; loudness; speaker switching; metal chassis \$389



Harman Kardon hk880 Vxi

HITACHI

MX-W 50 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-station memory; 50 W/ch; 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, phono, 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 tuner; preset memory for 40 AM/40 FM stations; auto memory; preset scan; auto QSC; dB indicator; variable stop level; station name indicator; LCD on unit; tape 1, tape 2, DAT, VCR 1, VCR 2, phono, CD inputs; dubbing capability; 3 video inputs; 7-band electronic SEA graphic equalizer with 5 user-programmed and 5 pre-programmed equalizations; interactive CCS; high-gain phono equalizer for MM/MC cartridges; loudness; sleep timer; connections for two pairs of speakers; CATV antenna control unit. 120 W/ch driven into 8 ohms from 20-20,000 Hz with no more than 0.007% THD. Front surround: 110 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.007% THD; rear surround: 15 W/ch into 8 ohms at 1,000 Hz with no more than 0.07% THD \$1,200

RX999VBK AM/FM Receiver

A/V receiver with programmable remote control. Features digital Dolby surround; hall; stadium; adjustable digital delay; 3 video inputs; computer-controlled electronic 7-band SEA graphic equalizer with 5 user-programmed settings and 5 pre-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 0.007% THD. Front surround: 90 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.007% THD; rear surround: 15 W/ch into 8 ohms at 1,000 Hz with no more than 0.7% 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: 75 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.007% THD; rear surround: 7 W/ch into 8 ohms at 1,000 Hz with no more than 0.7% THD... \$630
RX777VSBK. As above with unified A/V remote control... \$570

RX333BK AM/FM Receiver

AM/FM receiver with full-function remote control. Features loudness and connections for two pairs of speakers; digital synthesizer tuner with 40 AM/40 FM station presets; auto memory; preset scan; LCD on unit; interactive CCS; 5-band SEA graphic equalizer; CATV antenna control unit. 45 W/ch into 8 ohms from 40-20,000 Hz with no more than 0.08% THD... \$320

KENWOOD

KR-V127R AM/FM Receiver

AM/FM receiver with voltage interface gauge (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; 7-band electronic graphic equalizer; 7-band spectrum analyzer; auto-memory entry; equalizer recording switch; MM/MC cartridge selector; speaker A/B selector; 10 W/ch rear speaker amplifier; THD 0.008%; IMD

0.008%; FR 20-20,000 Hz; S/N ratio 82 dB; graphic equalizer center frequency 60 Hz at 1 kHz; usable sens 10.8 dBf; 50 dB quieting sens 74 dB... \$699

KR-V107R AM/FM Receiver

AM/FM receiver with voltage interface gate (VIG) power amplifier circuit. Features unified 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; FM auto-memory entry; equalizer recording switch; speaker A/B selector; 10 W/ch rear speaker amplifier; THD 0.008%; IMD 0.008%; FR 20-20,000 Hz \pm 0.5 dB; S/N ratio 82 dB; graphic equalizer center frequency 60 Hz; usable sens 10.8 dBf. 5.25 x 16.56 x 14.5 in; 23.1 lb... \$599

KR-V87R 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); preset scan; 7-band electronic graphic equalizer; FM auto-memory entry; equalizer recording switch; speaker A/B selector; 10 W/ch rear speaker amplifier; THD 0.008%; IMD 0.008%; FR 20-20,000 Hz \pm 0.5 dB; S/N ratio 73 dB; graphic equalizer center frequency 60 Hz; usable sens 10.8 dBf; 50dB quieting sens 14.2 dBf. 5.06 x 16.56 x 12.69 in; 18.1 lb... \$499



Kenwood KR-V107R

KR-A57R AM/FM Receiver

Features 55 watts per channel; unified remote control; 5-band graphic equalizer; matrix surround; 20-Station AM/FM random preset memory; 10-key direct frequency input; preset scan; electronic input selectors; two video sound inputs; speaker A/B selector; THD 0.03; IMD 0.03; FR 20-20,000 Hz \pm 0.5 dB; S/N ratio 73 dB; graphic equalizer center frequency 60 Hz; usable sens 10.8 dBf; 50dB quieting sens 17.2 dBf; IF rejection ratio 86 dB. 4.31 x 16.56 x 9.31 in; 10.1 lb... \$329

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 EQ for tonal adjustment; switchable MM/MC phono preamp; preamp out/main amp in jacks; subsonic filter; quartz-frequency synthesis tuning with high-speed 2,500 Hz comparator for low noise; switchable IF bandwidth; defeatable 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/ μ sec; rise time 1.0 μ sec; S/N (IHF-A) phono MC 74 dB, phono MM 85 dB, high-level inputs 100 dB... \$1,200

R-661 Receiver

Features 70 W/ch (continuous rms, both chan-

RECEIVERS

nels driven into 8 ohms, from 20-20,000 Hz, with no more than 0.02% THD; defeatable bass and treble controls for tonal adjustment; switchable MM/MC phono preamp; preamp out/main amp in jacks; subsonic filter; quartz-frequency synthesis tuning with high-speed 2,500 Hz comparator for low noise; switchable IF bandwidth; 7 AM and 7 FM presets; high-blend feature. FM S/N 74 dB stereo, 80 dB mono; slew rate 50 V/ μ sec; rise time 1.0 μ sec; S/N (IHF-A) phono MC 64 dB, phono MM 82 dB, high-level inputs 100 dB. \$900

R-461 Receiver

Inputs for MM phono, 2 tape, 2 AUX, CD player. Amp section: 50 continuous average W/ch from 20-20,000 Hz with no more than 0.02% THD driven into 8 ohms; dynamic headroom 2.1 dB; IHF IMD 0.02%; FR 30-15,000 Hz \pm 1 dB. FM section: alt-ch sel 55 dB; 50-dB quieting sensitivity mono 17 dBf (50 dB), stereo 37.2 dBf (50 dB); max S/N, A-wtd, mono 77 dB, stereo 72 dB; THD mono 0.08%, stereo 0.12%; channel separation 48 dB at 1,000 Hz; capture ratio 1.2 dB. AM section: loop sensitivity 300 μ V. 18.12 x 4.31 x 12.12 in; 18.5 lb. \$650



Luxman R-115

LUXMAN

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

Receiver with full-function system remote control including video and video sound switching. Features low-impedance drive capability; CD straight mode; FET differential phono input; 5 gang varactors, dual gate MOSFET's; pre-out/main-in. Power output 160 W/ch from 20-20,000 Hz with <0.03% THD; IMD <0.03% (35 W/8 ohms); S/N 88 dB (MM), 70 dB (MC), 98 dB (CD, tape, A/V); FM sensitivity (stereo) 36 dBf; FM S/N (stereo) 75 dB; FM total harmonic distortion (stereo) <0.1%. \$1,200

R-115. Similar to above with 75 W/ch; remote control; audio switching/video switching. \$800

R-113. Similar to above with 35 W/ch; THD <0.08%. No remote control. \$450

MARANTZ

SR3600BL 120-W/ch Receiver

Receiver with Dolby Surround Sound. Features quartz-locked digital synthesis tuning; manual scan; 5-band EQ; remote control; 40 AM/FM presets; preset scan; VCR to VCR dubbing; 3 band tone control; speaker A/B switch; center channel output. \$879

SR3500BL 110-W/ch Receiver

Receiver with 40 AM/FM station presets. Features quartz-locked digital synthesis tuning; manual scan; 5-band EQ; preset scan; VCR to VCR dubbing; 3 band tone control; speaker A/B switch; cable FM input; MMC phono input selector; matrix sound. \$749

TA-170AV 165-W/ch Receiver

Receiver with 16-preset digital tuning. Features 5-band graphic equalizer; quartz-locked digital synthesis tuning; electronic volume; VCR to VCR dubbing; power meter; inputs for MM phono, tape, CD player; alt-ch sel 50 dB; 50-dB quieting sens, mono 15 dBf, stereo 37 dBf; max S/N 68 dB; THD stereo 0.3%; sep 42 dB; capture ratio 1

dB. 16.5 x 7.25 x 13 in; 34 lb. \$650

TA-100 100-W/ch Receiver

AM/FM receiver with 16 presets. Features remote control; 5-band EQ; quartz-locked digital synthesis tuning; inputs for MM, phono, tape, CD, 2 video sources; VCR to VCR dubbing; 100 W/ch; 0.1% THD. 16.62 x 5.87 x 12.62 in; 23.7 lb. \$500

SR3300BL 60-W/ch Receiver

Receiver with 32 AM/FM presets. Features VCR to VCR dubbing; 3 band tone control; speaker A/B switch; audio/video integration; matrix sound. \$449

SR-560 45-W/ch Receiver

Features 16 preset digital tuning; 7 band EQ; inputs for MM phono, tape, CD, 2 video sources; VCR to VCR dubbing; 0.3% THD; 11.2 dBf IHF sens. 16.5 x 3.62 x 10 in; 11.9 lb. \$250

McINTOSH

MAC 4300V AM/FM Receiver

AM/FM 100 W/ch stereo receiver with remote control. Features MPX filter; 6 station presets; signal-strength indicator; LED display of station frequency; 1 unswitched outlet; loudness; 1, 2, and 1+2 speaker selector; 5-band equalizer; scan; headphone jack. Amp: THD 0.02%; IMD 0.02%; FR 20-20,000 Hz +0/-0.5 dB; SN 100 dB. Tuner: S/N 75 dB stereo; FR 20-15,000 Hz +0/-1.0 dB stereo; THD 0.08% at 1,000 Hz; FM S/N 70 dB stereo; FM capture-ratio 1.5 dB; Front panel is brushed black with gold trim; side panels are machined solid walnut with finish; 18.47 x 6.06 x 14 in; 34 lb 5 oz. \$2,995



Mitsubishi M-AVI

MITSUBISHI

M-AVI 125-W/ch Receiver

A/V receiver with 125-W/ch features 25-W/ch Dolby Surround Matrix surround; remote control; motorized volume control; bass and treble controls; tone defeat; audio mute; preamp loudness; subsonic filter; high-cut filter; record selector; 16 presets with menu-switching; on-screen displays of all functions; adjustable LCD display; preset scan; FM muting; headphone jack; 4 audio/video equipment inputs; 3 audio equipment inputs; 2 audio tape outputs; 1 video tape output; monitor outputs; pre-amp loop; THD 0.05%. \$1,000

M-AV2 80-W/ch Receiver

A/V receiver with 80-W/ch features Dolby Surround Matrix surround; remote control; motorized volume control; bass and treble controls; tone defeat; audio mute; preamp loudness; subsonic filter; high-cut filter; record selector; 16 presets; preset scan; FM muting; headphone jack; 4 audio/video equipment inputs; 3 audio tape outputs; 1 video tape output; monitor outputs; pre-amp loop; THD 0.05%. \$800

NAD

7600 Monitor Series AM/FM Receiver

Wireless remote control; 150 W/ch; power envelope circuitry; +6 dB dynamic headroom;

bridgeable; high current output stage; high resolution phono preamp; MC pre-preamp; bass EQ semi-parametric tone controls; wide/narrow IF mode; speaker imp selector; close tracking Soft Clipping; rack mountable. \$1,598

7400 Monitor Series AM/FM Receiver

14 pre-sets; 100 W/ch stereo receiver; power envelope circuitry; +6.2 dB dynamic headroom; motorized volume; MM/MC switch on discrete 4-transistor phono preamp; bridgeable; preamp out/main in; rack mountable. \$1,098

7100 Monitor Series AM/FM Receiver

14 pre-sets; 50 W/ch stereo receiver; power envelope circuitry; +6.6 dB dynamic headroom; MM/MC switch on discrete 4 transistor phono preamp; bridgeable; preamp out/main in; rack mountable. \$748

7225PE AM/FM Receiver

20 W/ch; +4 dB dynamic headroom; power envelope circuitry; preamp out/main in; 5-way speaker binding posts; Soft Clipping circuit. \$348



Nakamichi SR-4A

NAKAMICHI

SR-4A AM/FM Receiver

Stereo receiver with Stasis power amp, multi-regulated power supply, extensive video switching. Inputs for MM phono, MC phono, tape, CD player, video sound source; VCR/laser disc. 60 continuous average W/ch from 20-20,000 Hz with no more than 0.1% THD into 8 ohms; dynamic headroom 1.3 dB; 200-ms dynamic power 80 W. FM 50-dB quieting sens stereo 37.5 dBf; S/N 74 dBA at 65 dBf; THD stereo 0.07%; capture ratio 1.5 dB; AM rejection 60 dB; alt-ch sel 60 dB. 16.94 x 3.94 x 19.56 in; 22.25 lb. \$995

SR-3A AM/FM Receiver

Stereo receiver with Stasis power amp, multi-regulated power supply, defeatable subsonic filter. Inputs for MM phono, MC phono, tape, CD player, video sound source; 2 video sources. 45 continuous average W/ch from 20-20,000 Hz with no more than 0.1% THD into 8 ohms; dynamic headroom 1.5 dB; 200-ms dynamic power 64 watts. FM 50-dB quieting sens stereo 37.5 dBf; S/N 74 dBA at 65 dBf; THD stereo 0.07%; capture ratio 2 dB; AM rejection 60 dB; alt-ch sel 55 dB. 16.94 x 3.94 x 14.56 in; 18.75 lb. \$695

TA-1A AM/FM Receiver

Features 35 W continuous average output; <0.10% THD into 8 ohms; MM phono overload 150 mV; MM phono S/N > 78 dB; 10 AM/FM presets; sens 12 dBf; signal strength for 50 dB quieting; multi-regulated power supply; 5 audio inputs; separate bass and treble controls; loudness control; fixed 6 dB per octave subsonic filter; MOSFET vari-acp tuner; auto-seek an manual tuning; 2 switched AC convenience outlets \$329

NEC

AVR-1010 AM/FM Receiver

AM/FM receiver with built-in Dolby and matrix surround-sound processors. Features unified remote control with LCD readout that can operate other NEC audio and video components; four built-in power amps (one for each front and rear

The Monitor Series

Designed not to a price, but to a standard.



Audiophile-quality background music from a remote control multi-CD player?

You probably wouldn't expect it. Until you've heard the sound that the NAD Monitor Series 5170 Multi-CD Player can deliver.

With the 5170 you can have it both ways.

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Sequence all seven discs for programmed play (up to 32 tracks), or automatic random-play, or repeat play (three different repeat modes). All from the remote control keypad, which, by the way, includes volume control.

When you are entertaining or reading, you can use our proprietary CDR control (Controlled Dynamic Range) to tame extreme dynamic contrasts, while preserving *all* of the music. CDR automatically raises the volume of the soft interludes, leaving the loud portions unaltered. It is also indispensable for recording tapes for your car, where the ambient noise can often overwhelm delicate passages. NAD is the *only company* to offer this feature in a multi-CD player.

Such innovative technology, extraordinary sound quality, and ease of use are abundantly evident in this fine player. The ultimate judgement, however, should be made by listening. We invite you to bring a few of your discs to one of our carefully selected dealers. You may be surprised at what you hear.

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SR 5



For the music, pure and simple.

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ch); quartz-PLL digital-synthesis tuning; 16 AM/FM station presets; preset scan; FM mute; selectable wide/narrow IF bandwidth; 3 volume level/channel balance presets; computer-controlled volume and input selection; audio mute; a master volume control; front/rear volume control; front-left, front-right, rear-left, and rear-right volume controls; rear and front bass/treble controls; digital delay; headphone jack; tape monitor; mono output. Inputs for phono, CD player, tape deck, AUX, TV, and VCR. Tuner section: FM usable sens 10.8 dBf (0.95 μ V); FM S/N 74 dB stereo. Amp section: 100 W/ch into 8 ohms from 20-20,000 Hz with 0.02% THD (front), 50 W/ch into 8 ohms (rear). 17 x 5.5 x 17 in; 35 lb \$899



NEC AVR-710

AVR-710 AM/FM Receiver

AM/FM receiver with built-in Dolby and matrix surround-sound processors. Features unified remote control that can operate other NEC audio and video components; four built-in power amps (one for each front and rear ch); quartz-PLL digital-synthesis tuning; 16 AM/FM station presets; preset scan; FM mute; 3 volume level/channel balance presets; computer-controlled volume and input selection; audio mute; a master volume control; front/rear volume control; front-left, front-right, rear-left, and rear-right volume controls; rear and front bass/treble controls. Inputs for phono, CD player, tape deck, AUX, TV, and VCR. Tuner section: FM usable sens 13.2 dBf (2.5 μ V); FM S/N 72 dB stereo. Amp section: 70 W/ch into 8 ohms from 20-20,000 Hz with 0.02% THD (front), 35 W/ch into 8 ohms (rear). 17 x 5.5 x 17 in; 33 lb. \$699



Nikko AVR-65

NIKKO AUDIO

AVR-65 Audio/Video Receiver

Remote-controlled AM/FM, UHF, CATV stereo receiver with built-in MTS/SAP decoder and 139-channel tuning. Features quartz-locked tuner; 2 video inputs/outputs; 10 AM/10 FM presets. 65 W/ch into 8 ohms with 0.05% THD; FR 20-20,000 Hz. S/N 65 db. \$900

NR-1050R AM/FM Receiver

Remote-controlled receiver with 100 W/ch; 2 tape inputs; 20 presets; bi-directional dubbing; L/R mic; L/R line; 4-band graphic EQ. \$599

NR-850R. Same as above with 65 W/ch. \$519

R-550 AM/FM Receiver

55 W/ch at 8 ohms; 1.63 dB dynamic headroom with 10-100,000 Hz per bandwidth; 10 AM, 10 FM presets; 6-inputs; processor select system; 2 video/image input/output terminals provide bi-directional dubbing; auto record out allows any source to be automatically routed to all four out-

puts; THD 0.04%; FR 20-20,000 Hz/CD input; S/N 80 dB; sep 51 dB; channel sel 75.8 dB. \$450

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, phono; 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-blend on/off, and NR on/off functions. Features real-phase power supply; dynamic bass expander; dynamic transient 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: 100 continuous average W/ch from 20-20,000 Hz into 8 ohms with <0.02% THD. FM section: 50-dB quieting sens 40 μ V (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



Onkyo TX-SV7M

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-blend 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 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 <0.025% THD. FM section: 50-dB quieting sens 40 μ V (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 tuner, 20-station random memory with battery-free backup; selective tone control; CD direct input; simulated stereo; sleep time function; integrated system remote capability with supplied controller. Amp: FR 20-30,000 Hz \pm 1 dB. Tuner: capture ratio 1.5 dB; S/N 67 dB stereo; THD 0.3% stereo. \$400

TX-830M. As above with system remote \$450

TX-810 AM/FM Receiver

Stereo receiver with 45 W/ch rms. Features 58

W/ch dynamic output into 2 ohms; low impedance drive discrete output section; 2-mode APR tuner; 16-station random memory with battery-free backup; selective tone control. \$310

PARASOUND

R/HD Receiver Series

All Parasound R/HD receivers feature CMOS electronic logic switching; high current/high speed discrete outputs; high speed linear phono gain stage; oversized power supply; preamplifier output jacks; LED function indicators; separate CD and video inputs; A/B speaker pairs, separately switched; mono mode select; all-metal chassis and panel; 3 AC convenience outlets; headphone jack.

R/HD-900R AM/FM Receiver

Full feature, wireless remote control receiver. Features motor driven analog vol control; 16 station presets. 8 AM/8 FM; separate low and high filters; separate record output selector; 2-way tape dubbing; external processor loop jacks; relay protection; THD <0.2%; dynamic headroom 1.5 dB; FR 20-20,000 Hz \pm 1 dB; S/N 90 dB; 17.25 x 4 x 1.25 in. \$585

R/HD-600 AM/FM Receiver

Features 16 station presets. 8 AM/8 FM; variable loudness contour; 2-tape monitors; relay protection; THD <0.2%; dynamic headroom 1.5 dB; FR 20-20,000 Hz \pm 1 dB; S/N 90 dB; 17.25 x 4 x 1.25 in. \$400

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; 50-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 or MC phono settings; ambience control switch; 9 audio inputs; 4 audio outputs; 4 video inputs; 3 video outputs; AM and FM antennas; headphone outlet; function display; pre-set Scanning function for AM/FM tuner; re-modulator output jack for optional 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 front x 30 W rear; motor-driven volume control; 4 audio inputs; video adaptor loop; 4 video inputs, stadium sound; simulated surround sound; FL display; programmable remote control; video enhancer with split-screen monitoring; VCR noise filter; 5-position remote-operated acoustic tonal setting memory; pre-outs and main input terminals; 30 AM/FM presets; memory scan; manual, automatic, 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 front x 30 W rear; 4 audio inputs; video adaptor loop; 4 video inputs; stadium sound; simulated surround sound; FL display; programmable remote control; video enhancer with split-screen monitoring; VCR noise filter; 5-position remote-operated acoustic tonal setting memory; pre-outs and main input terminals; 30 AM/FM presets; memory scan; manual, automatic, and direct-access tuning \$760

VSX-5300 AM/FM Receiver

A/V receiver with Dolby Pro Logic surround processor and digital delay. Features type III non-switching amp rated at 100 W front x 15 W rear; 3 audio inputs; 3 video inputs; stadium sound; simulated surround sound; FL display; programmable remote control; video enhancer with split-screen monitoring; 30 AM/FM presets \$635

SX-2300 AM/FM Receiver

AM/FM receiver with quartz-synthesized tuning and 60 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



Proton AV-300

PROTON

D940 AM/FM Receiver

Receiver with Dynamic Power on Demand (DPD) circuitry and Schotz NR. Features high dynamic power capabilities (rating 8/4/2 ohms to 160/280/380 W/ch); 4-gang FM front end; 2-gang AM front end; selectable phono section for MM and MC phono; speaker EQ; separate low-noise MC amp; active 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; IHF IMD 0.008%; FR 20-20,000 Hz \pm 0.2 dB. FM section: alt-ch sel 55 dB; adj-ch sel 90 dB; 50-dB quieting sens 33.2 dBf stereo; S/N 70 dB stereo; THD stereo 0.2%; sep 45 dB at 1,000 Hz; capture ratio 1.5 dB. 16.5 x 4 x 10.12 in; 20 lb \$489

AV-300 AM/FM Receiver

Digitally synthesized stereo receiver. Features Schotz PLL detector. Inputs for MM phono, tape, AUX, video sound source. Remote control optional. 30 continuous average W/ch from 20-20,000 Hz with <0.02% THD into 8 ohms; includes Dynamic Power on Demand which boosts dynamic power to 120 W (8 ohms) with 6 dB dynamic headroom; IHF IMD 0.015%; FR 17-35,000 Hz \pm 1 dB. FM section: 50-dB quieting sens. stereo, 2.8 μ V; max S/N, A-wtd, stereo 70 dB; THD stereo 0.2%; sep 50 dB at 1,000 Hz; capture ratio 1.5 dB. AM section: sens 300 μ V \$459

REALISTIC

AV-900 FM/AM/TV Receiver

Receives VHF TV broadcasts (decodes MTS

stereo and SAP), UHF broadcasts, cable-TV channels; 140-channel TV tuner; wireless remote control (needs 2 AAA batteries); video signal processing and dubbing; digital-synthesized tuner; stores 4 pairs of cable/FM channels; RF output on channel 3 or 4; baseband output for monitors. Inputs for phono, tape, CD player, two VCR's, surround-sound decoder. 35 W/ch into 8 ohms \$600



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-deck monitoring; loudness control; MPX blend; FM muting; high filter; sonic filter; function LED's; overload and overheating protection. 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, phono, tape, VCR-1, VCR-2/VDP, and processor; outputs for headphones, A, B, and A+B speakers; motorized volume control; matte-black finish; pale-blue FL display. Amp: 60 W/ch, THD <0.05%; S/N 76 dB. Tuner: FM usable sens 11.2 dBf mono; S/N 70 dB; THD <0.25%. 5 x 17 x 13.25 in; 21 lb \$460

RZ-1000 32-W/ch AM/FM Receiver

Features quartz-PLL synthesizer AM/FM stereo tuner; 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. 100 W/ch into 8 ohms \$500

STA-2380 AM/FM Receiver

AM/FM-stereo receiver with 6 AM and 6 FM presets and IMX stereo expander to extend sound stage and improve imaging precision. Up/down scan, lock, 5 segment fluorescent signal strength meter; dual 7-step output meter MPX blend; high filter cleans up record scratch. Drives 2 pairs of speakers; headphone jack; 2 AC outlets. Inputs for MM phono; tape; tape 2; aux; CD player. Amp section: 60 W/ch into 8 ohms. 98 W into 4 ohms. FM section: 50-dB quieting sens stereo 40 μ V (32 dBf); max stereo S/N 70 dB with 65 dBf (1,000 μ V) A-wtd; S/N 84 dB phono 100 dB aux; capture ratio 1 dB; AM rej 50 dB; alt-ch sel 70 dB \$400

STA-117 AM/FM Receiver

6 AM/6 FM presets; 300-/75-ohm FM and AM antennas; quartz digital tuning; feather-touch manual or auto tuning; 3-LED signal-strength meter; loudness control; subsonic filter. Inputs for MM phono; tape; aux; CD player. Amp section: 30 W/ch into 8 ohms; S/N 84 dB phono; FM section: 50-dB quieting sens stereo 39.8 μ V (32 dBf); max S/N with 65 dBf (1,000 μ V) A-wtd stereo 60 dB; capture ratio 1.5 dB; separation 40 dB; FM tuner 2.8 μ V AM rej 50 dB; alt-ch sel 50 dB \$260

STA-785 AM/FM Receiver

Digital synthesized AM/FM receiver with Quartz digital tuning. Features search up or down; feather-touch controls; 6 AM/6 FM presets; FM

muting; 5-LED signal-strength meter; loudness control. Inputs for MM phono; tape; aux; CD player. Amp section: 50 W/ch into 8 ohms. FM section: capture ratio 2 dB; Response 40-20,000 Hz; S/N 56 dB. 67 aux; AM rej 45 dB; alt-ch sel 50 dB \$200

REVOX

B285 AM/FM Receiver

AM/FM 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; level 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, tape 2. Amp section: 70 continuous average W/ch 20-20,000 Hz with no more than 0.03% THD into 8 ohms; dynamic headroom 2.5 dB; FR 20-20,000 Hz \pm 0.3 dB. FM section: alternate-ch sel 96 dB; adjacent-ch sel 16 dB; 50-dB quieting sens, mono 1.6 μ V (15.2 dBf), stereo 19 μ V (36.8 dBf); max S/N, A-wtd, mono 84 dB, stereo 80 dB; THD mono 0.15%, stereo 0.3%; sep 43 dB at 1,000 Hz; capture ratio 2 dB. AM section: FR 120-3,000 Hz \pm 6 dB; sens 36 μ V; 33 lb \$2,995

ROTEL

RX-875 AM/FM Receiver

70 W bridgeable to 180/W AM/FM receiver. Digital tuning with 16 station presets; THD 0.03%; IMD 0.05%; S/N ratio 75 dB; inputs for video sources \$599
RX-855. As above. 14 presets, 50-W/ch \$499



Rotel RX-875

RX-850A AM/FM Receiver

30-W/ch receiver with 16 random presets. Features RT850 tuner circuitry \$449

RZ-3000 50-W/ch AM/FM Receiver

Features quartz-PLL synthesizer AM/FM stereo tuner; 30 random station presets; preset scan; station call memory; extra-large heatsink; low-impedance capability; VCR and cassette dubbing capability; 20-key multi-function integrated system remote control; connections for AM loop and indoor/outdoor FM antennas; inputs for CD, phono, tape-1, tape-2/monitor, and VCR/VDP; outputs for A, B, and A+B speakers; motorized volume control; matte-black finish; pale-blue FL display; headphone jack. Amp: 50 W/ch. THD <0.09%; S/N 76 dB. Tuner: FM usable sens 11.2 dBf mono; S/N 70 dB; THD <0.3%. 5 x 17 x 13.25 in; 21 lb \$370

RZ-1000 32-W/ch AM/FM Receiver

Features quartz-PLL synthesizer AM/FM stereo tuner; 30 random station presets; preset scan; station call memory; extra-large heatsink; low-impedance capability; connections for AM loop and indoor/outdoor FM antennas; inputs for CD, phono, tape-1, tape-2/monitor, and VCR/VDP; outputs for A, B, and A+B speak-

RECEIVERS

ers; matte-black finish; pale-blue FL display; headphone jack. Amp: 32 W/ch, THD <0.09%; S/N 75 dB. Tuner: FM usable sens 11.2 dBf mono; S/N 70 dB; THD <0.3%. 5 x 17 x 13.25 in; 14.5 lb. \$280



SAE R102

SAE

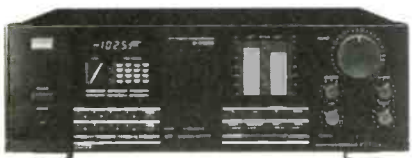
R102 AM/FM Receiver

AM/FM stereo 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; phono power amp; high-current main amp. \$499

SANSUI

S-X1200 120-W/ch AM/FM Receiver

AM/FM receiver with random presetting of 16 FM and AM stations. Features channel call and preset scan; connections for two VCR's with bi-directional dubbing; sound attacker to add sonic impact to video image; LED power meters; processor terminals; hi-blend; variable loudness; Amp section: 120 continuous average W/ch 20-20,000 Hz with no more than 0.015% THD into 8 ohms; FR 10-70,000 Hz +1, -3 dB. FM section: 50-dB quieting sens.(Mono) 10.8 dBf; 17.31 x 5.34 x 17.12 in; black finish; 30 lb. \$1,000
X900. Similar to S-X1200 except 80 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.02% THD \$725



Sansui S-X1200

RZ-7000 70-W/ch Receiver

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; 3 extra-large 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, phono, tape, VCR-1, VCR-2/VDP, and processor; outputs for headphones, A, B, and A+B speakers; motorized volume control; matte-black finish; pale-blue FL display. Amp: 70 W/ch, THD <0.02%; S/N 76 dB. Tuner: FM usable sens 11.2 dBf mono; S/N 70 dB; THD <0.2%. \$600

SCOTT

RS50 AM/FM Receiver

Receiver with remote control. Features 7-band

graphic equalizer; electronic volume control; power meter; loudness control; high filter; 8 AM/8 FM station presets. Inputs for MM phono, tape, CD/DAT, video sound source. Amp section: 50 W/ch into 8 ohms. FM section: usable sens 5 μ V (19.2 dBf) \$250

SHARP

SA-X50AV AM/FM Receiver

Receiver with multiple audio/video inputs and outputs. Features PLI-synthesis tuner; auto scan tuning; 12 presets; 5-band graphic equalizer; video-enhancer circuit; surround sound. Inputs for tape, CD, video sound source, video 1, video 2. Amp section: 50 continuous average W/ch from 40-20,000 Hz into 8 ohms with <0.5% THD \$250



Sharp SA-X50AV

SA-X35 AM/FM Receiver

Features quartz digital-synthesis tuner; 5-band graphic equalizer; auto scan tuning; loudness switch; A, B, A+B speaker selector; 6 AM/6 FM presets. Inputs for MM phono, tape, CD player. Amp section: 35 continuous average W/ch 20-20,000 Hz with no more than 0.5% THD into 8 ohms; IHF IMD 0.15%; FR 15-35,000 Hz \pm 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. \$200

SHERWOOD

RA-1340R AM/FM Receiver

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 scan; automatic tuning; dual-gate MOSFET; tape monitor; headphone jack; IMD 0.04%; S/N ratio 79 dB; FR 9-100,000 Hz; usable sens 11.2 dBf; 50 dB quieting sens 19.2 dBf; THD 0.15%; 50 dB stereo sep at 1 kHz; alt-ch sel 70 dB. 5.1 x 17.3 x 15.0 in. \$649

S-2770RCP AM/FM Receiver

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 sound source; amp section: 74 continuous average W/ch from 20-20,000 Hz with less than 0.3% THD into 8 ohms; capture ratio 1.5 dB; AM rejection 55 dB; alt-ch sel 70. \$430

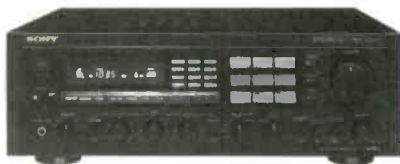
S-2750CP AM/FM Receiver

AM/FM-stereo receiver with 5-band graphic EQ. Features 16 station presets; surround sound; MOSFET input stage; auto-scan tuning; quartz-PLL digital-synthesized tuning; inputs for tape, CD player, video sound source; amp section: 55 continuous average W/ch from 20-20,000 Hz with less than 0.2% THD into 8 ohms; capture ratio 2 dB; AM rejection 50 dB; alt-ch sel 65. 17.36 x 4.62 x 9.25 in; 15 lb. \$250

SONY

STR-GX10ES AM/FM Receiver

Audio/video receiver with programmable Remote Commander. Features 150 W/ch continuous into 8 ohms. 20-20,000 Hz, with 0.007% THD; spontaneous twin drive power supply design; copper-plated 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 .08%; sel 90 dB; sep (at 1,000 Hz) 60 dB \$1,200



Sony STR-GX10ES

STR-GX9ES AM/FM Receiver

Audio/video receiver with programmable Remote Commander. Features 130 W/ch continuous into 8 ohms. 20-20,000 Hz, with 0.008% THD; spontaneous twin drive power supply design; G-Chassis design constructed with non-metallic compound; separated power supplies for system control and audio circuit stages; audio/video switching (3 video sources) and tape dubbing; 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 .08%; sel 90 dB; sep (at 1,000 Hz) 60 dB \$1,000

STR-GX7ES AM/FM Receiver

Audio/video receiver with programmable Remote Commander. Features 120 W/ch continuous into 8 ohms. 20-20,000 Hz, with 0.008% THD; spontaneous twin drive power supply design; G-chassis design constructed with non-metallic compound; separate power transformers for the system control and audio circuitry; audio/video switching capability (3 video sources); S-video terminals; low-noise, negative-feedback type tone controls; source direct switch; quartz frequency-synthesis tuning; 20 station presets. Tuner section: S/N 76 dB; THD .2%; sel 65 dB \$750

STR-GX6ES AM/FM Receiver

Audio/video receiver with programmable Remote Commander. Features 100 W/ch continuous into 8 ohms. 20-20,000 Hz, with 0.03% THD; spontaneous twin drive power supply design; G-chassis design constructed with non-metallic compound; separate power transformers for the system control and audio circuitry; audio/video switching capability (2 video sources); low-noise, negative-feedback type tone controls; source direct switch; quartz frequency-synthesis tuning; 20 station presets. Tuner section: S/N 76 dB; THD .2%; sel 65 dB; sep (at 1,000 Hz) 50 dB \$600

STR-AV900 AM/FM Receiver

Audio/video receiver with full-function remote control. Features 100 W/ch into 8 ohms; sur-

RECEIVERS

round-sound capability; 7-band electronic graphic equalizer; 7-band spectrum analyzer; motorized volume control; music index; video inputs and outputs; direct comparator tuner; dual power supplies; 20 station presets. Amp: FR 5-80,000 Hz, with .008% THD. Tuner: S/N 76 dB; THD .2% \$480

STR-GX5ES AM/FM Receiver

Audio/video receiver with programmable Remote Commander. Features 80 W/ch continuous into 8 ohms, 20-20,000 Hz, with 0.08% THD; spontaneous twin drive power supply design; G-chassis design constructed with non-metallic compound; separate power transformers for the system control and audio circuitry; audio/video switching capability (1 video source); low-noise, negative-feedback type tone controls; source direct switch; quartz frequency-synthesis tuning; 20 station presets. Tuner section: S/N 76 dB; THD .2%; sel 65 dB \$470

STR-AV500 AM/FM Receiver

Audio/video receiver with full-function remote control. Features 55 W/ch into 8 ohms; surround-sound capability; 5-band electronic graphic equalizer; 20 station presets. Amp: FR 10-70,000 Hz, +0, -1 dB with .3% THD. Tuner: S/N 70 dB; THD .2%; sens 11.2 dBf/2 μ v \$340

TANDBERG

TPR 3080 Receiver

Remote-controllable FM receiver with zero-feedback design and remote control. Features high current power amplifier; digital tuner with 26 presets; separate program and record source selectors. Inputs for MM and MC phono, CD, DAT, video, and tape. 80 W/ch. Rosewood side panels \$2,500

TEAC

AG-55 AM/FM Receiver

55 W/ch AM/FM receiver with LED power meters. 7-band graphic EQ; CD, aux, and TV/VCR inputs; high cut filter and bass boost EQ switch; dual speaker terminals; Quartz synthesized PLL tuner; 8 AM/FM random access station memory; auto station search; LED frequency display. FR 20-30,000 Hz; THD 0.5%; FM-usable sens. mono 11.2 dBf; image rejection 45 dB; 4.5 x 17.13 x 11.44-in; 16.43 lb \$300

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

TECHNICS

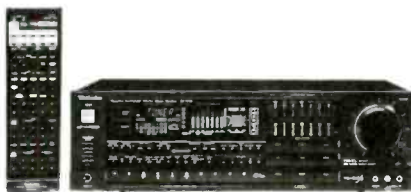
SA-R530 100-W/ch AM/FM Receiver

A/V receiver with 96-key intelligent remote control and digital 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; rear-mounted thermally triggered fan; 3 A/V inputs; 6 audio inputs; video output for monitor; full-function FL display; 6 digital A/V surround modes including Dolby and stereoplex simulated stereo; auto-simulcast tuning. 100 W/ch, both channels driven into 8 ohms, with <0.007% THD from 20-20,000 Hz \$695

SA-R430 100-W/ch AM/FM Receiver

A/V receiver with 44-key intelligent remote control and matrix surround-sound processor. Features 7-band electronic graphic equalizer with 5 factory preset curves and 5 user assign-

able 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 inputs; 4 audio inputs; full-function FL display. 100 W/ch, both channels driven into 8 ohms, from <0.007% THD from 20-20,000 Hz \$520



Technics SA-R530

SA-R330 70-W/ch AM/FM Receiver

Audio/video receiver with 42-key intelligent remote control. Features 7-band electronic graphic equalizer; quartz-locked digital tuner; 24 preset channel memory and Station File preset organization system; 7-band spectrum analyzer with fluorescent display; motor-driven volume control; 2 A/V inputs; 4 audio inputs; video output for monitor; full-function FL display. 70 W/ch, both channels driven into 8 ohms, with <0.008% THD from 20-20,000 Hz \$355

SA-160 40-W/ch AM/FM Receiver

Receiver rated at 40 W/ch, both channels driven into 8 ohms, from 20-20,000 Hz with <0.5% THD. Features 5-band graphic equalizer with LED tips; quartz digital tuner with FL alphanumeric display; 24 preset channel memory; 5 audio inputs \$225

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 Dolby Surround; 4 x 40-W pre-out/main-in jacks; 8 discrete output transistors; video signal routing; A/V processing loop; video monitor output; dedicated CD input; quartz-synthesis tuning; 20 station presets; preset scan; mono/stereo switch; A/B 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-synthesis tuning; 20 station presets; preset scan; mono/stereo switch; A/B RF antenna inputs; FM autoscans; 2 tape monitors with dubbing in either direction; MC head amp; high and subsonic filters; parallel speaker switching \$600

VRX-6200 AM/FM Receiver

65-W/ch A/V receiver with full-function remote control. Features motorized rotary volume control; built-in matrix surround; pre-out/main-in jacks; video signal routing; A/V processing loop; video monitor output; dedicated CD input; quartz-synthesis tuning; 16 station presets; mono/stereo switch; RF antenna inputs; FM autoscans; 2 tape monitors with dubbing; loudness contour; parallel speaker switching \$450

VRX-3600R 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 monitor out; quartz-synthesized 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%; FR 50-15,000 Hz; sep 42 dB. 17 x 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; video monitor out; quartz-synthesized tuning; rotary volume control with LED; pre-out main-in jack; video signal routing; 75 ohm connector; AM/FM autoscans. Amp: THD 0.09%; IMD 0.09%; FR 10-50,000 Hz. Tuner: S/N 68 dB; THD 0.5%; FR 50-15,000 Hz; sep 40 dB \$199



Yamaha RX-1100U

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; LED 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-900U 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; video enhancer with level and detail control; 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; two video source inputs; video and audio record out selectors; video enhancer with level control; 65 W/ch min rms; THD less than 0.015%. Black finish. 17 lb \$599

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



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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.

AMPLIFIERS



POWER AMPLIFIERS

ACCUPHASE BY MADRIGAL

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 connection switch; 1-dB-per-step input-level control. Drives 2-ohm speaker with guaranteed output of 700 W/ch, 300 W/ch into 8 ohms; 1,000 W into 8 ohms bridged; damping factor 300 IHF 50 Hz; S/N <125 dB IHF-A; rated input 2 V; 18.94 x 9.19 x 18.75 in. \$7,000

P-300V 180-W/ch Power Amplifier

With power meters. 180 W/ch into 8 ohms; bridgeable for 500 W into 8 ohms, 300 W into 2 ohms; 17.5 x 6.4 x 14.7 in; 50.6 lb. \$4,250

ACOUSTIC RESEARCH

AR P-10 Power Amplifier

Power amp with massive transient (IHF 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-ms dynamic power 300 W; dynamic headroom 4.3 dB; S/N 95 dB; slew rate 30 V/ μ s; 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%. 5.5 x 17 x 12.5 in; 25 lbs. \$500

GFA-535 Power Amplifier

High-current amp able to drive low-imp loads. Features low-negative-feedback design; constant damping factor; hookup for 2 sets of speakers; instantaneous distortion alert when distortion products higher than 1% at speaker outputs; di-

rect-coupled design; separate power transformers for each ch. 60 continuous average W/ch from 20-20,000 Hz into 8 ohms with no more than 0.09% THD, 100 W/ch into 4 ohms; IMD 0.008%. 3.25 x 17 x 12.5 in. \$300

A/D/S/

PA4 High-Current 150-W/ch Power Amp

Designed for wide bandwidth and high current; all discrete transistors; polypropylene capacitors; metal-film resistors; 10 bipolar output devices per ch; open-loop bandwidth of <100 MHz to avoid rate limiting and stability with complex speaker loads; toroidal transformers for low noise and high current; drives 2 pairs of speakers; power and speakers switched from a/d/s/ CC4 control center or R4 receiver; bridgeable; clipping LED's. 150 W/ch into 4 or 8 ohms; 250 W into 1 ch. 2.8 x 17.5 x 14.8 in; 27 lb. \$1,200

AUDIO DESIGN ASSOCIATES

PF-300 Power Amplifier

MOSFET power amplifier capable of driving 1/2-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/ μ sec; IMD 0.08%; 48 lb; 19 x 7 x 15.5 in. \$1,695

PF-200 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/ μ sec; IMD 0.07%. 25 lb; 19 x 5.25 x 15.5 in. \$1,295

AUDIO DYNAMICS

B200 Power Amplifier

Configurable 2-/3-/4-channel power amplifier with individual left/rear, left/front, right/rear, and right/front volume controls. Features speaker on/off switch; oversized power display

Audio Research M300



with front/rear display switches; 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

AUDIO RESEARCH

M300 Mono 300-W Power Amplifier

Hybrid design with field-effect transistors (for front end) and vacuum tubes (in output stage); cross-coupled circuit; front-panel replaceable line and screen voltage fuses with LED indicators; 2 integral low-noise cooling fans (switchable for "Hi" or "Lo"); standby switch for warm-up or interruptions; auto muting for silent shutdown; gold-plated inputs connect ground before hot; output taps for 1, 2, 4, or 8 ohms; front and rear handles. 300 minimum continuous W from 16-25,000 Hz with <0.051% THD into 8 ohms; power at clipping 330 W; FR 10-60,000 Hz -3 dB; S/N 90 dB; slew rate 25 V/ μ sec; 10.5 x 19 x 16 in; 110 lb net. \$4,995

D115 100-W/ch Vacuum-Tube Power Amplifier

High-Definition power amp with controlled turn-on, warm-up for maximum power-tube life. Features patented cross-coupled circuit; front-panel fusing for line and screen. 100 continuous average W/ch from 20-20,000 Hz with no more than 1% THD into 8 ohms; FR 20-20,000 Hz \pm 1 dB; S/N 90 dB; slew rate 15 V/ μ sec; IMD 0.1%; input imp sens 1.1 V for rated output; input imp 75 kohms nominal; noise <90 dB below rated power. 7 x 19 x 16.5 in; 80 lb shipping weight. \$2,995

D120 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 <0.25% THD; FR 1.2-75,000 Hz \pm 1 dB; power bandwidth 0.6-100,000 Hz -3 dB; input sens/imp 1.5 V rms/60 kohms; harmonic distortion <0.004% at 1,000 Hz, 1 W; IMD <0.035% at rated power; slew rate 40 V/ μ sec; rise time 2 μ sec; damping factor 300, 10-20,000 Hz; power consumption 1,000 W max; 5.25 x 19 x 10.5 in; 50 lb shipping weight. \$1,995

AUDIO BY VAN ALSTINE

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. 17 x 10 x 5 in; 28 lb \$775

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. 13 x 14 x 7 in; 27 lb... \$550

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<.15% 8 ohms rated power, 20-20,000 Hz; IMD<1%; damping factor 500 min; S/N-105 dB; Slew rate 55 V/μsec; 7.5 x 19 x 18.35; 50 lb. \$1,995



Belles Research Model 450

BELLES RESEARCH

Belles 450 Stereo Power Amplifier

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 .01% THD into 8 ohms; 55 lb; 10 x 17 x 13 in. \$1,495

Belles 150 Stereo Power Amplifier

Solid-state power amp with dual complementary bi-polar transistor circuitry, and power MOSFET's. All components mounted on a single circuit board. 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 .09% THD and IMD into 8 ohms; 22 lb; 7 x 17 x 8.5 in. \$595

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 0.1 dB; slew rate 15 V/μsec; IMD 0.09%; bridgeable to 800 W. 6 x 19 x 15 in; 40 lb \$1,298

Sonata Series 200 Mono Amplifier

Mono amp with 200 W into 8 ohms and 350 W into 4 ohms. FR 1-100,000 Hz; THD 0.09% at 1 kHz; min load imp .75 ohm; class AB. DC coupled circuitry; optional balanced inputs. . \$898

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 1.8 dB; S/N 95 dB; slew rate 11 V/μsec; IMD 0.09%. 6 x 19 x 15 in; 30 lb \$698

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 105 dB; slew rate >60 V/μsec; IMD 0.005%; 55 lbs; 5.75 x 19 x 12 in. \$1,800

4B 250-W/ch Power Amplifier

Fully complementary class-AB power amp with bridging switch, 1,500-sq-in. heat-sink area; regulated power supplies to all voltage gain stages; ch sep back to line cord; red LED clipping indicator. Output power 200 W/ch. 800 W bridged into 8 ohms, 20-20,000 Hz at 0.01% THD; IMD 0.01%, 10 mW-200 W; noise -100 dB; slew rate 60 V/μsec; power bandwidth 1-100,000 Hz; damping factor 500 at 20 Hz, 8 ohms; input sens/imp 1.25 V/50k ohms; 5.25 x 19 x 13.5 in. \$1,595

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 0.5% \$1,800/pr

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 at 200 W). S/N>100 dB, THD>0.5% \$579



Carver M-4.0t

CARVER

M-4.0t 375-W/ch Power Amplifier

Magnetic Field stereo power amp with LED dual peak-responding power displays, infrasonic and ultrasonic filters. 375 W/ch into 8 ohms; dynamic headroom/ch 500 W at 4 and 8 ohms; 16 lb \$799

M-1.0t 200-W/ch Power Amplifier

Magnetic Field amplifier with high headroom and dual peak-responding 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; 20 lb. \$610

M-0.5t 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 \$549

M200t 120-W/ch Power Amplifier

Magnetic Field power amp produces 120 W/ch into 8 ohms. Dark pewter finish; LED's indicate power and use of speaker-protection circuitry. 17.3 x 9 x 2.55 in; 10.25 lb \$450

CELLO

7000-00 Performance Amplifier Set

2 mono amps (left and right) and 2 mono supplies (left and right) for stereo; power output section has 40 output devices per ch... \$13,125

CLASSE AUDIO

DR-3-VHC Power Amplifier

Power amplifier features THD 0.01%; sens 800 mV; 45 W/ch into 8 ohms; bandwidth 20-20,000 Hz; Class pure A output; dynamic headroom 0.1 dB; bridgeable; 300 W/4 ohms; 102 lb \$4,250

DR-9 Power Amplifier

Power amplifier features balanced inputs/outputs; THD 0.01%; sens 1000 mV; 100 W/ch into 8 ohms; bandwidth 20-20,000 Hz; Class AB output; dynamic headroom 6 dB; imp 1 ohm; bridgeable; 800 W/4 ohms; 64 lb \$3,495

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; S/N 90 dB \$5,750

Premier Five Vacuum-Tube Mono Power Amp

Low-imp power supplies and extensive use of polystyrene capacitors; LED bias indicators. 200 W into 8 ohms; S/N 94 dB; 9 x 19 x 20.5 in.; \$3,750
MY100. Similar to above except stereo and 90 W/ch \$2,950
MY50. Similar to Premier Five except stereo, 45 W/ch into 8 ohms; S/N 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/μ; IMD 0.02%. 6.7 x 19 x 19 in; 55 lb \$2,095

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 \$1,045

CROWN

Micro-Tech 1200 295-W/ch Power Amplifier

295 W/ch into 8 ohms; 555 W/ch into 16 ohms

AMPLIFIERS

or 790 W/ch into 8 ohms mono; four second turn-on; pushbutton power switch; mono/stereo switch; LED power indicator; steel chassis; FR 20-20,000 Hz ± 0.1 dB SPL/W/m; THD $< 0.05\%$; IMD $< 0.05\%$; slew rate > 13 volts/ μ sec; damping factor $> 1,000$; draws 60 watts or less on idle. 19.0 x 3.5 x 16.0 in; 44.62 lb \$1,449

Micro-Tech 1200 295-W/ch Power Amplifier
295 W/ch into 8 ohms; 555 W/ch into 16 ohms or 790 W/ch into 8 ohms mono; power rocker switch; mono/stereo switch; LED power indicator; steel chassis; FR 20-20,000 Hz ± 0.1 dB SPL/W/m; THD $< 0.05\%$; IMD $< 0.05\%$; slew rate > 13 volts/ μ sec; damping factor $> 1,000$; draws 60 watts or less when idle. 19.0 x 3.5 x 16.0 in; 40.56 lb \$1,199

DC-300A 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 0-20,000 Hz ± 0.1 dB SPL/W/m; THD $< 0.001\%$ from 20-400 Hz; IMD $< 0.05\%$; slew rate 8 volts/ μ sec; draws 40 watts or less when idle; 19.0 x 7.0 x 9.75 in; 45 lb \$1,049

DBX

BX1 Power Amplifier
Configurable 2-/3-/4-channel power amplifier with 3 sets of fuses and complementary circuitry throughout. Features high-quality film capacitors; 8 x 250-W high-speed bipolar devices/ch; 2 x 3,200 VA toroidal transformers with 2 taps each; separate rectifiers for each ch; ± 55 -V power-supply rails. Contains no fans or limiting circuitry. Quietly shuts down under thermal stress. Power output into 2 channels: 400 W/ch into 8 ohms, 650 W/ch into 4 ohms, 800 W/ch into 2 ohms, 1,400 W/ch into 1 ohm. Power output into 4 channels: 100 W/ch into 8 ohms, 200 W/ch into 4 ohms, 325 W/ch into 2 ohms, 400 W/ch into 1 ohm \$3,700

DENNESEN 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; S/N 90 dB; dynamic headroom 3 dB; slew rate 30 V/ μ sec; IMD 0.1%; 5.25 x 19 x 8 in; 30 lb \$1,500
Antares II. Similar to above except 75 W/ch stereo \$595

DENON

POA-2400 Stereo Power Amplifier
Features Denon Optical Class A design, and Twin Pure Current Supply. 200 W/ch into 8 ohms with no more than 0.01 THD. High speed protection circuits; bar-line multi display. IMD $< 0.002\%$; FR 1-300,000 Hz ± 0 , -3 dB at 1; S/N 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-NFB circuit for high-speed signal transmission. Features pure current power supply; separate power supply block chassis; Cannon type 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 0.002%; S/N 123 dB; slew rate ± 500 V/ μ sec \$750
POA-4400 Mono Power Amplifier. As above with 150 W \$500

DISCRETE TECHNOLOGY

Distech LS-2 Power Amplifier
Power amp with MOSFET output and Distech AC power cable. 100 continuous average W/ch from 20-20,000 Hz into 8 ohms with less than 0.95% THD, 200 W into 4 ohms; 200-ms dynamic power 200 W; dynamic headroom 3.2 dB; S/N 90 dB below 10-watt output; slew rate 40 V/ms IMD $< 0.09\%$. 16 x 5 x 14 in; 25 lb \$950

FORTE AUDIO

Model 1a Power Amplifier
Dual-channel, non-inverting power amp using FET/bi-polar front-end topology and operating in pure class A throughout front end and power output stages. Input stage is direct coupled and biased with regulated constant-current sources. Output stage employs 20 high-speed power devices and uses no active protection circuits. Does not impose a fuse or isolation inductor at the output and maintains constant damping over the full frequency band. Gold-plated input and output connectors. Glass-epoxy circuit boards. Custom toroidal power transformer. Rated power 50 W/ch at 0.05% THD into 8 ohms; FR 20-20,000 Hz; bandwidth -3 dB points of 7 and 100,000 Hz; slew rate 40 V/msec; imp 75,000 ohms; 19 x 7 x 11 in; 36 lb \$950

FOSGATE-AUDIONICS

M-100 Power Amplifier
Mono amp designed for surround applications. Features 60 W/ch into 8 ohms; 100 W/ch into 4 ohms; moderate feedback; silent turn-on/off; input level control; FR 15-40,000 Hz ± 1 dB; THD $< 0.03\%$; IMD $< 0.03\%$ \$269
S-100. As above, stereo \$429
T-100. Tri-channel version of M-100 \$599

HAFLER

XL-600 MOSFET Power Amplifier
Excelinear near-zero-phase shift circuit with J-FET double differential push-pull cascaded 'tube-like' input and current-mirroring 2nd stage. 16 MOSFET outputs; direct coupled; stable into all loads; high capacitance (72,000 mfd); Excelinear speaker tweaking adjustment; gold inputs and outputs; mono bridging switch; variable speed DC fan cooling. 305 W/ch into 8 ohms with $< 0.05\%$ THD. 20-20,000 Hz; $< 0.04\%$ IMD from 1-305 W; 450 W/ch into 4 ohms; 900 W mono into 8 ohms; input sens 2.4 volts for 305 W @ 8 ohms; FR 10-50,000 Hz ± 0.1 dB; S/N > 100 dB @ 305 W; 7 x 19 x 13 in; 50 lb \$1,195

XL-280 MOSFET Power Amplifier

J-FET double differential input and 12 MOSFET output. Excelinear speaker tweaking adjustment; gold inputs; mono bridging switch; speaker protection fuses. 145 W/ch into 8 ohms; $< 0.05\%$ THD. 20-20,000 Hz; $< 0.04\%$ IMD; S/N > 100 dB; FR 10-50,000 Hz ± 0.1 dB; 200 W/ch into 4 ohms; 400 W into mono. 5.25 x 17 x 10.5 in; 27 lb; assembled \$650
Kit \$575

HARMAN KARDON

Citation Twenty-Two 200-W/ch Power Amp
Selectable high-current and high-voltage output; dual-voltage design; dual power transformers; gold-plated input jacks and speaker terminals; 8 130-W power transistors per ch; clipping indicators; LED power meters; anodized brushed aluminum blue/black finish with rubber trim. 200 W/ch into 8 ohms, 400 W bridged into mono; current capability ± 120 amps; neg feedback 12 dB \$1,099
Twenty-Four. Similar to above except 100 W/ch; current capability ± 60 amps; 4 130-W power transistors per ch; damping factor 75 into 8 ohms \$699

HEYBROOK BY D'ASCANIO AUDIO

P-2 Power Amplifier
Hand-assembled power amp with toroidal transformer capable of 30-amp output. Features circuits designed with close-tolerance, high-quality components. Thick aluminum chassis acts a heatsink over entire surface, equalizing temp within the case and maintaining a stable relationship between internal components. 80 continuous average W/ch from 20-20,000 Hz into 8 ohms with no more than 0.05% THD. 120 W into 4 ohms; S/N 60 dB; IMD 0.05%; instantaneous peak current ± 30 A. 17 x 4 x 12 in; 18 lb \$1,298

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-inductance of coils; transformer encapsulated for optimal 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 connected to amp; built-in D/A converter with quadruple-oversampling digital filter; 3 digital connections: one optical, one coaxial, and one input/output for DAT; separate layout for digital and analog circuits; high-gain phono equalizer for MM/MC cartridges; low-noise motor-driven 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

KENWOOD

Basic M2A Stereo Power Amplifier
Features Super Dynamic Linear Drive (DLD) dual-output power amplifier; low-impedance drive capability; dynamic power (EIA) 616 W/ch into 2 ohms; wide range FI peak power meters with selectable peak-hold and two hold times; Sigma Drive Type B; full circuit protection with thermostat-controlled fan cooling; two speaker pair selection; gold-plated input terminals; headphone jack; power indicator; muting relay. 220 continuous average W/ch from 20-20,000 Hz with no more than 0.004% THD into 8 ohms; damping factor 1,000 at 50 Hz. 17.31 x 6.25 x 14.69 in; 34.1 lb \$695

KINERGETICS

KBA-75 Gold Series 75-W/ch Power Amplifier
1-kVA power supply; dual-coil toroidal trans-

AMPLIFIERS

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; hysteresis-distortion cancelling circuit. 75 W/ch into 8 ohms. 150 into 4; headroom 3 dB; input imp 50,000 ohms; slew rate 65 V/ μ sec; voltage gain 30 (absolute); power bandwidth 1-300,000 Hz; small-signal bandwidth 1-1,000,000 Hz; 45 lb; 19 x 6 x 16 in. \$1,295

KLYNE AUDIO ARTS

SKX 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 outputs; 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 triple push-pull high-frequency power stages; ceramic base/chassis; DC configuration; large-cutless-core power transformer; large honeycomb heatsinks; direct and subsonic inputs. 150 continuous average W/ch 20-20,000 Hz with no >0.02% THD into 8 ohms; FR DC-200,000 Hz \pm 3 dB at 1 W; S/N 120 dB; damping factor 150 (50 Hz); 200 W/ch into 4 ohms with 0.03% THD; power bandwidth 10-50,000 Hz; input sens 1.5 V (30 kilohm); 17 x 8.25 x 15.75 in.; 59.5 lb. \$2,000

LAZARUS ELECTRONICS

H-1 Hybrid Power Amplifier

Pure (not sliding 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 A/B. 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

ML-11 Stereo 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, 4 10,000 μ F filter capacitors, for separate rectification and 20 joules of energy storage for each ch. Six 200 W, 15 ampere power transistors per ch enable ML-11, when pulsed, to develop 25 volts peak, at peak currents up to 12.5 amperes (312.5 W peak) per ch. Optional externally programmable voltage-limiting circuit reduces output to protect speakers; gold-plated binding posts for output connections and Camac 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-com-

plementary direct-coupled filed-effect 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. High-current 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. Matte silver with removable teak pedestal base. 17 x 12 x 6.36 (with base), 5.25 (without base) in. \$1,650

LUXMAN

M1-117 Power Amplifier

Features 200 W/ch and low impedance drive capability; 3 pairs of large power devices; high energy power supply; 60,000 μ F of 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 Sentry 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/-0.25 dB, 10-100,000 Hz +0.25/-1 dB; damping factor >30; input imp 50,000 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 up to 20 dB overdrive at 1 kHz. Power Requirements: 120 V 50/60 Hz 0.7 to 22 amps, 15 amps 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 Autotransformer, 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 power output is less than 600 W/ch both channels driven; FR 20-20,000 Hz +0/-0.25 dB, 10-100,000 Hz +0/-2 dB; damping factor >30; input impedance 20,000 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 up to 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 Amp

With MOSFET output stage; extensive use of large-value polystyrene 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 \pm 0.10 dB; signal-to-noise ratio 100 dB; 7 x 19 x 18.5 in.; 45 lb. \$3,250
MS50. Similar to MS100 with 50 watts per channel output. \$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

2200PE 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 3-80,000 Hz +0, -3 dB; S/N >91; dynamic headroom +6 dB; slew rate >35 V/ μ sec. 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, 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, A & B speaker switching; Soft Clipping circuit; bridgeable; lab and normal inputs; rack mountable. \$398

NAKAMICHI

PA-7 Power Amplifier

Power amp utilizes Stasis topology. Features 700-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 in; 59 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-selected inputs. Features variable-frequency low- and high-cut filters; vibration-free construction; large FL power 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; 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 amplifier with transistors mounted directly on pin-fin sink structure; protection circuitry guards against stray DC, input short, dynamic power bursts, and thermal problems; back panel features AWG-24 output speaker terminals; gold-plated input jacks; cannon connectors; BTL circuit for bridged mono

AMPLIFIERS

operation; power bandwidth 5-40,000 Hz; FR 5-100,000 Hz +0/-0.5 dB; THD .002%; S/N 120 dB; channel sep 65 dB; sens 1000 mV; imp 47k ohms \$1,800

ONKYO

Grand Integra M-510 Power Amplifier

Dual-mono power amp with real-phase power supply. Features 3 separate power supplies (left, right, aux for lights, meters etc.); speaker-imp range down to 1 ohm; calibrated power meters accurate to 1 dB; A + B speaker systems; adjustable meter sens. 300 continuous average W/ch into 8 ohms from 20-20,000 Hz with no more than 0.005% THD; 500 W/ch into 4 ohms; 2-ms dynamic power 400 W into 8 ohms; S/N 120 dB; IMD 0.003%; dynamic power 750 W into 4 ohms, 1,300 W into 2 ohms. \$4,500

Grand Integra M-508 Power Amplifier

Dual-mono power amp with real-phase power supply. Features 4 x 2 high-current storage capacitor block; calibrated high-speed power meters; A + B speaker systems; low-imp drive capability; variable and direct inputs. 200 continuous average W/ch into 8 ohms from 20-20,000 Hz with no more than 0.003% THD; 200-ms dynamic power 265 W into 8 ohms; S/N 122 dB; IMD 0.002%; dynamic power 460 W into 4 ohms, 685 W into 2 ohms. \$1,200

PARASOUND

D/AS-1000II Power Amplifier

FET digital/analog servo amplifier. Features 60 MHz output transistors, 4 per channel; gold-deposited 80,000 mfd electrolytic capacitors; gold-plated RCA jacks; .25" phone jacks; 5-way terminals; front panel level controls; mono bridging; 3-relay protection; digitally switched, bi-state power supply; 19" rack mount optional; THD <0.1%; FR 20-20,000 Hz \pm 0.5 dB; S/N >110 dB; 17.25 x 5.5 x 12.5 in \$720

PERREAUX

PMF5550 500-W/ch Power Amplifier

Features Class-A operation up to 50 W/ch. 500 W/ch into 8 ohms from 20-20,000 Hz with no more than 0.03% THD; suitable for 4 ohm use; continuous current output 30 amps; FR 20-20,000 Hz \pm 0.02 dB, 10-100,000 Hz \pm 0.5 dB; ch sep 60 dB 20-20,000Hz; damping factor over 200 from 10-1000 Hz; input sens 1.5 volts rms for rated output at 100 Hz. 20.25 x 19 x 20.5 in. \$6,500

PMF3150 Dual-Channel Power Amplifier

Class A operation up to 30 W/ch. 300 W/ch. into 8 ohms from 20-20,000 Hz with no more than 0.03% THD; suitable for 4 ohm use; MOSFET circuitry; THD/IMD 0.03%; max current output 10 amps continuous per ch.; bandwidth 0.5 dB from 10 Hz to 3,000,000 Hz at 1 watt; channel sep >70 dB; damping factor >400 from 10 Hz to 1,000 Hz; input sens 1.5 volts rms for rated output at 1,000 Hz. \$3,000

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; nonswitching Type-II circuit; 2 pair speaker outputs; FL power level indicator; rosewood-finished vinyl-covered side panels. 200 continuous average W/ch from 5-50,000 Hz into 8 ohms with no more than 0.003% THD; dynamic power

300 W at 8 ohms, 550 W at 4 ohms. 10.4 x 22.5 x 21.2 in \$950

PROTON

D1200 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 115 dB; THD 0.02%; IMD 0.02%; damping factor >150. 19 x 4.3 x 14.4 in; 25.3 lb. . \$499

PS AUDIO

200CX 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

100C 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 606 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. Protection 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 1,000 Hz, <0.03% at 20,000 Hz; 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 lb; 9.25 x 6.06 x 14.36 in. \$720



Revox B242

REVOX

B242 Power Amplifier

High-output power amp capable of driving loads from 2-8 ohms at rated levels. Features dual independent power supplies; DC voltage control; electronic short-circuit protection; temperature sensor to activate fan cooling; auto

on/off switching responds to signal from preamp; 4/8-ohm speaker output switch; LED bar-graph output meter; heavy-duty output connectors. 200 continuous average W/ch from 20-20,000 Hz with no more than 0.03% THD, 300 W into 4 ohms; dynamic headroom 2.5 dB into 8 ohms; S/N 117 dB; rise time -2 μ s; damping factor 200 (1 kHz 8 ohms); sep 80 dB at 1,000 Hz. 18 x 6 x 14 in; 37.5 lb \$3,000

ROTEL

RB890 Stereo Power Amplifier

Power amp with 160 continuous average W/ch from 20-20,000 Hz into 8 ohms with no more than 0.03% THD; bridgeable to 480 watts/8 ohms; high-current close-tolerance components \$749

JEFF ROWLAND DESIGN GROUP

Model 3 Mono Power Amplifier

Solid-state power amp with bipolar outputs with FET inputs. Features direct-coupled zero-negative-feedback circuitry; separate power supplies for front-end; toroidal power transformer stable to 1 ohm; remote power switching; balanced or unbalanced inputs standard; adjustable input imp. 100 W into 8 ohms, 220 into 4 ohms, 330 into 2 ohms; peak output current over 55 amps. 15.2 x 5.25 x 14 in; 44 lb \$4,550/pr



SAE A502

SAE

X10A Power Amplifier

Hypersonic Class A power amp. Features gold-plated connectors; toroidal transformer; wide/narrow band inputs; LED true power meters; anodized gray 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 \pm 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 \pm 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-3000 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

SONOGRAPHIE BY CONRAD-JOHNSON

SA120 120-W/ch Power Amplifier

Features MOSFET output stage; 120 W/ch into 8 ohms; S/N100 dB; 5.25 x 18 x 12-in. \$895

AMPLIFIERS

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, 20-20,000 Hz with 0.006% THD; damping factor 100; slew rate 150V/ μ sec, 300V/ μ sec (in-side). \$1,200



Sony TA-N77ES

SOUNDCRAFTSMEN

AS5002 Power Amplifier

Power amp with Class H Vari-Proportional circuitry and autobuffer for continuous operation into 2 ohms, 4 ohms, and 8 ohms. Features auto crowbar-protection circuit for output protection without current limiting; 20 LED/ch 0-1,000 W \pm 3 dB (4 ohms) meters; front-panel switching for 2 pairs of speakers; true clipping indicators; input level controls. Output power 250 W/ch into 8 ohms, 375 W into 4 ohms continuous rms, 20-20,000 Hz at <0.09% THD; S/N >105 dB; slew rate >50 V/ μ s; TIM <0.02%; dynamic headroom >2 dB \$949

AS5001. Same as AS5002 except no LED meters and no input level controls. \$799

Pro-Power Four Power Amplifier

Ultra-high-current MOSFET power amp with dual 20-segment LED meter true clipping indicators, 2-pair speaker switching, 205 continuous average W/ch from 20-20,000 Hz into 8 ohms with no more than 0.05% THD, 300 W into 4 ohms, 450 W into 2 ohms; S/N 105 dB; slew rate 40 V/ μ s; IMD 0.05%. 19 x 5.25 x 11 in; 28 lb \$799

Pro-Power Three. As above without level controls and LED meters \$699

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 \pm 0.25 dB; 14 x 8.5 x 7 in; 35 lb. \$1,199

Andromeda Power Amplifier

Class AB power amplifier with full-wave quadrant differential balanced-bridge topology using 4 independent push-pull feedback loops. Power output 200 W/ch continuous average into 8 ohms; THD and IM 0.05%; slew rate 20 V/ μ sec; sens 1.8 V for rated output; dynamic headroom 1.5 dB; 19 x 8.75 x 7 in; 35 lb \$1,099

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%; IM 0.05%; sens 1.27 V for rated output; dynamic headroom 1.5 dB; 25 lb. With custom front panel and handles. \$699

TANDBERG

TPA-3026A 150-W/ch Power Amplifier

Stereo power amp with high-current (45 amp/ch) output design. Features selected all-metal film 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-A3MK2 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 DC-200,000 Hz \pm 3 dB; input sens/imp 55 mV/4-16 ohms main or remote, 8-16 ohms main and remote; damping factor 200 8 ohms, 100 4 ohms; 16.94 x 8.19 x 19.97 in, 86 lb \$2,400

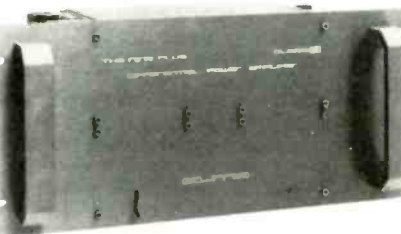
SE-A100 170-W/ch Power Amplifier

Features 1 voltage and 1 current amplifier per ch (voltage amps isolated from load by Class AA bridge circuit which drives current amp to avoid influence of complex, fluctuating speakerimps on voltage/current phase relationship, preventing counter electro-motive force); massive power supply; 3 transformers (L-ch current amp, R-ch current amp, L/R voltage amps) using LC-OFC windings; 91,200- μ farad filtering; magnetic isolation; vibration damping. 170 W/ch into 8 ohms, 240 W into 4; dynamic headroom 0.7 dB. 17 x 8.25 x 18.75 in; 70 lb \$1,920

THRESHOLD

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 bootstrap section of Stasis output stage is operated under high bias as Class A/AB. No global feedback employed. Front-end gain stages and voltage amp section of Stasis output stage are biased for Class A operation at all signal levels. Front-end signal transistors 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 into 8 ohms; idling bias 240 watts; frequency bandwidth at -3 dB points 7 Hz and 100,000 Hz; S/N -100 dB unwt'd referenced to rated output; slew rate 50 V/ μ s; IMD 0.1%; 12 continuous, 100 peak amperes capability/ch. Output stage employs 20 ultra-wide bandwidth, 200-V, 20-ampere, 250-W rated devices per ch. Power supply uses 1,000-W continuous rating toroidal transformer, and 120,000 microfarads of capaci-



Sumo Nine Plus

ance. Output imp 0.1 ohm 20-20,000 Hz. 19 x 9.5 x 17.5 in; 78.5 lb \$3,700

SA/1 Class A Stasis Mono Power Amplifier

Single-ch, noninverting complementary-symmetry power amp with N-ch JFETs in front-end signal path and proprietary Stasis output stage. This is a binary topology in which a pure Class A voltage amp connected directly to the loudspeaker load determines signal integrity while operating in conjunction with a high-amperage correct mirror also operated in pure Class A and connected directly to the load. No global feedback is used. Output 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 μ F capacitance. Rated power 160 W rms into 8 ohms of resistive or reactive imp 20-20,000 Hz at no more than 0.05% THD; idling bias 320 W; bandwidth at -3 dB points, 7 Hz and 100,000 Hz; slew rate 50V/ μ sec; IMD 0.05%; input imp 75,000 ohms; output imp 0.03 ohms; output current capability 40 amperes continuous, 150 amperes peak; 19 x 9.5 x 17.5 in; 79 lb \$2,750

SA/3 Class A Stasis Stereo Power Amplifier

50 W/ch rms both channels driven from 20-20,000 Hz with no more than 0.05% THD into 8 ohms; idling bias 240 watts; frequency bandwidth 7 Hz and 100,000 Hz at -3 dB points; S/N -100 dB unwt'd referenced to rated output; slew rate 50 V/ μ s; IMD 0.1%; 16 continuous, 80 peak amperes capability/ch. Output stage employs 14 ultra-wide bandwidth, 200-V, 20-ampere, 250-W rated devices per ch. Power supply uses 700-W continuous rating toroidal transformer, and 60,000 microfarads capacitance. 19 x 9.5 x 13 in; 56 lb. \$2,750

VECTOR RESEARCH

VA-1450 Power Amplifier

Features high-current, 8-output transistors, dual transformers; bridgeable to 200 W mono; phase inverted line-out; 100 continuous average W/ch 20-20,000 Hz <0.08% THD into 4 ohms; dynamic headroom 2.5 dB; IHF IMD 0.08%; FR 10-40,000 Hz \pm 1 dB. 17 x 3 x 12; 21 lb. \$349

YAMAHA

MX-10000 Power Amplifier

Limited Centennial Edition power amplifier. Features dual-amp class-A operation; hyperbolic converting non-switching circuitry; power MOSFET's; 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 0.0005% total harmonic distortion. Titanium grey with high luster walnut end panels; 120 lb. \$7,000

MX-1000U Power Amplifier

Power amplifier with hyperbolic conversion amplification circuit. 260 W/ch into 8 ohms

AMPLIFIERS



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 μ F 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 μ F x 2 power supply capacity... \$849

MI-35B 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 rms into 8 ohms from 20-20,000 Hz with less than 0.003% THD; 13 lb. \$249

PREAMPLIFIERS

ACCUPHASE BY MADRIGAL

C2801 Class A Preamplifier

All-stage Class A push-pull arrangement and DC servo-controlled direct-coupled unit amps and signal paths. Built-in head amp for MC cartridges; separate power transformers for each ch (+26 dB or +32 dB); MC input-imp selector switch; separate R and L input-level control; 2-stage selectable loudness compensation. Phono input 2 mV; phono (head amp on): 0.1 mV/0.5mV selectable; line/tuner input 126 mV; rated output 2 V; line/tuner S/N 110 dB; phono S/N 85 dB; phono S/N (head amp on) 72 dB \$7,850

ACOUSTIC RESEARCH

AR C-06 8-Input Preamplifier

Features infrared remote control of inputs and volume via T-04 tuner cable link; switchable MM input capacitance; gold-plated phono inputs; separate headphone amp. Inputs for MM phono; MC phono; tape; tape 2; CD player; tuner; video. FR 13-50,000 Hz \pm 3 dB; S/N 90 dB; THD 0.005%; phono sens/imp 0.8 mV/47 kilohms (MC). 60 μ V/180 kilohms (MM); phono overload level 180 mV (MM), 15 mV (MC); CD input sens/imp 50 mV/15 kilohms; tuner/tape input sensitivity/impedance 50 mV/33 kilohms. 3.31 x 17 x 13 inches. \$399

ADCOM

GTP-500 Preamplifier/Tuner

Preamplifier with built-in tuner can be used with Adcom or other power amps. Wireless remote control included. Remote sensors available for remote control from different rooms.

Preamp section features inputs for MM phono; tape; tape 2; CD player; tuner. Tuner section features quartz-referenced digitally synthesized tuning; auto up and down scan; 8 AM/FM presets; 5-LED signal-strength display; high-blend circuit; 2 sets of outputs (AC coupled, DC coupled). S/N phono A-wid 85 dB; IMD preamp 0.0015%; sens tuner 36.5 dBf stereo; THD tuner 0.09% stereo at 1,000 Hz; S/N tuner 75 dB stereo; sep tuner 52 dB at 1,000 Hz. 17 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 capacitance; switchable gain on phono input; tape dubbing; separate headphone amp; 2 sets of outputs (AC coupled, DC coupled); signal-processor loop; 5 pairs of high-level inputs. Can record from one input while listening to another input. Inputs for MM phono; MC phono; tape; tape 2; CD player; tuner; video. FR DC-400,000 Hz \pm 0.5 dB; THD 0.005%; MM phono sens 0.4 mV for 0.5-V output at 1,000 Hz; sens for line-level inputs 40 mV. 17 x 3.25 x 12.75 in. \$500

AUDIO DESIGN ASSOCIATES

ADP-8 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 \pm 8 volts; 3 main outputs; 3 tape outputs; 1 processor loop output; output imp >100 ohms; max output level \pm 12 volts; FR 20-20,000 Hz \pm 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 19 x 13.5 in; 9 lb. \$995

AUDIO DYNAMICS

C200 Preamplifier

Audio/video preamplifier with built-in Dolby and matrix surround-sound processors. Features simulated stereo; bass, midrange, and treble tone controls; tone-defeat switch; loudness switch; muting switch; external processor loop; dubbing; separate rec and listening selectors for recording one source while listening to another; inputs for MM/MC phono; tuner; AUX; CD player; video monitor; 3 audio or video tape decks; FR 10-50,000 Hz \pm 0. -3 dB (line level), 20-20,000 Hz \pm 0.25 dB (phono). 4.0 x 11.75 x 12.62 in. \$599



Audio Research SP-11MKII

AUDIO RESEARCH

SP-11MKII Stereo Hybrid Preamplifier

High-Definition preamplifier with both vacuum tubes and field effect transistors. Inputs for MM phono/MC phono; tape; tape 2; aux; CD player; tuner; video. Features auto muting for warm-up, brown-out, power interruption; manual muting; absolute phase switch; level control; toroidal power transformer; external power supply. FR 0.1->200,000 Hz \pm 3 dB; S/N 110 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

cl inputs 18 mV. 46 lb; 5.25 x 19 x 10.25 in. \$4,995

SP9 Hybrid Stereo Preamp

On-board power supply; auto mute circuit for warmup, voltage drop; switchable muting; 2 tape inputs, 2 tape outputs; 2-position tape-monitor switching; gold-plated input/output jacks connect ground before hot, disconnect hot before ground; shielded toroidal power transformer; internally adjustable phono-section imp; 2 6DJ8 vacuum tubes (1 in phono stage, 1 in line stage); compatible with many MC cartridges; black front panel extra. FR (high level, \pm 0.5 dB) 5-50,000 Hz; magnetic phono, \pm 0.3 dB of RIAA, 30-40,000 Hz; max output 2 V rms; distortion <0.01% at 2 V rms out; input imp 50k ohms (all high level); phono 47k ohms (changeable). 5.25 x 19 x 10.25-in; 13 lb net, 22 lb shipping weight \$1,695

AUDIO BY VAN ALSTINE

Transcendence Fet-Valve Preamplifier

Class-A compound hybrid construction preamp. Features toroidal power transformer; regulated power supply; power bandwidth >800,000 Hz; RIAA phono inputs; 2 sets of tape inputs with tape-to-tape monitoring; 3 sets of line-level inputs for digital and analog sources; EPL inputs and outputs; precision volume and balance controls; separate bass and treble tone controls for each channel; two pairs of audio outputs; amp-driven headphone jack; 200 W rated speaker selector switch. 13.5 x 12.5 x 4.5 in; 11 lb \$1,195

BELLES RESEARCH

Belles 50 Stereo Preamplifier

Solid-state preamp with user flexibility of functions. Features discrete MOSFET bipolar hybrid circuitry; class A direct coupled outputs; van den Hul wiring; unregulated high energy power supply; 30 VA toroidal transformer; defeatable subsonic filter; two way tape dubbing flexibility; inputs for phono low level and high level; tuner, CD player, video AUX, tape 1, tape 2; FR 20-20,000 Hz \pm 1 dB; S/N 86 dB; THD .05%; 11 lb; 2 x 17 x 10 in. \$895

B&K COMPONENTS

Sonata Series MC-101 Preamplifier

MM/MC switchable preamp. FR 1-150,000 Hz -0, -5 dB; THD 0.02%; 2 tape loops; 2 tone controls; MM sens .8 mV; MM S/N 80 dB; MC S/N 80 dB; Tiffany connectors; optional balanced output. \$898

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 \pm 3 dB; max output 6 V; THD 0.01%; IMD 0.01% IIF; 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 19 x 10 in. \$598

BRYSTON

12B Preamplifier

Control preamp can play 1 source while taping or remoting another. Features stereo/mono/mute switch; 14-V headroom. Inputs for MM phono, MC phono, tape, tape 2, CD player, tuner; video. S/N -84 dB; THD 0.005%; 1.75 x 19 x 11-in \$1,595

AMPLIFIERS

11B. Second MM input instead of MC input \$1,175

.5B Preamplifier

Basic preamp with inputs for MM phono, tape, CD player, tuner. FR 20-20,000 Hz \pm 0.1 dB; max output 14 V; THD 0.005%; IMD 0.005% IHF; 1.75 x 19 x 9-in.; 9 lb. \$650

CAMBRIDGE AUDIO

C50 Preamplifier

Connections for 4 input sources plus tape. Features passive tone controls with tone bypass switch and two outputs, one being a passive direct output after the volume control and the other a normal output. MM or MC switchable phono inputs with discrete circuitry. Segmented passive RIAA EQ. THD 0.005%. Sold only as a combination with the A50 power amp, combination price \$999

C75 Preamplifier

Inputs for MM/MC phono (switchable), tape, tape 2. Features dubbing capabilities; straight-line design; solid-wood end panels. FR flat within 0.1 db 20-80,000 Hz; THD 0.005% 20-20,000 Hz; max output 12 V; MM input 2.6 mV at 47 kilohms; MC input 0.3 mV at 47 kilohms; S/N MM 82 dB, line 96 dB \$698

CARVER

4000-t Sonic Holography Preamplifier

With Sonic Hologram Generator designed to recreate 3-dimensional sound field of recording site and locate instruments precisely in space. Features MC preamp; surround-sound decoder; Digital Time Lens; Auto Correlator NR; L and R bass and treble controls with turnover frequency switches, tone defeat; cartridge matching; 2-way tape dubbing, monitoring; external signal processor input; infrasonic filter. NR 20 dB (20-200 Hz), 10 dB (2,000-20,000 Hz); Sonic Hologram image resolution 5x horizontally, 20x vertically \$1,220

C-1 Sonic Holography Preamplifier

Features Sonic Hologram Generator; separate L and R bass and treble controls, tone defeat; MC phono input; 18 dB/octave infrasonic filter; tape/source monitor with 2-way tape-dubbing; provision for external processor \$610

CLASSE AUDIO

DR-5 Preamplifier

Preamplifier features FR 20-20,000 Hz \pm 0.2 dB; max output 8 V; THD 0.01%; balanced inputs/outputs; sens 50 mV; 1 tape; polarity inverter optional; MM & MC S/N 80 dB; MC input; direct phono bypass; regular or balanced output stages \$1,995

CONRAD-JOHNSON

Premier Seven Preamplifier

Vacuum-tube preamp with FR 20-100,000 Hz and .25% THD. Two tape processor loops and moving coil input \$7,850

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 mute control. FR 20-20,000 Hz \pm 0.25 dB phono; S/N 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; max output

25 V; phono overload 500 mV at 1 kHz; 4.75 x 14 x 11.25 in \$2,950

PV8 Vacuum-Tube Preamplifier

With cathode follower outputs and solid-state voltage regulator designed for minimal AC imp; regulated filament supplies virtually eliminate infrasonic noise resulting from AC line fluctuations. Features 1% tolerance mil-spec deposited tin-oxide audio circuit resistors; audio circuit capacitors are polystyrene dielectric; volume control tracks within 0.5 dB; auto muting at turn-on, turn-off; 2 tape recorder loops with 2-way dubbing; 5-function mode switch; precision tracking volume control. Max output 40 V RMS; FR 2->100,000 Hz; <0.5% THD and IMD; hum and noise 20-20,000 Hz, phono 72 dB below 10 mV input, high level 84 dB below 2.5 V output; output imp <200 ohms; 10 x 16 x 3.75 in.; 15 lb. \$1,685

PV7 Vacuum-Tube Preamplifier

Stereo preamp with low-noise metal film resistors, polypropylene and polystyrene capacitors in audio circuitry. 2-deck tape monitoring with 2-way dubbing; inputs for phono, tuner, tape, AUX; 2 amp outputs. FR 20-20,000 Hz \pm 0.25 dB phono; S/N 70 dB below 10 mV in phono, 84 dB below 2.5 V out high-level; THD and IMD 0.05%; gain 35 dB phono, 28 dB high-level; max output 25 V; phono overload 500 mV at kHz; 4.75 x 14 x 11.25 in \$695

PV7 MC-Same as above with moving coil input \$810

COUNTERPOINT

SA-5.1 Preamplifier

Preamp with inputs for MM phono, MC phono, tape, tape 2, AUX, CD player, tuner. FR 0.5-88,000 Hz \pm 0.1 dB; max output 70 V; THD 0.08%; IMD 0.08% IHF; MM phono sens 0.5 mV for 0.5-V output at 1,000 Hz; MM phono input overload level 700 mV; 2.03 x 19 x 17.03 in; 24 lb. \$1,895

SA-1000 Preamplifier

Preamp with inputs for MM phono, MC phono, tape, CD player, tuner. FR 2-30,000 Hz \pm 0.1 dB; max output 30 V; THD 0.25%; IMD 0.3% IHF; MM phono sens 0.8 mV for 0.5-V output at 1,000 Hz; MM phono input overload level 500 mV; 2.23 x 19 x 7.1 in; 13 lb \$745

CROWN

PSL-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 with black splatter coated steel; aluminum chassis; FR 10-50,000 Hz \pm 0.25 dB; THD <0.0025% at rated output; 19.0 x 1.75 x 11.5 in; 11 lb \$595

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, tuner, CD player, 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 ste-

reo audio external-processor loop; audio/video dubbing; independent recording and listening selectors; switchable tone controls (conventional bass/treble curves or low-bass only/spectral tilt); switchable infrasonic and high filter for all sources; precision-tracking 5-ch volume control; ch-mode controls for L/R stereo, RL reverse, L or R only, L+R mono, and L-R positions; headphone jack; anti-resonance chassis and aluminum feet \$2,500

DENNESEN ELECTROSTATICS

Sirius Preamplifier

Full-featured straight-line preamp with split passive RIAA and FET input. Inputs for MM phono, tape, tape 2, AUX. FR 5-100,000 Hz \pm 0.1 dB; max output 10 V; THD 0.01%; IMD 0.01%; MM phono sens 2.5 mV of 0.5 V output at 1,000 Hz; MM phono input overload level 200 mV; sens for line level inputs 125 μ V. 19 x 2 x 8 in; 7 lb. \$489

Sirius II. Dual mono; external power supply \$650

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 chassis; 3 digital inputs (one optical, 2 coaxial); coaxial digital tape-monitor loop; four-times-oversampling digital filter; optical isolators between digital and analog sections; D/A converter output jacks. 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; nonresonant, vibration-resistant chassis. 5.2 x 17.09 x 15-in \$1,500

PRA-1200 Stereo Preamplifier

Stereo preamp with video inputs and switching facility. 8 audio inputs; headphone amplifier; variable loudness control; MM & MC phono. THD <0.001%; S/N MC 79 dB, MM 96 dB; FR 1-300,000 Hz \pm 0.2 dB -3 dB; S/N 105 dB; 4.8 x 17.08 x 11.81 in; 11 lb \$475

FORTÉ 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 sourcing, and imp buffering. Accepts input from high and low output MC and MM cartridges; 4 high-level sources and tape recorder. Record/monitor facilities for recorder allow listening to one source while recording another, internal selection of mip and capacitive cartridge loading. External power supply; gold-plated signal connectors; glass-epoxy circuit boards. Dist <0.02% at 3 V; noise <-100 dBA referenced to 1 V input; gain \pm 20 dB; imp 25,000 ohm; 19 x 1.75 x 7 in \$790

HAFLER

DH-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, monitor selector, mono/stereo, high-pass filter; external processor loop, tone control engage. Features rack-mounting capability; single active circuit board; step-

AMPLIFIERS

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 deck, EPL inputs; 2 tape (buffered), 2 line, EPL outputs; headphone jack. THD <0.0006% at 1,000 Hz, 3 V RMS; phono input FR 20-20,000 Hz +0/-0.25 dB; S/N weighted 87 dB; rated output 3 V rms, 4-210,000 Hz; THD <0.001% 20-20,000 Hz; 17 x 3 x 8.5 in; 10 lb; Assembled..... \$500
Kit..... \$425

DH-100 Preamplifier 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 \pm 0.25 dB; max output 8 V; THD <0.005%; IMD below residual noise of current test instruments; MM phono sens 10 mV for 0.5-V output; 13.5 x 3 x 9 in; 7 lb. Assembled..... \$275
Kit..... \$225

HARMAN KARDON

Citation Twenty-Five Preamplifier

Preamplifier with remote control. Features inputs for CD, A/V 1, A/V 2, tape 1, tape 2, VCR 1, VCR 2, and phono; passive equalization in open-loop mode; moving coil head amp with resistance trim; moving magnet capacitance trim; hi-cut filter; subsonic filter; switchable bass and treble turnover; tone defeat; mono switch; headphone jack. Frequency response 25-250,000 Hz; total harmonic distortion .002%; slew rate 120 V/ μ sec; estimated rise time 1.4 μ sec; RIAA equalization \pm 0.2 dB; \$849

Citation Twenty-One Preamplifier

Inputs for CD, CD direct, video sound, tuner, phono, 2 tape decks; ultrawideband fully discrete circuitry; low negative feedback; active/passive symmetrical RIAA EQ; gold-plated jacks; mono switch; low-noise transistors; discrete MC head amp; subsonic filter (6 dB/octave, <3 at 15 Hz); phase-correct loudness (+10 at 50 Hz, +3 at 250); bass and treble max boost/cut 10 dB; tone defeat. Max output 10 V. \$599

HEYBROOK BY D'ASCANIO AUDIO

C-2 Preamplifier

Hand-assembled preamplifier with versatile input selections and black finish. Features special circuitry for CD input to prevent overloading; aluminum chassis; rear-panel power switch. Inputs for MM and MC phono, tape, AUX, CD player, tuner, and video. FR 10-50,000 Hz \pm 3 dB; MM phono sens 85 mV for 0.5-V output at 1,000 Hz; line-level sens 160 mV. 17 x 3 x 13 in; 8 lb..... \$898

KENWOOD

Basic C2 Preamplifier

Preamp with 2-step MM and 3-step MC inputs. Features single NFB-loop phono equalizer amplifier; 2-way tape dubbing with monitoring; 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 switch; mono/stereo switch; 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/imp MM

2.5 mV/47 kilohms, line 150 mV/47 kilohms; signal-to-noise ratio 110 dB; MM 88 dB; 17.31 x 3.06 x 12.63 inches; 9.9 pounds..... \$310

KINERGETICS

KPA-1 Preamplifier

Designed to eliminate hysteresis distortion; MC phono, MM phono inputs, 2 tape loops; remote power supply; adjustable imp and capacitance for phono inputs; polarity switch. FR 2-500,000 Hz; slew rate >20 V/ μ sec; gain 60 dB; 20 lb; 19 x 2.5 x 16.25 in..... \$795

LAZARUS ELECTRONICS

Cascade Deluxe Preamplifier

Hybrid preamplifier 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

Cascade Basic Preamplifier

Tube preamp with inputs for MM phono; tape; tuner. FR 10-32,000 Hz \pm 3 dB; S/N 90 dB; THD 1.2%; MM phono sens 1.5 mV for 0.5-V output at 1,000 Hz; MM phono input overload level >250 mV at 1,000 Hz; line-level sens inputs 50 mV..... \$650

LINN PRODUCTS

LK1 Remote-Controlled Preamplifier

Stereo microprocessor preamp with independently adjustable input-level matching; all switching 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

MARK LEVINSON BY MADRIGAL

No 26L-10A Stereo Preamplifier

Simplified version of L-series circuitry in single circuit board configuration. All audio circuitry completely discrete and operates in Class A. Inputs for 2 line sources, monitors tape deck, phono section for virtually any cartridge. Camac 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 unwt'd below 2 V reference. Phono section offers selectable gain of 42, 53 or 63 dB. Six internal switches and gold-plated loading sockets allow infinite cartridge-loading capability. Typical distortion for phono circuit are 0.014% IMD and 0.005% IMD and S/N typically -72 dB. Internal power supply with high-speed push-pull regulator; biased for Class A; load regulation of 0.05%; wide-band noise output 23 V; 7 or 17 dB line gain. Hand-brushed anodized finish. 2.25 x 19 x 10.12 in..... \$3,325

McINTOSH

C-34V A/V Control Center

A/V control center with Compander system for controlling sources' dynamic range. Features inputs for laser, tape 1-3, VCR 1/2, TV, tuner, phono; 3 switched, 2 unswitched outlets in rear; provision for 2 sets of speakers; record and listen selectors; built-in 5-band equalizer; master volume control; 38 lb..... \$2,195

C-31V A/V Control Center

A/V control center with wireless IR remote con-

trol. 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..... \$1,895

MERIDIAN BY MADRIGAL

201 Control Unit

Multi-room remote capability and ability to play 2 different sources simultaneously in any combination of 14 remote locations. Inputs for MM phono; MC phono; tape 1 & 2; aux; CD player; tuner..... \$1,150
209. Remote master control works with 201 and other Meridian 200-series components; controls 8 inputs, volume, and mute..... \$150



Mod Squad Line Drive

THE MOD SQUAD

Line Drive Preamplifier

Passive preamplifier features Noble film potentiometers. Lorlin selector switches; Wonder wire; Wonder solder; Tiffany connectors and LC/OF Teflon insulated wires; selector for 5 sources; mode selector; mute; tape 1 or 2; balance control; jacks for two pair of power amps..... \$500

MOTIF BY CONRAD-JOHNSON

MC7 Dual-Mono Preamplifier

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 \pm 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..... \$3,500

MC8 Stereo Preamplifier

Similar to MC7 except stereo with internal power supply. Inputs for MM phono; MC phono; tape; tape 2; CD player; tuner. FR 5-100,000 Hz \pm 3 dB; THD 0.1%; MM phono sens 0.35 mV for 0.5-V output at 1,000 Hz; sens for line-level inputs 50 mV; MM phono input overload level 150 mV at 1,000 Hz..... \$2,250

MC9 Stereo Preamplifier. Line-level-only preamplifier..... \$1,295

NAD

1700 Monitor Series Preamplifier/Tuner

Remote control including motor-driven volume control; semi-parametric tone controls; EPL; bass EQ; 2-way tape-dubbing; 50 dB stereo separation; S/N ratio >80 dB; IF wide/narrow; 14 re-sets, mixed AM and FM; rack mountable..... \$798

1300 Monitor Series Preamplifier

Features high-resolution phono preamp; bass EQ; null switch to amplify L-R difference signal; low-noise MC pre-preamp; external processor loop; semiparametric tone controls (bass center switchable to 50, 120, or 250 Hz, treble to 3,000,

AMPLIFIERS

6,000, 12,000 Hz) with 1.5-octave bandwidth, 12-dB max boost or cut; 2-way tape dubbing; infrasonic filter. Max output 12 V; RIAA response accuracy ± 0.3 \$498

NAKAMICHI

CA-7A Control Amplifier

Preamp 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 phono, 2 tape, 2 AUX, tuner, CD; 2 outputs; multi-room remote control with RS-7 remote sensor. Input sens/imp MC (switchable) 40-80-160 μ V/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; phono 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 connector optional (SPC-1 power strip); MM- or MC-cartridge phono 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 1,000 Hz; stereo sep 110 dB at 100 Hz CD; FR (tuner/CD/Aux/Tape) 1-100,000 Hz $+0/-3$ dB \$1,095

NIKKO AUDIO

Beta 600 Preamplifier

Two-band parametric equalizer with variable level, variable bandwidth, and selectable frequency turn over controls. 2-record out selectors; CD direct circuit isolated from other analog circuitry with the shortest signal path as possible; S/N 104 dB; MM/MC selector; 2-output terminals; gold-plated pin jacks; mechanical switches; THD .002%; S/N 100 dB; channel sep Hz 76 dB at 1,000 Hz; 19" rack mountable with black die-cast aluminum front plates. \$600



Nikko Beta 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-paired master volume control using ALPS potentiometers, output #2 includes fines 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; phono S/N 92 dB; THD 0.0005%. 18.25 x 4 x 15.88 in; 19 lb. \$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 phono gain and load imp. 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; phono S/N 85 dB; THD 0.005%. 17.75 x 4 x 15.88 in. \$530

PARASOUND

P/FET-900 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 contour; 10-amp power switch; 3 AC outlets; mono switch; 2-tape monitors; 2-direction dubbing; separate CD, Video inputs; FR 10-80,000 Hz ± 0.5 dB; THD $< .005\%$; S/N 95 dB; 17.25 x 2.5 x 9.5 in. \$395

PERREAU

SM3 Preamplifier

High-voltage MOSFET design; inputs for MM/MC cartridges; tuner; tape, CD. FR 20-50,000 Hz ± 0.25 dB; input sens MC 175 μ V rms @ 1 kHz/47 kilohms, 100 pF, MM 1.8mV rms; AUX/CD 350 mV rms/20 kilohms, all other inputs 100mV rms/25 kilohms; THD/IMD phono 0.005%, all other inputs 0.008%; channel sep 70 dB, 20-20,000 Hz, all inputs. 1.75 x 19 x 13.5 in; 13 lb \$2,200

SA33 Class A Preamplifier

Features tone controls and large power supply. Gold plated input/output sockets. High voltage MOSFET design; inputs for MC/MM cartridges; tuner, tape, CD. FR 20-50,000 Hz ± 0.25 dB; input sens MC 200 μ V rms at 1 kHz/47 kilohms, 100 pF, MM 2.8 mV rms; aux, CD 350 mV rms/250 kilohms; THD/IMD phono 0.005%, all other inputs $< 0.009\%$ 20 Hz-20,000 Hz at rated output; channel sep 68 dB 20-20,000 Hz, all inputs. 1.75 x 19 x 13 in; 12 lb \$1,750

PIONEER

C-90 A/V Preamplifier

Features wireless remote control; motorized rotary volume control; 5 audio inputs; 5 video inputs (3 input/outputs, 2 input only); 3 different power supplies; copper-plated chassis; 2 video outputs; recording selector/tape-dubbing switch; subsonic and high/low filters; loudness, muting, and tone controls; video enhancer (detail, sharpness, and noise cancel). 9 x 21.7 x 19 in. \$900



Proton 1100

PROTON

1100 Preamplifier

Stereo preamp with separate MC phono input. Features built-in headphone amp; bass equalizer switch; listen/record selector; high-level pre-out 18 V, total harmonic distortion 0.003% (20-20,000 Hz, 2 V output); IMD 0.003% (2 V output); FR 20-20,000 ± 2 dB; high-level input resistance 30 kilohms; line-level input sens 150 μ V. 2.5 μ V MM phono, 0.2 μ V high-level MC, 0.1 μ V low-level MC; S/N A-wide 105 dB line level, 94 dB MM phono, 79 dB MC phono; bass control at 100 Hz ± 10 dB; treble control at 10,000 Hz ± 10 dB; bass EQ at 75 Hz $+3$ dB; infrasonic filter at 20 Hz -3 dB, slope -12 dB/oct; phono input capacitance selectable between 100, 200, 320 pF; phono overload MM 290 μ V (1,000 Hz, 0.1% total harmonic distortion); MM, phono to-

tal harmonic distortion 0.006% at 4.5 V output, 0.01% MC phono; RIAA response ± 0.2 dB MM phono, ± 0.3 dB MC phono. 16.5 x 2.5 x 13 in. \$399

PS AUDIO

5.5 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 phono cartridge; cartridge loading; high-level bypass; remote power supply. THD $< 0.01\%$; IMD $< 0.01\%$ \$1,195

4.6 Preamplifier

Full-function preamp. Features moving-magnet and moving-coil phono sections; 5 gain selections for phono cartridge; cartridge loading; high-level bypass; remote power supply. THD $< 0.01\%$; IMD $< 0.01\%$; MM noise -82 dB; MC noise -78 dB. 15 lb \$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/mono switch; radio, aux, disc, tape 1, tape 2 input selectors with optional microphone or MC phono inputs available. Input sens/imp 1 mV at 35 mV in/47 kilohms phono, 100 mV at 5 V in/39 kilohms tape, 1 M ohm radio and aux; FR ± 0.5 dB 30-20,000 Hz phono RIAA, 30-20,000 Hz -0 , $+1$ dB; high-level distortion 0.02%; noise -104 dB A-wide; 12 x 4 x 8 in. \$995

REVOX

B252 Preamplifier

Microprocessor-controlled preamp with input sensitivities programmable into nonvolatile memory and infrared remote control. Inputs for MM phono; MC phono; tuner; tape; tape 2; AUX; phono 2; CD player; EQ. FR 20-20,000 Hz $+0$, -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 2. 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 phono equalizer errors. No negative

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



Rowland Coherence One

SAE X1P 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 \$1,200



SAE P102

P102 Preamplifier

Computer direct-line preamp with 3 digital tone memories, electronic volume and balance controls. Features sequential audio muting to provide cross-fade between input sources; alphanumeric displays of all functions. Inputs for MM phono, MC phono, tape, tape 2, AUX, phono 2, CD player, tuner, external processor. Frequency response 20-20,000 Hz ± 0.5 dB; max output 7.5 V; THD 0.025%; IMD 0.025% IHF; MM phono sens 160 mV for 0.5-V output at 1,000 Hz; MM phono input overload level 240 mV. 19 x 3.5 x 14 in; 17 lb \$449

SANSUI C-1000 Control/Preamplifier

Preamplifier with full-function remote control. Features multiple audio inputs; 2 video inputs; motor-driven volume control; delay-line video enhancer; monitor output; keyboard instrument input; variable loudness; remote mute. Preamp output 1,000 mV/1.5 kilohms; FR 10-100,000 Hz. 3.6 x 17 x 9.4 in; 7.1 lb \$190



Sansui C-1000

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 transformer; variable and fixed inputs; heavy-duty speaker terminals; 6.4 x 17.3 x 15.7 in \$949

SONOGAPHE BY CONRAD-JOHNSON SC1 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; 3.5 x 18 x 12-in \$595

SONY TA-E77ESD Preamplifier

Preamplifier with built-in 16-bit, linear digital-to-analog converter with quadruple-oversampling digital filter. Features automatic matching of sampling 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 0.001%; separation >90 dB; FR 5-20,000 Hz ± 0.5 dB \$1,200



Sony TA-E77ESD

SOUNDCRAFTSMEN DX 4200 Preamplifier/Equalizer

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 MC variable reluctance or MM cartridge inputs; 3-way tape dubbing; 2 external signal-processor loops; conventional line outputs plus separate autobridge line outputs for auto mono bridging of most amps; EQ S/N 114 dB; passive-coil filters with 15 dB boost or cut for each octave; differential/comparator circuitry for true 0.1 dB unity-gain equalizer balancing; 19" rack-mount front panel; includes test record and instant reset Computone charts; 5.25 x 19 x 11 in \$699

DX3000 Preamplifier

Features bass and treble controls; 2 tape monitors with dubbing; stereo video inputs; loudness compensation; signal-processor input/output. Inputs for MM phono, tape, tape 2, CD player, tuner, video. CD inputs matched to high dynamic range of players. FR 5-60,000 Hz ± 0 , -1 dB; S/N 95 dB; THD 0.01%; MM phono sens 1.4 mV for 0.5-V output at 1,000 Hz; MM phono input overload level 200 mV at 1,000 Hz; sens for line-level inputs 140 mV. 19 x 2.36 x 10 in; 10 lb \$329



Sumo Athena

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; crosstalk 80 dB; THD/IM $<0.01\%$ below 10 V output \$699



Tandberg TCA 3038A

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, CD, video, and tape inputs. Remote optional. Rosewood panels; 17.13 x 3.25 x 13.75 in; 11 lb \$1,350

TECHNICS SU-A200 Class AA Preamplifier

Features Class AA circuitry to separate voltage amplification from current amplification. Voltage amp operates in Class A driving Class AA bridge circuit which provides ideal load characteristics for max linearity and isolation from imp fluctuations. Class AA EQ circuit isolates voltage amp from load-imp fluctuations. Active Servo power supply. Switches video signals form 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/VCR; aux; phono 2; CD player; tuner; video (AV 1). FR 0.5-180,000 Hz ± 0 , ± 3 dB. 17 x 5 x 14.25 in; 20 lb \$1,250

SU-A6MK2 Stereo DC Preamplifier

Features shelving tone controls, selectable turn-over frequencies, infrasonic filter, audio muting. Inputs for MM phono, MC phono, tape 3, tape 2, aux 2, phono 2, CD player, tuner, computer, VCR, DAT recorder, TV. Max output 8 V; 16.94 x 3.88 x 14.19 in \$875

THRESHOLD Model FET ten/hl 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 cascoded 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; input imp 25,000 ohms, nominal; output imp

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100 ohms. Controls for program source selector; record signal routing; monitor signal selection; mode selector; balance control; audio level control. 1.75 x 19 x 6.5 in. \$2,000

YAMAHA

CX-10000 Digital Preampifier

Limited Centennial Edition digital control amplifier with built-in digital sound field processor and D/A converter. Features hi-bit quadruple oversampling; hi-bit precision D/A conversion; digital-direct connection; digital input/output port; digital parametric equalizer; 16 user-memory programs combining digital sound field and/or digital parametric equalizer; wireless remote control. Titanium grey with high luster walnut end panels; 65 lb \$7,500

HX-10000 Phono Head Amplifier

Limited Centennial Edition phono head amplifier. Features two independent moving-coil head amplifiers (selectable for phono 1 and phono 2). Titanium gray cabinet with hand-rubbed walnut end panels; 20 lb \$2,500



Yamaha CX-1000U

CX-1000U Digital Preampifier

Digital preampifier with built-in hi-bit 8-times-oversampling digital filter. Features hi-bit twin D/A converters; 4 digital (4 coaxial, 3 optical) audio inputs and 4 video inputs; continuously variable loudness control; 5 audio record outputs and 2 video record outputs; 12-position record out selector; provisions for simultaneous audio and video recording on two VCR's; 1 optical, 2 coaxial digital audio record outputs; automatic sampling frequency switching; 6-position moving magnet or moving coil phono cartridge load selector; source direct switch; audio mute; remote control. \$1,199

CX-800U Preampifier

Preampifier with 8 audio and 3 video inputs. Features 4 audio and 2 video record outputs; 9-position record out selector; provision for simultaneous audio/video recording on two VCR's source direct switch; phase invert switch; continuously variable loudness control; 6-position MM and MC cartridge load selector; bass and treble controls; subsonic filter for frequencies below 30 Hz; remote control. \$699

INTEGRATED AMPLIFIERS

ACCUPHASE BY MADRIGAL E-205 80-W/ch Integrated Amplifier

Parallel push-pull output stage driven by MOSFET driver stage; large power supply; direct-coupled circuitry with DC servo; high-gain equalizer; MC-input imp selector; 9 inputs; turnover selector switch; tape monitor and dubbing switches; subsonic filter; outputs for 2 pairs of speakers; speaker selection switch; mono switch. Inputs for MM phono; MC phono; tape; tape 2; CD player; tuner; 3 line-level inputs. Cham-

pagne-gold or black-anodized finish. 80 W/ch into 8 ohms, 100 W/ch into 4 ohms. 17.5 x 5.75 x 14.56 in; 30.8 lb \$1,700

AUDIO DESIGN ASSOCIATES

DCA-40 Digital Integrated Amplifier

Integrated amp with inputs for MM phono, tape, tape 2. AUX. CD player, tuner. Features electronic digital volume control; separate phono preamp. 40 continuous average W/ch from 20-20,000 Hz with no more than 0.06% THD into 8 ohms; 50 W into 4 ohms; FR 20-20,000 Hz \pm 3 dB; THD 0.06%. 6 lbs. 19 x 3.5 x 12 in. . . . \$950

AUDIO DYNAMICS

CA-2000E Integrated Amplifier

100-W/ch integrated amplifier. Features CD-direct switch; infrasonic filter; CD, tuner, AUX, and 2 tape inputs; two phono preamps; separate low-noise class-A moving coil preamp; dubbing capability; separate power-supply regulators; CD and phono jacks are gold-plated; wireless universal remote control for Audio Dynamics products \$799

A/D/S/

Atelier A2 80-W/ch Integrated Amplifier

Stereo integrated amp with separate input selectors for recording and listening. Features 2 tape monitor loops; phono preamps for MM and MC cartridges; preamp output and main amp input jacks; LED displays; clipping indicators; power output 100 W/ch into 4 ohms, 80 W/ch into 8 ohms. 70 W/ch into 2 ohms. 2.8 x 17.5 x 14.8 in; 20 lbs. \$699



Akai AM-93-B

AKAI

AM-93-B 120-W/ch Integrated Amplifier

Features 120 W/ch with zero drive DC-servo main amp; 4-digital direct inputs (2 optical for CD/DAT); dual D/A converter; 18-bit processing; 8-times oversampling; digital filter; source direct mode; 11-position input selector; low-noise MM/MC phono EQ amp; 0.008% THD resonance free rigid chassis structure \$1,099

AM-73-B 100-W/ch Integrated Amplifier

Features 100 W/ch with zero drive DC-servo main amp; 4-digital direct inputs (1 optical for CD/DAT); dual D/A converter; 4-times oversampling; digital filter; source direct mode; 11-position input selector (3 tape monitor); 0.008% THD; resonance free rigid chassis structure \$799

AM-52-B 70-W/ch Integrated Amplifier

Features 70 W/ch with dual-pole DC-servo; source-director switch; low-noise MM/MC phono EQ amp; 7-position input selector (2 tape monitor); speaker A/B selector w/large binding posts; 0.005% THD; processor terminals for EQ . . . \$399

ARCAM

Arcam Delta 90 Integrated Amplifier

Amplifier with toroidal power transformer delivers 70-W/ch into 8 ohms. Features inputs for MM/MC cartridges, tuner, CD and two tape re-

corders; bypassable limited range tone controls; mono switch; two loudspeaker outputs; THD 0.02% at 60 W; FR 40-20,000 Hz -3 dB. 16.93 x 10.43 x 3.54 in \$749

Arcam Delta 60 Integrated Amplifier

Purist integrated amplifier with 50-W/ch into 8 ohms; 20-20,000 Hz; inputs for MM/MC, straight-wire passive preamp section into a high gain power amplifier; tuner, CD mono/stereo switch; speaker 1 and 2; THD 0.02% slew rate 25; sens 120 μ V; Delta Box converter, . . . \$599

AUDIO BY VAN ALSTINE

CA-150 Plus Integrated Amplifier

Features Van Alstine FET Three Plus hybrid preamplifier circuitry; 240D full complementary power MOSFET amp circuits driven from high-current toroidal power transformer and 2-stage power supply with isolated regulated preamp sections; precision tracking volume control and balance control; phono, 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 0.01% THD. 13.5 x 12.5 x 4.5 in; 15 lb \$750

CAMBRIDGE AUDIO

P55 Intergrated Amplifier

Features passive segmented equalization on MM and MC inputs. Power output 70 W/ch into 8 ohms. tone on/off control. THD 0.05%. . . . \$648

P40 Integrated Amplifier

Features passive segmented phono section; MC/MM switchable inputs; large toroidal input transformer; 40 W/ch; THD 0.05%; S/N MM 80 dB, MC 73 dB. line 80 dB. 2.5 x 17.5 x 11 in.; 17 lb \$498

DENON

PMA-1520 Integrated Amplifier

130 W/ch integrated amplifier. Features Denon Optical Class A circuitry. Digital multi-interface decoder; 7 audio inputs phono AUX1,2, CD, tuner, tape 1, 2. 3 way speaker terminals; CD direct; THD.003% -3dB at rated output, IMD.003%; FR1-250,000 Hz -3 db at 1W; S/N 120 dB; 6.37 x 17.08 x 15.43 in; 29 lb. \$1,000
PMA-920. Similar to the PMA-1520 above except with 115 W/ch \$600
PMA-720. 90 W/ch \$450
PMA-520. 70 W/ch \$350

PMA-250 Integrated Amplifier

Features high-speed power transistors; simple and straight signal path; CD-direct switch; inputs for phono, CD, tuner, AUX, tape monitor; dual-concentric volume controls; headphone jack; large speaker terminals for audiophile quality connections. 25 W/ch min rms into 8 ohms from 20-20,000 Hz with no more than 0.08% THD; dynamic power 52 W/ch into 8 ohms; IMD 0.03% \$200

HITACHI

HA-007SW 65-W/ch Integrated Amplifier

Drives 2 pairs of speakers; inputs for 2 video sources, phono, CD, tuner, videodisc player. tape; bass and treble controls; balance control; loudness control; subsonic filter; Pure Drive Circuit; MOSFET's; rosewood end caps. 65 W/ch into 8 ohms; damping factor 60 at 1,000 Hz; 19 lb \$400

AMPLIFIERS

HARMAN KARDON

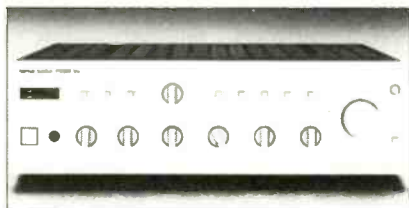
PM665 Vxi 150-W/ch Integrated Amplifier

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 (bass 200 or 400 Hz, treble 2,000 or 6,000); tone defeat; mono switch; capacitance trim (normal, +100, 200, 300 pF); 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 transistors. 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. . . . \$479

PM640 Vxi. As above, 45 W/ch; current capability ± 18 amps; neg feedback 20 dB; no low or high filter \$329



Harman Kardon PM655 Vxi

JVC

AX1100BK Integrated Amplifier

Features Pure Signal Transceiving; 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-gain phono equalizer for MC/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-3300D 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 over-sampling digital filters; 7-pole Butterworth FDNR 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; digital-direct and line-straight switches; dual MM/MC phono equalizer amplifiers; Kenwood NF-CR tone controls with selectable turnover; 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. 6.69 x 17.31 x 16.56 in; 39.2 lb. \$1,199

KA-V1000R Integrated Amplifier

80-W/ch, 30-W/ch for rear. 6 video and audio inputs; full-function wireless remote control additional learning 58 functions programmable; 16-bit digital delay; four mode surround sound including Dolby; 3 independent rec selectors; Super VHS and Beta input; built-in sharpness and detail enhancer; on-screen data display; motor-driven rotary volume control \$875

KA-880D 100-W/ch Integrated Amplifier

Basic series integrated amplifier with VIG-DLD power amplifier. Features low-impedance drive capability; independent CD input; CD-direct and line-straight switches; 3 tape inputs; dual rec-out selector; 2-way dubbing with monitor switch; MM/MC cartridge selector with NFB loop equalizer amplifier; Kenwood NF-CR bass and treble controls; Sigma Drive Type B; -30 dB muting; loudness switch; subsonic filter; mono/stereo switch; 2 speaker systems operation; 100 W/ch min rms; THD 0.008%; S/N 108 dB. 5.69 x 17.31 x 13.5 in; 22 lb. \$410



Kenwood KA-880D

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 full remote control system; auto-function; bi-directional tape dubbing; dual video sound inputs; connections and switching for two pairs of speakers; full circuit protection; headphone jack; THD 0.05%; IMD 0.03%; FR 10-70,000 Hz +0 dB, -3 dB; S/N ratio 75 dB; 4.68 x 16.56 x 10.68 in. . . . \$369

KYOCERA

A-910 150-W/ch Integrated Amplifier

Ceramic base/chassis; cutless-core power transformer; DC configuration with DC servo control; line-ceramic linear modularized phono stages. Inputs for MM phono, MC phono, tape, tape 2, AUX, phono 2, CD player, tuner, video. FR 10-100,000 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 with no $>0.02\%$ THD into 8 ohms; dynamic headroom 1.2 dB; slew rate 90 V/ μ s; 200 W/ch into 4 ohms with 0.05% THD; damping factor 150 (1 kHz); S/N 78 dB. 17 x 5.75 x 16.5 in \$1,500

LUXMAN

LV-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-processor 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 $<0.09\%$; frequency response 5-200,000 Hz -3 dB; S/N (line straight) CD/line, tape >110 dB; 17.25 x 6.56 x 18.13 in; 44 lb \$1,500



Luxman LV-105U

LV-105U Integrated Amplifier

Features BRID (hybrid) and STAR circuitry;

Duo-Beta; voltage-driven amplification; tape and video dubbing; front-panel inputs (A/V 2, audio-video); rec-out selector; video amp and switching capability. Inputs for MM phono; MC phono; tape; tape 2; A/V; A/V 2; CD player; tuner. 80 continuous average W/ch from 20-20,000 Hz into 8 ohms with no more than 0.25% THD; 200-ms dynamic power 200 W at 4 ohms; FR (audio High level inputs) 3.5-300,000 Hz ± 3 dB, 20-20,000 Hz ± 0.2 dB phono, 10-6 MHz video ± 1 dB; S/N 90 dB (MM), 70 dB (MC), 96 dB (tuner, tape, CD, video audio); IMD 0.03%. 17.25 x 5.19 x 13.88 in; 25.3 lb. \$1,000

MARANTZ

PM-84D 100-W/ch Integrated Amplifier

100 W/ch integrated amp features Quarter-A design; AVSS (automatic voltage supply shift); matched complimentary MOSFET output devices; CD/phono direct switch; tone defeat switch; ceramic damped capacitors; copper-plated chassis; separate monitor/dubbing selectors for 2 tape decks plus video cassette recorder; built-in moving coil step-up transformer; mono mode switch; THD 0.015%; \$1,360

PM-74DBL 105-W/ch Integrated Amplifier

105 W/ch black integrated amp features Quarter-A design; AVSS (automatic voltage supply shift); CD/phono direct switch; tone defeat switch; ceramic damped capacitors; copper-plated chassis; separate monitor/dubbing selectors for 2 tape decks; tone defeat; switches for mono mode, subsonic filter, muting, speakers on/off; IMD 0.03%; THD 0.03%. 8.12 x 19.5 x 16.5 in; 23.1 lb. \$699

PM-65AVBL 65-W/ch Integrated Amplifier

65 W/ch integrated amp features CD/phono direct switch; 3 monitor loops; 4 position record out; video switching; 20-20,000 Hz bandwidth; total harmonic distortion 0.03%; intermodulation distortion 0.03%. 5.37 x 16.37 x 14.37 in; 22 lb \$499

MCINTOSH

MA-6200 Integrated Amplifier

Features 100 W/ch into 4 ohms, 75 W/ch into 8 ohms. 42 lb. \$1,795

MISSION ELECTRONICS

Cyrus II 60 W/ch Integrated Amplifier

Integrated amp with high peak current delivery. Non-magnetic, precision fabricated die-cast alloy case and chassis; separate listen and record selectors; inputs for CD, tuner, hi-fi, video, tape recorder, and MM and MC phono cartridges; direct connected, front panel mounted headphone socket without loudspeaker switching; metal film resistors; polypropylene capacitors; polystyrene capacitors; drives any loudspeaker load; fully compatible; FR 20-20,000 Hz; S/N 83 dB; 8.5 x 3 x 13.5 in; 5 kg \$799

NAD

3400 Monitor Series Integrated Amplifier

Full remote control; 100 W/ch; power envelope circuitry; +6.2 dB dynamic headroom; bridgeable; 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 circuitry; bass EQ; speaker imp selector; high current; Soft Clipping \$398

NEC

A-910 Integrated Amplifier

Features unified remote control that can operate other NEC audio and video components; inputs for MM/MC phono, tuner, CD player, tape deck, AUX, TV and VCR sound sources; independent record and input selectors for listening to one source while recording another; mute switch; bass and treble controls; bipolar power supply for video output to keep degradation of video signal to a minimum. 100 W/ch into 8 ohms from 20-20,000 Hz with 0.006% THD, 130 W/ch into 4 ohms; dynamic headroom 2 dB; frequency response 10-40,000 Hz \pm 1 dB. 17 x 5.1 x 13.4 in. \$649

PLA-610 Integrated Amplifier

Remote-controlled integrated amp with built-in Dolby Pro-Logic, hall, matrix, and concert surround-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



NEC PLA-610

AV-350 Integrated Amplifier

Remote-controlled integrated amp with built-in Dolby, hall, and matrix surround-sound processors. Features 16-bit digital delay; simulated stereo from mono sources; 3 volume/balance presets; video image enhancer; separate front and rear tone controls; a master volume control; front/rear volume control; front-left, front-right, rear-left, and rear-right volume controls; 4 built-in amplifiers that can be bridged into 2. Inputs for 2 audio and 4 video sound sources. 30 W/ch x 4 ch, 60 W/ch bridged. 17 x 4.3 x 13.4 in; 21 lb. \$579

A-610 Integrated Amplifier

Features unified remote control that can operate other NEC audio and video components; inputs for MM/MC phono, tuner, CD player, tape deck, AUX, TV and VCR sound sources; independent record and input selectors for listening to one source while recording another; mute switch; bass and treble controls. 60 W/ch into 8 ohms from 20-20,000 Hz with 0.006% THD, 80 W/ch into 4 ohms; dynamic headroom 2 dB; FR 10-40,000 Hz \pm 1 dB. 17 x 5.1 x 13.4 in. \$469

AV-260 Integrated Amplifier

Remote-controlled integrated amplifier with built-in Dolby, hall, and matrix surround-sound effects. Features 3 memory presets; separate left and right input level controls; audio and video input/output array; 30 W/ch. \$349

NIKKO AUDIO

IA-600 Integrated Amplifier

Integrated amp with 120 W/ch FTC into 8 ohms. Features 1.76 dB headroom; 5-60,000 Hz power bandwidth; 10 inputs for CD, tuner, phono, aux, tape 1 & 2, video 1 & 2, signal processor,

CD direct; permits any source to be routed to all 4-outputs and allows listening to one source while recording another; RCA connectors for pre-out and main-in; MM or MC selectors, 20 dB muting; subsonic filter; stereo/mono switch; bass, treble and balance knobs are back lit; THD .003% dB; FR 5-100,000 Hz. \$660
IA-400. Similar to IA-600 but 80 W/ch FTC at 8 ohms; power bandwidth 10-70 kHz. \$530

ONKYO

Grand Integra A-G10 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; opto-coupling; optical and coaxial digital outputs; absolute analog phase reversal; source direct mode; remote control; wood side panels. \$1,100

A-8800 Integrated Amplifier

Features linear 18-bit DA converter; 100 W/ch rms; low-imp drive discrete output section; Opto-Drive power supply for differential amplifier; quadruple-oversampling digital filter; separate left and right Opto-Drive D/A converters; optical and coaxial digital inputs; pre-out/main-in terminals. \$900

A-8190 Integrated Amplifier

Features real-phase power supply; full audio and video input switching; 6 audio and 2 video inputs including MM/MC phono; direct CD input with gold-plated terminals; direct tone control with contrabass; pre-out terminals; dubbing capability; heavy-duty speaker terminals. 100 W/ch min rms into 8 ohms from 20-20,000 Hz with no more than 0.008% THD; dynamic power 303 W/ch into 2 ohms, 235 W/ch into 4 ohms; 150 W/ch into 8 ohms; frequency response 2-50,000 Hz +0, -1 dB. \$530
CW-A90. Optional woodgrain side panels for A-8190. \$70

A-8170 Intergrated Amplifier

Integrated amplifier features super-servo and delta power supplies; full audio and video input switching; 6 audio and 2 video inputs including moving magnet/moving coil phono; direct CD input; direct tone controls with contrabass; heavy-duty speaker terminals. 80 W/ch min root mean square into 8 ohms from 20-20,000 Hz with no more than 0.008% THD; dynamic power 224 W/ch into 2 ohms, 170 W/ch into 4 ohms, 115 W/ch into 8 ohms; frequency response 2-50,000 Hz +0, -1 dB. 17.12 x 5.81 x 15.31 in; 24.7 lb. \$420

PHILIPS

FA 960 Integrated Amplifier

High current/low impedance drive capability; FTC rated at 100 watts, 125 watts; dynamic power supplies and heat sinks for each channel; CD Direct function and 6 other inputs; Record Selector for parallel recording; Tone Defeat key to bypass bass and treble controls; gold plated terminals for CD Direct and Phono inputs; high accuracy phono amplifier for either MC or MM cartridges; equalization curve to IEC standard; active tone control; parallel, selectable loud-speaker outputs for each channel; muting/protection circuit; source and tape selected display; metal cabinet; headphone output; gold plated speaker relays; loudness and mono switches; 2

tape monitors; tape copy keys; slide balance control; bi-polar push-pull output stages. Output power 8 ohms; total harmonic distortion 0.008% at 100 watts at 8 ohms (1 kHz); intermodulation distortion 0.03% at 100 watts at 8 ohms; line inputs frequency response 18-70,000 Hz \pm 1.0 dB; phono input frequency response 40-20,000 Hz \pm 0.5 dB; signal-to-noise ratio CD Direct 106 dB. 5.75 x 16.5 x 13.25 in. \$549

PIONEER

Elite A-91D Digital Integrated Amplifier

Integrated amplifier with digital circuit for CD's. Features line direct switch; non-resonating 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; quadruple-oversampling; analog low-pass filter; six digital inputs (two optical); three digital outputs (one optical); optical transfer distortion canceler. \$1,600

A-717 Integrated Amplifier

Integrated amplifier with continuous average power output of 100 W/ch min at 8 ohms from 20-20,000 Hz with < 0.003% THD. Features non-switching circuit type III; separate voltage- and output-amplifying stages; separate circuit blocks; anti-resonance, anti-vibration design; line direct switch; 8 inputs; hybrid booster for MC cartridges; independent power switch for phono; gold-plated phono and CD inputs. 17 x 6.25 x 16.75 in; 41 lb, 14 oz. \$750

PROTON

DS40 Integrated Amplifier

High-current, high-dynamic 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; FR 20-20,000 Hz \pm 0.2 dB; S/N 85 dB (unweighted), 105 dB (A-wtd); dynamic headroom 6 dB; dynamic power rating: IHF 20 ms at 8 ohms is 160 W, 4 ohms 280 W, 2 ohms 380 W; 100 ms duration 8 ohms is 150 W, 4 ohms 220 W, 2 ohms 230 W; 200 ms 8 ohms is 150 W, 4 ohms 190 W; 2 ohms 200 W. 16.5 x 3.5 x 12.5 in; 19.14 lb. \$319

AM-300 Integrated Amplifier

30 W/ch integrated amp with DPD for 6 dB of headroom and a dynamic power rating at 8/4/2 ohms of 120/200/220 W. Features low imp drive capability; remote control; low-noise MC amp; selectable MC/MM input. THD 0.01%; damping factor 90 dB; line input sens 150 mV; line input imp 47K ohms/220pF; phono input sens MM/MC 2.5/0.25 mV; phono input imp MM/MC 47K ohm/100 ohm; crosstalk at 1,000 Hz is 75 dB; tape/video S/N 100 dB. \$289



Rotel RA-870BX

ROTEL

RA-870BX Integrated Amplifier

Integrated amp with 100 W/ch from 20-20,000 Hz bridgeable to 300 W. MC input; CD direct in-

AMPLIFIERS

put with level control; high current. 0.03% THD; 0.05% intermodulation distortion. \$649

RA840BX2 Integrated Amplifier

50 W/ch 20-20,000 Hz; Upgraded power supply with metal bypass caps. Close tolerance selected components; high tolerance; 0.05% THD; 0.08% IMD; MM/MC phono inputs; high current. \$379



SAE 1102

SAE

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 0.025% at full rated power both ch driven. All controls are grouped together by function 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 out/in when switching inputs); high-current power-amp stage; peak/average LED power display. \$499

SANSUI

AU-X901 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 cartridges with FET input; bass and treble controls; selectable bass turnover; gold-plated input/output terminals; A-B speaker switching; subsonic filter; loudness contour; ext processor loop. Inputs for phono; tuner; tape; tape 2; tape 3; tape/DAT; CD player; tuner. 130 continuous average W/ch from 10-20,000 Hz with no more than 0.003% THD into 8 ohms, S/N 120 dB; MM phono sens 2.5 mV/47k ohms. Slew rate $\pm 200V/\mu\text{sec}$; 17.63 x 6.31 x 17.38 in; 44.1 lb; black finish. \$1,000

SHARP

Optonica SM-A75 Integrated Amp

Features 11 surround effects; 3 user-programmable modes; 35 W/ch. 4 ch system; 2 monitor output controls; FL display; Super Bass; A/V cross playback; wireless remote control; adjustable time delay; adjustable feedback level; dubbing selection; 9 audio inputs/5 video inputs; 3 audio outputs/4 video outputs; signal-to-noise ratio 89 dB (75 dB phono); 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 sound input; loudness control; direct switch; low-noise phono amplifier; subsonic filter; 100 watts per channel; headphone input jack; peak power indicator; mute switch; intermodulation distortion 0.04%; signal-to-noise ratio 79 dB; frequency response 8-70,000 Hz; 5.1 x 17.3 x 13.0 in. \$449

SONY

TA-F700ES 105-W/ch Integrated Amplifier

Features nonmagnetic G-chassis construction; spontaneous twin-drive power supply; super-legato linear circuitry; source direct switch to route input signal directly to volume control; passive 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 signal; 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

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 18-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 D/A; quadruple-oversampling digital filter; automatic switching between sampling frequencies; subsonic filter; direct digital mode. \$1,100

SU-AV55 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; 7 audio inputs; video out and S-VHS video out; FL display; stereoplex simulated stereo. Front: 50 W/ch, both channels driven 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. \$800

SU-V650 90-W/ch Integrated Amplifier

Integrated amplifier with moving coil and moving magnet phono inputs. Features class AA operation; tone control defeat switch; subsonic filter; 4-input selector with LED indicators; 2 tape loops; record out selector; CD-direct operation; 90 W/ch. \$500



Technics SU-V450

SU-V450 50-W/ch Integrated Amplifier

Integrated amplifier rated at 50 W/ch, both channels driven into 8 ohms, from 20-20,000 Hz with <0.003% THD. Features phono EQ section; class AA operation; tone control defeat switch; 4-input selector with LED indicator; 2 tape loops; CD-direct operation. \$360

TOSHIBA

XB-1000 Integrated Amplifier

A/V digital surround-sound processor and controller. 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 phono; 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; IHF IMD 0.08%; FR 10-40,000 Hz ± 1 dB. 17 x 3 x 12 in; 20 lb. \$350

YAMAHA

AX-900U Integrated Amplifier

Integrated amplifier with independent preamp/power amp configuration. Features absolute linear amplification; high dynamic power; low-impedance drive capability; CD direct position; continuously variable loudness control; preamp in/main amp out terminals; dual record-out selectors. 130 W/ch min rms into 8 ohms from 20-20,000 Hz with less than 0.005% THD. Black; 42 lb. \$749

AVX-1009 Integrated Amplifier

Master A/V control amplifier with 10 audio and 6 video inputs. Features S-VHS terminals; switchable 4 channel (65 W/ch front, 14 W/ch rear) or 3 channel (65 W/ch front, 28 W center channel out) operation; bass, midrange, treble, stereo balance and bass extension tone controls; separate rear or center channel volume control; 8 mode digital surround processor with continuously variable delay including Dolby surround; video enhancer; independent record out selection of video and audio signals; 3-mode superimpose video monitoring; title editing; master volume control; integrated system remote control. \$699

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 0.005% total harmonic distortion. With black finish; 29 lb \$599

AVC-50 Audio Video Integrated Amplifier

Master A/V integrated amplifier with built-in surround sound decoder. Features 10 audio and 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 including Dolby Surround; bass extension control; continuously variable delay time control. 45 W/ch (front), 45 W/ch (rear) min rms into 8 ohms from 20,20,000 Hz with less than 0.05% THD. Black; 18 lb. \$549

AX-500U 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; MM/MC phono selector; 2 tape inputs; banana-plug compatible speaker terminals. 85 W/ch minimum root mean square into 8 ohms from 20-20,000 Hz with less than 0.01% total harmonic distortion. With black finish. 18 lb. \$399

WE'RE NOT RESTING ON OUR REELS.

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TEAC
RE-1003S MADE IN JAPAN

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.

TEAC

The First Thing We Do Is Build Them To Last.

CIRCLE NO. 180 ON READER SERVICE CARD



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.



PIONEER®

We Bring The Revolution Home.™

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 deglitch signal for each ch input to D/A converter through 17 optoisolators; 121-stage double-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-06

ACOUSTIC RESEARCH

CD-06 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 105 dB. . . . \$749

ADC

CD 16/2R CD Player

Slide-drawer-loading CD player with full-function remote control and advanced error-processing circuitry. Features random 16-track programming; skip forward; skip back; fast forward; fast reverse; repeat track, disc, or program; 7-pole (7th-order) analog filtering; 3-beam laser; displays track number, elapsed time of track, remaining time on disc, and program in memory. 3.12 x 17.0 x 11.75 in. . . . \$250

ADCOM

GCD-575 CD Player

Dual digital-to-analog, 16 bit linear converters.

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; S/N 105 dB; THD 0.0025%; ch sep 95 dB; IMD (SMPTE) 0.0015%; 3.44 x 17 x 11.25 in; 12 lb; black. . . . \$600
GCD-575, White. . . . \$650



Adcom GCD-575

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; headphone 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



a/d/s/ Atelier CD3

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; diecast 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; 31 function remote; digital out (optical/coaxial); resonance free rigid chassis structure. . . . \$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 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 96 dB. 16.93 x 10.63 x 3.54 in. . . . \$999

AUDIO BY 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 full-function remote control and advanced error-processing circuitry. Features 3-beam laser pickup; 16-track random programming; 16-bit D/A converter with quadruple-oversampling digital filter; CD-single compatible. FR 10-20,000 Hz ± 0.5 dB; THD 0.005% at 1,000 Hz; dynamic range 96 dB; ch sep 90 dB; S/N 96 dB. 17 x 2 x 12.63 in; 8 lb, 3 oz. . . . \$399

COMPACT DISC PLAYERS

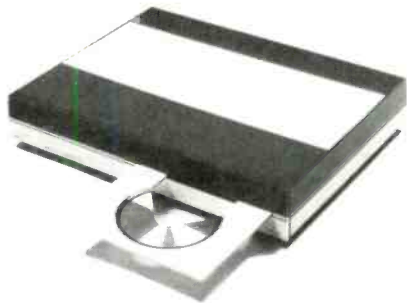
BANG & OLUFSEN

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; Bessel 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-sec auto space; optional bracketed shelf for wall mounting; 16-bit, quadruple oversampling digital filter. 16.5 x 3 x 12.25 in. \$765



Bang & Olufsen Beogram CD 5500

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. THD 0.0025%, dynamic range > 100 dB \$1,700

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, 99 in sequential 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); error indication; dual D/A converters. Cues by track and index number. Displays current track number, elapsed time of current track, elapsed time on disc, remaining time on disc, program in memory. Sound audible during fast forward and reverse \$720

DBX

DX5 CD Player

Remote-controlled CD player with 3 processing

circuits (compression, Digital Audio Impact Recovery [DAIR], and increased/decreased ambience), each independently bypassable. The compression control is for background listening, making car cassettes, and easier taping of CD's; DAIR adds impact to musical transients; ambience adds or subtracts left-right information in midrange and treble frequencies. Features programming of 16 tracks in any order; repeat track, disc, program, or A-B phrase; skip forward; skip back; audible fast forward and reverse; error LED to show disc correction; headphone jack with adjustable level; dual 16-bit D/A converters; advanced error processing; 2-band compressor; impact circuit. Displays track number, total tracks, elapsed time of track, disc time, and program stored in memory. Cues by track or index number. Oversamples at 176.4 kHz. 17.12 x 11.88 x 3.5 in. \$699

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); copper-plated chassis; double-isolated laser transport; glass epoxy printed circuit boards; 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 most significant bit; 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. \$750

DCD-1420. As above without remote ... \$600



Denon DCD-910

DCM-555 CD Player/Changer

6 CD magazine changer allows for up to 32-selection program play. Continuous playback of all 6 discs; full random play; program random play; disc sequential random play; Super Linear converter; real time D/A converter; quadruple-oversampling digital filter; full-function remote control. FR 4-20,000 Hz; S/N 98 dB; THD .004%; 4.56 x 17.08 x 14.09 in.; 13.25 lb. \$550

DCD-910 CD Player

Features two Super-Linear converters; 8-times oversampling digital filter; pickup with floating suspension; variable analog output; auto edit; auto space; 20-selection music calendar; 3-inch CD compatibility; 2 modes of random playback; index search; program random play; FR 20,000 Hz; S/N 102 dB; THD .004%; remote control with motorized volume; display of track

number, playing time, total tracks, total playing time, total remaining time, index number. 4.05 x 17.08 x 12.40 in. \$499

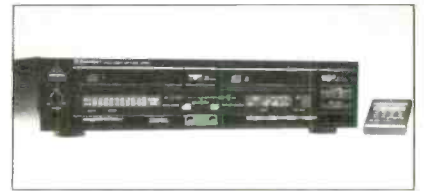
DCD-810 CD Player. As above with quadruple-oversampling digital filter; no coaxial digital output, index search, or auto space. \$399

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

EMERSON

CDD200R 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; FR 15-20,000 Hz \pm 1.5 dB; THD 0.03%; 3.9 x 16.5 x 11.8 in.; 11 lb. \$400



Emerson CDD200R

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; skip; repeat disc, program, track, all discs; 32-track random programming; FL display of disc, track, track time, and time remaining; LED 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 skating loading system; automatic music search; automatic repeat capability; headphone jack; multi-function display shows elapsed time, total time, track number, repeat and memory. \$350

HARMAN KARDON

HD800 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

HD400 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

COMPACT DISC PLAYERS

HD200 CD Player

CD player with discrete analog output section. Features 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, and time remaining; 16-bit D/A converter; track and index search. \$329



Harman Kardon HD400

HITACHI

DA005 CD Player

Direct PIT servo; 5-stage error correction; 121-band digital filter; programs 15 tracks in any order; skip forward and back; fast forward 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. \$550

DA-C70CW CD Player

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. . . . \$449

DAC-60 6-CD Changer

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. \$399

JVC

XLZ555BK CD Player

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/track 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. \$490

XLM600BK CD Changer

CD changer with 6-disc magazine section and auto-loading single-play drawer. Features magazine/disc title indication with message and program memory; repeat all tracks, single track, and programmed tracks; random play; auto/manual search; multi-function FL display; timer

er play; 3-beam laser pickup; independent suspension system; remote control with numeric keypad; 32-track programming; headphone jack; double-oversampling digital filter . . . \$560

KENWOOD

DP-3300D CD Player

Basic series CD player with full-function wireless remote control. Features optical interface with KA-3300D 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, sep 115 dB, S/N 105 dB (all at 1,000 Hz). 17.31 x 4.31 x 12.44 in; 22.1 lb. \$885



Kenwood DP-M107R

DP-990SG CD Player

Basic series CD player with full-function wireless remote control. Features high-rigidity mechanism; multi-insulation system; 16-bit integrator D/A converter with constant-current drive; double oversampling digital filter; discrete 7-pole Butterworth low-pass filters; independent power supplies and optimum ground pattern; Optimum Servo Control Type III; 3-beam laser; rapid direct-play system; 4 play modes; dual time display; 20-track random program memory; A-B section repeat; music skip; track search; audible manual search; auto spacing; repeat; auto loading; headphone jack with level control. THD 0.002%, dynamic range 96 dB, sep 98 dB, S/N 98 dB (all at 1,000 Hz). 17.31 x 3.69 x 12.31 in; 11 lb. \$685

DP-M107R CD Changer

Features auto-function; 6-disc magazine plus single CD; optimum servo control; 3-beam laser pickup; double oversampling digital filter; intro scan; one touch disc selection; 32-track random program memory; Random Roulette Play; fluorescent display with music calendar, disc, total/elapsed/remaining time, track number and program contents indication; 2 channels; FR 20-20,000 Hz \pm 1 dB; dynamic range > 95 dB at 1 kHz; S/N > 93 dB; THD < 0.009% at 1 kHz; w&F unmeasurable. 4.31 x 16.56 x 13.63 in; 13 lb. \$399

KINERGETICS

KCD-30 Gold Series CD Player

Volume and balance controls on front panel to drive power amp directly; dynamic processing circuits; corrected-slope filter; hysteresis-distortion cancelling circuit; no capacitors in signal path; servo loop to eliminate DC offset; 3-speed search; dual D/A converters; 1-beam laser; 4-times oversampling; spring-isolated transport;

program memory for 226 discs; indexing; 19 rack mount. Output level 4 V; 14 lb; 19 x 3.75 x 12.6 in. \$1,495



Kyocera DA-910

KYOCERA

DA-910 CD Player

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 1,000 Hz 0.005%; S/N 95 dB; sep 90 dB; FR 5-20,000 Hz \pm 0.5 dB; 22 lb; 17 x 5.5 x 13 in. \$1,600

DA-710 CX CD Player

Programs 24 tracks in any order, 99 tracks in sequential order; skip forward; skip back; fast forward; fast reverse; cancel; repeat track, disc, phrase, program; 39-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. Headphone output 50 mW. 18.12 x 3.56 x 12.12 in; 13 lb. \$850

LUXMAN

D-03 CD Player

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, program. Displays current track number, elapsed time of current track/ current disc; remaining time; program stored in memory. Cues by track number, index number, time. Max line output 2 V; THD at 1,000 Hz 0.003% at 97 dB; FR 5-20,000 Hz \pm 0.5 dB; 17.81 x 3.31 x 13.75 in; 18.7 lb. \$1,500

D-109 CD Player

Features full-function remote control; serial remote jacks for connections to other Luxman products; digital output sends digital signal to Luxman LV-109 integrated amp; 1-4 time display functions; programs up to 20 tracks; index scan; A-scan plays first 10 sec of music; A/B switch to mark beginning and end of selected track(s) for repeat; memory check. FR 5-20,000 Hz -0.5 dB; THD 0.003% (1 kHz); dynamic range 100 dB; 17.25 x 4 x 15.25 in; 27.5 lb. . . . \$1,500

D-113 CD Player

Double oversampling digital filter; active 3rd order analog low pass filter; 3 beam laser; system remote capability; 16 program random memory. FR 5-20,000 Hz; THD 0.007%; S/N ratio 94 dB. \$650

D-113D Remote Control CD Player

16 program random memory; 10 key numeric handpiece and system remote capability; 10 key direct access and multi-function display; 3-

COMPACT DISC PLAYERS

beam low mass laser pick-up; high density magnetic disc clamper; 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. \$550

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 clamper; 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

CDV474 CD-V/LaserVision CD Player

Remote-controlled 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 altered output; 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



Magnavox CDB650

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 over-

sampling; digital data output for outboard D/A converter; bi-directional track skip; cue and review; random track programming and repeat; satin black finish. \$450

CDC320BL 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 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-T II CD Player

Dual-chassis player with 16 bit quadruple oversampling. Analog filtering and amplification; toroidal 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 imp. \$1,495

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/remaining disc 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; 29-function remote control; dual 16-bit D/A converters; quadruple-oversampling digital filter; 20-track random programming; 3-mode time display; 3-speed search; digital output; four independent power supplies for digital and analog electronics; gold-plated RCA connectors. \$1,500

MITSUBISHI

M-C5100 CD Player

Features dual 18-bit D/A converters; 8-times oversampling; both optical and coaxial direct digital outputs; single master clock frequency for all digital circuits; anti-resonant construc-

tion; Phono Direct amplifier IC; automatic editing function; music calendar display of disc contents. \$600

DP-409R CD Changer

Auto-changer with remote control 3 beam laser; repeat track and disc skip track and 30 segment programmable; 16-function, infrared wireless remote control. \$550

DM-5. 5 CD magazine for use with DP-409R. \$13



Mitsubishi M-C5100

MI-C4100 CD Changer

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; introscan; random play functions; direct random track access; 3" disc compatibility; headphone jack with separate level control; wireless, full-function, remote control; anti-resonant chassis construction. \$449

DP-209R CD Player

Features 3 beam laser; 36 selection programmable; skip function; repeat play; 10 function remote control; adjustable headphone level. \$300

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; repeats 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



Mod Squad Prism

NAD

5300 Monitor Series CD Player

Wireless remote control; dynamic range control; ambience circuit; quadruple oversampling; drawer loading; CDR circuit; separate D/A converters; error display; 3-beam laser; skip and scan forward and back; displays track number, elapsed and remaining time; repeats disc; programming. \$898

5170 Monitor Series CD Player

Multiple play; 6-disc magazine and single play drawer; 16 bit D/A; 4x oversampling; CDR circuit; intro scan; 32-track programable memory; remote control including volume; rack mountable. \$748

5100 Monitor Series CD Player

Drawer loading; 16-bit decoding with 4x over-

COMPACT DISC PLAYERS

sampling; CDR circuit; remote control output level; variable and fixed outputs; 8 separate analog, digital and mechanical power supply sections; normal and delete mode programming; NAD designed analog and digital circuitry; rack mountable. \$598



Nakamichi OMS-7AII

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; THD at 1,000 Hz 0.0025%; S/N >104 dB; sep >100 dB; FR 5-20,000 Hz ± 0.5 dB; 16 lb, 5 oz; 17.12 x 3.94 x 12.12 in. \$1,995

OMS-5AII. 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 chuck; 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 mW/40 ohms. 16.94 x 3.95 x 12.69 in; 15 lb. \$995

CDP-2A CD Player

Mid-level CD player featuring 16-bit quadruple over-sampling with digital filtering; dual D/A converters; third order Bessel 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 dB; S/N >0.006%; 16.94 x 2.94 x 10.63 in; 8 lb. \$529



NEC CD-620

NEC

CD-720 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; 3-

way repeat; 10-disc memory; programming delete; variable and fixed audio outputs . . . \$579

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; auto/manual edit functions; random play; 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

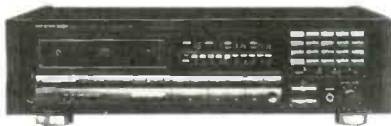
NIKKO AUDIO

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. Optionally 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

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 outputs; separate power transformers for digital and analog stages; 3rd order GIC type analog output filters; 20-track random programming; random music calendar; integrated system remote compatible with supplied controller \$700

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 outputs; separate power transformers for digital and analog stages; 3rd order GIC type analog output filters; 20-track random programming; random music calendar; integrated system remote compatible with supplied controller. \$600

DX-C600 CD Changer

Remote-controlled magazine-loading 6-disc CD changer with opto-coupling system to electrically separate the digital and analog sections. Features programmed playback; random shuffle playback; 3 repeat modes; skip forward; skip back; fast forward; fast reverse; direct access to

disc and track numbers; multi-function FL display. 17.12 x 4.5 x 13 in; 13.2 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 CMN filter; digital filtering; vibration damping; 3-beam laser; digital output terminal; printed circuit boards with specially designed insulation packet 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 3.62 x 14.06 in; 12.3 lb. \$450

PANASONIC

SL-P3900C CD Player

CD auto-changer with 6-disc magazine; 22-key, full function wireless remote control, and large 2-color FL display with music matrix. One-touch disc selection; 36-step random access programming; random play function; high speed linear motor access system; high resolution digital filter; quadruple oversampling; high resolution laser pickup; FR 2-20,000 Hz ± 0.5 dB; S/N 96 dB; THD 0.006%; 16.88 x 4 x 12.38 in; 12.8 lb. \$499.95

SL-P3800C CD Player

Large 2-color FL display. Features auto-changer with 6-disc magazine; quadruple oversampling; digital filter; separate DAC 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; FR 2-20,000 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-P3510 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; THD 0.006%; 17 x 3.1 x 9.5 in. \$249.95



Panasonic SL-P3800C

PARASOUND

D/VF-900 CD Player

Variable high frequency focus adjust CD player. Features double oversampling; digital filtering; triple beam laser; soule shock mounting; full feature wireless remote control; 36 audiophile-grade capacitors; gold-plated jacks; all metal chassis; 15 selection programming; repeat all/track/any start-stop points; regulated power supply; high-speed audible search; headphone

COMPACT DISC PLAYERS

jack level control; FR 5-20,000 Hz; S/N 99 dB; THD <0/005%; sep >86 dB; max search time 3 sec; 17.25 x 3.5 x 12 in \$400



Parasond D/VF-900

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 (24.1 kHz) >60 dB; W&F unmeasurable. 4.0 x 16.8 x 15.3 in; 21.1 lb \$949

880 CD player

Features dual, 16-bit D/A quadruple oversampling converters; die-cast aluminum nonmagnetic chassis; CDM1 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

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

PIONEER

Elite PD-91 CD Player

CD player with 8-times oversampling digital filter and dual 18-bit D/A converters. Features 3rd order low-pass analog Butterworth filter; laser pickup with integral buffer amplifier; 24-track random-access programming; music window search; random play; digital fader with variable fading time; auto program edit; time edit; digital output jacks; coaxial and optical outputs; headphone jack with adjustable level; FL display; 4 separate power supplies; laminated iron plate

coated with polyacetal and copper-plated honeycomb plates; coil springs with rubber dampers to support subchassis. \$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 programming; 20-track music calendar; fade in/fade out; timer start system; digital level control; FL display; Pioneer disc stabilizing system; 2-speed manual search; non-repeating random play; repeat disc, track, and program \$565

Changers and Combi-Players

CLD-3030 CD/CDV/LD Player

Combi-player which plays 8- and 12-inch Laser Discs, CD's, CD-video's, and CD-3's. Features remote control; quadruple-oversampling digital filter; 8-bit digital-field memory; video special effects; dual D/A converters; optical digital audio output; 20-chapter programmability; 10-key direct access search; still/step; 2-speed silent scan; frame-time search; chapter search; 9-step multi-speed play. \$1,300

Elite PD-M900 CD Changer

Magazine-type CD changer with 6-disc capacity and remote control. Features anti-resonance honeycomb/copper chassis; gold-plated output jacks; anti-vibration insulators; 8-times oversampling; dual D/A converters; coaxial and optical digital output; MPSS (magazine program selection system) for 256-selection programming and magazine/program labeling from remote control; time/fade edit; auto-fader; delete; non-repeating random play; direct access disc and track selection; 2-speed manual search; repeat disc, track, and program hand-brushed lacquer finish; rosewood-finished side panels. \$825

PD-M600 CD Changer

Magazine-type CD changer with 6-disc capacity and remote control. Features 4-times oversampling; dual D/A converters; MPSS (magazine program selection system); time/fade edit; auto-fader; delete; non-repeating random play; direct access disc and track selection; 2-speed manual search; repeat disc, track, and program. \$585

PROTON

AC-300 CD Player

CD player with 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 tracks, total playing time, track number, and elapsed time of each track; repeat disc, track, and program; headphone jack with adjustable level. FR 20-20,000 Hz ± 3 dB; dynamic range 96 dB; S/N 96 dB; ch sep (at 1 kHz) 94 dB; THD (at 1 kHz) 0.003%; IMD 0.003%. 16.5 x 3.4 x 11.2 in; 7.9 lb \$399

QUASAR

CD8956 CD Player

Drawer-loading CD player with direct access. Features high-speed linear-motor access system; skip forward; skip back; fast forward; fast reverse; cancel; programming of 20 tracks in any order; repeat track, phrase, disc, and program; one-beam laser; single D/A converter; 96th-order

FIR double-oversampling filter; audible fast scan. Cues by track and index number. Displays current track number, elapsed time of current track, elapsed time on disc, remaining time on disc. 16.94 x 3.03 x 0.19 in \$250

CD8988 CD Changer

Remote control CD player features 6-disc changer; quick response direct entry system; 36-step random access program. \$350

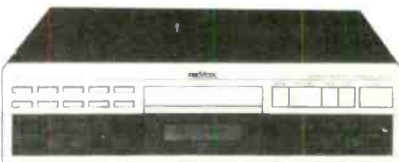
REALISTIC

CD 6000 CD Changer

Remote-control changer plays up to 6 discs automatically; includes 6-disc magazine; 32 tracks; 2x oversampling; tri-spot laser; 3-way repeat; dual-mode LED display; auto-search; bi-directional audible skip and search \$360

CD-2400 Programmable CD Player

Programs 15 tracks; 3-spot laser; floating disc tray; 4-digit fluorescent display; repeats track, program, disc; scan forward and reverse; bi-directional auto search; repeat of program, entire disc, or single selection \$200



Revox B226

REVOX

B226 CD Player

Drawer-loading CD player with Revox system-remote compatibility. Features 16-bit, quadruple oversampling; new generation transport and D/A converters; display shows track number, time remaining, time elapsed for both track and disc; fixed and variable outputs; 2-digital outputs; 19-step programming by track/index access from 1-99; audible forward/reverse search; locate function; headphone jack with adjustable level; FR 20-20,000 Hz ± 0.1 dB; S/N >100 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-820BX2 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

Drawer-loading CD player with programming of 9 tracks in random or sequential order. Features skip forward; skip back; fast forward; fast reverse; cancel; repeat track; repeat disc; 3-beam laser; high-slope digital filtering; 3rd-order analog filtering; single D/A converter. Oversamples at 44.1 kHz. Cues by track number. Displays current track number, elapsed time of current track. 17 x 3.81 x 11.44 in; 9 lb \$379

SAE

D102 CD Player

Fully programmable, single beam laser, computer direct-line CD player. Features random ac-

COMPACT DISC PLAYERS

cess function for 20 tracks; LED readout for track, time mode, error alert, and repeat; cueing function; bi-directional, 3-speed audible search modes; previous/next track; error correction; quadruple oversampling at 176.4 kHz through 16 bit processor; 12 function infrared remote control commander; FR 2-20,000 Hz \pm 0.3 dB; phase linearity \pm 0.5 degrees; S/N >100 dB; THD 0.006%; CIRC error correction. \$599



SANSUI 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, and all tracks; random programming for up to 20 tracks; headphone output w/volume control. S/N 105 dB; FR 5-20,000 Hz. 17.56 x 3.75 x 16.13 in. \$650

CD-X510M CD Changer

Dual-cartridge, multi-play, 12-disc CD Changer with single-play tray and CD-3 adaptor. Features remote control; two 6-disc magazine-type cartridges; random programming; variable music/intro scan; 3 repeat modes; dual D/A converters, double-oversampling digital filter. FR 5-20,000 Hz; dynamic range >95 dB; S/N 100 dB; THD (at 1,000 Hz) 0.004%. 5.7 x 17 x 12.63 in. \$630

CD-X501i CD Player

CD player with quadruple-oversampling digital filter. Features dual D/A converters; digital output; FL display; 20-track random programming; random play; 4-way repeat; variable time music scan; Dynamic Servo System; master clock; flux-free chassis. THD (at 1 kHz) 0.003%; FR 4-20,000 Hz; dynamic range >97 dB; S/N >106 dB. 3.88 x 17.7 x 12.5 in. \$600



SANSUI CD-X501i

CD-X301i CD Player

CD player with double-oversampling digital filter. Features dual D/A converters; FL 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 1,000 Hz) 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; multi-function FL display; internally-damped suspension system; mic mixing; 3-way repeat operation; 3-beam tracking system; adjustable output level from remote and front panel. timer play. 16.75 x 4.5 x 12 in; 11 lb. 14 oz. \$500

CP850 CD Player

CD player with infrared wireless remote control. Features 16-track programming; multi-function LCD display; 3-beam laser; isolated suspension system; skip forward/reverse; 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; programs 20 tracks in any order; 16-bit 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 search; 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 D/A converter. THD 0.03% at 1 kHz. 4.4 x 17.1 x 11.75 in; 13 lb. \$350

SHARP

DX-C5000 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; APSS (auto program search system); monitor search; cushioned floating mechanism. \$400

DX-R780 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

DX-660 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. \$230

SHERWOOD

CDP-300R CD Player

Drawer-loading CD player remote compatible with Sherwood remote-controlled receivers. Features programming of 20 tracks in any order; skip forward; skip back; fast forward; fast reverse; one-beam laser; quadruple oversampling digital filtering; 1st-order linear-phase analog filtering; sound audible during fast scan; display for current track number, elapsed time of current track, and elapsed time on disc. 3.25 x 17.36 x 9.75 in; 11 lb. \$300

CD-1160R CD Player

Features Sherwood Digi-Link remote capability; 3-beam laser; random programming up to 20 selections; multi-function LCD display; double oversampling digital filter; auto-space for making auto-search capable recording; 4 way repeat feature; motorized touch-sensitive disc loading; random play alternates playback sequence. 2.8 x 17.3 x 10.2 in. \$249

SHURE

Ultra D6000 CD Player

Drawer-loading CD player with wireless remote control including remote volume. Programs 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 time; 19-function remote; headphone jack; adjustable headphone; three-beam pickup; oversamples at 88.2 kHz; independent L/R digital filters 80 dB attenuation; five-pole active above 30,000 Hz analog filtering; dual 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



SHURE Ultra D6000

SONOGRAFHE 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; headphone jack; digital filtering; dual 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

SONY

CD Players

CDP-707ESD CD Player

Programmable CD player with 8-times-oversampling digital filter. Features CD-3 capability; 18-bit linear dual D/A converters; independent converters for left and right channels; error prediction logic circuit; envelope differential detection system; single aspheric lens laser pickup assembly; noncogging linear motor transport; separate power supplies for digital and analog circuits; direct digital outputs capable of relaying combination digital data and subcode-graphics 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

CDP-507ESD. As above without 18-bit linear dual D/A converters and twin power transformers. Approx. \$600

CDP-307ESD. As above without 8-times-oversampling digital filter, error protection logic, or coaxial and optical digital outputs. \$475

CDP-950 CD Player

CD player with Remote Commander unit. Features unilinear converter/digital filter; dual D/A converters; envelope differential detection system; monocoque chassis; 5 power supply stages;

COMPACT DISC PLAYERS

aspheric optical pickup; 16-bit digital filter with quadruple-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. \$450

CDP-207ESD CD Player

With 20-key direct selection and CD-3 capability. Features 20-selection music calendar; convenient play modes; program edit capability; delete shuffle play and automatic timer play. Comes with Remote Commander \$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; monocoque chassis; 16-selection music calendar; fluorescent display; various repeat modes; program edit capability; shuffle play; headphone output level control and auto timer play. \$280

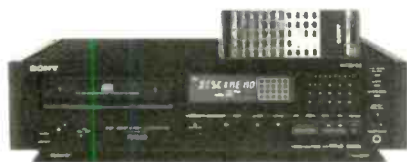
CD Changers

CDP-C15ESD 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; direct digital 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 \$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; quadruple-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. \$350



Sony CDP-707ESD

SOUNDCRAFTSMEN

CD750 CD Player

CD player with differential/computer circuitry. Features high dynamic range; optional tinting; spectral gradient circuit; both circuits bypassable; indexing; digital filter; all-metal chassis; audible scan; random; passage-repeat; 3-beam laser; full function infrared remote control; oversampling; multi-function fluorescent

display; variable volume control headphone jack; gold-plated output jacks; shock-mounted disc-handling; 19 x 3.25 x 12 in \$599

SYLVANIA

CDI473 FTS CD Player

Favorite Track Selection memorizes programs from various discs (up to 785 tracks); touch-close drawer; 24-function remote control with 10-digit keypad and volume control. \$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 control. Rosewood side panels and remote control optional. 17.13 x 13.5 x 13.75 in. 12.5 lb. \$2,500

TEAC

PD-470 CD Player

3 beam laser system with twin monaural 16-bit linear D/A converters. 4x oversampling digital filter; 20 selection random memory programming; 20 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 2-20,000 Hz; S/N >95 dB; THD .005%; 4.56 x 17.13 x 11.19 in; 8.38 lb . . . \$400

TECHNICS

CD Players

SL-P1300 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; $\pm 8\%$ pitch control; optical and electrical digital outputs; 2-speed search dial; audible pulse; rocker switch for mixing; cueing by direct CD time code; balanced outputs; wired remote control; 10-button keypad; auto-cue; separated digital and analog power supplies; class AA sample and hold circuit; class AA output; high-speed linear-motor access system; skip keys; 2-speed audible search; repeat track, disc, and program; headphone jack with adjustable level; line out via unbalanced (phono) pin connectors; balanced output; sub-code output; full-function FL display; cue search. 6.7 x 16.9 x 4.8 in \$1,700

SL-P1200 Disco CD Player

Top-loading CD player for discos or production cues to any point within track. Rocker control for momentary advance or retard. Features quartz-locked pitch control ($\pm 8\%$); 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 converter; 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 track number, elapsed time of current track, elapsed time on disc, remaining time on disc,

remaining time in track, program in memory. 17 x 7 x 15 in; 22 lb. \$1,295

SL-P990 CD Player

CD player with quadruple-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; 5-layer anti-vibration chassis; 2-speed audible search; peak level search for taping; CD edit; music scan; A/B repeat; track repeat; dimmer switch; gold-plated output jacks; 32-track programming; timer play \$825



Technics SL-P990

SL-P770 CD Player

CD player with quadruple-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 taping; CD edit; music scan; A/B repeat; track repeat; dimmer switch; gold-plated output jacks; 32-track programming; timer \$620

SL-P550 CD Player

CD player with quadruple-oversampling digital filter and remote control. Features 32-track random-access programming; dual DA 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; disc window; high speed transport; peak level search for taping; CD edit; A/B repeat; track repeat; program repeat; 2-speed audible search \$420

SL-P350 CD Player

CD player with quadruple-oversampling digital filter and remote control. Features 32-track random-access programming; dual DA 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; high speed transport; peak level search for taping; CD edit; track repeat; program repeat; 2-speed audible search \$340

SL-P250 CD Player

CD player with quadruple-oversampling digital filter and remote control. Features 20-track random-access programming; dual DA converters; full-function FL display; linear matrix track and programming indicator; 10-key direct access; headphone jack with adjustable level; high-

“In its price category, the Adcom GFA-535 is not only an excellent choice; it’s the only choice.”

Sam Tellig, The Audio Cheapskate

stereophile

Vol. 10 No. 7 November 1987



Adcom GFA-535 power amplifier.

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-V MR 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. Credibility.

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 Arcici 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 extraor-

dinarily 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-535 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 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. Spondor 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, Spondors, later Vandersteens. Probably Thiels, too—at least the CS1. 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 that 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 connectors 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 phono), 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—ie, whether you should put the money into a better CD player or pair of speakers instead.

ADCOM

11 Elkins Road, East Brunswick, NJ 08816 201-390-1130
Distributed in Canada by PRO ACOUSTICS, INC.,
Pointe Claire, Quebec H9R 4X5

COMPACT DISC PLAYERS

speed linear-motor access system; high speed transport; peak level search for taping; track, disc, and program repeat; random play; music scan \$300

CD Changers

SL-P600C 6-Disc CD Changer

Plays 6 discs in magazine; wireless remote; 36-track random programming; 10-key number pad on unit and remote; headphone jack with volume control; high-speed access with 2-purpose search/skip buttons; display of number of tracks, programmed tracks, current track, elapsed time; random and repeat play; floating isolation system; quadruple-oversampling digital filter \$470

SL-P300C 6-Disc CD Changer

Plays 6 discs in magazine; remote-compatible; 36-track random programming; 10-key number pad on unit and remote; headphone jack with volume control; high-speed access with 2-purpose search/skip buttons; FL display; random and repeat play; quadruple-oversampling digital filter \$299

TOSHIBA

CD Players

XR-9037 CD Player

Remote control w/volume control; digital peak search; 20-program random memory; double oversampling and digital filter \$450

XR-9018 CD Player

CD player with 16-track random programming. Features double-oversampling digital filter; 3-beam laser pickup; quick-program-selector up/down key; automatic repeat capability; LCD with track, lap, and remaining time; fast forward and reverse; integrated system remote capability; headphone jack with adjustable level. \$279
XR-9028. As above, with remote control. \$329

CD Changers

XR-9057 CD Changer

CD changer with 6-disc capacity and single-play drawer. Features 32-track random programming; double-oversampling digital filter; 3-beam laser pickup; 32-key wireless remote control; intro scan; random play; 9-digit multi-function display; cumulative time display; 10x audible search; fast forward and reverse; system remote capability \$499
XR-9058. As above with system remote . \$599

VECTOR RESEARCH

VCD-900 CD Player

Drawer-loading CD player with full-function remote control (10-key direct-track access, remote volume control). Features programming of 15 tracks in random and sequential order; skip forward; skip back; fast forward; fast reverse; cancel; repeat track, disc, phrase, and program; 3-beam laser; digital and analog filtering; single D/A converter; sound audible during fast scans. Cues by track number. Double-oversampling digital filter. Displays current track number, elapsed time of current track, elapsed time on disc, program in memory. 17 x 3.5 x 12.5 in; 11 lb \$399

VCD-650CX CD Changer/Cassette Deck

Combination 6-disc capacity CD changer and full-logic cassette deck. Features double-oversampling digital filter; synchro-dubbing; 32-track random programming; auto pause; shuffle play; repeat all discs, one disc, track, or pro-

gram; LCD; headphone jack; remote control; Dolby B and C NR; separate L & R record controls; one-touch dubbing; music search. Compatible with JVC magazines \$599



Yamaha CDX-910U

YAMAHA

CDX-10000 CD Player

Limited centennial edition compact disc player with wireless remote control. Features hi-bit quadruple oversampling digital filter; hi-bit D/A converter; 20-bit digital volume control; high-speed linear motor; internal photo-optical coupling; output level control; digital-out terminals; heavy-duty chassis; 24-track direct access play; random play; front-panel headphone jack; gold-plated connection terminals. Titanium grey with walnut end panels \$3,000

CDX-5000 CD Player

Drawer-loading CD player with 44-key wireless remote control. Features hand-selected parts; double floating suspension design; super-high-speed access; hi-bit quadruple oversampling digital filter; hi-bit D/A converter; Hi-bit digital volume control; photo-optical coupling; dual-transformer shunt-regulated power supplies; digital-out terminals; random play; index search; front panel headphone jack; integrated remote system compatible. Black; 55 lb. \$2,200

CDX-1110U CD Player

CD player with hi-bit direct output. Features 18-bit 8-times-oversampling digital filter; dual D/A converters; 20-bit digital volume control; microcomputer-controlled 2-way servo system; independent transformer shunt-regulated power supply; optical and coaxial digital output connectors; high-speed linear motor provides 0.8 second access speed; 3-beam laser pickup; 44-key wireless remote control; 24-track direct access; 24-track random access programming; random play; calendar display; four-way repeat; index search; three-way music search; gold-plated terminals; integrated remote control capability \$1,199

CDX-910U CD Player

CD player with hi-bit direct output. Features 18-bit 8-times-oversampling digital filter; dual D/A converters; 20-bit digital volume control; microcomputer-controlled 2-way servo system; optical and coaxial digital output connectors; 3-beam laser pickup; 46-key wireless remote control; 24-track direct access; 24-track random access programming; calendar display; 4-way repeat; index search; 3-way music search; gold-plated terminals; integrated remote control capability \$699

CDX-510U CD Player

CD player with hi-bit direct output. Features 18-bit quadruple-oversampling digital filter; 16-bit D/A converter; microcomputer-controlled 2-way servo system; 3rd order Bessel-type analog low-pass filter; 3-beam laser pickup; 22-key wireless remote control; 24-track random access programming; calendar display; 3-way repeat; index search; 3-way music search; gold-plated terminals; integrated remote control capability; coaxial digital output; headphone jack with adjustable level. \$329



ACCUPHASE 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 dBf, stereo 17 dBf; S/N 83 dB stereo, 79 dB mono (at 80 dBf A-wtd); FR 10-60,000 Hz +0, -0.5 dB; capture ratio 1.5 dB; sep 50 dB at 1,000 Hz; AM sup 80 dB at 65 dBf. AM section: sens 20 μ V/m at 20 dB S/N; 17.5 x 5.06 x 14.56 in. \$2,000

ACOUSTIC RESEARCH

AR T-02 AM/FM Tuner

Features infrared remote control of tuning functions; system remote operation; 8 AM/FM station presets; frequency-synthesized tuning; digital frequency display; smooth flywheel-assisted tuning; manual or auto station search. FM section: FM usable sens (mono) 11.2 dBf (2.0 μ V); FM 50-dB quieting sens 37.2 dBf (40 μ V) stereo, 14.6 dBf (3.0 mV) mono; S/N 75 dB stereo; FR 30-15,000 Hz \pm 0.5 dB; capture ratio 1.0 dB; sep 48 dB at 1,000 Hz; AM suppression 58 dB; alt-ch sel 60 dB. AM section: FR 60-3,000 Hz \pm 3 dB. 3.31 x 17 x 13 in. \$499

ADCOM

GTP-500 Tuner/Preamplifier

Preamplifier with built-in tuner can be used with Adcom or other power amps. Wireless remote control included. Remote sensors available for remote control from different rooms. Tuner section features quartz-referenced digitally synthesized tuning; auto up and down scan; 8 AM/FM presets; 5-LED signal-strength display; high-blend circuit; 2 sets of outputs (AC coupled, DC coupled). Preamp section features inputs for MM phono; tape; tape 2; CD player; tuner. S/N phono A-wtd 85 dB; IMD preamp 0.0015%; sens tuner 36.5 dBf stereo; THD tuner 0.09% stereo at 1,000 Hz; S/N tuner 75 dB stereo; sep tuner 52 dB at 1,000 Hz. 3.325 x 17 x 12.75 in. \$600

GFP-555 AM/FM Tuner

Features quartz-referenced digitally synthesized tuning; auto up/down scan; instant-recall preset tuning; fluorescent digital-frequency display; 8 AM/FM presets; 5-LED signal-strength display; switchable high-blend circuit; mono/mute switch; tuning accuracy of 0.00025%. THD stereo 0.07% at 1,000 Hz; 50-dB quieting sens stereo 35.5 dBf; S/N 78 dB stereo; FR 30-15,000 Hz \pm 3 dB; capture ratio 1.5 dB; sep 53 dB at 1,000 Hz; AM suppression 70 dB. 3.25 x 17 x 12.5 in. \$500

A/D/S/

CC4 Tuner/Preamplifier

With microprocessor operating system for remote-control operation, digital volume and tone controls, and alphanumeric display. Remote IR receiver capability for multi-room remote control; RS-232 port for control by personal computer; digital-synthesized tuning with 30 AM or FM stations; optional remote control. Preamp section: max output >7 V rms into 10,000 ohms/1,000 pF; volume and balance control range 80 dB in 1-dB steps; bass and treble control range \pm 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 1,000 Hz > 47 dB. AM section; sens for 6-dB S/N < 10 μ V; IF rejection > 50 dB; S/N 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-blend control; LED frequency display; center tuning plus signal-strength displays; AC outlets. FM usable sens mono 1.0 μ V (11.0 dBf) stereo 5.5 μ V (26.1 dBf); stereo 50-dB quieting sens 15 μ V (34.8 dBf); S/N mono > 70 dB, stereo > 65 dB; FR 10-14,500 Hz. +0, -1 dB; ch sep > 38 dB at 10,000 Hz; capture ratio < 1.8 dB; AM quieting sens < 5 μ V 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. \$539

AKAI

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 μ V; S/N 70 dB; FR 20-12,000 Hz \pm 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 μ V; 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

Fet Three FM Tuner

FM tuner with Overload-Immune FET integrated circuitry in the audio stages. Features film coupling capacitors; optimized power supply decoupling circuits; electronic signal-seeking; tuning; digital readout; non-volatile station presets; mono-stereo switching; variable tuning; headphone jack. 17 x 9 x 3 in; 9 lb. \$525

AUDIO DESIGN ASSOCIATES

FM-600A Tuner

Analog FM tuner with 6 presets and digital frequency readout. Features AFC tuning; muting; stereo-blend noise filter; stereo/mono mode all front-panel switchable; signal strength/multi-path 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; 50-dB quieting sens stereo 2.7 mV; THD 0.15% at 1,000 Hz; S/N 65 dB; FR 15-15,000 Hz \pm 3 dB; capture ratio 1.9 dB; sep 47 dB at 1,000 Hz; adjacent-ch rejection 90 dB 12 lb; 19 x 5.25 x 13 in. \$2,395

AUDIO DYNAMICS

T200 AM/FM Tuner

Digital-synthesis tuner with Schotz noise reduction. Features 8 AM/8 FM station presets; auto wide/narrow bandwidth switching; extended AM response; auto station scanning; frequency response 15-15,000 Hz \pm 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; Schotz noise reduction; interference rejection; 10 AM/10 FM station presets; capture ratio 1.5 dB; signal-strength range 25-65 dB; sep 30 dB. \$349

TUNERS

CAMBRIDGE AUDIO

T75 AM/FM Tuner

Digital synthesis tuner with FM and AM wavebands. Variable bandwidth, 8 presets on FM and AM, dual FM demodulator with linear IF strip..... \$799

T40 AM/FM Tuner

Analog tuner with AM and two FM wavebands. Dual MOSFET tuning head, dual FM demodulator with linear IF strip, pilot tone cancelling stereo decoder and linear phase filter..... \$599

CARVER

TX-11a FM/AM Tuner

Digital quartz-synthesized tuner with Asymmetrical Charge Coupled FM Detector circuit to reduce multipath distortion while retaining full separation. 13 presets; auto/manual scan; wide/narrow bandwidth selector; antenna. FM section: FM usable sens 1 μ V mono; 50-dB quieting sens 3.1 μ V; alt-ch sel 110 dB; adj-ch rej 110 dB; capture ratio 1.0 dB; AM sup 65 dB; image, i-f, spurious-response ratio 110 dB. AM section: sep 35 dB; S/N 77 dB..... \$720

TX-2 AM/FM Tuner

AM/FM tuner with Asymmetrical Charge Coupled FM Detector. FM section: FM usable sens mono 1.8 μ V, stereo 4.5 μ V; 50-dB quieting sens stereo 5 μ V; capture ratio 1.5; sep 43 dB at 1,000 Hz; AM sup 60 dB; alt-ch rej 58 dB; adj-clr rej 28 dB. AM section: sens 250 μ V with built-in antenna, 20 μ V with external antenna..... \$450

DBX

TX1 AM/FM Tuner

Features Schotz dynamic noise reduction; auto IF-bandwidth switching; extended NRSC AM response; 6 AM/6 FM station presets; mono and high-blend switches. FM FR 15-15,000 Hz \pm 0.25 dB; FM S/N 79 dB stereo; capture ratio 1.5 dB; FM sens (75-ohm input) 43.7 dBf (42 μ V) stereo with 60-dB S/N..... \$800

DENON

TU-800 AM/FM Tuner

Features Dynamic-Twin-Drive PLL circuits; 3-step IF bandwidth selection; 30-station random preset memory; MPX-NR switch; high-sensitivity digital synthesis tuning; low-impedance output; auto-scan tuning; quick manual tuning; step manual tuning; last-channel-tuned memory; large FL display. FM 50 dB quieting sens 20 μ V (37.2 dBf) stereo, 1.6 μ V (15.3 dBf) mono; signal-to-noise ratio 96 dB mono, 86 dB stereo; capture ratio 1.2 dB; AM sup 70 dB. 3.5 x 17.09 x 12.4 in..... \$500

TU-600 AM/FM Tuner

Features dynamic PLL detection with auto bandwidth selection; 20 AM/FM presets with stored bandwidth instruction from each station; low-imp outputs; auto or manual scan. Side panels standard..... \$400

TU-550 AM/FM Tuner

Features front end MOSFET RF; 20-station random preset memory; 2-position IF mode selection; MPX NR switch; auto scan tuning/manual tuning; last-channel memory; fluorescent display; FM usable sens 0.9 μ V; S/N mono 84 dB, stereo 78 dB; THD stereo 0.08%; image rejection 45 dB; IF rejection 85 dB; 2.79 x 17.08 x 11.41 in; 6.84 lb..... \$300

HAFLER

DH-330 AM/FM Tuner

Quartz-controlled tuner provides exact station selection with a digitally synthesized tuning system. Features multipath distortion and noise-sensing circuit; 5-station memory; autosearch; digital read out; nonvolatile memory; 3 dual-gate 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; dist. 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

HARMAN KARDON

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; anodized brushed aluminum blue/black finish with molded rubber trim; heavy-gauge metal chassis. 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

TU920 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-LED 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

TU909 AM/FM Tuner

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

HITACHI

HPT120AVSW AM/FM Tuner/Preamp

Quartz digital-synthesized tuner section; 20 AM/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-synthesis tuner with Opticalink system for reduced digital noise. Features 40 AM/40 FM station presets; auto memory; preset scan; variable stop level; dB signal-strength indicator; auto QSC; 6-column alphanumeric display; 2 antenna inputs; program memory and monitor for recording off the air unattended; record calibration signal generator..... \$470

FX555BK AM/FM Tuner

Quartz-PLL digital frequency synthesis tuner.

Features Opticalink 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); DLLD (Direct Linear Loop Director); DCC (Distortion Correcting Circuit); and DPD; usable sens 10.8 dBf; 50 dB quieting sens 16.2 dBf; S/N ratio 78 dB at 65 dBf; THD 0.009% at 1,000 Hz; alt-ch sel 60 dB; FR 20-15,000 Hz \pm 0.5 dB: 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 station (adjustable correction); circuit designed to compensate 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 dB S/N 6.3 μ V; image rejection 50 dB; IF rejection 50 dB; FR 4,000 - 6 dB..... \$695

KYOCERA

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/wide-band IF selection. FM section: FM usable sens 1.7 μ V (9.8 dBf); 50-dB quieting sens mono 3.0 μ V (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 μ V with built-in antenna, 10 μ V with external antenna; 26.5 lb..... \$590

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 dBf; 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 dBf & 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

TUNERS

plus bandwidth setting for each preset); retains memory for 2 weeks without AC or battery; switchable wide/narrow bandwidth \$780

ST-432 AM/FM Tuner

Quartz-digital synthesized AM/FM tuner. Features 24 random-access preset station memories; remote control; last-tuned station recall; non-volatile memory insures against power failure; THD 0.25%; alt-ch sel 55 dB; rejection ratio 60 dB. \$115

McINTOSH

MR-7082 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; double-balanced mixer; PLL MPX 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 0.08% from 20-15,000 Hz with 100% modulation or 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 IHF, 65 dB at 100% modulation; THD 0.2% at 30% modulation; sel 40 dB IHF; IF response 90 dB. Power requirement 120 V 50/60 Hz 10 W. 16 x 5.44 x 13 in. \$1,499

MERIDIAN BY MADRIGAL

204 FM Tuner-Timer

Instant access to 18 preset stations; scan tuning; manual tuning in 50-kHz steps; displays frequency, preset number, signal strength, or time; battery backup; timer controls 200 system. 50-dB quieting sens 23 μ V stereo; sel 56 dB; capture ratio 1.5 dB; AM sup > 55 dB \$1,100
209. Remote master control works with 204 and other Meridian 200-series components; selects FM stations; controls 8 inputs, volume, and mute; needs 9-V battery \$150

NAD

4300 Monitor Series Tuner

Features digital frequency synthesis tuning; 55 decibels stereo separation; 80 dB selectivity; 120 dB image rejection; S/N ratio exceeds 80 dB; 8 AM/FM presets; IF wide/narrow; FM noise reduction; rack mountable \$598

4225 Tuner

14 random AM/FM presets; ultralinear IF filters; switchable blend circuit; S/N ratio exceeds 75 dB \$248

NAKAMICHI

ST-7 AM/FM Tuner

Tuner with Schotz noise reduction. Features signal/multipath meter; 16 station presets; output level controls (R + L independent). FM IHF sens mono 1.7 μ V (10 dBf), stereo 3.9 μ V (17 dBf); FM usable sens mono 1.7 μ V (10 dBf), stereo 3.9 μ V (17 dBf); 50-dB quieting sens mono 2.7 μ V (14 dBf), stereo 14 μ V (28 dBf); THD stereo 0.08%, mono 0.06% at 1,000 Hz; S/N 76 dB stereo, 80 dB mono; FR 20-15,000 Hz \pm 1 dB; capture ratio 1.9 dB; sep 55 dB at 1,000 Hz; AM suppression better than 60 dB; alt-ch rejection > 60 dB. 17.12 x 2.5 x 11.37 in \$725

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; FL frequency readout; low-noise dual-gate MOSFET front end; multiplex 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 μ V). 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

NIKKO AUDIO

Gamma-400 Tuner

Variable high-blend control tuner with memory scan. Features 10 FM and 10 AM presets; muting; narrow/wide IF band selector; seek; auto/manual tuning; 220k microfarad capacitor for power back up; sens 9.2 dBf; sel 80 dB; sep 60 dB; S/N 86 dB; FR 30-15,000 Hz +1 dB; 19" rack mountable. \$440

ONIX AUDIO BY MUSIC HALL

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 with battery-free backup; ultra high sensitivity; chassis damping; dual-antenna inputs; cable FM tuning capability; timer-controlled program preset capability; remote capable with supplied controller; wood side panel \$850

T-4087 AM/FM Tuner

Tuner with automatic precision reception system to control 4 modes (stereo-muting on/mono-muting off, auto high-blend on/off, local/DX, 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 panels included. FM usable sens 17.2 dBf (2 μ V) stereo; 50-dB quieting sens 36 dBf (17 μ V) stereo; S/N 77 dB stereo; FR 30-15,000 Hz \pm 1 dB; capture ratio 1 dB. 18.25 x 3 x 14.62 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 μ V) stereo; 50-dB quieting sens 36.1 dBf (35 μ V) stereo; capture ratio 1.3 decibels (wide); FM frequency response 30-15,000 Hz \pm 0.5, -1 decibels. 17.2 x 2.75 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 \pm 0.5 dB; channel selectivity 66 dB; 17.25 x 2.5 x 9.5 in \$285

PERREAUX

TU3 PLL FM Tuner

5-section tuned-Varicap RF section; micro-processor-controlled digital tuning; linear phase filters in IF stage; switchable de-emphasis. S/N stereo 68 dBA (at 65 dBf), usable sens stereo 35.8 dBf (17 μ V); THD stereo 0.14%; FR 15-30,000 Hz \pm 0.5 dB; capture ratio 1.5 dB; de-emphasis 25 μ s, 50 μ s, 75 μ s (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 Tetrode MOSFET front ends, with intrinsic high linearity handle strong signals without distortion, and receives weak signals clearly; FM mixer oscillator is buffered to suppress radio 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 μ V at 75 kHz deviation; stereo 46 dB S/N 25 μ V at 75 kHz deviation; THD mono/stereo 0.2%/0.5%; FR 30-15,000 Hz \pm 0.5 -2 dB; IF suppression 80 dB; audio output 1000 mV. 3 kilograms \$259

PIONEER

Elite F-91 Tuner

Digital AM/FM tuner. Features ARTS (Active Real-Time Tracing System) with active IF filter; digital decoding; 4-ganged tuning capacitor; MOSFET circuit; 24 AM/FM station presets; 3-position muting level; remote compatible; honeycomb chassis. THD 0.02%; alt ch sel 85 dB; S/N 88 dB \$550

F-717 AM/FM Tuner

Digital-processing tuner. Features electronic twin-varicaps; 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 ration 1.0 dB \$325

PROTON

440 Tuner

Schotz AM/FM tuner with Schotz 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 μ V (10.3 dBf); 50-dB quieting sens mono (15.3 dBf), stereo (33.2 dBf); THD stereo 0.2%, mono 0.05% at 1,000 Hz; S/N 70 dB stereo, 75 dB mono; FR 20-20,000 Hz \pm 0.2 dB; capture ratio 1.5 dB; sep 45 dB at 1,000 Hz; AM sup 60 dB; alt-ch rej 55 dB; adj-ch rej 90 dB. AM section: sens 300 μ V 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

TUNERS

44 preamp. Features no controls except 8 push-buttons 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 anthracite grey. Mono/stereo 50-dB quieting sens 2.7/25 μ V; mono/stereo S/N ratio 76/70 dB at 1 kHz, 1 mV A-wtd; mono/stereo distortion 0.05%/0.10% stereo; capture ratio 2.5 dB; sel 53 dB; image/IF rejection 80/100 dB; frequency response 20-15,000 Hz \pm 0/-1 dB; crosstalk 40 dB at 1 kHz; pilot-tone suppression 60 dB; deemphasis switchable for 50/75 microseconds; power consumption 6 volts; 321 x 207 x 64 mm; 3 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 prt; max S/N $>$ 80 dB; THD 0.07%; alternate channel selectivity; FR 20-15,000 Hz \pm 0.5 dB; 17.2 x 4.3 x 13 in; 15.4 lb \$2,500

B160 FM Tuner. Similar to B260-S but stores up to 30 preset stations \$1,575

ROTEL

RT850A AM/FM Tuner

Quartz-synthesizer tuner with microprocessor circuitry. Features 6 AM/6 FM presets, manual and autoseek tuning. FM section: usable sens mono 2 μ V (11.2 dBf), 50-dB quieting sens mono 3 μ V (14.6 dBf), stereo 40 μ V (37.2 dBf); THD stereo 0.2%, mono 0.08% at 1,000 Hz; S/N 73 dB stereo, 75 dB mono; FR 30-15,000 Hz \pm 0, -2 dB; capture ratio 1.0 dB; sep 48 dB at 1,000 Hz; AM suppression 58 dB; AM section: sens 300 μ V/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 indicators; IF narrow; high blend; memory scan. FM Section: IHF sens stereo 3.9 μ V (17 dBf); 50-dB quieting sens stereo 32 μ V (35.3 dBf); THD stereo 0.08% at 1,000 Hz; S/N stereo 70 dB. FR 30-18,000 Hz \pm 1, -2 dB; capture ratio 1.2 dB; sep 55 dB 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: IHF sens stereo 4.1 μ V; 50-dB quieting sens 34 μ V; THD stereo 0.08% at 1,000 Hz; S/N 70 dB stereo; FR 30-18,000 Hz \pm 1, -2 dB; capture ratio 1.2 dB; sep 55 dB at 1,000 Hz; alt-ch rejection -100 dB narrow; adjch rejection -15 dB narrow. 19 x 3.5 x 12.5 in \$349

SANSUI

TU-X701 AM/FM Tuner

Vintage series tuner featuring random presets for 30 FM and AM stations; numeric keypad for recall; programming two station frequencies for unattended recording; memory scan; RF mode selection; IF bandwidth selection; record calibra-

tor; FM noise canceller; mode switch. Usable sens 38.0 dBf (stereo); THD 0.0095% (stereo); S/N 98 dB; IF response (at 84 MHz) 110 dB. 17.63 x 3.81 x 11.81 in; 10.4 lb \$500

TU-X301 AM/FM Tuner

Vintage series tuner features digital-synthesis tuning; 6 AM/6 FM station presets; FM noise canceller circuit. 50 dB quieting sens 36 dBf (stereo), 16 dBf (mono); S/N 72 dB (stereo), 78 dB (mono); capture ratio 1 dB. 17.69 x 1.81 x 8.94 in; 5.3 lb \$210

SHERWOOD

TD-7010R Tuner

Quartz PLL synthesized tuning system. Features digital display; MOSFET front end; auto-tuning; 30-preset stations; preset scan switch; 10-segment signal-strength meter; hi-blend switch; FM mute switch; AM/FM reception; AM bar antenna; usable sens 9.8 dBf; 50 dB quieting sens 36.1 dBf; FR 10-15 Hz \pm 3 dB; THD 0.25%; 50 dB stereo sep at 1 kHz; capture ratio 1.5 dB; alt-ch sel 70 dB; 3.2 x 17.3 x 8.7 in \$319

TD-1120 Tuner

Quartz PLL synthesized tuning system. Features digital display; 24-preset stations; MOSFET front end; auto-tuning; AM/FM reception; AM loop antenna; usable sens 11.2 dBf; 50 dB quieting sens 39.2 dBf; THD 0.4%; 45 dB stereo sep at 1 kHz; FR 10-15 Hz \pm 3 dB; capture ratio 2 dB; alt-ch sel 60 dB. 3.2 x 17.3 x 8.7 in \$169

SONY

ST-S730ES AM/FM Tuner

Features radial power-supply design; automatic microprocessor exclusion circuit master clock; SST super sound tracking; WOIF wave optimized IF system; WODD wave optimized direct detector; WODSD wave optimized digital stereo decoder; direct comparator circuitry. S/N 92 dB stereo, 100 dB mono; THD 0.0075% stereo, 0.004% mono; sens 10.3 dBf/0.9 μ V; sel (at 400 kHz) 70 dB; sep (at 1 kHz) 70 dB. 3.38 x 18.5 x 14.75 in; 12 lb, 6 oz \$550

ST-S500ES AM/FM Tuner

Features quartz frequency-synthesis tuning; Wave Optimized Direct PLL detector with low distortion and noise; Wave Optimized Digital Stereo Decoder; direct comparator circuitry; 10 AM/FM station presets; multi-process memory to remember various station settings for each preset; calibration tone presets for off-air taping. S/N 84 dB stereo; FR 15-15,000 Hz \pm 0.2, -0.5 dB; sel 55 dB narrow, 90 dB wide. 17 x 3.38 x 13.62 in; 9 lb \$300

SOUNDCRAFTSMEN

Pro-Tuner Four AM/FM Tuner

Digital quartz-PLL tuner with 16 station presets, 5-digit station readout, auto scan tuning, and active high-blend filter. 19" rack-mount front panel. IHF sens 1.6 μ V; S/N 75 dB; distortion 0.08%. 2.36 x 19 x 12 in \$349

SUMO

Aurora Tuner

Digital AM/FM tuner. Features auto seek forward/reverse; rotary tuning knob; 8 presets for both AM/FM; dynamic impulse noise reduction system; linear-phase IF filters; gold-plated output jacks; sens 11 dBf; alternate ch selectivity 75 dB; sep at 1,000 Hz 50 dB; S/N 82 dB; 19 x 8.75 x 1.75 in \$649

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/normal/narrow IF bandwidth selector; autorange signal-strength with 1,000-meter-range LED, center tuning/preset frequency meters. Audio circuitry includes selected all-metal 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 band width selection; 10-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

ST-G450 AM/FM Tuner

Digital AM/FM tuner with 24-station presets. Features preset channel scan; 10-key direct access; class AA operation; FL display; 3-point LED signal-strength indicator \$270

TOSHIBA

ST-5528 AM/FM Tuner

Features digital display; 16 station presets; preset memory recall; preset scan; automatic digital tuning lock-in for each available station; system remote control \$170

VECTOR RESEARCH

VU-1500 Tuner

Quartz PLL-synthesized tuner. FM section: alt-ch sel 60 dB; 50-dB quieting sens mono 3 μ V (10 dBf); 50-dB quieting sens stereo 40 μ V (37 dBf); max S/N A-wtd, 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; direct PLL IF count synthesizer tuning; 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

Manual belt-drive turntable with 24-pole synchronous motor. Features 33 and 45 rpm speeds. w&F 0.04% wrms; rumble -78 dB; 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); 18 lb. Natural cherry, with arm... \$725
Natural cherry, without arm... \$550

EB-101 Manual Turntable

Manual belt-drive pivoted-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. 33.33 and 45 rpm. 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 0.05% DIN; rumble -72 dB DIN; effective tonearm mass without cartridge 12 g; cartridge weight range 3-9 g; effective tonearm length 229 mm; overhang 16 mm; vertical and horizontal friction <100 mg; 7 x 18.19 x 15.25 in (dustcover down); 13.5 lb. \$500

ADC

LT 60 Automatic Turntable

Linear-tracking belt-drive P-mount turntable. Features 33.33 and 45 rpm; soft-touch electronic controls; illuminated electronic strobe 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 CC4 tuner/preamp. 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 \pm 0.025% wrms; rumble -75 dB DIN B, 53 dB DIN A; effective tonearm length 8.69"; max tracking error 2.2"; 4.53 x 17.5 x 14.25-in (dustcover down); 11 lb. . \$700



Akai AP-A305

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. 0.03% wrms; DIN-weighted rumble -80 dB; 12.5 x 3 x 12.75 in; 11.6 lb. \$499

Beogram 9000 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/cartridge combination; accepts all MMC 1-5 cartridges; servo-controlled DC motor; w&F less than 0.03% wrms. 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 subchassis; neoprene belt; 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 playings 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 0.035% 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 \$275

DP-7F Turntable

P-mount automatic turntable with dynamic servo tracer. Black \$200

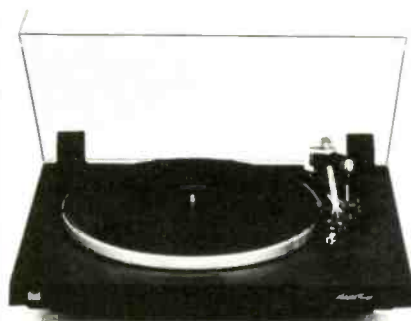
DUAL BY ORTOFON

CS 7000 Semiautomatic Turntable

Belt-drive turntable with 24k gold-plated finish. Features Optimum Pivot gyroscopic gimbal tonearm system; carbon fiber headshell; fixed- and variable-VTA tonearm; heavy metal feet; full-floating subchassis; resonance-damped die-cast aluminum platter; auto stop; three standard operating speeds at 33.33, 45, and 78 rpm. w&F <0.025%; 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 ULM tonearm. Walnut or black wood base \$350



Dual CS 505-3

HEYBROOK BY D'ASCANIO AUDIO

TT-2 Series II Turntable

Hand-assembled belt-drive 33.33- and 45-rpm armless manual turntable with removable armboard. Features low-speed synchronous motor driving massive 2-piece platter; adjustable 3-point spring-suspension subchassis of cast aluminum; laminated armboard; massive wood base. Finished in real walnut or gloss black. w&F <0.1% DIN peak wtd; rumble -73 dB wtd DIN-B. 6.25 x 17.5 x 14.25 in; 26 lb. \$650

TURNTABLES

HITACHI

HTMD46 Automatic Turntable

Linear tracking; belt drive; MM cartridge with diamond stylus; auto size/speed selector; photo sensor return; feather-touch IC-logic control; muting; front-panel operation; die-cast aluminum-alloy platter; remote controlled through Hitachi HTA50AV or HPT120AV. Wow and flutter 0.045% weighted root mean square; signal-to-noise ratio 70 dB DIN-B \$180

JVC

ALFQ55BK Direct-Drive Turntable

Features coreless DC-servo direct-drive motor; fully-automatic operation with automatic record size and speed selector; low-mass straight tonearm; high-stability cabinet support system; large insulators; arm cueing control; double-servo quartz control; illuminated strobe on platter perimeter; plug-in cartridge connector.... \$240

ALF353BK Automatic Turntable

Automatic turntable features automatic record size and speed selector; DC-servo motor; arm cueing control; plug-in cartridge connector system; low-mass straight tone-arm..... \$175

KENWOOD

KD-77FC Direct-Drive Turntable

Features linear tracking; 7-song random access programming; auto-disc size & speed selection; fully automatic mechanism; dual magnet type cartridge included; system remote controllable; auto function; coreless and slotless FG servo motor; 2 speeds; wow and flutter less than 0.025%; frequency response 20-20,000 Hz. 4.06 x 16.56 x 15.13 inches; 12.6 lb \$249

KD-47F Belt-Drive Turntable

Belt-drive turntable with fully-automatic mechanism. Features system remote controllable ability; T-4P cartridge compatible tonearm; FG servo motor; 2 speeds; Wow and flutter 0.05%; 4.31 x 16.56 x 13.5 inches; 7.5 lb \$119

KD-37R Belt-Drive Turntable

Belt-drive turntable with auto return mechanism. Features T-4P cartridge compatible tonearm; DC servo motor; 2 different playing speeds; w&F 0.05%; frequency response 20-20,000 Hz; 3.94 x 16.56 x 13.06 in; 8.2 lb. \$79

KYOCERA

PL-910 Manual Turntable

Armless belt-drive turntable with ceramic platter and base. Features 33.33 and 45 rpm; variable speed control with strobe; cutless-core power transformer; dual suspension; heavy-duty DC-servo brushless motor; 11-lb platter assembly. Wow and flutter 0.025% weighted root mean square; signal-to-noise ratio 78 dB DIN-B; accepts 9"-10" tonearms. 18 x 7.5 x 15.25 inches; 44 lb \$2,000

LINN PRODUCTS

LP12 Manual Single-Play Turntable

Belt-drive 33.33-rpm turntable with manual tonearm; 24-pole synchronous motor; 12" zinc-aluminum alloy die-cast platter with felt mat; 1-point oil-bath bearing; hardened tool-steel spindle; adjustable 3-point spring-suspension subchassis; heavy-gauge stainless-steel base plate; solid hardwood base; optional 45-rpm adapter. rumble -60 dB unwd; speed accuracy ±0.04%; 5.5 x 17.5 x 14 in \$1,165



Linn Axis

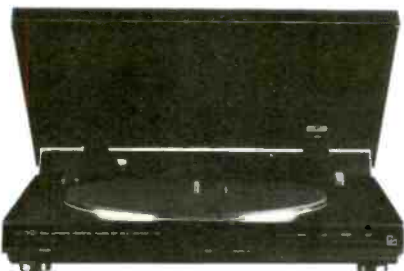
Axis Manual Turntable

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%; rumble -75 dB DIN; 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% wrms; rumble 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% wrms; rumble 70 dB. 3.75 x 16.36 x 13.56; 9.5 lb \$230

TT-185CTBL Belt-Drive Turntable

Belt drive turntable features semiautomatic DC-servo 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 light-force 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% wrms; S/N 85 dB A-wid. 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 light-force vacuum

hold-down; walnut finished cabinet; 33.33 and 45 rpm; variable speed control; 7-lb aluminum platter; 4-lb tonearm base drilled to individuals' specifications. w&F 0.025% wrms; S/N 78 dB A-wid. 7.5 x 21.5 x 17.5-in (dustcover down); 35 lbs \$1,895

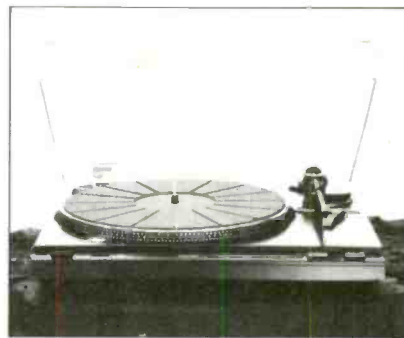
RX-1500 Basic Turntable

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% wrms; S/N 78 dB A-wid. 6 x 19 x 13-in; 40 lbs. \$1,495

NIKKO AUDIO

P-5 Semiautomatic Turntable

Direct-drive semiautomatic turntable with 20-pole, 30-slot brushless DC 3-phase motor. Features die-cast aluminum platter; straight-line tonearm; ±3% pitch control. w&F 0.085% wrms; rumble 38 dB weighted \$220



Nikko P-5

P-3 Semiautomatic Turntable

Semiautomatic full-size belt-drive turntable with P-mount tonearm, repeat key, and manual damped cueing. w&F 0.045% \$110

ONKYO

CP-1057FB Integra Automatic Turntable

Computer-controlled quartz-PLL direct-drive turntable. Features pivoted arm; strobe; 33.33 and 45 rpm; triple-stage isolation; floating subchassis on 3-point suspension; gimbal-support tonearm bearings; computer-controlled tonearm functions; separate motor for tonearm; 2-speed search; straight low-mass tonearm; Polysorb 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; rumble <80 dB; effective tonearm length 226 mm; max tracking error +3°, -1°. 17.44 x 6.25 x 16.12 in; 20 lb \$360

CP-1046FB Automatic Turntable

Computer-controlled direct-drive pivoted-arm turntable. Features PLL; 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; gimbal-precision tonearm bearings; 2-speed search; black finish. Remote control optional. w&F 0.025% wrms; rumble <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

TURNTABLES

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; adjustable spring-suspension system; record-coupling system; tonearm cartridge protractor, strobe disc included. 20 x 6.5 x 15 in; 42 lb. \$2,350
Gold Plated. Premiere Mark III aluminum and 24k gold plating. \$2,950

Delphi MK III Manual Turntable

Belt-drive turntable without tonearm. Features 33.33 and 45 rpm; hi-torque DC motor; adjustable spring-suspension system; record-coupling system; tonearm/cartridge protractor and strobe disc included. 19 x 6 x 14 in; 35 lb. \$1,395
Delphi Aluminum. Aluminum/24k gold plating. \$1,995
Delphi Black. 24k gold plating. \$2,295

Alexandria Mark III Manual Turntable

Belt-drive turntable without tonearm. Features 33.33 and 45 rpm; hi-torque DC motor; adjustable spring-suspension system; record-coupling system. 20 x 6 x 15 in. \$850 to 1,050

PARASOUND

T/FS-880 Semiautomatic Turntable

Belt-drive; floating suspension (motor separate from subchassis); P-mount compatible; die-cast platter; decoupled counterweight. w&F 0.025%; rumble -72 dB; effective tonearm length 222 mm; 17 x 4 x 14.25 in. \$200

PIONEER

Elite PL-90 Automatic Turntable

Direct-drive turntable with coreless, quartz-PLL DC-servo motor with stable hanging rotor. Features straight tonearm made out of alumina-ceramics; 33 $\frac{1}{3}$ and 45 rpm play speeds; 14 $\frac{1}{16}$ -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; 33 $\frac{1}{3}$ and 45 rpm play speeds; integrated 1M type cartridge; .6 mm diamond stylus. w&F 0.06%. 16.5 x 4.1 x 14 in; 6 lb, 3 oz. \$400

PL-670 Automatic Turntable

Direct-drive turntable with Stable Hanging Rotor. Features dynamic resonance absorber; T4P P-mount cartridge adaptor; Polymer Graphite straight tonearm; auto disc size selector. w&F 0.025%. 4.6 x 16.6 x 14.4 in. \$175

RCA

MTT230 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. w&F

0.065% wrms; rumble 62 dB DIN; effective tonearm length 132 mm. \$150

LAB 450 Semiautomatic Turntable

With Realistic/Shure MM cartridge; direct drive; neon strobe; straight tonearm; damped cueing; front-panel controls: 33.33 and 45 rpm; adjustable antiskating; rubber mat; 45 adaptor. Rumble -65 dB; W&F <0.05%. \$130

REVOLVER BY MUSIC HALL

Revolver Belt-Drive Turntable

Split-plinth turntable with plinth and platter of medium-density fibreboard and self-damping material. AC synchronous motor with 2-speed stepped pulley; ethylene proylene drive belt; 3 molded nonadjustable feet. Includes Precision Instant Grip clamp, starmat, lubricating oil. With Revolver tonearm. Redwood high-gloss finish. \$575
 Black-ash veneer. \$525

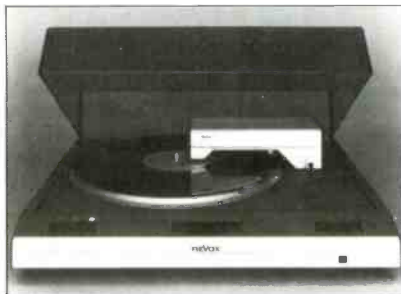
Revolver Rebel Turntable

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 $\pm 9.9\%$ in precise 0.1% steps, with LED display showing the variation; P-mount cartridge adaptor; 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



Revox B291

SANSUI

P-1000 Automatic Turntable

Automatic turntable features low-mass straight tonearm; auto-return operation; precision DC motor; cue operation; remote capability. Signal-to-noise ratio 72 dB; cartridge frequency response 20-20,000 Hz; 0.6-millimeter diamond stylus; 1.5 x 16.5 x 13.5 inches; 7.7 lb. \$145

P-900E Semiautomatic Turntable

Features belt-drive; low-mass straight tonearm; automatic return and power on/stop; cue; cut; pitch control and stroboscope. No cartridge. Wow and flutter less than 0.1% weighted root mean square; signal-to-noise ratio greater than 72 dB. 3.6 x 16.5 x 13 inches; 8.8 lb. \$90

SCOTT

PS4004 Automatic Turntable

Belt drive; 33.33 and 45 rpm; soft-touch controls; integrated low-mass magnetic cartridge; pitch control with electronic strobe; frequency-governed DC servo motor; insulating feet; LED

speed indicators; gold-plated output plugs. w&F 0.06% wrms; rumble <62 dB DIN B; 16.8 x 5 x 14.6 in (dustcover down). \$200

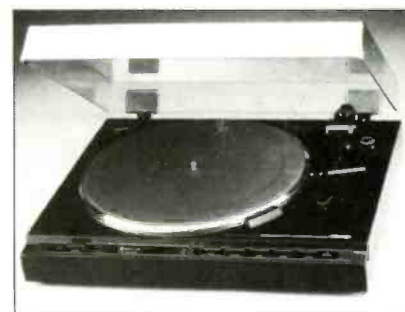
PS70B Semiautomatic Turntable

Features low-mass P-mount tonearm; fully-damped cueing; auto return and shutoff; pitch control with strobe; frequency-governed DC motor; hinged, adjustable dustcover. 4.4 x 16.5 x 13.25 in (dustcover down). \$120

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; 33.33/45 rpm variable pitch; illuminated strobe; hinged tinted dust cover. \$180



Sherwood ST-887R CP

PF-1170R Automatic Turntable

DC-servo motor direct drive; front-panel operating controls; fully automatic start, stop, return; repeat feature; pitch control with strobe; maximum tracking error $+2.6^\circ$, -1° ; die-cast alloy platter; 45 rpm center adaptor; 2 speeds; w&F 0.06%; 4.6 x 17.3 x 15.0 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 $+2.6^\circ$, -1° ; 2 speeds; w&F 0.08%; 3.0 x 13.0 x 9.0 in. \$169

SONOGRAPHE BY CONRAD-JOHNSON

SG-3 Manual Turntable

Belt-drive turntable without tonearm. Tuned suspension, resonance-free polymer platter. w&F <0.02% wrms; rumble -65 dB; 6.75 x 18.25 x 14.5 in. (dustcover down); 23 lb. \$449

SONY

PS-FL7II Automatic Turntable

Front-loading linear-tracking automatic turntable. Features direct drive, PLL, quartz-lock, P-mount compatible; 33.33 and 45 rpm; remote control capability. 17 x 3.88 x 15.12 in; 16 lb. \$350

PS-LX520 Automatic Turntable

Fully automatic linear-tracking turntable. Features direct drive, PLL, quartz-lock, P-mount compatible, 33.33 and 45 rpm; gel-filled feet; remote control capable. w&F 0.035%; S/N 75 dB; effective tonearm length 3 inches; max tracking error $\pm 0.1^\circ$. 17 x 3.62 x 14.36 in; 11 lb. \$270

TURNTABLES

PS-LX430 Automatic 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 wrms; rumble -88.2 dB; speed accuracy $\pm 0.2\%$; speed adjustment 5%. 20.25 x 16.5 x 7.5 in. Grey Corian with wood inlay. \$3,500
High-gloss black. \$4,000

Star Sapphire Turntable

Manual 2-speed belt-drive turntable with variable speed control and strobe. Features vacuum hold-down; heavyweight (22 lb) sub-assembly 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 supermat. All-wood top and speed-control panel; heavy-duty dust cover, oak finish w&F 0.03 wrms; rumble -88.2 dB; speed accuracy $\pm 0.2\%$; speed adjustment 5%. 20.25 x 16.5 x 7.5 in; 44 lb; oak finish. \$1,600
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 wrms; rumble -88.2 dB; speed accuracy $\pm 0.2\%$; 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% wrms; rumble -82 dB; effective tonearm length 238 mm; max tracking error within $\pm 0.05\%$; 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 $\pm 8\%$ 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 Manual 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% wrms; rumble -82 dB; effective tonearm length 230 mm; max tracking error $\pm 2.32\%$; 17.8 x 6.7 x 16.2; 26.5 lb. \$520

SL-MA1 Automatic Direct-Drive Turntable

Features PLL quartz lock; P-mount; 33.33 and

45 rpm. w&F 0.012% wrms; rumble -80 dB; effective tonearm length 230 mm; max tracking error $\pm 0.32\%$ at inner groove and $\pm 2.32\%$ at outer groove; 17.22 x 6.69 x 16.06 (dustcover down); 19.8 lb. \$460

SL-J33 Programmable PLL Turntable

Direct-drive automatic P-mount turntable allows up to 8 tracks to be played in any order. Indicates number of tracks on album side and which track is playing. Remote controlled through some Technics receivers. Features linear 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 $\pm 0.1\%$; 12.25 x 4 x 12.25 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 0.045% wrms; rumble -70 dB; effective tonearm length 105 mm; max tracking error $\pm 0.1\%$; 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% wrms; rumble -78 dB; effective tonearm mass 7.5 g, length 230 mm; max tracking error $\pm 2\%$; 17 x 4.5 x 14.75 in (dustcover down); 10 lb. \$210

SL-BD22 Semiautomatic Turntable

Belt-drive turntable with aluminum die-cast full-gimbal 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 0.45% wrms; 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 30° 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 $\pm 9.9\%$ all speeds). Separate power supply in remote-control unit with numeric LED speed, pitch displays; soft-touch switches (start/stop duplicated on turntable). w&F 0.015% wrms $\pm 0.001\%$; 14.22 x 14.22 x 4.44 in; turntable weight 40 lb; power supply/control unit 13.2 lb. \$2,840
SH-10B5. 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% wrms $\pm 0.035\%$; rumble -70 dB DIN-B; speed drift within $\pm 0.002\%$; 14.49 x 14.49 x 4.02 in; 20.9 lb. \$1,550
SH-10B3. 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 (40° of rotation) at 33.33 rpm; $\pm 9.9\%$ quartz-locked pitch control. w&F 0.025% wrms; rumble 56 dB DIN-A, 78 dB DIN-B. \$980
SP-25. Similar to SP-15 except no 78-rpm speed, $\pm 6\%$ pitch control. \$600
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 $< 0.18\%/cm$ ($< 0.46\%/in.$).

TD 520 Semiautomatic Single-Play Turntable

Belt drive with automatic tonearm lift, motor shut-off. 33.33, 45, 78 rpm; electronic speed selection; $\pm 6\%$ pitch control; stroboscope; velocity-sensing auto shut-off trigger; frictionless magnetic antiskating; twin solid-core chassis and 3-point leaf-spring suspension. w&F 0.035%; rumble -72 dB unwd. \$1,100
TD 521. Same as above without arm. \$1,000

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-spring suspension; friction-free velocity sensing auto shut-off. w&F 0.35%, rumble -52 dB unwd, -72 dB wtd; 6.75 x 17.36 x 13.88 in. \$600
TD 321. Armless version of TD-320. \$500

TD 318 Semiautomatic Single-Play Turntable

Belt-drive 33.33 and 45 rpm turntable with 16-pole synchronous motor; twin solid-core chassis 3-point leaf-spring suspension; frictionless velocity-sensing auto shut-off trigger. w&F 0.04%; rumble -50 dB unwd, -70 dB wtd; 6 x 17 x 14 in. \$450

TD 316. 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 unwd, -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, speed select; magnetic cartridge plays 45 and 33.33 rpm. \$129

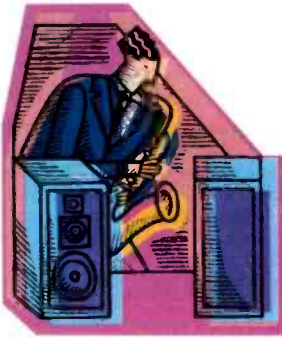
YAMAHA

PF-800B Semiautomatic Turntable

Belt-drive pivoted-arm semiautomatic 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 $\pm 6\%$ percent. Wow and flutter 0.023 percent weighted root mean square; rumble 80 dB; effective tonearm length 8.75"; 18.62 x 6.12 x 14.75 in (dust-cover down); 35 lb. \$599

TT-500U Automatic Turntable

Direct-drive turntable with RS integrated remote system compatibility. Features straight tonearm design; resonance absorbing turntable mat; disc clamper. Black; 15 lb. \$269



ACOUSTIC RESEARCH

TSW-910 4-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; imp 4 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-veneer cabinet and black cloth grille. 52.81 x 15.75 x 18.5 in; 140 lb. \$2,200/pr

TSW-710 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 15-175 W; imp 4 ohms; S/N -3 dB (half-power) points at 40 Hz and 40,000 Hz; sens 90 dB SPL with a 2.83 VRMS drive level 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



Acoustic Research TSW-710

TSW-510 3-Way Speaker

Floor-standing acoustic-suspension speaker with Tetra-Helix tweeter mounting plate. Features 10" woofer; 6.5" midrange; 0.75" titanium-dome liquid-cooled tweeter with acoustic lens. Power range 15-150 W; imp 4 ohms; FR -3 dB (half-power) points at 44 Hz and 40,000 Hz; sens 90 dB with 2.83 V rms input at 1 meter on

axis. Solid walnut or oak top and bottom with black-vinyl-veneer cabinet and black cloth grille. 30.13 x 14.06 x 13.31 in; 49 lb. \$800/pr

STC 666 Subwoofer/Satellite System

New STC (Series Tuned Cavity) system. The STC subwoofer is small enough to be hidden leaving only the satellites visible. AR's propriety enclosure uses two tuned cavities in a series configuration. Uses a newly developed set of enclosure parameters to eliminate unwanted high frequencies that would allow the ear to pinpoint the position of the subwoofer. The first cavity works to increase efficiency of the loudspeaker in the bass frequencies and minimizes distortion by limiting woofer excursion near resonance. The second cavity acts as a high frequency output from the two 6" woofers. The satellites feature a black cabinet with a choice of oak or walnut wood trim. Satellites have shielded drivers for use near TV's. \$649/system

TSW-410 3-Way Speaker

Bookshelf acoustic-suspension speaker with Tetra-Helix tweeter mounting plate. Features 8" woofer; 6.5" midrange; 0.75" titanium-dome liquid-cooled tweeter with acoustic lens. Power range 10-100 W; imp 4 ohms; FR -3 dB (half-power) points at 46 Hz and 40,000 Hz; sens 89 dB with 2.83 V rms input at 1 meter on axis. Solid walnut or oak top and bottom with black-vinyl-veneer cabinet and black cloth grille. 24.5 x 12.31 x 11.72 in; 30.5 lb. \$600/pr

TSW-315 3-Way Speaker

Bookshelf acoustic-suspension speaker with Tetra-Helix tweeter mounting plate. Features 6.5" woofer; 6.5" woofer/midrange; .75" titanium dome liquid cooled tweeter with Tetra-Helix mounting plate. Power range 10-100 W; imp 4 ohms; FR -3 dB points at 48 Hz and 40,000 Hz; sens 89 dB with 2.83 V rms input at 1 meter on axis. Solid walnut or oak top and bottom with black-vinyl-veneer cabinet and black cloth grille. 22.5 x 12.31 x 11.72 in; 30.5 lb. \$550/pr

Powered Partner Speaker

Acoustic-suspension bookshelf 2-way speaker with shielded drivers for use with TV and personal stereo systems. Features built-in equalized amp; on/off switch; volume and tone controls; AC/DC inputs; 4" long-throw woofer; 1" liquid-cooled tweeter. Can be placed on top or near TV, hung on a pole, mounted on wall, or clamped to a shelf with optional clamps. FR 50-25,000 Hz \pm 3 dB; imp 10 kilohms. Black aluminum finish. Triangular shape 6 x 10.5 x 7.62-in d; 7 lb ea. \$400/pr

TSW-210 2-Way Speaker

Bookshelf acoustic-suspension speaker with Tetra-Helix tweeter mounting plate. Features 8" woofer; 0.75" titanium-dome liquid-cooled

tweeter with acoustic lens. Power range 10-100 W; imp 8 ohms; FR -3 dB (half-power) points at 54 Hz and 40,000 Hz; sens 87 dB with 2.83 V rms input at 1 meter on axis. Solid walnut or oak top and bottom with black-vinyl-veneer cabinet and black cloth grille. 17.56 x 9.81 x 8.4 in; 15.3 lb. \$380/pr

TSW-110 2-Way Speaker

Bookshelf acoustic-suspension speaker with Tetra-Helix tweeter mounting plate. Features 6.5" woofer; 0.75" titanium-dome liquid-cooled tweeter with acoustic lens. Power range 10-75 W; imp 8 ohms; FR -3 dB (half-power) points at 68 Hz and 40,000 Hz; sens 88 dB with 2.83 V rms input at 1 meter on axis. Solid walnut or oak top and bottom with black-vinyl-veneer cabinet and black cloth grille. 14.94 x 9.81 x 8.4 in; 14 lb. \$280/pr

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; copolymer diaphragms; 4th-order (24 dB per octave) Linkwitz-Riley crossovers at 200 and 2,000 Hz; stainless-steel voice-coil former; magnetic cooling fluid in midrange and tweeter for high power handling and dynamic linearity; frameless perforated-steel grilles; walnut veneer or black. FR 30-22,000 Hz \pm 3 dB; sens 89 dB SPL/W/m; imp 8 ohms. 47.3 x 11.5 x 15.8 in; 105 lb. \$3,000/pr

M12. Similar to M15 except 8" woofers: FR 36-22,000 Hz \pm 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 1 10" woofer: 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; copolymer diaphragms; 4th-order Linkwitz-Riley crossovers at 700 and 2,000 Hz; voice-coil formers 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 \pm 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 2-way, with 6" woofer and 1" tweeter; FR 50-22,000 Hz \pm 3 dB; 12.7 x 7.3 x 8.9 in; 33 lb. \$900/pr

CM5. Similar to CM6 except 5.25" woofer; FR 65-22,000 Hz \pm 3 dB; sens 86 dB SPL/W/m; 9.7 x 5.7 x 6.9 in; 22 lb. \$650/pr

SPEAKERS

B8 Two Way Speaker

Bookshelf 2 way speaker with 1" dome tweeter and 8.5" Stiffite 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 \$500/pr

B7 Two Way Speaker

Bookshelf 2 way speaker with 1" dome tweeter and 7.7" Stiffite 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-excursion Stiffite 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 \pm 3 dB; crossover 2,000 Hz with 12 dB/octave slope; sens 89 dB SPL/W/m; rated input 50 W continuous, 75 W peak program; imp 4 ohms \$430/pr

200CC 2-Way Acoustic-Suspension Speaker

4" high-compliance ultra-long-excursion 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 \pm 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 subenclosure; 1" ferrofluid-filled soft-dome tweeter. FR 40-23,000 Hz \pm 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-excursion cone woofer with aluminum-coil form; 1" ferrofluid-filled soft-dome tweeter. FR 42-23,000 Hz \pm 3 dB; min power 100 W rms; max power 500 W peak; sens 88 dB SPL/W/m; imp 8 ohms. Black texture vinyl finish over dense fiberboard. 46.5 lb; 28.25 x 16 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-excursion woofers and two .5" polycarbonate ferrofluid-filled tweeters, and subwoofer with two 5.25" high-excursion bass drivers. FR 60-21,000 Hz \pm 3 dB; imp 6 ohms. Power handling 55 W rms, 165 W peak \$380

Advent Prodigy Tower

2 way floor standing speaker with .75" polyamide 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 10.03 x 8.78 in; 25.25 lb \$350/pr

ALLISON ACOUSTICS

IC-20 Image-Control Speaker

Triangular acoustic-suspension tower speaker with 1 side facing wall, 1 side facing in, 1 facing out; each side facing away from wall has 10" woofer, 2 3.5" 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 woofers and for mids and tweeters for easy biamping; auto-resetting resistors in each crossover; cabinet panels 0.75"-1.25" thick, braced front-to-back and between panels; interior damped with glass fiber; passive parallel 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/2.83 V/m; 48 x 21 x 12 in; 100 lb \$4,900/pr

CD9 3-Way Floor-Standing Speaker

Stabilized-radiation-loading speaker with 10" woofer, 3.5" convex-diaphragm midrange, 1" convex-diaphragm tweeter, designed for placement against single wall. LC half-section crossover network; switches to select system acoustic power response (flat to concert-hall balance 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 30-200 W; 37.5 x 12.5 x 10.75 in \$1,300/pr

CD8 3-Way Floor-Standing Speaker

Stabilized-radiation-loading speaker with 8" woofer, 3.5" convex-diaphragm midrange, 1" convex-diaphragm tweeter. LC half-section crossover network with switches to select system acoustic power response from flat to concert-hall slope. Walnut- or oak-veneer cabinet with hand-rubbed lacquer finish. Crossover frequencies 450 and 3,750 Hz; efficiency 0.7%; power range 30-200 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-radiation-loading speaker with 8" woofer, 1" convex-diaphragm tweeter, designed for placement against single wall. LC crossover network with premium chokes, computer-grade capacitors; walnut- or oak-veneer cabinet with hand-rubbed lacquer finish. Crossover 2,000

Hz; response -3 dB at 41 Hz; imp 4 ohms; power range 15-150 W; 26.5 x 9.62 x 9.62 in \$600/pr
CD6. Same as CD7 except for wall or shelf mounting; response -3 dB at 46.5 Hz; 11.25 x 11.25 x 11.25 in \$460/pr

ALTEC LANSING

Bias 550 Pentamplified Speaker System

Six speaker system with two 10" carbon fiber subwoofers, 8" carbon fiber woofer, 6" carbon fiber upper midrange coupler, diamond-coated polyimide 2" upper midrange, and 1" tweeter. Amplification (five way powered system), subwoofer 250 W 4 ohms, woofer 125 W 8 ohms, midrange 125 W 8 ohms, upper midrange 125 W 8 ohms, tweeter 75 W, 8 ohms. FR 20-22,000 Hz \pm 2 dB \$12,000

510 3-Way Tower Speaker

Acoustic suspension speaker with bi-amp capability and adjustable crossover with two 10" carbon fiber woofers, 2" midrange, 1" dome tweeter, each with polyimide vacuum deposited titanium. Power range 150 W nom.- 300 W max; sens 93 dB W/m; imp 4 ohm; 46 x 12 x 13.5 in \$1,500/pr

305 3-Way Acoustic Suspension Speaker

Acoustic suspension with 10" carbon fiber woofer, 2" midrange; 1" tweeter. Power range 125 W nom-250 W max; sens 93 dB W/m; imp 8 ohm; 27 x 14.5 x 12 in \$750/pr

205 3-Way Speaker

Acoustic-suspension speaker with 8" carbon fiber woofer, 2" midrange and 1" polyimide/titanium tweeter. Power handling 75 W nom- 150 W max; sens 91 dB W/m; imp 6 ohm 22 x 12 x 9 in \$550/pr

95 3-Way Speaker

Acoustic suspension speaker with 8" carbon-filled polypropylene woofer; 4" midrange; 20mm polyimide dome tweeter. FR 35-22,000 Hz; power handling 75 W nom-150 W max; sens 92 dB SPL/W/m; 22 x 12 x 9 in .. \$300/pr

55 Weatherproof Speaker

Compact indoor/outdoor speaker. 2-way acoustic suspension with 4" carbon fiber cloth woofer reinforced with epoxy and a 20mm polyimide dome tweeter. FR 85-20,000 Hz \pm 3 dB power range 40 W nom-80 W max; nominal impedance 4 ohm; 9.38 x 7 x 5.31 in \$250/pr

AMBRIA BY PARASOUND

S-2000 5-Piece System

Subwoofer obelisk with 6 drivers; 4 satellite 2-way speakers (for pole, wall, ceiling mount with Ambria fixtures); black or white; subwoofer finished in hand-rubbed piano-grade lacquer. FR 28-22,000 Hz \pm 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

PSW-200 Powered Subwoofer

Fifth order crossover network with parametric EQ. LED display and individual gain, frequency and boost controls. 15" vented; 15" polymer coated; 2" voice coil; FR 28-80 Hz; user adjustable sens; power handling 400 W/rms; 19.5 x 22.5 x 18.75 in \$699 ea

D9550 5-Way Tower Speaker

12" 5-way speaker. Features 12" polymer foam

Altec Lansing Model 55



SPEAKERS

surround woofer; 2.5" sealed back with ferrofluid midrange; 1 soft-dome polymer tweeter; 1 3" cone tweeter; crossover frequency 600 Hz; FR 32-22,000 Hz; sens 99.5 dB/W/m; imp 8 ohm; peak power handling 410 W; warm oak or black ash finish; 40.88 x 15.94 x 14.56 in ... \$400 ea

D8550 3-Way Speaker

Vented speaker with 15" polymer coated woofer; 5" sealed back ferrofluid damped midrange; soft dome polymer ferrofluid tweeter. FR 37-22,000 Hz; sens 98.5 dB W/m; imp 4/8 ohm; crossover frequency 700 Hz, 5,000 Hz; power handling 205 W/rms, 410 W/peak; 30.38 x 18.5 x 14.5 in ... \$350 ea

APOGEE ACOUSTICS

Diva 3-Way Ribbon Speaker

Full-range ribbon speaker with adjustable seamless crossover. Features trapezoidal woofer ribbon; separate midrange and tweeter ribbons. SPL 115 dB; imp 4 ohms. 73 x 31 x 3 in; 150 lb ea ... \$7,500/pr

Scintilla Full-Range Ribbon Speaker

Full-range ribbon speaker with internal seamless crossover. Features trapezoidal woofer ribbon; integrated, coalescent midrange/tweeter ribbon that utilizes filed magnetic and electromagnetic constraints. SPL 110 dB; imp 4 or 1 ohms. 57 x 30 x 3.5 in; 140 lb ea ... \$3,995/pr

Duetta 2-Way Ribbon Speaker

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 ... \$3,495/pr

Caliper 2-Way Ribbon Speaker

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 ... \$2,395/pr

ARCAM

Arcam One+ Speaker

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 ... \$799/pr

Arcam Two+ Speaker

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 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 ... \$599/pr

AUDIO PRO BY SONIC RESEARCH

A4-14 Bi-amplified Speaker System

Bi-amplified 3-way bass-reflex bookshelf speaker incorporates Ace-Bass subwoofer with two 5" down-firing rear-mounted woofers and own amp, flush-mounted 4.5" cone midrange, 1" soft-dome tweeter with separate amp. Features room-matching bass control, tweeter control, sens control (100 mV-50 V range), L/R signal

pushbutton, bass-blend push-button control, power on/off signal-actuated in automode; walnut or black-ash finish; speaker stands included. FR 30-20,000 Hz \pm 2 dB; crossovers 300 and 2.5 kHz; distortion 2% at 96 dB SPL/half-space/m at 30 Hz; 20.5 x 2.12 x 10.5 in ... \$1,950/system

AUDIOSOURCE

LS-Twelve Speaker

Floor standing/bookshelf 2-way speaker with 6.5" polypropylene woofer and 1" 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 ... \$380/pr

LS-Nine Speaker

Box speaker intended for bookshelf placement. Features L-C crossover at 3.5 kHz. Contains 8" polypropylene woofer; 1" tweeter. FR 65-20,000 Hz \pm 3 dB; max power 80 W; sens 88 dB; imp 6 ohms; white oak with cloth grille; 11.36 x 17.62 x 8.31 in ... \$320/pr

LS-Eleven Speaker

Compact acoustic suspension speaker with two 4" polypropylene woofers and 1" 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 80 W; available in oak or walnut veneer, or black or white enamel over high density particle board with metal grille. 14.5 x 5 x 5.75 in; 8.75 lb. \$260/pr

AXIOM

AX-5 Reference Monitor

Floor-standing speaker combines a two-way system for the range from 180-22,000 Hz with a rear-mounted 10" subwoofer in a separate sub-enclosure vented with a tuned port in front. Overall response 32-22,000 Hz \pm 2 dB; sens 87 dB SPL; power handling 40-350 W; nom imp 4 ohms. Bi-amplifiable. Finish natural, dark, or black oak. 30 x 12 x 11.25 in ... \$1,549/pr

AX-2 Reference Monitor

Floor-standing two-way speaker with 8" woofer and dome tweeter in rear-ported enclosure. FR 40-22,000 Hz \pm 2 dB; sens 89 dB SPL; power handling 12-250 W; nom imp 6 ohms. Bi-amplifiable. Finish natural, dark, or black oak. 24 x 10 x 9 in ... \$749/pr

AX-1 Reference Speaker

Bookshelf two-way speaker with 4.5" dome woofer and dome tweeter. FR 70-22,000 Hz \pm 2 dB; sens 87 dB SPL; power handling 30-100 W; nom imp 4 ohms. Finish natural, dark, or black oak. 11.5 x 6.5 x 5.75 in ... \$599/pr

B&W LOUDSPEAKERS

808 Ported Speaker

Floor-standing speaker with two 300-mm thermoplastic cone woofers, two 100-mm polyamide matrix-cone midranges, 32-mm polyamide dome tweeter. Features computer-optimized drivers and cabinet; Audio Powered Overload Circuit; 4th-order Butterworth crossover; sep terminals for bi and triamping. FR 30-20,000 Hz \pm 2 dB; min power 100 W; sens 91 dB SPL/W/m; imp 8 ohms; walnut, or black ash finish; 41.25 x 25.75 x 20 in; 80 lb ... \$8,000/pr
Rosewood finish ... \$9,000/pr

Matrix 801 Series 2 Speaker

Floor standing 6th order Butterworth vented system with vertically aligned drivers to minimize time delays. APOC to prevent driver damage. FR 20-20,000 Hz \pm 2 dB; imp 8 ohms; power range 50-600 W. 39.75 x 17 x 22 in; 110 lb ea. Available in walnut or black ash ... \$5,000/pr
Rosewood finish ... \$6,000/pr

CM2 Matrix Mini Tower

Floor standing 4th order Butterworth vented system consisting of CMI head unit crossing over at 150 Hz into subwoofer section forming the stand. B&W matrix enclosure is employed in both stand and head module. APOC system. Imp not less than 4 ohms; power range 50-200/W. 39.19 x 6.38 x 8.31 in; base width 10 x 9.5 in. Finish of column-black, white, nextel grey, walnut ... \$1,750/pr
Rosewood finish ... \$2,100/pr

Matrix Series 2 Speakers

All Matrix speakers feature an electronic time delay overload protection, homopolymer polypropylene bass/mid drivers, and ferrofluid-cooled tweeters. Matrix enclosure comprised of a honeycomb structure of interlocking perforated cross members bonded to the outer walls and filled with acoustic foam for resonance-free environment for drivers.

Matrix 3 Series 2

Floor-standing speaker with two 200-mm cone woofers (one for lower bass and other for bass/mid frequencies); 26-mm polyamide dome tweeter; heavy magnet assemblies in mid/bass drivers (5 lb ea). FR 70-25,000 Hz \pm 2 dB; min power 25 W rms; no upper power limit due to overload protection; sens 90 dB SPL/W/m; imp 4 ohms. Available in walnut and black ash finishes. 35.75 x 10.25 x 16 in; 64 lb ... \$2,500/pr
Rosewood finish ... \$2,900/pr

Matrix 2 Series 2. Bookshelf speaker with 200-mm cone woofer; 26-mm polyamide dome tweeter. FR 80-25,000 Hz \pm 2 dB; min power 25 W; no upper power limit due to overload protection sens 87 dB SPL/W/m; imp 4 ohms. Available in walnut or black ash. 23.5 x 10.25 x 12.25 in; 35 lb ... \$1,600/pr
Rosewood finish ... \$1,900/pr

Matrix 1 Series 2. Bookshelf speaker with 1500-mm cone woofer, 26-mm polyamide dome tweeter. FR 80-25,000 Hz \pm 2 dB; min power 25 W; no upper power limit due to overload protection; sens 85 dB SPL/W/m; imp 4 ohms. Available in walnut or black ash. 16 x 9 x 12.25 in; 35 lb ... \$1,200/pr
Rosewood finish ... \$1,500/pr

Digital Monitor Series

DM1800.

Features low density version of Matrix enclosure; finite analysis metal dome tweeter. Larger motor assembly and cabinet enclosure than DM1600. Power rating 30-200/W. 19.25 x 9.25 x 11.75 in; 26.5 lb; Black ash or walnut ... \$1,200/pr

DM1600.

Features low density Matrix enclosure; finite analysis metal dome tweeter. Power range 30-200/W. 25 x 9.25 x 16 in; 24.25 lb; black ash or walnut ... \$980/pr

DM580

Two 200mm bass/midrange with composite short fibre cone, 26mm coil on hi-temp former. One 26mm aluminum dome tweeter. FR 38-30,000 -6 dB points. Sens 91 dB 2.83 volt, 1 m; imp 8 ohm nom; simulated veneers of oak or black ash; 34.9 x 9.3 x 16 in; 40.7 lb ... \$900/pr

Old Records, New Life

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.

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SPEAKERS

DM570

One bass/midrange with composite short fibre cone, 26mm coil on hi-temp former. One 26mm aluminum dome tweeter. FR 45-30,000 Hz -6 dB points. Sens 91 dB 2.83 volts/m; imp 8 ohm nom; simulated veneers of oak or black ash; 25 x 9.3 x 11.9; 23.71 lb \$650/pr

DM550

One 160mm bass/midrange with composite short fibre cone, 26mm coil on hi-temp former, one 26mm aluminum dome tweeter. FR 70-20,000 Hz \pm 2.5 dB; sens 87 dB 2.83 volts/m; simulated veneers of oak or black ash; 13.8 x 8.3 x 9.6; 12 lb \$400/pr

BANG & OLUFSEN

Beolab Penta Floor-Standing Speaker

Powered 5-sided bass-reflex speaker with 150-W amp in each cabinet; 9 drivers in 3-way configuration (4 5" woofers, 4 3" mids, 1 1" dome tweeter vertically aligned); dynamic clipping attenuator for protection; 3-position bass-level switch; auto turn on and off; when used with Beosystem 5500, digital display shows source, volume, recording status, overload; finished in brushed stainless steel with black grille. FR 40-20,000 Hz \pm 4, -8 dB; 65 x 5 x 5 in; 53 lb \$3,295/pr

RL 140 Speaker

Floor-standing bass-reflex speaker with 2 6.5" woofers, 5" midrange, 1" dome tweeter in gray plastic enclosure with black grille. FR 40-20,000 Hz \pm 4, -8 dB; sensitivity 93 dB SPL/W/m; min power 10 W; imp 8 ohms; 28 x 20 x 9 in; 43 lb \$990/pr

Beovox S-80.2 Speaker

3-way speaker in infinite-baffle cabinet with 8" woofer, 3" dome phase-link midrange, 1" tweeter; baffle moldings designed for min diffraction; vertically aligned drivers; auto driver protection; rosewood veneer (other finishes available). Max power 80 W rms; dispersion 100x 770/pr

RL 60.2 Speaker

Floor-standing speaker with 1" dome tweeter, 2 5" cone woofers, tuned port; charcoal black. FR 45-20,000 Hz \pm 4, -8 dB; power range 10-90 W; sens 93 dB SPL/W/m; imp 8 ohms; 21.25 x 16 x 7 in; 19.6 lb \$550/pr

RI. 35 2-Way Bookshelf Speaker

2-way bass-reflex bookshelf speaker. Features 5" woofer; .75" tweeter; nom imp 8 ohms; FR 48-20,000 Hz \pm 4/-8 dB; sens 92 dB; crossover at 3,500 Hz; bitumen blocks on inside of curved backplate; thermoplastic cabinet. 15.75 x 12.5 x 5 in; 7.8 lb \$380/pr

BOSE

01 Series

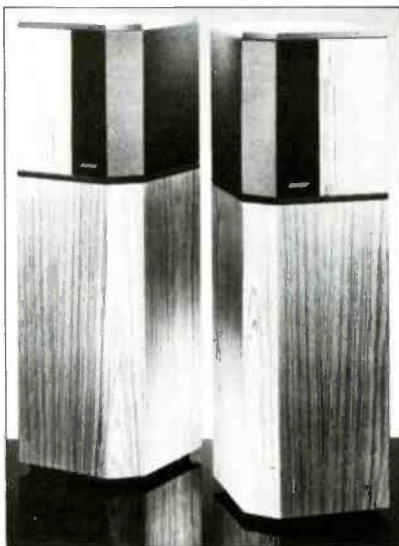
901 Series VI Speaker System

Direct/reflecting acoustic-matrix speaker with active equalizer and 8 rear-facing, 1 front-facing 4.5" full-range drivers. Features pentagon-shaped cabinet with multi-cell injection-molded core external panels of hardwood veneer and walnut finish; active equalizer with fixed EQ; midbass and midtreble shelf control; tape monitor switch. Power range 10 W to unlimited; imp 8 ohms; dynamic range 106 dB. Equalizer: 13 x 2.75 x 4.88 in. Speaker: 21 x 12.63 x 13 in. Price includes EQ \$1,500/pr

601 Series III Speaker System

Floor-standing Direct/Reflecting with all tweeters

and one woofer mounted above main enclosure in Free Space Array configuration for life-like stereo imaging. Features two 8" Digital Dynamic Range cone woofers; four 3" cone tweeters; subport enclosure system with slotted port. Crossover points at 1,500 and 2,500 Hz. Min power 10 W; max power 200 W; imp 8 ohms. Hardwood veneer with walnut finish. 12.31 x 30 x 12.5 in; 45 lb \$1,026/pr



Bose 10.2 Series II

501 Series IV Speaker System

Floor-standing Direct/Reflecting speaker system with two 3" tweeters mounted in Free Space array and a 10" long-excursion woofer. Features teak-grain vinyl veneer finish; power range 20-125 W continuous; nom imp 8 ohms; 25 x 16 x 14 in. Sold only in stereo pairs \$750/pr

301 Series II Speaker System

Direct/Reflecting ported bookshelf speaker system with 8" woofer, two 3" tweeters in Free Space Array. Features dual-frequency crossover to allow woofer and tweeter to operate simultaneously over nearly a full octave; tweeter protection circuit; particle-board cabinet with walnut-grain vinyl veneer finish. Crossover frequencies 3 kHz woofer, 1.2 kHz tweeter; power range 10-60 W/ch continuous; impedance 8 ohms; 17 x 10.5 x 9.5 in. Sold only in stereo pairs \$422/pr

101 Music Monitor

Indoor/outdoor ported speaker. Features high-impact polystyrene cabinet for environmental applications; 4.5" full-range driver; optional multi-purpose mounting arms and brackets available at extra cost. Power range 10-60 W; Finished in black or white with white, blue, red, or green grilles; 10 lb/pr; 9 x 6 x 5 in. Approx. \$239/pr

.2 Series

10.2 Speaker

Floor-standing ported speaker with an 8" midrange driver, two 2" tweeters and an 8" subwoofer. Features Acoustimass system technology; Stereo Everywhere; Stereo Targeting; automatic system protection; Syncom II computer quality control. Power range 10-180 W; sens 88 dB; imp 8 ohms; hardwood veneer. 39 x 12 x 12; 92 lb \$1,299/pr

6.2 Bass-Reflex Speaker

Bookshelf speaker with controlled-dispersion-pattern design for Stereo Everywhere. Features 8" woofer; two 3" tweeters; Stereo Targeting system; dual-chamber sub-ported bass venting system; interactive crossover network; hardwood veneer with teak finish. Min power 10 W rms; max power 100 W rms; imp 4 ohms. 20 x 10 x 9.62 in; 19.5 lb \$599/pr

4.2 Bass-Reflex Speaker

Compact bookshelf speaker with Stereo Everywhere. Features 8" woofer; 2.5" axial-mounted tweeter; Stereo Targeting system; dual-chamber bass venting system with slot-port exit; auto tweeter protection circuit; vinyl veneer with teak finish. Min power 10 W rms; max power 75 W rms; imp 8 ohms. 18 x 9.5 x 10 in; 15 lb. Optional speaker stand extra cost \$419/pr

2.2 Stereo Speaker System

Compact bookshelf speaker with Stereo Everywhere. Features 6" long-excursion woofer; 2" magnetic-fluid-cooled tweeter; slot-port bass tuning system; teak vinyl finish. Power range 10-75 W; max power handling 60 W continuous; imp 8 ohms. 9.88 x 14.75 x 7.5 in; 12 lb. \$299

AM-5 Acoustimass Three-Piece System

Compact modular system with Acoustimass bass module and Direct/Reflecting cube speaker arrays. Each array features 2 separate cube enclosures that can be adjusted for direct or reflecting configuration. The bass module has 2 6.5" drivers and a patented Acoustimass enclosure. Features positive temperature coefficient resistor to compress overloading input signals. Max input power 100 W. Cube speaker array: 3.5" per side plus grille. Bass module: 12 x 20 x 8 in \$699/system

BOSTON ACOUSTICS

T Series Speakers

T1000 Series II 3-Way Speaker

Floor-standing acoustic-suspension speaker with 2 active 8" copolymer-cone woofers, 6.5" copolymer-cone midrange in an internal sub-enclosure, and 1" CFT5 ferrofluid-cooled tweeter. Features tapered-grille design to eliminate sonic diffraction; tall slender enclosure for minimum floor space; oak and walnut veneers, black ash vinyl. Power range 15-150 W rms; FR 38-20,000 Hz \pm 3 dB; sens 90 dB SPL/W/m; imp 4 ohms; crossover frequencies 250 and 2,500 Hz. 10.25 x 42.5 x 11.5 in. Wood veneer \$1,200/pr Vinyl \$1,000/pr

T930 3-Way Speaker

Floor-standing acoustic suspension speaker with 10" copolymer cone woofer, 6.5" copolymer cone midrange, and 1" CFT5 dome tweeter. Features genuine walnut veneer, hand finished on 5 sides, and black ash vinyl. Power range 15-125 W/ch rms; FR 42-20,000 Hz \pm 3 dB; sens 90 dB SPL/W/m; imp 8 ohms; crossovers at 250 and 2,500 Hz. 11 x 37 x 12 in. Wood veneer \$800/pr Vinyl \$700/pr

T830 3-Way Speaker

Floor-standing acoustic-suspension speaker with 8" copolymer-cone woofer, 6.5" copolymer-cone midrange, and 1" Textlite-dome tweeter. Features woodgrain vinyl finish with charcoal grilles or black ebony vinyl with black grille. Power range 15-100 W rms; FR 45-20,000 Hz \pm 3 dB; sens 88 dB SPL/W/m; imp 8 ohms; crossover frequencies 800 and 4,000 Hz. 10 x 29 x 10.5 in \$500/pr

SPEAKERS

360 2-Way Speaker

Flush-mount speaker with 6.5" copolymer-cone woofer and 1" CFT4 ferrofluid-cooled soft-dome tweeter. Woofer is specially designed to provide full bass without needing a special enclosure. Power-handling range 5-60 W rms; FR 48-20,000 Hz ± 2 dB; imp 8 ohms; sens 90 dB SPL/W/m. 12.06 x 8.63 in.; mounting depth 3.25 in. \$350-\$450/pr

350 2-Way Speaker

Flush-mount speaker with 5.25" copolymer woofer and 1" CFT4 ferrofluid-cooled soft-dome tweeter. Power range 5-50 W rms; FR 58-20,000 Hz ± 2 dB; imp 4 ohms. 9.5 x 6.75 in.; mounting depth 2.63 in. \$300-\$400/pr

A Series Speakers

A150 Series III 3-Way Speaker

Acoustic-suspension speaker with 10" copolymer-cone woofer, 3.5" copolymer-cone midrange, and 1" CFT5 ferrofluid-cooled soft-dome tweeter. Features tapered-grille design to eliminate sonic diffraction. Power range 15-125 W rms; FR 39-20,000 ± 3 dB; imp 8 ohms; crossover frequencies 550 Hz and 3,500 Hz. Includes black pedestal base. 32.5 x 16 x 8.36 in. Oak or walnut veneers \$700/pr
Woodgrain vinyl finish \$500/pr

A100 Series III 2-Way Speaker

Acoustic-suspension speaker with 10" copolymer-cone woofer and 1" CFT5 ferrofluid-cooled soft-dome tweeter. Power range 15-75 W rms; FR 39-20,000 Hz ± 3 dB; crossover at 2,000 Hz; sens 90 dB SPL/W/m. Woodgrain vinyl finish with tapered charcoal grille. Includes black pedestal base. 32.5 (including base) x 16 x 8.36 in. \$420/pr

A60 Series II 2-Way Speaker

Acoustic-suspension speaker with 8" copolymer-cone woofer and 1" Textile soft-dome ferrofluid-cooled tweeter. Power range 15-75 W rms; FR 52-20,000 Hz ± 3 dB; crossover at 3,000 Hz; sens 90 dB SPL/W/m; imp 8 ohms. Woodgrain vinyl finish with charcoal grille or matte black vinyl finish with back grille. 18.25 x 11.25 x 7.75 in. \$230/pr

A40 Series II 2-Way Speaker

Bookshelf acoustic-suspension speaker with 6.5" copolymer-cone woofer and 0.75" ferrofluid-cooled tweeter. Power range 5-50 W rms; FR 65-20,000 Hz ± 3 dB; sens 89 dB SPL/W/m; imp 8 ohms. Woodgrain vinyl finish with charcoal grille or matte black vinyl finish with black grille. 8.25 x 13.5 x 7.25 in. \$170/pr

BOZAK BY N.E.A.R.

CS-310B Concert Grand Contemporary Speaker

Three-way speaker with 4 B-199B woofers, 2 B-2098 midranges, and 8 tweeters in an array. Power range 60-350 W; imp 8 ohms. Matte walnut enclosure. 52 x 36 x 19 in. \$4,599/pr

Symphony No. 1 CS-4000A Modern Speaker

Infinite-baffle 3-way floor-standing speaker with 2 woofers, a 6.5" midrange, and 8 2" tweeters in array. Max power 250 W; crossovers 400 and 2,500 Hz at 6 dB/octave; imp 8 ohms. Walnut enclosure; 44.5 x 26.25 x 15.62 in. \$2,599/pr

Concerto V CS-302M

Infinite-baffle 3-way floor-standing. Features 1-12" woofer; 1-6" mid-range; 2-2" tweeter; max power 150 W; x-over pts 400 and 2,500 Hz; 8 ohms; walnut finish; 28 x 26 x 15 in. \$1,600/pr

CAMBRIDGE SOUNDWORKS

Ensemble by Kloss

Full speaker system consisting of 2 low-frequency units and 2 small satellite units. Each low-frequency unit features 1 8" long-throw acoustic suspension driver; cabinet is made of high-density particle board with internal bracing, and is finished in black high pressure laminate with metal grilles. Each satellite features 1 3.5" cone midrange (170 Hz to 2,300 Hz), and one 1.75" direct radiator with an integral 63" dome (2,300 Hz to 20,000 Hz); both satellite drivers are ferrofluid cooled; cabinet is high-density particle board finished in dark gray Nextel; metal grilles. Nom imp 6 ohms; power range 25-100 W. Low freq. unit size: 12 x 21 x 4.5 in. Upper freq. unit size: 5.5 x 8 x 4 in. \$499

CANTON

CA 30 Active Speaker

Quad-amplified floor-standing speaker with a differential amp and motional feedback system for each driver section (120 W woofer, 100 W midrange, 100 W tweeter). Features four 260-mm cone woofers; 190-mm cone woofer; 38-mm metal-dome midrange; 25-mm titanium-dome tweeter; Darlington output stage for amps; auto on/off stabilized dual mains supply; electronically controlled protection circuitry. FR 20-30,000 Hz ± 3 dB; bandwidth 3-140,000 Hz; distortion <0.03%; S/N 100 dB. 15 x 66.5 x 16.5 in.; 275 lb. Black ash or matte mahogany. \$16,500/pr
Custom finish \$18,000/pr

CT 120 Floor-Standing Speaker

4-way bass-reflex speaker features 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 \$5,000/pr

CT 90 Floor-Standing Speaker

3-way bass-reflex speaker features 10" woofer; 5" midrange; 1" titanium-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; 120-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, black \$1,290/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 160-mm cone woofer cone. Enclosure surfaces black or white; grille of perforated steel plate; color to match enclosure; permafex spring clamps; 5-meter connecting cable; removable grille. Nominal imp 4 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 S Speaker

2-way bookshelf minispeaker suitable as satellite in connection with Canton Plus Beta and Plus C subwoofers. Features 110-mm cone woofer; 25-mm dome tweeter; flush wall mount; removable grill. FR 45-30,000 Hz; minimum power 20 W; max power 80 W; sens 87.2 dB SPL/W/m; imp 4 ohms. 4.72 x 8.07 x 3.94; black, white, brown finishes \$340/pr
Walnut finish \$495/pr

Plus C Subwoofer

Compact passive 310-mm cone subwoofer for use in connection with satellites such as Canton Plus S. FR 22-120 Hz; min power 35(2x) W; max power 75(2x) W; sens 89.9 dB SPL/W/m; imp 4 ohms. 14.7 x 13.4 x 13.8 in.; 10.5 kg; black, white, walnut finishes \$575 ea

CELESTION

SL700 Speaker

2 way sealed box 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

DL10 Series 2 - 3-Way Speaker

Bass-reflex speaker with separate midrange enclosure. 10" woofer, 6" midrange; 1.25" 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" cloprene 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

Amati Speaker

Compact speaker for wall, shelf, or stand

SPEAKERS

mounting; available in many finishes. 27 x 20 x 10 in. . . . \$3,500/pr

CERWIN-VEGA

Digital Series Speaker Systems

D-9 3-Way Speaker System

Three-way, four-driver, floor-standing speaker with 15" woofer, dual 6" midrange and 1" tweeter. Features Helmholtz/Theile 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 Speaker System

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 \pm 3 dB; crossovers 500 and 3.5 kHz; sens 98 dB SPL/W/m; max power 200 W; imp 8 ohms. . . . \$870/pr

D-3 3-Way Speaker System

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 \pm 3 dB; crossovers 700 and 3.5 kHz; sens 94 dB SPL/W/m; imp 8 ohms; finished in hickory woodgrain vinyl w/brown stretch cloth grille. . . . \$580/pr

D-1 2-Way Speaker System

2-way system with an 8" woofer and 1" voice-coil high frequency horn. Features resettable high-frequency protection circuit breaker; vented cabinet; hickory woodgrain vinyl with cloth grille; FR 30-20,000 Hz; power min/max 5/100 W; sens 92 dB 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 W/m; woodgrain vinyl veneer finish. 13.25 x 25.5 x 16.25 in; 48 lb. . . . \$320/ea

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 5-400 W; sens 102 dB 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 5-200 W; sens 97 dB 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

380SE 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 \pm 3 dB; min power 5 W rms; max power 405 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 \pm 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 Hemholtz Thiele acoustically dense enclosure with sound absorbent baffle; circuit breaker protection; 6" cone midrange; 1" VC horn loaded dome elliptical tweeter; FR 32-20,000 Hz \pm 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 tuned, direct radiating; FR 32-20,000 Hz \pm 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 \pm 3 dB; sens 87 dB/W/m; imp 7 ohm; min. power requirement 20 W; compression line bass loading; 8 high power/high output copolymer polypropylene cone woofer; 7" direct inductance planar-ribbon 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 zebra wood veneers. . . . \$1,900/pr

RB-8.0 Speaker

Speakers feature 200 W/ch; FR 32-40,000 Hz \pm 3 dB; sens 88 dB/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-ribbon 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

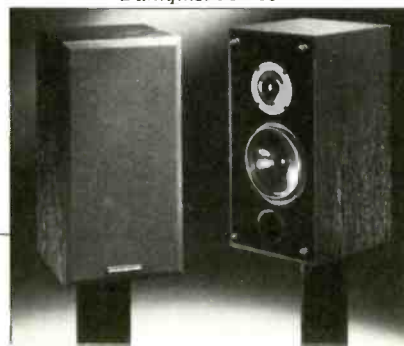
Speakers feature FR 38-40,000 Hz \pm 3 dB; sens 87 dB/W/m; max power rating 150 W; imp 6.5 ohm; compression line bass loading; 6.5" high power polypropylene cone woofer; 7" direct-inductance planar-ribbon midrange; crossover frequency 2,000 Hz; 24.5 x 13.5 x 13.25 in; high density fibre wood with oak veneer. . . . \$1,095/pr

DAHLQUIST

DQ-20 Speaker

Three-way vertical-phase-array speaker intended for floor placement. Speaker contains 250-

Dahlquist M-903



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 \$1,800/pr

M Series

M-909 Floor-Standing Speaker

Genuine wood enclosure, spaced grill with solid wood trim, floored anti-diffraction baffle. 3-way Quasi-Phased Array; dual cast-frame woofer; 5" midrange; 1" dome tweeter. Sens 92 dB; power range 20-250 W; FR 30-24,000 Hz. 39.25 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 in. . . . \$590/pr

M-903 Tuned-Port Speaker

Front-firing tuned-port 2-way speaker. Features nom imp 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 50 Speaker

Two floor-standing vented enclosures each with 10" woofer, 6.5" midrange, 4" upper midrange, and 3 ultra-wide-dispersion 0.5" tweeters. Phased arrangement produces both measurably flat response (34-20,000 Hz \pm 2.5 dB) and consistent "Listen Anywhere" stereo imaging throughout room. Sens 91 dB SPL/2.83 V/m; imp 4 ohms nominal. 2.5 ohms min; power range 40-400 W; phased-arranged crossover 200 Hz, 800 Hz, 3,150 Hz, main axis. Walnut or black base and top with matching grille wraps. . . . \$2,000/pr

Soundfield 150 Speaker

3-way floor-standing vented speaker. Features 10" woofer; 4.5" midrange; 2 .5" tweeters; phased-arrangement; Listen Anywhere imaging; wrap-around speaker grilles. FR 39-20,000 Hz \pm 3 dB; sens 91 dB; nom imp 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

Soundfield 1500 Speaker

3-way floor-standing vented speaker. Features 8" woofer; 4.5" midrange; 2 .5" tweeters; phased-arrangement; Listen Anywhere imaging; wrap-around speaker grilles. FR 44-20,000 Hz \pm 3 dB; sens 92 dB; nom imp 4 ohms; power range 30-250 W/ch. 16 x 14 x 33 in; 35 lb. Available in charcoal grey/black or beige/walnut. . . . \$1,000/pr

Soundfield 2500 Speaker

3-way floor-standing vented speaker. Features 6.5" woofer; 2.5" midrange; 2 .5" tweeters; phased-arrangement; Listen Anywhere imaging; wrap-around speaker grilles. FR 49-20,000 Hz; sens 90 dB; nom imp 6 ohms; power range 25-150 W/ch at 4 ohms. 12 x 8 x 29 in; 21 lb. Available in charcoal grey/black or beige/walnut. . . . \$580/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-plastic-dome tweeters. FR 24-20,000 Hz; min power 10 W, max power 200 W; sens 90 dB; imp 8 ohms; available in dark oak with dark 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-diffraction lens, 4" mid-frequency driver, transmission line termination. Max power rating 50 W rms pink noise continuous/300 W peak program; 8 ohm imp; 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 min 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 91 dB; imp 8 ohms; dark oak with dark brown fabric; 32 lb; 15 x 36 x 11.75 in. \$899 to \$949/pr

Time Frame TF500 Speaker

Mirror-imaged floor-standing loudspeaker. Features 6.5" cone woofer; .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/W/m; imp 8 ohms; dark oak finish; 17 x 41 x 6.75 in; 42 lb \$599 to \$649/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 cone woofer and a .75" 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. \$449 to \$499/pr

DENNESEN ELECTROSTATICS

Dennesen 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 ± 3 dB; min power 50 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 within the cabinet. 6" midwoofer 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. Features 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 15-200W \$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 twin crossover networks at 18 dB/octave, 140 Hz. Features input for use with PS-5 satellites (below); biamp inputs for other satellites. FR to below 40 Hz; power range 15-250. \$375/ea

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-III 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 ea. \$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 h 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 isolated chamber. Two 4" midranges and a 1" tweeter are mounted in a separate narrow baffle cabinet. 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" mid-woofer 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 48-20,000 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 10.5 in. \$350/pr

Epicure Model 5V 2-Way Speaker. Same as above but with vinyl veneered cabinet \$300/pr

ESM BY ENERGY

ESM-1s Bass-Reflex Speaker

Mirror-imaged pair with 8" woofer, 1" ferrofluid dome tweeter; phase-corrected 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 1.5-120 W; nominal imp 8 ohms, min 4; 24 x 10.5 x 11 in.; 35 lb each. \$500/pr

ESM-2s 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.*

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—*Ron Scibilia, Audio Times.*

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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.

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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.**



Loudspeakers for the well trained ear.

SPEAKERS

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 9 in.; 20 lb ea. \$300/pr
ESM-4. Similar to ESM-3 but with 6.5" woofer; 0.75" dome tweeter. FR 60-20,000 Hz \pm 3dB power range 10-80 W; 14 x 10 x 10 in.; 11 lb ea. \$230/pr

ESS

AMT-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 \pm 3 dB; minimum power 35 W rms, max power 400 W rms; sens 91 dB SPL/W/m; imp 6 ohms; oiled walnut finish; 82 lb; 18.5 x 41 x 12. \$1,140/pr

AMT ID 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 \pm 3 dB; crossover 800 Hz; max power 400 W; imp 6 ohms; horizontal/vertical dispersion 120°/30° sens 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 4" midrange with hi-temp voice coil. FR 28-23,000 Hz \pm 1 dB at midband; sens 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 \pm 1 dB at midband; sens 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" ferrofluid tweeter; magnetic field compensated; 150 W rms max. 17.8 x 38.6 x 12.8 in. \$600/pr

STV-430M 3-Way Speaker System

Features 15" woofer; 4" ferrofluid midrange; 3" ferrofluid tweeter; magnetic field compensated; 100 W rms max. 17.8 x 36 x 12.8 in.; oak vinyl veneer finish. \$400/pr

FOCUS SPEAKER SYSTEMS

High-Definition Tower Speaker

2-way staggered-transmission-line speaker with 3 phase-aligned drivers; 1.25" inverted Kevlar dome tweeter with 3-lb magnet; 2 8" woofers; lead-lined cabinet; cabinet made of 14-layer epoxy-pulp sleeve; internal bracing; rounded baffle; subenclosure for tweeter; solid oak bases, tops, side rails; 1st-order crossover at 1,000 Hz; crossover components matched to better than 1% tolerances; adjustable and removable spiking system. FR 35-20,000 \pm 2 dB; group delay better than \pm 0.2 msec; nominal imp 4 ohms,

min imp 3.2 ohms; sens 92 dB SPL/W/m; power range 30-200 W/ch; 14 x 64 x 16.5 in.; 115 lb. \$2,950/pr

High Definition Monitors

Two-way, floor standing speakers. Cabinets constructed from 14-layer Pox-Pulp sleeve braced inside, wrapped with 1/4" foam on outside and capped with solid oak end pieces. Features phase aligned drivers in separate sub-enclosures to improve imaging; 1 8" woofer, 1 1.25" tweeter; FR 32-20,000 Hz \pm 2 dB; sens 89 dB sound-pressure level at 1 meter with 1 W input; imp 8 ohms; amp power 30-200 W/ch; adjustable and removable spiking system directly couples speakers to any type floor; 47 x 12 x 12 in. \$1,450/pr

.7 High-Definition Monitor Speaker

2-way computer-matched time-aligned speaker with Pox Pulp internally braced cabinet; 8" woofer; 1" dome tweeter; contoured port; hard-wired crossovers. FR 37-19,000 Hz \pm 2 dB; nominal impedance 8 ohms, minimum impedance 4.8 ohms; maximum power handling 150 W/ch; sensitivity 90 dB SPL/W/m; 12 x 28 x 12 in.; 37 lb. \$995/pr

.5 High-Definition Monitor Speaker

Bookshelf speaker with Pox Pulp cabinet; 8" woofer; 1" dome tweeter. FR 45-20,000 Hz \pm 3 dB; nominal imp 8 ohms, min imp 4.8 ohms; power range 30-150 W/ch; sens 90 dB SPL/W/m; 12 x 19 x 12 in.; 27 lb. \$750/pr

FOSTEX

H-3 2-Way Speaker

Bookshelf speaker system. Features patented RP tweeter which operates in piston motion; 2 8" woofers. 30 x 11 x 10 in. \$499/pr

H-2 2-Way Speaker

Bookshelf speaker system. Features patented RP tweeter which operates in piston motion; 8" woofer. 21.5 x 9.5 x 9 in. \$399/pr

H-1 2-Way Speaker

Bookshelf speaker system. Features patented RP tweeter which operates in piston motion; 6" woofer. 16.5 x 8 x 7 in. \$299/pr

FRIED PRODUCTS

G/3 3-Way Speaker

Floor-standing transmission-line speaker with series crossover networks and duocone drivers. Features full-free-flow transmission-line loading of midrange and aperiodic-design principles for linearity and dynamic range. 10" polypropylene duocone woofer; 6.5" midrange; 0.75" dome tweeter. FR 23-22,000 Hz \pm 3 dB; power range 10-200 W rms; sens 91 dB SPL/W/m; imp 8 ohms. Walnut and oak finishes. 16 x 44 x 18 in.; 100 lb. \$2,320/pr

Studio IV 3-Way Speaker

"Flow-resistance" floor-standing speaker with duocone drivers and series networks. Features 8" duocone woofer; 2" duocone midrange; 1.75" dome tweeter. FR 26-22,000 Hz \pm 3 dB; power range 10-1,000 W; sens 91 dB SPL/W/m; imp 8 ohms. Walnut finish. 12 x 39 x 18 in.; 75 lb. \$1,350/pr

R/4 3-Way Speaker

Column loudspeaker with built-in tilt back pedestal with line loading for midrange and line-tunnel loading for bass. Features 10" polypropylene woofer with vented pole piece;

polypropylene mid driver cone with vented pole piece; 1" dome tweeter with ferrofluid damping; FR 32-20,000 Hz \pm 3 dB power range 25-100 W/ch; sens 90 dB; imp 8 ohms. 32 x 12 x 10.5 in.; 35 lb ea. \$950/pr

A/3 2-Way Speaker

Features 8" polypropylene woofer; 1" soft-dome tweeter; edge-on free-flow filters; line tunnel. FR 45-20,000 Hz \pm 3 dB; power range 25-100 W; imp 8 ohms; crossover frequency 2,000 Hz; sens 89 dB SPL/W/m. 23 x 13 x 10.5 in.; ... \$650/pr

Beta Full-Range Speaker

Full-range speaker of mini-monitor proportions with polypropylene cones and linear crossovers. Features 6.5" polypropylene woofer; composite tweeter with 2" cone and 0.62" dome; series filter crossover; distributed bass-loading free-flow filter system. Walnut or black-ash finish. 13.5 x 8 x 8 in.; \$325/pr

Duo Subwoofer

"Flow-resistance" floor-standing subwoofer with dual-voice-coil polypropylene driver. Features 10" cone woofer. FR 30-100 Hz \pm 3 dB; power range 20-200 W; sens 90 dB SPL/W/m; imp 8 ohms. Walnut or black-ash finish. \$330 ea

HEYBROOK 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 \pm 3 dB; power range 15-200 W. Real walnut, or gloss-black finish. 25 x 13.36 x 11.36 in.; 46 lb. \$1,498/pr

HB-200 2-Way Speaker

Dual-reflex-tuned speaker with 6.5" woofer and metal-dome tweeter. Features FR 34-22,000 Hz; sens 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. Features FR 40-22,000 Hz; sens 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; sens 89 dB; nom imp 8 ohms; power range 15-100 W; 19 x 11 x 10 in. Black or woodgrain finish. \$599/pr

HB-1 2-Way Speaker

Hand-assembled acoustic-suspension bookshelf speaker with 8" doped-cone woofer; 1" dome tweeter. Features removable rear panel for biamping. FR 42-20,000 Hz \pm 3 dB; imp 8 ohms; power range 10-75 W; sens 89 dB SPL/W/m. Walnut vinyl or gloss-black finish. 18.75 x 11.5 x 9.25 in.; 19 lb. \$399/pr

HITACHI

HSA4040 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

HSA3050 3-Way Tower Speaker

10" woofer; 3" midrange; 2" tweeter; max power 60 W; detachable grille cloth. \$250/pr

SPEAKERS

HSA2028 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, minimum impedance 4 ohms, and black grilles.

Concept 200 Ported Speaker

2 6.5" woofers; 0.75" damped hyperbolic cotton dome tweeter; crossover at 2,100 Hz; Italian black walnut vinyl. FR 30-23,000 Hz \pm 2 dB; sens 87 dB; power range 35-200 W; 43 x 10 x 15 in. \$1,000/pr

Concept 100 Ported Speaker

6.5" woofer; 0.75" damped hyperbolic cotton dome tweeter; crossover at 2,100 Hz; Italian black walnut vinyl. FR 45-23,000 Hz \pm 2 dB; sens 87 dB SPL/W/m; 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 2,100 Hz; lagos hickory vinyl. FR 35-20,000 Hz \pm 3 dB; sens 88 dB SPL/W/m; 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 servo amp (2 1,800-W woofer amps); 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 imp midrange/tweeter amp control; woofer phase switch; servo bass on/off circuit; Monster Cable wiring for midrange and woofer. FR 16-40,000 Hz \pm 2 dB; crossovers 70 Hz nominal, 60-120 Hz at main control unit woofer/midrange, 5,000 Hz midrange/tweeter; midrange/tweeter amp input range 100-500 W/ch; oiled and "Grand Piano" indian rosewood finish; 100-ft cable for hookup of midrange/tweeter to midrange/tweeter amp. Woofer modules: 76" h x 18" square; midrange/tweeter modules 76" h x 40" w (with hollow and sand-filled curved wing sections) \$50,000/system

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 bi-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. \$6,950/pr

IRS Delta. Similar to Gamma with accelerometer servo system \$5,500/pr

Kappa Series

9 Kappa Reference Standard Speaker

5-way design features 2 12" cast frame L/C tuned woofers; SEMIT K supertweeter; rear-firing EMIT K tweeter; 3" polydome rear radiator; polygraph K composite polypropylene/graphite 5" mid-bass dome; 3" edgewound polydome K

midrange; internal crossovers; bi-ampable; oak solids and veneer with high-density particle board with a furniture-grade lacquer finish. FR 29-45,000 Hz \pm 3 dB; crossover frequencies 80, 800, and 4,500 Hz; power rating 60-340 W/rms; sens 89 dB; imp 4-6 ohms. 59.5 x 21.5 x 8 in. \$2,898/pr

8 Kappa Speaker

4-way design similar to 9 Kappa without supertweeter, rear-firing tweeter and radiator, and 1 woofer. FR 33-45,000 Hz \pm 3 dB; power rating 50-250 W/rms; sens 89 dB SPL/W/m; imp 4-6 ohms. 47.5 x 20.5 x 8 in. \$1,998/pr

7 Kappa Speaker

3-way design similar to 8 Kappa with 12" woofer, 3" polydome K midrange, and EMIT K tweeter. Power rating 40-200 W/rms; FR 37 Hz-45,000 Hz. 37 x 17 x 12 in. \$1,398/pr

6 Kappa Speaker

3-way design similar to 7 Kappa except the woofer is 10". Power rating 30-150 W/rms; FR 39 Hz-45,000 Hz. 25 x 15 x 10.5 in. \$998/pr

RS Series

RS 6000A 3-Way Speaker

Features 2 10" cone woofers, 2" dome midrange, EMIT planar tweeter. FR 41-44,000 Hz \pm 3 dB; sens 89 dB SPL/W/m; min power 35 W rms; max power 200 W; 15 x 37 x 10 in. \$938/pr

RS 5000A 3-Way Speaker

Acoustic-suspension speaker with 10" cone woofer, 3.5" cone midrange, and EMIT planar tweeter. FR 42-32,000 Hz \pm 3 dB; min power 20 W rms, max power 135 W rms; sens 89 dB SPL/W/m; imp 6 ohms; oak vinyl; 15 x 24 x 10.25 in. \$638/pr

RS 4000A 3-Way Speaker

Bookshelf acoustic-suspension speaker with 8" cone woofer, 3.5" cone midrange, and EMIT planar tweeter. FR 44-32,000 Hz \pm 3 dB; min power 20 W rms, max power 125 W rms; sens 89 dB SPL/W/m; imp 6 ohms; oak vinyl; 12.5 x 22.5 x 10.25 in. \$498/pr

RS 3000 2-Way Speaker

Bookshelf acoustic-suspension speaker with 8" cone woofer and 1" polycell dome tweeter. FR 45-22,000 Hz \pm 3 dB; min power 20 W rms; max power 100 W rms; sens 89 dB SPL/W/m; imp 6 ohms; oak vinyl; 12 x 20.75 x 10.25 in. \$358/pr

JAMO

Concert V Loudspeaker System

3-way bass reflex speaker. Features 6.5" woofer; 1" dome tweeter; continuous power 110 W; peak power 160 W; sens 93 dB/W/m; FR 30-22,000 Hz \pm 3 dB; cross-over frequencies 150/3500 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 .. \$1,396

Digital 200. 3-way speaker with 10" woofer, 5" midrange, and 1" dome tweeter. Features treble and midrange sound pressure control; treble overload diode. Peak power 300 W; continuous power 200 W; sens 92 dB SPL/W/m; FR 20-24,000 Hz \pm 3 dB; crossover frequencies 540 and 3,800 Hz; imp 8 ohms. 32.25 x 15.75 x 13.75 in; 53 lb \$1,198/pr

Digital 130. 3-way speaker with 8" woofer, 4" midrange, and 1" dome tweeter. Features treble sound pressure control; treble overload diode. Peak power 180 W; continuous power 120 W;

sens 91.2 dB SPL/W/m; FR 30-22,000 Hz \pm 3 dB; crossover frequencies 890 and 4,900 Hz; imp 8 ohms. 27.5 x 13.75 x 11.75 in; 37.5 lb \$798/pr

Professional 400. Features 15" woofer; 5" horn midrange; 5-1" horn tweeters. Peak power 560 W; continuous power 400 W; sens 95 dB SPL/W/m; FR 25-20,000 Hz \pm 3 dB; crossover frequencies 900 and 4,000 Hz; imp 8 ohms; max sound pressure 121 dB. 35.5 x 20.5 x 16.75; 92.6 lb \$1,800/pr

Professional 300. Features 12" woofer; 5" horn midrange; 3-1" horn tweeters. Peak power 420 W; continuous power 300 W; sens 94 dB SPL/W/m; FR 30-20,000 Hz \pm 3 dB; crossover frequencies 1,000 and 5,000 Hz; imp 8 ohms; max sound pressure 118 dB. 29.5 x 17.33 x 13.33; 57.3 lb \$1,200/pr

Professional 200. Features 10" woofer; 5" horn midrange; 1" horn tweeter. Peak power 280 W; continuous power 200 W; sens 93 dB SPL/W/m; FR 35-20,000 Hz \pm 3 dB; crossover frequencies 1,200 and 6,000 Hz; imp 8 ohms; max sound pressure 116 dB. 25.6 x 14.75 x 11.5; 42 lb \$800/pr

SW-50/Monitor One Subwoofer/Satellite

Consists of the SW-50 Active Subwoofer and Monitor One Satellite System. SW-50 has 10" woofer. Monitor One 5" midrange/woofer, 1" dome tweeter; sens 87 dB/W/m; FR 42-20,000 Hz; crossover points 65-150 Hz and 3.5 kHz; imp 8 ohms; subwoofer dimensions 15.5 x 13 x 13 in, 26.5 lb; satellite dimensions 10.25 x 6.66 x 8.5 in, 11 lb \$819.95

SW1 Subwoofer/Satellite Loudspeaker System

Features 2 8" bass drivers; push-pull/passive subwoofer; 4" midrange and 2" tweeter satellite drivers; peak power 140 W; continuous power 80 W; sens 90 dB/W/m; FR 35-20,000 Hz \pm 3 dB; crossover frequencies 200 Hz/4.5 kHz; imp 8 ohms; overload protection; subwoofer 19 x 13.3 x 8 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 60 W; sens 88 dB/W/m; FR 40-20,000 Hz \pm 3 dB; crossover frequencies 3,000 Hz; imp 8 ohms; overload protection; 13.8 x 15.7 x 3.5 in; 10.6 lb; neutral-black and white lacquer finishes \$400/pr

CI20. Bookshelf 3-way bass-reflex speaker with 8" dual-magnet woofer, 5" midrange, and 1" dome tweeter. FR 38-20,000 Hz \pm 3 dB; peak power 140 W; continuous power 120 W; sens 92 dB SPL/W/m; crossover frequencies 1,200 and 5,000 Hz; imp 8 ohms. Black or white finish. 16.5 x 10.25 x 8.75; 14.3 lb \$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 \pm 3 dB; peak power 120 W; continuous power 90 W; sens 91.6 dB SPL/W/m; crossover frequencies 1,200 and 4,000 Hz; imp 8 ohms. Black or white finish. 14.5 x 9 x 8.75 in; 11 lb \$278/pr

C70. Bookshelf 2-way bass-reflex speaker with 6.5" woofer and 1" dome tweeter. FR 45-20,000 Hz \pm 3 dB; peak power 90 W; continuous power 70 W; sens 90 dB SPL/W/m; crossover frequency 2,500 Hz; imp 8 ohms. Black or white finish. 12 x 7.5 x 8.25; 8.4 lb \$198/pr

SPEAKERS

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; ultra-high-frequency slot-loaded ring radiator; mylar capacitors; aircone inductors; polystyrene 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; imp 8 ohms; sens 100 dB SPL/W/m; crossovers 850 and 7,500 Hz. Mirror-image pairs. 55.13 x 36 x 20 in \$9,900/pr

Cascade

Floor-standing speaker with 14" aquaplas-laminate woofer, four 3" edge-driven titanium dome mid-ranges, one 1" titanium dome tweeter, all in a vertical array. Features shallow-profile wood enclosure with beveled edges; foam-covered baffle; offset baffle. Max power handling 400 W/ch; imp 6 ohms; crossovers 400 Hz and 3,000 Hz; sens 89 dB; FR 24-24,000 Hz \pm 3 dB. 58 x 21.5 x 12 in \$2,395 ea

Ti Series

250 Ti 4-Way Speaker

Floor-standing speaker with 14" woofer, 8" lower midrange, 5" polypropylene midrange, and 1" titanium-diaphragm tweeter. Mirrored-image SFG magnetic structure. Max power 400 W; nominal imp 8 ohms; crossovers 400, 1,400, and 5,200 Hz; sens 90 dB SPL/W/m. Hand-oiled Burmese teak finish. 52 x 22.5 x 14.25 in; 126 lb \$2,195 ea

240 Ti 3-Way Speaker

Floor-standing speaker with 14" woofer, polypropylene midrange, and ultra-low-mass pure-titanium-diaphragm tweeter. Features SFG magnetic structure. Max power 300 W/ch; nominal imp 8 ohms; crossover 900 Hz, 4,000 Hz; sens 89 dB SPL/W/m. Hand-oiled Burmese teak; 36.62 x 18 x 12 in; 85 lb \$995 ea

120 Ti 3-Way Speaker

Features 12" woofer; polypropylene midrange; ultra-low-mass pure-titanium-diaphragm tweeter; SFG magnetic structure. Max power 250 W; nominal imp 8 ohms; crossovers 900 and 4,000 Hz; sens 89 dB SPL/W/m. Hand-oiled Burmese teak; 24.5 x 14.5 x 11 in; 54 lb \$645 ea

18 Ti 2-Way Speaker

Features 6.5" polypropylene woofer; ultra-low-mass pure-titanium-diaphragm tweeter; SFG magnetic structure. Max power 200 W; nominal imp 8 ohms; crossover 3,000 Hz; sens 88 dB SPL/W/m. Hand-oiled Burmese teak; 14.75 x 9.36 x 7.19 in; 17.5 lb \$345 ea

LT Series

LI00T 3-Way Speaker

Floor-standing speaker with 12" aquaplas-laminate woofer, 5" high-polymer-laminate midrange, and 1" pure-titanium-diaphragm tweeter. Max power 200 W continuous, 800 W peak; crossovers 800 and 4,500 Hz; sens 91 dB SPL/W/m. Oiled hardwood veneer or black lacquer. 36.5 x 16 x 13.25 in; 70 lb \$625 ea

L80T 3-Way Speaker

Floor-standing speaker with 10" aquaplas-laminate woofer; 5" polymer-laminate midrange; 1" pure-titanium-diaphragm tweeter. Power handling: 150 W continuous, 600 W peak; crossovers 800 and 4,500 Hz; sens 90 dB SPL/W/m.

Oiled hardwood veneer or black lacquer. 33.5 x 14 x 11.75 in; 53 lb \$465 ea

L60T 2-Way Speaker

Floor-standing speaker with 8" high-polymer-laminate woofer and 1" pure-titanium tweeter. Power handling: 120 W continuous, 400 W peak; crossover 2,500 Hz; sens 89 dB SPL/W/m. Oiled hardwood veneer or black lacquer. 30.5 x 12 x 10 in; 38 lb \$345 ea

JBL Series

Features optional Santa Rosa Oak finish.

JBL 830 3-Way Speaker

Floor-standing bass-reflex speaker with 2 8" high-polymer-laminate cone woofers, and 1" titanium-laminate dome tweeter. FR 40-25,000 Hz \pm 3 dB; minimum power 10 W rms, max power 200 W rms; sens 94 dB SPL/W/m; imp 4 ohms; rosewood vinyl finish: 53 lb; 39.75 x 16.75 x 8.75 in \$325 ea

JBL 630 3-Way Speaker

Floor-standing bass-reflex speaker with 2 6.5" high-polymer cone woofers and 1" titanium-laminate dome tweeter. FR 42-25,000 Hz \pm 3 dB; min power 10 W rms, max power 150 W rms; sens 93 dB SPL/W/m; imp 4 ohms; rosewood vinyl finish. 40 lb; 15 x 35.75 x 8.25 in \$245 ea



JBL L60T

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; sens 88 dB; FR 40-20,000 Hz; 100 W max power. 40 x 10 x 10 in; 40 lb \$550 ea

S-4 2-Way Speaker

Wall-mount speaker with 1" titanium dome tweeter and 6.5" high-polymer-laminate woofer. Features flush-mounting capability; can be used with S-1 subwoofer. Imp 8 ohms; sens 88 dB; FR 125-22,000 Hz; 100 W max power. 12 x 8.75 x 3.6 in; 16 lb \$295/pr

Pro III 2-Way Speaker

Audio/video monitor with 1" titanium-dome tweeter, 5" high-polymer mid/low driver, and high-spatial-identification dividing network. Features magnetic shielding, die-cast enclosure material; polypropylene structural foam surround. Sensitivity 87 dB SPL/W/m; maximum power handling 100 W rms. 9.5 x 6.25 x 5.63 in \$285/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" woofer; horn midrange; 1.87" horn tweeter; FR 20-20,000 Hz \pm 2 dB; 98 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 supertweeter; FR 20-20,000 Hz \pm 2 dB. Optional oiled walnut finish \$1,200/pr

Transparency Subwoofer S18B

QB3 vented subwoofer features 18" woofer; FR 27-250,000 Hz \pm 1.5 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; 1-7" 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 \$4,500/pr

Infinite 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 \pm 2 dB; power range 10-150 W; imp 8 ohms; sens 90 dB SPL/W/m; 55 lb; 13 x 29 x 14.5 in \$1,095/pr

Infinite Slope Model .8 Speaker

Floor standing speaker with patented phase shift bass loading and Infinite Slope crossover. Features 2-8" cone woofer, 1" dome tweeter; impedance 8 ohms; available in walnut, oak, or black lacquer; 12 x 29 x 14.5; 50 lb ... \$899/pr

Infinite Slope Model .6 Speaker

Floor-standing ported speaker with infinite slope crossover 100 dB octave. Features 8" cone woofer; 1" dome tweeter. FR 40-20,000 Hz \pm 3 dB; power range 5-150 W; sens 91 dB SPL/W/m; impedance 8 ohms; walnut, oak, or black lacquer finish; 11 x 23 x 13 in; 35 lb \$599/pr

JVC

SX911WD 3-Way Speaker

Floor-standing 3-way speaker with 3-part crossover network. Features 12" cross carbon woofer; 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

mized speaker layout; 300 W max power handling \$720/pr

SX-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. Features 9.25" x 13.75" passive radiator; 8" cone woofer; 1.25" soft-dome midrange; 1" soft-dome tweeter. FR 25-23,000 Hz \pm 3 dB; power handling capacity 150 W/240 W (music); sens 89 dB SPL/W/m; imp 6 ohms. Wood finish. 15.36 x 31.88 x 10.23; 38.6 lb. \$500/pr

KEF

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; 1" ferrofluid-cooled soft-dome tweeter; pivoting midrange/tweeter head assembly with individual contoured enclosures for minimum diffraction, reduced off-axis coloration, and optimum stereo imaging; hybrid crossover network with built-in passive crossover and outboard KUBE active bass EQ with controls for contour, damping, and extension. Conjugate load-matched passive crossover presents amp with uniform imp at all frequencies. FR 20-20,000 Hz \pm 2 dB; min power 50 W rms; max power 300 W rms; sens 90 dB SPL/W/m; imp 4 ohms. Walnut, black ash, rosewood. 13 x 46 x 17.75 in; 99 lb. \$4,500/pr

104/2 3-Way Speaker

Floor-standing speaker with cone woofers vertically aligned, coupled-cavity bass loading technique, chassis-less drivers, conjugate load matching. Two 8" cone woofers, two 4.5" cone midranges and 1" ferrofluid-cooled dome tweeter. FR 55-20,000 Hz \pm 2 dB; power range 25-200 W; sens 92 dB SPL/W/m; imp 4 ohms; 11 x 35.5 x 16.36; 70.5 lb; walnut, rosewood or black ash finish. \$2,000/pr

104/2 KUBE. Active bass EQ with controls for contour and extension \$200

103/3 3-Way Speaker

Bookshelf coupled-cavity bass-loading speaker with woofer operating into a resonant chamber vented at bottom of enclosure to combine sensitivity of bass reflex with accuracy and bass-extension of acoustic suspension. Features 8" cone woofer; 6" polypropylene-cone midrange; 1" ferrofluid-cooled soft-dome tweeter; hybrid crossover network with built-in passive crossover and outboard KUBE active bass EQ with controls for contour and extension. Conjugate load-matched passive crossover presents amp with uniform imp at all frequencies. FR 50-20,000 Hz \pm 2 dB; min power 50 W rms; max power 200 W rms; sens 92 dB SPL/W/m; imp 4 ohms. Walnut, black ash, rosewood. Includes feet for shelf mounting. 10.5 x 22.75 x 12.5 in; 38 lb. \$1,390/pr

C95 3-Way Speaker

Floor standing speaker features KEF Uni-Q2-way driver; 8" woofer and tweeter; coupled cavity bass loading; 8" unit mounted vertically inside cabinet is loaded at the front by a tuned cavity; conjugate load matching; separate connecting terminals allow one to bi-amplify driving the bass unit separately; FR 50-20,000 Hz;

sens 90 dB; imp 4 ohms resistive; 34.3 x 9.7 x 12.4 in; 41.6 lb; grain-matched real walnut, black ash \$1,290/pr

C75 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 chassis; FR 57-20,000 Hz; sens 91 dB; imp 4 ohms; closed box enclosure: 28.4 x 9.7 x 10.1 in; simulated walnut or black ash \$750/pr

C55 3-Way Speaker

Small enough for bookshelf or free standing. Features KEF Uni-Q driver with polymer cone 8" passive radiator which extends bass to 48 Hz -6 dB; 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 \$550/pr

C35 2-Way Speaker

Bookshelf speaker. Features KEF Uni-Q driver; improved stereo imaging, enhanced phase integrity, reduced diffraction; can be placed upright or on its side with no effect on horizontal dispersion; .75" polymer-dome tweeter; 8" polymer cone woofer; sens 90 dB; FR 64-20,000 Hz; imp 4 ohms; closed box enclosure; 14.8 x 9.7 x 8.1 in; simulated walnut or black ash. \$440/pr

C15 2-Way Speaker

Bookshelf speaker. Features 5" polymer cone bass unit with die-cast chassis; .75" metal dome tweeter; recessed, gold-plated terminals; tweeter's fluid cooling and bass unit's high-temperature voice coil handle up to 60 W and produce >100 dB; FR 68-20,000 Hz; sens 85 dB; imp 4 ohms; closed box enclosure: 10.4 x 7.1 x 5.9 in; 7 lb; simulated walnut or simulated black ash. \$240/pr

CR200F 2-Way Full-Range Speaker

In-wall unit features 8" bass driver mounted to 1" soft-dome tweeter with fluid cooling; self-restoring tweeter protection circuit; FR 55-22,000 Hz \pm 2 dB; outside dimensions 12.88 x 10 x 3.5 in. \$550/pr not incl. installation

CR200F + CR200SW 3-Way Speaker

In-wall system consists of CR200F and matching 10" CR200SW subwoofer. Response is 32-150 Hz \pm 2 dB; full range audio input is fed to the CR200SW crossover network providing output terminals for CR200F satellites; crossover point 150 Hz; FR 32-22,000 Hz \pm 2 dB; sens 90 dB; imp 4 ohms; satellite 13 x 10 x 3.5 in; subwoofer 13 x 13 x 3.75 in; black baffle with white bezel finish. Installed. \$1,100/pr

KENWOOD

LS-P9100 4-Way Speaker

Basic series floor-standing speaker with 17" passive radiator. Features 10.5" polypropylene woofer; 4" polypropylene midrange; flat-leaf supertweeter plus 2 cone tweeters in wide-dispersion Ton-Saule vertical array; high-grade simulated rosewood finish; crossover network; auto-resetting overload protector; high rigidity enclosure; max input power 250 W; sens 91 dB/W/m; crossover FR 900, 5,500, 10,000 Hz; imp 8 ohms. 44.5 x 17.31 x 13.25 in; 62 lb. \$720/pr

LS-P5100 4-Way Speaker

Basic series floor-standing speaker with 13" passive radiator. Features 8.5" polypropylene woofer; 4" polypropylene midrange; flat-leaf su-

per-tweeter plus 2" cone tweeter 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. \$480/pr

KINDEL AUDIO

PLS-B 2-Way Speaker

Floor-standing line-source speaker with 6 6.5" woofers; 12 1" tweeters; bi-amp, bi-wire terminals, does not require separate crossover; imp 4 ohms; minimum power 50 W; 120 lb; 74 x 11 x 10 in; stand standard. \$1,900/pr

P-105 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 \pm 2.5 dB; imp 4 ohms; minimum power 20 W; 20 x 10 x 9 in. \$475/pr

P-55 Speaker

Features 6" polypropylene woofer; 1" dome tweeter; sealed box bass; FR 55-20,000 Hz \pm 2.5 dB; crossover at 3,000 Hz; imp 8 ohms; minimum power 20 W; 14 x 8 x 8 in; black gloss finish. \$289/pr

KINETIC AUDIO

Titan 6-Way Speaker

Floor-standing ported speaker. 12" polypropylene cone subwoofer; 12" polypropylene cone woofer; 6.5" polypropylene cone mid/woofer; 2" textile-dome midtweeter; 1.12" synthetic-dome tweeter; 0.75" synthetic-dome supertweeter. 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; 5-way heavy-duty binding posts. Mirror-matched high-grade walnut veneer. Black grille with nonresonant frame. FR 12-22,000 Hz \pm 1.5 dB; min power 35 W; max power 250 W; sens 90 dB SPL/W/m; imp 4 or 8 ohms; 245 lb; 18 x 60 x 22 in. Grilles, stands, and casters included \$5,000/pr

Trapezoid 4-Way Speaker

Floor-standing ported speaker. 12" polypropylene-cone woofer; 6.5" polypropylene-cone midrange; 1.12" synthetic-dome tweeter with magnetic-liquid cooling/damping; 0.75" synthetic-dome supertweeter 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; 5-way heavy-duty binding posts. Mirror-matched high-grade walnut veneer. Black grille with nonresonant frame. FR 18-22,000 Hz \pm 1.5 dB; min power 20 W, max 200 W; sens 92 dB SPL/W/m; imp 8 ohms; 115 lb; 16 x 40 x 14 in. \$2,000/pr

KIRKSAETER

Monitor Tower 260 4-Way Speaker

Floor-standing acoustic-suspension 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 supertweeter with Ferrofluid; 8 wood or 4 glossy

SPEAKERS

lacquer finishes. Power range 10-250 W; sens 93 dB SPL/W/m; imp 4-8 ohms. \$1,995/pr

Monitor 141 3-Way Speaker

Floor-standing or bookshelf infinite-baffle speaker. Features 12" long-excursion woofer; 2" soft-metal dome tweeter; 0.75" titanium-dome tweeter. FR 20-32,000 Hz \pm 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-excursion polypropylene woofer and 4" polypropylene midrange. Features ferrofluid-cooled titanium-dome .75" tweeter; sealed cabinet; power range 85-120 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. \$995/pr

Concept 100 2-Way Bookshelf Speaker

2-way bookshelf speaker with ported enclosure. Features 7" long-excursion woofer; 1" textile-covered tweeter; 100 W/ch 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

Klipschorn 3-Way Speaker

Fully horn-loaded speaker requiring corner placement. Sens 104 dB SPL/W/m; power handling 100 W; FR 35-17,000 Hz \pm 5 dB. 52 x 31.25 x 28.5 in. Priced depending on finish from approx. \$3,198/pr

Belle Klipsch 3-Way Speaker

Horn-loaded floor-standing speaker using Klipschorn drive components. Sens 104 dB SPL/W/m; power handling 100 W; FR 45-17,000 Hz \pm 5 dB. 35.62 x 30.12 x 18.75 in. Available in exotic woods. Priced depending on finish; from approx. \$2,598/pr
La Scala. Fully horn-loaded 3-way speaker similar to Belle Klipsch but available only in natural birch, stained birch, or black finishes. Specs same as Belle Klipsch. 35.5 x 23.75 x 24.5 in. Priced depending on finish from approx. \$1,706/pr

Cornwall II 3-Way Speaker

Features 15" woofer in ported enclosure; horn-loaded compression tweeter and midrange. Sens 100 dB SPL/W/m; power handling 100 W; FR 38-20,000 Hz \pm 3 dB. 35.75 x 25.5 x 15.5 in. Available in exotic woods. Priced depending on finish from approx. \$1,638/pr

Chorus 3-Way Speaker

15" professional heavy-duty woofer in ported enclosure; horn-loaded compression drivers for

Klipsch Chorus



tweeter and midrange; sens 101 dB SPL/W/m; power handling 100 W; FR 45-20,000 Hz \pm 3 dB (-10 dB at 36 Hz); 39 x 18.5 x 15.5 in; 89 lb; walnut, oak or exotic woods. Priced according to finish from approx. \$1,490/pr

Forte 3-Way Speaker

Features horn-loaded compression drivers for tweeter and midrange; 12" woofer; 12" passive radiator mounted on rear of cabinet. FR 32-20,000 \pm 3 dB; sens 98 dB SPL/W/m; power handling 100 W. 35.38 x 16.5 x 12 in. Available in exotic woods. Priced according to finish from approx. \$1,180/pr

Heresy II 3-Way Speaker

Features horn-loaded compression tweeter and midrange; 12" woofer in sealed enclosure. FR 50-20,000 Hz \pm 3 dB; max handling power 100 W; sens 96 dB SPL/W/m. 21.36 x 15.5 x 13.5 in. Available in exotic woods. Priced depending on finish from approx. \$882/pr

Kg⁴ 2-Way Speaker

Floor-standing speaker with 12" rear-mounted passive radiator, 2-8" polymer-cone woofers, and horn-loaded tweeter. FR 38-20,000 Hz \pm 3 dB; max power 100 W; sens 94 dB SPL/W/m. 24.25 x 15.75 x 10.75 in. Available in oak and walnut finishes. From approximately. \$598/pr

KOSS

JCK/5000 Wireless Speaker System

Infrared wireless speakers with tone/volume controls on each cabinet: on/off power switch; battery recharger (batteries not included); 2" tweeter; 6.5" woofer; FR 40-20,000 Hz. 15 x 9 x 5 in. \$350/pr

M/100 Plus Powered Speaker

Built-in 20-watt amp allows amplification from the headphone jack of TV, portable tape, or CD player. FR 50 Hz-30,000 Hz; S/N 80 dB; THD <5% at 1 kHz; 4 ohm imp. 27 lb/pr. \$260/pr

M/90 Plus Double Woofer Speaker

Features 2 4.5" woofers; and 1" dome tweeter. FR 50-30,000 Hz; sens 88 dB SPL/W/m; 4-6 ohm imp; max power 20 W continuous, 100 W peak. 12.88 x 5.25 x 5.5 in; 30 lb/pr. \$220/pr

LINN PRODUCTS

DMS Isobarik Floor-Standing Speaker

Isobarik-loading 3-way speaker with 12". 9" woofers. 5" midrange, two 0.75" dome tweeters. Can be triamped. FR 25-20,000 Hz \pm 1.5 dB; crossovers at 375 and 3,000 Hz; instantaneous dynamic range 54 dB; imp 4 ohms; power range 50-500 W; 30 x 15 x 16.5 in. \$3,995/pr

S.A.R.A. Isobarik Bookshelf Speaker

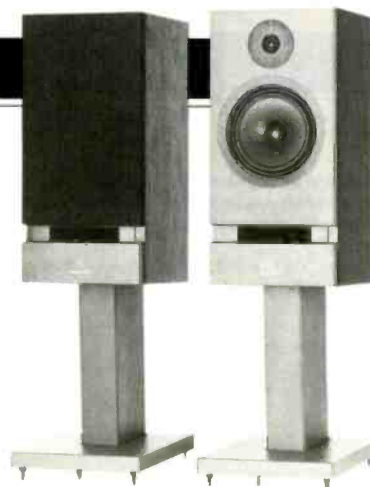
Isobarik-loading 2-way speaker with two 8" woofers. 0.75" dome tweeter. Cast structural foam housing. FR 36-20,000 Hz \pm 2 dB; imp 4 ohms; 17 x 13 x 10 in. \$1,695/pr

Nexus LS 250 Floor-Standing Speaker

Ported 2-way system with 8" carbon-loaded polypropylene woofer, .75" soft-dome tweeter; integral 14" spiked pedestal. FR 50-20,000 Hz \pm 2.5 dB; sens 88 dB SPL/W/m. 10 x 12 x 22 in (plus stand height) \$1,195/pr

K.A.N. Acoustic-Suspension Speaker

2-way bookshelf speaker with 5" woofer, 0.75" dome tweeter. FR 70-20,000 Hz \pm 3 dB; imp 8 ohms; 12 x 7.5 x 6.5 in. \$695/pr



Linn Nexus LS 250

Index Acoustic-Suspension Speaker

Floor or bookshelf placement; 8" KEF B200 cone woofer; 1" dome tweeter; cabinet of full 0.75" high-density particle board; 50 strand 20 amp cable. FR 60-20,000 Hz \pm 3 dB; power range 15-50 W; sens 87 dB SPL/W/m; imp 8 ohms. 17 x 11 x 8 in; 17 lb. \$525/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 omnidirectional dispersion; black perforated steel grilles.

Delta II Floor-Standing Speaker

6-sided acoustic-suspension speaker with 6 5.25U long-throw woofers; gray or black enamel. FR 32-29,000 Hz \pm 3 dB; power range 30-150 W; imp 4 ohms; sens 88.5 dB SPL/W/m; 13.8 x 44 x 13.8 in; 65 lb. \$3,290/pr

Gamma Floor-Standing Speaker

4-sided pyramid-shaped speaker with 2-8" woofers, 2-5.25" midwoofers (1 front, 1 back); European mahogany or black-oak veneer. FR 32-29,000 Hz \pm 3 dB; power range 30-150 W; imp 4 ohms; sens 88 dB SPL/W/m; 14 x 50 x 14 in; 67 lb. \$2,490/pr

Beta Floor-Standing Speaker

4-sided pyramid-shaped speaker with 8" woofer, 5.25" midwoofer. European mahogany or black-oak veneer. FR 37-29,000 Hz \pm 3 dB; power range 30-120 W; imp 4 ohms; sens 87 dB SPL/W/m; 13 x 43 x 13 in. \$1,990/pr

Magnastar System

3-piece satellite/subwoofer system featuring passive subwoofer using 2-8" woofers operating in compound principle, mated to 2 MSP 10 minispeakers; FR 36-27,000 Hz \pm 3 dB; power range 25-150 W/ch; imp 4 ohm; sens 88 dB/W/m; Magnastar subwoofer 12 x 10 x 20 in; satellites 5.7 x 8.9 x 6.9 in. \$795

MSP Series Speakers

Acoustic-suspension and bass reflex speaker system with ribbon-wire voice coils; soft-metal dome tweeters; baffles electrostatically coated with flocking to reduce high-frequency ripples; tweeters and midranges cooled with ferrofluid; cabinets of extra-heavy-duty high-density multi-layer wood with internal bracing.

MSP 300. Floor-standing speaker with 2-8" long-fiber-pulp woofers, 3" cone/dome midrange, 1" tweeter; European walnut or black-oak veneer, top plate 8-layer hand-finished

SPEAKERS

black lacquer. FR 32-29,000 Hz \pm 3 dB; power range 25-150 W; imp 4 ohms; sens 88 dB SPL/W/m; 11.5 x 42.3 x 11 in; 60 lb. \$1,690/pr
MSP 110. Floor-standing speaker with 8" long-fiber-pulp woofer, 3" cone/dome midrange, 1" tweeter; European walnut or black-oak veneer, top plate 8-layer hand-finished black lacquer. FR 39-29,000 Hz; power range 25-120 W; imp 4 ohms; sens 88 dB SPL/W/m; 11.5 x 31 x 11 in; 42 lb \$1,090/pr
MSP 70. Bookshelf speaker with 10" woofer, 2.75" midrange, 1" tweeter; black woodgrain vinyl. FR 39-29,000 Hz \pm 3 dB; power range 25-100 W; imp 4 ohms; sens 90 dB SPL/W/m; 12.6 x 22.9 x 11.5 in; 33 lb \$790/pr

Monitor Series Speakers

Bookshelf acoustic-suspension 3-way speakers with low-resonance, high-rigidity diaphragms designed for low coloration. Crossover networks use low-dissipation capacitors designed for improved imaging and texture. Magnat Ribbon-Wire voice coils used in tweeter for 40% increased winding density and improved transient response. All woofers are cone shaped; all midranges are 4-inch cones; all tweeters are dome shaped. All monitor series speakers feature cabinets finished in black wood-grained vinyl with black metal grilles.

C. 8" long-throw woofer; 4" midrange; 1" soft-metal tweeter. FR 46-29,000 Hz \pm 3 dB; power range 10-90 W rms; sens 90 dB SPL/W/m; imp 4-8 ohms. 14.62 x 22.5 x 13.75 in \$470/pr

B. 8" long-throw woofer; 4" midrange; 1" soft-metal tweeter. FR 54-29,000 Hz \pm 3 dB; power range 10-80 W rms; sens 90 dB SPL/W/m; imp 4-8 ohms. 14.12 x 20.5 x 14.12 in \$390/pr
A. 8" long-throw woofer; 4" midrange; 0.75" Supranyl tweeter. FR 54-20,000 Hz \pm 3 dB; power range 10-60 W rms; sens 90 dB SPL/W/m; imp 8 ohms. 14.12 x 19.36 x 14.12 in \$300/pr

MAGNEPAN

Magneplanar Tympani-IVa

Planar-magnetic speaker with reduced-mass midrange driver, .00025". Features 5-ft-long, 2.5-microns-thick foil tweeter. 3 panels per side; 71 x 18 x 1 in \$3,800/pr

Magneplanar MG-IIIa Speaker

Floor-standing full-range bipolar panel speaker with planar-magnetic and ribbon-driver design. Can be bi-amplified. Drivers are 1 planar-magnetic woofer (620" sq.); 1 planar-magnetic midrange (170" sq.); 1 line-source 5" bipolar ribbon tweeter (14.25" sq.). Imp 4 ohms; off-white cloth, oak frame; 55 lb ea \$1,995/pr

Magneplanar MG 2.5/R Speaker

Floor standing full range bipolar panel speaker with planar/magnetic woofer and 42" long ribbon tweeter. 2 way design, optional grille fabrics, oak side rails \$1,550/pr

Magneplanar MG-IC Speaker

Floor-standing 2-way speaker with Magneplanar woofer and tweeter. Features oak side rails; off-white fabric grille. FR 45-18,000 Hz \pm 4 dB; crossover 1.6 kHz; sens 82-dB SPL/W/3 ft.; power range 40-200 W rms; imp 5 ohms purely resistive; 60 x 22 x 2 in \$880/pr

Magneplanar SMGa Speaker

Full-range 2-way speaker with 0.5-mil diaphragm driven by Magneplanar magnetic field. Features oak side rails; optional grille fabric. FR 50-16,000 Hz \pm 4 dB; power range 20-100 W rms; imp 4 ohms purely resistive; crossover 2.4 kHz; 48.56" h x 24.25" w x 1.75" d \$495/pr

MARTIN-LOGAN

Statement Electrostatic Speaker System

Floor-standing system consisting of 2 visually-transparent curvilinear 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-mono crossover consists of four separate chassis; 2 chassis contain power supplies; 2 chassis contain crossover using a proprietary discrete class-A differential FET buffer topology and pure-current source voltage regulation system; can play at volumes up to 120 dB. FR 16-25,000 Hz \pm 1.5 dB; power range 50-1,000 W; sens 93 dB SPL/W/m; imp 6 ohms. Electrostatic section: 39.5 x 84 x 6 in. Woofer towers: 15 x 84 x 30 in. Available in a variety of finishes. System weighs 1/2-ton \$40,000

Monolith Electrostatic Speaker

Floor-standing curvilinear electrostatic panel speaker mounted atop a tuned subwoofer box. Designed for wide dispersion without the use of delay lines of lenses. Constant voltage crossover provides phase coherency. Features 2' x 4' electrostatic cell for 100-24,000 Hz and a 12" polypropylene-cone subwoofer with 2" voice coil that is down 3 dB at 16 Hz. FR 28-24,000 Hz \pm 2 dB; power range 30-500 W; sens 90 dB SPL/W/m; imp 8 ohms. Available in a variety of finishes. 25 x 75 x 13.5 in; 165 lb ea \$5,000/pr

Sequel Electrostatic Speaker

Floor-standing electrostatic/subwoofer system. Features visually transparent electrostatic transducer that operates from 200-24,000 Hz; 30 degrees seam less horizontal dispersion in a vertical line-source format; 1' x 4' electrostatic cell; super-low-mass 10" subwoofer in a tuned chamber with a matrix voice coil to create linear field in large excursion modes. FR 26-24,000 Hz \pm 3 dB; power range 30-300 W; sens 89 dB SPL/W/m; imp 6 ohms. Oak and black finish. 14.5 x 74 x 13.5 in; 110 lb ea \$2,250/pr

CLS Electrostatic Speaker

Floor-standing curved electrostatic speaker. Features wide-dispersion format for full-range reproduction; 2' x 4' electrostatic cell to repro-

duce all frequencies from 50-22,000 Hz; 30 degrees seamless horizontal dispersion; 4" line-source vertical; arc-free diaphragm; see-through appearance. FR 50-22,000 Hz \pm 2 dB; power range 20-150 W; sens 85 dB SPL/W/m; imp 6 ohms. Available in a variety of finishes. 26 x 48 x 2 in; 50 lb \$2,490/pr

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; 2-8" 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 oak, white or grey lacquer, (special finishes at extra cost) \$2,399

MB 480 Convex Speakers

3-way acoustic suspension floor standing loud-speaker. Features front baffle curved convexly; dispersion > 180 degrees radiating surface; 1" titanium dome tweeter; 2" aluminum dome midrange; 10" butyl suspension, long throw woofer; 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 oak, white or black 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 woofer; 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 white or black 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 60-32,000 Hz; sens 87 dB/W/m; 9 x 12 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

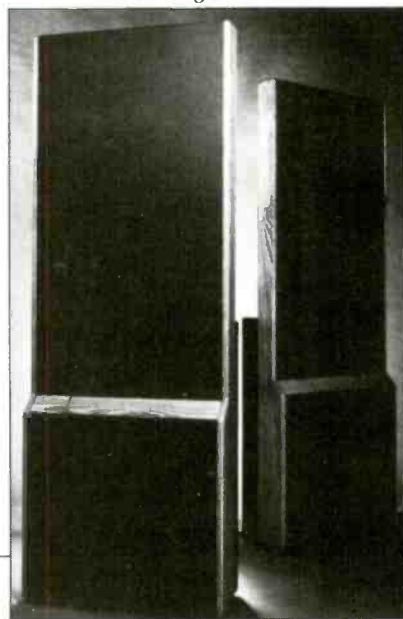
XRT18 Speaker System

2-piece speaker consisting of a bass cabinet containing a 12" woofer and 6" 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 and 1,500 Hz. Bass cabinet 27.22 x 17.5 x 11.75 in, tweeter column 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"

Martin-Logan Monolith



PIONEER

POWER MONO STEREO
REV NCR REV
+10 +15, WFL OFF 50 100 3.2% OK NOR REV
PHASE -15dB +15dB F.SCALE FREQUENCY -5dB +5dB FREQUENCY PHASE -15dB +15dB
LOW HIGH

PIONEER MULTI-CD CONTROL TUNER DEK-M300

FUNCTION ON/OFF USB P KUP/R/R

BASS TRE

REV/ON BAND REL FWD/UP

1 2 3 4

INPUT LEVEL 2V 0.2V

LOW BOOST LPP MODE LOAD IMPEDANCE

CUT IN CUT IN SCH 1CH 4Ω 8Ω

180 200 100 1% 2k 4k 8k 10k

SURROUND SUBWOOFER

OPF +10

PHASE LEVEL (dB)

REV -10

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."



Tuner/6-disc CD Changers

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 program-mability, compact 3-beam laser pickup, 2X oversampling digital filter, and the incomparable sound of a Quartz-PLL Supertuner III.*



Graphic Equalizers

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.



Active Crossovers

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.



Power Amplifiers

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.

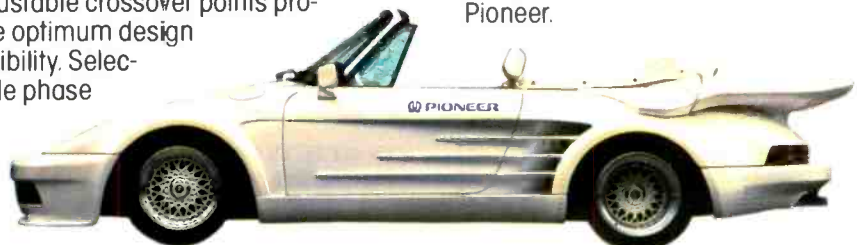
These high-fidelity speakers feature patented laminate cone construction and double damper design to neutralize resonances that interfere with accurate tonal quality. And efficient barium ferrite magnets take advantage of digital music's full dynamic range.

And to ensure the highest standards of quality and product reliability, we manufacture every element that goes into our speakers ourselves.

Now the first name in car audio is the last word in high-performance. Pioneer.



Pioneer Component Speakers



PIONEER®

Models shown: DEX-M300/CDK-M100 Tuner/6-disc CD Changer, EQ-5000 Graphic Equalizer, CD-630 Active Crossover, TS-F87 3 1/2" Component Tweeter, TS-M120 5" Component Midrange, and TS-W300 12" Component Subwoofer. ©1988 Pioneer Electronics (USA) Inc., Long Beach CA

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

XD 717 3-Way Speaker

Floor-standing speaker with 12" woofer, 6.5" midrange, and 1" dome tweeter. Sens 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 airtight assembly. Walnut veneer protected by oil-like multi-coat hand-rubbed laquer finish. 37.75 x 17.5 x 11.88 in \$799 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 2-5" woofers, 2-5" midranges, 1-2" dome tweeter. 0.75" birch cabinet of low resonance with rear-loaded passive radiator. 39 x 16 x 18 in; walnut ... \$7,400/pr
Rosewood finish \$8,000/pr

M20 2-Way Powered Speaker

Ported speaker with two 5" woofers, 2" tweeter, power supply, 2 power amps in low-resonance cabinet; 0.75" A-quality birch plywood cabinet; all-metal stand with resonance damping available. FR 38-20,000 Hz \pm 3 dB; max output 105 dB; 20 x 15 x 7 in. Walnut or teak finish; with amps \$2,750/pr
Rosewood finish; with amps \$3,000/pr

M30 2-Way Powered Speaker

Compact Inter-Active speaker with 5" woofer, 1.25" tweeter; time-delay correction; power supply; power amps. FR 38-20,000 Hz \pm 3 dB; max output 100 dB free-standing, up to 103 dB on shelf; 14.5 x 12 x 7 in. Walnut, teak, or black ash finish; with amps \$1,950/pr

MILLER & KREISEL

MX-1000 Pedestal Subwoofer

Magnetic shunt powered pedestal subwoofer. Internally amplified acoustic-suspension subwoofer; 2 12" high-performance drivers; magnetic design and pedestal shape allow use as stand for large monitor televisions; 26 x 28 x 22 in; 115 lb. \$1,395

Satellite 1B 2-Way Speaker

Acoustic-suspension speaker with 2 5" polypropylene

woofers and 2 1" soft-dome tweeters. Features 36 tonal balances through midrange; tweeter character switches. Walnut or oak finish with black grille. FR 70-22,000 Hz \pm 3 dB; power range 7.5-400 W; imp 4 ohms. 21 x 7.75 x 7.62 in; 19 lb \$725/pr

Satellite 2B 2-Way Speaker

Acoustic-suspension speaker with 6.5" polypropylene woofer and 1" soft-dome tweeter. Features selector for 36 tonal balances; midrange, treble character switches. Walnut or oak finish with black grille. FR 65-20,000 Hz \pm 3 dB; power range 15-100 W. 10.5 x 6.5 x 7 in. \$550/pr

Satellite 3B 2-Way Speaker

Acoustic-suspension speaker with 5" polypropylene woofer and 1" soft-dome tweeter. Features selector for 4 tonal balances via multiple inputs. Black finish with black grilles. FR 100-20,000 Hz \pm 3 dB; power range 15-100 W. 10.5 x 7 x 6.5 in; 9 lb. \$395/pr
Walnut veneer with black grilles \$450/pr

SX-7 2-Way Satellite Speaker

Bookshelf acoustic-suspension speaker with circuit-breaker protection. Features cast-aluminum box with perforated metal grille; 4" paper-cone midrange; 0.75" soft-dome tweeter. FR 100-20,000 Hz \pm 3 dB; power range 5-100 W; sens 87 dB SPL/W/m; imp 4 ohms. Black finish. 4.5 x 7.36 x 4.5 in; 6 lb \$240/pr

Subwoofers

VX-4 Subwoofer

Internally amplified subwoofer with 12" driver and 50-W continuous power output. Features adjustable low-pass filter. Black vinyl finish. FR 40-125 \pm 3 dB \$440 ea

VX-7 Subwoofer

Acoustic-suspension subwoofer with specially designed 50-W amp and 8" paper-cone woofer. FR 50-80 Hz \pm 3 dB; max power 50 W internally amplified. Black finish. 10 x 11.75 x 9.5 in; 25 lb. \$360 ea

MIRAGE ACOUSTICS

All speakers are ported; nominal imp 6 ohms (min 4); black knit grilles; dome tweeters with crossover point of 2,200 Hz.

M1 Floor-Standing Speaker

2 8" polypropylene woofers (1 front 1 rear) with 38-oz magnets crossing over to 2 4" cone midranges (1 front, 1 rear at 300 Hz; 2 0.75" soft dome tweeters (1 front, 1 rear); black lacquer. FR 20-22,000 Hz \pm 3 dB; min power 100 W; max power 400 W; sens 86 dB SPL/W/m; imp 6 ohms; 120 lbs; 60 x 19.5 x 9 in. \$4,000/pr

M2 Floor Standing Speaker

10" polypropylene filled woofer crossing over at 500 Hz to 2 4" polypropylene cone midranges (1 front 1 rear) at 2200 Hz crossing over to 2 7.5" soft dome tweeters (1 front 1 rear); black high-gloss polyester finish. FR 26-2,200 Hz \pm 2 dB; min power 75 W; max 200 W; sens 87 dB SPL/W/m; imp 6 ohms; 52.5 x 18 x 80 in; 160 lb \$3,000/pr

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; spikes. FR 35-20,000 Hz \pm 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

Freedom 2-Way Speaker

Time-aligned drivers; integral locking stand; 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 \pm 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

Renaissance Two-Way Speaker

Integral locking stands; transverse-folded cabinet with visco-elastically dampened walls; 8" polypropylene cone woofer; 0.75" polymer-dome tweeter with ferrofluid; crossover frequency 2,400 Hz. FR 40-20,000 Hz \pm 3 dB; nominal imp 8 ohms; power range 20-125 W/ch; sens 90 dB SPL/W/m; 10 x 21.6 x 11 in; 23 lbs/ea; black/walnut \$699/pr

MONITOR AUDIO BY KEVRO

R952/MD Reference Monitor

Floor-standing, sealed enclosure speakers. Feature 1" aluminum-dome tweeter; 2 6" polypropylene woofers; FR 45-20,000 Hz \pm 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; kenya black, oak, walnut, or black ash finish \$1,549/pr

R852/MD Speaker

Closed box speakers feature 1" aluminum dome tweeter; 8" polypropylene woofer; FR 50-20,000 Hz \pm 3 dB; imp 8 ohm; sens 88 dB/W/m; amp power 15-120 W; foam lined cabinets; 17.75 x 10 x 11 in; 44 lb; kenya black, oak, walnut or black ash finish \$1,149/pr

R452/MD Loudspeaker

Tuned port speakers feature 1" aluminum dome tweeter; 8" doped paper woofer; FR 50-20,000 Hz \pm 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/MD Loudspeaker

Bass-reflex speakers feature .75" metal-dome tweeter; 8" woofer; FR 50-20,000 Hz \pm 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/MD Loudspeaker

Bass-reflex speakers feature 1" aluminum dome tweeter; 6" polypropylene woofer; FR 55-20,000 Hz \pm 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

R252 Speaker

Sealed enclosure speakers feature 1" soft-dome tweeter; 8" woofer; FR 55-20,000 Hz \pm 3 dB; imp 8 ohm; sens 90 dB/W/m; amp power 15-80 W; 18.5 x 10 x 9.5 in; 31 lb; black ash or walnut finish \$429/pr

MOREL ACOUSTICS

Duet 2 Way Double Magnet Speaker

New MDT-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

SPEAKERS

coil. FR 40-22,000 Hz \pm 2 dB; power handling 150 W rms; 8 x 15 x 12 in.; 20 lb \$995/pr

MPL-203 2-Way Speaker

2-way linear-phase speaker with sealed cabinet. FR 45-28,000 Hz \pm 3 dB; power handling 150 W; 6" MW-164, double magnet, 3" voice coil woofer; 1.1" ferrofluid-cooled soft-dome MDT-30 tweeter; 8 x 16 x 9.5 in.; 18 lb; walnut, red walnut, teak, or black finish \$695/pr



Morel Acoustics Duet

CR-7 2-Way Speaker

Acoustic-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 mirrored pairs. Black finish. FR 70-25,000 Hz \pm 3 dB; min power 20 W rms; max power 200 W rms; sens 90 dB SPL/W/m; imp 4-8 ohms. 11 x 7.5 x 4.75 x 7 in.; 10 lb ea. \$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 \pm 3 dB; power range 5-400 W rms; sens 102.2 dB SPL/W/m; imp 4 ohms; heavy-duty aviation carpet; 125 lb; 18.5 x 46.5 x 16 in. \$800 ea

Pro 115 Floor-Standing Speaker

Bass-reflex speaker with computer-aided Thiele/Small-aligned cabinet. Features 15" cone woofer; 2-5" PL-5 cone midranges; 3" horn-loaded tweeter. FR 60-21,000 Hz \pm 3 dB; power range 5-200 W rms; sens 99.6 dB SPL/W/m; imp 4 ohms; heavy-duty aviation carpet; 77 lb; 21.25 x 29.75 x 16 in. \$700 ea

Pro 110 Bass-Reflex Monitor Speaker

Thiele/Small alignment; 10" cone woofer; 4.5" cone midrange; 1" horn-loaded dome tweeter; covered with heavy-duty aviation carpet. FR 75-21,000 Hz; power range 5-100 W rms; sens 94.8 dB SPL/W/m; imp 4/8 ohms; 14 x 18.5 x 12.75 in.; 42 lb \$400 ea

NAD

300A 3-Way Speaker

Internally braced acoustic-suspension tower speaker with 10" long-throw woofer with butyl surround, 1.5" midrange, 1" soft-dome tweeter. Large magnets for powerful bass and no overhang. Power range 10-150 W/ch; nominal imp 4 ohms; crossovers at 900 and 3,000 Hz; reso-

nance 45 Hz; sens 90 dB SPL/W/m. 10.75 x 11.5 x 31.5 in.; 57 lb \$750/pr
200A. Similar to above except no midrange driver and 8" woofer. Crossover at 1,700. Power range 10-120 W/ch. 39 lb \$500/pr

NEC

RS-1000 3-Way Speaker

Floor-standing 3-way speaker. Features FR 40-20,000 Hz at +4 dB; sens 92 dB; 130 W max power handling; nominal impedance 8 ohms; one 3/4-inch dome tweeter; one 5-inch polypropylene midrange; two 10-inch polypropylene woofers. 37 x 12.25 x 13.5 in.; 46 lb ... \$800/pr

SW-400 Three-Piece System

Magnetically-shielded speaker system with powered subwoofer and full-range satellite speakers. Features bass-reflex, 12" subwoofer with built-in 60-W power amp; low-pass filter; 4" full-range speaker; 3-level turnover switch; front-channel variable output control. \$599 ea

RS-500 3-Way Speaker

Floor-standing acoustic-suspension magnetically-shielded speaker with mirror-image design. Features 12" cone woofer; 5" polyvinyl acetate-cone midrange; 1" soft-dome tweeter. FR 40-20,000 Hz \pm 3 dB; power range 15-130 W rms; sens 92 dB SPL/W/m; imp 8 ohms. Teton oak finish. 14 x 27 x 10.75 in. \$499/pr



Ohm Acoustics CAM 32

OHM ACOUSTICS

Walsh 5 Vented Speaker

Features Walsh driver; 3 controls for lows, perspective (midrange), and highs, each with 3 positions: gold-plated 5-way binding posts; gold internal connectors; Monster Cable internal wiring; veneered top edge of cabinet. FR 25-25,000 Hz \pm 4 dB; min power 50 W rms; max power 500 W rms; imp 4 ohms; 1,000-W headroom rating for CDs. Available in walnut, oak and rosewood finishes or teak/white/black lacquer. 95 lbs; 17.5" x 17.5" at bottom tapering to 15" x 15" at top; 43" tall. Limited edition run of only 500 sets worldwide, each signed and numbered \$5,800/pr

4XO Floor-Standing Speaker

Bass-reflex speaker features inverted conical surface driver; gold-plated 5-way binding posts; gold internal connectors; lead-lined cabinet; Monster Cable internal wiring; casters; tufflex transmission block; ferrofluid cooled; protection circuits; acoustical attenuator for controlled dispersion; sonically transparent circular metal grill. Standard finish walnut and oak, available in Scandinavian rosewood, black, or white lacquer. FR 32-23,000 Hz \pm 4 dB; sens 91 dB SPL/m/2.83 V; power range 30-500 W; peak handling 700 W; imp 8 ohms. 40" h x 15.5" x

15.5" at base tapering to 11.75" x 11.75" at top; 63 lb \$2,000/pr

3XO Floor-Standing Speaker

Bass-reflex speaker features inverted conical surface driver; press-connector inputs accept banana plugs or up to 12 gauge wire; lead-lined cabinet; casters; tufflex transmission block; ferrofluid cooled; protection circuits; acoustical attenuator; circular metal grill. Standard finish walnut and oak, available in Scandinavian rosewood, black, or white lacquer. FR 36-22,000 Hz \pm 4 dB; sens 90.6 dB SPL/m/2.83 V; power range 18-200 W; peak handling 300 W; imp 8 ohms. 36 x 13.5 x 13.5 in. at base tapering to 10.5 x 10.5 in. at top; 43 lb \$1,500/pr

2XO Floor-Standing Speaker

Bass-reflex speaker features inverted conical surface driver; press-connector inputs accept banana plugs or up to 12 gauge wire; sub-bass activator; tufflex transmission block; ferrofluid cooled; protection circuits; acoustical attenuator; circular metal grill. Standard finish walnut and oak, available in Scandinavian rosewood, black, or white lacquer. FR 44-21,000 Hz \pm 4 dB; sens 90.2 dB SPL/m/2.83 V; power range 15-120 W; peak handling 200 W; imp 8 ohms. 32.5 x 11.5 x 11.5 in. at base tapering to 9.25 x 9.25 in. at top; 29 lb. \$1,000/pr

1XO Floor-Standing Speaker

Bass-reflex speaker features inverted conical surface driver; press-connector inputs accept banana plugs or up to 12 gauge wire; tufflex transmission block; ferrofluid cooled; protection circuits; acoustical attenuator; circular metal grill. Walnut finish. FR 48-20,000 Hz \pm 4 dB; sens 90 dB SPL/m/2.83 V; power range 10-90 W; peak handling 150 W; imp 8 ohms. 32.5 x 11.5 x 11.5 in. at base tapering to 9.25 x 9.25 in. at top; 24 lb \$750/pr

CAM 42 Speaker

Two-way bookshelf speaker. Features egg shaped .75" polycarbonate dome tweeter system; 8" polypropylene woofer; ferrofluid-cooled tweeter with 50 mm magnet; 12" passive radiator and patented Sub Bass Activator; FR 39-20,000 Hz \pm 4 dB; power range 15-125 W; sens 90 dB; imp 8 ohms; enclosure volume 42 l; 14.75 x 11 x 26.5 in.; available in brushed bronze vinyl finish \$500/pr

CAM 32 Speaker

Two-way bookshelf speaker. Features egg shaped .75" polycarbonate dome tweeter system; polyswitch circuit breakers; protection circuits; 6.5" woofer; 10" passive radiator; FR 39-20,000 Hz \pm 4 dB; power range 15-125 W; sens 90 dB; imp 8 ohms; enclosure volume 32 l; 12.75 x 11 x 22.25 in.; brushed bronze vinyl finish \$400/pr

CAM 16 Speaker

Two-way vented speaker. Features egg shaped tweeter system mounted on top of cabinet and adjustable; bevelled cabinet; frameless grills; 6.5" woofer; FR 46-20,000 Hz \pm 4 dB; power range 15-85 W; sens 89 dB; imp 8 ohms; enclosure volume 16 l; 9 x 11 x 17.25 in.; brushed bronze vinyl finish \$300/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; monster cable; FR 35-20,000 Hz; power rating 10-250 W; sens 91 dB; imp 8 ohm; 45.5" h x 11.5" diameter \$1,200/pr

SPEAKERS

PRO 200. Similar to PRO 250 but FR 39-20,000 Hz; Power rating 10-750 W; sens 91 dB; imp 8 ohm; 39" h x 11.5" diameter \$950/pr
PRO 150. Similar to PRO 250 but FR 42-20,000 Hz; power rating 10-125 W; sens 91 dB; imp 8 ohm; 34.5" h x 11.5" diameter \$750/pr

ONKYO

S-70 4-Way Speaker

Bass-reflex speaker with 12" polypropylene-cone woofer with high-power voice coil, 5" PVA-treated ferrofluid-cooled midrange, 1" polycarbonate-dome ferrofluid-cooled tweeter, and 0.5" polycarbonate-dome ferrofluid-cooled supertweeter. Features self-resetting auto overload protection. FR 55-20,000 Hz \pm 3 dB; power range 10-150 W rms; 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 ferrofluid-cooled tweeter. 150 W max power handling; FR 32-22,000 Hz \pm 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

PHASE TECHNOLOGY

Phase Coherent Series

PC-1000 4-Way Speaker

Floor-standing phase-coherent passive-radiator speaker. Features met-polypropylene 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 \pm 3 dB; power range 25-200 wrms; 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-800Ho 3-Way Speaker

Floor-standing acoustic-suspension phase-coherent speaker with met-polypropylene 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 \pm 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

Phase Tech 745 ES



PC-600Ho 2-Way Speaker

Floor-standing acoustic-suspension phase-coherent speaker with met-polypropylene bypass capacitors, 8" solid-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 \pm 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

PC-60 2-Way Speaker

Bookshelf phase-coherent acoustic-suspension speaker with met-polypropylene 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 \pm 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

Euro Series

745 ES 3-Way Speaker

Floor-standing acoustic-suspension speaker with angled projected front baffle for minimum diffraction. Features 8" cone woofer; 6.5" cone midrange; 1" soft-dome tweeter; removable minimum-diffraction grille; rubber surround on woofer and midrange. Accepts banana plugs. FR 35-20,000 Hz \pm 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 projected 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 \pm 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 down-firing floor-loaded woofer and 2-way compact phase-coherent satellites. Features met-polypropylene bypass capacitors; feet extenders for heavy carpet; tweeter level control; accepts banana plugs; solid hardwood and veneers; removable minimum-diffraction grille; speaker protection. 10" solid-piston subwoofer, 6" solid-piston midrange, 1" soft-dome tweeter. FR 30-20,000 Hz \pm 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 4" doped cone midrange with damped isolation chamber; 1 0.75" ferro-fluid filled soft dome tweeter. 6 ohms nominal impedance; FR 42-20,000 Hz \pm 3 dB. 22.75 x 13.5 x 10 in; 44 lb each \$750/each

Monitor 200 3-Way Speaker

Bookshelf acoustic-suspension speaker. Features 12" polypropylene woofer; 4.5" polypropylene midrange; 0.75" polycarbonate fluidome tweeter. Push-spring terminals and removable black-knit grilles. FR 38-21,000 Hz \pm 3 dB; imp

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

PN8 Compact 3-Way Speaker

Acoustic-suspension speaker with 0.75" ferrofluid polycarbonate tweeter, 4.5" polypropylene-cone midrange, and 8" polypropylene-cone woofer. FR 60-21,000 Hz \pm 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/pr \$279/pr

PN7 3-Way Speaker

Bookshelf bass-reflex speaker with 6.5" polypropylene woofer; 1" convex fabric-dome tweeter; 0.75" polycarbonate fluidome supertweeter. Push-spring terminals and removable black-knit grilles. FR 55-21,000 Hz \pm 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/pr \$249/pr

PN 5+ 2-Way Speaker

Bookshelf speaker with Diaduct-port design. Features 0.75" polycarbonate ferro-fluid tweeter; 5.25" polypropylene-cone woofer. FR 65-21,000 Hz; sens 86 dB SPL; power range 10-50 W; imp 6 ohms; 6.75 x 11.25 x 6.88 in; 17 lb/pr \$169/pr

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 DRS (dynamic response suspension). Nominal 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

CS-V910 3-Way Speaker

Magnetically-shielded 3-way speaker. Features 12" cone woofer; 4 3/4" 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 supertweeter. Features EBD (electronic bass drive); 3-position tone selector; LED power indicator. Imp 8 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 DRS (dynamic response suspension). Nominal 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

POLK AUDIO

SDA-SRS 1.2 Signature Reference Speaker

Floor-standing speaker that incorporates coherent Line-Source True Stereo (SDA) technology

SPEAKERS

for 3-dimensional imaging. Features 15" planar passive radiator; 8 6.5" trilaminate polymer midranges; 4 1" silver-coil soft-dome tweeters. FR 10-26,000 Hz; recommended amplifier range 10-1,000 W; 6 ohms nominal imp. 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 6.5" trilaminate polymer bass/midrange drivers; 3 1" silver-coil polymer dome tweeters. Recommended amplifier range 10-750 W/channel; 6 ohms nominal impedance. Oiled oak or walnut finish. 55 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 12" planar 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 11t 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 and 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 radiator/sealed floor-standing speaker with 10" fluid-coupled subwoofer; 2 6.5" trilaminate polymer bass/midrange drivers; 1" polymer dome tweeter. FR 22-25,000 Hz; recommended amplifier range 10-250 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 8t 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" h x 16" w x 9.25" d; 48 lb. \$260/each



Polk Audio SDA-SRS 1.2

Monitor 7C 3-Way Speaker

Sub-bass radiator/sealed 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 10-100 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 coil dome tweeter; 6.5" trilaminate polymer bass/midrange driver; 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 x 9 x 8.87 in; 41 lb. \$340/pair

Monitor 4.5 2-Way Speaker

Bookshelf speaker with 6.5" 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 30-25,000 Hz; power range 10-100 W; 6 ohms nominal imp. 17 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 7 Speaker

2-way bass-reflex speaker. Features 8" woofer, 1" tweeter; FR 28-35,000 Hz; 100 W max power handling; imp 6 ohms; sens 91 dB. \$230 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 1" 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 ¾" textile dome tweeter; 8" polypropylene woofer; rated impedance 8 ohms; black or brown finish. \$400/pr

20 MKII Speaker

2-way speaker system with ½" polydome tweeter; 6" woofer; black or brown 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 kHz; 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

SPK500 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

SPK400 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.

Mach Two 3-Way Speaker

Vented Ferrofluid-cooled speaker with 15" woofer, 5" cone 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

SPEAKERS

Optimus Speakers

1000. Floor-standing bass-reflex tuned-port speaker with 15" high-compliance woofer, 5" midrange, 3" tweeter. FR 50-20,000 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. FR 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; 12" woofer; 4" midrange; 2.5" cone; 100 W; sens 91 dB. \$240/pr

600. Bass-reflex speaker; 8" woofer; 4" midrange; 2.5" cone tweeter; removable cloth grille; recessed color-coded spring-loaded terminals. Max power 70 W; sens 90 dB SPL/W/m. Oiled walnut veneer. \$200/pr

Nova 15 Speaker

Walnut-veneered vented 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. FR 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 listening to stereo in any room in house. Transmitter plugs into any audio component or AC outlet, speakers plug into that room's AC outlet. Features 4.5" full-range driver; volume control; FR 60-15,000 Hz; sep 90 dB; S/N 80 dB; 12 W/ch amp. Available in black and white \$270

REVOX

Agora B Amplified Speaker

Floor-standing triamplified active ported speaker incorporating three 100-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; auto power on/off. FR 30-21,000 Hz ± 3 dB; sens 110 dB SPL/W/m; real walnut veneer finish with brown grille or polished ebony finish with black grille. 16.75 x 29 x 16.75 in; 68 lb .. \$5,000/pr

Black lacquer finish \$5,900/pr

Symbol MK-II 3-Way Speaker

Floor-standing speaker with 12.2" passive radiator. Features 12.2" woofer; 4.8" midrange; 1" tweeter; screw-lock connection terminals; fuse overload protection. Max power input 200 W continuous, 300 W peak; imp 4 ohms; sens 92 dB SPL/W/m. Dark walnut veneer finish; 16.7 x 39.8 x 16.3 in; 112 lb \$4,000/pr

Atrium MK-II 3-Way Speaker

Floor-standing bass-reflex speaker features 10.2" woofer; 4.8" midrange; 1" tweeter; screw-lock connection terminals; fuse overload protection. Max power input 140 W continuous, 180 W peak; imp 4 ohms; sens 91 dB SPL/W/m. Dark

walnut veneer finish; 13.5 x 33.6 x 14.5 in; 84 lb \$2,900/pr

Plenum MK-II 3-Way Speaker

3-way bass-reflex bookshelf speaker. Features 10.2" woofer; 4.5" midrange; 1" tweeter; screw-lock connection terminals; fuse-overload protection. Max power input 130 W continuous, 170 W peak; imp 4 ohms; sens 89 dB SPL/W/m. Dark walnut veneer finish; 13.7 x 22.8 x 13.4 in; 55.2 lb \$1,900/pr

Forum MK-II 3-Way Speaker

3-way bass-reflex bookshelf speaker. Features 9.6" woofer; 3.9" midrange; 0.7" tweeter; screw-lock connection terminals; fuse overload protection. Max power input 110 W continuous, 150 W peak; imp 4 ohms; sens 88 dB SPL/W/m. Dark walnut veneer finish; 13 x 17.5 x 13.4 in; 36.8 lb \$1,300/pr

Piccolo Miniature Speaker

Satellite speaker may be used with or without companion subwoofer. Satellites feature 4.19" cone woofer; 0.75" dome tweeter. Subwoofer features 10.19" cone subwoofer. FR 48-22,000 Hz ± 3 dB; power range 20-70 W; sens 86 dB SPL/W/m; imp 4 ohms; black finish. Satellite 5.5 x 8.75 x 5.75 in, 5.5 lb; subwoofer 15.36 x 14.19 x 14.62 in, 32 lb. Satellites \$390/pr

Subwoofer. \$450 ea

SANSUI

Vintage SP-100i

2-way magnetically-shielded bass reflex speaker. Features 8.25" filament carbon woofer with twin magnets; 1" titanium-diaphragm tweeter with diamond plating; inner-frame mounting with 1.5" rear baffle; front baffle; 1/8" die cast aluminum tweeter base; both speakers have cylindrical frames; tweeter's flange plate is attached to cork sheet; isolated crossover network; titanium black finish. FR 40-30,000 Hz; crossover at 1,500 Hz; sens 88 dB SPL/W/m; imp 6 ohms; 120 W max power. 17.69 x 11 x 13.44 in; 41.9 lb \$1,800/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; sens 92 dB W/m; imp 8 ohms. 15.25 x 41 x 11 in; 44 lb \$526/pr

SP-X3U 3-Way Speaker

Acoustic-suspension 3-way speaker. Features rounded cabinet baffles; oak cabinets; 10" carbon-filled polypropylene woofer with butyl rubber surround; 5" carbon-filled polypropylene midrange cone; 3/4" ferrofluid cooled dome tweeter; silicone carbon-oxide core coil crossover network; gold-plated 5-way binding posts; FR 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 PVA-coated woofers and constant-impedance crossover networks.

S12T6 Multidirectional Speaker

Floor-standing 3-way 6-driver speaker with 12" woofer, 2 4.5" ferrofluid-cooled midranges (1 front, 1 top), 3 1.75" ferrofluid-cooled tweeters (1 front, 2 top); oak vinyl finish. FR 42-20,000 ± 4 dB; 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, 5 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. FR 40-20,000 Hz ± 4 dB; power range 15-175 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. FR 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 vinyl with black knit grilles.

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-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 poly-cone rubber-edge drivers; 1" aluminum voice coil; 20 oz ceramic magnet; tweeters 6 x 10 mm W-shaped titanium domes. FR 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 rolloff filters to facilitate exact matching or by-pass; teased lamb's wool damping; brown, black beige, bone, double knit polyester grill options; 40 lb \$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" cambic ultra light exposed dome midranges, four 0.36" "W" shaped polymid-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. FR 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. FR 55-18,000 Hz -3 dB; imp 6 ohms nominal; min power 25 W; max power

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 Ferralipse, 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 \pm 3 dB; min power 25 W/rms; max power 200 W/rms; sens 90 dB SPL/W/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 supertweeter for accurate room response. Hand-adjustment of crossover values for specific drivers assures 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 supertweeter. Dual gold-plated inputs allow biwiring or biamping with or without electronic crossover. FR 24-26,000 Hz \pm 3 dB, 38-18,000 Hz \pm 1 dB; power range 80-400 W rms; imp 4 ohms. Hand-sanded, hand-rubbed matching oak or walnut veneers. 23.5 x 50.75 x 14 in; 148 lb. Oak . . . \$4,680/pr Walnut \$4,490/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-wirable or bi-ampable; hand-sanded, hand-rubbed matched veneers. FR 34-22,000 Hz \pm 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" polymer-treated woofer, 1" soft-dome tweeter, and ultra-low-mass 0.75" ferrofluid-cooled rear-loaded dome supertweeter 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 allow 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 \pm 3 dB; imp 8 ohms; sens 93 dB SPL/W/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 textile-dome tweeter and a .75" 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 \$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 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/W/m; power range 15-150 W rms; FR 49-22,000 Hz \pm 2 dB; imp 8 ohms. 23 x 13 x 10 in. Oak . . . \$650/pr Walnut \$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 listen-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/W/m; power range 10-100 W rms. 18 x 11 x 9 in. Oak or walnut . . . \$465/pr

SONOGRAPHE BY CONRAD-

JOHNSTON

SL 21 Mini-Monitor Satellite Speaker

Vented; 6.5" polypropylene woofer; 1" dome tweeter; golden oak cabinet with brown grille. FR 52-20,000 Hz \pm 2 dB; power range 10-80 W; sens 90 dB SPL/W/m; imp 8 ohms; 14.5 x 10.5 x 10.5 in. \$695/pr

SW 1000 Stereo Subwoofer

2 side-firing magnetically shielded 10" woofers in golden oak cabinet. FR 25-110 Hz \pm 2 dB; power range 10-200 W; sens 90 dB SPL/W/m; imp 8 ohms; 19.5 x 36 x 18 in \$849/ea SW 500. Same as SW 1000 except mono, with single 10" woofer; 19.5 x 18 x 18 in. . . \$595/ea

SONY

APM-66ES 3-Way Speaker

Bass-reflex speaker with APM (Accurate Pistonic Motion) driver technology that incorporates a light, rigid, flat-diaphragm design. Features 66 sq-in APM woofer; 7.4 sq-in APM midrange; 1.4 sq-in APM tweeter; built-in circuit breaker for tweeter protection; heavy-duty cabinet construction with rounded edges. Includes speaker cord. FR 30-30,000 Hz; sens 89 dB SPL/W/m; power capacity 100 W nominal, 200 W peak; nominal imp 6 ohms; crossover frequencies 600 and 4,500 Hz. 15 x 26 x 14.38 in. . . \$1,100/pr

APM-22ES 2-Way Speaker

Bass-reflex speaker with APM (Accurate Pistonic Motion) driver technology that incorporates a light, rigid, flat-diaphragm design. Features 45 sq-in APM woofer; 1.4 sq-in APM tweeter; built-in circuit breaker for tweeter protection; heavy-duty cabinet construction with rounded edges. Includes speaker cord. FR 40-20,000 Hz; sens 88 dB SPL/W/m; power capacity 80 W nominal, 160 W peak; nominal imp 6 ohms; crossover frequency 2,000 Hz. 11.5 x 20.38 x 12.62 in. \$500/pr

SOTA INDUSTRIES

Panorama 2-Way Monitor

Time-Domain speaker with bass extension of 45 Hz \pm 3 dB. Features truncated pyramid enclosure; 7" woofer; 1" hard-dome tweeter; 1.25"

walls; hard/soft structural damping on woofers; FR 45-22,000 Hz \pm 3 dB; max power handling 150 W/ch; nom imp 6 ohms; sens 90 dB; crossover at 3,200 Hz; 12 x 18 x 6 in; 35 lb. Oak or cherry \$1,495 Brazilian rosewood, ebony \$1,795 Black \$1,695

SPEAKERLAB

DAS Series Speakers

All DAS speakers are available in ebony, 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 one 10" and one 12" woofer; 1" dome tweeter; one 6.5" cone and one 3" dome midrange. Crossover 150, 350, 1,500, 5,000 Hz; sens 94 dB SPL/W/m; imp 4 ohms; FR 23-21,000 Hz \pm 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, 3,000 Hz; sens 94 dB SPL/W/m; impedance 4 ohms; FR 25-21,000 Hz \pm 3 dB; power range 20-275 W rms/ch. 38.5 x 14 x 16 in; 86 lb. \$1,198/pr

DAS-6. Floor-placement speaker with IAA, computer-designed rear vent, and rear-mounted subwoofer. Features one 8" and one 10" woofer; 1" dome tweeter. Crossover 180, 2,500 Hz; sens 94 dB SPL/W/m; imp 4 ohms; FR 30-21,000 Hz \pm 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 one 8" and one 6.5" woofer; 1" dome tweeter. Crossover 180, 2,500 Hz; sens 93 dB SPL/W/m; imp 4 ohms; FR 34-21,000 Hz \pm 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 92 dB SPL/W/m; imp 4 ohms; FR 36-21,000 Hz \pm 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 rms; max power 250 W; sens 89 dB SPL/W/m; natural oak or walnut. 38.5 x 14.5 x 11.75 in. \$799/pr

SPICA

Angelus Floor Standing Speaker

Mirror imaged speaker system with 8" plastic cone bass/mid driver, 1" soft dome tweeter, computer optimized crossover, built in adjustable spikes. FR 45-17,500 Hz \pm 3 dB (90-15,000 Hz \pm 1.5 dB); crossover 3,400 Hz (-6 dB); recommended power 50-200 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 woofer. 1" dome tweeter. FR 60-16,000 Hz \pm 3 dB; power range 25-50 W, 100 W peak;

SPEAKERS

sens 83 dB SPL/W/m; imp 4 ohms; 13 x 15.55 x 11.75 in. Oak or walnut veneer \$550/pr

SUMO

Opus Two 2-Way Speaker

Floor-standing acoustic-suspension speaker with 6.5" treated-cone woofer, 1" composite-dome tweeter with copper-clad aluminum voice coil. Features symmetrical magnetic-field woofer design with copper-clad pole piece for reduced distortion; imp-matching conjugate crossover network with extremely low group delay (± 0.2 ms from 100-20,000 Hz); solid-oak end caps. FR 42-24,000 Hz ± 0 , -3 dB; min power 35 W rms; max power 250 W rms; sens 85 dB SPL/W/m; imp 4 ohms. Oak or piano-finish black. 10.5 x 39 x 5 in; 20 lb. \$699/pr

Opus Three. Bookshelf version of Opus Two. 10.25 x 17.5 x 9.75 in; 16 lb \$649/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-W PWM digital-switching amp. Solid 1" butcher-block oak top. FR 20-120 Hz ± 1 dB; max power 1,000 W; sens 91 dB SPL/W/m; imp 8 ohms. 27.5 x 22 x 18 in \$2,249 ea

Without built-in amp. \$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 tweeters, leaf supertweeter; 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. FR 25-20,000 Hz ± 2 dB; power range 10-200 W; sens 91 dB SPL/W/m; imp 8 ohms; 45.5 x 13.75 x 14.5-in.; 70 lb \$3,250/pr

LM 300 Floor-Standing 3-Way Speaker

10" woofer; 7" midrange; 1" dome tweeter; oak finish with cream, brown, or black grille. FR 32-20,000 Hz ± 2 dB; power range 10-100 W; sens 91 dB SPL/W/m; imp 8 ohms; 44 x 13.75 x 14.5 in; 70 lb. \$2,450/pr

LM 260 Floor-Standing 2-Way Speaker

Ported; 8" polypropylene woofer; 1" dome tweeter; oak cabinet with radiused solid-hardwood edges. FR 41-20,000 Hz ± 2 dB; power range 10-100 W; sens 91 dB; imp 8 ohms; 39.5 x 12 x 11 in \$1,695/pr

LM 210 Floor-Standing 2-Way Speaker

Ported speaker with 6.5" polypropylene woofer, 1" dome tweeter; oak cabinet with radiused solid-hardwood edges. FR 46-20,000 Hz ± 2 dB; power range 10-80 W; sens 90 dB SPL/W/m; imp 8 ohms; 33.5 x 10.5 x 10.5 in. . . \$1,195/pr

TANNOY

Prestige Series

Westminster. Floor-standing dual-concentric speaker with Sync-Source Time Alignment; compound horn enclosure; 15" cone woofer; 2"

compression-horn tweeter. FR 18-20,000 Hz ± 2 dB; max power 200 W; sens 96 dB SPL/W/m; imp 8 ohms. 43 x 59 x 28 in; 253 lb each. Walnut finish \$9,495/pr

RHR. Floor-standing dual concentric high-compliance speaker with Sync-Source Time Alignment. Features rear folded horn rectangular exponential section; direct radiating front section; 250 W max power handling; sens 92 dB; nom imp 8 ohms; FR 35-20,000 Hz ± 4 dB; hard-wired passive crossover at 1,000 Hz. 48.9 x 27.6 x 22.7 in; 165.3 lb \$8,995/pr

Edinburgh. Floor-standing dual-concentric speaker with Sync-Source Time alignment; distributed port reflex enclosure; 12" cone woofer; 2" compression horn tweeter. FR 30-20,000 Hz ± 3 dB; min power 10 W; max power 200 W; sens 92 dB SPL/W/m; imp 8 ohms. 25.5 x 40 x 16.5 in; 97 lb each; walnut finish ... \$4,995/pr

Stirling. Floor-standing dual-concentric speaker with Sync-Source Time Alignment; dual variable-distributed enclosure; 10" cone woofer; 2" compression-horn tweeter. FR 35-20,000 Hz ± 3 dB; min power 10 W; max power 150 W; sens 93 dB SPL/W/m; imp 8 ohms. 20.5 x 33.5 x 15 in; 48.5 lb each. Walnut finish \$3,995/pr

Planet Series

Jupiter S. Floor-standing speaker with 3 drivers. Features twin 8" woofers and one 1" tweeter; power range 10-125 W/ch; nom imp 8 ohms; 91 dB SPL/W/m; FR 42-22,000 Hz ± 3 dB. 10.25 x 10.7 x 25.6 in; 29.8 lb. \$899/pr

Mercury Gold II. Tuned-port bookshelf speaker; 8" woofer, dome tweeter. FR 52-20,000 Hz ± 3 dB; power range 25-120 W; sens 93 dB SPL/W/m; imp 8 ohms; 9.75 x 20 x 9 in; 17 lb. \$850/pr

Mercury S. 2-way speaker with ducted port. Features 10-100 W power range; nom imp 8 ohm; sens 89 dB SPL/W/m; crossover at 3,000 Hz. 9.8 x 8.25 x 19.6 in; 14.1 lb. \$599/pr

TECHNICS

SB-RX50 Bass-Reflex Bookshelf Speaker

2-way speaker with 9.5" flat-diaphragm woofer and coaxial 1.12" flat-diaphragm tweeter. Can be placed upright or sideways without affecting sound quality. FR 30-48,000 Hz at 16 dB below average level; max power 160 W music; sens 87 dB SPL/W/m; imp 6 ohms. Wood finish. 11.89 x 18.92 x 11.09 in; 36.4 lb. \$1,050/pr

SB-RX30 2-Way Bookshelf Speaker

Bass-reflex speaker with magnetic shielding for placement near TV's. Features 9" flat-diaphragm woofer and 1.12" flat-diaphragm coaxial tweeter. FR 44-30,000 Hz at 16 dB below average level; max power 120 W music; sens 88 dB SPL/W/m; imp 6 ohms. Wood finish. 10.56 x 14.97 x 8.97 in; 16.5 lb \$490/pr

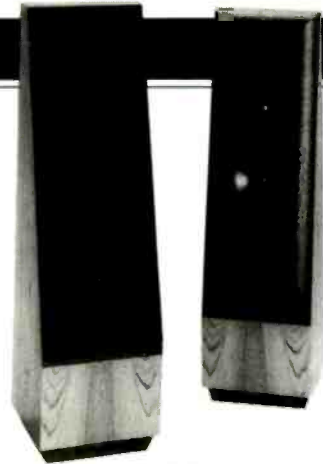
SB-L96 3-Way Floor-Standing Speaker

Bass-reflex speaker with diffuser-equipped tweeter. Linear-phase design for waveform fidelity. Features 15" cone woofer; 4" cone midrange; 2.12" cone tweeter; aluminum bobbins and heat-resistant voice coils for high power handling; non-resonant fabric dust caps. FR 32-22,000 Hz at 16 dB below average level; max power 200 W music; sens 93 dB SPL/W/m; imp 8 ohms. Simulated woodgrain finish. 17.75 x 31.36 x 12.92 in; 35.9 lb \$380/pr

THIEL

CS 3.5 Coherent Source Speaker

Floor-standing electronic-bass-equalized speak-



Thiel CS 1.2

er with 10" cone woofer, 4" cone midrange, and 1" dome tweeter. Sloping baffle; synthesized first-order crossover system; 3-dimensional sculpted anti-diffraction baffle; electronic bass system; magnetic distortion reducing drivers; cast magnesium driver chassis; polypropylene crossover capacitors; 30-mm thick cabinet panels; wood veneer. FR 23-20,000 Hz ± 2 dB; Power range 50-250 W rms; sens 89 dB SPL/W/m; imp 4 ohms. Teak, oak, walnut, black, rosewood finishes. 13 x 42 x 13 in; 75 lb \$2,450/pr

CS 2 Coherent Source Speaker

Floor-standing ported speaker with 8" cone woofer, 3" cone midrange, and 1" dome tweeter. Time coherence achieved with sloping baffle; phase coherence achieved with synthesized first-order crossover networks. Features anti-diffraction grille; cast magnesium driver baskets; polypropylene crossover capacitors. FR 38-20,000 Hz ± 2 dB; power range 50-250 W; sens 87 dB SPL/W/m; imp 6 ohms. Oak, walnut, black, rosewood, teak finishes. 12 x 39 x 12 in; 62 lb \$1,550/pr

CS 1.2 Coherent Source Speaker

Floor-standing system with sloping baffle. Features metal dome tweeter; woofer features cast magnesium chassis; polypropylene diaphragm; sculpted grille. FR 52-18,000 Hz ± 2 dB; phase response of min ± 10 ; sens 87 dB/W/m; imp 8 ohm; cabinet constructed with 1" MFD; heavy internal bracing; finished with teak, walnut, oak, rosewood, black laminate; 26.5 x 26.5 x 91.5 cm; 47 lb. \$1,090

VELODYNE ACOUSTICS

ULD-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 15-85 Hz ± 3 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 and 17 x 22 x 18 in cabinet, output capability 109 dB at 32 Hz \$1,795

ULD-12 Powered Subwoofer

12" servo-controlled down-firing driver; 100-W rms Class B amplifier; passive crossover set at 85 Hz; line- or speaker-level connection; subsonic filter -3 dB at 15 Hz; walnut, oak veneer, or black. FR 18-85 Hz ± 3 dB; output capability 103 dB; cabinet 16 x 17 x 21 in; controller 8 x 1.5 x 6 in; 32 lb \$1,195

SPEAKERS



Wharfedale Precision Series

WHARFEDALE

Precision Series

512.2 4-Way Speaker

4-way speaker with tuned-port enclosure. Features two 8" cone woofers; 4" cone midrange; 3/4" metal-dome tweeter; FR 30-22,000 Hz \pm 3 dB; sens 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; 3/4" metal-dome tweeter; FR 35-22,000 Hz \pm 3 dB; sens 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; 3/4" metal-dome tweeter; FR 40-22,000 Hz \pm 3 dB; sens 90 dB; crossover at 5,000 Hz; nom imp 8 ohms; red mahogany finish. 19 x 9 x 11 in; 22.5 lb. \$470/pr

504.2 2-Way Speaker

2-way speaker with tuned-port enclosure. Features 4" cone woofer; 3/4" metal-dome tweeter; FR 48-22,000 Hz \pm 3 dB; sens 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 Series

Delta 90 3-Way Speaker

3-way speaker with tuned-port enclosure. Features 10" woofer; 4" cone midrange; 3/4" polyimide, soft-dome tweeter; FR 35-20,000 Hz \pm 3 dB; sens 89 dB; crossovers at 1,000 and 5,000 Hz; nom imp 8 ohms. 27 x 12 x 9 in; 33 lb. \$700/pr

Delta 70 2-Way Speaker

2-way speaker with tuned-port enclosure. Features 8" woofer; 3/4" polyimide, soft-dome tweeter; FR 35-20,000 Hz \pm 3 dB; sens 89 dB; crossover at 3,500 Hz; nom imp 8 ohms. 21 x 11 x 8 in; 16.5 lb. \$450/pr

Diamond Series

Ritz Diamond Speaker

Tuned-port design speaker with built-in 20-W amplifier. Features 6.5" woofer; 3/4" polyimide, soft-dome tweeter; FR 40-22,000 Hz \pm 3 dB; sens 90 dB; crossover at 5,000 Hz; imp 8 ohms; black finish. 14 x 9 x 8 in; 17.6 lb. \$450/pr

Active Diamond Plus Speaker

Built-in amp with 3rd-generation monolithic devices; on/off switch; volume control; bass-reflex; 4.5" woofer, 0.75" tweeter; 5th-order crossover; choice of 6 finishes. \$350/pr

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. Music 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 woodgrain 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 supertweeter. 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-10M 2-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-A10.3 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 capacitors; FFT computer design. \$518/pr

NS-A10.2 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

Yamaha NS-1



Critic's Choice

"The MG-III is a remarkable speaker at any price; at \$195 it will be a runaway best seller."

INTERNATIONAL AUDIO REVIEW (U.S.A.)
HOTLINE #31, 1984

"With me, it's now a question of trying to live without them, rather than with them. In other words, I'm 'hooked'."

HI-FI ANSWERS (U.K.)
JULY, 1985

"Here we have a remarkable, true audiophile speaker."

HI-FI NEWS AND RECORD REVIEW (U.K.)
JUNE, 1984

"One of the best sounds at the Riviera (Consumer Electronics Show)."

AUDIO MAGAZINE
MAY, 1985

"Especially with full orchestral music, the MG-III really shows its full potential."

STEREOPLAY (GERMANY)
AUGUST, 1984

"This speaker will be a classic."

HIGH FIDELITY (DENMARK)
JULY-AUGUST, 1984

The Absolute Sound Magazine.

SEE REVIEW IN VOL. 9 NO. 35
AUTUMN, 1984

Magneplanar® MG-IIIa

MAGNEPAN

1645 9th Street
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Dual, 122 Dupont St., Plainview, NY 11803
Duntech, 4821 McAlpine Farm Rd., Charlotte, NC 28226
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Electro-Voice, 600 Cecil St., Buchanan, MI 49107
Emerson, One Emerson Lane, North Bergen, NJ 07047
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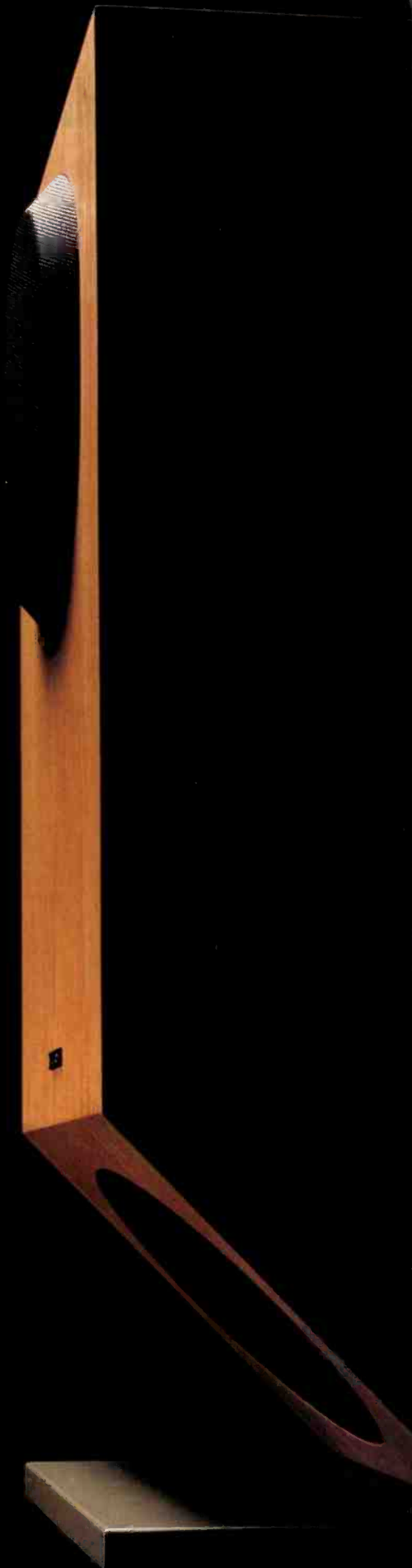
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Stereo Review's critics choose the outstanding current releases

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-sev-

en 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."

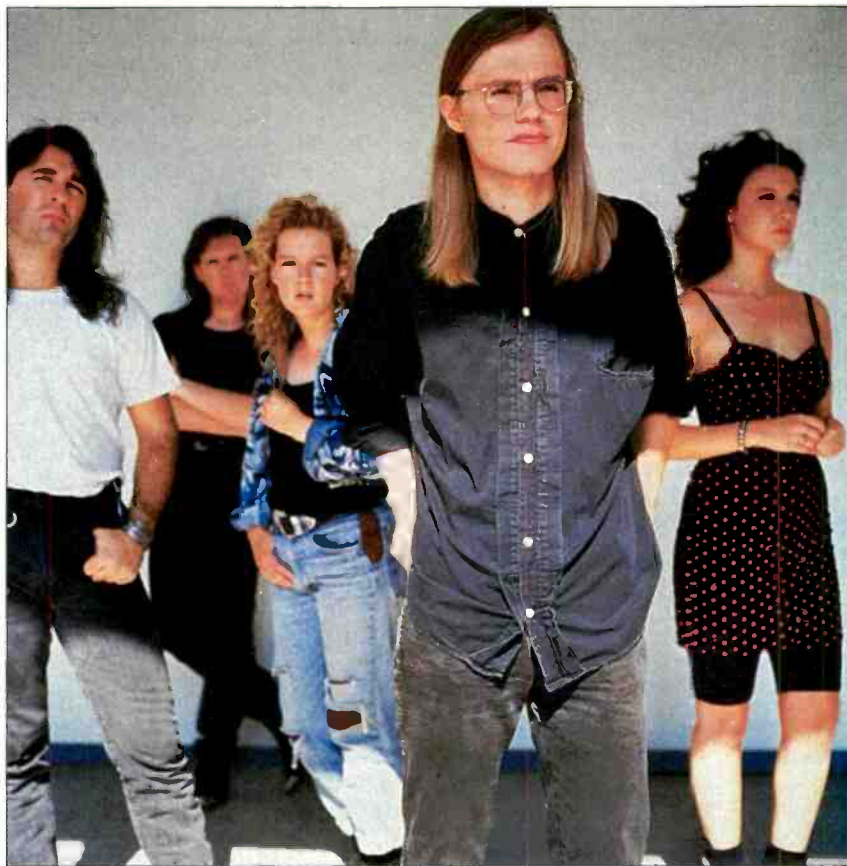
The gratifying thing about "Love Junk" is the way the music sounds like what it means. The tunes and the band's execution of them are every bit as smart, heartfelt, and funny as Berg's corrosively sane versifying. The idiom, for want of a better term, is pop metal, all ringing guitars, aggressive drums, 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



BRIAN HAGIWARA/CHRYSALIS RECORDS

MACKERRAS'S SCHUBERT NINTH

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 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

Charles Mackerras: great Schubert



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 unceremonial 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

SCHUBERT: *Symphony No. 9, in C Major (D. 944, "The Great")*. Orchestra of the Age of Enlightenment, Charles Mackerras cond. VIRGIN ● 790708-1, © 790708-4, © 790708-2 (60 min).

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



Diane Schuur: glorious "Talkin' "

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, Gene McDaniels's *Somethin' Real*, in which Schuur turns in a straight pop performance. But no matter how the label markets it, "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 *Louisiana Sunday Afternoon*, a captivating treatise on love and longing by Franne Golde and Peter Ivers in which Schuur's voice trips hypnotically above the melody while Tom Scott's rippling alto sax work chases the song to a spectacular finish.

There are some flaws, the most noticeable being Schuur's lapse into black dialect in the Helen Humes-inspired *Hard Drivin' Mama II*, and the stampede of strings unleashed on Dinah Washington's *Nothing in the World (Could Make Me Love You More Than I Do)*. But "Talkin' 'Bout You" has so much else going for it, and is so full of integri-

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BEST RECORDINGS OF THE MONTH

ty, that the occasional stumble doesn't matter. The sheer glory of Schuur's voice, captured here in an ultra-clean production, makes for one of the most engaging albums of the year—pop, jazz, or anywhere in between. *Alanna Nash*

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 only); *Cry Me a River*. 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's, one of the finest, best-schooled 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 "heavies," 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 Ackart*

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).

Agnes Baltsa: masterly Rossini



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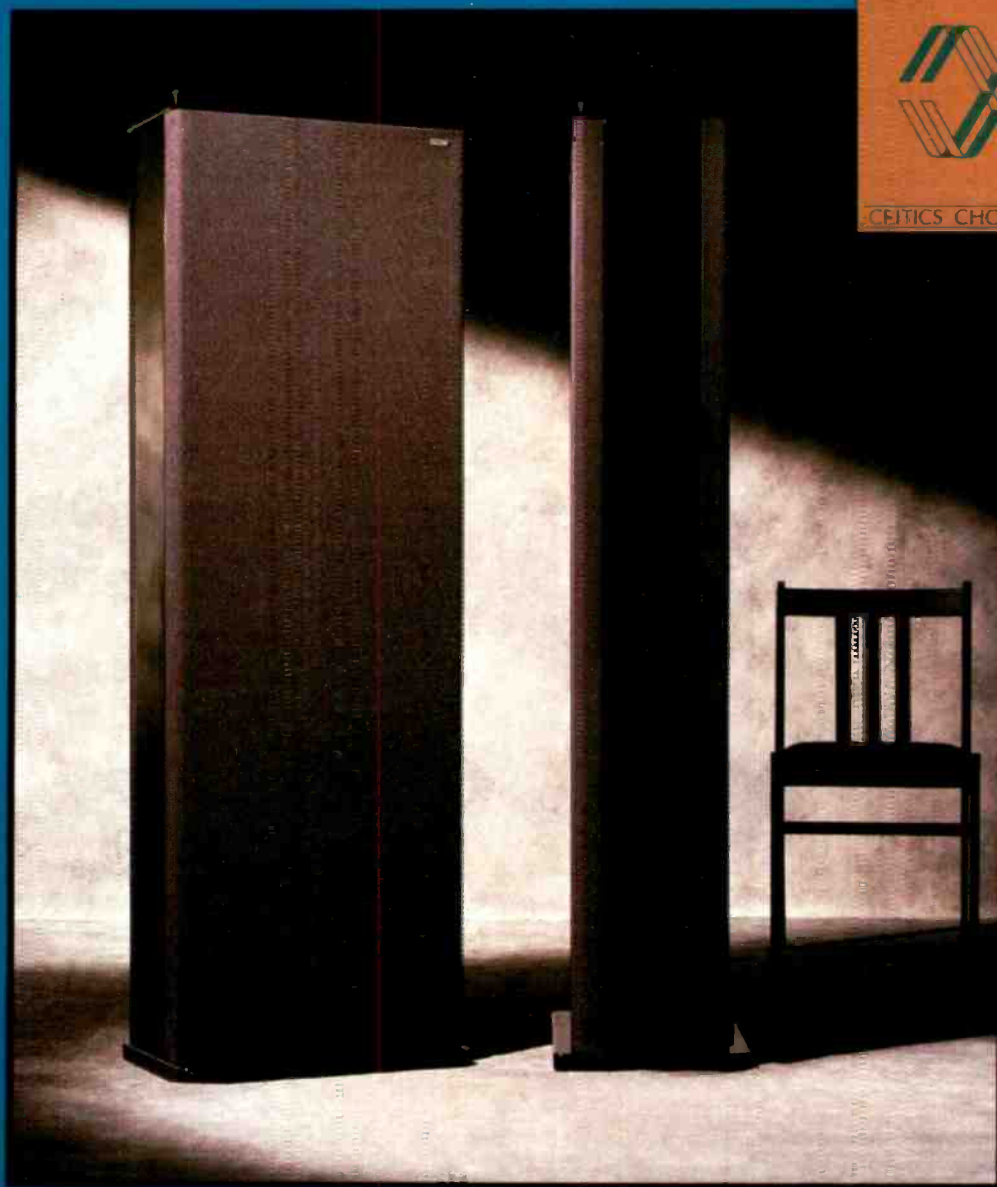
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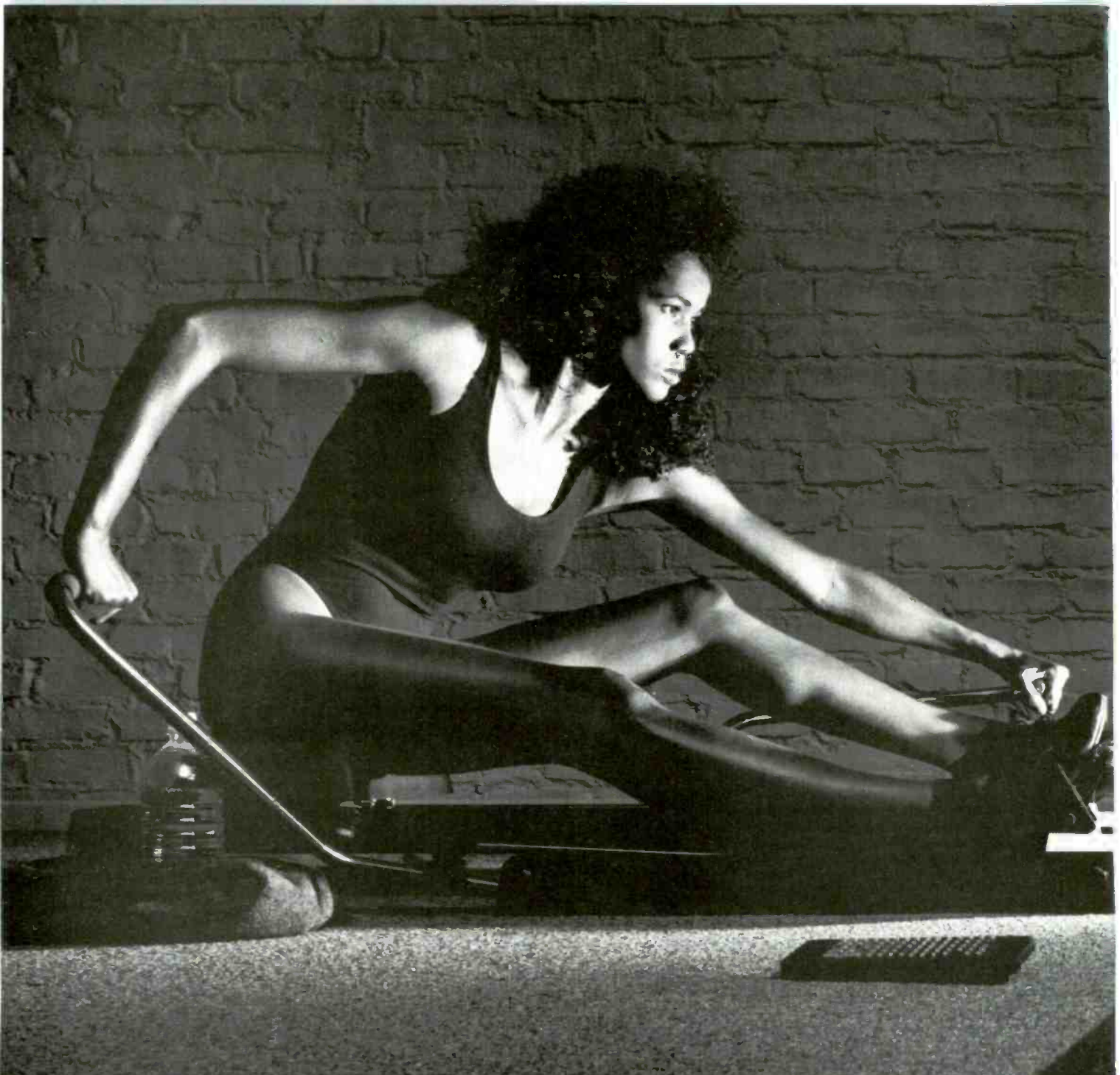
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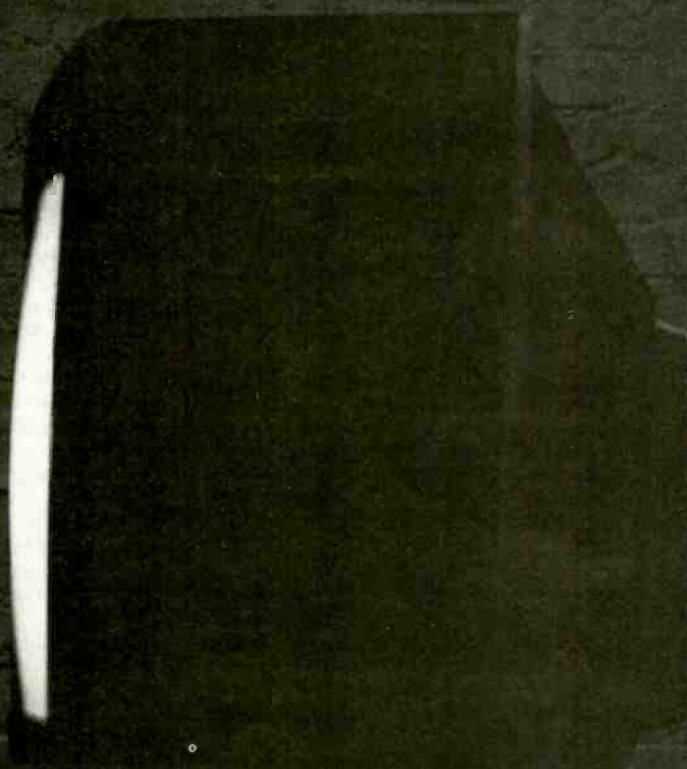
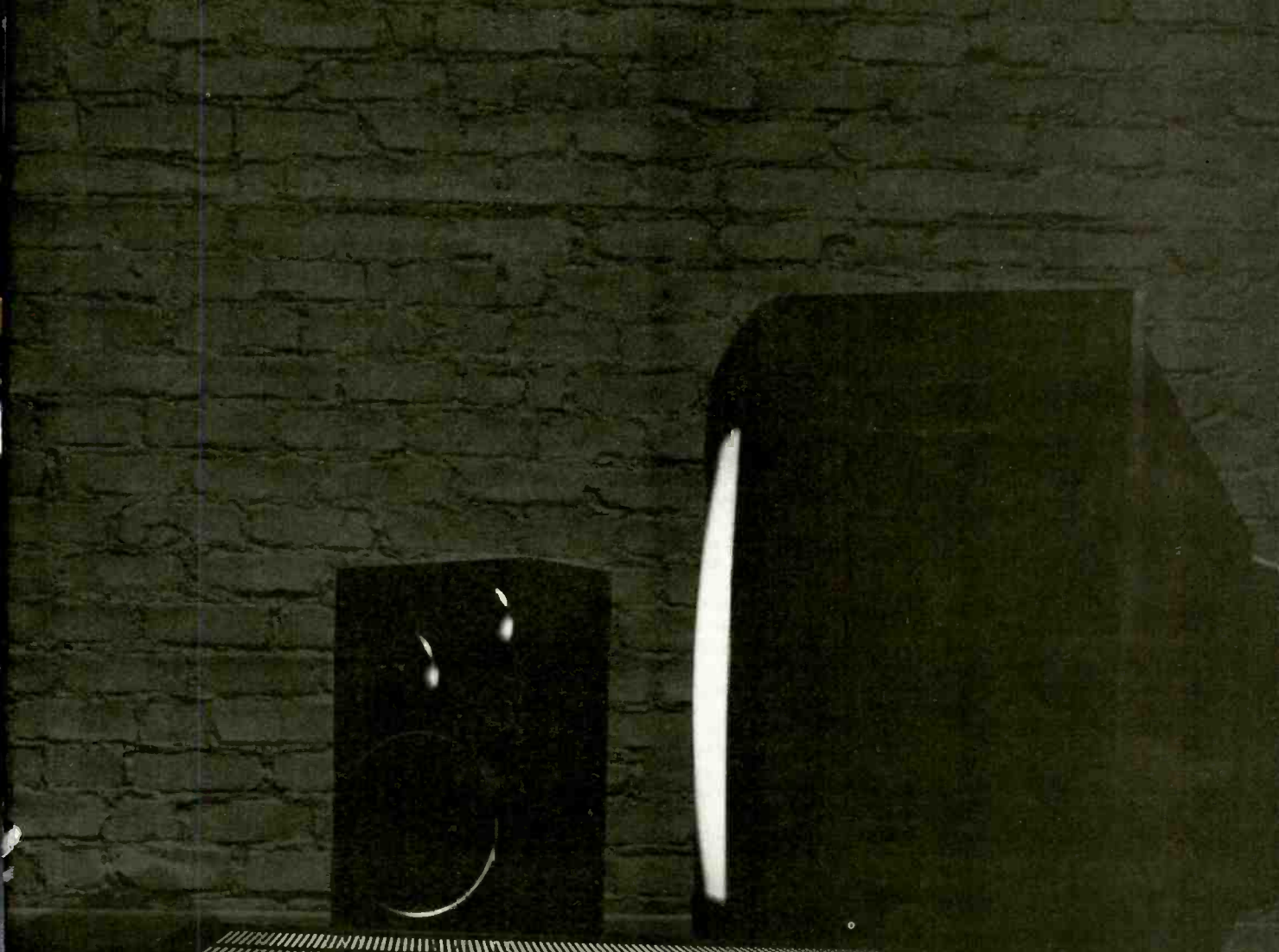
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Alanna Nash, Parke
Puterbaugh, Steve Simels*

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 naïve—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 people in bed") and even some musical growth—great horn arrangements in *Little Time Bomb*, lovely strings in *The Short Answer*. But like anybody else who's got strong opinions, Bragg can be a bloody bore as often as he can be compelling. For my money only the concluding *Waiting for the Great Leap Forward*, with its Mott the Hoople and Robert Oppenheimer references and union-hall sing-along finale, really strikes the right balance between communicating and hectoring. Don't get me wrong: I'm glad the kid's around to bug his complacent contemporaries. It's just that... well, to paraphrase a teenager on the old *American Bandstand* show, he doesn't have a good beat, and you can't dance to him. S.S.

DIRE STRAITS: *Money for Nothing.* Dire Straits (vocals and instrumentals). *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 by.

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, oversized 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

Billy Bragg: a born songwriter



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 Straeter, 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 LP's, © 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 Tormé'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

EXPLANATION OF SYMBOLS:

- = DIGITAL-MASTER LP
- Ⓢ = TAPE CASSETTE
- Ⓢ = COMPACT DISC (TIMINGS ARE TO NEAREST MINUTE)

counts, and most of what's here is unforgettable indeed. R.H.

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 gut-string 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



Jackie D. Jukes, Bobby Durango, Mike Barnes, Doug Banx, and Andy Panik

ON 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 boned 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 nervy 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. *Our Little Secret* and *Hush Child*, to name just two, are as forceful as anything in recent memory. There's an odd nobility about this record. 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. Parke Puterbaugh

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). GEFEN GHS 24193 two LP's, © M5G 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 involvngly 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 KNOPFLER: *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 wildy 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 instrumentals); 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-

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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 aching 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" ambience 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 C1-48303, © 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.

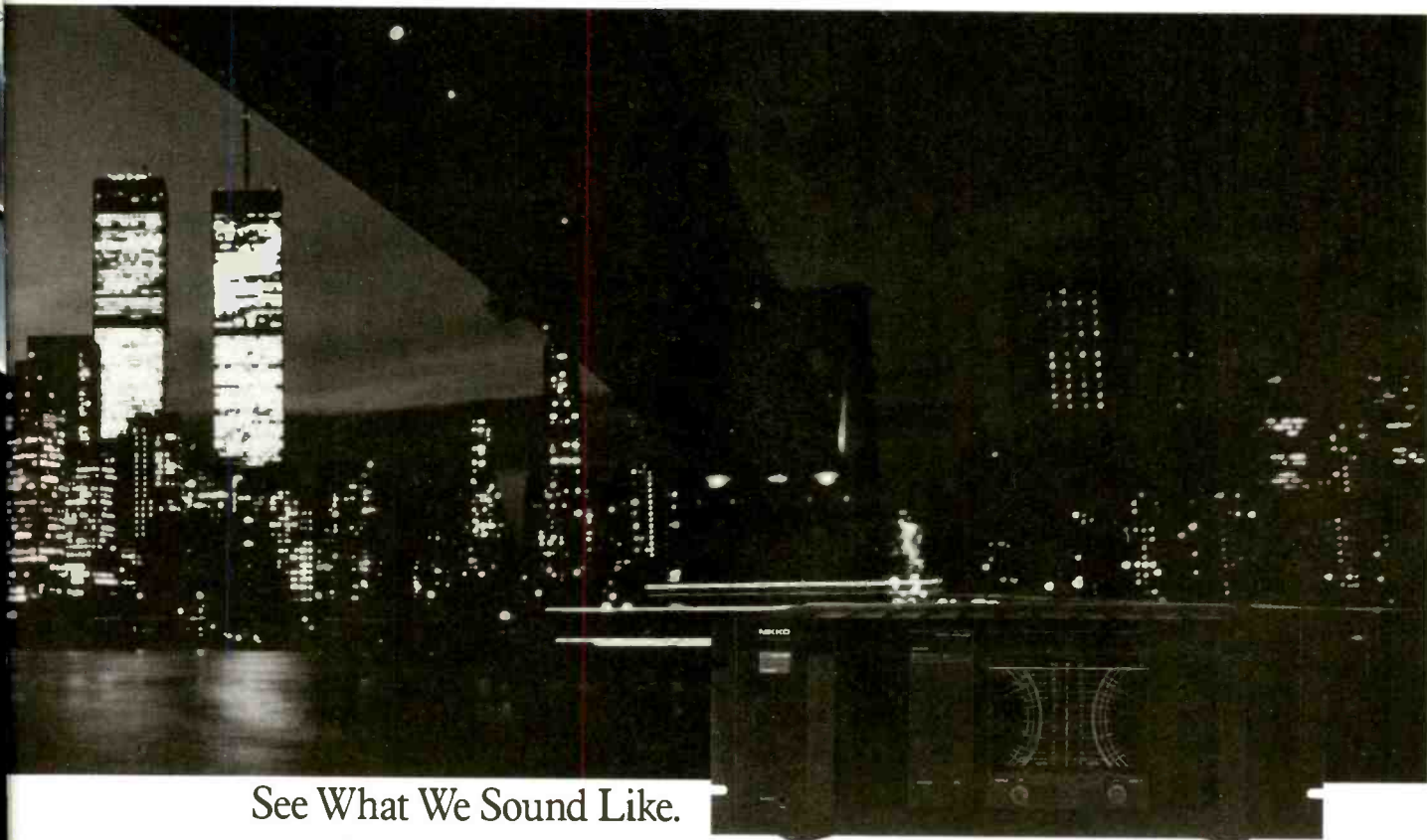
When he tackles syncopated blues and jumping jive like *Red Top, Ya Ya*, and *Just a Little Bit*, Miller's an engaging interpreter with a feeling for rhythmic nuance, especially in his back up vocals and clear-toned lead breaks. He's less sure-handed with the ballads, where his phrasing is awkwardly 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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accompaniment. *Everybody's Everything; Black Magic Woman/Gypsy Queen; Guajira; Jungle Strut; Jingo; Ballin'; Rambara; Angel Negro; Just Let the Music Speak; Song of the Wind; Paris Finale; Aqua Marine;* and eighteen others. COLUMBIA CX 44344 three LP's, © XT 44344 two cassettes, © CK 44344 two CD's (142 min).

Performance: *Hefty "best of"*
Recording: *Varies*

It's been twenty years since Carlos Santana first crossed the polyrhythms of Latin America with the guitar-driven power of the San Francisco Sound. In the original Santana band, there was a taut give-and-take between dynamic bursts of collective energy and lengthy elaboration on musical themes. Santana's alchemic Latin-rock, with its jazz-like penchant for jamming, was among the most exciting sounds of the age.

The subsequent fate of Santana was a gradual diminution of energy and direction, much of which was attributable to the enervated *Zeitgeist* of the Seventies. Some of the essential spark was lost when organist Gregg Rolie and guitarist Neil Schon left to form Journey. Thereafter, Carlos Santana's band became a revolving door for singers, percussionists, and synthesizer players. There was constant pressure to steer Santana in a mainstream direction, and the results were frequently diluted and compromised. Carlos himself, however, was personally moving away from rock toward jazz of a more spiritual stripe, with John Coltrane as his role model. Consequently, Santana's albums revealed a band with a split personality: questing for the inner flame on the one hand and aiming at the commercial Top 40 on the other. The original group was able to accommodate both aspirations without contradiction; such was the symbiotic genius of the Sixties.

"Viva Santana!" skims the cream off the top of Santana's deep well of recordings (there have been sixteen Santana band albums and seven solo or collaborative works featuring its leader). Not surprisingly, the best moments in this set, much of which consists of previously unreleased live recordings and studio outtakes, date from that initial fireburst, 1969 to 1971. Later versions of the band (the enclosed family tree documents thirty-four different lineups!) were capable of lighting a fire under old standards like *Black Magic Woman/Gypsy Queen*, but the material they came up with on their own was no match for the earlier work.

As a result, it is the first-generation Santana classics, such as *Jingo* and the legendary performance of *Soul Sacrifice* at Woodstock, that are the real meat of the program. Four cuts salvage the best moments of the later Santana bands, but the rest of "Viva Santana!" is largely a blur of fusionoid boogie, conga overkill, and bad pop. Anyone who really wants to hear the best of Santana

is advised to go out and purchase the band's first three albums—"Santana," "Abraxas," and "Santana III"—which are all midline-priced and will collectively set you back less than this triple-length leviathan. P.P.

DIANE SCHUUR: *Talkin' 'Bout You*
(see Best of the Month, page 144)

SOUTHSIDE JOHNNY: *Slow Dance*.
John Lyons (vocals); instrumental accompaniment. *On the Air; Sirens of the Night; Little Calcutta; Ain't That Peculiar; Act of Love; Slow Dance;* and four others. CYPRESS YL 0115, © YC 0115, © YD 0115 (41 min).

Performance: *Elegant*
Recording: *Slick*

Southside Johnny Lyons's new solo album is hardly a stunner along the lines of his early efforts with the Asbury Jukes, but in its quiet, understated way it will eventually get under your skin. Like most of his recent music, it leans toward pop champagne-and-moonlight crooning rather than the r-&-b grit of yore, but there's an effective collaboration with Bruce Springsteen in *Walking Through Midnight* and even a surprisingly angry and powerful protest song he wrote himself, *Little Calcutta* (read New York City), which combines sardonically effective lyrics and a Robert Cray-like blues groove.

The obligatory covers, however, are a mixed bag. The Motown classic *Ain't That Peculiar*, although rendered with spirit, ultimately seems like a sop to the Big Chill generation. Jerry Butler's *Your Precious Love*, on the other hand, is one of the great soul ballads, and Lyons sings it as if he's been waiting to do it for ages; it's one of the best performances of his career. All in all, an appealing little record, even if you miss the horn section. S.S.

THE TRAVELING WILBURYS. Bob Dylan, "Lucky Wilbury"; Jeff Lynne, "Otis Wilbury"; Tom Petty, "Charlie T. Jr."; Roy Orbison, "Lefty Wilbury"; George Harrison, "Nelson Wilbury" (vocals and instrumentals); other musicians. *Handle with Care; Dirty World; Rattled; Last Night; Not Alone Any More; Tweeter and the Monkey Man; End of the Line;* and three others. WILBURY/WARNER BROS. 25796-1, © 25796-4, © 25796-2 (36 min).

Performance: *Charming*
Recording: *Very good*

All-star aggregations like this usually look better on paper than they actually sound, but against the odds these guys have pulled off a very entertaining album. Even more surprising, the Traveling Wilburys—the transparently fictional *nom de disque* for one of the odder celebrity supergroups of recent years—sounds like a real band and not like a succession of solo turns. (The consistent sound is probably courtesy of

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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 put-down 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 everything 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 *Tweeter 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; Polkadots 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 tunes. Violinist John Frigo, who played with the Jimmy Dorsey band in the Forties, joins in on the last four selections; he's in his seventies but as spry as can be. The recording is slightly marred

by an occasional knocking sound—probably someone's foot responding irresistibly to the rhythmic proceedings—but don't let that deter you from buying this wonderful album. C.A.

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



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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-Visualscapes*. 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-Visualscapes*. 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-Visualscapes," 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.

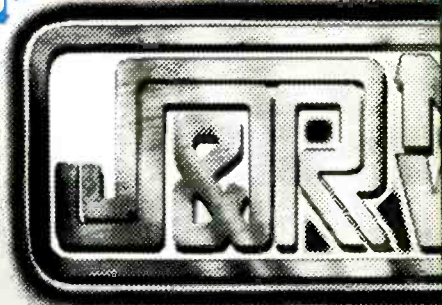
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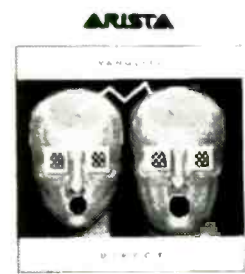
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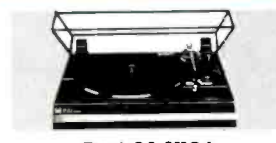
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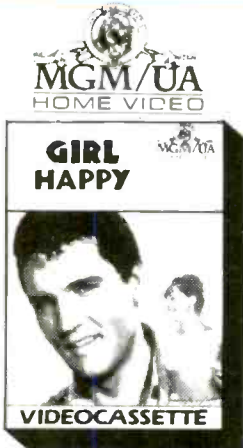
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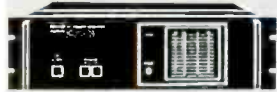
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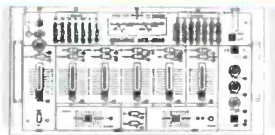


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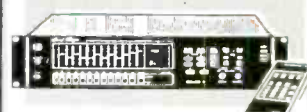


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STAY AWAKE! DISNEY FOR GROWNUPS



NRBQ: *Whistle While You Work*

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 (what else?) *When You 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*, Sinéad 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 play 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 Simels

STAY AWAKE—Various Interpretations of Music from Vintage Disney Films. Ken Nordine, Bill Frisell, Wayne Horvitz: *I Diddle Dee Dee (An Actor's Life for Me)*. Natalie Merchant, Michael Stipe, Mark Bingham, the Roches: *Little April Shower*. Los Lobos: *I Wan'na Be Like You (The Monkey Song)*. Bonnie Raitt, Was (Not Was): *Baby Mine*. Tom Waits: *Heigh Ho (The Dwarfs' Marching Song)*. Suzanne Vega: *Stay Awake*. Bill Frisell, Wayne Horvitz: *Little Wooden Head*. Syd Straw: *Blue Shadows on the Trail*. Buster Poindexter, the Banshees of Blue: *Castle in*



Waits: *Heigh Ho*

Spain. Yma Sumac: *I Wonder*. Aaron Neville: *Mickey Mouse March*. Garth Hudson: *Feed the Birds*. NRBQ: *Whistle While You Work*. Betty Carter: *I'm Wishing*. The Replacements: *Cruella de Ville*. Sinéad O'Connor: *Someday My Prince Will Come*. Sun Ra and His Arkestra: *Pink Elephants on Parade*. Harry Nilsson: *Zip-a-Dee-Doo-Dah*. James Taylor: *Second Star to the Right*. Ken Nordine, Bill Frisell, Wayne Horvitz: *Desolation Theme*. Herb Alpert: *When You Wish Upon a Star*. A&M SP-3918, © CS-3918, © CD-3918 (65 min).

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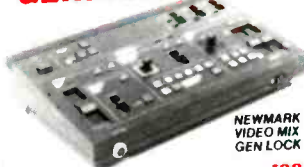
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Discs and tapes reviewed by Robert Ackart, Richard Freed, David Hall, Stoddard Lincoln, Eric Salzman, and David Patrick Stearns

BACH: *Sonatas for Flute and Basso Continuo: E Minor (BWV 1034), C Major (BWV 1033), and E Major (BWV 1035). Sonatas for Flute and Obligato Harpsichord: B Minor (BWV 1030), A Major (BWV 1032), and E-flat Major (BWV 1031).* John Solum (flutes), Barbara Bogatin (cello); Igor Kipnis (harpsichord). ARABESQUE © Z6589 (72 min).

Performance: *Elegant*
Recording: *Excellent*

John Solum and Igor Kipnis make a perfect pair. Their phrasing and articulation are beautifully matched, and the sonorities of the Baroque flutes used by Solum and the Carl Fudge copy of a 1728 Christian Sell harpsichord used by Kipnis are seductive indeed. In the continuo sonatas, Kipnis reveals his usual inventiveness in the realization of the keyboard part but never tries to steal the show. In the obligato sonatas, the two players are evenly matched in both brilliance and lyricism.

The missing bars of the first movement of the A Major Sonata have been reconstructed by many hands, but Solum's reconstruction is the best I have ever heard, filling out the movement's proportions convincingly. My only regret is that there was no room for the G Minor Sonata, even if its authenticity is questionable. *S.L.*

BEETHOVEN: *String Quartet No. 11, in F Minor, Op. 95* (see SCHUBERT)

BEETHOVEN: *Symphony No. 1, in C Major, Op. 21; Symphony No. 6, in F Major, Op. 68 ("Pastoral").* London Classical Players, Roger Norrington cond. EMI/ANGEL © CDC-49746-2 (66 min).

Performance: *Startling*
Recording: *Splendid*

More than any other conductor in the early-music revival, Roger Norrington has been instrumental in applying the most recent research on historic performance practices to the Beethoven

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*

BARTÓK: *String Quartets Nos. 1-6.* Emerson String Quartet. DEUTSCHE GRAMMOPHON © 423 657-2 two CD's (149 min).

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Nicholas McGegan: from one musical delight to another

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. *S.L.*

BRAHMS: Piano Concerto No. 1, in D Minor, Op. 15. Barry Douglas (piano); London Symphony Orchestra, Stanislaw Skrowaczewski cond. RCA ● 7780-1, © 7780-4, © 7780-2 (52 min).

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 and more appealing sound for Emanuel Ax's superior recording of the concerto with James Levine and the Chicago Symphony, and the sonics are also a decided plus in the exceptionally sympathetic Ashkenazy-Haitink version on London and the Brendel-Abbado one on Philips. *R.F.*

CHOPIN: Ballades Nos. 1-4; Barcarolle in F-sharp Major, Op. 60; Fantasy in F Minor, Op. 49. Krystian Zimerman (piano). DEUTSCHE GRAMMOPHON © 423 090-2 (60 min).

Performance: *Ballades excellent*
Recording: *Good*

Krystian Zimerman's way with the Chopin ballades is especially winning. He combines Romantic flair and spontaneity with his innate elegance and fastidious technique to bring each of the four concise tone poems to glowing life

on its own terms. There is a good deal of freedom in the way of dynamic contrasts and some very subtle gear-shifting here and there, but the overall impression is always of conviction rather than indulgence. The barcarolle, too, exudes a convincing air of poetic inspiration. It's only in the fantasy, at the end of the recorded program, that disappointment sets in: The introductory section is overdeliberate and earthbound, and the piece unfolds not with the flair that vivifies the ballades, but with a curiously diffuse quality that is anything but compelling. While that is, to be sure, only one performance out of six on the disc, there is no scarcity of fine versions of any of these pieces on CD. Rubinstein (RCA), Ashkenazy (London), and Ax (RCA) all give stunning accounts of the ballades—the first two coupling them with the four scherzos, Ax with the B-flat Minor Sonata. Zimerman's ballades are in the same class, but his lackluster Fantasy in F Minor makes his disc rather less of a contender. The sound is quite good without calling attention to itself. *R.F.*

HANDEL: Water Music. Philharmonia Baroque Orchestra, Nicholas McGegan cond. HARMONIA MUNDI 7010, © 407010, © 907010 (57 min).

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, bourées, and rigaudons sparkle, the giges flow, and the minnets 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. *S.L.*

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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chestra 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 Night* 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.*

PROKOFIEV: *Symphony No. 5, in B-flat Major, Op. 100.* Orchestre National de France, Mstislav Rostropovich cond. ERATO © ECD 75479 (43 min).

Performance: *Expansively lyrical*
Recording: *Spacious*

PROKOFIEV: *Symphony No. 6, in E-flat Minor, Op. 111; Symphony No. 1, in D Major, Op. 25 ("Classical").* Orchestre National de France, Mstislav Rostropovich cond. ERATO © ECD 75462 (61 min).

Performance: *Broad*
Recording: *Expansive*

PROKOFIEV: *Symphony No. 6, in E-flat Minor, Op. 111; Scythian Suite, Op. 20.* Los Angeles Philharmonic Orchestra, André Previn cond. PHILIPS © 420 934-4, © 420 934-2 (62 min).

Performance: *Volatile*
Recording: *Very good*

Mstislav Rostropovich recorded the Prokofiev Fifth Symphony with the Orchestre 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 countermelody 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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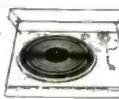
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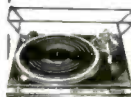
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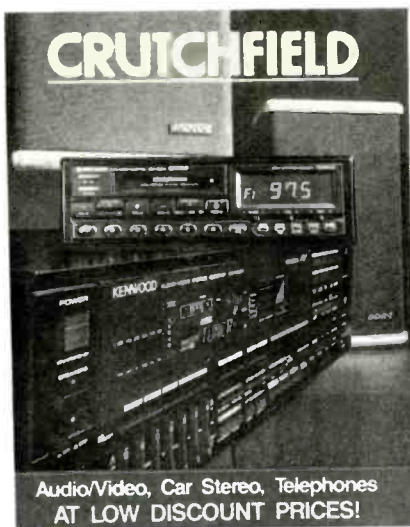
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dissonant outcry in the slow movement, however, comes off superbly.

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 première 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 balletic 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. *D.H.*

RACHMANINOFF: *Symphony No. 2, in E Minor, Op. 27.* Philharmonia Orchestra, Mariss Jansons cond. CHANDOS ◉ ABRD 1230, ◉ ABTD 1230, ◉ CHAN 8520 (55 min).

Performance: *Poised*
Recording: *Good*

Mariss Jansons here presents the Rachmaninoff Second uncut, in all its gorgeous, sprawling length. He and the Philharmonia Orchestra give us a performance that is poised and precisely gauged. If it does not have the volatility and lushness 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.*

RAMEAU: *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 alert, 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)

SCHOENBERG: *Verklärte Nacht, Op. 4; Chamber Symphony No. 2, Op. 38.* English Chamber Orchestra, Jeffrey Tate cond. EMI/ANGEL ◉ CDC-49057-2 (51 min).

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, of course: *Verklärte 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.

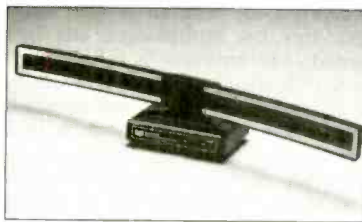
This is virtuoso music for orchestra. The English Chamber Orchestra is, apparently, an orchestra of virtuosos, and the piece emerges as a striking and effective composition under Jeffrey Tate's direction. Perhaps this recording will induce more orchestras and conductors—and listeners—to take it up. *E.S.*

SCHUBERT: *String Quartet No. 14, in D Minor (D. 810, "Death and the Maiden")*. **BEETHOVEN:** *Quartet No. 11, in F Minor, Op. 95 ("Serioso")*. Emerson String Quartet. DEUTSCHE GRAMMOPHON © 423 398-2 (58 min).

Performance: *Stunning*
Recording: *Exceptionally vivid*

This is virtuoso quartet playing, and no mistake. The brilliance and drive of these performances are exciting both in their own right and for the quite appropriate sense of drama they bring out in the music. Every phrase is beautifully shaped, every note given character and meaning, every detail marvelously illuminated, without any gaps in the momentum. And that wonderful sense of thrust never gets out of hand—even in the finale of Schubert's *Death and the Maiden*, which is pushed to the very limit. The speed as well as the intensity seem dictated by the content, and by the players' total absorption in it. How much more convincing the emotional impact of the slow movement can be when the music is kept moving and clean lined, as it is here. Whether this is a great realization of the well-loved work only time, and repeated hearings,

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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 Vêgh on Auvidis/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-Messenger; 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 LP's, ◊ 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 from hearing it emotionally exalted, awed, spent, and enlivened. It tells a story with which we can readily empathize through music of sweeping melody and haunting orchestral color, based upon leitmotifs so developed and interrelated that despite the vast tonal canvas, the whole emerges with a consummate unity.

The exotic, vaguely Oriental fairy-tale plot, brought to earth by librettist Hugo von Hoffmansthal's character types familiar to Viennese theatergoers, weaves a story of allegorical significance: In brief, the empress of an enchanted realm searches for her shadow (equated with the ability to bear children) in order to prevent her husband's being turned to stone. 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 petrification, 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 stridency, 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.*

STRAVINSKY: *Petrouchka*. **SCHIFFRIN: *Double-Bass Concerto***. **RAVEL: *Mother Goose Suite***. Gary Karr (double bass); Orchestre Philharmonique de Paris, Lalo Schiffrin cond. CYBELIA/QUALITON CY 1106 (71 min).

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 Schiffrin's aggressive, harmonically vivid interpretation. Ravel's *Mother Goose Suite*, in contrast, is given an unusually tender, muted performance.

The Double-Bass Concerto by Schiffrin 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 unmemorable that the piece seems to meander more than it actually does. But Schiffrin'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. *D.P.S.*

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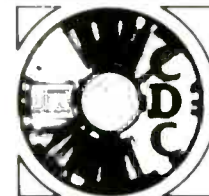
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THE HIGH END

by Ralph Hodges



Save That Studer, Continued

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 its 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 C process, which involves sliding-band operation of pretty radical (for Dolby) characteristics plus some dynamic and static ancillaries that at-

tempt 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

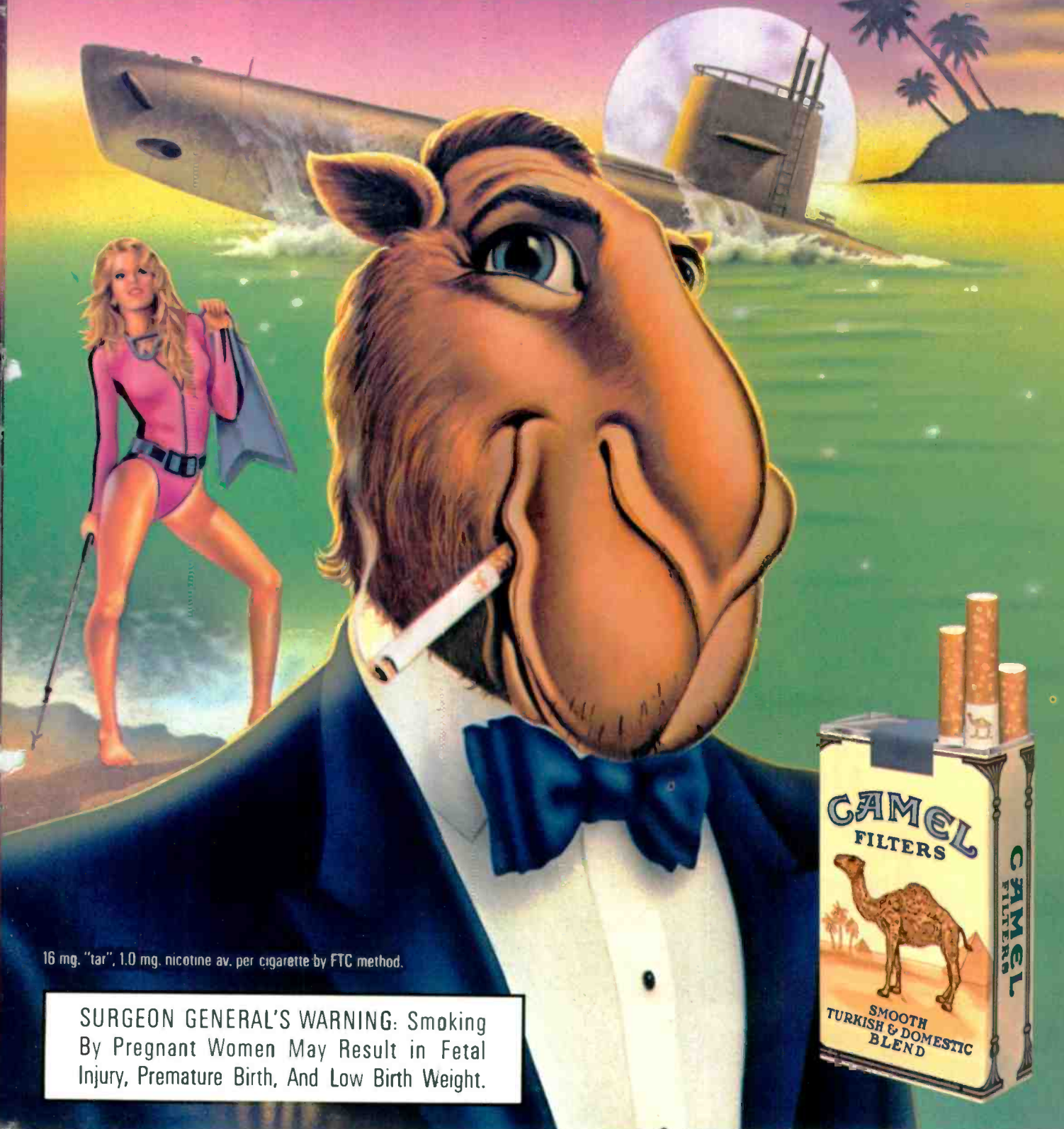
especially odious form of clipping. With proper Dolby SR processing, a 35mm optical print is said to equal or even outdo a 70mm magnetic presentation, particularly if the magnetic tracks or heads are worn, which they frequently are. This is progress indeed, but the majority of first-run theaters are 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.

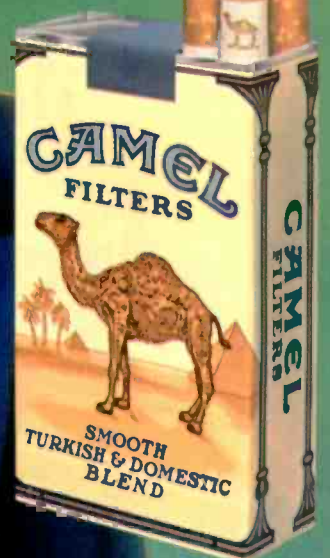
I think audiophiles should take careful note of Dolby SR, because it seems to accomplish just what it was meant to, and it is saving those Studers. But don't expect its visibility to be high. □

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